ESPAD Report 2019

Results from the European School Survey Project on Alcohol and Other Drugs

The ESPAD Group

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YEARS OF MONITORING
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Preface

This report presents the results of the seventh data-collection wave of the European School Survey Project on Alcohol and Other Drugs (ESPAD). The data collection took place in 2019, marking the 24th anniversary of ESPAD data collection (1995-2019). Each wave of the project increases the value of the information presented, not only from a European perspective but also for the participating countries.

This report is based primarily on the information provided in 2019 by 99 647 students from 35 European countries, 25 of them being Member States of the European Union. Nearly 700 000 students have participated in the seven successive ESPAD data-collection waves, making the project the most extensive harmonised data collection on substance use and risk behaviours in Europe. The ESPAD database is available also to researchers outside the ESPAD network, who may apply for access.

The overall purpose of ESPAD is to offer a solid, reliable and comparable information base that can help contribute towards formulating and increasingly, evaluating policies, in particular those focused on adolescents. This group represents a key population for the initiation of substance use and other behaviours; and policies and interventions addressing these issues need quality information for their formulation, monitoring and evaluation.

ESPAD has been a successful project for 24 years, with a dynamic history, an increasing value both at the national and European level, and a promising future. The project was initiated and coordinated by the Swedish Council for Information on Alcohol and Other Drugs (CAN), following initial work carried out by the Pompidou Group of the Council of Europe. The EMCDDA has progressively increased its support to the project, and since 2013, at the request of Sweden, the EU Member States and the European Commission, has been involved in the coordination of ESPAD, facilitating the transition and development of the project.

Since 2016, with the election of the new ESPAD Coordinator, the National Research Council of Italy has actively contributed to the coordination work and drafting the report. The EMCDDA has continued to support the project in a number of ways, including through coordination activities, the provision of essential resources for some national participants, and by the production of this report.

The 2019 wave can be considered an encouraging success and is largely the result of an extensive and positive collaboration. The results provided here include valuable contributions from many, including the national experts (principal investigators), their teams and the national institutions that supported and funded the data collection. The report would have not been possible without the participation of the many European schools, teachers, research assistants and, notably, students, who volunteered to give their time and information to ESPAD, so that we could obtain a better understanding of European students' substance use, their attitudes towards it, and some of the factors that explain the use.

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Summary

Summary

The main purpose of the European School Survey Project on Alcohol and Other Drugs (ESPAD) is to collect comparable data on substance use and other forms of risk behaviour among 15- to 16-year-old students in order to monitor trends within, as well as between, countries. Between 1995 and 2019, seven waves of data collection were conducted across 49 European countries.

This report presents selected key results. The full set of data on which the current report is based, including all of the standard tables, is available online (http://www.espad.org). All tables can be downloaded in Excel format and used for further analysis.

The report provides information on the perceived availability of substances, early onset of substance use and prevalence estimates of substance use (cigarettes, alcohol, illicit drugs, inhalants, new psychoactive substances and pharmaceuticals). The descriptive information includes indicators of intensive and high-risk substance use, prevalence estimates of gambling for money, including online gambling, estimates of the proportion of students who gamble and display excessive or problem gambling behaviour, and prevalence estimates of social media use and gaming, as well as of self-perceived problem use, by both country and gender. In addition, overall ESPAD trends between 1995 and 2019 are presented. For selected indicators, ESPAD trends are shown based on data from 30 countries that participated in at least four (including the 2019 data collection) of the seven surveys. Finally, for some indicators, country-specific trends are shown.

For the 2019 ESPAD data collection, 99 647 students took part from 35 countries: Austria, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, the Faroes, Finland, France, Georgia, Germany, Greece, Hungary, Iceland, Ireland, Italy, Kosovo ([1]), Latvia, Lithuania, Malta, Monaco, Montenegro, the Netherlands, North Macedonia, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden and Ukraine. For comparative reasons, the tables in this report contain, in addition to country-specific estimates, averages based on all 35 unweighted country-level estimates.

Methodology

The ESPAD target population is defined as students who reach the age of 16 years in the calendar year of the survey

and who are present in the classroom on the day of the survey. Students who were enrolled in regular, vocational, general or academic studies were included; those who were enrolled in either special schools or special classes for students with learning disorders or severe disabilities were excluded.

A homogeneous and standardised sampling design was used to select the target population in all participating countries except the Faroes, Iceland, Malta, Monaco and Montenegro, where all target students born in 2003 were included.

Data were collected by self-administered questionnaires. All countries used a paper-and-pencil questionnaire except for Austria, Denmark, France, Iceland, the Netherlands and Norway, where students answered a web-based questionnaire, and the Faroes and Italy, where a mixed administration mode (paper and pencil and web-based) was used. The students answered the questionnaires anonymously in the classroom. All samples had national geographical coverage, except for those from Cyprus (only government-controlled areas were included), Kosovo (less than 4 % of the target population enrolled in schools in Northern Kosovo under the parallel structures and working within the plans of the Ministry of Education of Serbia were excluded), Georgia (the occupied territories of Abkhazia and South Ossetia were excluded) and Germany (only the federal state of Bavaria was included). Sample sizes varied between 428 in Monaco and 5 988 in Greece.

Cigarette use

Cigarettes are one of the most easily accessible substances, with about 60 % of the students in the participating countries reporting that it would be 'fairly easy' or 'very easy' (hereafter referred to as 'easy') for them to get hold of cigarettes if they wanted to. Students in Denmark were most likely to find them easy to obtain (79 %). In Sweden, Poland, Slovakia and Czechia, the perceived availability was also comparatively high, with over 70 % of the students reporting access to be easy. Perceived availability was lowest in Kosovo (24 %), and figures of less than 50 % were observed in five other countries: Romania (39 %), Ukraine (42 %), Georgia (45 %), Iceland (47 %) and North Macedonia (49 %). Gender differences for perceived availability were small at the aggregate level (61 % for boys versus 59 % for girls).

More than one in six ESPAD students (18 %) had smoked cigarettes at age 13 or younger. The proportions varied

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([1]) This designation is without prejudice to positions on status, and is in line with UNSCR 1244/1999 and the ICJ Opinion on the Kosovo declaration of independence.

considerably across countries, from 5.4-8.5 % in Iceland, Malta and Norway to 31-33 % in Latvia and Lithuania. Both on average and in almost all participating countries, more boys than girls had smoked cigarettes at age 13 or younger. On average, 2.9 % of the students began smoking cigarettes on a daily basis at age 13 or younger. The rates were highest in Slovakia (6.0 %) and Bulgaria (5.8 %) and lowest in the Netherlands (0.9 %), followed by Iceland, Greece and Slovenia (1.2-1.4 %).

In ESPAD countries 41 % of students had smoked cigarettes at least once in their lifetime, and one fifth of the sample (20 %) could be considered to be current smokers, i.e. had smoked cigarettes during the last 30 days. The average lifetime prevalence of cigarette smoking was about the same among boys (43 %) and girls (40 %). Furthermore, on average, 10 % of students reported that they had smoked daily in the last 30 days. The rates of daily cigarette smoking ranged from 1.9 % in Iceland and Norway to 22 % in Bulgaria. No differences were found in the average rates of daily smoking between boys and girls.

Trend data indicate an overall constant decrease since 1995 in lifetime, last-30-day and daily cigarette use. However, if the 2019 cigarette and electronic cigarette (e-cigarette) use is analysed as a combined value (ESPAD 2019 is the first data collection in which information about e-cigarettes is available for all countries), the prevalence is higher than in 2015 (when the item for nicotine consumption did not distinguish between the use of traditional cigarettes and the use of e-cigarettes). In fact, considering them together, for the first time we seem to observe a trend reversal for cigarette consumption, with consumption starting to grow again, reaching 54 % for lifetime use, 27 % for current use and 12 % for daily use.

Electronic cigarette use

More than one in 10 ESPAD students (11 %) had tried e-cigarettes at age 13 or younger, with figures varying across countries, from 4.3 % in Montenegro and 4.4 % in Serbia to 19 % in Lithuania and 20 % in Estonia. Boys were more likely than girls to have used e-cigarettes early in life in the vast majority of countries. On average, 1.7 % of students had begun using e-cigarettes on a daily basis at age 13 or younger. The highest rates were found in Kosovo (3.2 %), Cyprus (3.1 %), Slovakia and Ukraine (2.8 % each), Lithuania (2.7 %) and Bulgaria (2.5 %). In all ESPAD countries the rate of early onset of daily e-cigarette use was higher for boys than girls; however, because of the small proportion of students reporting onset of daily e-cigarette use at an early age, gender differences were generally small.

Lifetime prevalence rates for the use of e-cigarettes ranged between 18 % in Serbia and 65 % in Lithuania, with an ESPAD average of 40 %. In nine of the 35 ESPAD countries more than half of the students had tried e-cigarettes at least once. Boys were generally more likely than girls to have tried e-cigarettes (boys 46 % versus girls 34 %). On average, one in seven students (14 %) reported having used e-cigarettes during the last 30 days, with the highest rate found in Monaco (41 %) and the lowest in Serbia (5.4 %). Concerning gender differences, the average rate for boys (16 %) was higher than that for girls (11 %). With regard to the frequency of use in the last 30 days, overall, 10 % of students reported e-cigarette use less than once per week, 4.1 % reported use at least once a week and 3.1 % reported use almost every day or every day, with the highest rate of daily or almost daily use reported in Lithuania (14 %).

Alcohol use

Alcoholic beverages are perceived to be easy to obtain compared with other substances, with almost 80 % of ESPAD students stating that they would find it easy to get to hold of an alcoholic beverage if they wanted to. In Denmark, Germany and Greece, this percentage rises to more than 90 %. The lowest proportions were found in Kosovo (38 %), which was also the only country where the proportion was less than 50 %, followed by Lithuania (61 %), Iceland (62 %) and Romania (63 %). Overall, alcohol was perceived to be easily available by slightly more girls than boys (79 % for girls versus 77 % for boys), although in most countries the rates among boys and girls were rather similar.

Over one third of the students who participated in the ESPAD study (33 %) had first tried an alcoholic drink at age 13 or younger. The highest proportions of students reporting alcohol use at an early age were found in Georgia (60 %) and Latvia (48 %). The countries with the lowest rates of early alcohol use were Iceland (7.1 %), Kosovo (12 %) and Norway (13 %). In almost all ESPAD countries, boys were more likely than girls to have first tried alcohol at an early age.

On average, 6.7 % of students had experienced alcohol intoxication at age 13 or younger. This proportion varied substantially across countries, from 1.8 % in Iceland to 25 % in Georgia. Higher rates were more likely to be found in the eastern part of Europe and, in general, more boys than girls reported intoxication at an early age (ESPAD average: 8.0 % for boys versus 5.4 % for girls).

In all ESPAD countries except Kosovo (29 %) and Iceland (37 %), over half of the students reported having consumed alcohol at least once during their lifetime. The ESPAD average was 79 % (range 29-95 %). The highest rates of lifetime alcohol use (more than 90 %) were found in Hungary,

Denmark and Czechia. In addition to Kosovo and Iceland, Norway and Sweden had relatively low rates of lifetime alcohol use (less than 60 %). Overall, more than one in 10 students (13 %) reported having been intoxicated in the last 30 days.

Students who reported alcohol use in the last 30 days drank alcohol on 5.6 occasions on average. Among this group, students from Germany and Cyprus consumed alcohol on 8.0 and 7.5 occasions, respectively, and students from Sweden, Finland, Lithuania, Iceland, Estonia, Latvia and Norway drank alcohol on fewer than four occasions on average. In most countries, boys who drank in the last month did so more frequently than girls, with a difference of more than three occasions in Germany, Serbia and Montenegro. One in three students (34 %) reported heavy episodic drinking (five or more glasses of alcoholic beverages on one occasion at least once in the past month). This drinking pattern was found more often in Denmark, Germany and Austria, where it was reported by between 49 % and 59 % of students. The lowest figures were found in Iceland (7.6 %), followed by Kosovo (14 %) and Norway (16 %). The difference between boys and girls was about 3 percentage points on average, with generally higher figures for boys. Students had drunk an average of 4.6 centilitres of alcohol on the last drinking day. The amount of alcohol consumed was highest in Denmark (8.8 centilitres), followed by Norway (6.7 centilitres) and the Netherlands (6.6 centilitres), and was lowest in Kosovo (2.5 centilitres) and Romania (3.0 centilitres). Boys reported consuming higher volumes than girls in the majority of countries. On average, spirits (38 %) and beer (31 %) were the preferred alcoholic beverages. In Spain (83 %), Portugal (59 %), Lithuania (57 %), Sweden (52 %) and Malta (51 %), more than half of the students who drank alcohol preferred spirits, while a similar preference was found for beer in Kosovo (62 %), Serbia (52 %), Poland and North Macedonia (49 % each). Wine was preferred over spirits and beer in Ukraine (26 %), over spirits but not over beer in Georgia (36 %), and over beer but not over spirits in Slovakia (27 %). Premixed drinks accounted for about one quarter of the alcohol consumed in Germany (26 %), Finland and Denmark (each 23 %). In the Faroes, Ireland, Norway and Sweden, cider accounted for at least one quarter of the alcohol consumed. In these countries, cider was the second most preferred alcoholic beverage after spirits.

Despite alcohol consumption remaining very popular, temporal trends between 1995 and 2019 indicate a slow but steady general decrease in both lifetime and last-30-day use of alcohol. A positive development can be observed in the temporal trend of heavy episodic drinking, with the ESPAD average peaking in 2007 and then starting to decrease, reaching its lowest level in 2019. Comparing the 2019 rate with the 1995 rate, an overall increase in heavy episodic

drinking can be noted among girls (from 30 % to 34 %) and a decrease among boys (from 41 % to 36 %), resulting in a narrowing of the gender difference over time.

Illicit drug use

Cannabis is perceived to be the easiest illicit substance to get hold of, with around one third of ESPAD students (32 %) rating cannabis as easily obtainable. More students in the Netherlands, Denmark, Czechia, Slovenia and Slovakia than in the other ESPAD countries perceived cannabis to be easily available (rates from 45 % to 51 %). The countries with the lowest perceived availability of cannabis were Kosovo (11 %), Ukraine (13 %), Romania (16 %) and North Macedonia (19 %). Boys were more likely than girls to consider cannabis to be easily available (ESPAD average: 34 % for boys versus 30 % for girls).

Compared with cannabis, perceived availability was low for ecstasy (MDMA) (14 %), cocaine (13 %), amphetamine (10 %) and methamphetamine (8.5 %). These drugs were perceived to be more easily available in Bulgaria, Sweden and Denmark than elsewhere in Europe.

The perceived availability of ecstasy was highest (over 20 %) in Slovakia, Czechia, Slovenia and the Netherlands, whereas for cocaine it was highest in Denmark and Ireland (22 % each). The countries with the lowest perceived availability of nearly all illicit drugs were Kosovo, Georgia and Romania.

On average, 2.4 % of the ESPAD students reported having used cannabis for the first time at age 13 or younger. The highest proportions were found in France (4.5 %), Italy (4.4 %), Latvia (3.8 %), Cyprus (3.6 %) and Estonia (3.5 %). Rates of early onset of amphetamine/methamphetamine use were lower (ESPAD average: 0.5 %), with the highest proportion in Bulgaria (1.8 %). Boys were more likely than girls to have used cannabis or amphetamine/methamphetamine at age 13 or younger. Similar results were found for early onset of ecstasy and cocaine use.

The average prevalence of lifetime use of illicit drugs was 17 %, with considerable variation across ESPAD countries. It should be noted that this mainly relates to cannabis use (average lifetime prevalence of 16 %). The highest proportions of students reporting lifetime use of any illicit drug were found in Czechia (29 %), Italy (28 %), Latvia (27 %) and Slovakia (25 %). Particularly low levels (10 % or less) of lifetime illicit drug use were noted in Kosovo, Iceland, North Macedonia, Ukraine, Serbia, Sweden, Norway, Greece and Romania.

In most ESPAD countries, the prevalence rates were higher among boys than among girls. On average, 19 % of boys

and 14 % of girls had used illicit drugs at least once during their lifetime. Noticeable gender differences were found in Georgia (24 % for boys versus 8.8 % for girls), Monaco (29 % versus 17 %), Cyprus (17 % versus 7.0 %) and Ireland (25 % versus 15 %).

Considering the ESPAD average, the lifetime prevalence of illicit drug use increased from 1995 to 2011 and has declined since then.

Cannabis was the most widely used illicit drug in all ESPAD countries. On average, 16 % of students had used cannabis at least once in their lifetime. The countries with the highest prevalence of cannabis use were Czechia (28 %), Italy (27 %) and Latvia (26 %). The lowest levels of cannabis use (2.9-7.3 %) were reported in Kosovo, North Macedonia, Iceland and Serbia. On average, boys reported cannabis use to a larger extent than girls (18 % versus 13 %). This was the case in all countries except Bulgaria, Slovakia, Malta, the Netherlands and Czechia.

Among all students who had used cannabis in the last 12 months (13 % of the total), the drug was used on average on about 10 occasions (9.9). In France, Italy, Serbia, Austria and Cyprus, cannabis was used once a month on average (12 or more occasions). The lowest average frequency of cannabis use was found in the Faroes (4.4 occasions). Overall, boys reported a higher frequency of cannabis use than girls.

Overall, 7.1 % of the students had used cannabis in the last 30 days. A high variability was found among ESPAD countries, with the maximum rate observed in Italy (15 %) and the minimum in Kosovo (1.4 %). More boys than girls reported cannabis use in the last 30 days (boys 8.5 % versus girls 5.8 % on average), with statistically significant gender differences found in more than two thirds of ESPAD countries.

To estimate the risk of cannabis-related problems, a core module, the CAST (Cannabis Abuse Screening Test) scale, was included in the ESPAD questionnaire. The prevalence of high-risk cannabis users (see the methodology section for a definition) ranged from 1.4 % to 7.3 % across countries, with an average of 4.0 %. Overall, the prevalence of high-risk cannabis users was higher among boys than girls (4.7 % versus 3.3 %). At the country level, statistically significant gender differences with higher rates among boys were found in 16 ESPAD countries.

Trends in cannabis use indicate a general increase in both lifetime and last-30-day use between 1995 and 2019, from 11 % to 16 % and from 4.1 % to 7.4 %, respectively. Both prevalence rates reached their highest levels in 2011, with lifetime use slightly decreasing thereafter and current use levelling off.

On average, 1-2 % of the ESPAD students had ever used an illicit drug other than cannabis at least once. After cannabis, the most widely used illicit drugs were ecstasy (MDMA), LSD (lysergic acid diethylamide) or other hallucinogens, cocaine and amphetamine. Lifetime prevalence rates for methamphetamine, crack, heroin and GHB (gamma-hydroxybutyrate) were lower than those for the other illicit drugs (about 1.0 % on average). At the country level, higher rates of lifetime use were found in Estonia and Latvia (lifetime use of ecstasy, LSD or other hallucinogens of about 5.0 %).

Other substance use

On average, the lifetime prevalence of use of new psychoactive substances (NPS) was 3.4 %, with the highest rates observed in Estonia (6.6 %) and Latvia (6.4 %) and the lowest rates observed in Finland, Portugal and North Macedonia (about 1 %). The average prevalence of lifetime use was the same for boys and girls, and gender differences within ESPAD countries were generally small. With regard to specific substances, 3.1 % of the ESPAD students (average calculated across 20 out of 35 countries) reported having used synthetic cannabinoids at least once in their lifetime, ranging from 1.1 % in Slovakia to 5.2 % in France. Similarly, 1.1 % of students reported lifetime use of synthetic cathinones (average calculated across 19 out of 35 countries), with the highest figures found in Ireland (2.5 %) and Cyprus (2.4 %). On average, boys had a slightly higher prevalence of use than girls of both types of substance.

Lifetime use of inhalants was reported by 7.2 % of the students, with large differences between countries. The countries with the highest proportions of students who had tried inhalants were Latvia (16 %), Germany and Croatia (15 % each). The lowest rate was found in Kosovo (0.5 %). No gender differences were observed. The trend in the use of inhalants shows a steady increase until 2011, with a decrease observed thereafter. The gender-specific curves from 1995 to 2019 reveal a progressive narrowing of the gender gap, which has disappeared since 2011.

There was a wide variation between countries in the prevalence of lifetime use of pharmaceuticals for non-medical purposes (which include tranquillisers and sedatives without a prescription, painkillers taken to get high and anabolic steroids), ranging from 2.8 % to 23 %. The average rate was 9.2 % and the rates were highest in Slovakia (23 %), Latvia (22 %) and Lithuania (21 %). The lowest levels of non-prescription use of tranquillisers or sedatives (approximately 2.0 %) were reported by students from Ukraine, Romania, Bulgaria and Croatia. With regard to the use of painkillers in order to get high, the ESPAD countries with the highest prevalence rates were Slovakia (18 %) and Czechia (10 %).

Both on average and in the vast majority of the ESPAD countries, girls were more likely than boys to have tried pharmaceuticals for non-medical purposes. Few students in the participating countries reported use of anabolic steroids (ESPAD average: 1.0 %). The highest proportions were found in Montenegro (2.7 %), followed by Cyprus, Bulgaria, Malta, Poland and Ireland (about 2.0 % each).

Gambling and online gambling

On average, 22 % of students reported gambling for money (gambling money on games of chance) on at least one type of game in the last 12 months. Among students who had gambled in the last 12 months, the predominant gambling activities were lotteries, reported by nearly half of gamblers, followed by sports or animal race betting (45 %) and cards or dice (44 %). The least popular gambling activity was slot machines (reported by 21 % of gamblers).

The highest rates of students with gambling experience in the last 12 months were found in Greece and Cyprus (33 %), followed by Italy and Montenegro (32 %) and Finland (30 %). Gambling for money was not as common in Malta (14 %), Georgia (13 %), Denmark (12 %) and Kosovo (11 %). In all countries, considerably more boys than girls reported having gambled in the last 12 months (29 % for boys versus 15 % for girls on average).

Almost 7.9 % of students reported having gambled for money on the internet in the last 12 months. The highest rates of students reporting gambling online were found in Cyprus (17 %) and Kosovo (16 %). The lowest rates (below 5 %) were found in Germany, Malta, Norway, Iceland, Spain and Austria. In all countries, considerably more boys than girls had gambled online in the last 12 months (13 % for boys versus 2.7 % for girls).

The estimated proportion of students who had engaged in excessive gambling activity (see the methodology section for a definition) among those who had gambled in the last 12 months was 15 %, which corresponds to a prevalence of 3.8 % among the total ESPAD sample.

The highest proportion of students who had engaged in excessive gambling activity was found in Montenegro (35 %), whereas the lowest proportions (less than 10 %) were found in the Netherlands, Iceland, Greece and Malta. Overall, a higher proportion of boys than girls who had gambled in the last 12 months had engaged in excessive gambling (see the methodology section for a definition) (19 % for boys versus 5.9 % for girls).

The estimated proportion of students who had engaged in problem gambling (see the methodology section for a definition) among those who had gambled in the last 12 months was 5.0 %, which corresponds to a prevalence of 1.4 % among the total ESPAD sample.

The highest proportion of students who had gambled in the last year and met the criteria for problem gambling behaviour was reported in Georgia (12 %), whereas the lowest proportion was found in the Netherlands (1.3 %). In about one third of the ESPAD countries the proportion of students who had engaged in problem gambling among those who had gambled in the last 12 months was higher than 5.0 %. In almost all countries, the proportion of students who had gambled in the last 12 months and who were liable to have a problem gambling behaviour was higher among boys than girls (6.3 % for boys versus 2.4 % for girls on average).

Social media and gaming

About 94 % of the ESPAD students reported use of social media (e.g. WhatsApp, Twitter, Facebook, Skype, Blogs, Snapchat, Instagram, Kik) in the last 7 days. On average, users spent 2-3 hours on social media on a typical school day and about 6 or more hours on a typical non-school day. Fewer online hours on a non-school day were reported in Austria, Czechia, Iceland, Slovenia, Denmark, Kosovo, Georgia, Bulgaria, Cyprus, North Macedonia and Slovakia. In total, 10 % or more of the students reported no use of social media on any day in Kosovo, Georgia and Bulgaria. In most of the countries girls reported using social media on non-school days more frequently than boys.

About 60 % of the ESPAD students reported having played digital games on a typical school day within the last 30 days, with 69 % reporting playing digital games on a non-school day within the last 30 days. The exceptions were Bulgaria and Sweden, where almost 70 % and almost 80 % of students reported having played games on school days and non-school days, respectively. In the majority of countries, the most commonly reported amount of time spent on gaming on a typical school day was half an hour or less, while the most commonly reported amount of time spent on gaming on a typical non-school day was 2-3 hours.

Overall, boys reported more frequent use of digital games than girls, on both school days and non-school days, with boys spending twice as much time gaming than girls in most countries.

With regard to potentially risky levels of social media use and gaming, almost half of the students (46 %) scored 2-3 points on the self-perceived risk scale for social media use (see the methodology section for a description of this measure), suggesting a higher risk of problems related to social media use; this ranged from 31-32 % in Denmark, Poland and

Iceland to 63 % in Montenegro. On the other hand, 21 % of students scored 2-3 points on the self-perceived risk scale for gaming (see the methodology section for a description of this measure), suggesting a higher risk of problems related to gaming; this ranged from 12 % in Denmark to 44 % in Georgia.

Introduction

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The European School Survey Project on Alcohol and Other Drugs (ESPAD) is a cross-sectional study of substance use and other forms of risk behaviour among students in Europe aged 15-16 years that is carried out every 4 years. ESPAD is an independent research project owned by the national institutions and the researchers involved. It was first conducted in 1995, with the number of participating countries increasing progressively to 35 until 2007 and remaining stable since then.

Adolescent substance use and other forms of risk behaviour have proved to be a rapidly changing phenomenon, requiring close monitoring and frequent assessment. Against this background, ESPAD is committed to providing the best available evidence to support the development of informed policies and actions targeting adolescents to meet the challenges that lie ahead. In fact, the protection of young people's health and well-being and a reduction in the negative impacts of the use of psychoactive substances remain major policy objectives, at both national and international levels. In recent years, these priorities have been a focus for the World Health Organization (WHO) global strategy to reduce the harmful use of alcohol and the European action plan to reduce the harmful use of alcohol 2012-2020, the WHO Framework Convention on Tobacco Control (FCTC) and the EU Tobacco Products Directive, the United Nations special session on the world drug problem in 2016 and the EU drugs strategy (2013-20).

The main purpose of ESPAD is to collect comparable data on substance use and some forms of risk behaviour (such as gambling and gaming) from 15- to 16-year-old students in as many European countries as possible. The target group consists of students who reach the age of 16 years during the year of data collection, which for the 2019 data collection meant students born in 2003. The survey is conducted in schools in participating countries over the same period and using a standard methodology, which is described in the methodology section of this report and detailed further in the ESPAD 2019 methodology report.

To keep up with the emergence of new risk behaviours among young people throughout Europe, the ESPAD questionnaire is constantly adapted to include new topics, while maintaining a set of core questions to track key long-term trends.

Since 2015 new sections have been added to cover social media use as well as gaming and gambling. Furthermore, following the emergence of non-controlled drugs on the European drugs market, the questionnaire has included specific questions investigating the use of new psychoactive substances (NPS). Given the global rise in the use of electronic nicotine delivery systems, the 2019 ESPAD questionnaire included a new section on e-cigarette smoking. Lastly, screening instruments were included to assess the more risky patterns of cannabis use, gambling and use of social media, based on the recognition that students who engage in these behaviours have different levels of risk. The 2019 ESPAD survey involved 99 647 students in 35 countries. The first results based on the 2019 survey, including the new topics, are presented in this report.

The ESPAD data have been and will be used by the research community for in-depth analyses to deepen the understanding of adolescent risk behaviours. Because of the common methodology employed by participating countries, analyses based on ESPAD data have contributed substantially to the field of substance use and addictive behaviours. For instance, studies have been conducted on survey-specific methodological issues, the evaluation of substance use, the relationship between socioeconomic factors and patterns of use, risk, resilience and mediating factors, risk perceptions, polysubstance use and doping, gambling and gaming (see 'Scientific literature based on ESPAD data', page 129, for a full list of publications). In addition, ESPAD results have been used for the development of national and international action plans and strategies related to tobacco, alcohol and other drugs, as well as gambling, and in this way have had an impact on public discussions and served as a basis for policy measures and preventive activities targeting young people.

The strength of the ESPAD project lies not only in its ability to provide a comprehensive picture and deepen the understanding of adolescent substance use, risk behaviours and related risk and protective factors, but also in allowing comparisons across countries and over time. In fact, although the comparison of cross-sectional data on substance use across similar populations in countries of various social, economic and cultural origins is important, the ability to investigate temporal changes across the majority of European countries is quite unique. The ESPAD project provides data that can be used to monitor trends in substance use and other risk behaviours within and between European countries.

The data gathered from the surveys carried out from 1995 to the present by the ESPAD community have recently been merged to create an inclusive trend database. To increase the use of this exceptional collection of information, this valuable tool has been made accessible to the scientific

community, with both ESPAD and non-ESPAD researchers able to apply to use the data.

Including the 2019 survey, ESPAD data cover a period of 24 years. In 1995 information was collected in 26 countries (Hibell et al., 1997). In the second wave, in 1999, data were collected in 30 countries (Hibell et al., 2000), and the surveys of 2003 and 2007 covered 35 countries each (Hibell et al., 2004, 2009), with five countries additionally collecting data in 2008. The number of participating countries rose to 36 in the 2011 survey (Hibell et al., 2012), with three more countries collecting data in the autumn of that year (Hibell and Guttormsson, 2013), and the number of participating countries decreasing slightly to 35 in 2015 (ESPAD Group, 2016). The number of countries participating in the 2019 survey was also 35, with some countries from previous surveys not participating and Spain participating for the first time.

The aim of the present report is to provide the main findings of the 2019 survey. This overview of the data can serve as a useful tool, both for the interested reader and for policymakers and practitioners who wish to base their intervention strategies and assessments on the most recently available information.

Background

In the 1980s, a subgroup of collaborating investigators was formed within the Pompidou Expert Committee on Drug Epidemiology of the Council of Europe to develop a standardised school survey questionnaire and methodology. The purpose of the work was to produce a standard survey instrument that would enable different countries to compare alcohol and drug use in student populations. A common questionnaire was used by eight countries, but the pilot study differed in sample size, representativeness and age range, and was not performed at the same time. The survey instrument, however, proved to be valid and reliable (Johnston et al., 1994). With the exception of Sweden, where school surveys had already been conducted on an annual basis since 1971, only a few countries conducted school surveys related to substance use on a regular basis. In the light of the growing interest in school surveys in general and cross-country comparisons in particular, the Swedish Council for Information on Alcohol and Other Drugs (CAN) initiated a collaborative project in 1993 by contacting researchers in most European countries to explore the possibility of conducting simultaneous school surveys on tobacco, alcohol and drug use in association with the Pompidou Group. This enterprise resulted in the first ESPAD study in 1995. Since then, the survey has been repeated every 4 years, with a large number of countries in Europe involved in the project.

In 2008, a cooperation framework was set up between the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) and the ESPAD Group to deepen the collaboration that had already existed on an ad hoc basis since the mid-1990s. ESPAD data have been regularly included in the EMCDDA's annual reporting on the drug situation in Europe. These data have provided crucial information on substance use among 15- to 16-year-old students, allowing trends over time to be assessed. The areas of collaboration covered in the cooperation framework included (1) the integration of the ESPAD approach into the broader data collection system at EU level; (2) the encouragement of countries' participation in ESPAD; (3) an agreement on the analytical use of ESPAD data, by placing them in the context of EMCDDA data; and (4) contact between ESPAD experts and population survey experts working within the EMCDDA network. Furthermore, it was agreed to enhance the exchange of information and expertise, improve the availability, quality and comparability of school survey data and gain maximum analytical insight from the data available in this area.

To enhance the effectiveness of decision-making within the ESPAD Group, the ESPAD Assembly held in Pisa in 2017 approved a revision of the ESPAD constitution, which identified the EMCDDA as the main international partner. Following the rules set out in that document, the coordination of ESPAD is assured jointly by the ESPAD coordinator and the EMCDDA representative. The ESPAD coordinator is now an elected position and the first elections took place in 2016.

The work involved in the ESPAD coordination is supported by the Steering Committee, which also appoints principal investigators (PIs) in each country.

The highest decision-making body in ESPAD is the Assembly, in which all ESPAD PIs, including the coordinator, and the EMCDDA representative have voting rights and which gathers on a yearly basis.

The main researcher in each participating country is referred to either as a 'principal investigator' or as an 'ESPAD associate researcher'. Each PI or ESPAD associate researcher should raise funds in his or her country and participate in ESPAD and the assemblies independently and at the expense of the national funding body. The data collected in the framework of ESPAD are owned by each country independently, in particular by the institution hosting the PI (see 'Acknowledgements'). The PI or ESPAD associate researcher is responsible for the use of his or her national data set. Table 1 provides an overview of the countries that have participated in data collection since 1995 and the responsible persons.

Table 1. Overview of countries participating in ESPAD data collections 1995-2019

Country	PI/associate researcher	1995	1999	2003	2007	2011	2015	2019
Albania	Ervin Toci	–	–	–	–	Yes	Yes	–
Armenia	Vacant	–	–	–	Yes	–	–	–
Austria	Julian Strizek	–	–	Yes	Yes	–	Yes	Yes
Belgium (Flanders)	Vacant	–	–	Yes	Yes [a]	Yes [b]	Yes [b]	–
Belgium (Wallonia)	Vacant	–	–	Yes	–	–	–	–
Bosnia and Herzegovina (FBiH)	Aida Pilav	–	–	–	Yes [c]	Yes [a]	–	–
Bosnia and Herzegovina (RS)	Sladjana Siljak	–	–	–	Yes [c]	Yes	–	–
Bulgaria	Anina Chileva	–	Yes	Yes	Yes	Yes	Yes	Yes
Croatia	Martina Markelić	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cyprus	Kyriakos Veresies	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Czechia	Pavla Chomynová	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Denmark	Ola Ekholm	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Estonia	Sigrid Vorobjov	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Faroes	Pál Weihe	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Finland	Kirsimarja Raitasalo	Yes	Yes	Yes	Yes	Yes	Yes	Yes
France	Stanislas Spilka	–	Yes	Yes	Yes	Yes	Yes	Yes [d]
Georgia	Lela Sturua	–	–	–	–	–	Yes [a]	Yes
Germany	Ludwig Kraus	–	–	6 federal states	7 federal states	5 federal states	–	1 federal state
Greece	Anna Kokkevi	–	Yes	Yes	Yes	Yes	Yes	Yes
Greenland	Vacant	–	Yes	Yes	–	–	–	–
Hungary	Zsuzsanna Elekes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Iceland	Ársæll Már Arnarsson	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ireland	Luke Clancy	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Isle of Man	Vacant	–	–	Yes	Yes	Yes [e]	–	–
Italy	Sabrina Molinaro	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Kosovo	Kaltrina Kelmendi	–	–	–	–	Yes [a]	–	Yes
Latvia	Diana Vanaga	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Liechtenstein	Esther Kocsis	–	–	–	–	Yes	Yes	–
Lithuania	Liudmila Rupšienė	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Malta	Sharon Arpa	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Moldova	Igor Conrad	–	–	–	Yes [c]	Yes	Yes	–
Monaco	Stanislas Spilka	–	–	–	Yes	Yes	Yes	Yes
Montenegro	Tatijana Djurisic	–	–	–	Yes [c]	Yes	Yes	Yes
Netherlands	Karin Monshouwer	–	Yes	Yes	Yes	Yes [a]	Yes [a]	Yes [a]
North Macedonia	Elena Kjosevska	–	Yes	–	Yes [c]	–	Yes	Yes
Norway	Elin K. Bye	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Poland	Janusz Sieroslawski	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Portugal	Elsa Lavado	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Romania	Silvia Florescu	–	Yes	Yes	Yes	Yes	Yes	Yes
Russia	Eugenia Koshkina	–	Moscow	Moscow	Yes	Moscow	–	–
Serbia	Biljana Kilibarda	–	–	–	Yes [c]	Yes	–	Yes
Slovakia	Alojz Nociar	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Slovenia	Tanja Urdih Lazar	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Spain	Begoña Brime Beteta	–	–	–	–	–	–	Yes
Sweden	Johan Svensson	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Switzerland	Vacant	–	–	Yes	Yes	–	–	–
Turkey	Nesrin Dilbaz	Istanbul	–	6 cities	–	–	–	–
Ukraine	Olga Balakireva	Yes	Yes	Yes	Yes	Yes	Yes	Yes
United Kingdom	Vacant	Yes	Yes	Yes	Yes	Yes	–	–

[a] Data collected in autumn. [b] Data collected in previous autumn. [c] Data collected in spring 2008. [d] Data collected in spring 2018.
[e] Data collected but not delivered.

