European Commission

Health Equity Pilot Project (HEPP)

Additional Alcohol Report

Inequalities in alcohol consumption and harms in EU countries using a multi-national study.

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Health

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Introduction

In European countries, acute and chronic harms from alcohol consumption often fall more heavily on certain population groups, particularly those with lower socio-economic status (SES) (1-3). Whilst lower SES groups are less likely to drink overall, those that do consume alcohol are more likely to experience harms from their drinking than higher SES groups, even at similar levels or patterns of consumption (4,5). For instance, in Scotland, recent use of linked data between health surveys and health records (deaths, hospital admissions and prescriptions for medication relating to alcohol dependence) found that adults in disadvantaged social groups had more than three-fold higher rates of alcohol-attributable harm (across different measures of socio-economic status), even after controlling for differences in alcohol consumption and levels of binge drinking (5).

Our understanding of what causes alcohol consumption to disproportionately affect lower SES groups is not yet clear. However, theories include (6-8): more harmful drinking patterns, the presence of other health harming behaviours such as smoking or poor diet, poorer social networks, and less access to resources and support services within low socio-economic groups. While research on causal relationships continues, improving our understanding of the ways in which alcohol consumption affects different sectors of society is also important.

There is a growing body of research in Europe exploring inequalities in harms from an individual's own alcohol consumption such as hospital admissions and mortality (3,5,9). Wider problems such as the impact on responsibilities, work and relationships have also been explored (1,2). For instance, in multi-national studies, including countries in the EU[1], alcohol consumers of lower education are generally more likely to report alcohol-related problems (e.g. not being able to stop drinking once started; failing to do what was normally expected because of drinking; harmful effects of drinking on finances, work and relationships) than those of higher education, although these inequalities are more evident for men than women (1,2).

There is less research exploring inequalities in harms from others' drinking. Alcohol consumption can negatively affect people around the drinker, such as children, partners, co-workers and even members of the public. These harms can include road traffic accidents, financial problems, abuse, neglect, and absence from work (10-12). With greater harms from alcohol occurring among lower socio-economic groups, it follows that disadvantaged social groups may also have an increased risk of experiencing harms from other people's drinking. In Wales, a cross-sectional survey exploring alcohol's harms to others found that experience of more severe harms was significantly higher amongst those living in the most deprived areas of Wales (12). Additionally, in Ireland, a national drinking survey

[1] Sweden, Finland, Hungary and Czech Republic (1); Sweden, Finland, Hungary, Czech Republic, Denmark, UK, Spain,

found that experiencing family problems as a result of someone else's drinking was significantly higher among those with lower occupational grades (19.0%) compared with middle (9.0%) or higher (13.6%) occupational grades. However, there were no occupational grade differences for other problems from other people's drinking such as being a passenger with a drunk driver, physical assault, money problems or having had property vandalised (11).

Across Europe, there has been work to develop more consistent methods of collecting and monitoring data on alcohol consumption and harm. The Joint Action on Reducing Alcohol Related Harm (RARHA) recently developed a standardised European alcohol survey – RARHA SEAS, which includes detailed questions on drinking levels, patterns and alcohol related harms, including harms to others. The tool was an adaptation of the SMART instrument that had been pilot tested in a number of European countries, and was further developed and translated for wider use. The resulting survey was implemented within 19 EU/EEA countries and provided baseline results for comparative assessment and monitoring of alcohol epidemiology (13). The RARHA-SEAS survey collected information on basic demographics, including the highest level of education attained (one measure of socio-economic status). This offered a valuable opportunity to explore inequalities in alcohol consumption, harms to self and harms to others further, both for EU countries as a whole and for individual countries. Our objective was to utilise the data collected from the RARHA-SEAS survey, specifically for EU member countries, exploring any differences in alcohol consumption and harms by educational attainment level, as a proxy for socioeconomic status. Educational attainment level is a widely used measure of socio-economic status within epidemiology (1,2,14,15).

Methods

We focused on data from the 17 EU member countries included in the RARHA-SEAS survey: Austria, Bulgaria, Croatia, Denmark, Estonia, Finland, France, Greece, Hungary, Italy, Lithuania, Poland, Portugal, Romania, Spain, Sweden and the UK. We accessed cross tabulated data from the RARHA-SEAS survey that included demographic variables (sex, age group [split into 18-34 years, 35-49 years, 50+ years] and highest level of education [split into lower education, intermediate education, and higher education[2]]), alcohol consumption and harms from alcohol consumption (from own drinking and from other people's drinking). Throughout the report we define *drinkers* as those that have consumed alcohol in the past 12 months, *non-drinkers* as those that have not consumed alcohol in the past 12 months and *all participants* as drinkers and non-drinkers.

[2] **Lower**: less than primary, primary education and lower secondary education; **Intermediate**: upper secondary (general and vocation), post-secondary non-tertiary education; **Higher**: short-cycle tertiary, bachelors, masters, doctoral.

We focused on the following alcohol consumption/harm variables:

1. Drinking at least weekly: whether participants consume alcohol on at least a weekly basis.

2. Daily drinking: whether participants consume alcohol every day.

3. Binge drinking at least monthly: whether participants consume 60 grams of pure alcohol on a single occasion at least monthly. This was explored among all participants and among drinkers.

4. Harms from own alcohol consumption: whether participants experienced any one of four harms in the past year from their own drinking (across all participants and across drinkers):

- Had a feeling of guilt or remorse after drinking
- Had a friend or family member tell them about things they said or did while they were drinking that they did not remember
- Failed to do what was normally expected from them because of their drinking
- Sometimes took a drink in the morning when they first got up.

