

# Substance use and antisocial behaviour in adolescence

## Evidence from the Millennium Cohort Study at age 17

Adolescence is a developmental stage characterised by behavioural changes, such as increases in experimental and risk-taking behaviours.<sup>1</sup> Explanations for these changes include psychological,<sup>2</sup> neurobiological,<sup>3</sup> and social contextual factors.<sup>4</sup> To some extent, experimental and risk-taking behaviours are an expected part of growing up and tend to subside in early adulthood. Nevertheless, behavioural patterns established in adolescence can be a cause for concern as they can have adverse consequences for future prospects of individuals' health and wellbeing, and their social and economic outcomes.<sup>5</sup>

The Millennium Cohort Study (MCS) collected data from nearly 10,000 individuals across the UK on a range of risky behaviours when participants were 17 years old in 2018-2019. The behaviours examined in this report include the use of substances (alcohol, smoking, vaping,

drugs), and antisocial behaviours (graffiti, vandalism, shoplifting, assault, weapon use). For some of these behaviours, data was also collected previously at ages 11 and 14. This enables the tracking of risky behaviours during the adolescent period.

This report shows overall prevalences of engagement in risky behaviours, alongside breakdowns by sex, by parental educational level, and by UK country. In terms of sample characteristics, 50% were females, 36% had parents with a university degree or above, 13% were of ethnic minority origin, and the UK nations were represented by England (84%), Wales (5%), Scotland (8%) and Northern Ireland (3%). Analyses are adjusted for survey design and attrition, so figures are nationally representative estimates of risky behaviours among young people born in the UK around the turn of the millennium.

### Key findings

- **Substance use:** 53% reported they had engaged in binge drinking by age 17, and 13% reported regular drinking (six or more times in past month). 31% had tried smoking cannabis at least once, and 10% had tried harder drugs.
- **Substance use by sex:** Males were more likely than females to binge drink, use cannabis, and take harder drugs.
- **The role of high parental education:** Young people whose parents had at least a degree were more likely to have tried alcohol and to have engaged in binge drinking, but were less likely to be smokers.
- **Few differences between UK countries:** Young people in the four UK countries were generally similar in their behaviours. One exception was a higher level of experimentation with cannabis and harder drugs in Scotland compared to the other nations.
- **Antisocial behaviours:** From ages 14 to 17, rates of vandalism, use of weapons, and graffitiing remained stable. However, the prevalence of assault decreased, while that of shoplifting increased.
- **Antisocial behaviours by sex:** Males reported higher rates of graffitiing, vandalism, shoplifting, assault, and use of weapons than females.

# Substance use from early to late adolescence

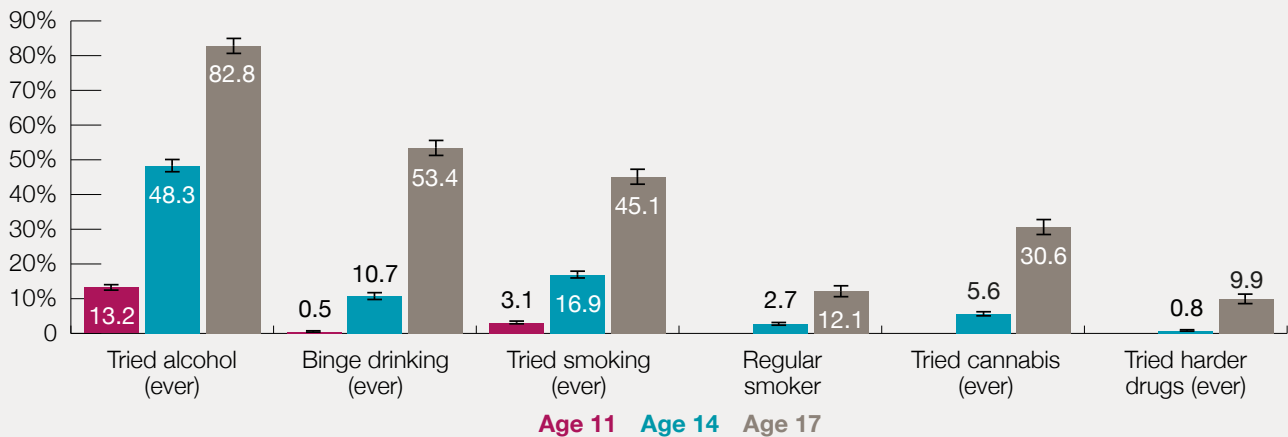
Figure 1 shows young people’s experiences with different substances at ages 11, 14 and 17, highlighting stark increases with age.