The 2019 ESPAD report

This report presents the key results of the 2019 ESPAD survey conducted in 35 countries: Austria, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, the Faroes, Finland, France, Georgia, Germany, Greece, Hungary, Iceland, Ireland, Italy, Kosovo, Latvia, Lithuania, Malta, Monaco, Montenegro, the Netherlands, North Macedonia, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden and Ukraine. First, the report presents information on the perceived availability of substances and early onset of substance use and prevalence estimates of substance use (cigarettes and e-cigarettes, alcohol, cannabis, other illicit drugs, NPS and pharmaceuticals). The descriptive information also includes prevalence estimates of problematic cannabis use, gambling, including excessive and problem gambling behaviour, social media use and gaming by country and gender, as well as estimates of perceived problems related to social media use and gaming. In addition, overall ESPAD trends between 1995 and 2019 are presented. For selected indicators, ESPAD trends are shown based on data from 30 countries that participated in at least four (including the 2019 data collection) of the seven surveys. Finally, for some indicators, country-specific trends are shown. For comparative reasons the 2019 ESPAD results tables contain, in addition to country-specific estimates, unweighted averages across all participating countries. This means that they provide a comparable picture at the country level but do not describe prevalence or trends in terms of the overall number of young people in the European countries participating in this survey.

The present report contains only the main methodological information. A comprehensive methodological report is available at http://www.espad.org.

It is important to highlight that this report contains selected key results rather than the full range of results and tables ([2]). All results tables and the ESPAD master questionnaire are available on the ESPAD website (http://www.espad.org). The tables can be downloaded in Excel format and used for further analysis.

([2])   It has to be noted that for descriptive purposes in this report all result figures are rounded. Sometimes this might give the impression of minor discrepancies between the comments and the figures that appear in the tables, which are uniquely due to this operation.

Methodology

Methodology

ESPAD 2019

Sample

The ESPAD target population is defined as students who reach the age of 16 years in the calendar year of the survey and who are present in the classroom on the day of the survey. Students who were enrolled in regular, vocational, general or academic studies were included; those who were enrolled in either special schools or special classes for students with learning disorders or severe physical disabilities were excluded. Table 2 shows the main sample characteristics. The methods used are largely comparable across all countries, although some characteristics, such as sample type, mode of administration and time of data collection, may differ in a limited number of countries.

The study was carried out on a representative sample of the target population in all participating countries except the Faroes, Iceland, Malta, Monaco and Montenegro, where all 2003-born target students were included. Data were collected by self-administered questionnaires. All countries used a paper-and-pencil questionnaire except for Austria, Denmark, France, Iceland, the Netherlands and Norway, where students answered a web-based questionnaire, and the Faroes (in only three schools) and Italy, where a mixed administration mode (paper and pencil and web based) was used. Comparability between traditional paper-and-pencil and computerised administration modes was assessed in a methodological study conducted in Italy; no significant mode effect in the reporting of sensitive information was detected and comparability was considered satisfactory (Colasante et al., 2019a).

The students answered the questionnaires anonymously in the classroom, with teachers or research assistants functioning as survey leaders. The questionnaires were handed to students by school staff (teachers, teacher assistants, psychologists, etc.) in 15 countries, by external staff (researchers, research assistants, staff from the organisation conducting the study) in 17 countries, and by school or external staff in three countries. In the majority of countries, data collection took place between March and May 2019; the exceptions were France, where data collection took place from April to June 2018, and the Netherlands, where data were collected between October and November 2019. In most countries, where sampling occurred, class was the last unit in a multistage stratified random sampling process.

Data were collected from 99 647 students in 35 countries. Sample sizes ranged from 428 in Monaco to 5 988 in Greece. All samples had national geographical coverage, except for those from Cyprus (only government-controlled areas were included), Kosovo (less than 4 % of the target population enrolled in schools in Northern Kosovo under the parallel structures and working with plans of the Ministry of Education of Serbia was excluded), Georgia (the occupied territories of Abkhazia and South Ossetia were excluded) and Germany (only the federal state of Bavaria was included). The school participation rate (share of selected schools taking part in the survey) was generally high, at 81 % on average, ranging from 20 % in Denmark to 100 % in Bulgaria, Georgia and Lithuania. The class participation rate (share of selected classes participating) was also generally high, at 85 % on average, ranging from 21 % in Denmark to 100 % in Bulgaria, the Faroes, Latvia, Monaco and Montenegro. The proportion of students in the selected classes who were present on the day of the survey and who answered the questionnaire was high (86 % on average). The coverage of students was very high, with 32 countries reaching 90 % or more of the target population. The lowest rates were reported in Serbia (86 %) and Germany (88 %). Data were weighted in 11 countries to adjust the sample to the sociodemographic composition of the target population ([3]). Weights were usually calculated to account for gender (two countries) and geographical distribution of the target population (six countries), type and size of schools (seven countries) and immigrant background (one country).

Measures

The questionnaire covers young people's awareness of and experience with different licit and illicit substances, gambling for money, and social media and gaming. The questions are designed to collect information on these behaviours over different time frames: lifetime and the last 12 months, last 30 days and last 7 days prior to the survey. Questions on consumption patterns, such as frequency or quantity (e.g. volume, hours), and questions that allow for screening of high-risk and problematic behaviour are also included.

([3]) It has to be noted that there might be minor inconsistencies between the figures related to Norway in this report and those that can be obtained from the ESPAD international database, since weights applied to the Norwegian sample had to be adjusted by the Principal Investigator during the production of this report.

Table 2. Sampling characteristics of ESPAD 2019

Country	Geo-graphical coverage	Data collection mode	Sample type	Sampling unit(s)	Data weight-ed	Weight type	Student represent-ativeness (%) ([a])	Class par-ticipation rate (%) ([b])	Students' presence rate (%) ([c])	n
Austria	National	Web based	Multistage stratified random	Class	Yes	School type and gender	95	92	87	4 334
Bulgaria	National	Paper and pencil	Multistage stratified random	Class	No	–	95	100	87	2 864
Croatia	National	Paper and pencil	Stratified random	Class	No	–	98	94	90	2 772
Cyprus	National ([d])	Paper and pencil	Multistage random	School	Yes	Geographical area and school type	100	75	94	1 214
Czechia	National	Paper and pencil	Multistage stratified random	Class	Yes	School type	> 95 ([e])	92 ([f])	86	2 778
Denmark	National	Web based	Stratified random	School	Yes	Geographical area	100	21	88	2 487
Estonia	National	Paper and pencil	Stratified random	Class	No	–	100	80	84	2 520
Faroes	National	Mixed mode ([g])	Total	No sample	No	–	95	100	82	511
Finland	National ([h])	Paper and pencil	Multistage stratified random	Class	Yes	Immigrant background	100	79	88	4 541
France ([i])	National	Web based	Multistage stratified random	Class	No	–	97	100	100	2 588
Georgia	National ([j])	Paper and pencil	Multistage random	Class	No	–	100	51	78	3 092
Germany	1 federal state ([k])	Paper and pencil	Systematic random	Class	Yes	School type and grade	88	89	90	1 459
Greece	National	Paper and pencil	Stratified clustered random	Class	Yes	Geographical area	92	89	87	5 988
Hungary	National	Paper and pencil	Stratified random	Class	Yes	Geographical area, school type and grade	99	74	86	2 355
Iceland	National	Web based	Total	No sample	No	–	96	50	–	2 534
Ireland	National	Paper and pencil	Stratified systematic random	Class	No	–	98	85	79	1 940
Italy	National	Mixed mode	Multistage stratified random	Class	No	–	99	89	83	2 542
Kosovo	National ([l])	Paper and pencil	Multistage random	Class	No	–	–	83	92	1 756
Latvia	National	Paper and pencil	Stratified random	Class	No	–	98	100	83	2 743
Lithuania	National	Paper and pencil	Simple random	Class	No	–	100	99	84	2 393
Malta	National	Paper and pencil	Total	No sample	No	–	95	99	78	3 043
Monaco	National	Paper and pencil	Total	No sample	No	–	100	100	87	428
Montenegro	National	Paper and pencil	Total	No sample	No	–	94	100	89	5 700

Country	Geo-graphical coverage	Data collection mode	Sample type	Sampling unit(s)	Data weight-ed	Weight type	Student represent-ativeness (%) (a)	Class par-ticipation rate (%) (b)	Students' presence rate (%) (c)	n
Netherlands (m)	National	Web based	Multistage random	Class	Yes	School type and gender	98	35 (f)	–	1 288
North Macedonia	National	Paper and pencil	Systematic random	Class	No	–	95	86	91	2 930
Norway	National	Web based	Multistage stratified random	Class	Yes	Geographical area and school type	98	58	89	4 313
Poland	National	Paper and pencil	Stratified random	Class	Yes	Geographical area	98	91	73	2 372
Portugal	National	Paper and pencil	Stratified random	Class	No	–	100	94	92	4 365
Romania	National	Paper and pencil	Multistage random	Class	No	–	90 (e)	–	86	3 764
Serbia	National	Paper and pencil	Multistage stratified random	Class	No	–	86	86	88	3 529
Slovakia	National	Paper and pencil	Stratified random	School (n)	No	–	94 (e)	95	83	2 258
Slovenia	National	Paper and pencil	Stratified random	Class	No	–	91	99	88	3 413
Spain	National	Paper and pencil	Multistage stratified random	Class	No	–	100	90	90	3 557
Sweden	National	Paper and pencil	Multistage random	Class	No	–	94	85	85	2 546
Ukraine	National (o)	Paper and pencil	Multistage stratified random	Class	No	–	98 (e)	96	80	2 731
Average or sum							**96**	**85**	**86**	**96 783**

(a) Proportion of ESPAD target students covered by the sampling frame.

(b) Proportion of selected classes participating in the survey.

(c) Proportion of students of participating classes answering the questionnaire.

(d) Only government-controlled areas were covered by the sampling frame.

(e) Estimations by the PI.

(f) School participation rate (class participant rate unknown).

(g) Web-based administration was used in three schools.

(h) The Åland Islands were not covered by the sampling frame.

(i) Data collected in spring 2018.

(j) The occupied territories of Abkhazia and South Ossetia were not covered by the sampling frame

(k) The sampling frame covered only the federal state of Bavaria.

(l) 4 % of the target population enrolled in schools in Northern Kosovo and/or functioning under the parallel structures of the Ministry of Education of Serbia within the other Serbian municipalities were not covered by the sampling frame.

(m) Data collected in autumn instead of spring.

(n) Sampling unit was school, and classes included in the survey were selected randomly by assistants in the last step of selection at schools before the survey.

(o) Autonomous Republic of Crimea was not included in the survey, nor were the territories of Donetsk and Luhansk, which are not controlled by the Ukrainian government.

Availability of substances

The perceived availability of substances is a proxy measure for how easy or difficult it is for students to obtain a particular substance (cigarettes, alcohol and illicit drugs). Students were asked how difficult they thought it would be to obtain a particular substance if they wanted to. The response categories were 'impossible', 'very difficult', 'fairly difficult', 'fairly easy', 'very easy' and 'don't know'. The proportions of students in each country answering 'fairly easy' or 'very easy' were merged to provide an indication of easy availability. The availability of each type of alcoholic beverage (beer, wine and spirits) was investigated separately. If considered relevant, countries included other alcoholic beverages such as cider or premixed drinks in the questionnaire. Alcohol availability was calculated as at least one among each five types of beverage indicated as 'fairly easy' or 'very easy' to obtain.

Age at first substance use

Students were asked how old they were when they used a particular substance for the first time, started to use it on a daily basis (cigarettes, e-cigarettes) and experienced excessive use (alcohol intoxication). The response categories ranged from '9 years old or less' to '16 years or older', in increments of 1 year, and included the category 'never'. An age at initiation of 13 years or younger was defined as an indicator of early onset; rates of early onset of substance use were calculated separately for cigarettes, e-cigarettes, alcohol and illicit drugs.

Cigarette use

Students were asked on how many occasions they had ever smoked cigarettes (excluding e-cigarettes), with the response categories being '0', '1-2', '3-5', '6-9', '10-19', '20-39' and '40 or more'. The frequency of smoking and number of cigarettes smoked in the last 30 days were also collected. The response categories were 'not at all', 'less than 1 cigarette per week', 'less than 1 cigarette per day', '1-5 cigarettes per day', '6-10 cigarettes per day', '11-20 cigarettes per day' and 'more than 20 cigarettes per day'. Lifetime prevalence and last-30-day prevalence (any use) were calculated. Daily use of cigarettes was considered as having smoked a minimum of one cigarette per day in the last 30 days.

Electronic cigarettes

Students were asked about lifetime, last-year and last-30-day use of e-cigarettes. Frequency of e-cigarette use in the last 30 days was also collected. The response categories

were 'not at all', 'less than once per week', 'at least a week' and 'almost every day or every day'. Students were also asked about their previous experience with tobacco use at the time of their first use of e-cigarettes and, optionally, in some countries, about the main motives for starting to use e-cigarettes and about the content of the first e-cigarette. The response options for the question on the content of e-cigarettes were 'nicotine', 'flavouring', 'don't know' and 'I have never tried e-cigarettes'. Lifetime prevalence and last-30-day prevalence were calculated based on use on at least one occasion.

Alcohol use

Students were asked on how many occasions they had consumed alcoholic beverages and had been intoxicated in their lifetime, during the last 12 months and during the last 30 days. The response categories were '0', '1-2', '3-5', '6-9', '10-19', '20-39' and '40 or more'. The average number of occasions was calculated based on the mean value for each response category, for example 29.5 times for the category '20-39'. For the category '40 or more' a value of 41 was used. The prevalence of any use (lifetime, last 12 months and last 30 days) and prevalence of experiencing any intoxication were also calculated. Heavy episodic drinking was defined as drinking a minimum of five glasses of alcoholic beverages on one occasion at least once in the last 30 days, which corresponds to a cut-off of approximately 9 centilitres of pure alcohol. The volume of alcohol intake was calculated as the total volume of pure ethanol summed across the different alcoholic beverage types (beer, wine, spirits, premixed drinks and cider, with the last two being optional). The relative contribution of each beverage (in centilitres of ethanol) to the total amount of alcohol consumed on the last drinking day was taken as an indicator of preference for alcoholic beverages.

Cannabis use

Students were asked on how many occasions they had used cannabis in their lifetime, during the last 12 months and during the last 30 days. The response categories were '0', '1-2', '3-5', '6-9', '10-19', '20-39' and '40 or more'. Lifetime prevalence and last-30-day prevalence (any use) were calculated. The average frequency of cannabis use in the last 12 months was calculated using the mean value for each response category, for example 29.5 for the category '20-39'. For '40 or more' a value of 41 was used.

The Cannabis Abuse Screening Test (CAST) was used to screen for possible cannabis-related problems (Legleye et al., 2007, 2011). The six items of the CAST are worded as follows: (1) 'Have you smoked cannabis before midday?', (2)

'Have you smoked cannabis when you were alone?', (3) 'Have you had memory problems when you smoke cannabis?', (4) 'Have friends or members of your family told you that you ought to reduce your cannabis use?', (5) 'Have you tried to reduce or stop your cannabis use without succeeding?' and (6) 'Have you had problems because of your use of cannabis (arguments, fights, accidents, bad results at school, etc.)?' All of these questions refer to the past 12 months. The response categories for the CAST are 'never', 'rarely', 'from time to time', 'fairly often' and 'very often'. The possible scores for each item are 0 or 1, with the threshold for scoring 1 point being 'from time to time' for the first two items and 'rarely' for the remaining items (which refer to more serious problems). A total score of 2 or more points (range 0-6) is considered to indicate high-risk use. This cut-off score has been shown to best distinguish individuals at high risk of cannabis-related problems from individuals at low risk of such problems in community samples (Legleye et al., 2007, 2011). It should be noted that there is an ongoing debate about the validity of screening tests, including the CAST. With regard to the CAST specifically, over time, different coding systems and cut-off scores have been validated on representative samples (Bastiani et al., 2013; Legleye et al., 2007, 2011, 2013, 2107) and there is no definitive agreement about the best system or scores to use. Clearly, different computation methods will generate different prevalence results.

In this report, we adopted the binary computation of the score with a cut-off of 2 or more points used to indicate high-risk use', which has been proposed in adolescent samples (Gyepesi et al., 2014; Legleye et al., 2011) and which allows comparability with the CAST results published in the 2011 ESPAD report for some countries (Hibell et al., 2012).

When used in the context of self-reported surveys, the CAST may allow the early identification of adolescents who are liable to present with problem cannabis use or dependence. It should be noted, however, that this test is a screening tool — it can be used to make comparisons and perform epidemiological analyses, but cannot provide a clinical diagnosis.

This report provides prevalence estimates of high-risk users in the total sample based on the CAST instrument. The additional tables available on the ESPAD website provide estimates of the proportion of high-risk users among those students who answered positively to the introductory question of the CAST (i.e. claimed to have used cannabis in the year prior to the survey); the frequency of responses for each of the six CAST items among 12-month users; and the CAST item averages presented separately for each country using a continuous five-point scale from 1, 'never', to 5, 'very often'.

Other illicit drug use

To measure experience with other illicit drugs, students were asked on how many occasions they had tried different drugs in their lifetime and during the last 12 months, with response categories of '0', '1-2' and '3 or more'. Frequency of use was asked separately for ecstasy, amphetamine, methamphetamine, cocaine, crack, heroin, LSD or other hallucinogens, and GHB (gamma-hydroxybutyrate). Lifetime prevalence (any use) for each substance was based on intake on at least one occasion.

Inhalant use

Students were asked how often they had used inhalants in their lifetime, during the last 12 months and during the last 30 days, with response categories of '0', '1-2' and '3 or more'. Prevalence of any use of inhalants was based on intake on at least one occasion (i.e. students reporting use on '1-2' or '3 or more' occasions).

New psychoactive substance use

New psychoactive substances (NPS) were defined as 'substances that imitate the effects of illicit drugs such as cannabis or ecstasy and are sometimes called "legal highs", "ethnobotanicals" or "research chemicals" and can come in different forms (herbal mixtures, powders, crystals or tablets)'. Countries could provide the nationally used descriptions and terminology, which could have an impact on the findings in different countries. Students were asked about the number of occasions they had used NPS in their lifetime and during the last 12 months, with response categories of '0', '1-2', '3 or more' and 'don't know/not sure'. Prevalence of any use of NPS was based on intake on at least one occasion (i.e. students reporting use on '1-2' or '3 or more' occasions). Optionally, in some countries, students were also asked on how many occasions in their lifetime they had used synthetic cannabinoids (asked in 20 countries) and synthetic cathinones (asked in 19 countries), with response categories of '0', '1-2', '3 or more'. Prevalence of any use of synthetic cannabinoids and synthetic cathinones was also based on intake on at least one occasion. In addition, prevalence of any use of NPS in the last 12 months was also calculated. Students who reported using NPS in the last 12 months were asked about the types of NPS used according to the following answer options: 'herbal smoking mixtures with drug-like effects', 'powders, crystals or tablets with drug-like effects', 'liquids with drug-like effects' or 'other'. Data on the proportions of users in the last 12 months reporting having used the different types of NPS are provided in the text, and prevalence results are available in the additional tables that can be accessed online.

Use of pharmaceuticals for non-medical purposes

To measure lifetime use of pharmaceuticals for non-medical purposes, students were asked on how many occasions they had used tranquillisers or sedatives without a doctor's prescription, anabolic steroids or painkillers in order to get high, with response categories of '0', '1-2' and '3 or more'. Prevalence of lifetime use was based on intake of any of these substances on at least one occasion.

Gambling

Gambling for money was assessed by asking students about both the frequency of their gambling activity in general and the types of games played (slot machines, cards or dice, lotteries or betting on sports/animals) in the last 12 months. The response categories for these questions were 'I have not gambled', 'monthly or less', '2-4 times a month' and '2-3 times or more a week'. As the response options provide a frequency interval, an overall index of gambling activity was created by dichotomising the response options ('yes'/'no'), with any response other than 'I have not gambled' coded as 'yes' for each of the four games. In this report, gambling prevalence was calculated as the rate of those who had gambled for money on at least one of the four games of chance (playing on slot machines, playing cards or dice for money, playing the lottery, betting on sports or animal races) in the last 12 months. On this basis, the proportions playing the different types of games among those who had gambled for money in the past 12 months were also calculated.

The method used to compute gambling prevalence in this report is different from that used in 2015, when a direct question, 'How often (if ever) did you gamble for money in the last 12 months?', was asked. Therefore, a direct comparison of this measure between the 2019 results and the 2015 results is not possible. The approach used in 2019 is believed to produce a more reliable estimate of gambling prevalence than the 2015 approach (Molinaro et al., 2018).

Online gambling was assessed by asking students how often they had gambled for money in the last 12 months using the internet. The prevalence of online gambling in the last 12 months was calculated as the percentage who had gambled on the internet 'seldom' or more often.

Furthermore, two specific screening tools were used to assess for the presence of excessive gambling and problem gambling behaviour.

An adapted version of the Consumption Screen for Problem Gambling (CSPG; Rockloff, 2012), a three-item test assessing the intensity of gambling, was used to calculate the proportion of gamblers displaying excessive gambling behaviour. The three questions measure (1) gambling frequency — 'How often (if ever) have you gambled for money in the last 12 months?', reported on the following scale: 'I have not gambled for money' = 0, 'monthly or less' = 1, '2-4 times a month' = 2, '2-3 times or more a week' = 3; (2) time spent on gambling — 'How much time did you spend gambling on a typical day in which you gambled in the last 12 months?', reported on the following scale: 'I have not gambled for money' = 0 and 'less than 30 min' = 0, 'between 30 min and 1 hour' = 1, 'between 1 and 2 hours' = 2, 'between 2 and 3 hours' = 3, '3 hours or more' = 4; and (3) gambling intensity — 'How often did you spend more than 2 hours gambling (on a single occasion) in the last 12 months?', reported on the following scale: 'I have not gambled for money' = 0 and 'never' = 0, 'less than monthly' = 1, 'monthly' = 2, 'weekly' = 3, 'daily or almost daily' = 4. A score of 4 or more points was considered to indicate excessive gambling.

The Lie/Bet Questionnaire (Johnson et al., 1997), a two-question screening tool, was used to assess the proportion of gamblers with a problem gambling behaviour. The two questions used in the tool are 'Have you ever lied to family and friends about how much money you have spent on gambling?' and 'Have you ever felt that you needed to gamble for more and more money?'; both questions have the response categories 'yes' = 1 and 'no' = 0, and the Lie/Bet sum score therefore ranges from 0 to 2. A score of 2 points was considered to indicate problem gambling.

Prevalence estimates of excessive gambling and problem gambling are provided in the additional tables that are available online.

Social media use and gaming

To assess patterns of social media use, students were asked how many hours on average during the last 7 days they had spent communicating with others on social media (e.g. WhatsApp, Twitter, Facebook, Skype, blogs, Snapchat, Instagram, Kik), distinguishing between school days and non-school days (weekends, holidays). Gaming patterns were assessed by asking students about the number of days in the last week and the average number of hours during the last 30 days they had spent playing games on electronic devices (i.e. computers, tablets, consoles, smartphones or other electronic devices), again distinguishing between school and non-school days. The answer options for the questions on the average number of hours spent during the last 7 days on social media and during the last 30 days on gaming were 'none', 'half an hour or less', 'about 1 hour', 'about 2-3 hours', 'about 4-5 hours' and '6 hours or more'. Prevalence of use and average and modal class of mean number of hours spent on social media and gaming were

reported separately for a typical school day and a typical non-school day for the last 7 days and the last 30 days, respectively.

In addition, a specific screening tool (Holstein et al., 2014) was adapted to assess for the presence of self-perceived problems related to two distinct behaviours: (1) social media use and (2) gaming. This tool is a non-clinical instrument focusing on a student's perception of problems related to three items: too much time spent on these activities, bad feelings because of restricted access and parents' concerns related to the time spent on these activities. Students were asked to what extent they agreed with the above three statements, with the response categories being 'strongly agree', 'partly agree', 'neither agree nor disagree', 'partly disagree' and 'strongly disagree'. Positive answers ('strongly agree' and 'partly agree') were summed to produce an index score. An index score of 0-1 points was considered to indicate a low level of self-perceived problems, and a score of 2-3 points was considered to indicate a high level of self-perceived problems related to social media use and gaming.

Data processing and data quality

Data were centrally cleaned using two steps. First, logical substitution of missing values was performed in a rather conservative way. In cases where students indicated that they had never used a specific substance and did not respond to other questions about such use, any missing values were substituted with no use for that particular substance. However, no substitutions were made if any contradictory indications of use were reported.

Overall, this generated minor changes in the data. For example, for seven selected substance use variables, the average reduction in the non-response rate resulting from logical substitution was rather small, ranging from 0.1 % to 0.3 %. The single highest country-specific reduction was found in Kosovo, where the non-response rate for lifetime intoxication from alcoholic beverages was reduced by 1.8 percentage points. The logical substitution of missing values had the biggest impact in Kosovo and North Macedonia. However, the reductions in non-responses had only minor effects on the final prevalence estimates.

Second, all cases with missing information on gender were excluded from the database. The other major reason for exclusion was poor data quality. All cases with responses to less than half of the core items were discarded, as were all cases where the respondent appeared to have followed patterns involving repetitive marking of extreme values. Across all ESPAD countries, an average of 1.5 % (range: 0.1-8.8 %) of cases were excluded because of poor data quality or missing information on gender.

A few countries experienced modest methodological problems, but not of a big enough magnitude to seriously hinder the comparability of the results. Compared with the ESPAD averages, higher rates of inconsistencies indicate a somewhat lower data quality for the samples from Bulgaria, Cyprus and Georgia.

Low school/class participation rates in Denmark (21 %), Austria (30 %), the Netherlands (35 %) and Ireland (39 %) resulted in relatively small net sample sizes. In the Netherlands (8.8 %), Sweden (4.3 %) and Cyprus (4.2 %), a relatively high proportion of cases had to be discarded during the central data-cleaning process. In the case of Sweden this was primarily because a third response option, 'other gender identity', was provided for the question on gender.

In general, the coverage of the target student population was over 90 %, except in Germany and Serbia (both 88 %).

Finally, a relatively high proportion of parents in Cyprus (12 %) and Portugal (11 %) refused permission for their child to participate in the survey.

More details on the ESPAD methodology are available online (http://www.espad.org).

Analysis

Prevalence estimates and means were calculated for each participating country, taking weights into account where necessary (see Table 2). In the majority of tables, totals and gender-specific estimates for boys and girls are presented by country. Gender differences reported in Figures 1b-10b were tested using either simple linear regression for quasi-continuous frequency measures or logistic regression for prevalence, with gender as a predictor.

The ESPAD average is based on 35 countries, with an equal weight assigned to each country. All percentages in the report were calculated on the basis of valid responses and are shown for the total samples, boys and girls. With the exception of the frequency of alcohol intake (Figures 3a, 3b), average alcohol intake (Figures 4a, 4b), preferences for alcoholic beverages (Figure 5), frequency of cannabis use (Figures 8a, 8b), proportion of high-risk cannabis users (Figures 9a, 9b), types of games chosen by those who had gambled for money in the past 12 months (Table 11b) and proportions of excessive and problem gamblers (Table 11c), for which the estimates are based on consumers of a particular substance or students engaging in a particular risk behaviour, all estimates are based on the total sample and represent population estimates.

Trend analysis

For temporal trends, country estimates were averaged across 30 countries with valid estimates on at least four (including 2019) out of seven time points. It should be noted that in this report, trends for selected indicators were calculated using the ESPAD 1995-2019 trend database, which includes data from all of the national survey waves since the inception of the ESPAD project.

The ESPAD trend database was created in 2017 according to the following procedure. For the years 1995, 1999 and 2003, national raw datasets were provided by each participating country, as at the time of these surveys participating countries were requested to deliver to the ESPAD coordination standard information in predefined data tables, but no ESPAD international datasets were produced. The available national raw datasets from 1995, 1999 and 2003 were centrally cleaned using the ESPAD 2015 routines in order to harmonise the data. For the years from 2007 to 2019, the ESPAD international databases were used, as for these data collections each participating country had to provide its raw dataset to the ESPAD coordination, which then prepared unique international datasets. It should be noted that, for the years 1995, 1999 and 2003, some countries were not able to provide the national dataset for a specific year for various reasons (e.g. changes in the PI representing the country), even though the survey was conducted. In these cases data could not be included in the ESPAD trend database, nor in the trend estimates shown in the 'Trends 1995-2019' section of this report. In other cases the datasets provided for the ESPAD trend database had a different number of observations or were provided in a non-standard format; in the latter case some information could not be included.

Because of these issues, it is possible that the results presented in 'Trends 1995-2019' differ slightly from those presented in the same section of the 2015 report, as at the time the ESPAD trend database had not yet been finalised and the trend estimates were produced using the results published in the previous ESPAD reports.

The 30 countries included in the trend analysis were Austria, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, the Faroes, Finland, France, Germany (Bavaria), Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Malta, Monaco, Montenegro, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Sweden and Ukraine. The averages across the 30 country means were calculated using a weight of 1, and data for each survey year were summed and divided by the number of countries with valid data for that particular year.

In the 1995-2019 trend database, data across all seven time points are available for 14 countries. Data from 15 countries are missing in 1995, data from nine countries are missing in 1999 and data from three countries are missing in 2003. In 2011, data from only one country were missing. A full description is provided in Table 13 in the 'Trends 1995-2019' section of this report.

Trends across the 30 countries are shown for a selected number of indicators by gender. Country-specific trends are shown for all countries that participated in the 2019 data collection and that have at least two valid data points over the period 1995-2019. Country-specific temporal trends were estimated based on the ESPAD 1995-2019 trend database using analysis of variance to test for significant changes, with the survey year as the independent variable in the model. The test was made only for countries with at least three valid data points over the period 1995-2019. Post hoc tests (Tukey or Games-Howell, depending on whether or not the variances were homogeneous) were used to assess which years were responsible for changes in prevalence. Trends are illustrated graphically, with statistically significant decreases between successive surveys indicated in green, statistically significant increases in red and unchanged situations in yellow.

Comparability of variables

After the 2003 survey, a working group was set up to improve and revise some of the questions that had caused problems in the previous surveys. Modified questions were tested on differences in outcome using a split-half design in eight countries. In general, most of the revised questions were found to be comparable with the earlier versions (Hibell and Bjarnason, 2008). In the following surveys, other modifications were made to some questions, which we briefly report here.

Availability of substances

In the surveys until 2003, the perceived availability of substances was assessed using a single question. Since 2007, the questionnaire has contained separate questions for each substance. A questionnaire test in eight countries showed some differences between the two versions.

Nicotine use

In the 2019 survey, the questionnaire module on 'cigarette smoking' was modified to 'tobacco smoking' by specifying that it refers to cigarettes, including rolled cigarettes, and excludes e-cigarettes. A new module was added to assess

the use of smoking and nicotine products, including e-cigarettes (e-cigs, vapes and mods) and water pipes. In 2015, lifetime and last-12-month use of e-cigarettes, as well as the age at first use and first daily use, had been asked only in 21 countries and 17 countries, respectively. The lifetime and last-12-month use of water pipes had been included in 20 countries.

Alcohol use

In the surveys until 2003, the question on heavy episodic drinking read, 'How many times (if any) have you had five or more drinks in a row? A "drink" is a glass of wine (approximately 15 centilitres), a bottle or can of beer (approximately 50 centilitres), a shot glass of spirits (approximately 5 centilitres) or a mixed drink.' Cider or alcopops were not included. Since 2007, the definition has read, 'How many times (if any) have you had five or more drinks on one occasion? A "drink" is a glass/bottle/can of beer (approximately 50 centilitres), a glass/bottle/can of cider (approximately 50 centilitres), two glasses/bottles of alcopops (approximately 50 centilitres), a glass of wine (approximately 15 centilitres), a glass of spirits (approximately 5 centilitres) or a mixed drink.' The questionnaire test revealed no significant differences between the two versions. In the 2019 questionnaire, a 'drink' is defined as a glass/bottle/can of beer (33 centilitres), a glass of wine (approximately 15 centilitres), a glass of spirits (approximately 4 centilitres), a glass/bottle of cider (33 centilitres) or a glass/bottle of premixed drinks (spritz, alcopops etc.) (33 centilitres) (the inclusion of cider or premixed drinks was optional).

Illicit drugs other than cannabis

The questionnaire collects data on the use of illicit drugs other than cannabis, including amphetamine, cocaine, crack, ecstasy, LSD or other hallucinogens, heroin, GHB (since 2007) and methamphetamine (since 2015). In 2015 crack was not included in the surveys carried out in Denmark, Estonia, Finland and Sweden, while in 2019 it was included for all countries.

In 2019, lifetime use and last-12-month use of amphetamine, cocaine, crack, ecstasy and methamphetamine were assessed using a single question, while in 2015 separate questions were asked for each substance. Lifetime use of other substances, which in 2015 was assessed using a single question (including heroin), was assessed using two questions in 2019, according

to the following two sets of substances: (1) LSD or other hallucinogens, 'magic mushrooms', GHB and drugs by injection with a needle (e.g. heroin, cocaine, amphetamine) and (2) tranquillisers or sedatives (without a doctor's prescription), anabolic steroids, alcohol together with pills and painkillers in order to get high. In 2019, use of heroin was assessed using a separate question, and for the first time use in the last 12 months was also examined.