5. Harms from other people's drinking: whether participants had experienced any of the following problems from other people's drinking in the past year:

a) **Experienced any one of four more serious harms:**
   - Harmed physically
   - Been involved in a serious argument
   - Been a passenger with a driver who had consumed too much alcohol
   - Been involved in a traffic accident because of someone else's drinking

b) **Been a passenger with a driver who had consumed too much alcohol.** This variable was also included as one of the more serious harms in 5a)

c) **Been verbally abused** i.e. called names or otherwise insulted

d) **Felt unsafe in a public place, including public transportation**

For each variable, we used binary logistic regression to establish relationships between the variable and education level, controlling for differences in country (for EU level data only), age group and sex. Within these regressions, we calculated estimated marginal means (referred to in the results section as *sample adjusted means* – mean percentages that have been adjusted to the sample average for the other variables in the model, i.e. education, age group and sex). All percentages reported in the results section are therefore sample adjusted percentages.

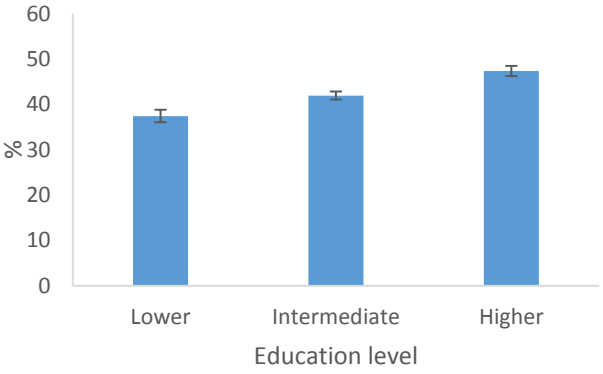
European and country averages will vary slightly from those mentioned in the RARHA-SEAS report (13) because 1) we adjusted percentages to the sample average for age group, sex, education level and (for European analyses) country, and 2) given our focus on EU member countries, we excluded Norway and Iceland from our analyses.

Results

1. Alcohol consumption: drinking at least weekly

For EU countries as a whole, 42% of all participants (drinkers and non-drinkers, see methods for definitions) reported drinking at least weekly[3]. Percentages were highest for males (57% compared with 29% for females). Those aged 18-34 years of age had slightly lower percentages of weekly drinkers (39%) compared with either the 35-49 year (43%) or the 50+ year (44%) age groups. Percentages increased with educational attainment, from 37% among lower and 42% among intermediate through to 47% among higher educated individuals (Figure 1).

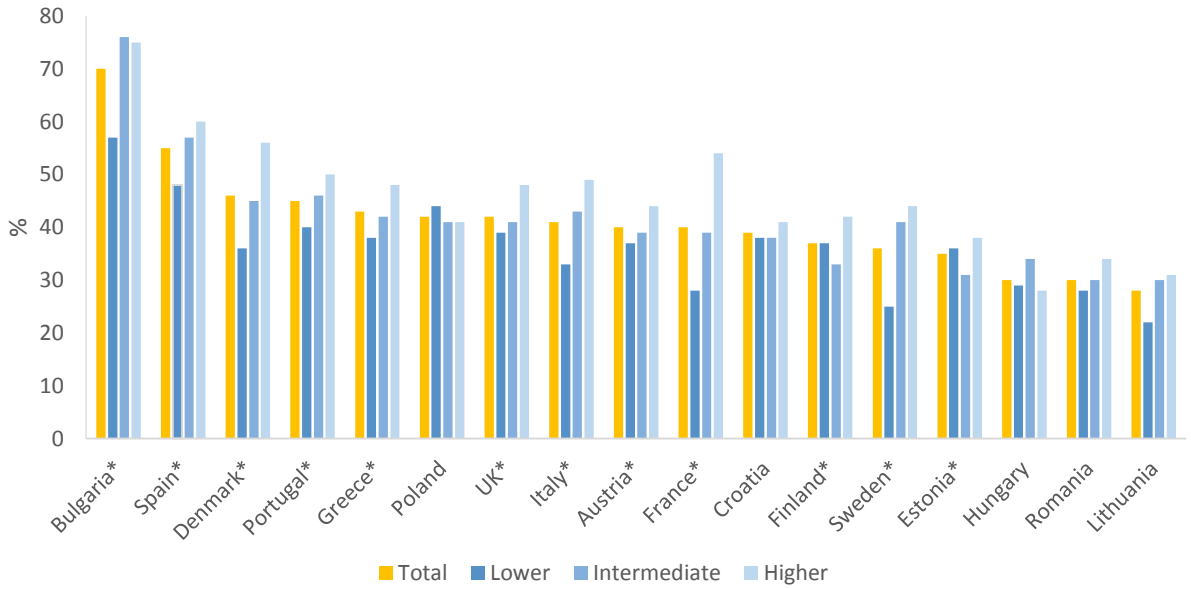
Figure 1: Sample adjusted means: percentage of all participants that drink at least weekly by education level.



Based on binary logistic regression. Means are adjusted for age group, sex and country.

Percentages of weekly drinking[3] were highest in Bulgaria (70%) and lowest in Lithuania (28%; Figure 2). Weekly drinking was significantly related to education level in 12 out of 17 countries, with the majority reporting an increase in weekly drinking with increasing education level (Figure 2).

Figure 2: Sample adjusted means: percentages of all participants that drink at least weekly overall, and by lower, intermediate and higher levels of education.



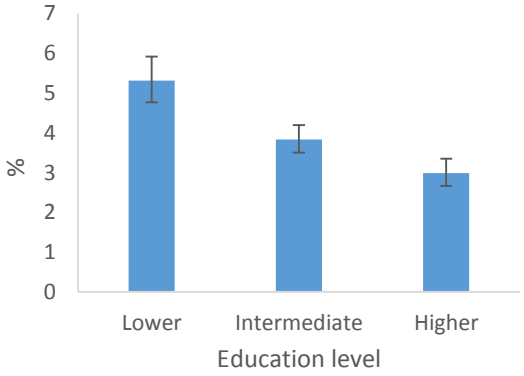
* Percentages of weekly drinking are significantly related to education level. Based on binary logistic regression. Means are adjusted for age group and sex.

[3] Percentages are adjusted for country (EU level data only), age group, sex and education level. See method section for more details.