At age 17, 83% reported that they had tried alcohol, a substantial increase from age 14 (48%) and age 11 (13%). 53% had engaged in binge drinking at least once by age 17, up from around 11% a few years before. During this period of adolescence, the frequency of alcohol use also increased, as shown in Figure 2. By age 17, 36% reported drinking alcohol one to two times during the last month, 19% reporting drinking three to five times, and 13% had drunk six or more times in the past month.

The frequency of binge drinking (not shown in figure) – having at least five drinks on at least 10 occasions in the past year – had also risen, from 0.5% at age 14 to 9% at age 17. In terms of cigarette smoking, 45% of young people had smoked by age 17, up from 17% at age 14, and 3.1% at age 11. 12% of 17-year-olds were regular cigarette smokers, a rise from 2.7% at age 14.

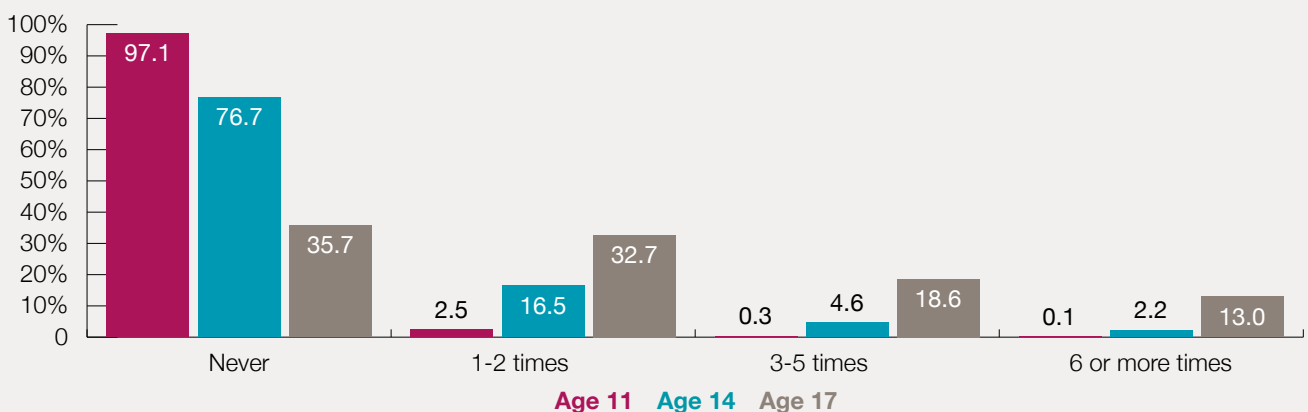
Figure 1 also shows that the use of cannabis and harder drugs, including cocaine, acid and ecstasy, had increased sharply from age 14 to 17. At age 14, 5.6% had tried cannabis and just under 1% had tried harder drugs, rising to 31% and 10% respectively at age 17.

**FIGURE 1: SUBSTANCE USE**



Note: Data not available at age 11 for all outcomes (blank cells). Hard drugs include cocaine, acid, ecstasy, speed, semeron, ketamine, mephedrone, or any other psychoactive substances.