For all of the above substances and time frames, response categories were changed from '0', '1-2', '3-5', '6-9','10-19', '20-39' and '40 or more' to '0', '1-2' and '3 or more'.

Inhalant use

In the earliest rounds of the survey, the question on inhalant use was 'Did you try inhalants (glue, etc.) to get high?'. In 2007, the question was rephrased to refer to 'the use of inhalants to get high'. The questionnaire test found no significant differences between the old and new versions. Since 2011, countries have been instructed to add nationally relevant examples in the questionnaire.

Reporting

Based on the 2019 ESPAD data, selected substance use indicators are presented comprising students' perceptions of the availability of cigarettes, alcohol and illicit drugs, early onset of substance use and prevalence estimates of substance use. In addition, patterns of current drug use among users of the specific substances are presented for cigarettes (prevalence of daily smoking), e-cigarettes (prevalence in the last 30 days), alcohol (mean number of occasions of alcohol use in the last 30 days; beverage preference and average alcohol volume intake on the last drinking occasion; prevalence of heavy episodic drinking, defined as consumption of five or more drinks on at least one occasion, in the last 30 days), cannabis (prevalence in the last 30 days; mean number of occasions of cannabis use in the last 12 months; proportion of high-risk users among those having used cannabis in the past 12 months) and NPS (prevalence in the last 12 months). The average results by country are presented using maps, and gender differences by country are shown using bar charts (Figures 1a-10b), including tests for significance ($p < 0.05$).

In the 'Trends 1995-2019' section, temporal trends between 1995 and 2019 are presented for the averages across the 30 country means and for all ESPAD countries separately.

The situation
in 2019

The situation in 2019

This chapter presents selected indicators for substance use and other risk behaviours in the 35 ESPAD countries participating in the 2019 survey. Each results section begins with a table containing a summary of the main results, including the ESPAD average estimate and country range (minimum (min.) and maximum (max.)) for each selected measure.

Perceived availability of substances

ESPAD average Perceived availability of substances (%) (ᵃ)			
	Average	Min.	Max.
Cigarettes	60	24	79
Alcohol	78	38	95
Cannabis	32	11	51
Ecstasy	14	4.7	24
Amphetamine	10	2.8	20
Methamphetamine	8.5	2.9	16
Cocaine	13	4.2	22
Crack	8.1	2.7	15

(ᵃ) Percentage of students rating a substance as either 'fairly easy' or 'very easy' to obtain.

Cigarettes

On average, 60 % of students in the participating countries reported that they would find it 'fairly easy' or 'very easy' (hereafter referred to as 'easy') to get hold of cigarettes if they wanted to (Table 3a). Students in Denmark were most likely to find it easy (79 %). In Sweden, Poland, Slovakia and Czechia, the perceived availability was also comparatively high, with over 70 % of the students reporting access to be easy. The perceived availability was lowest in Kosovo (24 %) and figures of less than 50 % were observed in five other countries: Romania (39 %), Ukraine (42 %), Georgia (45 %), Iceland (47 %), and North Macedonia (49 %). Gender differences were negligible at the aggregate level (61 % for boys versus 59 % for girls). Where differences were observed, figures were higher for boys than girls in the majority of countries, with the highest difference (13 percentage points) found in Kosovo. In 11 countries, the perceived availability was slightly higher for girls than boys, with the difference reaching 5 percentage points in Bulgaria.

Alcohol

Alcoholic beverages were perceived to be easily available in most countries and, in general, the perceived availability appeared to be higher for girls than boys (Table 3a). On average, more than three in four students (78 %) stated that they would find it easy to acquire alcoholic beverages if they wanted to. In Denmark, Germany and Greece, more than 90 % of students reported easy access. The lowest proportions reporting easy access were found in Kosovo (38 %), which is also the only country with a figure of less than 50 %, followed by Lithuania (61 %), Iceland (62 %) and Romania (63 %). A considerable gender difference was found in Kosovo (12 percentage points), with a higher rate among boys than girls, and in Lithuania, Monaco and Sweden (8-11 percentage points), with higher rates among girls than boys.

Illicit drugs

About three in 10 students (32 %) rated cannabis to be easily obtainable (Table 3a). More students in the Netherlands (51 %) than in any other ESPAD country perceived cannabis to be easily available. High proportions were also found in Denmark (48 %) Czechia (47 %) Slovenia (46 %) and Slovakia (45 %). The countries with the lowest perceived availability of cannabis were Kosovo (11 %), Ukraine (13 %), Romania (16 %) and North Macedonia (19 %). Boys were more likely than girls to consider cannabis to be easily available (ESPAD average: 34 % versus 30 %). This was the case in most countries, with gender differences of up to 15 percentage points. The countries in which more girls than boys reported easy availability of cannabis were Bulgaria Czechia, Faroes, Malta, Slovakia and Ukraine.

On average, the perceived availability of other illicit drugs was relatively low (Tables 3a and b), with the proportions of students reporting easy access being 14 % for ecstasy, 13 % for cocaine, 10 % for amphetamine and 8.5 % for methamphetamine. Illicit drugs were perceived to be more easily available overall in Austria, Bulgaria, Sweden and Denmark than elsewhere in Europe. The perceived availability of ecstasy was highest in Slovakia, Czechia, Slovenia and the Netherlands (over 20 %), and the perceived availability of cocaine was highest in Denmark and Ireland (22 % each). The countries with the lowest perceptions of availability for nearly all illicit drugs were Kosovo, Georgia and Romania. Noticeable gender differences for ecstasy availability were found in the Netherlands, Monaco and Ireland (rates were 5 or more percentage points higher for boys than girls). In Slovakia higher rates were found for girls than boys for both ecstasy availability and cocaine availability. Other countries with gender differences of at least 5 percentage points for cocaine were Bulgaria, Portugal and Malta, with higher figures for girls than boys, and Monaco with higher figures for boys than girls.

Table 3a. Perceived availability of substances: prevalence of students responding substance 'fairly easy' or 'very easy' to obtain (cigarettes, alcohol, cannabis and ecstasy) (percentage)

Country	Cigarettes	Alcohol	Cannabis	Ecstasy	Cigarettes		Alcohol		Cannabis		Ecstasy	
					Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Austria	70	86	42	18	71	70	85	88	45	38	19	18
Bulgaria	63	86	36	16	60	66	84	87	34	39	14	18
Croatia	69	87	40	16	68	70	85	89	40	40	14	17
Cyprus	59	87	25	11	61	58	86	88	30	21	13	10
Czechia	71	88	47	22	71	70	86	89	46	48	21	23
Denmark	79	95	48	20	81	77	95	94	52	44	21	20
Estonia	57	72	34	16	58	57	69	75	35	33	16	17
Faroes	66	74	21	5.8	68	65	71	76	20	22	6.4	5.1
Finland	64	73	24	7.6	67	61	72	74	27	21	7.8	7.5
France	52	71	37	10	54	50	70	71	41	33	11	10
Georgia	45	79	25	7.0	48	42	79	79	29	22	8.6	5.7
Germany	69	93	42	12	69	70	92	94	43	40	12	12
Greece	65	91	28	9.5	65	64	91	91	31	24	12	7.3
Hungary	67	84	25	18	67	68	84	84	26	23	17	19
Iceland	47	62	28	11	50	44	58	65	31	25	12	11
Ireland	61	79	42	19	63	60	76	81	47	38	22	17
Italy	61	83	37	5.8	60	62	81	85	38	35	6.0	5.6
Kosovo	24	38	11	4.7	31	18	45	33	16	7	5.5	3.9
Latvia	65	78	31	18	66	65	75	80	33	29	17	19
Lithuania	58	61	24	16	56	60	55	66	24	24	14	17
Malta	57	85	33	15	57	57	82	88	32	34	14	16
Monaco	56	77	31	8.4	58	55	72	82	38	24	12	5.0
Montenegro	66	79	27	18	68	65	79	79	29	24	18	18
Netherlands	63	79	51	21	67	59	78	79	55	47	25	17
North Macedonia	49	69	19	10	48	51	69	68	21	17	10	11
Norway	65	75	35	12	66	64	73	78	36	34	13	12
Poland	72	79	36	15	72	72	76	81	36	35	15	16
Portugal	54	77	25	11	53	55	74	79	26	25	11	12
Romania	39	63	16	5.7	41	37	66	60	16	16	5.5	5.9
Serbia	56	82	25	16	57	56	80	84	26	24	16	17
Slovakia	71	88	45	24	70	72	86	90	43	47	21	27
Slovenia	62	82	46	22	64	60	81	83	49	42	22	21
Spain	64	84	41	8.8	61	66	82	86	42	40	10	7.7
Sweden	75	79	32	20	73	76	76	83	34	30	20	19
Ukraine	42	69	13	5.6	42	42	65	72	12	13	5.0	6.1
Average	**60**	**78**	**32**	**14**	**61**	**59**	**77**	**79**	**34**	**30**	**14**	**14**
Min.	24	38	11	4.7	31	18	45	33	12	7.3	5.0	3.9
Max.	79	95	51	24	81	77	95	94	55	48	25	27

Table 3b. Perceived availability of substances: prevalence of students responding substance 'fairly easy' or 'very easy' to obtain (amphetamines, methamphetamines, cocaine and crack) (percentage)

Country	Amphet-amine	Meth-amphet-amine	Cocaine	Crack	Amphetamine		Metham-phetamine		Cocaine		Crack	
					Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Austria	19	10	19	–	20	19	10	10	17	21	–	–
Bulgaria	20	16	17	11	16	23	14	17	14	19	11	12
Croatia	18	12	15	11	17	20	11	13	13	17	10	12
Cyprus	10	9.2	17	–	11	10	10	8.2	19	15	–	–
Czechia	8	11	11	–	8.4	8.6	11	12	10	13	–	–
Denmark	15	11	22	–	17	14	12	11	24	21	–	–
Estonia	10	8.7	10	–	8.8	12	7.6	10	8.2	12	–	–
Faroes	5.3	4.8	6.5	4.3	5.6	5.1	4.4	5.1	6.8	6.3	4.4	4.3
Finland	6.1	4.9	5.7	–	6.6	5.6	5.3	4.5	5.0	6.4	–	–
France	8.0	7.6	13	–	8.1	7.9	8.2	7.0	13	13	–	–
Georgia	3.1	3.2	4.2	2.7	3.8	2.5	3.6	3.0	4.9	3.6	3.5	2.1
Germany	14	6.4	12	6.8	15	14	7.1	5.7	12	13	6.2	7.3
Greece	7.2	6.2	14	–	8.8	5.7	7.9	4.5	15	13	–	–
Hungary	18	11	14	9.1	18	18	12	11	13	14	10	8.4
Iceland	11	9.0	12	8.0	12	10	10	8.3	11	12	7.9	8.1
Ireland	10	8.7	22	15	10	8.9	9.4	8.0	21	22	13	16
Italy	5.4	4.3	9.1	6.2	5.4	5.5	4.8	3.8	8.9	9.3	6.3	6.1
Kosovo	2.8	2.9	5.0	3.6	3.1	2.7	2.8	3.0	4.8	5.1	3.3	3.9
Latvia	10	8.3	10	–	10	11	8.2	8.3	8.7	12	–	–
Lithuania	8.8	7.5	11	–	8.8	8.9	7.9	7.2	8.6	13	–	–
Malta	11	8.8	20	14	10	11	8.6	9.0	18	22	13	15
Monaco	5	4.8	12	7.2	3.5	5.5	4.1	5.5	14	10	8.6	6.0
Montenegro	15	11	15	–	15	15	11	11	15	15	–	–
Netherlands	13	9.5	14	–	15	11	11	8.0	15	13	–	–
North Macedonia	6.8	6.1	7.5	4.4	6.9	6.8	5.9	6.2	7.3	7.7	5.1	3.8
Norway	11	–	13	–	12	11	–	–	13	14	–	–
Poland	15	12	15	9.1	14	16	10	14	13	17	9.2	9.0
Portugal	8.0	7.1	12	7.5	6.8	9.0	6.4	7.8	9.4	14	6.4	8.3
Romania	4.4	4.1	6.9	4.1	3.9	4.8	3.8	4.4	4.9	9.0	3.7	4.5
Serbia	11	9.3	12	–	11	11	9.4	9.2	10	13	–	–
Slovakia	12	14	14	–	11	13	12	16	10	18	–	–
Slovenia	9.1	11	20	13	10	8.0	12	11	19	21	12	13
Spain	7.9	7.4	18	12	8.5	7.4	8.0	6.8	18	19	12	12
Sweden	16	13	20	–	17	16	14	13	19	21	–	–
Ukraine	6.4	5.3	4.6	4.2	5.8	7.0	5.2	5.4	4.1	5.1	4.1	4.3
Average	**10**	**8.5**	**13**	**8.1**	**10**	**10**	**8.5**	**8.4**	**12**	**14**	**8**	**8**
Min.	2.8	2.9	4.2	2.7	3.1	2.5	2.8	3.0	4.1	3.6	3.3	2.1
Max.	20	16	22	15	20	23	14	17	24	22	13	16

Early onset of substance use

ESPAD average Early onset of substance use (%) (ª)			
	Average	Min.	Max.
Cigarettes	18	5.4	33
Daily smoking	2.9	0.9	6.0
E-cigarettes	11	4.3	20
Daily e-cigarettes	1.7	0.7	3.2
Alcohol	33	7.1	60
Intoxication	6.7	1.8	25
Cannabis	2.4	1.0	4.5
Ecstasy	0.5	0.0	1.5
Amphetamine/methamphetamine	0.5	0.2	1.8
Cocaine/crack	0.4	0.0	1.5

(ª) Percentage of students using substance at age 13 or younger.

Cigarettes

More than one in six ESPAD students (18 %) had smoked cigarettes at age 13 or younger (Table 4a). The proportions varied considerably across countries, from 5.4 % in Iceland, 7.4 % in Malta and 8.5 % in Norway to 31 % in Latvia and 33 % in Lithuania. Both on average and in almost all participating countries, more boys than girls had smoked cigarettes at age 13 or younger. The largest gender difference was found in Kosovo and the Faroes (boys 33 % versus girls 14 %). After Lithuania, which reported the highest rate among both boys (37 %) and girls (29 %), the highest proportion among boys was recorded in Latvia (36 %) and the highest proportions among girls were recorded in Slovakia (28 %) and Czechia and Latvia (27 % each).

The ESPAD average rate for students who began smoking cigarettes on a daily basis at age 13 or younger was 2.9 %. The rates were highest in Slovakia (6.0 %) and Bulgaria (5.8 %) and lowest in the Netherlands (0.9 %), followed by Iceland, Greece and Slovenia (1.2-1.4 %). Apart from Kosovo, where the gender difference was 5 percentage points (boys 5.8 % versus girls 0.8 %), because of the small proportion of students reporting onset of daily smoking at an early age, gender differences were generally less than 2 percentage points (ESPAD average: boys 3.4 % versus girls 2.4 %). Nevertheless, in the majority of countries more boys than girls reported early onset of daily smoking. The countries with the highest prevalence estimates for boys were Bulgaria (6.2 %), Kosovo and Latvia (5.8 % each) and Ukraine (5.7 %). Among girls, Slovakia (5.7 %), Bulgaria (5.5 %) and Romania (4.8 %) reported the highest rates of early onset of smoking.

Electronic cigarettes

On average, more than one in 10 ESPAD students (11 %) had used e-cigarettes at age 13 or younger (Table 4a), with

rates varying across countries, from 4.3 % in Montenegro and 4.4 % in Serbia to 19 % in Lithuania and 20 % in Estonia. Boys were more likely than girls to have used e-cigarettes early in life in the vast majority of countries. The largest gender differences (more than 10 percentage points) were found in Cyprus, Kosovo, Finland and the Faroes. The prevalence rate for boys varied from 4.4 % in Serbia to 23 % in Finland and Estonia and 24 % in Lithuania, while for girls the prevalence rate ranged from 3.0 % in Norway and 3.1 % in Montenegro to 15 % in Lithuania and 16 % in Estonia.

The ESPAD average prevalence rate for students who began using e-cigarettes on a daily basis at age 13 or younger was 1.7 %. The highest rates were found in Kosovo (3.2 %), Cyprus (3.1 %), Slovakia and Ukraine (2.8 % each), Lithuania (2.7 %) and Bulgaria (2.5 %). Because of the small proportion of students reporting onset of daily e-cigarette use at an early age, gender differences were generally less than 3 percentage points (on average: boys 2.4 %, girls 0.9 %). In all ESPAD countries, the rate of early onset of daily e-cigarette use was higher for boys than girls. The highest prevalence rates for boys were found in Cyprus (5.4 %) and Kosovo (5.3 %), while for girls the highest rates were found in Slovakia (1.8 %) and Lithuania and Iceland (1.7 % each).

Alcohol

One in three ESPAD students (33 %) reported alcohol use at age 13 or younger (Table 4a). The highest rates of students reporting alcohol use at an early age were found in Georgia (60 %) and Latvia (48 %). The countries with the lowest rates were Iceland (7.1 %), Kosovo (12 %) and Norway (13 %). In almost all countries, boys were more likely than girls to have used alcohol at age 13 or younger, with the highest gender differences found in Romania (boys 45 % versus girls 27 %), Georgia (69 % versus 52 %) and Cyprus (45 % versus 29 %). Notably, in Lithuania, more girls than boys reported early use of alcohol (girls 36 % versus boys 30 %).

On average, one in 15 ESPAD students (6.7 %) reported alcohol intoxication at age 13 or younger, with proportions ranging from 1.8 % in Iceland to 25 % in Georgia. Higher rates were more likely to be found in the eastern part of Europe and, in general, more boys than girls reported intoxication at an early age (ESPAD average: boys 8.0 % versus girls 5.4). The highest gender difference was found in Georgia (boys 34 % versus girls 18 %).

Illicit drugs

On average, 2.4 % of the ESPAD students reported that they had first used cannabis at age 13 or younger (Table 4b). The highest rates were found in France (4.5 %), Italy (4.4 %),

Latvia (3.8 %), Cyprus (3.6 %) and Estonia (3.5 %). Rates of early onset of amphetamine/methamphetamine use were lower (ESPAD average: 0.5 %), with the highest rate found in Bulgaria (1.8 %). Boys were more likely than girls to have used cannabis or amphetamine/methamphetamine at age 13 or younger, even though gender differences were less than 4 percentage points. Similar results were found for early onset of ecstasy and cocaine/crack use.

Table 4a. Early onset of substance use: prevalence of students experiencing substance use (cigarettes, daily smoking, e-cigarettes, daily e-cigarettes, alcohol, intoxication) at the age of 13 or younger (percentage)

Country	Ciga-rettes	Daily smok-ing	E-ciga-rettes	Daily e-ciga-rettes	Alco-hol	Intoxi-cation	Ciga-rettes		Daily smoking		E-ciga-rettes		Daily e-ciga-rettes		Alcohol		Intoxi-cation	
							Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Austria	17	2.5	13	1.5	29	5.8	18	16	3.1	1.9	15	10	2.2	0.8	29	28	6.2	5.3
Bulgaria	20	5.8	8.6	2.5	38	12	20	20	6.2	5.5	11	6.4	3.7	1.4	43	33	15	8.6
Croatia	22	4.1	12	2.2	42	8.0	24	20	5.2	3.0	16	8.8	2.9	1.4	45	37	11	5.2
Cyprus	10	3.0	13	3.1	36	7.1	13	8.1	3.4	2.6	20	8.1	5.4	1.3	45	29	10	4.6
Czechia	29	3.2	14	1.2	42	7.2	30	27	3.3	3.0	15	12	1.8	0.6	46	38	8.1	6.1
Denmark	13	2.3	8.8	1.2	43	11	15	11	2.4	2.1	11	6.5	1.8	0.7	48	39	12	10
Estonia	27	4.8	20	2.3	33	10	31	23	5.0	4.5	23	16	3.4	1.3	35	32	10	10
Faroes	23	2.9	14	0.8	20	5.3	33	14	3.6	2.3	22	6.5	0.8	0.8	25	15	6.4	4.2
Finland	18	2.7	15	1.1	24	7.4	23	14	3.3	2.1	23	7.6	1.8	0.4	26	21	7.9	7.0
France	18	2.6	12	1.0	35	4.4	20	16	2.6	2.7	15	9.1	1.1	0.9	39	30	5.6	3.2
Georgia	20	2.5	8.6	2.0	60	25	28	14	4.0	1.3	13	4.9	3.1	1.0	69	52	34	18
Germany	15	1.8	11	1.2	38	7	16	15	2.2	1.5	14	8.4	1.9	0.5	39	37	9	6
Greece	10	1.3	7.2	1.3	31	3.5	12	8.7	1.8	0.8	11	3.9	2.1	0.5	36	27	5.0	2.0
Hungary	20	3.1	10	1.7	42	6.8	22	18	3.3	2.8	12	9.0	1.9	1.5	47	36	8.2	5.3
Iceland	5.4	1.2	12	2.0	7.1	1.8	6.2	4.5	1.2	1.2	14	11	2.3	1.7	8.3	6.1	2.3	1.2
Ireland	11	2.4	11	2.3	24	5.3	14	8.0	3.3	1.6	17	6.4	3.6	1.0	27	20	7.2	3.4
Italy	22	3.4	13	2.1	28	3.9	21	23	3.7	3.1	16	8.8	3.3	0.7	34	22	4.8	2.8
Kosovo	23	3.1	11	3.2	12	2.2	33	14	5.8	0.8	18	4.5	5.3	1.5	19	6.7	3.6	1.0
Latvia	31	4.4	17	1.8	48	9.3	36	27	5.8	3.0	22	12	3.0	0.6	50	46	10	8.9
Lithuania	33	3.5	19	2.7	33	6.6	37	29	3.5	3.4	24	15	3.8	1.7	30	36	6.7	6.5
Malta	7.4	1.7	4.9	1.0	34	6.3	6.8	8.0	1.7	1.7	5.5	4.3	1.0	0.9	33	34	6.3	6.3
Monaco	15	1.9	17	1.6	39	2.3	15	15	1.4	2.3	22	13	2.4	0.9	39	38	1.9	2.7
Montenegro	16	2.5	4.3	0.7	38	4.6	19	13	3.6	1.4	5.5	3.1	1.1	0.2	45	30	7.1	2.0
Netherlands	10	0.9	14	1.0	23	3.3	11	9.4	1.6	0.3	18	10	1.9	0.2	25	20	4.4	2.3
North Macedonia	12	2.6	6.8	0.8	29	6.1	17	8.4	4.1	1.1	9.1	4.6	1.3	0.3	37	22	7.7	4.6
Norway	8.5	2.5	6.0	1.8	13	2.9	12	5.5	3.3	1.7	10	3.0	2.6	1.1	15	11	3.5	2.3
Poland	21	3.0	–	–	29	4.3	24	18	3.8	2.3	0	0	0	0	32	26	5.0	3.6
Portugal	17	2.7	6.0	0.7	41	4.5	19	16	3.3	2.1	7.4	4.7	0.9	0.6	42	39	4.7	4.3
Romania	20	5.0	7.8	1.5	36	7.0	23	17	5.2	4.8	11	5.1	2.2	0.9	45	27	10	4.5
Serbia	13	1.7	4.4	0.9	42	7.0	13	12	2.0	1.3	4.4	4.4	1.0	0.8	48	36	9.0	4.1
Slovakia	26	6.0	12	2.8	39	10	25	28	5.3	5.7	11	12	3.8	1.8	40	37	10	10
Slovenia	14	1.4	9.4	1.5	37	6.3	14	13	1.2	1.6	12	6.7	2.2	0.9	42	33	8.4	4.4
Spain	16	2.3	11	1.1	31	6.6	15	17	1.9	2.7	13	10	1.4	0.8	31	31	6.3	6.9
Sweden	11	2.2	11	2.1	15	4.4	12	11	2.7	1.7	14	7.9	2.8	1.4	15	14	4.4	4.3
Ukraine	25	4.8	13	2.8	40	7.7	29	22	5.7	3.9	17	10	4.3	1.4	39	42	8.2	7.3
Average	**18**	**2.9**	**11**	**1.7**	**33**	**6.7**	**20**	**15**	**3.4**	**2.4**	**14**	**7.9**	**2.4**	**0.9**	**36**	**29**	**8.0**	**5.4**
Min.	5.4	0.9	4.3	0.7	7.1	1.8	6.2	4.5	1.2	0.3	0.0	0.0	0.0	0.0	8.3	6.1	1.9	1.0
Max.	33	6.0	20	3.2	60	25	37	29	6.2	5.7	24	16	5.4	1.8	69	52	34	18

Table 4b. Early onset of substance use: prevalence of students experiencing substance use (cannabis, ecstasy, amphetamine/methamphetamine, cocaine/crack) at the age of 13 or younger (percentage)

Country	Cannabis	Ecstasy	Amphetamine/ metham- phetamine	Cocaine/ crack	Cannabis		Ecstasy		Amphetamine/ metham- phetamine		Cocaine/crack	
					Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Austria	2.5	–	–	–	3.1	1.9	–	–	–	–	–	–
Bulgaria	3.0	1.5	1.8	1.5	3.3	2.7	2.1	1.0	2.5	1.1	2.2	0.8
Croatia	2.8	0.7	0.8	0.6	3.3	2.2	0.9	0.5	1.0	0.5	0.9	0.4
Cyprus	3.6	–	–	–	5.1	2.5	–	–	–	–	–	–
Czechia	3.2	0.2	0.3	0.1	3.4	3.1	0.1	0.3	0.1	0.4	0.0	0.3
Denmark	2.1	0.3	0.2	0.3	2.9	1.3	0.6	0.1	0.3	0.1	0.4	0.2
Estonia	3.5	0.9	0.6	0.6	4.1	3.0	1.0	0.8	0.7	0.5	1.0	0.3
Faroes	1.0	0.0	0.2	0.0	1.6	0.4	0.0	0.0	0.4	0.0	0.0	0.0
Finland	1.5	0.2	0.3	0.2	2.4	0.7	0.4	0.0	0.5	0.1	0.3	0.0
France	4.5	–	–	–	6.2	2.8	–	–	–	–	–	–
Georgia	2.7	0.5	0.7	0.5	4.4	1.3	0.7	0.3	0.8	0.6	0.8	0.3
Germany	2.9	0.3	0.5	0.1	3.9	2.0	0.3	0.4	0.7	0.3	0.0	0.1
Greece	1.2	–	–	–	1.9	0.5	–	–	–	–	–	–
Hungary	1.3	0.5	0.6	0.6	1.5	1.0	0.7	0.3	0.8	0.3	0.8	0.5
Iceland	1.7	–	–	–	2.3	1.2	–	–	–	–	–	–
Ireland	3.1	0.9	0.8	0.7	4.3	2.1	1.4	0.4	1.4	0.2	1.2	0.3
Italy	4.4	0.5	0.3	0.6	6.0	2.7	0.7	0.2	0.4	0.2	0.8	0.5
Kosovo	1.7	0.2	0.3	0.1	3.1	0.5	0.2	0.2	0.4	0.2	0.2	0.0
Latvia	3.8	0.4	0.2	0.2	5.0	2.4	0.4	0.4	0.2	0.2	0.2	0.1
Lithuania	2.0	0.6	0.4	0.3	2.2	1.7	0.8	0.4	0.6	0.2	0.4	0.2
Malta	2.1	0.5	0.5	0.6	2.7	1.5	0.6	0.3	0.8	0.3	1.0	0.3
Monaco	2.8	0.0	0.5	0.2	3.4	2.3	0.0	0.0	0.0	0.9	0.0	0.5
Montenegro	2.1	0.6	0.7	0.7	2.9	1.3	1.0	0.2	1.0	0.5	1.0	0.5
Netherlands	2.6	–	–	–	3.7	1.4	–	–	–	–	–	–
North Macedonia	1.2	0.6	0.6	0.7	1.6	0.7	0.8	0.5	0.7	0.6	0.8	0.6
Norway	1.3	–	–	–	1.8	0.8	–	–	–	–	–	–
Poland	2.9	0.7	1.1	0.9	4.2	1.7	1.1	0.4	1.6	0.6	1.2	0.6
Portugal	2.3	0.5	0.4	0.4	2.7	1.9	0.2	0.7	0.4	0.4	0.4	0.4
Romania	1.0	0.3	0.3	0.3	1.5	0.5	0.3	0.3	0.4	0.1	0.4	0.3
Serbia	1.2	0.4	0.4	0.4	1.3	1.1	0.5	0.3	0.5	0.4	0.6	0.1
Slovakia	3.1	–	–	–	2.7	3.5	–	–	–	–	–	–
Slovenia	3.2	0.3	0.3	0.2	3.7	2.7	0.4	0.2	0.3	0.2	0.2	0.3
Spain	3.4	0.3	0.2	0.3	3.9	3.0	0.4	0.1	0.3	0.2	0.2	0.3
Sweden	1.4	–	–	–	2.1	0.7	–	–	–	–	–	–
Ukraine	1.7	0.1	0.2	0.3	2.1	1.3	0.1	0.1	0.3	0.1	0.4	0.1
Average	**2.4**	**0.5**	**0.5**	**0.4**	**3.2**	**1.7**	**0.6**	**0.3**	**0.6**	**0.4**	**0.6**	**0.3**
Min.	1.0	0.0	0.2	0.0	1.3	0.4	0.0	0.0	0.0	0.0	0.0	0.0
Max.	4.5	1.5	1.8	1.5	6.2	3.5	2.1	1.0	2.5	1.1	2.2	0.8

Cigarette use

ESPAD average Cigarette use (%) ([a])			
	Average	Min.	Max.
Lifetime	41	15	58
Last 30 days	20	5.1	32

([a]) Percentage of students reporting use of cigarettes.

Lifetime

On average, 41 % of students in ESPAD countries had ever smoked cigarettes, with the lifetime prevalence rate ranging from 15 % in Iceland to 58 % in Slovakia (Table 5). In 10 of the 35 ESPAD countries, at least half of the students had tried cigarette smoking in their lifetime. The average prevalence of cigarette smoking was slightly higher among boys (43 %) than girls (40 %). In about half of the participating countries, boys were generally more likely than girls to have tried cigarettes. Countries with the largest gender differences were the Faroes (boys 57 % versus girls 34 %), Kosovo (53 % versus 31 %) and Georgia (46 % versus 27 %). Where girls reported higher rates than boys, the largest gender differences were found in Bulgaria (girls 54 % versus boys 45 %) and Slovakia (62 % versus 53 %).

Last 30 days

On average, 20 % of the ESPAD students had used cigarettes during the last 30 days. The highest rates of current smokers were found in Italy and Bulgaria (32 % each) and Romania (31 %). Countries that reported a last-30-day prevalence of 10 % or lower included Iceland (5.1 %), Norway and Malta (10 % each). Italy (31 %), Romania (30 %) and Croatia (29 %) reported a high smoking rate for boys and Bulgaria (36 %), Italy (34 %) and Slovakia (33 %) reported a high smoking rate for girls. The average ESPAD rates for boys and girls were about the same, and the rates for boys and girls were also similar in most countries. Countries with noticeably higher rates among boys than girls were Kosovo (boys 21 % versus girls 11 %), Georgia (17 % versus 7.1 %), the Faroes (22 % versus 13 %) and Ukraine (25 % versus 18 %). Rates were higher among girls than boys in Bulgaria (girls 36 % versus boys 27 %), Slovakia (33 % versus 26 %) and Spain (25 % versus 18 %).

Table 5.   Cigarette use: prevalence of lifetime and 30-day use (percentage)

Country	Lifetime use	30-day use	Lifetime use		30-day use	
			Boys	Girls	Boys	Girls
Austria	48	23	47	48	22	25
Bulgaria	50	32	45	54	27	36
Croatia	54	29	55	52	29	30
Cyprus	28	14	33	24	17	12
Czechia	54	24	54	54	21	26
Denmark	42	22	43	41	22	23
Estonia	48	20	50	46	19	21
Faroes	46	17	57	34	22	13
Finland	39	17	43	35	18	17
France	45	22	45	44	21	22
Georgia	36	12	46	27	17	7.1
Germany	45	20	44	45	19	21
Greece	32	15	33	32	15	15
Hungary	53	28	52	54	25	31
Iceland	15	5.1	16	14	4.3	5.9
Ireland	31	14	33	30	16	13
Italy	55	32	54	57	31	34
Kosovo	41	15	53	31	21	11
Latvia	57	23	59	56	21	25
Lithuania	54	21	55	54	21	21
Malta	22	10	21	24	9.5	12
Monaco	45	20	43	46	21	18
Montenegro	35	16	37	32	18	14
Netherlands	31	15	30	32	15	14
North Macedonia	38	20	40	36	23	17
Norway	25	10	29	21	13	7.9
Poland	50	22	49	50	21	22
Portugal	34	14	34	34	14	15
Romania	49	31	49	50	30	32
Serbia	38	17	37	39	17	16
Slovakia	58	29	53	62	26	33
Slovenia	38	19	35	37	18	20
Spain	41	21	38	43	18	25
Sweden	26	11	25	27	10	12
Ukraine	50	22	54	46	25	18
Average	**41**	**20**	**43**	**40**	**20**	**20**
Min.	15	5.1	16	14	4.3	5.9
Max.	58	32	59	62	31	36

E-cigarette use

ESPAD average E-cigarette use (%) (ª)			
	Average	Min.	Max.
Lifetime	40	18	65
Last 30 days	14	5.4	41

(ª) Percentage of students reporting use of e-cigarettes.

Lifetime

Lifetime prevalence rates for the use of e-cigarettes ranged between 18 % and 65 %, with an ESPAD country average of 40 % (Table 6).

In nine of the 35 ESPAD countries more than half of the students had tried e-cigarettes at least once. These high-prevalence countries are predominantly located in the eastern part of Europe.

The highest prevalence rate was found in Lithuania (65 %), followed by Monaco (63 %) and Czechia (60 %). The lowest rates were found in Serbia (18 %) and Montenegro (20 %).

Except for Iceland, Malta, Romania, Slovakia and Bulgaria, boys were generally more likely than girls to have tried e-cigarettes, with gender differences ranging between 5 percentage points in Poland and Serbia and 28 percentage points in Kosovo.

Last 30 days

On average, 14 % of students in ESPAD countries had used e-cigarettes during the last 30 days. In 11 countries the last-30-day prevalence was less than 10 %, with the lowest prevalence observed in Serbia (5.4 %). The highest rate was found in Monaco (41 %), followed by Lithuania (31 %) and Poland (30 %).

Concerning gender differences, on average the 30-day prevalence for boys (16 %) was higher than that for girls (11 %). This pattern was confirmed in most ESPAD participating countries, with the most noticeable difference found in Kosovo (17 % for boys versus 4.7 % for girls). Iceland was the only country where the last-30-day prevalence of e-cigarette use was slightly higher among girls than boys (18 % for girls versus 15 % for boys).