2. Alcohol consumption: daily drinking

Far fewer participants reported drinking daily than drinking at least weekly; 4% of all participants[4] across EU countries. As with weekly drinking, percentages were highest for males (7%, compared to 2% for females) and increased with age group (2% for those aged 18-34, 4% for those aged 35-49 and 6% for those aged 50+). However, in contrast to weekly drinking, daily consumption decreased with level of education (5% for lower levels, 4% for intermediate levels and 3% for higher levels of education; Figure 3).

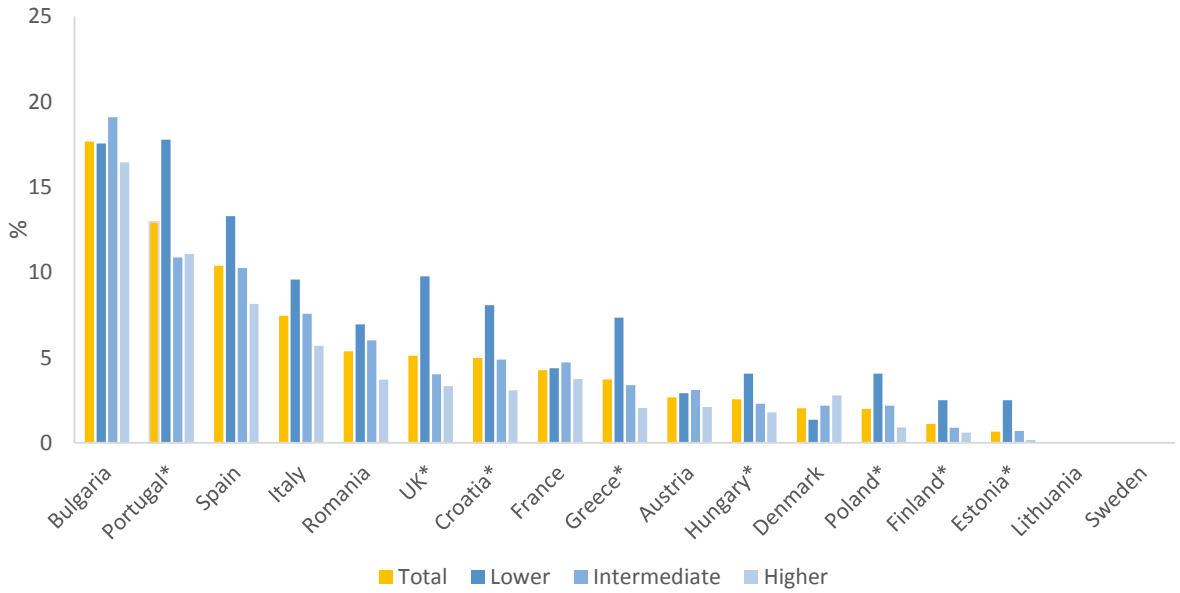
Figure 3: Sample adjusted means: percentage of all participants that drink daily by education level



Based on binary logistic regression. Means are adjusted for age group, sex and country.

At a country level, percentages of daily drinking[4] varied considerably from 16% in Bulgaria to less than 1% in Lithuania and Sweden (Figure 4). In Portugal, UK, Croatia, Greece, Hungary, Poland, Finland and Estonia, percentages of daily drinking decreased significantly with increasing education level. This pattern was also seen for Spain, Italy and Romania, although was not significant for these countries.

Figure 4: Sample adjusted means: percentages of all participants that drink daily overall, and by lower, intermediate and higher levels of education.



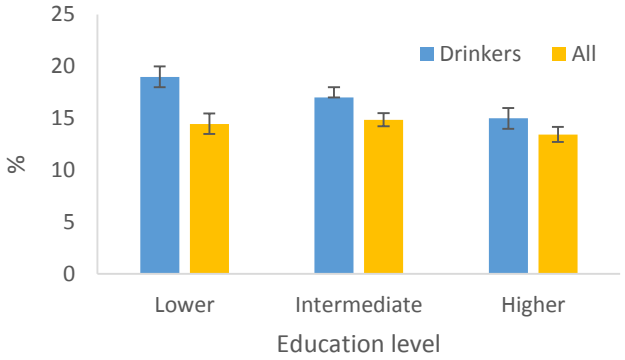
* Percentages of weekly drinking are significantly related to education level. Based on binary logistic regression. Means are adjusted for age group and sex.
For Lithuania and Sweden, percentages for all three education categories are less than 1%.

[4] Percentages are adjusted for country (EU level data only), age group, sex and education level. See method section for more details.

3. Alcohol consumption: binge drinking at least monthly

We explored binge drinking at least monthly as a measure of harmful drinking. Across EU countries as a whole, 17% of drinkers[5] (14% of all participants) reported binge drinking at least monthly. Percentages were highest for males (21% compared with 14% for females) and for those aged 18-34 (22% compared with 16% for those aged 35-49 and 14% for those aged 50+). Percentages decreased with increasing levels of education (lower levels 19%, intermediate levels 17%, higher levels 15%; Figure 5). Similar patterns across sexes and age groups were found for monthly binge drinking among all participants (including non-drinkers). However, for all participants, those with intermediate levels of education had slightly higher levels of binge drinking at least monthly (15%) compared to those with lower (14%) and higher (13%) levels of education (Figure 5). For binge drinking at least monthly, there is therefore a clearer social gradient for drinkers than for all participants.