**FIGURE 2: ALCOHOL FREQUENCY (IN PAST MONTH)**

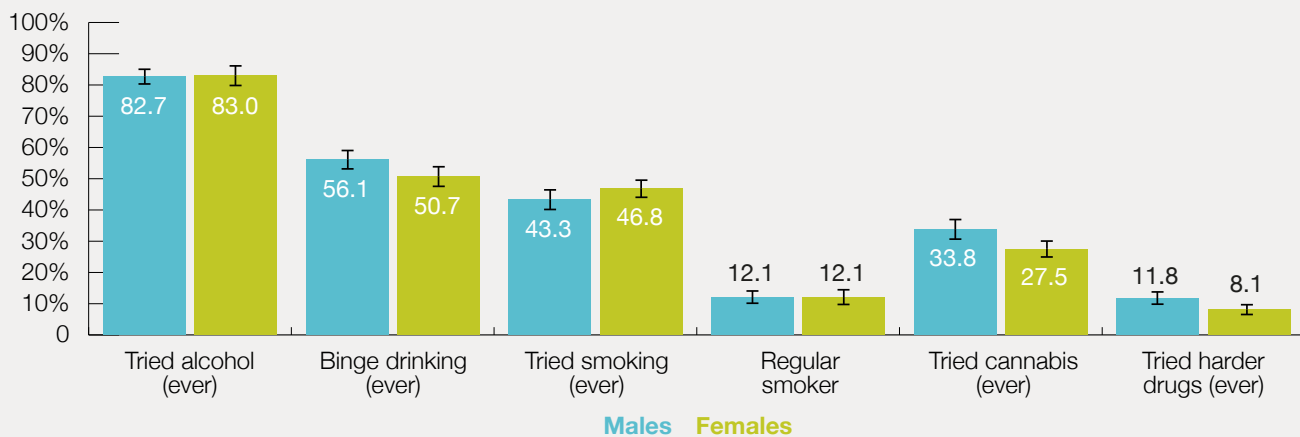


## Sex differences

Figure 3 shows differences in substance use between males and females at age 17. For several substances, males reported greater usage than females: for example, binge drinking (56% versus

51%), tried cannabis (34% vs 28%) and tried harder drugs (12% vs 8%). Rates of having tried alcohol, having tried smoking, and regular smoking, were similar for males and females.

**FIGURE 3: SUBSTANCE USE AT 17 BY SEX**



**Other social and demographic patterns**

**Parental education**

We compared young people by their parents’ educational level, classified into degree level or above versus below degree level. Young people who have at least one parent with a degree or higher were more likely to report having tried alcohol (89%) compared to those with parents with less than a degree (82%). The former group were also more likely to report having engaged in binge drinking (61% vs 51%).

On the other hand, those whose parents had a lower level of education were more likely to be regular cigarette smokers (14% vs 9%). No differences by parental education were observed among those who had tried smoking, cannabis, or harder drugs.

**Country**

There were generally few differences in young people’s substance use across the UK. This is with the exception of young people in Wales and Scotland reporting a higher prevalence of binge drinking (60% and 61% respectively) compared to England (52%). Another exception is that