Table 6.   E-cigarette use: prevalence of lifetime and 30-day use (percentage)

Country	Lifetime use	30-day use	Lifetime use		30-day use	
			Boys	Girls	Boys	Girls
Austria	41	13	47	34	18	9.2
Bulgaria	36	13	38	35	14	13
Croatia	44	12	51	36	16	8.9
Cyprus	47	10	57	39	14	7.5
Czechia	60	20	65	56	23	17
Denmark	35	14	44	27	19	10
Estonia	54	15	61	47	17	12
Faroes	40	8.3	53	27	12	4.7
Finland	34	7.5	44	25	9.5	5.4
France	46	16	51	41	20	13
Georgia	32	6.7	42	23	10	3.6
Germany	42	16	50	35	20	12
Greece	35	11	43	28	15	7.6
Hungary	53	21	58	47	25	16
Iceland	39	17	39	40	15	18
Ireland	37	15	43	31	20	12
Italy	44	13	52	36	15	12
Kosovo	29	11	44	16	17	4.7
Latvia	52	17	60	44	21	13
Lithuania	65	31	68	62	34	29
Malta	21	7.1	21	21	7.7	6.5
Monaco	63	41	66	60	42	41
Montenegro	20	7.0	27	13	10	4.3
Netherlands	36	9.3	40	31	11	8.0
North Macedonia	21	7.1	28	14	9.2	5.0
Norway	31	10	39	22	13	6.6
Poland	56	30	59	54	33	28
Portugal	26	6.1	33	21	8.2	4.4
Romania	41	14	42	41	14	13
Serbia	18	5.4	20	15	6.9	4.0
Slovakia	54	18	55	53	22	14
Slovenia	34	10	41	27	13	8.0
Spain	42	9.4	46	38	11	7.9
Sweden	29	6.2	35	22	8.3	4.1
Ukraine	51	11	58	45	14	8.4
Average	**40**	**14**	**46**	**34**	**16**	**11**
Min.	18	5.4	20	13	6.9	3.6
Max.	65	41	68	62	42	41

Alcohol use

ESPAD average Alcohol use (%) [a]			
	Average	Min.	Max.
Lifetime	79	29	95
Last 30 days	47	10	74
Intoxication [b]	13	2.7	40

[a] Percentage of students reporting use of alcohol.

[b] Percentage of students having been intoxicated at least once in the last 30 days.

Lifetime

In all ESPAD countries except in Kosovo (29 %) and Iceland (37 %), over half of the students reported consuming alcohol at least once during their lifetime (Table 7). The ESPAD average was 79 % (range 29-95 %). The highest rates of lifetime alcohol use (more than 90 %) were found in Hungary, Denmark and Czechia. In addition to Kosovo and Iceland, the countries with the lowest rates (less than 60 %) were Norway and Sweden. The largest difference between boys and girls was observed in Kosovo (41 % for boys versus 18 % for girls). In 16 countries the rate for girls was higher than that for boys, particularly in Lithuania (83 % for girls versus 75 % for boys) and Ukraine (89 % versus 81 %).

Last 30 days

Overall, 47 % of the students in ESPAD countries reported alcohol use during the 30 days prior to the survey. In Hungary, Greece, Czechia, Austria, Germany and Denmark more than three fifths (61-74 %) had consumed alcohol in the last 30 days. Particularly low prevalence rates were found in Kosovo (10 %) and Iceland (11 %). Low rates (30 % or less) were also reported for most of the Nordic countries (25 % each for Sweden and Norway and 30 % for Finland), as well as for Lithuania (27 %). On average, no gender difference in alcohol use during the last 30 days was found (47 % for boys versus 46 % for girls). At the country level, particularly large gender differences, with higher rates for boys than girls (differences of more than 10 percentage points), were found in Romania, Georgia, Kosovo and Montenegro. Conversely, higher rates were found among girls than boys in Latvia and Ukraine (difference of 10 percentage points).

Intoxication

An average of 13 % of the ESPAD students reported having been intoxicated in the last 30 days prior to the survey. Denmark had the highest prevalence, with two fifths of the students (40 %) reporting intoxication. Kosovo, Iceland, Lithuania, Montenegro, Estonia, Norway, North Macedonia and Sweden had rates of less than 10 %. On average, slightly more boys (14 %) than girls (13 %) reported that they had been intoxicated in the last 30 days, with the highest differences found in Serbia (15 % for boys versus 10 % for girls) and Montenegro (10 % versus 4.7 %). In Spain noticeably more girls than boys reported intoxication in the last 30 days (19 % for girls versus 14 % for boys).

Table 7.   Alcohol use: prevalence of lifetime use, 30-day use and intoxication (percentage)

Country	Lifetime use	30-day use	Intoxication, last 30 days	Lifetime use		30-day use		Intoxication, last 30 days	
				Boys	Girls	Boys	Girls	Boys	Girls
Austria	84	63	21	82	86	60	65	21	21
Bulgaria	82	53	16	82	82	57	50	18	15
Croatia	90	58	15	90	89	61	54	16	13
Cyprus	83	57	11	83	83	63	53	14	8.6
Czechia	95	63	15	94	96	63	63	15	16
Denmark	92	74	40	93	91	73	75	41	40
Estonia	82	37	8.4	82	83	34	40	7.9	8.9
Faroes	80	38	13	82	78	37	40	14	12
Finland	69	30	13	69	68	28	32	12	13
France	80	53	15	80	81	54	52	17	12
Georgia	87	47	16	90	85	53	41	16	15
Germany	90	65	20	90	90	63	68	21	19
Greece	89	62	10	90	88	62	62	11	10
Hungary	91	61	21	91	90	65	58	22	20
Iceland	37	11	3.8	37	37	9.4	13	3.1	4.5
Ireland	72	41	16	73	72	42	40	15	17
Italy	84	59	12	86	83	60	57	12	11
Kosovo	29	10	2.7	41	18	17	5.2	4.1	1.5
Latvia	89	47	12	87	91	42	53	12	12
Lithuania	79	27	6.7	75	83	24	30	7.4	6.0
Malta	82	48	12	81	82	47	49	11	13
Monaco	89	54	14	85	92	54	53	15	13
Montenegro	77	38	7.6	80	74	43	32	10	4.7
Netherlands	72	51	15	70	75	50	52	15	16
North Macedonia	67	41	8.7	69	64	46	37	9.1	8.2
Norway	53	25	8.6	52	54	23	27	8.1	9.1
Poland	81	47	11	80	82	45	49	12	10
Portugal	77	43	11	77	77	45	42	11	11
Romania	82	52	10	86	79	59	44	13	7.3
Serbia	87	56	12	87	88	59	53	15	10
Slovakia	90	54	14	89	92	50	58	12	16
Slovenia	84	50	15	86	82	54	46	16	13
Spain	78	47	17	75	81	43	50	14	19
Sweden	58	25	9.4	57	58	23	26	8.5	10
Ukraine	85	44	12	81	89	39	48	11	13
Average	**79**	**47**	**13**	**79**	**78**	**47**	**46**	**14**	**13**
Min.	29	10	2.7	37	18	9.4	5.2	3.1	1.5
Max.	95	74	40	94	96	73	75	41	40

Illicit drug use

ESPAD average Lifetime use of illicit drugs (%) [a]			
Drug	Average	Min.	Max.
Any illicit drug	17	4.2	29
Cannabis	16	2.9	28
Ecstasy	2.3	0.9	5.2
Amphetamine	1.7	0.5	3.4
Methamphetamine	1.1	0.4	2.5
Cocaine	1.9	0.5	3.8
Crack	1.1	0.2	3.1
LSD or other hallucinogens	2.1	0.8	4.9
Heroin	0.9	0.4	2.6
GHB	0.7	0.2	2.2

[a] Percentage of students reporting use of illicit drugs.

Any drug use

Lifetime use of illicit drugs varied considerably across the ESPAD countries (Table 8a). On average, 17 % of ESPAD students reported having used any illicit drug at least once. The highest percentage of students reporting lifetime use of any illicit drug was found in Czechia (29 %), followed by Italy (28 %), Latvia (27 %) and Slovakia (25 %). Particularly low levels (10 % or less) of illicit drug use were noted in Kosovo, Iceland, North Macedonia, Ukraine, Serbia, Sweden, Norway, Greece and Romania. On average, 19 % of boys and 14 % of girls had used illicit drugs at least once during their lifetime. In most ESPAD countries, the prevalence rate was higher among boys than girls. Noticeable gender differences were found in Georgia (24 % for boys versus 8.8 % for girls), Monaco (29 % versus 17 %), Cyprus (17 % versus 7.0 %) and Ireland (25 % versus 15 %).

Cannabis use

Cannabis was the most widely used illicit drug in all ESPAD countries. On average, 16 % of students had used cannabis at least once in their lifetime (Table 8a). The countries with the highest prevalence of cannabis use were Czechia (28 %), Italy (27 %) and Latvia (26 %). The lowest levels of cannabis use (2.9-7.3 %) were reported in Kosovo, North Macedonia, Iceland and Serbia. On average, boys reported cannabis use to a larger extent than girls (boys 18 % versus girls 13 %). This was the case in nearly all countries except for Bulgaria, Slovakia, Malta, the Netherlands and Czechia, where rates were about the same for boys and girls. The largest gender differences (more than 10 percentage points, with higher rates among boys) were found in Georgia and Monaco.

Other illicit drug use

Some students had also used other illicit substances, although their rates of use were substantially lower than those for cannabis. The most widely used illicit drugs were ecstasy, amphetamine, cocaine and LSD or other hallucinogens (Table 8a and b). In the case of illicit drugs other than cannabis, on average, about 5.0 % of the ESPAD students reported having used them at least once during their lifetime. Lifetime prevalence rates for methamphetamine, crack, heroin and GHB were lower than those for the other illicit drugs (about 1.0 % on average). At the country level, higher rates of lifetime use (about 5.0 %) were found in Estonia and Latvia for ecstasy and LSD or other hallucinogens. The most marked gender differences were found in Cyprus for the use of methamphetamine (5.2 % for boys and 0.4 % for girls), cocaine (6.3 % for boys versus 1.8 % for girls) and heroin (5.6 % for boys versus 0.3 % for girls).

Table 8a. Illicit drug use: lifetime prevalence of the use of any drug, cannabis, ecstasy, amphetamine and methamphetamine (percentage)

Country	Any drug	Cannabis	Ecstasy	Amphetamine	Methamphetamine	Any drug		Cannabis		Ecstasy		Amphetamine		Methamphetamine	
						Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Austria	22	21	2.6	2.2	1.0	24	19	23	19	2.4	2.9	2.4	2.0	1.1	0.8
Bulgaria	19	17	2.6	3.1	2.2	19	19	17	17	2.6	2.6	3.2	3.0	2.4	2.1
Croatia	21	21	2.1	1.9	1.3	24	19	23	18	2.2	2.0	2.1	1.7	1.3	1.3
Cyprus	11	8.4	2.9	2.4	2.5	17	7.0	13	5.0	4.4	1.8	4.6	0.6	5.2	0.4
Czechia	29	28	3.6	1.2	1.5	29	28	29	28	3.5	3.8	0.9	1.4	1.3	1.6
Denmark	18	17	1.6	1.5	0.6	23	13	22	12	2.0	1.2	1.9	1.1	0.8	0.3
Estonia	22	20	5.2	2.7	1.5	23	20	23	18	5.2	5.3	2.6	2.9	1.5	1.5
Faroes	10	9.4	1.4	1.4	0.4	12	8.8	10	8.5	1.6	1.2	2.0	0.8	0.8	0.0
Finland	12	11	1.3	1.5	0.6	14	10	13	9.4	1.7	1.0	2.0	1.0	0.8	0.4
France	24	23	1.7	1.5	1.3	27	21	26	20	2.2	1.2	1.2	1.7	1.3	1.3
Georgia	16	14	2.2	1.0	0.8	24	8.8	22	6.8	2.5	1.9	1.6	0.5	1.5	0.3
Germany	22	22	1.9	2.0	0.7	25	20	24	20	1.8	2.0	2.1	1.9	0.6	0.8
Greece	9.4	8.2	1.1	1.1	1.0	13	6.2	11	5.2	1.7	0.5	1.7	0.6	1.7	0.5
Hungary	14	13	3.3	3.3	1.0	16	12	15	10	3.4	3.2	4.1	2.6	1.1	0.9
Iceland	7.3	6.4	1.3	1.8	0.8	8.1	6.5	7.2	5.7	1.4	1.2	1.8	1.9	0.9	0.8
Ireland	20	19	2.8	2.0	1.6	25	15	23	15	3.7	2.0	2.8	1.3	2.6	0.7
Italy	28	27	1.3	1.1	0.8	31	24	30	24	1.7	0.8	1.2	1.0	1.1	0.6
Kosovo	4.2	2.9	1.1	0.8	1.0	7.1	1.6	5.5	0.7	1.4	0.9	1.3	0.3	1.4	0.7
Latvia	27	26	5.0	1.8	1.0	30	23	29	22	5.0	5.0	2.0	1.6	1.2	0.9
Lithuania	19	18	3.0	1.3	1.0	20	18	20	17	2.7	3.3	1.6	0.9	1.1	0.9
Malta	12	12	1.1	0.8	0.9	12	12	11	12	1.3	0.9	1.1	0.5	1.0	0.7
Monaco	23	22	1.9	2.1	0.9	29	17	29	15	1.4	2.3	2.0	2.3	0.5	1.4
Montenegro	11	9.3	2.7	2.0	1.3	13	7.7	11.4	7.3	3.4	2.0	2.4	1.6	1.6	1.1
Netherlands	23	22	3.5	1.4	0.7	24	22	23	22	3.6	3.4	2.2	0.6	1.1	0.3
North Macedonia	7.3	6.1	1.1	0.6	0.4	10	5.1	8.2	4.2	1.1	1.1	0.7	0.4	0.6	0.1
Norway	9.4	8.7	1.7	1.6	–	12	6.4	11	6.1	2.2	1.2	2.1	1.0	–	–
Poland	22	21	2.6	3.4	2.4	25	19	24	18	3.4	1.8	3.6	3.2	2.4	2.3
Portugal	14	13	3.2	1.7	1.1	16	13	15	11	3.9	2.6	1.8	1.6	1.2	1.1
Romania	9.5	8.7	1.2	0.5	0.6	10	8.6	9.8	7.6	1.3	1.1	0.7	0.3	0.7	0.6
Serbia	8.6	7.3	2.1	1.7	1.2	10	7.6	8.1	6.6	1.9	2.3	2.1	1.3	1.6	0.9
Slovakia	25	24	3.3	1.3	1.3	25	26	24	24	2.5	3.9	0.9	1.7	1.0	1.7
Slovenia	24	23	2.9	1.3	2.0	27	22	26	21	3.1	2.8	1.2	1.3	2.1	2.0
Spain	23	23	0.9	1.0	0.8	25	22	24	22	0.9	0.9	1.0	0.9	1.0	0.6
Sweden	9.2	8.0	1.8	1.8	0.8	12	6.7	10	5.7	2.5	1.2	2.4	1.1	1.0	0.6
Ukraine	8.6	7.9	1.1	1.4	1.0	10	7.4	9.1	6.8	1.6	0.6	1.8	1.2	1.2	0.9
Average	**17**	**16**	**2.3**	**1.7**	**1.1**	**19**	**14**	**18**	**13**	**2.5**	**2.1**	**2.0**	**1.4**	**1.4**	**0.9**
Min.	4.2	2.9	0.9	0.5	0.4	7.1	1.6	5.5	0.7	0.9	0.5	0.7	0.3	0.5	0.0
Max.	29	28	5.2	3.4	2.5	31	28	30	28	5.2	5.3	4.6	3.2	5.2	2.3

Table 8b. Illicit drug use: lifetime prevalence of the use of cocaine, crack, LSD or other hallucinogens, heroin and GHB (percentage)

Country	Cocaine	Crack	LSD or other hallucinogens	Heroin	GHB	Cocaine		Crack		LSD or other hallucinogens		Heroin		GHB	
						Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Austria	2.2	0.8	2.2	0.6	1.1	2.2	2.3	0.9	0.7	2.4	2.0	0.8	0.5	1.0	1.2
Bulgaria	3.1	1.7	2.4	1.7	1.4	3.7	2.6	2.2	1.1	2.7	2.1	2.2	1.3	2.2	0.6
Croatia	2.2	1.2	1.9	1.3	0.7	2.4	1.9	1.4	0.9	2.2	1.5	1.5	1.1	0.9	0.5
Cyprus	3.8	3.1	2.3	2.6	2.2	6.3	1.8	5.6	1.2	3.1	1.8	5.6	0.3	4.0	0.7
Czechia	1.6	0.8	3.5	0.5	0.2	1.6	1.6	0.8	0.8	3.3	3.7	0.6	0.5	0.2	0.2
Denmark	1.9	0.9	1.5	0.4	0.5	2.5	1.4	1.1	0.8	2.0	1.1	0.6	0.2	0.8	0.2
Estonia	2.3	1.2	4.8	0.8	0.9	2.7	2.1	1.3	1.1	6.1	3.5	0.9	0.7	0.8	0.9
Faroes	1.0	1.2	1.2	1.2	0.4	0.8	1.2	2.0	0.4	1.2	1.2	1.6	0.8	0.4	0.4
Finland	0.9	–	1.1	0.4	0.2	1.1	0.7	–	–	1.3	0.8	0.5	0.2	0.4	0.1
France	2.7	2.1	1.1	1.1	1.0	2.5	2.8	2.6	1.5	1.4	0.8	1.3	0.9	1.6	0.4
Georgia	1.3	0.8	1.9	1.0	0.6	2.0	0.7	1.4	0.3	3.0	1.0	1.7	0.4	1.1	0.2
Germany	1.3	0.3	2.3	0.6	1.4	1.5	1.1	0.4	0.1	2.9	1.8	0.8	0.4	1.0	1.9
Greece	1.5	0.9	1.3	1.0	0.6	2.3	0.7	1.6	0.3	1.9	0.6	1.3	0.7	1.3	0.0
Hungary	2.5	0.8	1.7	1.0	1.2	2.6	2.4	1.0	0.6	2.0	1.4	0.9	1.1	1.4	1.0
Iceland	1.4	0.7	1.4	0.8	0.4	1.6	1.3	0.6	0.8	1.9	1.0	0.8	0.8	0.5	0.3
Ireland	3.3	1.8	2.7	1.2	1.1	4.6	2.0	2.4	1.2	3.5	1.9	1.6	0.8	1.6	0.6
Italy	2.3	1.4	1.2	0.8	0.5	2.3	2.3	1.9	0.8	1.4	0.8	0.8	0.7	0.8	0.2
Kosovo	0.5	0.6	0.8	0.6	0.6	0.9	0.2	1.0	0.2	1.0	0.5	1.0	0.2	0.8	0.4
Latvia	1.8	–	4.9	0.8	0.3	1.7	1.9	–	–	5.1	4.7	0.4	1.1	0.3	0.3
Lithuania	2.2	0.9	2.6	0.8	0.5	2.1	2.2	1.3	0.6	2.7	2.4	0.7	0.8	0.6	0.3
Malta	2.0	1.2	1.3	0.8	0.4	2.1	1.8	1.7	0.7	1.8	0.8	1.0	0.7	0.5	0.3
Monaco	2.3	1.4	2.6	1.2	1.2	2.4	2.3	1.0	1.8	1.9	3.2	1.4	0.9	1.4	0.9
Montenegro	2.9	1.4	2.0	1.6	0.7	3.9	2.0	1.9	0.8	2.4	1.7	2.1	1.2	1.0	0.5
Netherlands	1.7	0.6	1.8	0.5	0.8	2.0	1.4	1.1	0.2	2.5	1.1	0.9	0.2	0.8	0.8
North Macedonia	0.9	0.2	0.8	0.5	0.2	1.5	0.3	0.4	0.0	1.0	0.5	0.9	0.1	0.2	0.2
Norway	1.6	–	1.7	0.9	1.0	2.2	0.9	–	–	2.3	1.1	1.5	0.3	1.5	0.4
Poland	2.3	0.9	2.6	1.5	0.9	2.2	2.3	1.4	0.5	3.2	2.1	1.7	1.4	1.6	0.2
Portugal	2.1	1.5	1.8	1.1	0.6	2.1	2.2	1.9	1.2	2.1	1.5	1.2	1.0	0.7	0.6
Romania	1.8	0.6	1.7	0.7	0.4	1.4	2.2	0.6	0.6	2.0	1.4	0.6	0.7	0.7	0.2
Serbia	1.5	1.0	1.5	1.1	0.8	1.9	1.2	1.5	0.6	1.5	1.5	1.5	0.8	1.1	0.6
Slovakia	1.2	0.5	4.1	0.7	0.3	0.8	1.5	0.7	0.3	3.5	4.7	0.6	0.7	0.5	0.1
Slovenia	2.9	0.9	3.2	0.7	0.6	3.0	2.8	1.0	0.8	3.5	2.9	0.4	1.0	0.4	0.7
Spain	2.1	0.9	1.2	0.6	0.5	2.1	2.1	1.1	0.7	1.4	1.0	0.8	0.5	0.8	0.3
Sweden	1.5	1.0	1.8	0.6	0.6	2.3	0.7	1.4	0.6	2.5	1.1	1.1	0.1	1.0	0.2
Ukraine	0.9	0.8	1.1	0.6	0.3	1.1	0.8	1.2	0.4	1.2	1.0	0.8	0.4	0.3	0.2
Average	**1.9**	**1.1**	**2.1**	**0.9**	**0.7**	**2.2**	**1.6**	**1.4**	**0.7**	**2.4**	**1.7**	**1.2**	**0.7**	**1.0**	**0.5**
Min.	0.5	0.2	0.8	0.4	0.2	0.8	0.2	0.4	0.0	1.0	0.5	0.4	0.1	0.2	0.0
Max.	3.8	3.1	4.9	2.6	2.2	6.3	2.8	5.6	1.8	6.1	4.7	5.6	1.4	4.0	1.9

Other substance use

Inhalant use

ESPAD average Lifetime use (%) (ª)		
	Average	Min.	Max.
Inhalants	7.2	0.5	16
NPS	3.4	0.9	6.6
Pharmaceuticals	9.2	2.8	23

(ª) Percentage of students reporting use.

The ESPAD average for lifetime inhalant use was 7.2 %, with large differences between countries (Table 9). The country with the highest proportion of students who had tried inhalants was Latvia (16 %), followed by Germany and Croatia (15 % respectively). The lowest proportion was found in Kosovo (0.5 %), followed by North Macedonia (1.9 %), Italy (2.0 %), Bulgaria (2.3 %) and Spain (2.5 %). The average prevalence of lifetime inhalant use among ESPAD students was almost the same for boys and girls. Similar rates for both genders were found in most countries. A 5-percentage-point gender difference was reported in Monaco (10 % for boys versus 5.0 % for girls) and Croatia (17 % for girls versus 12 % for boys).

Table 9. Inhalants, new psychoactive substances (NPS) and pharmaceuticals: prevalence of lifetime use (percentage)

Country	Inhalants	NPS	Pharma-ceuticals	Inhalants		NPS		Pharmaceuticals	
				Boys	Girls	Boys	Girls	Boys	Girls
Austria	12	4.0	8.0	12	13	3.8	4.2	7.1	8.9
Bulgaria	2.3	3.2	4.3	3.0	1.6	3.1	3.2	5.0	3.6
Croatia	15	5.1	7.2	12	17	5.1	5.1	5.2	9.4
Cyprus	6.6	3.6	12	7.7	5.8	4.6	2.8	13	11
Czechia	4.9	6.0	13	5.1	4.7	5.8	6.2	10	16
Denmark	5.4	2.0	6.6	6.5	4.3	2.2	1.8	6.4	6.7
Estonia	13	6.6	16	12	14	7.0	6.3	12	19
Faroes	6.3	3.9	4.1	8.4	4.2	3.2	4.6	4.0	4.2
Finland	5.7	0.9	9.5	5.5	5.9	0.9	0.9	7.4	11
France	6.2	–	8.2	6.3	6.1	–	–	7.7	8.6
Georgia	4.9	2.8	3.9	5.1	4.7	4.6	1.2	4.1	3.7
Germany	15	3.8	10	15	15	2.9	4.7	6.7	13.4
Greece	13	2.8	8.0	12	14	4.1	1.6	8.5	7.4
Hungary	6.5	3.7	11	6.8	6.2	3.8	3.6	8.9	13
Iceland	2.8	1.8	7.9	2.8	2.7	2.1	1.6	7.2	8.5
Ireland	10	4.7	7.6	11	10	6.6	2.9	7.8	7.5
Italy	2.0	3.1	4.7	2.0	2.0	2.5	3.8	3.6	5.9
Kosovo	0.5	1.5	5.9	0.6	0.3	2.9	0.3	5.7	6.0
Latvia	16	6.4	22	15	17	5.1	7.8	14	30
Lithuania	8.4	5.6	21	10	7.1	4.8	6.3	12	29
Malta	5.3	3.0	5.9	5.5	5.1	2.8	3.2	5.5	6.4
Monaco	7.5	4.7	7.2	10	5.0	4.8	4.5	7.2	7.3
Montenegro	6.1	2.6	12	6.4	5.8	3.1	2.0	11	14
Netherlands	7.1	1.5	8.7	8.4	5.9	2.2	0.8	7.2	10
North Macedonia	1.9	1.0	5.6	2.3	1.5	1.1	1.0	4.1	7.1
Norway	4.5	3.1	7.4	5.1	4.0	3.7	2.4	7.2	7.5
Poland	8.4	5.9	18	7.9	8.8	6.1	5.8	12	24
Portugal	4.5	0.9	6.9	4.3	4.6	0.9	0.9	5.3	8.3
Romania	2.8	3.2	10	2.6	3.0	2.8	3.5	8.2	12
Serbia	6.1	1.8	7.1	5.0	7.0	1.9	1.7	4.5	9.4
Slovakia	8.2	3.6	23	7.0	9.3	2.3	4.7	16	29
Slovenia	11	4.3	5.1	11	10	3.4	5.2	3.5	6.6
Spain	2.5	1.8	4.6	3.0	2.0	1.6	1.9	4.2	4.9
Sweden	11	2.1	7.8	11	10	2.4	1.7	6.4	9.2
Ukraine	9.2	3.2	2.8	7	11	2.7	3.6	2.1	3.4
Average	**7.2**	**3.4**	**9.2**	**7.3**	**7.1**	**3.4**	**3.3**	**7.4**	**11**
Min.	0.5	0.9	2.8	0.6	0.3	0.9	0.3	2.1	3.4
Max.	16	6.6	23	15	17	7.0	7.8	16	30

New psychoactive substance use

ESPAD average Lifetime use of NPS (%) ([a])			
	Average	Min.	Max.
NPS	3.4	0.9	6.6
Synthetic cannabinoids ([b])	3.1	1.1	5.2
Synthetic cathinones ([c])	1.1	0.2	2.5

([a]) Percentage of students reporting use of NPS.

([b]) Average calculated in 20 out of 35 ESPAD countries.

([c]) Average calculated in 19 out of 35 ESPAD countries.

The ESPAD average for lifetime NPS use was 3.4 % (Table 9), with the highest rates reported in Estonia (6.6 %) and Latvia (6.4 %) and the lowest rates reported in Finland, Portugal and North Macedonia (about 1 %). The average prevalence of lifetime use was the same for boys and girls. Gender differences within ESPAD countries were generally small, with an average difference of 0.1 % and a difference of over 2 percentage points in only six countries. When asking students specifically about the consumption of synthetic substances, 3.1 % of the ESPAD students (average calculated in 20 countries out of 35) reported having used synthetic cannabinoids at least once in their lifetime, ranging from 1.1 % in Slovakia to 5.2 % in France (Table 10a). Similarly, 1.1 % of the ESPAD students reported lifetime use of synthetic cathinones (average calculated in 19 countries out of 35), with the highest rates found in Ireland (2.5 %) and Cyprus (2.4 %) (Table 10a). On average, boys had a slightly higher prevalence of use than girls for synthetic cannabinoids (boys 3.5 % versus girls 2.7 %) and synthetic cathinones (boys 1.4 % versus girls 0.8 %), even though no noticeable gender differences were found for individual countries for either synthetic cannabinoid use or synthetic cathinone use.

Table 10a.   New psychoactive substances (NPS): lifetime prevalence of the use of synthetic cannabinoids and synthetic cathinones (percentage)

Country	Synthetic cannabinoids	Synthetic cathinones	Synthetic cannabinoids		Synthetic cathinones	
			Boys	Girls	Boys	Girls
Austria	3.7	1.3	4.8	2.6	1.9	0.6
Bulgaria	4.3	1.8	4.4	4.2	2.3	1.3
Croatia	2.9	–	3.0	2.8	–	–
Cyprus	4.2	2.4	5.3	3.3	4.2	1.0
Czechia	–	–	–	–	–	–
Denmark	–	–	–	–	–	–
Estonia	–	–	–	–	–	–
Faroes	–	–	–	–	–	–
Finland	–	–	–	–	–	–
France	5.2	0.4	5.2	5.1	0.7	0.2
Georgia	1.3	0.8	2.2	0.5	1.6	0.2
Germany	2.6	1.1	2.1	3.1	1.2	1.0
Greece	3.3	0.8	4.6	2.1	1.3	0.2
Hungary	4.9	1.9	4.7	5.2	2.2	1.7
Iceland	–	–	–	–	–	–
Ireland	1.7	2.5	2.4	1.0	2.7	2.3
Italy	2.8	0.4	3.0	2.5	0.6	0.3
Kosovo	–	–	–	–	–	–
Latvia	1.9	1.1	1.8	1.9	0.7	1.5
Lithuania	4.3	0.9	4.0	4.5	1.1	0.7
Malta	4.0	0.6	3.4	4.5	0.7	0.5
Monaco	4.7	0.2	6.2	3.2	0.5	0.0
Montenegro	–	–	–	–	–	–
Netherlands	–	–	–	–	–	–
North Macedonia	1.4	0.8	1.7	1.2	0.9	0.7
Norway	–	–	–	–	–	–
Poland	1.8	0.9	2.7	1.1	1.2	0.6
Portugal	3.9	1.2	4.2	3.7	1.1	1.2
Romania	–	–	–	–	–	–
Serbia	–	–	–	–	–	–
Slovakia	1.1	0.4	1.5	0.7	0.5	0.3
Slovenia	–	–	–	–	–	–
Spain	1.8	0.6	2.0	1.6	0.9	0.4
Sweden	–	–	–	–	–	–
Ukraine	–	–	–	–	–	–
Average	**3.1**	**1.1**	**3.5**	**2.7**	**1.4**	**0.8**
Min.	1.1	0.2	1.5	0.5	0.5	0.0
Max.	5.2	2.5	6.2	5.2	4.2	2.3

Pharmaceutical use for non-medical purposes

ESPAD average Lifetime use of pharmaceuticals for non-medical purposes (%) (ᵃ)			
	Average	Min.	Max.
Pharmaceuticals	9.2	2.8	23
Tranquillisers or sedatives without a prescription	6.6	1.7	21
Painkillers to get high	4.0	0.8	18
Anabolic steroids	1.0	0.3	2.7

(ᵃ) Percentage of students reporting use of pharmaceuticals.

The ESPAD average for lifetime pharmaceutical use for non-medical purposes was 9.2 %, ranging from 2.8 % to 23 % (Table 10b). The highest proportion of students who had used pharmaceuticals for non-medical purposes was found in Slovakia (23 %), followed by Latvia (22 %) and Lithuania (21 %). The lowest rates were found in Ukraine (2.8 %), Georgia (3.9 %), the Faroes (4.1 %), Bulgaria (4.3 %), Spain (4.6 %) and Italy (4.7 %). Both on average and in the vast majority of the ESPAD countries, girls were more likely than boys to have tried pharmaceuticals for non-medical purposes. The highest gender differences were reported in Lithuania (29 % for girls versus 12 % for boys) and Latvia, Slovakia and Poland (more than 10 percentage points).

Tranquillisers and sedatives without a doctor's prescription

The use of tranquillisers or sedatives without a doctor's prescription was most prevalent in Latvia (21 %) and Lithuania (20 %). The lowest levels of non-prescription use of tranquillisers or sedatives (approximately 2.0 %) were reported by students from Ukraine, Romania, Bulgaria and Croatia. On average, more girls than boys reported the use of tranquillisers or sedatives without prescription (8.0 % for girls versus 5.1 % for boys). The highest gender differences were found in Lithuania, Latvia and Poland, where more girls than boys had used non-prescription tranquillisers or sedatives, with differences of more than 10 percentage points.

Painkillers

On average, the use of painkillers in order to get high was reported by 4.0 % of the ESPAD students. The countries with the highest prevalence rates were Slovakia (18 %) and Czechia (10 %). Like tranquillisers, slightly more girls (4.8 %) than boys (3.3 %) reported lifetime use of painkillers. A large gender difference was found in Slovakia (24 % for girls versus 13 % for boys).

Anabolic steroids

Few students in the participating countries reported the use of anabolic steroids (ESPAD average: 1.0 %). The highest rate was found in Montenegro (2.7 %), followed by Cyprus, Bulgaria, Malta, Poland and Ireland (about 2.0 %). In general, slightly more boys than girls reported use of anabolic steroids, even though no appreciable gender differences were seen within individual countries except for Cyprus, Bulgaria and Greece.