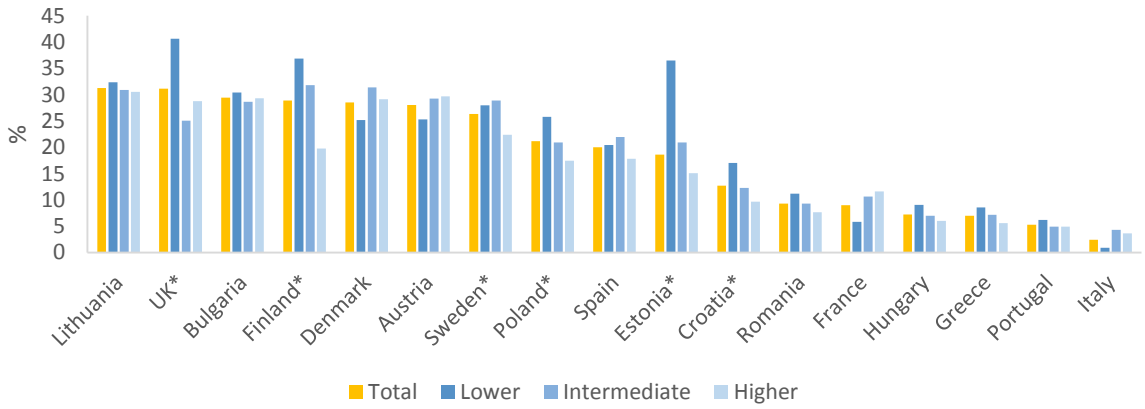
Figure 5: Sample adjusted means: percentage of all participants and drinkers who binge drink at least monthly by education level



Based on binary logistic regression. Means are adjusted for age group, sex and country.

At a country level, percentages of drinkers[5] that reported binge drinking at least monthly varied from 31% in Lithuania to 4% in Italy (Figure 6). In the UK, Finland, Sweden, Poland, Estonia and Croatia, percentages significantly decreased with increasing education level (Figure 6). The majority of remaining countries followed this pattern, although differences were not significant. Two exceptions were France and Italy, where percentages increased with increasing education level but these differences were not significant.

Figure 6: Sample adjusted means: percentages of drinkers that binge drink at least monthly overall, and by lower, intermediate and higher levels of education



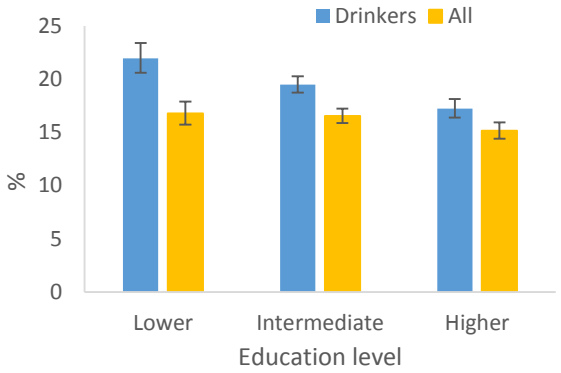
* Percentages of binge drinking at least monthly are significantly related to education level. Based on binary logistic regression. Means are adjusted for age group and sex.

[5] Those that report consuming any alcohol in the last 12 months, see methods. Percentages are adjusted for country (EU level data only), age group, sex and education level. See method section for more details.

4. Harms from own alcohol consumption: experienced at least one problem in the past year

Just under one in five (19%) drinkers across EU countries had experienced at least one problem due to their own drinking in the past year[6] (16% of all participants). More male drinkers (26%) experienced a problem than female (14%). Percentages decreased with age group (28% for those aged 18-34, 18% for those aged 35-49 and 15% for those aged 50+) and decreased with education level (low levels 22%, intermediate levels 19%, higher levels 17%). Similar patterns for sex, age and education were found when considering all participants (Figure 7). However, a clearer social gradient was found when the analysis was confined to drinkers than when including all participants (Figure 7).

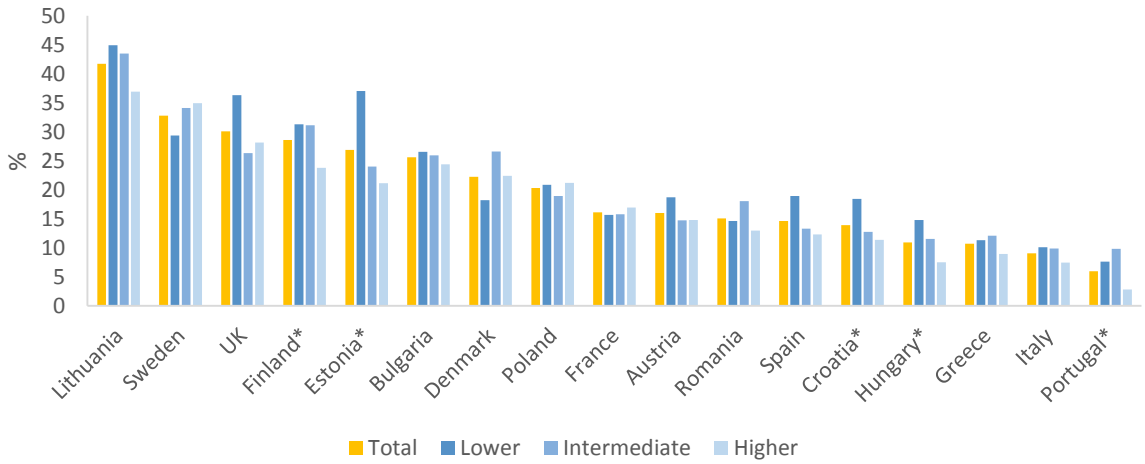
Figure 7: Sample adjusted means: percentage of all participants and drinkers experiencing at least one alcohol problem in the past year by education level



Based on binary logistic regression. Means are adjusted for age group, sex and country.

Percentages of drinkers who experienced at least one problem due to their own alcohol consumption in the past year[6] varied from 42% in Lithuania to 6% in Portugal (Figure 8). The majority of countries reported a decrease in experiencing at least one problem with increasing education level (significant for Finland, Estonia, Croatia, Hungary and Portugal only; Figure 8).

Figure 8: Sample adjusted means: percentages of drinkers who experienced at least one problem in the past year overall, and by lower, intermediate and higher levels of education



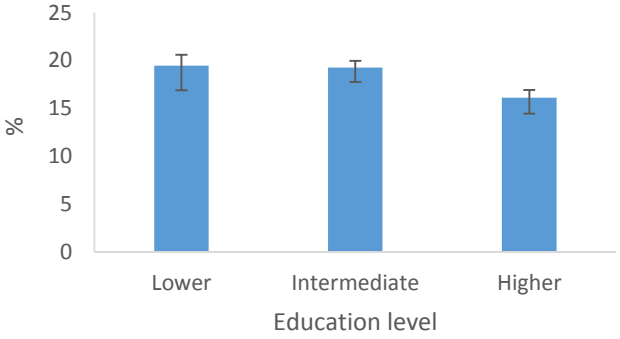
* Percentages of experiencing at least one problem due to own alcohol consumption are significantly related to education level. Based on binary logistic regression. Means are adjusted for age group and sex.