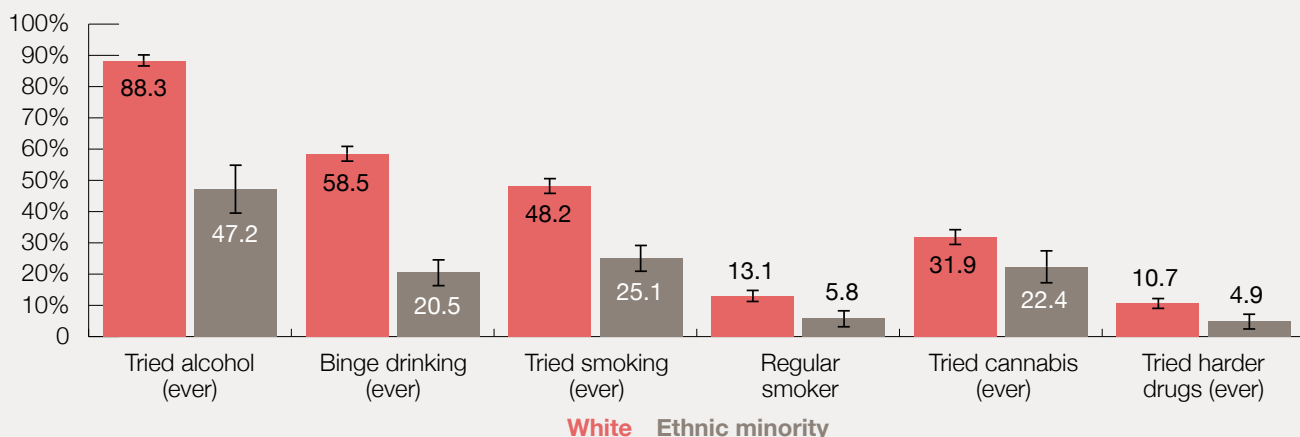
17-year-olds living in Scotland had tried cannabis at a higher rate (35%) than those in the other countries of the UK, with the difference compared to Wales (26%) being statistically significant. In Scotland they were also more likely to report having tried harder drugs (15%) compared to the other nations (each around 10%).

**Ethnicity**

Stark differences were observed in rates of substance use between ethnic groups, with young people of white ethnicity reporting much higher rates of experimentation and more regular use than ethnic minorities (Figure 4). For example, 88% of whites had tried alcohol compared to 47% of ethnic minorities, and 59% of whites had engaged in binge drinking compared to 21% of ethnic minorities.

Among white people, 48% had tried smoking and 13% were regular smokers. For ethnic minorities the corresponding figures were 25% and 6%. Similar patterns were observed for having tried cannabis, and harder drugs, with ethnic minorities reporting lower prevalences than whites.

**FIGURE 4: SUBSTANCE USE AT AGE 17 BY ETHNICITY**



# Measures of substance use and antisocial behaviour at age 17

## SUBSTANCES:

**Tried alcohol (ever):** Have you ever had an alcoholic drink? That is more than a few sips. A drink is half a pint of lager, beer or cider, one alcopop, a small glass of wine, or a measure of spirits.

**Alcohol frequency:** How many times have you had an alcoholic drink in the last four weeks?

**Binge drinking (ever):** Have you ever had five or more alcoholic drinks at a time? A drink is half a pint of lager, beer or cider, one alcopop, a small glass of wine, or a measure of spirits.

**Binge drinking frequency:** How many times have you had five or more alcoholic drinks at a time in the last 12 months?

**Tried smoking (ever):** Have you ever tried cigarettes (not including e-cigarettes) at least once?

**Regular smoker:** Do you usually smoke one or more cigarettes a week?

**Tried cannabis (ever):** Have you ever taken cannabis (also called marijuana, dope, pot, blow, hash, skunk, puff, grass, draw, ganja, spliff, smoke, weed)?

**Tried harder drugs (ever):** Have you ever taken any of the following: cocaine, acid, ecstasy, speed, semeron, ketamine, mephedrone, or any other psychoactive substances?

## ANTISOCIAL BEHAVIOURS:

**Graffiti:** In the last 12 months have you written things or spray painted on a building, fence or train or anywhere else where you shouldn't have?

**Vandalism:** In the last 12 months have you deliberately damaged something in a public place that didn't belong to you, for example by burning, smashing or breaking things like cars, bus shelters and rubbish bins?