Table 10b. Pharmaceuticals: lifetime prevalence of the use of painkillers to get high, tranquillisers or sedatives without prescription and anabolic steroids (percentage)

Country	Tranquillisers/ sedatives	Painkillers	Anabolic steroids	Tranquillisers/ sedatives		Painkillers		Anabolic steroids	
				Boys	Girls	Boys	Girls	Boys	Girls
Austria	5.6	4.3	0.7	5.3	5.9	3.8	4.8	1.1	0.3
Bulgaria	2.0	2.5	2.4	2.2	1.7	2.7	2.4	3.7	1.1
Croatia	2.3	5.7	1.5	1.4	3.2	3.7	7.9	1.9	1.1
Cyprus	6.6	6.3	2.4	7.3	6.1	6.0	6.5	4.7	0.7
Czechia	6.6	10	0.7	5.2	7.9	7.1	13	0.9	0.5
Denmark	4.7	3.2	0.6	4.1	5.2	3.3	3.0	1.1	0.1
Estonia	15	3.8	0.8	12	18	2.8	4.6	0.7	0.8
Faroes	2.7	2.9	0.6	2.8	2.7	3.2	2.7	1.2	0.0
Finland	7.1	4.8	0.3	5.9	8.4	3.1	6.4	0.5	0.1
France	6.4	3.3	0.5	5.9	6.9	2.9	3.8	0.9	0.2
Georgia	3.1	1.0	1.0	3.2	3.1	1.5	0.5	1.5	0.7
Germany	7.7	4.4	0.4	4.9	10	2.9	5.8	0.4	0.4
Greece	3.5	5.0	1.2	4.0	3.1	5.0	5.0	2.3	0.2
Hungary	7.6	6.7	0.9	6.0	9.3	4.9	8.6	1.3	0.6
Iceland	6.8	3.0	0.7	6.2	7.3	2.5	3.5	0.9	0.5
Ireland	2.6	5.4	1.9	2.9	2.4	4.8	6.0	2.7	1.2
Italy	4.3	0.8	0.8	3.0	5.6	1.0	0.6	1.5	0.2
Kosovo	4.5	2.3	0.7	4.2	4.8	2.5	2.2	0.8	0.7
Latvia	21	3.2	0.8	12	29	1.9	4.6	0.7	1.0
Lithuania	20	2.1	1.4	11	29	1.4	2.7	1.8	1.1
Malta	3.1	2.6	2.1	2.5	3.8	2.7	2.5	2.6	1.5
Monaco	5.9	2.8	0.7	6.3	5.5	2.4	3.2	1.0	0.5
Montenegro	11	2.4	2.7	8.5	13	2.2	2.7	3.1	2.3
Netherlands	8.3	1.3	0.3	7.2	9.4	1.3	1.4	0.5	0.2
North Macedonia	4.2	2.0	0.6	2.5	5.9	1.6	2.3	0.6	0.5
Norway	5.8	3.3	1.0	5.7	5.9	3.1	3.4	1.7	0.3
Poland	15	6.4	2.0	9.2	20	4.1	8.5	2.4	1.7
Portugal	6.0	1.8	0.8	4.4	7.4	1.2	2.3	1.1	0.6
Romania	1.7	9.3	0.5	1.6	1.8	7.1	12	0.9	0.1
Serbia	5.8	3.1	1.1	3.6	7.9	1.8	4.3	1.3	1.0
Slovakia	10	18	0.9	6.5	13	13	24	1.4	0.4
Slovenia	3.8	2.1	0.5	2.8	4.8	1.0	3.1	0.7	0.3
Spain	4.0	1.1	0.4	3.5	4.4	1.3	0.9	0.6	0.2
Sweden	6.4	2.8	0.8	5.3	7.5	2.9	2.7	1.3	0.2
Ukraine	1.7	1.4	0.4	1.2	2.2	1.3	1.5	0.6	0.3
Average	**6.6**	**4.0**	**1.0**	**5.1**	**8.0**	**3.3**	**4.8**	**3.3**	**0.6**
Min.	1.7	0.8	0.3	1.2	1.7	1.0	0.5	1.0	0.0
Max.	21	18	2.7	12	29	13	24	13	2.3

Patterns of current use

Daily smoking

Overall, 10 % of the ESPAD students had smoked cigarettes every day in the last 30 days (Figure 1a). When considering both cigarettes and e-cigarettes this proportion was 12 % (see Additional Table 104). Daily cigarette smoking ranged from 1.9 % in Iceland and 2.5 % in Norway to 22 % in Bulgaria. High rates of daily smoking were also found in Croatia and Italy (19 % each) and Romania, Slovakia and Hungary (18 % each). No differences were found in the country average rates of daily smoking between boys and girls (10 %), while slight gender differences were seen when considering both cigarette smoking and e-cigarette smoking (13 % for boys versus 11 % for girls) (see Additional Table 104). At the country level, significant gender differences in daily cigarette use ($p < 0.05$) were found, with higher rates in boys than girls in Kosovo, Georgia, Ukraine, North Macedonia, Montenegro, Ireland, the Netherlands, Norway and Greece, and with higher rates in girls than boys in Bulgaria, Slovakia, Spain, Hungary and Sweden (Figure 1b).

Figure 1a.   Daily cigarette use: prevalence in the last 30 days (percentage)
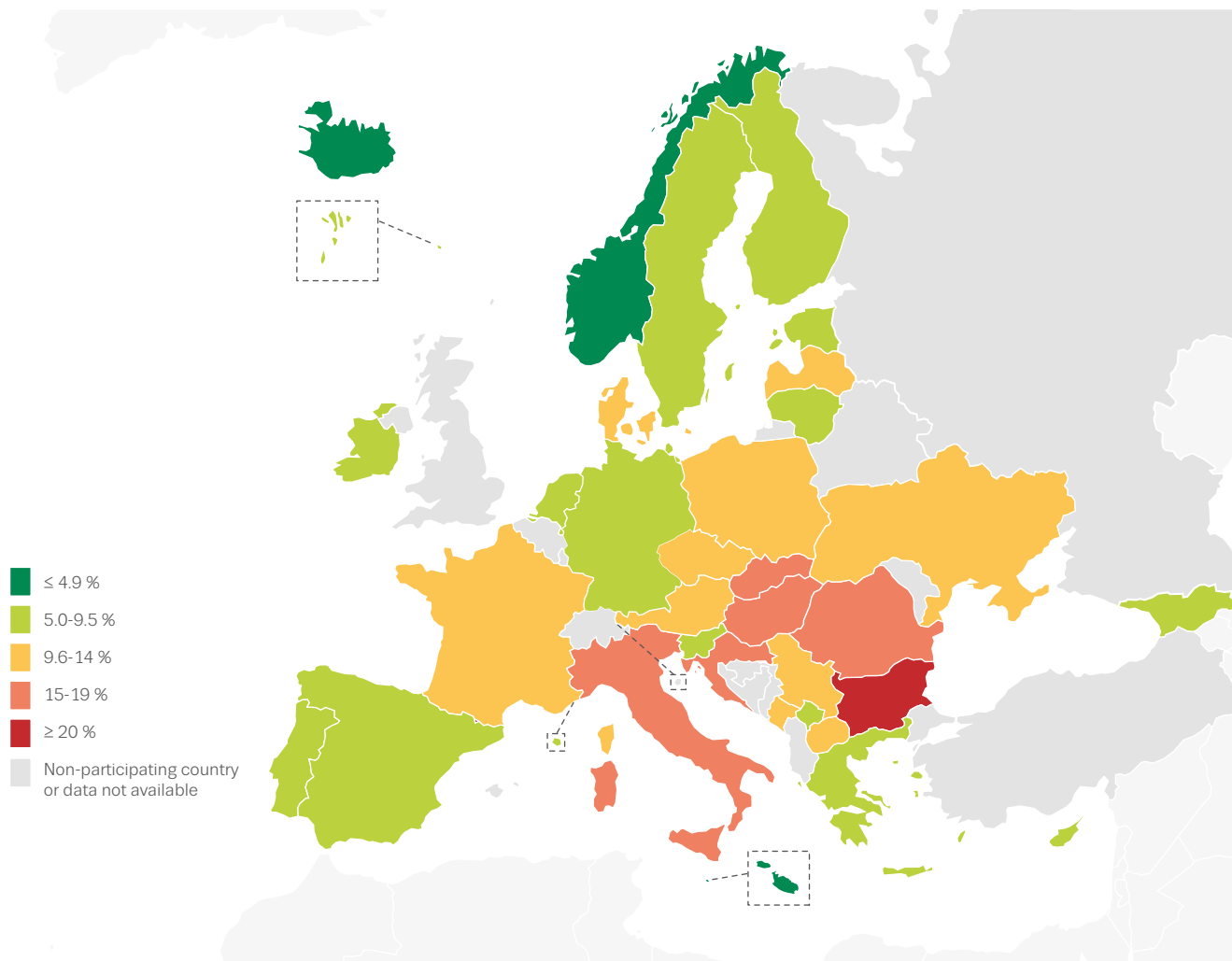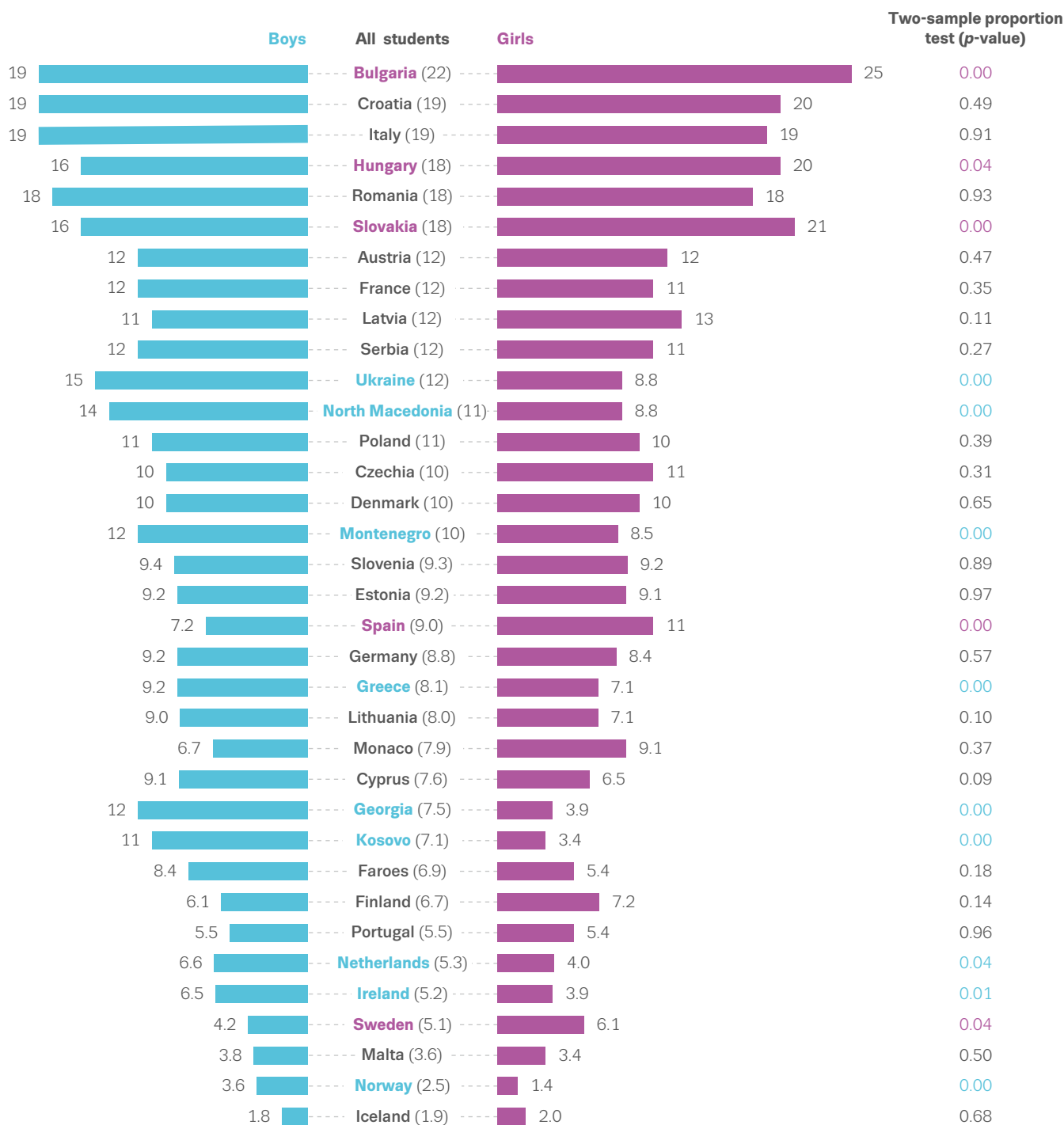

≤ 4.9 %
5.0-9.5 %
9.6-14 %
15-19 %
≥ 20 %
Non-participating country or data not available

Figure 1b.   Daily cigarette use: prevalence in the last 30 days by gender (percentage)

	Boys	All students	Girls	Two-sample proportion test (*p*-value)
	19	**Bulgaria** (22)	25	0.00
	19	Croatia (19)	20	0.49
	19	Italy (19)	19	0.91
	16	**Hungary** (18)	20	0.04
	18	Romania (18)	18	0.93
	16	**Slovakia** (18)	21	0.00
	12	Austria (12)	12	0.47
	12	France (12)	11	0.35
	11	Latvia (12)	13	0.11
	12	Serbia (12)	11	0.27
	15	**Ukraine** (12)	8.8	0.00
	14	**North Macedonia** (11)	8.8	0.00
	11	Poland (11)	10	0.39
	10	Czechia (10)	11	0.31
	10	Denmark (10)	10	0.65
	12	**Montenegro** (10)	8.5	0.00
	9.4	Slovenia (9.3)	9.2	0.89
	9.2	Estonia (9.2)	9.1	0.97
	7.2	**Spain** (9.0)	11	0.00
	9.2	Germany (8.8)	8.4	0.57
	9.2	**Greece** (8.1)	7.1	0.00
	9.0	Lithuania (8.0)	7.1	0.10
	6.7	Monaco (7.9)	9.1	0.37
	9.1	Cyprus (7.6)	6.5	0.09
	12	**Georgia** (7.5)	3.9	0.00
	11	**Kosovo** (7.1)	3.4	0.00
	8.4	Faroes (6.9)	5.4	0.18
	6.1	Finland (6.7)	7.2	0.14
	5.5	Portugal (5.5)	5.4	0.96
	6.6	**Netherlands** (5.3)	4.0	0.04
	6.5	**Ireland** (5.2)	3.9	0.01
	4.2	**Sweden** (5.1)	6.1	0.04
	3.8	Malta (3.6)	3.4	0.50
	3.6	**Norway** (2.5)	1.4	0.00
	1.8	Iceland (1.9)	2.0	0.68

Colour indicates significant
difference between **boys** and **girls**.
Statistical significance levels are reported for each country.

Electronic cigarette current use

On average, 14 % of the ESPAD students reported the use of e-cigarettes in the last 30 days (Figure 2a). Current e-cigarette use ranged from 5.4 % in Serbia to 41 % in Monaco. High rates of current users were also found in Lithuania (31 %) and Poland (30 %).

With regard to the frequency of use in the last 30 days, overall, 10 % of students reported e-cigarette use less than once per week, 4.1 % reported use at least once a week and

3.1 % reported use almost every day or every day, with the highest rate of daily or almost daily use reported in Lithuania (14 %).

Noticeable gender differences in e-cigarette use were found in the majority of ESPAD countries, with average rates of 17 % in boys and 11 % in girls. The highest gender difference was found in Kosovo, where 17 % of boys reported use of e-cigarettes in the last month compared with 4.7 % of girls (Figure 2b).

Figure 2a. E-cigarette use: prevalence in the last 30 days (percentage)

≤ 6.9 %
7.0-9.5 %
9.6-14 %
15-20 %
≥ 20 %
Non-participating country or data not available
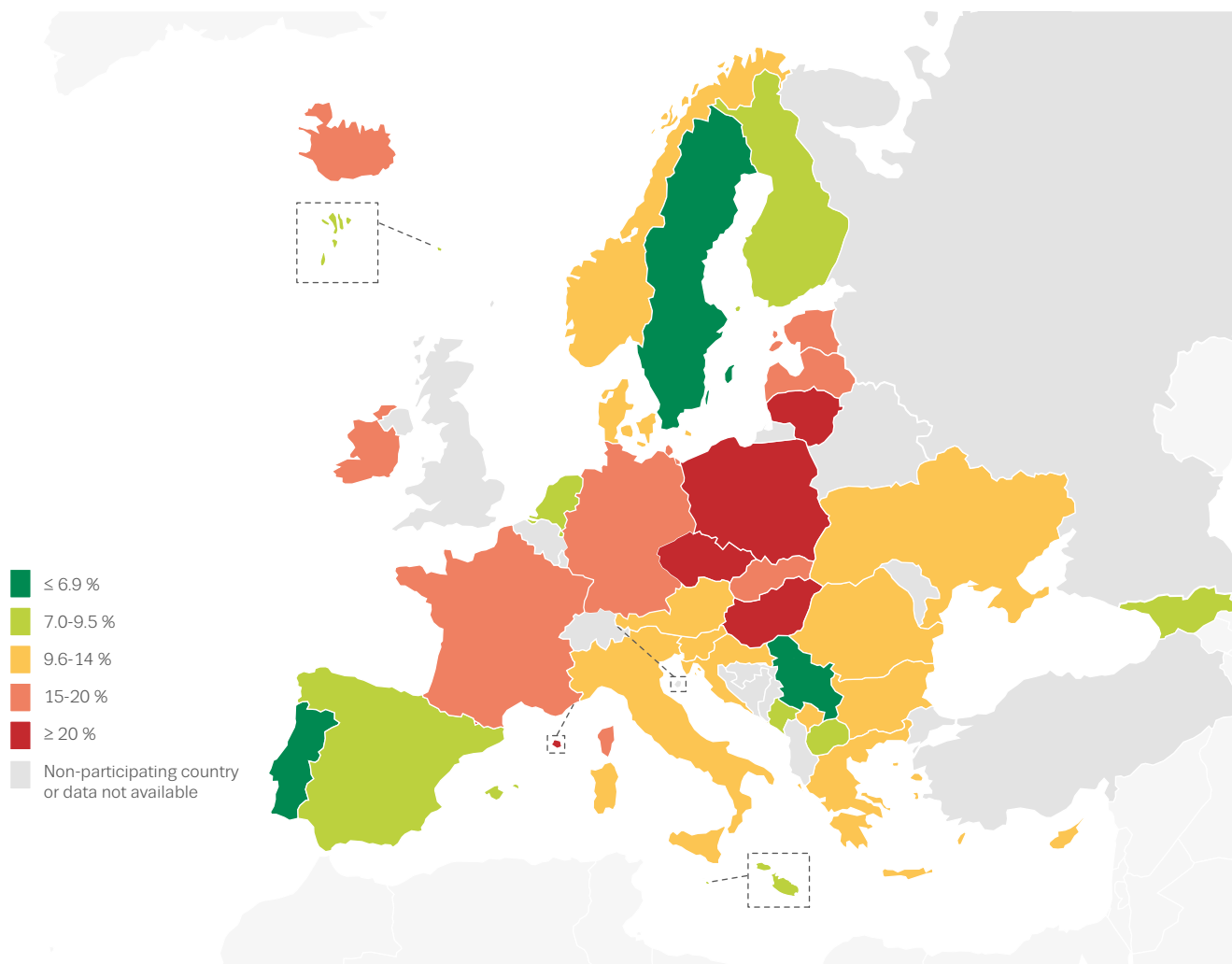
Figure 2b.   E-cigarette use: prevalence in the last 30 days by gender (percentage)

	Boys	All students	Girls	Wald (test (*p*-value)
	42	Monaco (41)	41	0.83
	34	Lithuania (31)	29	0.00
	33	Poland (30)	28	0.01
	25	Hungary (21)	16	0.00
	23	Czechia (20)	17	0.00
	22	Slovakia (18)	14	0.00
	15	Iceland (17)	18	0.03
	21	Latvia (17)	13	0.00
	20	Germany (16)	12	0.00
	20	France (16)	13	0.00
	20	Ireland (15)	12	0.00
	17	Estonia (15)	12	0.00
	19	Denmark (14)	10	0.00
	18	Austria (14)	9.3	0.00
	14	Romania (14)	13	0.66
	14	Bulgaria (13)	13	0.15
	15	Italy (13)	12	0.01
	16	Croatia (12)	8.9	0.00
	14	Ukraine (11)	8.4	0.00
	15	Greece (11)	7.6	0.00
	17	Kosovo (11)	4.7	0.00
	14	Cyprus (10)	7.5	0.00
	13	Slovenia (10)	8.0	0.00
	13	Norway (10)	6.6	0.00
	11	Spain (9.4)	7.9	0.00
	11	Netherlands (9.3)	8.0	0.10
	12	Faroes (8.4)	4.6	0.00
	10	Finland (7.5)	5.4	0.00
	9.4	North Macedonia (7.2)	5.1	0.00
	7.7	Malta (7.2)	6.6	0.19
	10	Montenegro (7.1)	4.4	0.00
	11	Georgia (7.1)	4.1	0.00
	8.5	Sweden (6.4)	4.3	0.00
	8.5	Portugal (6.3)	4.5	0.00
	7.1	Serbia (5.4)	4.0	0.00

Colour indicates significant
difference between **boys** and **girls**.
Statistical significance levels are reported for each country.

Frequency of alcohol use in the last 30 days

Among all students who had used alcohol, alcohol was consumed on 5.6 occasions on average in the last 30 days (Figure 3a). Students from Germany and Cyprus consumed alcohol on 8.0 and 7.5 occasions, respectively, and students from Sweden, Finland, Lithuania, Iceland, Estonia, Latvia

and Norway drank alcohol on fewer than four occasions on average. In most countries, boys who drank did so more frequently than girls who drank, with differences of more than three occasions in the last 30 days in Germany, Serbia and Montenegro (Figure 3b). In most countries, the difference between boys and girls in the number of drinking occasions was significant.

Figure 3a.   Frequency of alcohol intake in the last 30 days (mean number of occasions among users)

■ ≤ 3.9 occasions
■ 4.0-4.9 occasions
■ 5.0-5.9 occasions
■ 6.0-6.9 occasions
■ ≥ 7.0 occasions
■ Non-participating country or data not available
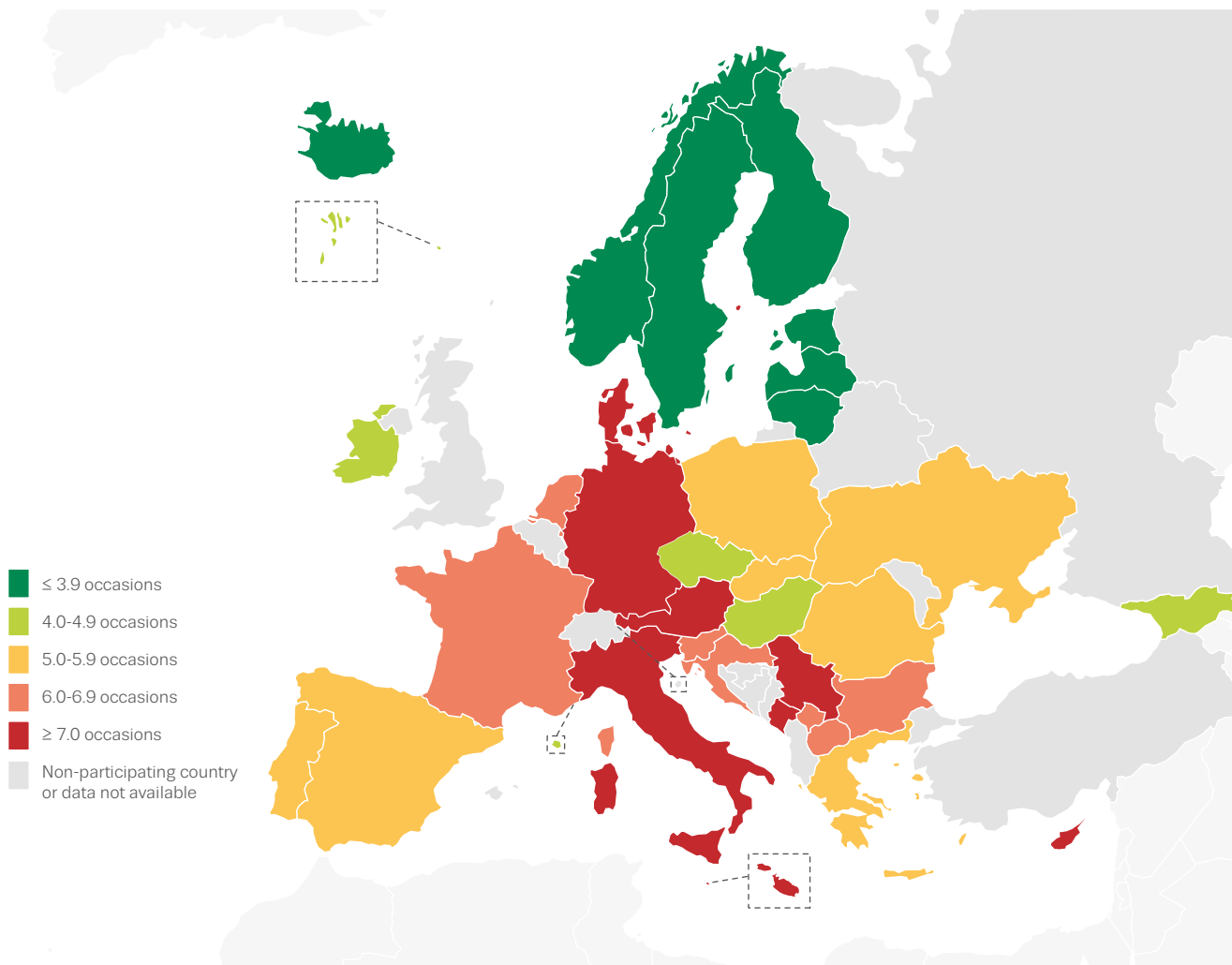
Figure 3b. Frequency of alcohol intake in the last 30 days by gender (mean number of occasions among users)

	Boys	All students	Girls	Fisher's F-test (p-value)
	9.7	Germany (8.0)	6.4	0.00
	8.6	Cyprus (7.5)	6.4	0.00
	8.4	Denmark (7.4)	6.5	0.00
	7.9	Austria (7.4)	6.8	0.00
	9.0	Serbia (7.3)	5.6	0.00
	8.7	Montenegro (7.2)	5.2	0.00
	8.2	Italy (7.0)	5.7	0.00
	7.8	Malta (7.0)	6.3	0.00
	7.9	Croatia (6.8)	5.5	0.00
	8.0	France (6.7)	5.3	0.00
	7.1	Kosovo (6.6)	5.2	0.25
	7.3	North Macedonia (6.5)	5.6	0.00
	7.6	Netherlands (6.5)	5.5	0.00
	7.4	Bulgaria (6.4)	5.4	0.00
	7.3	Slovenia (6.0)	4.6	0.00
	6.1	Slovakia (5.9)	5.8	0.49
	6.2	Romania (5.4)	4.4	0.00
	6.1	Portugal (5.4)	4.7	0.00
	5.8	Poland (5.3)	4.9	0.02
	5.8	Greece (5.2)	4.6	0.00
	5.5	Spain (5.1)	4.7	0.01
	5.9	Ukraine (5.0)	4.3	0.00
	5.4	Hungary (4.9)	4.3	0.00
	5.8	Georgia (4.9)	3.8	0.00
	5.4	Czechia (4.8)	4.2	0.00
	5.2	Monaco (4.8)	4.4	0.28
	5.7	Faroes (4.5)	3.4	0.01
	5.1	Ireland (4.4)	3.7	0.00
	4.6	Norway (3.9)	3.3	0.00
	4.4	Latvia (3.9)	3.5	0.00
	3.7	Estonia (3.6)	3.6	0.71
	4.1	Iceland (3.6)	3.3	0.20
	3.7	Lithuania (3.5)	3.3	0.36
	3.9	Finland (3.3)	2.8	0.00
	3.5	Sweden (3.1)	2.8	0.04

Colour indicates significant
difference between **boys** and **girls**.
Statistical significance levels are reported for each country.

Alcohol intake on the last drinking occasion

The amount of alcohol consumed was calculated as the average volume of ethanol (in centilitres) consumed on the last drinking day. The students had drunk an average of 4.6 centilitres of alcohol on the last drinking day (Figure 4a). The amount of alcohol consumed was highest in Denmark (8.8 centilitres), followed by Norway (6.7 centilitres) and the Netherlands (6.6 centilitres), and was lowest in Kosovo (2.5 centilitres) and Romania (3.0 centilitres). Boys reported consuming higher volumes than girls in the majority of countries (Figure 4b). On average, the difference between boys and girls in the amount of alcohol consumed was 0.7 centilitres, with the highest differences reported in Georgia (2.1 centilitres), the Faroes (1.8 centilitres) and Montenegro (1.6 centilitres).

Figure 4a. Average alcohol intake on the last drinking day among users (centilitres of ethanol)

Legend:
- ≤ 2.9 cl
- 3.0-3.9 cl
- 4.0-4.9 cl
- 5.0-5.9 cl
- ≥ 6.0 cl
- Non-participating country or data not available
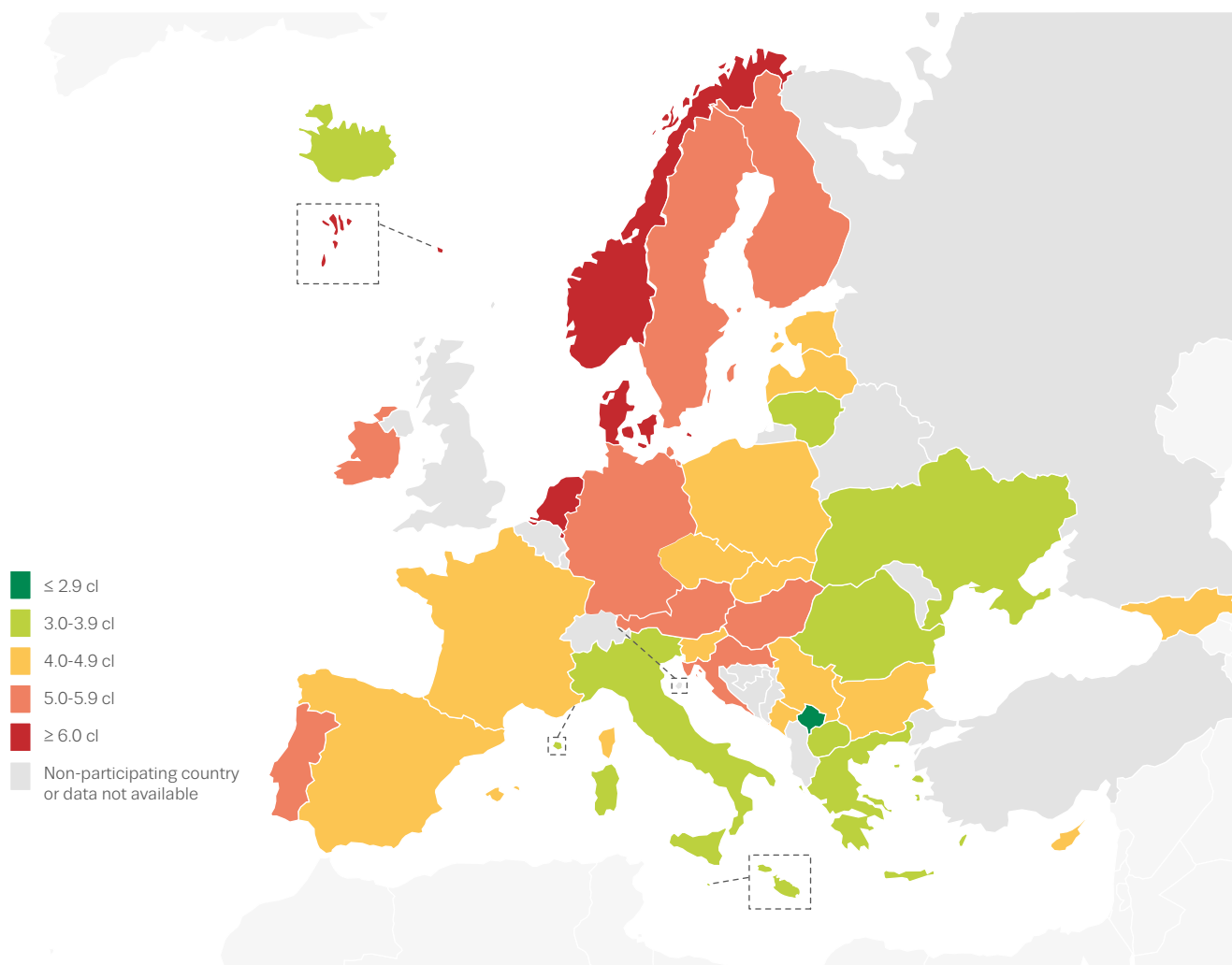
Figure 4b.   Average alcohol intake on the last drinking day among users by gender (centilitres of ethanol)

Boys	All students	Girls	Fisher's F-test (*p*-value)
9.2	Denmark (8.8)	8.4	0.00
7.1	Norway (6.7)	6.3	0.25
6.2	Netherlands (6.6)	7.1	0.00
7.0	Faroes (6.1)	5.2	0.01
6.5	Austria (5.8)	5.1	0.00
6.1	Finland (5.8)	5.5	0.00
6.2	Ireland (5.7)	5.2	0.00
5.9	Croatia (5.3)	4.7	0.00
5.1	Sweden (5.3)	5.4	0.04
5.0	Portugal (5.2)	5.4	0.07
5.3	Germany (5.0)	4.8	0.12
5.5	Hungary (5.0)	4.5	0.00
4.8	Estonia (4.7)	4.6	0.89
4.7	Slovakia (4.7)	4.6	0.81
5.2	Slovenia (4.6)	4.1	0.00
4.9	Poland (4.6)	4.2	0.04
4.8	Czechia (4.5)	4.3	0.02
5.5	Georgia (4.5)	3.5	0.00
5.0	France (4.5)	3.9	0.00
4.7	Latvia (4.5)	3.9	0.02
4.7	Cyprus (4.2)	3.8	0.00
4.8	Serbia (4.2)	3.4	0.00
4.2	Spain (4.1)	4.0	0.31
4.6	Bulgaria (4.0)	3.5	0.00
4.8	Montenegro (4.0)	3.2	0.00
3.8	Iceland (4.0)	4.1	0.28
4.3	Ukraine (3.9)	3.6	0.35
4.2	Italy (3.8)	3.3	0.00
3.8	Malta (3.6)	3.5	0.33
4.0	Greece (3.6)	3.2	0.00
3.7	Monaco (3.3)	3.0	0.33
3.8	North Macedonia (3.2)	2.7	0.00
3.6	Lithuania (3.2)	2.8	0.01
3.5	Romania (3.2)	2.4	0.00
2.9	Kosovo (2.5)	1.9	0.00

Colour indicates significant
difference between **boys** and **girls**.
Statistical significance levels are reported for each country.

Alcoholic beverage preferences on the last drinking day

The relative contribution of each beverage (in centilitres of ethanol) to the total amount of alcohol consumed on the last drinking day was taken as an indicator of preference for alcoholic beverages. On average, spirits (38 %) and beer (31 %) were the preferred alcoholic beverages (Figure 5). In Spain (83 %), Portugal (59 %), Lithuania (57 %), Sweden (52 %) and Malta (51 %), more than half of the students who had drunk alcohol preferred spirits, while a similar preference for beer was found in Kosovo (62 %), Serbia (52 %), Poland and North Macedonia (49 % each). Wine was preferred over spirits and beer in Ukraine (26 %), over spirits but not beer in Georgia (36 %) and over beer but not spirits in Slovakia (27 %). Premixed drinks accounted for about one quarter of the total amount of alcohol consumed in Germany (26 %), Finland and Denmark (23 % each). In the Faroes, Ireland, Norway and Sweden, cider accounted for about one third to one quarter of the total amount of alcohol consumed. In the Faroes cider was the most preferred alcoholic beverage, while in the other countries it was ranked second after spirits.