[6] Any one of the following problems: Had a feeling of guilt or remorse after drinking; had a friend of family member tell them about things they said or did while they were drinking that they did not remember; failed to do what was normally expected from them because of their drinking; sometimes took a drink in the morning when they first got up. Percentages are adjusted for country (EU level data only), age group, sex and education level. See method section for more details.

5. Harms from others' alcohol consumption: experienced any one of four more serious harms in the past year

Eighteen percent of all participants had ever experienced a serious harm from someone else's alcohol consumption[7]. Percentages were slightly higher for males (20% compared with 17% for females) and decreased with age group (24% for those aged 18-34, 18% for those aged 35-49, 14% for those aged 50+) and education level (19% for lower and intermediate levels, 16% for higher levels of education; Figure 9).

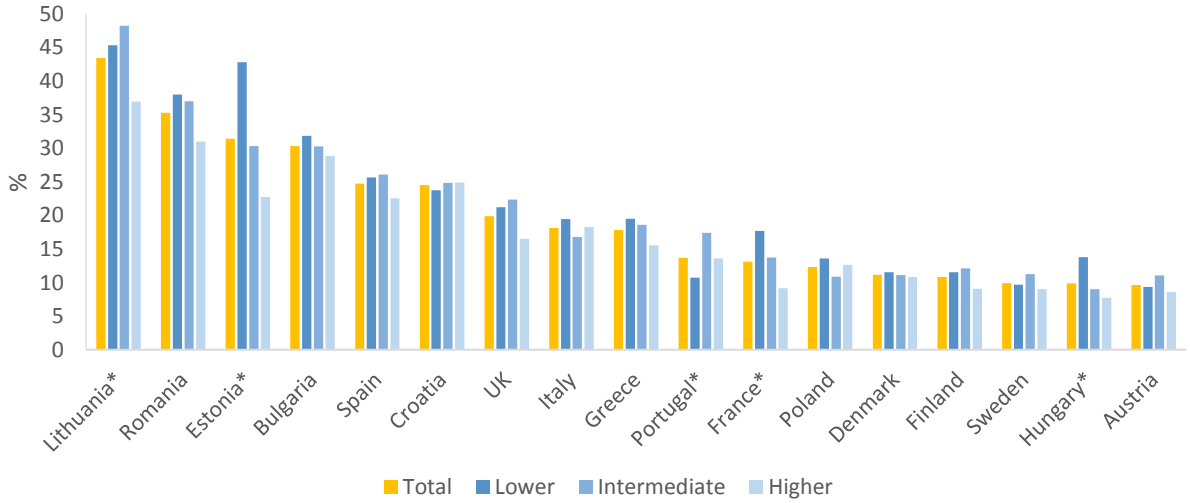
Figure 9: Sample adjusted means: percentage of all participants that experienced any one of four more serious harms in the past year



Based on binary logistic regression. Means are adjusted for age group, sex and country.

At a country level, percentages of all participants that had experienced any one of four more serious harms in the past year[7] ranged from 43% in Lithuania to 10% in Austria (Figure 10). The majority of countries reported a decrease in percentages with increasing education level (significant for Lithuania, Estonia, France and Hungary only). However, in Portugal, those with lowest education levels reported the lowest levels of experiencing any one of four more serious harms (differences significant; Figure 10).

Figure 10: Sample adjusted means: percentage of all participants that experienced any one of four more serious harms in the past year overall and by lower, intermediate and higher levels of education



* Percentages of experiencing at least one problem due to own alcohol consumption are significantly related to education level. Based on binary logistic regression. Means are adjusted for age group and sex.

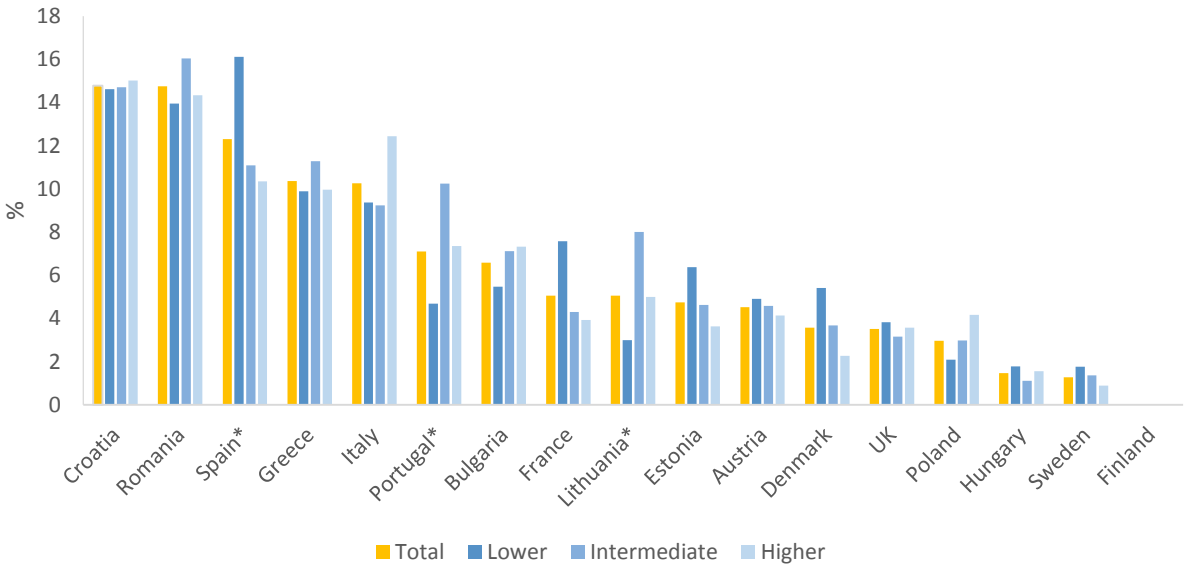
[7] Harms are: harmed physically, been involved in a serious argument**,** been a passenger with a driver who had had consumed too much alcohol**,** and been involved in a traffic accident because of someone else's drinking. Percentages are adjusted for country (EU level data only), age group, sex and education level. See method section for more details.