**Shoplifting:** In the last 12 months have you taken something from a shop without paying for it?

**Assault:** In the last 12 months have you pushed or shoved/hit/slapped/punched someone?

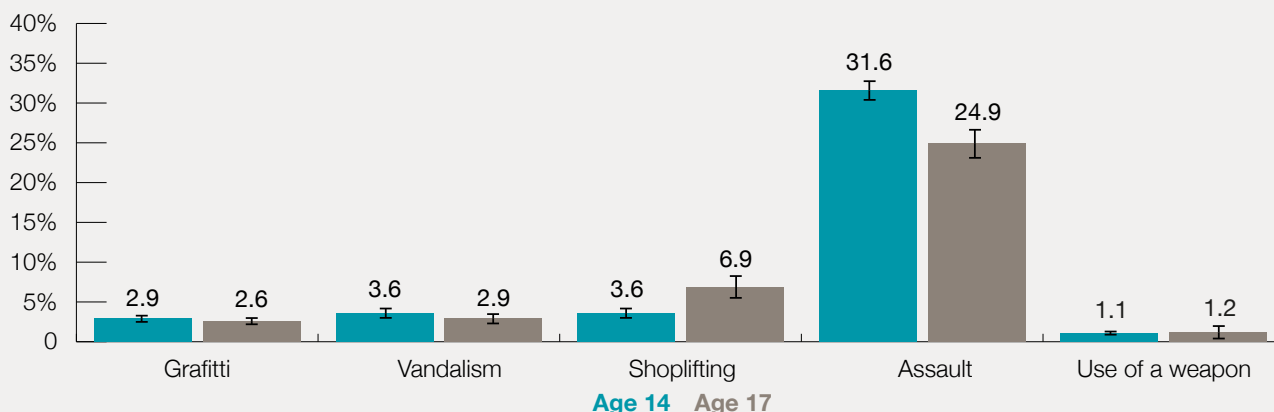
**Use of weapon:** In the last 12 months have you hit someone with or used a weapon?

## Antisocial behaviour from early to late adolescence

Figure 5 shows prevalences of certain antisocial behaviours in the last 12 months, reported at ages 14 and 17. During this period the rates of graffitiing (Age 14: 2.9%; Age 17: 2.6%), vandalism (Age 14: 3.6%; Age 17: 2.9%), and usage of weapons

(Age 14: 1.1%; Age 17: 1.2%) remained stable. Shoplifting increased from 3.6% at age 14 to 6.9% at age 17, and although rates of assault declined from 32% at age 14, they still remained high, with 25% reporting these behaviours at age 17.

**FIGURE 5: ANTISOCIAL BEHAVIOUR (LAST 12 MONTHS)**



## Sex differences

Sex differences in antisocial behaviour at age 17 are shown in Figure 6. Males report a higher prevalence of all activities in the past 12 months. For assault the sex difference is especially strong, 36% of males

reported having assaulted someone (meaning they had pushed, shoved, hit, slapped or punched someone) compared to 13% of females.

**FIGURE 6: ANTISOCIAL BEHAVIOUR (LAST 12 MONTHS) AT AGE 17 BY GENDER**



## Other social and demographic patterns

### Parental education

There was little difference in antisocial behaviour by parental educational level, with the exception of shoplifting, where the prevalence was higher among young people whose parents had degree level qualifications or above (9.1%) compared to parents with below degree level (5.3%).

### Country

Young people in all four countries reported similar levels of graffitiing, vandalism, and use

of weapons. However, a difference was observed for shoplifting, with Northern Ireland youths reporting much lower rates (2.6%) compared to young people in other nations who reported between 5.7% and 7.2%. However, assault was more common in Northern Ireland (32%) than in other nations (21%).

### Ethnicity

Analysis by ethnicity revealed similar levels of antisocial behaviour for white and ethnic minority young people.

“ Although substance use in adolescence can be purely experimental – there is nevertheless the risk that behavioural patterns can become established and carry on into adulthood. ”

# Conclusion and discussion

## Summary of findings

This report examines rates of substance use and antisocial behaviours among young people aged 17, who were born in the UK around the turn of the millennium. Findings show a sharp increase in the use of substances compared to earlier in adolescence, but little change in antisocial behaviours. Results highlight that sex is a significant factor with

males engaging more in risky behaviours. Ethnicity was also found to be especially important in relation to substance use, with ethnic minorities engaging much less than their white peers. There were few socioeconomic differences between young people, and little variation between the UK countries.