In more than half of the ESPAD countries, boys preferred beer (overall average: 40 %) over other alcoholic beverages (see Additional Table 26b). In Spain, Lithuania, Monaco, Portugal, Sweden, Malta, Slovakia, Bulgaria, Estonia, Latvia, Greece, Iceland, Hungary, Norway, Czechia and France, boys preferred spirits over beer. Among girls, the preferred alcoholic beverage was spirits in the large majority of countries (see Additional Table 26c). In Kosovo, Poland, Serbia and Montenegro, beer was the most preferred alcoholic beverage among girls, while in Ukraine (33 %) and Georgia (40 %) it was wine. In Germany girls preferred premixed drinks (29 %) together with wine (27 %), while in Italy beer (30 %) and premixed drinks (28 %) were the preferred alcoholic beverages.

The preference was generally higher among girls than boys for spirits (girls 40 % versus boys 36 %), wine (20 % versus 12 %), premixed drinks (10 % versus 6.7 %) and cider (8.4 % versus 5.9 %).

Figure 5. Alcoholic beverage preferences on the last drinking day: contribution of each beverage to the total amount of pure alcohol consumed (percentage)
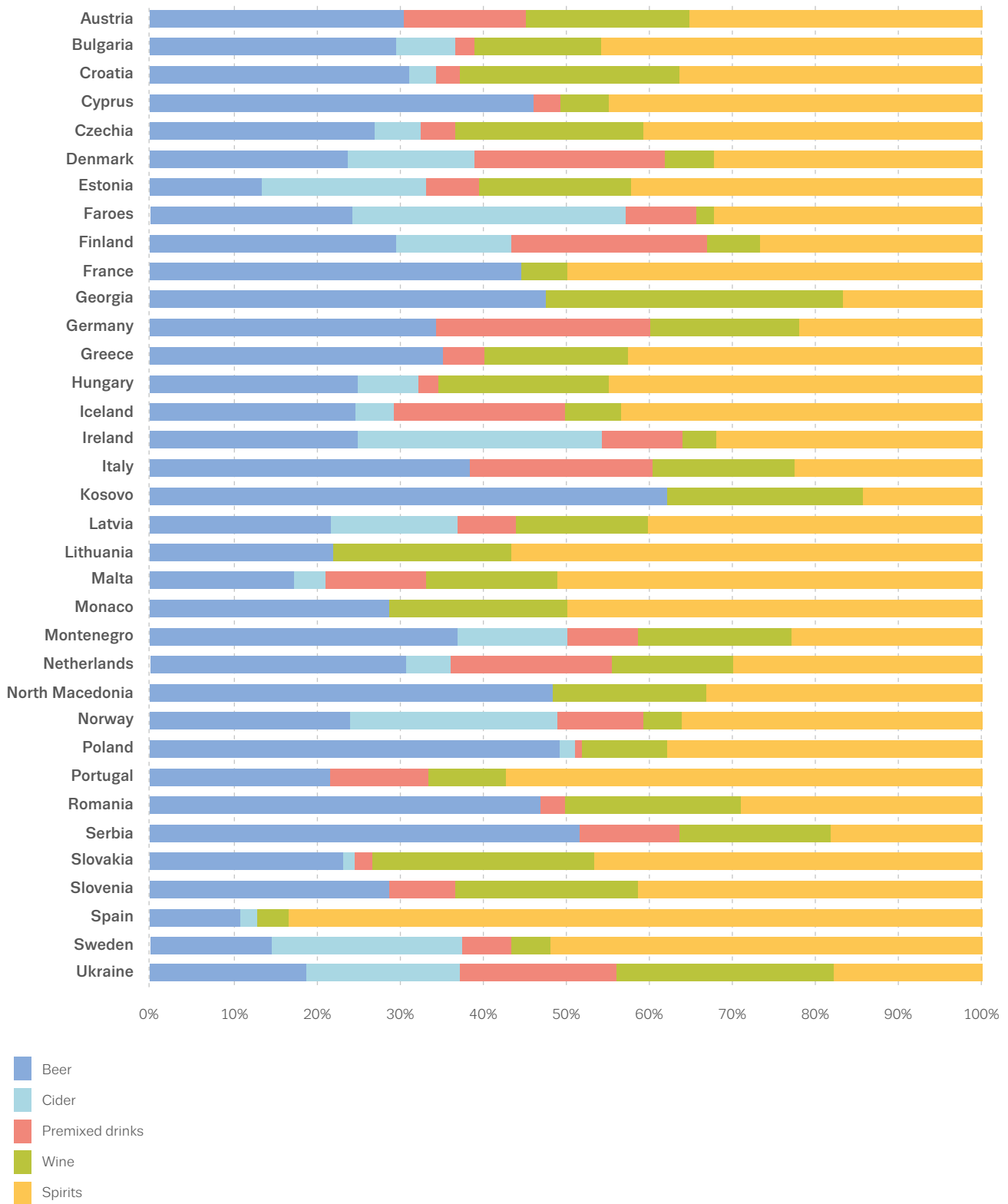
Heavy episodic drinking in the last 30 days

One in three students (34 %) reported heavy episodic drinking during the last 30 days (Figure 6a). This drinking pattern was widespread in Denmark, Germany and Austria, with between 49 % and 59 % of students reporting heavy episodic drinking. The lowest rate was found in Iceland (7.6 %). The difference between boys and girls was about 3 percentage points on average, with generally higher

rates found for boys (Figure 6b). Significant gender differences were found in half of the countries, with the largest differences in Cyprus (44 % for boys versus 31 % for girls), Georgia (52 % versus 39 %), Montenegro (34 % versus 22 %) and Romania (43 % versus 31 %). However, in Spain, significantly more girls than boys reported heavy episodic drinking at least once in the last 30 days (38 % for girls versus 30 % for boys). This was also the case in Latvia, Austria and Lithuania.

Figure 6a. Prevalence of heavy episodic drinking (five or more drinks on one occasion; one drink contains approximately 2 centilitres of ethanol) at least once in the last 30 days (percentage)

Legend:
- ≤ 19 %
- 20-29 %
- 30-39 %
- 40-49 %
- ≥ 50 %
- Non-participating country or data not available
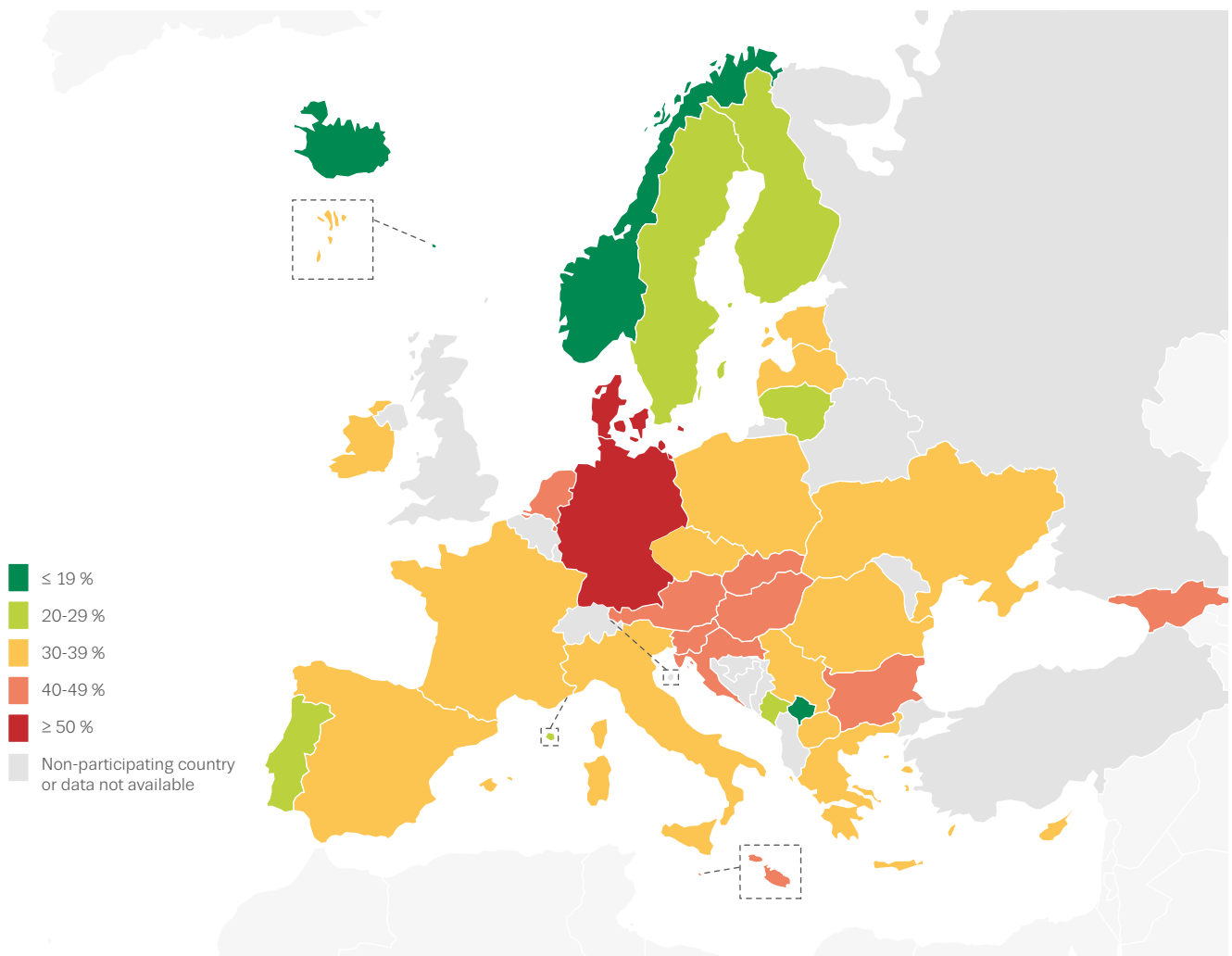
Figure 6b. Prevalence of heavy episodic drinking (five or more drinks on one occasion; one drink contains approximately 2 centilitres of ethanol) at least once in the last 30 days by gender (percentage)

Boys	All students	Girls	Wald test (*p*-value)
59	Denmark (59)	59	0.95
53	Germany (54)	56	0.19
47	Austria (49)	51	0.00
45	Slovakia (46)	48	0.13
52	Georgia (45)	39	0.00
47	Croatia (45)	43	0.06
41	Netherlands (42)	44	0.37
44	Bulgaria (42)	39	0.01
44	Hungary (41)	39	0.01
40	Malta (40)	41	0.80
43	Slovenia (40)	38	0.00
41	Czechia (39)	36	0.01
43	Romania (37)	31	0.00
44	Cyprus (37)	31	0.00
41	Serbia (36)	32	0.00
33	Latvia (36)	38	0.00
38	Italy (35)	32	0.00
30	Spain (34)	38	0.00
33	Poland (34)	35	0.42
35	France (34)	32	0.13
37	North Macedonia (33)	30	0.00
34	Ukraine (33)	32	0.39
34	Faroes (32)	31	0.38
33	Ireland (32)	32	0.67
31	Estonia (32)	34	0.09
36	Greece (32)	27	0.00
26	Lithuania (28)	30	0.04
34	Montenegro (28)	22	0.00
29	Monaco (27)	26	0.48
25	Portugal (24)	23	0.06
22	Finland (22)	21	0.58
19	Sweden (20)	21	0.15
16	Norway (16)	17	0.57
19	Kosovo (14)	9.7	0.00
6.8	Iceland (7.6)	8.3	0.17

Colour indicates significant difference between **boys** and **girls**. Statistical significance levels are reported for each country.

Current cannabis use

Overall, 7.1 % of the students had used cannabis in the last 30 days (Figure 7a). A high variability was found among ESPAD countries, with the lowest rate observed in Kosovo (1.4 %), and the highest rate seen in Italy (15 %), followed by France and the Netherlands (13 % each), where the percentage of students having used cannabis at least once in the last month was about twice the ESPAD average.

More boys than girls reported cannabis use in the last 30 days (8.5 % versus 5.8 % on average). In more than two thirds of countries, statistically significant ($p < 0.05$) gender differences were found, with boys reporting higher use than girls in all cases (Figure 7b). The largest differences were found in Monaco, Germany, France, Georgia and Italy (5-8 percentage points).

Figure 7a. Prevalence of cannabis use in the last 30 days (percentage)

- ≤ 2.5 %
- 2.6-6.5 %
- 6.6-10 %
- 11-14 %
- ≥ 15 %
- Non-participating country or data not available
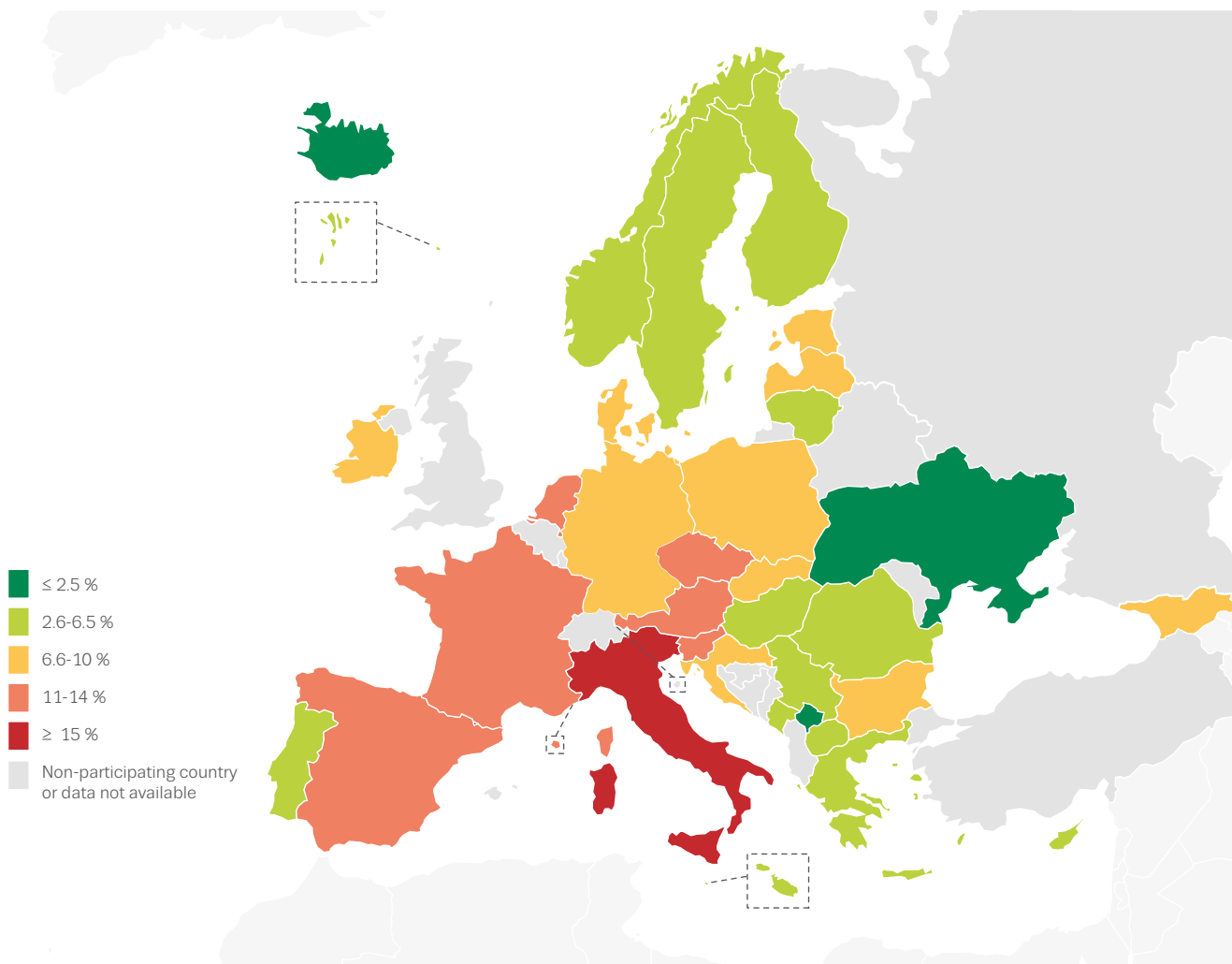
Figure 7b.   Prevalence of cannabis use in the last 30 days by gender (percentage)

Boys	All students	Girls	Two-sample proportion test (*p*-value)
17	Italy (15)	12	0.00
16	France (13)	11	0.00
13	Netherlands (13)	12	0.51
16	Monaco (12)	7.7	0.01
12	Spain (12)	12	0.97
12	Czechia (12)	12	0.95
13	Slovenia (11)	10	0.02
13	Austria (11)	9.4	0.00
13	Germany (10)	7.7	0.00
11	Latvia (10)	8.6	0.04
12	Georgia (9.4)	7.0	0.00
10	Croatia 9.2	8.7	0.43
11	Ireland (9.0)	6.7	0.00
9.2	Slovakia (8.3)	7.3	0.10
10	Poland (8.1)	6.3	0.00
9.1	Denmark (7.4)	5.8	0.00
8.0	Bulgaria (7.1)	6.2	0.06
8.4	Estonia (6.6)	4.9	0.00
7.4	Portugal (6.2)	5.3	0.01
6.1	Lithuania (5.5)	4.9	0.21
7.9	Cyprus (5.3)	3.4	0.00
6.5	Hungary (5.3)	4.1	0.01
6.0	Montenegro (4.7)	3.4	0.00
4.7	Malta (4.7)	4.6	0.98
6.5	Greece (4.6)	2.9	0.00
4.9	Finland (4.1)	3.2	0.00
5.4	Norway (3.8)	2.3	0.00
4.0	Faroes (3.5)	3.1	0.58
3.6	Romania (3.3)	2.9	0.24
3.9	Serbia (3.2)	2.6	0.03
4.3	Sweden (2.9)	1.4	0.00
3.6	North Macedonia (2.7)	1.9	0.00
3.3	Ukraine (2.4)	1.7	0.01
2.7	Iceland (2.1)	1.5	0.04
2.5	Kosovo (1.4)	0.4	0.00

Colour indicates significant
difference between **boys** and **girls**.
Statistical significance levels are reported for each country.

Frequency of cannabis use in the last 12 months

Among all students who had used cannabis in the last 12 months (13 % of the total), on average the drug was used on 9.9 occasions (Figure 8a). In France, Italy, Serbia, Austria and Cyprus, cannabis was used once a month (12 or more times). The lowest average frequency of cannabis use was found in the Faroes (4.4 occasions). Overall, boys reported a higher frequency of cannabis use than girls (Figure 8b),

with significant gender differences in Monaco, Georgia, the Netherlands, Italy, Ukraine, Sweden, Norway, Poland, Greece, Montenegro, Estonia, France, Finland, Croatia, Lithuania, Slovenia, Latvia and Spain.

In Kosovo, the Faroes, Denmark and Iceland, cannabis was used more frequently by girls than boys, although these differences were not statistically significant.

Figure 8a. Frequency of cannabis use in the last 12 months (mean number of occasions among users)

- ≤ 5.9 occasions
- 6.0-7.9 occasions
- 8.0-9.9 occasions
- 10.0-10.9 occasions
- ≥ 11.0 occasions
- Non-participating country or data not available
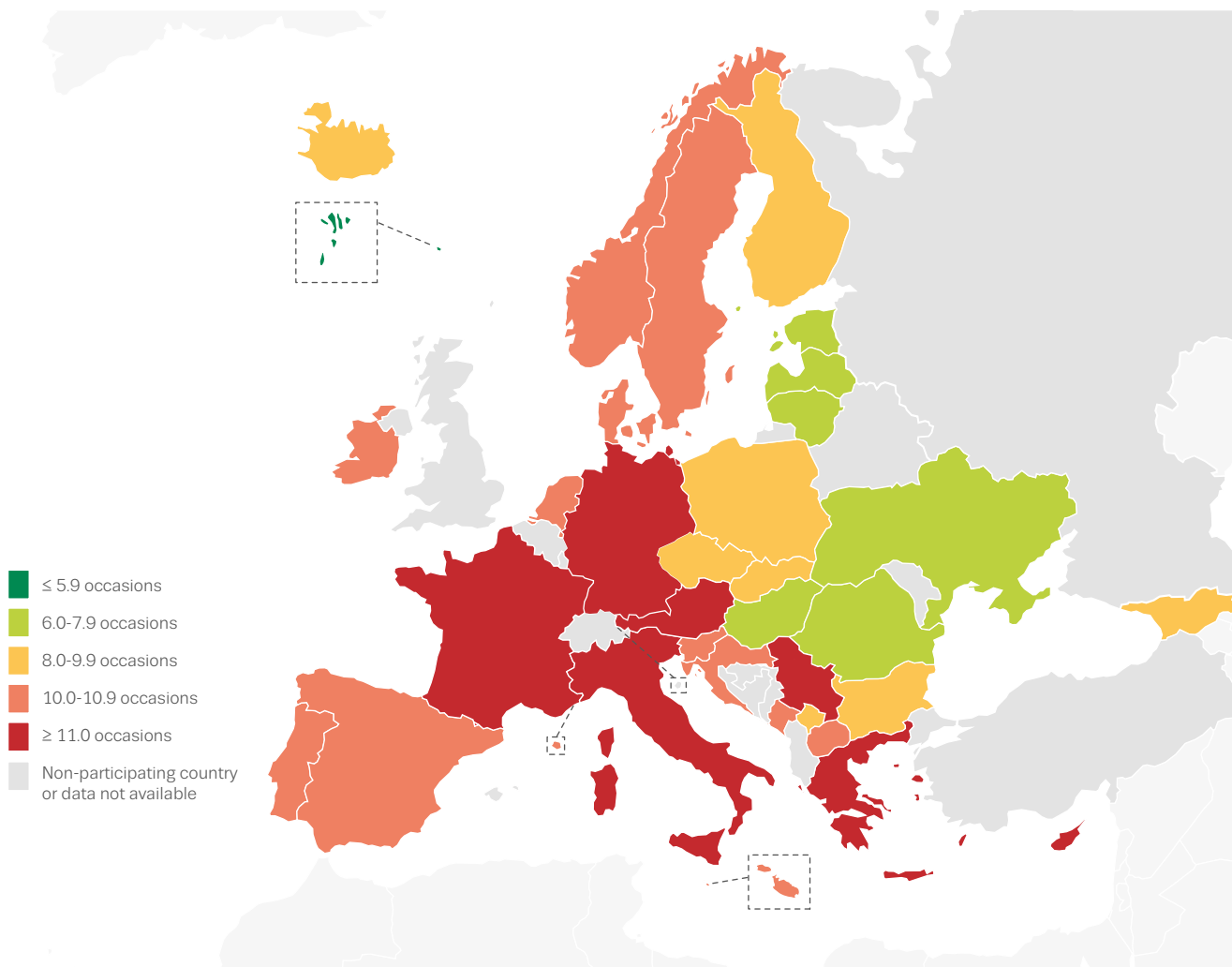
Figure 8b. Frequency of cannabis use in the last 12 months by gender (mean number of occasions among users)

	Boys	All students	Girls	Fisher's F-test test (*p*-value)
	16	France (15)	14	0.04
	16	Italy (13)	10	0.00
	14	Serbia (13)	11	0.28
	13	Austria (12)	11	0.11
	13	Cyprus (12)	10	0.35
	13	Germany (11)	10	0.08
	12.4	Greece (11)	8.7	0.01
	12.1	North Macedonia (11)	9.2	0.18
	12.5	Sweden (11)	7.7	0.02
	12	Slovenia (11)	10	0.02
	13	Netherlands (11)	8.1	0.00
	12	Spain (11)	9.6	0.03
	11	Portugal (11)	10	0.22
	13	Monaco (11)	6.2	0.03
	11	Ireland (11)	10	0.96
	11	Malta (10)	10	0.59
	10	Denmark (10)	11	0.78
	12	Montenegro (10)	8.4	0.02
	12	Norway (10)	7.7	0.01
	11	Croatia (10)	8.7	0.02
	11	Georgia (9.6)	4.9	0.00
	8.2	Kosovo (9.6)	19	0.09
	9.2	Iceland (9.4)	9.6	0.88
	10	Finland (9.1)	7.5	0.02
	9.8	Bulgaria (8.9)	8.1	0.17
	11	Poland (8.8)	6.7	0.00
	9.0	Czechia (8.7)	8.3	0.43
	9.0	Slovakia (8.1)	7.2	0.11
	9.2	Estonia (7.7)	6.0	0.00
	8.2	Romania (7.7)	7.2	0.45
	9.9	Ukraine (7.7)	4.8	0.01
	8.5	Latvia (7.4)	6.1	0.01
	7.7	Hungary (7.2)	6.4	0.39
	7.8	Lithuania (6.6)	5.2	0.02
	4.2	Faroes (4.4)	4.6	0.82

Colour indicates significant
difference between **boys** and **girls**.
Statistical significance levels are reported for each country.

High-risk cannabis use

As described in the methodology section, the Cannabis Abuse Screening Test (CAST) score, which measures the possible presence and extent of cannabis-related problems, was calculated only for participants who gave a valid response to the introductory question of the CAST module, which asks about cannabis use in the last 12 months.

In this section, country-level prevalence estimates of high-risk cannabis users in the total sample of students are reported. Detailed estimates of the proportions of high-risk users among the group of students having used cannabis in the past 12 months are provided online (see Additional Table 61a-c). Prevalence of cannabis use in the past 12 months based on the introductory question of the CAST module, as well as averages for each of the six CAST items, presented separately by country, are also available online (see Additional Tables 55-61).

Among the total ESPAD sample (both users and non-users of cannabis in the last 12 months), 4.0 % of students were classified as high-risk cannabis users using this measure. This result is consistent with the prevalence of 5.0 % found in the 2011 ESPAD study, although only 13 countries were included in 2011. In 2019, the lowest rates were observed in North Macedonia (1.4 %), Ukraine and Kosovo (1.5 % each), the Faroes (1.6 %) and Hungary (1.7 %). The highest rates were observed in France (7.3 %), Germany (7.0 %), Czechia (6.4 %), Slovenia (6.3 %) and Italy (6.2 %) (Figure 9a).

Overall, the prevalence of high-risk cannabis use was higher among boys (4.7 %) than girls (3.3 %). At the country level, statistically significant gender differences were found in 16 ESPAD countries, with the highest differences in terms of percentage points reported in Monaco (9.1 % for boys versus 2.7 % for girls), Georgia (4.8 % versus 0.8 %), Germany (8.8 % versus 5.3 %), Greece (4.3 % versus 1.5 %), Slovenia (7.6 % versus 5.1 %), Ireland (7.0 % versus 4.5 %), Kosovo (2.8 % versus 0.4 %), Italy (7.2 % versus 5.1 %), Cyprus (3.9 % versus 1.9 %) and Estonia (5.3 % versus 3.3 %) (Figure 9b). In four countries high-risk cannabis use was more prevalent among girls than boys, although these differences were not statistically significant.

Figure 9a. Prevalence of high-risk cannabis users (percentage)

- ≤ 1.9 %
- 2.0-2.9 %
- 3.0-4.9 %
- 5.0-5.9 %
- ≥ 6.0 %
- Non-participating country or data not available
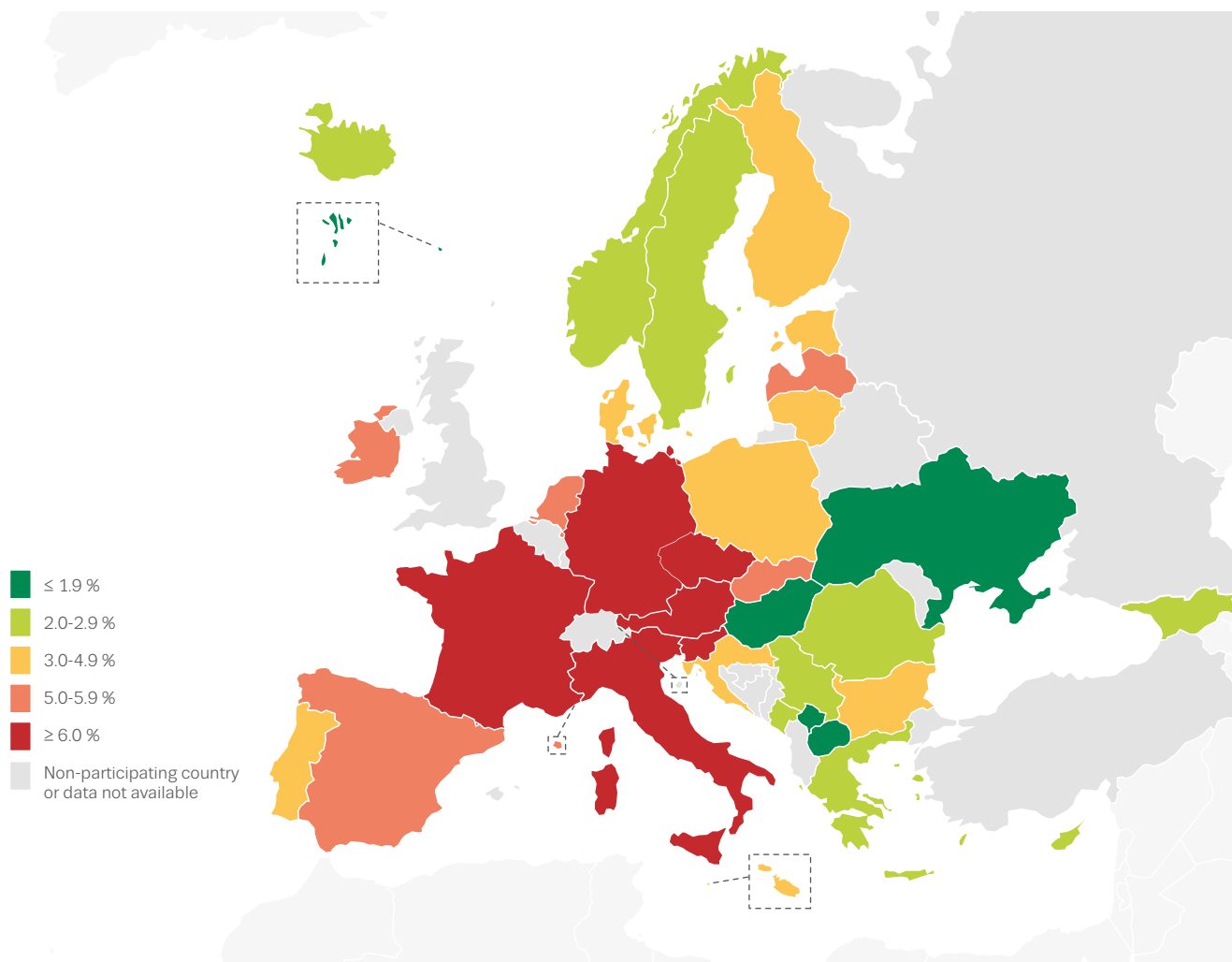
Figure 9b.   Prevalence of high-risk cannabis users by gender (percentage)

	Boys	All students	Girls	Logistic regression (*p*-value)
	8.3	France (7.3)	6.3	0.05
	8.8	Germany (7.0)	5.3	0.01
	6.4	Czechia (6.5)	6.6	0.98
	7.6	Slovenia (6.3)	5.1	0.00
	7.2	Italy (6.2)	5.1	0.02
	6.3	Austria (6.0)	5.5	0.19
	9.1	Monaco (5.8)	2.7	0.01
	6.6	Latvia (5.8)	5.1	0.10
	7.0	Ireland (5.7)	4.5	0.01
	6.0	Spain (5.6)	5.3	0.37
	5.8	Netherlands (5.1)	4.5	0.31
	5.4	Slovakia (5.0)	4.6	0.39
	4.5	Bulgaria (4.9)	5.4	0.28
	5.4	Denmark (4.9)	4.4	0.22
	4.9	Croatia (4.7)	4.4	0.63
	5.3	Estonia (4.2)	3.3	0.02
	5.2	Poland (4.2)	3.3	0.02
	4.0	Lithuania (4.0)	4.0	0.99
	4.4	Portugal (3.8)	3.3	0.05
	3.3	Malta (3.4)	3.5	0.84
	3.5	Finland (3.0)	2.5	0.04
	4.3	Greece (2.9)	1.5	0.00
	3.9	Cyprus (2.8)	1.9	0.02
	4.8	Georgia (2.6)	0.8	0.00
	3.2	Sweden (2.5)	1.7	0.00
	2.9	Montenegro (2.4)	1.9	0.00
	3.3	Norway (2.4)	1.5	0.00
	2.2	Serbia (2.3)	2.4	0.61
	2.5	Romania (2.1)	1.7	0.10
	2.4	Iceland (2.1)	1.8	0.25
	1.9	Hungary (1.7)	1.5	0.23
	1.6	Faroes (1.6)	1.5	0.96
	2.8	Kosovo (1.5)	0.4	0.00
	1.6	Ukraine (1.5)	1.3	0.44
	1.9	North Macedonia (1.4)	1.0	0.04

Colour indicates significant
difference between **boys** and **girls**.
Statistical significance levels are reported for each country.

New psychoactive substance use

Overall, an average of 2.5 % of the students had used NPS at least once in the last 12 months, with the highest prevalence reported in Czechia, Latvia, Estonia, Poland and Monaco (4.0-4.9 %) and the lowest prevalence reported in North Macedonia, Finland and Portugal (0.4-0.8 %; Figure 10a). Generally, differences in NPS use between boys and girls were small; however, significantly more boys than girls reported the use of NPS in Cyprus, Georgia, Greece, Ireland, Montenegro, Norway and Serbia, and significantly more girls than boys reported the use of NPS in Latvia and Slovenia (Figure 10b).

Among all students who had used NPS in the last 12 months, the majority (54 %) reported use of herbal synthetic substances; 27 % reported use of NPS in the form of powders or tablets, 13 % reported the use of NPS in the form of liquids and 17 % reported the use of NPS in other forms. Only a few countries reported higher rates of use of NPS in forms other than herbal smoking mixtures. In particular,

powders/tablets were used by the majority of last-year NPS users in Finland (64 %) and Norway (54 %), liquids were reported by 36 % of the users in the Netherlands, and the use of NPS in other forms was reported by half of the users in North Macedonia. Even though on average the differences between boys and girls in the reported appearance of NPS used in the last 12 months were low, in most individual countries noticeable gender differences were found. Focusing only on differences higher than 15 percentage points, with regard to herbal NPS, boys reported higher prevalence rates than girls in Romania, Georgia, Finland, Ireland and the Netherlands, while girls reported higher rates in Bulgaria, Ukraine, Slovakia and Lithuania; for powders/tablets, girls reported higher prevalence rates in many countries (Kosovo, Georgia, Slovakia, Serbia, Spain, Sweden, Ireland and Portugal), while a higher rate was found among boys in Cyprus; and higher prevalence rates were found for liquid forms of NPS among male users than female users in Portugal, Slovakia, Sweden, Lithuania and North Macedonia, with girls reporting higher rates in the Netherlands and Finland (see Additional Table 71a and b).