6. Harms from others' alcohol consumption: been a passenger with a driver who had consumed too much alcohol in the past year

Overall, 5% of all participants[8] had been a passenger in a car with a driver who had consumed too much alcohol in the past year (considered to be a serious harm). Percentages were slightly higher among males (6%) than females (4%) and decreased with age group (8% for 18-34 year olds, 5% for 35-49 year olds, 3% for 50+ year olds). There were no differences in percentages between education levels.

When countries were considered separately, percentages[8] ranged from 15% in Croatia to less than 1% in Finland (Figure 11). For the majority of countries (14 out of 17) there was no significant relationship between the percentage of all participants who had been a passenger in a car with a driver who had consumed too much alcohol and the level of education. However, in Spain, percentages significantly decreased with increasing education level, and in Portugal and Lithuania, percentages were lowest among those with lower levels of education (differences significant; Figure 11).

Figure 11: Sample adjusted means: percentages of all participants that experience one of four more serious harms from someone else's drinking in the past year overall, and by lower, intermediate and higher levels of education



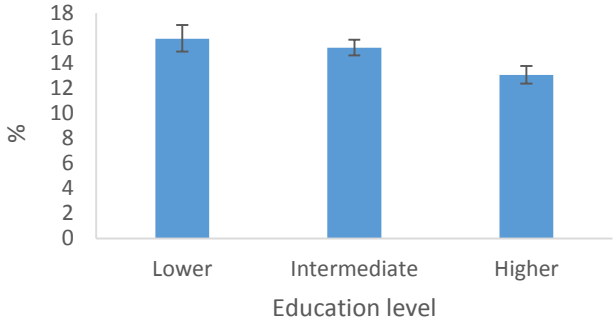
* Percentages of experiencing one or more serious harms are significantly related to education level. Based on binary logistic regression. Means are adjusted for age group and sex.
For Finland, percentages for all three education categories are less than 1%.

[8] Percentages are adjusted for country (EU level data only), age group, sex and education level. See method section for more details.

7. Harms from others' alcohol consumption: been verbally abused because of someone else's drinking in past year

Across EU countries, 15% of all participants[9] had experienced verbal abuse because of someone else's drinking in the past year. There were no differences between genders, but percentages decreased with age group (18% for those aged 18-34, 14% for those aged 35-49 and 12% for those aged 50+) and education level (lower levels 16%, intermediate levels 15%, higher levels 13%; Figure 12).

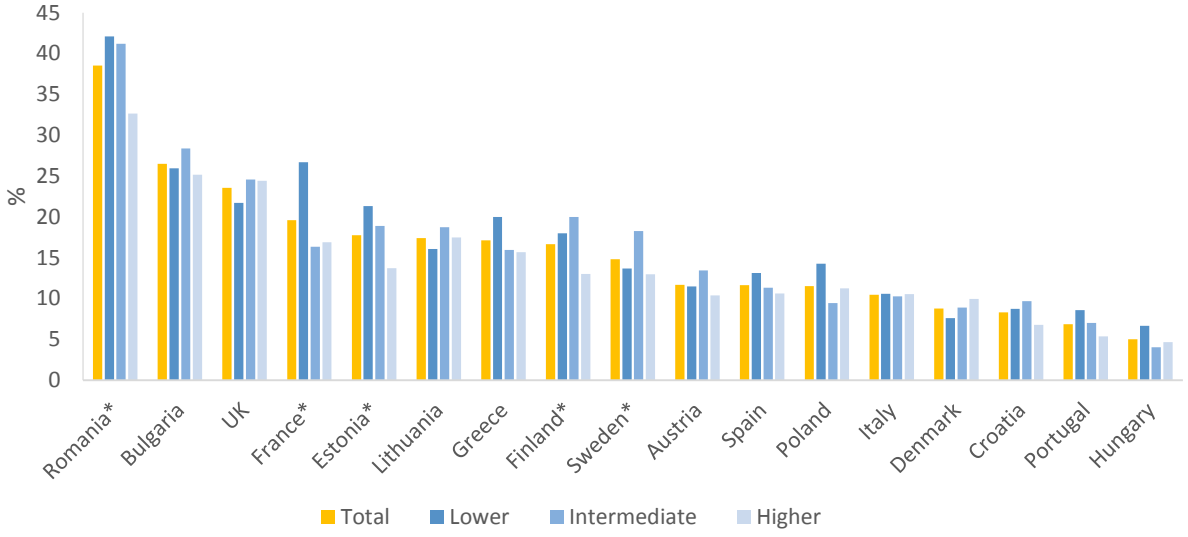
Figure 12: Sample adjusted means: percentage of all participants who had experienced verbal abuse because of someone else's drinking in the past year



Based on binary logistic regression. Means are adjusted for age group, sex and country.

Percentages[10] of all participants who had experienced verbal abuse as a result of someone else's drinking ranged from 39% in Romania to 5% in Hungary (Figure 13). Experiencing verbal abuse was significantly related to education level in 5 out of 17 countries. In Romania, France and Estonia, percentages decreased significantly with increasing education level. In Finland and Sweden, percentages were highest among those with intermediate levels of education (differences significant; Figure 13).