## Discussion of findings

In terms of how findings compare to previous analyses, the sharp increase in substance use between early and later adolescence found in our study is consistent with previous research. The prevalence of having tried alcohol at ages 14 and 17 in MCS is strikingly similar to that found in an English cohort born 12 years before MCS, and which measured alcohol use at the same ages.<sup>6</sup> This suggests that there has been little change in the use of alcohol by adolescents in the last decade, although more long-term there is evidence of a decline compared to previous generations.<sup>7</sup> However, for cannabis use in late adolescence, our results suggest a decline compared to this previous cohort<sup>8</sup>.

Other similarities between this earlier born cohort and MCS are the higher rates of alcohol consumption among males compared to females, and among those whose parents are highly educated, and the lower prevalence reported among ethnic minorities. The social and demographic patterns in relation to alcohol use, and the lower use of drugs by females and among ethnic minorities align with findings from previous studies.<sup>9</sup>

Although substance use in adolescence can be purely experimental – for example, binge drinking has been found to peak in late adolescence and in early adulthood, with rates declining as drinkers grow older<sup>10</sup> – there is nevertheless the risk that behavioural patterns can become established and carry on into adulthood.

Adolescent binge drinking has been found to predict adult alcohol dependence in addition to a range of other negative health and social outcomes. In addition, regular smoking in adolescence is of significant concern as this is a habit that can be difficult to break, with most initiation happening in adolescence and early adulthood, which is strongly predictive of continued smoking in adulthood.<sup>11</sup> Given that smoking is a major

contributor to a wide range of diseases and mortality<sup>12</sup>, the higher prevalence of regular smoking we found in young people of parents with lower educational levels is of particular concern. Research has also demonstrated that cessation is lower among individuals with lower socioeconomic status.<sup>13</sup>

Social inequalities in health have been observed in previous generations for a large range of diseases and for premature mortality<sup>14</sup>, and smoking is considered a major explanatory factor for these inequalities.<sup>15</sup> In terms of consequences of adolescent health behaviours, it is not just later in adulthood that these become manifest but vascular damage from smoking and drinking in adolescence can be detected already in adolescence.<sup>16</sup>

In relation to our findings for antisocial behaviours we generally found little change between early and later adolescence. We might have expected to have seen a larger increase from the age of 14 to 17 in our sample in line with the well established age-crime curve. This curve has been shown in much previous research; whereby rates tend to be low in childhood, increase dramatically from early adolescence, peak in the mid to late adolescence period, and then decline steeply in the very late teens and early 20s, with a more steady decline through adulthood.<sup>17</sup> The clear sex differences in antisocial behaviours, with males reporting much higher rates of involvement than females, is consistent with the existing literature in the field.<sup>18</sup>

Current results are initial findings and further research will examine a range of predictors of these behaviours across the social ecology of individuals, drawing on the rich set of data from MCS, collected from birth through childhood and adolescence. Such further examinations are highly relevant to the policy community and will help to inform policies and guidance which foreground early intervention and prevention.

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## Initial findings from the Millennium Cohort Study Age 17 Survey

This briefing is one of a series on different topics, based on the most recent MCS data.

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## About the Millennium Cohort Study

The Millennium Cohort Study (MCS) is following the lives of 19,517 individuals born across England, Scotland, Wales and Northern Ireland in 2000-02.

MCS provides multiple measures of the cohort members' physical, socio-emotional, cognitive and behavioural development over time, alongside detailed information on their daily life, behaviour and experiences.

There have been seven main sweeps of MCS to date, at ages 9 months, 3,5,7,11,14 and 17 years. Additionally, cohort members are taking part in an online survey across the five British cohorts during the COVID-19 pandemic, providing vital data on how the pandemic is affecting this generation.

Given the rich data available in the study about the cohort members, their families and wider school and social contexts, researchers can utilise these data to understand the antecedents, development and consequences of risky behaviours using a range of statistical approaches.