Figure 10a.   NPS use: prevalence in the last 12 months (percentage)

- ≤ 0.9 %
- 1.0-1.9 %
- 2.0-2.9 %
- 3.0-3.9 %
- ≥ 4.0 %
- Non-participating country or data not available
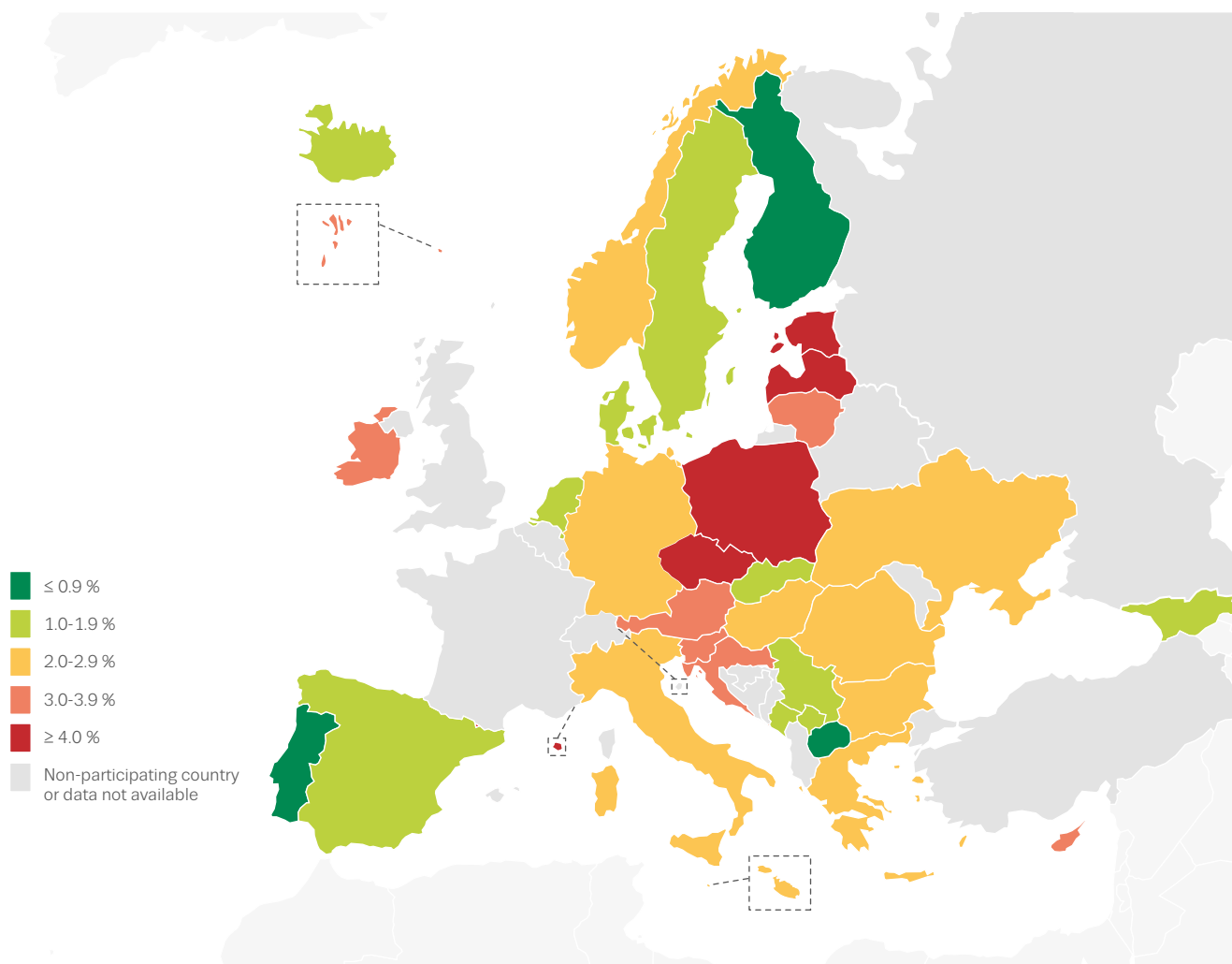
Figure 10b. NPS use: prevalence in the last 12 months by gender (percentage)

Boys	All students	Girls	Logistic regression (*p*-value)
4.8	Czechia (4.9)	5.1	0.81
3.4	Latvia (4.7)	6.0	0.00
4.5	Estonia (4.7)	4.9	0.63
4.7	Poland (4.5)	4.2	0.59
4.4	Monaco (4.0)	3.6	0.71
3.5	Croatia (3.7)	4.0	0.45
5.0	Ireland (3.7)	2.4	0.00
3.0	Lithuania (3.6)	4.2	0.10
5.8	Cyprus (3.6)	1.8	0.00
3.2	Faroes (3.5)	3.9	0.69
2.7	Slovenia (3.3)	4.0	0.05
3.0	Austria (3.0)	3.1	0.78
3.1	Bulgaria (2.9)	2.5	0.34
2.1	Germany (2.8)	3.5	0.09
2.6	Hungary (2.6)	2.7	0.80
2.4	Ukraine (2.5)	2.5	0.86
3.3	Norway (2.4)	1.5	0.00
3.0	Greece (2.2)	1.5	0.00
2.1	Italy (2.2)	2.5	0.45
2.3	Malta (2.2)	2.0	0.55
1.9	Romania (2.2)	2.5	0.26
3.0	Georgia (1.9)	0.8	0.00
1.7	Slovakia (1.9)	2.3	0.27
1.8	Denmark (1.5)	1.4	0.49
1.8	Montenegro (1.5)	1.1	0.03
2.0	Serbia (1.5)	1.0	0.02
1.5	Spain (1.5)	1.5	0.91
1.6	Sweden (1.5)	1.4	0.74
1.2	Iceland (1.1)	1.0	0.73
1.5	Kosovo (1.1)	0.6	0.09
1.7	Netherlands (1.1)	0.6	0.09
0.9	Portugal (0.8)	0.6	0.31
0.5	Finland (0.6)	0.7	0.40
0.7	North Macedonia (0.5)	0.3	0.10

Colour indicates significant
difference between **boys** and **girls**.
Statistical significance levels are reported for each country.

Gambling and online gambling

ESPAD average Gambling and online gambling in last 12 months: prevalence of excessive and problem gambling (%)			
	Average	Min.	Max.
Gambling ([a])	22	11	33
Slot machines ([b])	21	7.4	60
Cards or dice ([c])	44	22	69
Lotteries ([d])	49	19	74
Sport or animal betting ([e])	45	23	76
Online gambling ([f])	7.9	3.2	17
Estimated excessive gambling ([g])	15	7.1	35
Estimated problem gambling ([h])	5.0	1.3	12

[a] Percentage of students having gambled with money on at least one game in the last 12 months.

[b] Proportion of slot machine gamblers: percentage of gamblers in the past 12 months.

[c] Proportion of cards or dice gamblers: percentage of gamblers in the past 12 months.

[d] Proportion of lottery gamblers: percentage of gamblers in the past 12 months.

[e] Proportion of sport or animal betting gamblers: percentage of gamblers in the past 12 months.

[f] Percentage of students involved in online gambling with money in the last 12 months.

[g] Estimation of excessive gamblers based on the CSPG scale, adopted from Rockloff (2012): percentage of gamblers in the past 12 months.

[h] Estimation of problem gamblers based on the Lie/Bet Questionnaire, adapted from Johnson (1997): percentage of gamblers in the past 12 months.

As described in the methodology section, in this report the prevalence of gambling for money includes engagement in at least one of the following gambling activities in the last 12 months: playing on slot machines, playing cards or dice for money, playing the lottery or betting on sports or animal races. This methodological approach is different from the one used in the 2015 survey, in which a direct question, 'How often (if ever) did you gamble for money in the last 12 months?', was used to compute the gambling prevalence. In fact, students might have an ambiguous self-perception of gambling, leading to an admission that they indeed engaged in gambling activities even though they did not consider themselves to be gambling or to be gamblers (Lange, 2001).

Therefore, a comparison between the results shown in Table 11a and the result from the 2015 survey cannot be performed directly and differences in average and country-specific prevalence rates between the two survey waves should be interpreted with caution. This choice was made as it is believed to produce more reliable estimates of gambling prevalence than using a direct question asking for engagement in any gambling for money (Molinaro et al., 2018).

In 2019, 22 % of ESPAD students reported having gambled for money on at least one type of game in the last 12 months. The methodological approach used in 2019 might partially explain the difference between this rate and the rate of 14 % found in 2015 for last-year gambling prevalence. As shown in Table 11a, the highest prevalence of gambling among students in 2019 was found in Greece and Cyprus (33 % each), followed by Italy and Montenegro (32 % each) and Finland (30 %). Despite the different approach used compared with the previous survey wave, these countries were also among those with the highest prevalence rates in 2015. On the other hand, Table 11a shows that the lowest rates of gambling for money were found in Malta (14 %), Georgia (13 %), Denmark (12 %) and Kosovo (11 %). In all European countries, in 2019 considerably more boys than girls reported having gambled in the last 12 months (29 % versus 15 % on average). The countries with gender differences higher than 20 percentage points were Montenegro, Cyprus, Croatia, Greece, Serbia and Finland. The smallest gender differences were found in Malta, Sweden and Czechia.

With regard to online gambling, overall, 7.9 % of ESPAD students reported having spent money on games on the internet in the last 12 months. The highest rates of students reporting gambling online were found in Cyprus and Kosovo (16 %) and in countries of the Balkan peninsula (Montenegro 13 %, Serbia and Bulgaria 11 % each). The highest difference in online gambling engagement between boys and girls was observed in Cyprus (29 % for boys versus 7.3 % for girls). Other countries with gender differences higher than 15 percentage points were Denmark, Montenegro and Serbia. The two countries with the smallest gender differences (less than 5 percentage points) were Malta and Germany.

As shown in Table 11b, lottery gambling (including scratch cards, bingo and keno games) was the predominant gambling activity; this was reported by between 19 % (Germany) and 74 % (Greece) of the students who had gambled in the past 12 months. Rates of 30 % or lower were found in some eastern European countries (Georgia, 27 %; Ukraine, 28 %; Slovakia and Romania 29 % each, and Kosovo 30 %).

Slightly less than half of the students who gambled had spent money on sports or animal races (45 %) and playing cards or dice (44 %). Sports or animal betting was chosen by more than 70 % of the students who gambled in Croatia and Montenegro, and by less than 30 % of the students who gambled in the Netherlands, Czechia, Finland, Malta, Austria, Germany and Lithuania. Cards (e.g. poker and bridge) or dice games were preferred by more than 60 % of the students who gambled in Georgia, Romania and Germany, while they were less popular (rates of less than 30 %) in Montenegro, Serbia, North Macedonia and Portugal.

The least popular gambling activity among students was slot machines, which on average were chosen by one in five adolescent gamblers (21 %). In some countries (Czechia and

Greece), the proportion of gamblers playing at slot machines was less than 10 %. On the other hand, rates above 30 % were found in Georgia (40 %), Ireland (37 %), Romania (35 %) and Montenegro (35 %). Finland reported the highest proportion of slot machine gamblers among those who had gambled in the last 12 months (60 %).

Table 11a. Gambling for money and online gambling: prevalence in the last 12 months (percentage)

Country	Gambling			Online gambling		
	Boys	Girls	Total	Boys	Girls	Total
Austria	20	11	16	8.3	1.3	4.9
Bulgaria	34	19	27	17	4.6	11
Croatia	34	9.3	22	15	2.1	8.7
Cyprus	49	22	33	29	7.3	16
Czechia	24	17	21	9.3	1.8	5.7
Denmark	21	4.1	12	19	1.2	9.5
Estonia	21	13	17	13	2.1	7.4
Faroes	34	16	25	17	2.8	10
Finland	41	20	30	14	2.1	7.9
France	–	–	–	–	–	–
Georgia	19	7.8	13	13	3.3	7.6
Germany	19	10	15	5.6	0.8	3.1
Greece	45	23	33	9.0	1.1	4.9
Hungary	28	15	22	13	1.7	7.3
Iceland	22	14	18	7.2	1.2	4.1
Ireland	30	19	24	10	2.5	6.0
Italy	41	22	32	12	2.6	7.6
Kosovo	15	7.0	11	21	11	16
Latvia	28	17	22	14	2.9	8.5
Lithuania	25	13	19	13	1.5	7.3
Malta	16	12	14	5.2	2.4	3.8
Monaco	36	19	27	16	2.8	9.4
Montenegro	46	18	32	21	4.2	13
Netherlands	25	17	21	8.8	1.9	5.3
North Macedonia	34	19	27	13	4.8	8.9
Norway	–	–	–	6.8	1.2	4.1
Poland	24	14	19	13	2.3	7.4
Portugal	32	14	22	11	1.0	5.7
Romania	35	14	25	15	2.4	8.6
Serbia	36	14	25	20	3.2	11
Slovakia	24	11	17	12	2.1	6.7
Slovenia	24	10	17	15	1.8	8.3
Spain	22	12	17	7.1	1.5	4.2
Sweden	21	14	18	14	2.6	8.1
Ukraine	28	14	21	17	2.7	9.5
Average	**29**	**15**	**22**	**13**	**2.7**	**7.9**
Min.	15	4.1	11	5.2	0.8	3.1
Max.	49	23	33	29	11	16

Table 11b. Proportions of different types of gamblers among those having gambled for money in the past 12 months (percentage)

Country	Slot machines	Cards or dice	Lotteries	Sports or animal betting
Austria	16	50	51	28
Bulgaria	24	55	66	41
Croatia	24	32	44	76
Cyprus	15	44	69	47
Czechia	7.4	47	61	26
Denmark	21	41	43	60
Estonia	13	47	56	33
Faroes	29	39	54	49
Finland	60	43	53	26
France	–	–	–	–
Georgia	40	65	27	44
Germany	15	69	19	28
Greece	7.5	41	74	30
Hungary	14	41	54	47
Iceland	20	38	60	32
Ireland	37	41	52	61
Italy	12	43	46	60
Kosovo	20	46	30	61
Latvia	15	52	53	30
Lithuania	14	58	59	28
Malta	25	54	48	27
Monaco	20	30	36	54
Montenegro	35	22	54	75
Netherlands	19	48	47	23
North Macedonia	24	28	58	50
Norway	–	–	–	–
Poland	27	50	45	37
Portugal	11	28	55	60
Romania	35	66	29	51
Serbia	15	24	56	67
Slovakia	12	52	29	56
Slovenia	19	32	51	50
Spain	17	41	52	41
Sweden	22	40	61	32
Ukraine	20	55	28	48
Average	**21**	**44**	**49**	**45**
Min.	7.4	22	19	23
Max.	60	69	74	76

Excessive gambling

As described in the methodology section, the CSPG (Rockloff, 2012) was added to the 2019 ESPAD questionnaire to measure the intensity of gambling activity among students. In this section, estimates of the proportions of excessive gamblers in the group of students who had gambled in the past 12 months are reported.

Country-level prevalence estimates of students gambling excessively in the total sample of students are available online (see Additional Table 101a).

Considering the prevalence in the student population, 3.8 % of ESPAD students reported a gambling behaviour that could be considered to be excessive gambling. Lower rates were found in Malta (1.3 %), Iceland and Slovakia (1.9 % each). Rates of about 5 % were found in North Macedonia, Ukraine, Italy, Cyprus and Romania. The highest rates were found in Kosovo (7.9 %) and Montenegro (12 %).

On the other hand, considering the proportion of excessive gamblers among those who had gambled in the last 12 months only, the average across all ESPAD countries was 15 %. As shown in Table 11c, rates below 10 % were found in the Netherlands (9.0 %), Iceland (8.3 %), Greece (7.7 %) and Malta (7.1 %). The highest rates were found in Montenegro (35 %), Kosovo (24 %) and Denmark (21 %), followed by Georgia, Bulgaria, Romania, Ukraine and Lithuania (all 20 %).

Overall, the proportion of excessive gamblers among 12-month gamblers was much higher among boys than girls (19 % versus 5.9 %). The largest gender differences (20 percentage points or more) were found in Lithuania, Georgia, Denmark, Bulgaria and Kosovo. The smallest gender differences (4-6 percentage points) were found in Slovakia, Malta and Croatia.

Problem gambling

As described in the methodology section, the Lie/Bet screening instrument (Johnson et al., 1997) was used in the 2019 ESPAD questionnaire to assess the presence of possible problem gambling behaviour. In Table 11c, estimates of the proportions of problem gamblers in the group of students who had gambled in the past 12 months are reported.

Reference to country-level prevalence estimates among the total sample is only made in detail in the online additional result tables (see Additional Table 90). Considering the ESPAD prevalence, 1.4 % of students were classified as problem gamblers. The prevalence of problem gambling was below 1 % in the Netherlands, Germany, Austria, Iceland, Spain, Malta and Estonia. The prevalence was higher than 2 % in Montenegro, Romania, the Faroes, Bulgaria and Cyprus.

Among students who had gambled in the last 12 months, the proportion of problem gamblers across all ESPAD countries was 5.0 %. As shown in Table 11c, the lowest proportion of students who had gambled in the past year and met the criteria for problem gambling behaviour was found in the Netherlands (1.3 %), while the highest proportion was found in Georgia (12 %), followed by Denmark (9.1 %) and Romania (8.5 %). In 12 ESPAD countries the proportion of problem gamblers among 12-month gamblers was higher than 5.0 %.

Overall, the proportion of 12-month gamblers displaying problems related to their gambling was higher among boys than girls, both on average (6.3 % versus 2.4 %) and in the majority of countries.

Table 11c. Estimation of excessive and problem gamblers among those having gambled in the past 12 months by gender (percentage)

Country	Excessive gambling	Problem gambling	Excessive gambling		Problem gambling	
			Boys	Girls	Boys	Girls
Austria	15	2.3	21	3.3	2.2	2.6
Bulgaria	20	7.4	27	6.8	9.4	3.8
Croatia	16	6.1	17	12	6.6	4.1
Cyprus	14	6.6	20	2.9	9.3	2.0
Czechia	11	3.1	15	4.5	4.2	1.4
Denmark	21	9.1	25	3.5	11	0.0
Estonia	15	4.1	20	6.6	5.9	1.3
Faroes	15	7.8	18	8.1	8.9	5.4
Finland	12	3.9	16	2.4	5.4	0.6
France	–	–	–	–	–	–
Georgia	20	12	28	5.0	15	4.8
Germany	15	3.9	19	7.3	5.3	1.4
Greece	7.7	4.6	11	1.4	6.5	1.1
Hungary	15	2.8	20	7.2	4.0	0.5
Iceland	8	2.1	11	4.1	2.4	1.7
Ireland	10	5.7	14	4.5	7.6	2.8
Italy	15	3.9	18	8.1	5.0	1.6
Kosovo	24	6.9	32	12	6.2	8.2
Latvia	12	4.0	16	4.6	5.6	1.4
Lithuania	20	4.5	28	2.1	6.1	1.4
Malta	7.1	5.2	9.4	3.8	6.3	3.6
Monaco	15	4.6	22	2.8	5.7	2.6
Montenegro	35	7.6	39	25	7.9	6.9
Netherlands	9.0	1.3	14	2.3	1.5	1.0
North Macedonia	13	4.5	19	2.0	5.8	2.3
Norway	–	–	–	–	–	–
Poland	11	6.8	15	4.1	9.2	3.2
Portugal	13	3.2	17	4.6	4.5	0.6
Romania	20	8.5	24	8.1	10	3.9
Serbia	16	4.5	20	7.2	5.9	1.2
Slovakia	10	2.7	11	6.7	4.0	0.0
Slovenia	14	4.2	18	4.8	5.4	1.7
Spain	10	3.2	12	5.8	4.0	1.9
Sweden	12	2.9	19	1.8	5.0	0.0
Ukraine	20	4.5	25	9.5	5.5	2.7
Average	**15**	**5.0**	**19**	**5.9**	**6.3**	**2.4**
Min.	7.1	1.3	9.4	1.4	1.5	0.0
Max.	35	12	39	25	15	8.2

Social media use and gaming

ESPAD average Social media use and gaming				
	None [a,b] (%)	Mode (hours/ day)	Min. (hours/ day)	Max. (hours/ day)
Social media use (mean) [c]				
Hours on a school day	6.4	2-3	0.5	6+
Hours on a non-school day	4.4	6+	0.5	6+
Gaming (mean) [d]				
Hours on a school day	40	0.5	0.5	6+
Hours on a non-school day	31	2-3	0.5	6+
		Average	Min.	Max.
Self-perceived problems index (mean) [e]				
Social media use		46	31	63
Gaming		21	12	44

[a] Percentage of students who spent no hours on social media in the last 7 days.

[b] Percentage of students who spent no hours on gaming in the last 30 days.

[c] Modal class of mean number of hours spent on social media in the last 7 days among those who used social media.

[d] Modal class of mean number of hours spent gaming in the last 30 days among those who played games.

[e] Self-perceived problems with computer gaming and internet use based on a short non-clinical scale, adapted from Holstein et al., 2014: percentage of high-risk problem users.

Social media use

About 94 % of the ESPAD students reported use of social media in the last 7 days. In all participating countries, the most commonly reported amount of time spent on social media, on a typical school day within the last 7 days, was on average 2-3 hours a day (Table 12a). The comparative figure for a typical non-school day was 6 or more hours (Table 12b). The frequency of use on a non-school day was lower in Austria, Czechia, Denmark, Iceland and Slovenia (2-3 hours), as well as in Estonia, Germany, Spain and Sweden (4-5 hours). In many ESPAD countries, girls spent more time on social media than boys, particularly on a typical non-school day. On school days, girls spent more time than boys using social media in North Macedonia, Montenegro, Romania, Ukraine (2-3 hours for boys versus 6 or more hours for girls) and Georgia (none for boys versus 2-3 hours for girls), as well as in Czechia and Monaco (about 1 hour versus 2-3 hours) and Finland (2-3 hours versus 4-5 hours).

Gaming

With regard to gaming activities, 41 % of the ESPAD students reported not having played digital games on a typical school day within the last 30 days, and 32 % reported not having played digital games on a non-school day within the last 30 days. The exceptions to this were Bulgaria and Sweden, where almost 70 % of students on a school day and almost

80 % on a non-school day had engaged in gaming. In Bulgaria, the modal class was represented by 6 or more hours on a non-school day, and in Sweden the modal class was represented by 2-3 hours per day on a non-school day. Among gamers, the modal class was represented on average by half an hour or less on a typical school day and 2-3 hours on a non-school day (Table 12b).

Noticeable gender differences were observed in the large majority of countries, with boys more frequently engaged in gaming than girls, both on a typical school day and a typical non-school day; boys reported spending twice as much time on gaming than girls in most countries. In some countries, such as Finland, Denmark and Estonia, the percentage of boys engaged in gaming on a school day was up to 4-5 times higher than the percentage of girls engaged in gaming on a school day. These differences become even more evident when looking at the engagement in gaming among boys and girls on non-school days (Table 12b).

Self-perceived problems with social media use and gaming

Two summary indexes for the estimation of perceived risks related to social media use and gaming were calculated (range 0-3). These non-clinical screening tools (Holstein et al., 2014) focus on a student's perception of problems related to time spent on these activities, of bad feelings in case of restricted access and of family concerns. Index scores of 0-1 and 2-3 were considered to be indicative of self-perceived low and high risks of problem use, respectively. For more details, see the methodology section.

On average, 46 % of students scored 2-3 points on the index for self-perceived problems with social media use, suggesting a high risk of problems related to social media use; this ranged from 31-32 % in Denmark, Poland and Iceland, to 63 % in Montenegro. Similarly, on average, 21 % of students scored 2-3 points on the index for self-perceived problems with gaming, suggesting a high risk of problems related to gaming; this ranged from 12 % in Denmark to 44 % in Georgia (Table 12c).

Noticeable gender differences, albeit in different directions, were found for both self-perceived problems with social media use and self-perceived problems with gaming. Higher rates of problems related to social media use were found among girls than among boys in all countries except Kosovo (51 % for boys versus 47 % for girls); the gender difference was more than 10 percentage points in all countries except Georgia and Kosovo. Particularly large gender differences were observed in the Faroes (66 % for girls versus 40 % for boys), Slovakia (57 % versus 33 %) and Serbia (67 % versus 45 %).

Contrary to this, all ESPAD countries reported higher rates of self-perceived problems with gaming among boys than among girls. The highest gender differences were observed in Portugal (43 % for boys versus 7.3 % for girls) and the Faroes (40 % versus 8.6 %).

Table 12a. Average number of hours spent on social media in the last 7 days (modal class) on a typical school day by gender (percentage)

Country	Social media hours last week: school day						Social media hours last week: school day											
	None	Half an hour	About 1 hour	2-3 hours	4-5 hours	6+ hours	None		Half an hour		About 1 hour		2-3 hours		4-5 hours		6+ hours	
							Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Austria	4.5	12	20	32	18	14	7.2	1.8	16	8.7	22	18	29	36	14	22	12	15
Bulgaria	15	11	16	24	13	20	21	10	14	8.9	18	15	22	25	10	17	15	24
Croatia	3.8	8.7	16	32	20	19	5.8	1.7	12	5.0	20	13	30	34	16	24	16	22
Cyprus	11	7.7	19	31	19	13	17	5.6	11	5.1	23	16	26	35	13	24	10	14
Czechia	5.1	19	22	26	15	13	7.0	3.2	22	15	25	18	24	29	11	19	11	16
Denmark	1.8	8.8	18	40	22	9.4	2.9	0.9	11	6.8	22	15	37	42	18	25	9.2	10
Estonia	3.6	10	17	31	22	16	5.3	2.1	14	6.6	21	13	29	33	17	27	13	18
Faroes	3.0	10	16	31	21	19	5.3	0.8	14	5.9	18	13	31	30	15	28	16	23
Finland	1.4	1.7	8	35	34	20	2.6	0.1	2.6	0.7	12	4.9	40	30	26	41	17	23
France	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Georgia	19	13	16	23	13	17	24	14	14	12	16	15	22	23	10	16	13	19
Germany	2.2	10	19	40	18	10	3.4	1.1	14	6.2	23	16	37	43	12	24	11	10
Greece	5.9	8.0	18	33	20	15	7.6	4.3	10	6.1	21	14	33	34	16	25	13	17
Hungary	4.9	10	19	30	20	16	6.9	2.9	12	7.9	24	15	29	30	14	25	14	19
Iceland	7.6	6.2	13	32	21	21	11	4.4	8.1	4.4	18	8.5	28	35	15	26	19	22
Ireland	3.6	5.5	16	37	23	15	5.3	2.0	7.0	4.0	19	13	36	37	18	27	14	17
Italy	5.4	12	19	31	19	13	7.4	3.2	16	8.3	23	16	31	32	13	25	11	15
Kosovo	19	11	16	25	13	16	22	16	9.3	12	14	17	23	28	13	13	18	14
Latvia	2.8	8.1	14	30	23	22	4.6	0.9	11	4.7	18	10	29	30	19	28	18	25
Lithuania	6.0	7.0	15	35	21	17	8.7	3.4	10	4.5	18	11	33	36	16	25	14	19
Malta	8.6	6.3	15	32	21	17	12	5.5	7.0	5.5	17	13	33	31	17	26	14	19
Monaco	2.8	6.8	28	32	19	11	5.3	0.5	9.2	4.5	33	24	28	37	15	21	10	13
Montenegro	6.4	7.8	16	27	18	25	10	2.9	10	6.0	17	14	27	27	15	22	22	29
Netherlands	3.0	6.9	19	38	19	13	3.8	2.3	9.2	4.7	23	16	35	42	16	23	13	12
North Macedonia	12	16	14	23	16	19	14	10	17	15	17	12	24	22	13	19	15	22
Norway	4.0	8.6	15	34	23	16	6.3	1.8	11	6.1	18	12	33	34	18	29	14	17
Poland	6.0	8.3	16	31	21	18	8.0	4.2	12	4.8	20	13	31	31	15	26	13	22
Portugal	3.9	11	19	31	19	17	5.9	2.2	14	8.3	22	16	27	34	16	22	16	17
Romania	6.9	4.7	13	27	24	25	8.8	5.0	5.9	3.5	15	11	28	26	21	27	20	29
Serbia	5.0	13	20	31	16	15	7.5	2.6	18	9.1	24	17	30	33	10	20	11	19
Slovakia	12	16	19	26	13	13	15	9.5	20	12	19	19	25	26	8.9	18	11	16
Slovenia	2.9	11	23	35	17	11	4.0	1.8	15	7.4	26	21	31	39	13	20	10	11
Spain	3.6	8.9	21	38	19	10	5.4	1.9	11	6.7	26	16	36	39	13	24	8.2	12
Sweden	6.5	12	23	32	16	10	10	3.2	15	9.0	25	21	29	36	12	20	9.2	11
Ukraine	6.9	8.6	14	27	20	24	11	3.0	12	5.7	17	11	28	26	16	24	17	30
Average	6.4						8.9	4.0										

Modal class

- All students
- Boys
- Girls

Table 12b. Average number of hours spent on social media in the last 7 days (modal class) on a typical non-school day by gender (percentage)

Country	Social media hours last week: non-school day						Social media hours last week: non-school day											
	None	Half an hour	About 1 hour	2-3 hours	4-5 hours	6+ hours	None		Half an hour		About 1 hour		2-3 hours		4-5 hours		6+ hours	
							Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Austria	5.0	9.4	15	26	23	22	7.5	2.5	13	5.9	17	12	26	26	18	28	18	26
Bulgaria	10	4.5	9.4	20	19	36	15	6.3	6.2	2.9	13	5.7	22	18	17	21	27	45
Croatia	3.9	6.5	11	27	25	28	6.0	1.7	8.8	4.0	15	6.3	27	25	20	30	23	33
Cyprus	6.8	3.3	9.0	23	25	33	12	3.2	5.1	2.0	14	5.1	24	22	22	27	24	41
Czechia	4.5	14	18	26	17	21	5.6	3.3	17	10	20	15	25	27	14	20	19	24
Denmark	2.1	6.2	11	29	29	23	3.3	0.9	7.5	5.0	14	7.9	31	27	23	34	21	25
Estonia	3.2	7.0	11	24	28	26	5.0	1.5	9.1	5.1	15	8.0	27	22	22	33	22	31
Faroes	2.4	5.4	7.8	23	29	32	4.5	0.4	7.8	3.1	10	5.5	26	21	27	31	25	39
Finland	1.5	1.6	4.0	22	35	36	2.9	0.1	2.5	0.6	5.8	2.3	28	16	32	38	29	43
France	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Georgia	11	6.9	9.0	21	20	32	15	6.7	9.0	5.0	11	7.7	22	20	18	22	25	38
Germany	1.1	5.6	10	28	29	27	1.8	0.5	8.5	2.8	14	6.7	29	26	22	35	24	29
Greece	2.9	3.5	9.0	25	28	31	4.3	1.6	4.6	2.4	13	5.5	27	23	26	30	26	37
Hungary	3.7	5.5	10	24	25	32	5.2	2.2	6.9	4.1	13	6.3	28	21	22	27	25	39
Iceland	7.9	5.7	11	27	24	25	12	4.4	7.9	3.6	14	7.3	27	27	18	29	22	28
Ireland	2.7	2.8	5.7	20	30	39	3.9	1.5	4.5	1.3	7.1	4.4	23	17	28	31	34	44
Italy	3.7	3.3	11	26	24	32	5.5	1.7	4.6	1.9	14	7.5	31	21	22	27	23	42
Kosovo	11	3.9	10	21	21	33	13	9.4	3.9	3.9	10	11	19	22	19	22	35	32
Latvia	2.4	6.4	11	26	25	28	4.3	0.5	9.2	3.7	15	8.0	29	24	21	29	22	34
Lithuania	4.6	3.1	7.6	23	29	33	6.2	2.9	5.3	1.0	10	5.1	26	20	25	33	27	39
Malta	2.9	3.0	5.6	21	27	41	4.1	1.5	3.7	2.3	7.1	4.2	25	17	26	28	34	47
Monaco	0.9	5.4	10	27	28	29	1.9	0.0	8.3	2.7	12	7.3	29	25	26	31	23	34
Montenegro	6.0	4.0	10	22	22	36	9.2	2.8	5.5	2.6	13	6.7	23	20	20	24	29	43
Netherlands	2.8	1.4	6.0	22	33	35	3.8	1.9	2.0	0.8	8.6	3.4	24	20	30	36	32	38
North Macedonia	7.2	4.2	8.9	19	22	39	9.0	5.6	5.1	3.3	11	7.1	22	16	20	24	33	44
Norway	2.8	5.0	9.4	24	30	30	4.4	1.2	7.1	3.0	12	6.5	26	21	25	33	24	35
Poland	5.8	6.8	13	24	24	26	8.0	3.8	9.1	4.7	17	9.1	27	23	20	28	19	32
Portugal	3.1	5.7	10	22	23	36	4.5	1.9	7.7	3.9	12	7.3	25	20	20	27	31	41
Romania	6.3	3.4	9.1	20	26	36	8.4	4.3	4.4	2.5	12	6.3	22	18	25	26	29	43
Serbia	3.5	4.4	11	23	25	33	5.9	1.3	7.5	1.6	16	5.9	28	19	21	28	22	45
Slovakia	3.2	6.3	11	25	21	33	5.1	1.4	8.7	4.1	14	8.1	27	24	19	23	27	39
Slovenia	2.6	7.2	15	27	26	22	3.6	1.7	10	4.4	18	11	29	26	21	32	19	25
Spain	1.9	3.4	8.3	27	31	29	3.0	0.8	4.9	2.0	11	5.3	32	22	27	33	22	36
Sweden	4.2	4.2	11	25	29	27	6.5	1.8	5.6	2.9	13	8.1	26	23	25	33	23	31
Ukraine	6.2	7.1	11	21	23	32	10	2.4	11	3.5	14	8.4	24	18	18	28	23	41
Average	4.4						6.5	2.5										

Modal class

- All students
- Boys
- Girls

Table 12c. Average number of hours spent on gaming in the last 30 days (modal class) on a typical school day by gender (percentage)