Figure 13: Sample adjusted means: percentages of all participants that had experienced verbal abuse because of someone else's drinking in the past year overall, and by lower, intermediate and higher levels of education



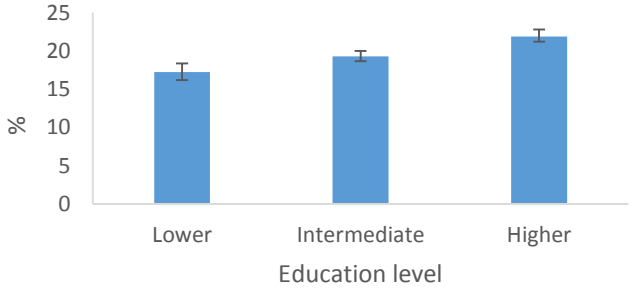
* Percentages of experiencing verbal abuse are significantly related to education level. Based on binary logistic regression. Means are adjusted for age group and sex.

[9] Percentages are adjusted for country (EU level data only), age group, sex and education level. See method section for more details.

8. Harms from others' alcohol consumption: felt unsafe in a public place because of someone else's drinking in past year

Nineteen percent of all participants had felt unsafe in a public place because of someone else's drinking in the past year[10]. Percentages were highest for females (24% compared to 16% for males), decreased with age group (25% for those aged 18-34, 19% for those aged 35-49 and 16% for those aged 50+) and increased with level of education (17% for lower, 19% for intermediate and 22% for higher levels of education, Figure 14).

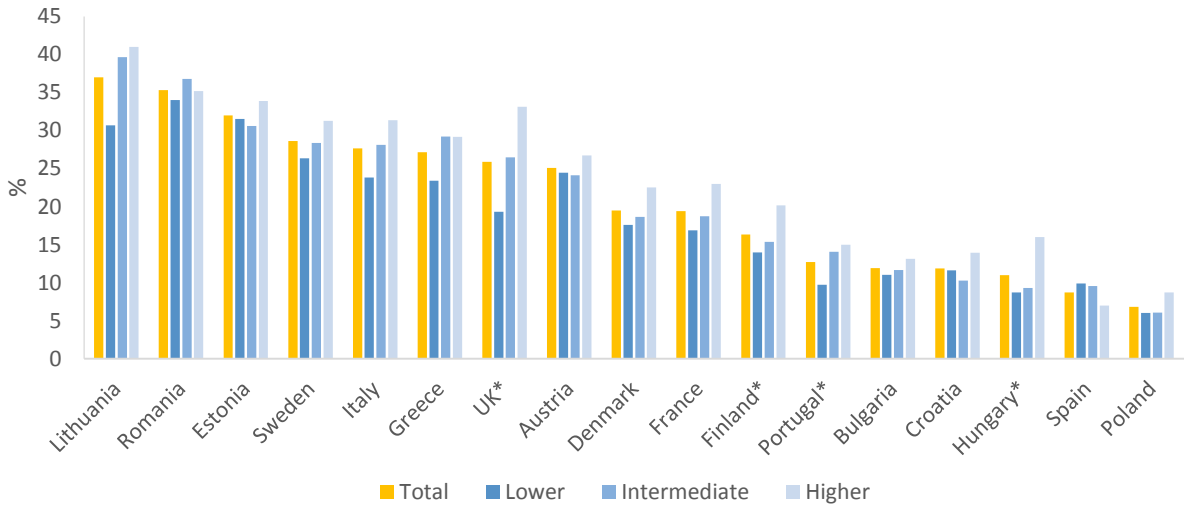
Figure 14: Sample adjusted means: percentage of all participants who felt unsafe in a public place because of someone else's drinking in the past year



Based on binary logistic regression. Means are adjusted for age group, sex and country.

At a country level, percentages[12] of all participants who had felt unsafe in a public place due to someone else's drinking ranged from 37% in Lithuania to 7% in Poland (Figure 15). For the majority of countries, percentages increased with increasing education level. However, this was only significant for four countries (UK, Finland, Portugal and Hungary; Figure 15).

Figure 15: Sample adjusted means: percentages of all participants that have felt unsafe in a public place because of someone else's drinking in the past year overall, and by lower, intermediate and higher levels of education



* Percentages of feeling unsafe in a public place are significantly related to education level. Based on binary logistic regression. Means are adjusted for age group and sex.

[10] Percentages are adjusted for country (EU level data only), age group, sex and education level. See method section for more details.

Discussion and conclusions

Interventions and policy to address health inequalities can be better informed through an improved understanding of how alcohol consumption and harm varies across different sectors of society. Drawing on a European wide standardised alcohol survey, this report aimed to explore variations in alcohol consumption and harm across different levels of educational attainment. Across the EU as a whole, socio-economic differences (as measured here by education level) exist in the frequency and patterns of alcohol consumption as well as harms from drinking, for instance (Table 1):

- Among all participants, whilst levels of drinking at least weekly increase with increasing education level, levels of daily drinking decrease.
- Levels of binge drinking at least monthly are highest among those with intermediate levels of education across all participants, but decrease with increasing education level when confined to drinkers only.
- Levels of experiencing a problem from own alcohol consumption in the past year decrease with increasing education level for all participants and for drinkers only.
- Among all participants, levels of experiencing any one of four more serious harms or experiencing verbal abuse due to someone else's drinking decreases with increasing education level. Conversely, among all participants, levels of feeling unsafe in a public place due to someone else's drinking increases with increasing education level.

However, relationships between education level and alcohol consumption and harm are often inconsistent between EU countries (Table 1), with some observable trends remaining non-significant. This may be due, in part, to low sample sizes. For this reason, general trends at a country level are included in summary Table 1, with significant trends highlighted. Inconsistencies in the direction of trends between countries for some variables highlights the importance of considering inequalities within specific drinking cultures.

Across all participants in EU countries, whilst levels of weekly drinking (i.e. drinking on a regular basis) increased with educational attainment level, levels of daily drinking decreased. In other words, although those with lower levels of education are less likely to drink alcohol at least weekly, if they do drink weekly or more, they are more likely than higher educated groups to be daily drinkers. These patterns were fairly consistent (although not always significant; see Table 1) across individual countries. Existing research indicates that those with lower education are less likely to drink in general than other social groups (1,2; a pattern also found in the RARHA-SEAS survey data[11]), and in some countries, levels of weekly drinking have been found to be lower among those with lower incomes (e.g. England [16]). It was not possible to identify quantities of daily drinking from the data available, nor therefore whether daily drinking would equate to harmful drinking. However, it is clear that how frequently individuals drink is related to their education level, even after other demographic factors are taken into account.

Relationships between levels of monthly binge drinking and education were less clear. Across participants in EU countries, there was more of a social gradient for

[11] Percentages of non-drinkers (not drank in the last 12 months) were: lower levels of education, 25%; intermediate levels of education, 13%, higher levels of education, 10%.

drinkers only, compared to all participants (Figure 5). Thus, whilst there are fewer drinkers in lower educated groups[14], those that do drink are more likely to binge drink at least monthly compared to drinkers in higher educated groups. However, the direction of the relationships varied by country and relationships were not always significant (Table 1). These findings are in line with other multi-national studies, which report that in general, across EU countries[12], those with lower educational levels more often binge drink than those with higher educational levels (1,2,14,15). In such studies, differences were not always significant (particularly for women) and not all EU countries included in the studies followed this pattern.

Table 1: Summary of relationships between alcohol variables and education level among all participants and (for binge drinking and harm from own drinking) drinkers.

	Frequency of drinking		Binge drinking at least monthly		Harm from own drinking		Harm from others' drinking			
	Drink at least weekly *All participants*	Drink daily *All participants*	Binge drink at least monthly *All participants*[$]	Binge drink at least monthly *Drinkers only*	Problem from own drinking *All participants*[$]	Problem from own drinking *Drinkers only*	Experienced any serious harm *All participants*	Passenger with driver who consumed too much alcohol *All participants*	Experienced verbal abuse *All participants*	Felt unsafe in a public place *All participants*
Austria	↑	↔	↑	↑	↔	↓	↔	↓	↔	↑
Bulgaria	↑	↔	↑	↔	↔	↓	↓	↑	↔	↑
Croatia	↑	↓	↓	↓	↓	↓	↔	↔	↔	↑
Denmark	↑	↑	↑	↑	**	↔	↔	↓	↑	↑
Estonia	*	↓	↓	↓	↓	↓	↓	↓	↓	↑
Finland	*	↓	↓	↓	↓	↓	↓	↔	↓	↑
France	↑	↔	↑	↑	↑	↔	↓	↓	↓	↑
Greece	↑	↓	↓	↓	↔	↔	↓	↔	↓	↑
Hungary	↔	↓	↓	↓	↓	↓	↓	↔	↓	↑
Italy	↑	↓	↑	↑	↔	↓	↔	↑	↔	↑
Lithuania	↑	↔	↑	↓	↔	↓	↓	**	↔	↑
Poland	↔	↓	↓	↓	↔	↔	↔	↑	↓	↑
Portugal	↑	↓	↔	↓	↓	↓	**	**	↓	↑
Romania	↑	↓	↓	↓	↔	↔	↓	↔	↓	↔
Spain	↑	↓	↔	↔	↓	↓	↓	↓	↓	↓
Sweden	↑	↔	↔	↓	↑	↑	↔	↓	**	↑
UK	↑	↓	↓	↓	↓	↓	↓	↔	↑	↑
EU	↑	↓	↔	↓	↓	↓	↓	↔	↓	↑

↑ general increasing trend with increasing education level; ↓ general decreasing trend with increasing education level; * Percentages are lowest among those with intermediate education levels; ** Percentages are highest among those with intermediate education levels; ↔ no observable trend with education level. Trend is significant (based on binary logistic regression). See methods for definition of alcohol variables. [$]Country-level data is not presented in the results section but is included here for information.

[12] EU countries included in these studies are: Sweden, Finland, Germany, Netherlands, Switzerland, Hungary, Czech Republic, Denmark, Estonia, Latvia and Lithuania.

As with monthly binge drinking, experiencing at least one problem in the past year due to own alcohol use was related to education level, but there was more of a social gradient for drinkers only, compared with all participants (Figure 7). These findings suggest that although lower educated groups are less likely to drink, those that drink are more likely to experience harm from their own drinking than those in higher educated groups. Again at a country level, the direction of relationships differed, with many being non-significant (Table 1). Previous research including a number of countries in the EU[13] has identified that alcohol consumers of lower education are generally more likely to report alcohol-related problems than those of higher education, although inequalities are less significant for women than for men (1,2).

Among all participants (including non-drinkers), we explored several measures of harms from other people's drinking, with the majority being significantly related to educational level at an EU level. The risk of experiencing any one of four more serious harms and experiencing verbal abuse from someone else's drinking both decreased with increasing educational attainment (Figure 9 and Figure 12). However, for both variables, only a minority of countries had significant trends across educational groups, with inconsistent patterns (Table 1). However, the risk of feeling unsafe in a public place due to someone else's drinking increased with increasing educational attainment, a pattern that was fairly consistent across individual EU countries (but not always significant; Table 1). The only harm that was not related to educational level at an EU level was having been a passenger with a driver who had consumed too much alcohol in the past year. Research from Ireland explored a similar relationship, finding no significant variations in levels of being a passenger with a drunk driver between social classes (11).

Our analyses suggest that across EU countries, there are variations in the frequency of alcohol consumption, binge drinking and harm by level of educational attainment. Whilst in general drinkers in lower educational (socio-economic groups) experience higher levels of harms associated with their drinking, these relationships can differ at a country level (see Table 1). There is a need to consider and interpret inequalities within the specific drinking cultures of each country. Importantly, our analyses find that inequalities in alcohol-related harm extend past individual drinkers to others around them, such as family members, co-workers or strangers (see results section; 5-8). Interventions and policies that aim to reduce inequalities in alcohol-related harms should consider the wider effects of alcohol not just on the consumer but on those who may suffer due to the alcohol consumption of someone else.

[13] Sweden, Finland, Hungary and Czech Republic

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