Country	Gaming hours last 30 days: school day						Gaming hours last 30 days: school day											
	None	Half an hour	About 1 hour	2-3 hours	4-5 hours	6+ hours	None		Half an hour		About 1 hour		2-3 hours		4-5 hours		6+ hours	
							Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Austria	50	12	12	13	6.3	6.4	32	69	13	12	17	6.7	19	6.0	9.3	3.2	10	3.2
Bulgaria	32	19	18	15	6.6	9.8	24	40	17	21	19	16	19	12	8.6	4.6	13	6.8
Croatia	37	20	18	14	4.5	6.5	21	53	15	26	25	11	22	6.0	7.0	1.8	10	2.7
Cyprus	49	15	16	14	2.9	3.8	30	63	16	14	21	12	23	6.9	3.6	2.4	6.2	2.1
Czechia	37	19	17	17	6.9	4.4	17	57	14	23	22	11	27	6.1	12	1.8	7.6	1.1
Denmark	25	24	17	19	9.2	5.9	9.2	40	12	35	20	14	32	7.4	16	2.6	11	1.6
Estonia	27	18	16	21	8.5	9.0	10	43	11	24	18	15	31	12	15	2.9	15	3.2
Faroes	26	21	13	18	7.3	14	12	40	14	28	14	13	22	14	13	1.9	25	2.7
Finland	23	21	19	21	8.6	6.9	7.7	38	10	32	24	15	33	9.4	14	2.8	12	1.9
France	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Georgia	51	18	13	11	3.8	3.9	36	64	18	17	17	8.9	17	6.3	6.0	1.9	6.6	1.5
Germany	36	18	17	18	5.1	5.7	15	56	14	22	23	12	29	7.6	8.3	2.0	10	1.5
Greece	54	12	14	12	4.3	3.7	29	77	14	10	22	6.9	21	3.7	7.2	1.6	6.4	1.2
Hungary	38	18	18	16	4.1	5.5	22	55	14	23	24	12	25	6.6	6.4	1.7	9.0	1.9
Iceland	42	11	13	15	8.5	12	17	65	8.8	13	17	8.7	23	6.6	14	3.7	21	3.1
Ireland	56	11	13	11	4.3	3.9	34	76	11	12	21	6.7	21	2.4	7.3	1.6	6.6	1.3
Italy	38	21	20	14	3.8	4.1	22	55	18	24	28	11	20	6.1	5.4	2.0	6.7	1.3
Kosovo	61	13	13	7.5	2.2	3.6	50	70	13	13	16	10	12	3.7	3.2	1.4	6.1	1.4
Latvia	43	13	14	16	6.8	8.0	22	65	12	14	17	10	24	7.7	11	2.1	14	2.0
Lithuania	31	17	18	19	6.8	7.2	16	46	11	24	23	14	28	10	10	3.6	12	2.5
Malta	34	22	18	14	6.6	6.3	21	47	17	26	22	13	21	7.1	8.8	4.3	10	2.8
Monaco	39	22	18	11	5.4	5.2	24	53	18	25	25	12	16	6.4	10	1.4	7.7	2.7
Montenegro	41	19	16	13	5.0	6.7	25	57	15	22	21	11	20	6.1	8.2	1.8	11	2.3
Netherlands	41	18	16	16	4.0	4.3	21	60	18	19	25	7.8	24	8.4	5.8	2.1	6.2	2.5
North Macedonia	44	22	16	10	3.5	4.3	30	58	21	23	21	12	16	4.3	5.4	1.8	6.9	1.9
Norway	37	16	15	18	8.1	6.8	15	58	11	21	19	10	29	6.8	14	2.1	12	1.9
Poland	32	14	17	20	8.9	7.2	16	47	9.4	19	19	16	30	11	15	3.4	11	3.6
Portugal	42	18	17	13	4.8	5.5	18	62	16	19	24	11	23	4.9	8.5	1.6	11	1.2
Romania	44	13	17	15	5.6	5.8	22	65	12	14	23	11	25	5.0	9.2	2.0	8.9	2.8
Serbia	40	22	17	12	3.5	4.1	22	57	20	24	25	10	19	6.0	5.7	1.4	7.0	1.3
Slovakia	53	14	13	11	3.9	5.4	33	73	16	12	18	7.4	17	4.6	6.7	1.3	10	1.1
Slovenia	42	24	15	12	3.5	2.7	23	60	22	26	23	8.3	20	4.0	6.2	1.0	5.0	0.6
Spain	44	21	19	10	3.0	3.2	29	57	19	23	25	13	17	4.2	4.4	1.7	5.9	0.8
Sweden	27	22	19	19	6.6	6.2	18	37	14	29	20	19	27	11	11	2.6	11	1.9
Ukraine	28	18	18	18	8.7	9.6	17	39	11	25	19	16	26	9.3	12	5.3	14	5.0
Average	40						22	56										

Modal class

- All students
- Boys
- Girls
- Among gamers
- Among male gamers
- Among female gamers

Table 12d. Average number of hours spent on gaming in the last 30 days (modal class) on a typical non-school day by gender (percentage)

Country	Gaming hours last 30 days: non-school day						Gaming hours last 30 days: non-school day											
	None	Half an hour	About 1 hour	2-3 hours	4-5 hours	6+ hours	None		Half an hour		About 1 hour		2-3 hours		4-5 hours		6+ hours	
							Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Austria	45	9.3	8.9	13	9.9	14	25	65	7.5	11	11	6.6	19	6.6	15	5.0	22	5.3
Bulgaria	21	11	15	19	12	22	13	28	7.1	14	12	18	22	17	16	8.4	29	14
Croatia	32	15	14	17	11	11	15	50	9.0	21	16	13	24	8.8	18	4.0	19	3.5
Cyprus	37	11	13	18	11	11	18	52	7.3	13	15	11	25	13	18	5.2	17	5.4
Czechia	31	15	13	17	11	12	12	50	9.5	21	13	13	26	8.9	18	4.2	21	2.5
Denmark	21	19	14	16	14	17	6.8	33	6.9	29	10	18	21	11	23	5.8	33	3.1
Estonia	22	14	13	18	14	19	6.2	36	6.2	22	10	15	21	15	22	7.2	34	5.7
Faroes	27	14	12	15	12	20	10	43	4.9	23	8.9	15	17	13	20	4.7	39	1.6
Finland	20	17	14	19	15	15	5.6	35	6.6	27	12	17	26	12	24	5.9	26	3.6
France	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Georgia	39	14	12	15	9.3	10	25	51	10	17	13	11	21	10	14	5.2	16	4.7
Germany	26	14	14	18	13	15	7.7	44	8.4	19	11	16	25	11	21	5.5	26	4.7
Greece	43	9.3	10	16	11	11	15	68	7.1	11	13	8.1	26	5.8	18	3.3	20	3.0
Hungary	29	12	13	18	13	16	12	45	6.3	17	10	15	24	13	21	5.0	26	5.3
Iceland	41	9.0	9.3	16	11	14	16	64	5.5	12	11	7.4	25	6.9	16	5.5	26	3.5
Ireland	45	9.0	8.9	18	8.6	11	16	71	6.9	11	11	7.2	30	5.9	15	2.5	21	2.6
Italy	29	15	17	20	10	9.1	15	45	8.7	21	18	15	28	12	16	4.0	14	3.4
Kosovo	50	12	11	13	6.3	7.9	37	61	11	12	12	11	17	9.3	9.7	3.4	13	3.1
Latvia	37	11	11	17	11	14	16	58	8.5	14	12	10	23	9.8	17	4.0	24	3.6
Lithuania	24	13	13	20	15	17	10	37	5.3	21	12	13	25	15	21	8.2	27	5.9
Malta	22	16	14	19	13	17	9.1	34	6.8	25	12	16	26	12	19	6.0	27	7.4
Monaco	27	13	17	18	8.4	15	11	43	4.8	21	16	19	29	8.2	14	2.7	25	5.9
Montenegro	33	16	16	15	9.0	11	19	47	11	21	16	15	23	8.0	14	4.3	18	3.7
Netherlands	28	13	12	20	10	15	12	45	7.8	18	11	14	29	12	16	5.4	25	6.1
North Macedonia	30	18	17	15	9.2	11	18	42	11	24	17	16	21	9.4	15	3.9	18	4.7
Norway	31	12	9.7	17	14	17	10	53	4.6	19	8.9	11	24	9.5	24	3.9	29	4.0
Poland	31	11	12	19	13	13	14	47	5.7	16	11	14	26	13	22	5.5	21	5.3
Portugal	32	13	11	16	12	16	9.4	51	5.0	19	10	11	22	11	21	3.4	32	3.5
Romania	40	11	12	16	11	10	19	60	8.5	13	13	12	24	8.3	18	3.3	17	4.0
Serbia	29	15	16	18	11	11	13	44	9.5	21	15	17	28	9.5	17	4.7	18	4.2
Slovakia	39	11	11	15	8.5	15	15	62	8.2	14	13	9.8	23	7.5	14	3.2	27	3.4
Slovenia	33	19	14	16	9.6	8.4	14	50	13	25	15	14	25	6.6	17	2.7	16	1.7
Spain	28	13	14	20	13	13	8.4	45	5.7	20	13	15	28	12	21	4.4	23	3.0
Sweden	19	12	14	21	14	19	8.6	30	4.6	20	8.6	20	25	18	22	6.5	32	6.1
Ukraine	25	15	16	17	13	15	13	36	8.7	21	14	17	23	11	19	7.4	22	8.1
Average	31						14	48										

Modal class

- All students
- Boys
- Girls
- Among gamers
- Among male gamers
- Among female gamers

Table 12e. Self-perceived high risk of problems with social media use and gaming (percentage)

Country	Social media	Gaming	Social media		Gaming	
			Boys	Girls	Boys	Girls
Austria	47	16	41	53	28	4.3
Bulgaria	50	29	43	56	37	22
Croatia	53	22	47	60	34	11
Cyprus	44	22	36	51	32	15
Czechia	34	13	25	43	22	3.9
Denmark	31	12	21	40	23	2.5
Estonia	34	14	24	43	25	3.8
Faroes	54	24	40	66	40	8.6
Finland	38	13	29	47	23	3.6
France	–	–	–	–	–	–
Georgia	55	44	51	57	46	43
Germany	42	19	34	50	34	5.7
Greece	44	19	37	51	30	8.2
Hungary	35	19	26	45	29	8.3
Iceland	32	14	24	40	23	6.6
Ireland	53	19	42	64	31	7.0
Italy	53	24	44	62	34	13
Kosovo	49	23	51	47	31	15
Latvia	51	23	42	59	36	10
Lithuania	48	26	39	58	36	17
Malta	50	24	44	56	36	12
Monaco	42	18	33	50	30	6.2
Montenegro	63	27	56	69	38	16
Netherlands	39	14	31	47	23	5.0
North Macedonia	55	22	48	62	32	13
Norway	33	13	23	43	21	5.0
Poland	32	13	24	40	21	6.6
Portugal	52	24	43	61	43	7.3
Romania	53	30	45	62	39	22
Serbia	56	23	45	67	35	12
Slovakia	45	17	33	57	29	5.1
Slovenia	53	18	43	62	29	6.9
Spain	43	16	36	50	29	5.0
Sweden	46	22	36	55	32	11
Ukraine	40	20	32	47	29	11
Average	**46**	**21**	**37**	**54**	**31**	**10**
Min.	31	12	21	40	21	2.5
Max.	63	44	56	69	46	43

Trends
1995-2019

Trends 1995-2019

This chapter presents changes in selected indicators of substance use from 1995 to 2019. The indicators covered include students' perceptions of substance availability, early onset of substance use, prevalence and patterns of substance use. Trends in the selected indicators were calculated using the ESPAD 1995-2019 trend database, which includes data from all of the available national survey waves since the inception of the ESPAD project. It is therefore possible that the results presented in this section differ slightly from those in the 2015 report, as at the time no such database existed and the trends in

selected indicators of substance use were calculated using the survey prevalence results reported in previous ESPAD reports. It is also possible that for specific years data from some countries were not included because, even though the survey was conducted, the respective dataset was not available to be merged into the ESPAD 1995-2019 trend database. For more detailed information on the ESPAD 1995-2019 trend database, see the methodology section.

Sample sizes for all countries that participated in the 2019 data collection are shown in Table 13.

Table 13. Overview of ESPAD surveys conducted between 1995 and 2019 by country contained in the ESPAD trend database 1995-2019. Sample size.

Country	1995	1999	2003	2007	2011	2015	2019
Albania	–	–	–	–	3 189	2 553	–
Armenia	–	–	–	4 055	–	–	–
Austria	–	–	2 354	2 571	–	3 694 (ª)	4 334 (ª)
Belgium (Flanders)	–	–	1 291	1 889 (ᶜ)	1 797 (ᵇ)	1 771 (ᵇ)	–
Belgium (Wallonia)	–	–	973	–	–	–	–
Bosnia and Herzegovina (FBiH)	–	–	–	2 973 (ᶜ)	4 528 (ᵈ)	–	–
Bosnia and Herzegovina (RS)	–	–	–	2 609 (ᶜ)	3 132	–	–
Bulgaria	–	– (ᵉ)	2 666	2 353	2 217	2 922	2 864
Croatia	– (ᵉ)	3 555	2 852	3 008	3 002	2 558	2 772
Cyprus	– (ᵉ)	– (ᵉ)	2 142	6 340	4 243	2 098	1 224
Czechia	2 946	3 543	3 149	3 901	3 913	2 773	2 778
Denmark	2 216	1 546	2 504	877 (ᶠ)	2 181	1 670	2 487 (ª)
Estonia	– (ᵉ)	– (ᵉ)	2 431	2 372	2 460	2 452	2 520
Faroes	480	413	582	552	557	511	511 (ᵍ)
Finland	2 160	3 005	3 219	4 988	3 744	4 049	4 541
France	–	2 266	2 277	2 918	2 572	2 714	2 588 (ª,ʰ)
Georgia	–	–	–	–	–	1 966 (ᵈ)	3 092
Germany (Bavaria) (ⁱ)	–	–	811	814	724	862	1 459
Germany (ⁱ)	–	–	3 058	5 011	2 796	–	–
Greece	–	2 195	1 891	3 060	1 706	3 202	5 988
Greenland	–	– (ᵉ)	502	–	–	–	–
Hungary	8 801	2 383	2 647	2 816	3 063	2 647	2 355
Iceland	3 668	3 457	3 313	3 510	3 333	2 663	2 534 (ª)
Ireland	1 839	– (ᵉ)	– (ᵉ)	2 221	2 207	1 470	1 940
Isle of Man	–	–	710	740	– (ᵉ)	–	–
Italy	1 437	4 073	4 818	9 981	4 837	4 059	2 542 (ᵍ)
Kosovo	–	–	–	–	2 324 (ᵈ)	–	1 756

Country	1995	1999	2003	2007	2011	2015	2019
Latvia	– (e)	2 289	2 816	2 275	2 622	1 119 (a,f,h)	2 743
Liechtenstein	–	–	–	–	366	316 (a)	–
Lithuania	– (e)	– (e)	5 028	2 411	2 476	2 573	2 393
Malta	– (e)	3 635	3 443	3 668	3 377	3 326	3 043
Moldova	–	–	–	3 176 (c)	2 162	2 586	–
Monaco	–	–	–	393	401	397	428
Montenegro	–	–	–	5 823 (c)	3 387	3 844	5 700
Netherlands	–	2 581	2 070	2 088	2 044 (d)	1 684 (a,d)	1 288 (a,d)
North Macedonia	–	– (e)	–	2 452 (c)	–	2 428	2 930
Norway	3 887	3 753	3 745	3 484	2 927	2 575	4 313 (a)
Poland	4 898	2 328	3 798	2 120	2 472	3 289	2 372
Portugal	2 032	3 577	2 919	3 141	1 965	3 456	4 365
Romania	–	2 368	4 330	2 292	2 772	3 500	3 764
Russia (Moscow district)	–	2 918	1 883	1 973	1 757	–	–
Russia (excluding Moscow)	–	–	–	1 966	–	–	–
Serbia	–	–	–	6 156 (c)	6 084	–	3 529
Slovakia	2 385	2 437	2 122	2 468	2 009	2 208	2 258
Slovenia	2 410	2 347	2 758	3 085	3 186	3 484	3 413
Spain	–	–	–	–	–	–	3 557
Sweden	3 467	3 271	3 212	3 179	2 569	2 551	2 546
Switzerland	–	–	2 572	2 499	–	–	–
Turkey	– (e)	–	3 909	–	–	–	–
Ukraine	6 624	2 778	4 102	2 443	2 210	2 472	2 731
United Kingdom	7 674	2 583	2 003	2 179	1 683 (f)	–	–

(a) Data collected online (web survey).

(b) Data collected in the autumn of the previous year.

(c) Data collected in 2008 instead of 2007.

(d) Data collected in the autumn of the same year.

(e) Data collected but not delivered.

(f) Limited comparability.

(g) Data collected with a mixed mode (paper and pencil and web based).

(h) Data collected in 2018 instead of 2019.

(i) In Germany the study was performed: in 2003 in 6 federal states; in 2007 in 7 federal states; in 2011 in 5 federal states; in 2015 and 2019 in the Bavaria federal state only. For comparative reasons in the ESPAD trend database the data related to Bavaria have been extracted to compute trends.

Trends across 30 countries

In this section, overall trends measured using country-specific means from 30 countries are reported between 1995 and 2019. The 30 countries included were Austria, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, the Faroes, Finland, France, Germany (Bavaria), Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Malta, Monaco, Montenegro, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Sweden and Ukraine (Figure 11). Trends for 15 key variables are shown in Table 14 and trends by gender are graphically depicted in Figures 12-26.

Figure 11.   Countries included in the 30-country average
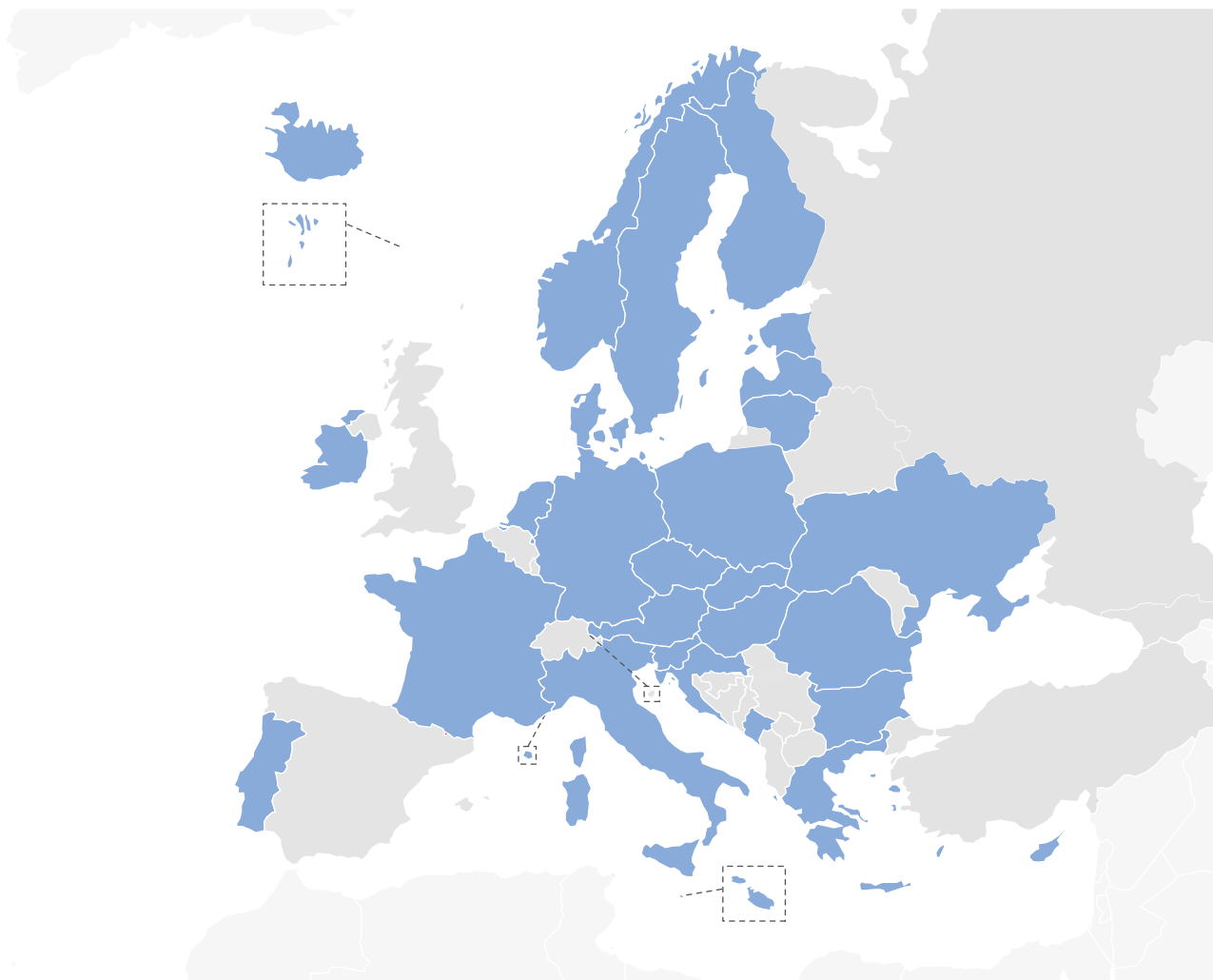
Table 14.   ESPAD average for selected indicators based on 30 countries: 1995-2019 (percentage)

Measure	1995	1999	2003	2007	2011	2015	2019 (ª)	2019 cigarette and/or e-cigarette use (ª)
Perceived availability of cannabis (ᵇ)	–	–	–	33	32	32	33	
Early onset of daily cigarette use	10	9.3	10	7.3	7.1	4.2	3.0	4.0
Early onset of cannabis use	1.6	2.6	3.5	3.7	3.3	3.2	2.5	
Lifetime use of cigarettes	68	68	67	60	56	47	42	54
Current cigarette use	33	36	34	29	30	22	20	27
Daily cigarette use	20	26	23	19	18	13	10	12
Lifetime alcohol use	88	89	91	89	87	82	80	
Current alcohol use	55	58	63	60	58	48	48	
Heavy episodic drinking	36	38	41	43	41	36	35	
Lifetime illicit drug use	12	18	19	19	20	19	18	
Lifetime cannabis use	11	16	18	17	18	17	16	
Lifetime use of illicit drugs other than cannabis	3.3	6.3	5.2	7.0	6.3	5.2	5.1	
Current cannabis use	4.1	6.7	7.0	6.4	7.6	7.2	7.4	
Lifetime inhalant use	7.4	8.0	9.0	8.8	10	7.8	7.9	
Lifetime use of tranquillisers or sedatives without a doctor's prescription	7.4	7.3	6.1	6.7	6.9	6.3	7.0	

(ª)   In the ESPAD 2019 questionnaire questions about cigarette smoking specifically exclude e-cigarettes. Prevalence estimates for 2019 are therefore reported separately for cigarette use and cigarette and/or e-cigarette use.

(ᵇ)   In 1995-2003 cannabis was combined with other substances but since 2007 cannabis availability has been measured separately. A 2006 questionnaire test in eight countries showed significant differences in results between the two approaches; hence, trends cannot be compared between the years before 2007 and the years after 2007.

Perceived availability of cannabis

The average percentage of students reporting that they would find it easy (combined positive responses of 'very easy' and 'fairly easy') to obtain cannabis if they wanted to remained substantially stable between 2007 and 2019. Rates among boys were slightly higher than those among girls (Figure 12). Overall, the perceived availability of cannabis increased between 2007 and 2019 from 34 % to 35 % among boys and from 31 % to 32 % among girls.

Early onset of substance use

Daily smoking

On average, between 1995 and 2003 the rate of early onset of daily cigarette smoking (at age 13 or younger) was relatively stable at about 10 %, with the rate dropping thereafter by 2019 to 3 % if cigarettes only are considered (or to 4 % if e-cigarettes are included). This general trend indicates a large decrease in the rate of early onset of daily smoking over the last 10 years (Table 14). Gender-specific trends are almost parallel, with slightly lower rates among girls than among boys. In 2019, if only cigarette smoking is considered, there was a small gender difference in the rate

of early onset of daily smoking (3.5 % for boys and 2.6 % for girls), while if e-cigarette use is included the rate was 2 percentage points higher among boys than among girls (Figure 13).

Cannabis use

On average, the rate of early onset of cannabis use (at age 13 or younger) increased slightly between 1995 and 2007 and slowly decreased thereafter (Table 14). Trends by gender are almost parallel, with the rate among girls being slightly lower than the rate among boys (Figure 14).

Cigarette use

On average, lifetime prevalence of cigarette use showed a stable trend between 1995 and 2003 and decreased thereafter (Table 14). Interestingly, if both cigarette and e-cigarette use are analysed as a combined value, the 2019 rate is higher (by 7 percentage points) than the 2015 rate, almost reaching the level observed in 2011. It should be borne in mind that in 2015 and 2011 specific information on e-cigarette use was not collected in all countries and so a combined value is not available for comparison.

Lifetime cigarette use rates were generally higher among boys than among girls, but the gender gap visible in 1995 narrowed in 2019 (Figure 15). However, if both cigarette use and e-cigarette use are considered as a combined variable, in 2019, the lifetime prevalence rate among boys was far higher than that among girls compared with previous years (57 % versus 50 %).

Similar trends can be observed for current cigarette use and daily cigarette use (Table 14). The rate of current (last-30-day) use decreased by 13 percentage points between 1995 and 2019 (Table 14 and Figure 16), and the reduction in daily use between 1995 and 2019 amounted to 10 percentage points (Table 14 and Figure 17). For both indicators, if e-cigarette use is also considered, in 2019, the prevalence rate increases to 27 % for current use and 12 % for daily use (Table 14).

Alcohol use

The prevalence of lifetime use and prevalence of current (last-30-day) use of alcohol increased until 2003 before declining, reaching their lowest level in 2019 (Table 14). No gender differences in trends can be observed. However, while lifetime alcohol use rates among boys and girls were almost equal throughout the whole 1995-2019 period (Figure 18), current alcohol use rates among boys were generally higher than those among girls until 2011, when the gender gap started to narrow, with the gap disappearing in 2019 (Figure 19).

The prevalence of heavy episodic drinking peaked in 2007 and has decreased since then, reaching its lowest level in 2019 (Table 14). Comparing 2019 with 1995 rates, there was an overall increase in heavy episodic drinking among girls (from 30 % to 34 %) and a decrease among boys (from 41 % to 36 %), resulting in a narrowing of the gender difference over time (Figure 20).

Illicit drug use

Generally, between 1995 and 2011, there was an increase in the lifetime prevalence of illicit drug use, most of which

occurred between 1995 and 1999. Since 2011, the prevalence has started to decrease slowly. The lifetime prevalence of illicit drug use among boys and girls follows a parallel trend, with the rate among girls being about 5-6 percentage points lower than that among boys (Figure 21). As cannabis is the most widely used illicit drug, the trend for lifetime cannabis use is similar to the trend for any illicit drug use, with rates of the former being only slightly lower across all years (Table 14). The prevalence rate of lifetime cannabis use among boys peaked in 2003, remained stable until 2011 and started to decrease thereafter. The prevalence rate of lifetime cannabis use among girls peaked in 2003 and stabilised thereafter (Figure 22). The rate of current (last-30-day) use of cannabis reached its highest level in 2011, stabilising thereafter, with gender differences of 2-3 percentage points across all years (Table 14 and Figure 23).

Lifetime use of illicit drugs other than cannabis rose to a peak in 2007 (Table 14). After 2007, the rate decreased slightly until 2015 and then stabilised in 2019. The same trend is observed among boys and girls, with a gender gap of 1-2 percentage points across all years (Figure 24).

Inhalant use

The lifetime use of inhalants increased steadily until 2011, with a decrease observed thereafter (Table 14). The gender-specific curves over the period 1995-2019 reveal a progressive narrowing of the gender gap, which has almost disappeared since 2011 (Figure 25).

Pharmaceuticals for non-medical use: tranquillisers and sedatives without a doctor's prescription

The lifetime prevalence rate for the use of tranquillisers or sedatives without a doctor's prescription shows a rather stable trend, with slight fluctuations between 1995 and 2007 (Table 14). Trends for both genders are similar, with tranquillisers or sedatives being the only psychoactive substances for which overall prevalence rates are higher among girls than boys (Figure 26).

Figure 12. Perceived availability of cannabis by gender: students responding cannabis 'fairly easy' or 'very easy' to obtain — 30-country trend 1995-2019 (percentage) (ᵃ)
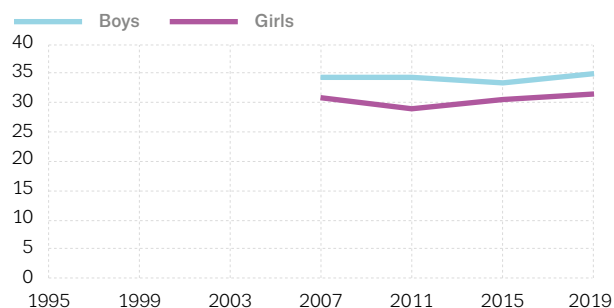
(ᵃ) In 1995-2003 cannabis was combined with other substances but since 2007 cannabis availability has been measured separately. A 2006 questionnaire test in eight countries showed significant differences in results between the two approaches; hence, trends cannot be compared between the years before 2007 and the years after 2007.

Figure 13. Daily cigarette use at the age of 13 or younger by gender: 30-country trend 1995-2019 (percentage)
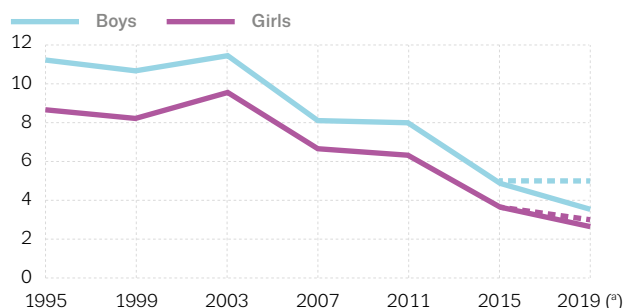
(ᵃ) In the ESPAD 2019 questionnaire questions about cigarette smoking specifically exclude e-cigarettes. Prevalence estimates for 2019 are therefore reported separately for cigarette use (solid line) and cigarette and/or e-cigarette use (dashed line, data not comparable).

Figure 14. Cannabis use at the age of 13 or younger by gender: 30-country trend 1995-2019 (percentage)
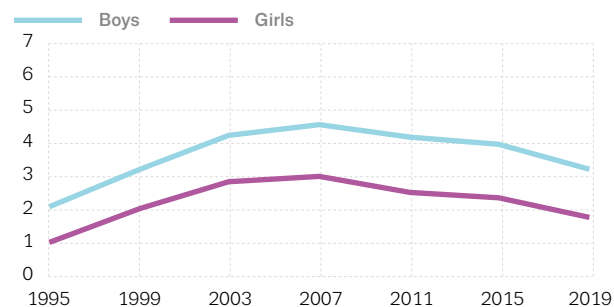
Figure 15. Lifetime use of cigarettes by gender: 30-country trend 1995-2019 (percentage)
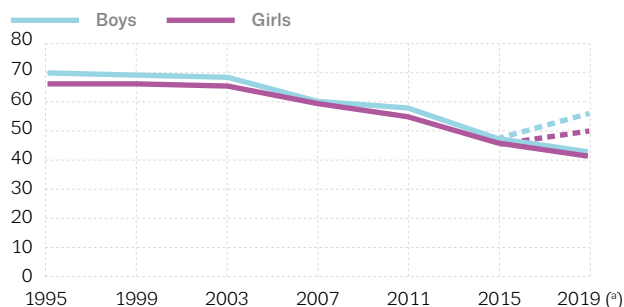
(ᵃ) In the ESPAD 2019 questionnaire, questions about cigarette smoking specifically exclude e-cigarettes. Prevalence estimates for 2019 are therefore reported separately for cigarette use (solid line) and cigarette and/or e-cigarette use (dashed line, data not comparable).

Figure 16. Cigarette use in the last 30 days by gender: 30-country trend 1995-2019 (percentage)
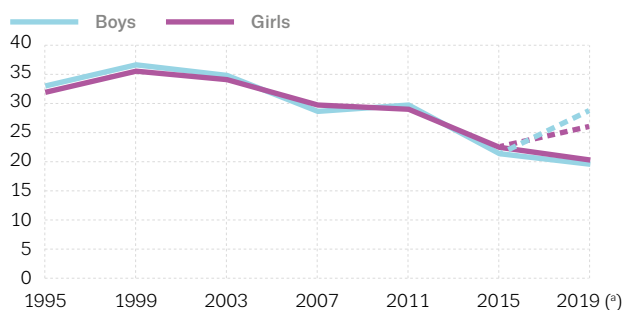
(ᵃ) In the ESPAD 2019 questionnaire, questions about cigarette smoking specifically exclude e-cigarettes. Prevalence estimates for 2019 are therefore reported separately for cigarette use (solid line) and cigarette and/or e-cigarette use (dashed line, data not comparable).

Figure 17. Daily cigarette use by gender: 30-country trend 1995-2019 (percentage)
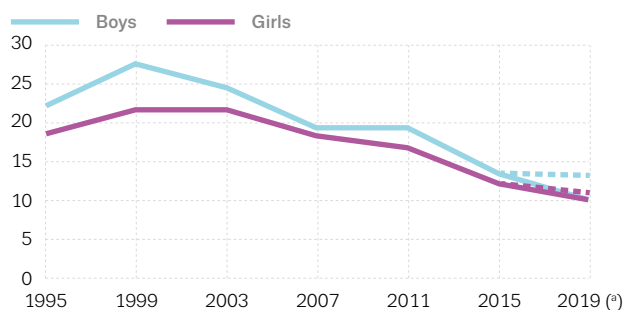
(a) In the ESPAD 2019 questionnaire, questions about cigarette smoking specifically exclude e-cigarettes. Prevalence estimates for 2019 are therefore reported separately for cigarette use (solid line) and cigarette and/or e-cigarette use (dashed line, data not comparable).

Figure 18. Lifetime alcohol use by gender: 30-country trend 1995-2019 (percentage)
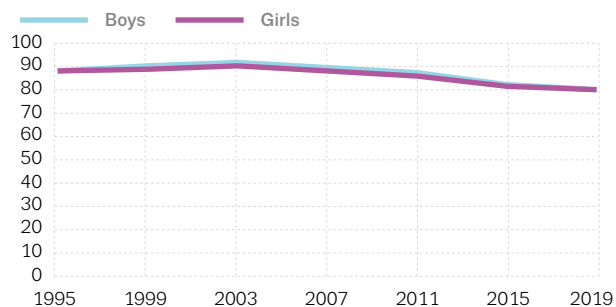
Figure 19. Alcohol use in the last 30 days by gender: 30-country trend 1995-2019 (percentage)
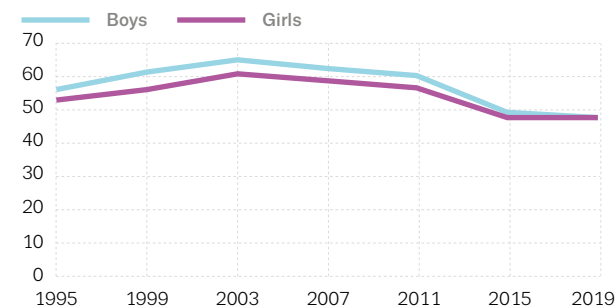
Figure 20. Heavy episodic drinking (five or more drinks on one occasion (ᵃ)) during the last 30 days by gender: 30-country trend 1995-2019 (percentage) (ᵇ)
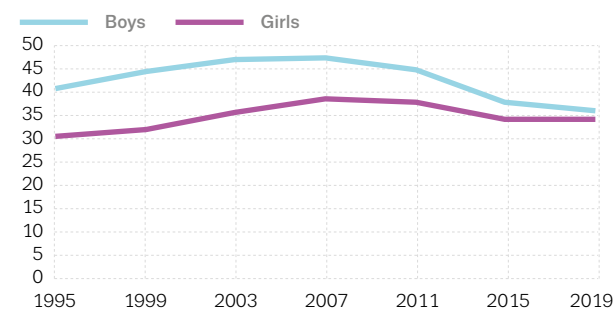
(ᵃ) National examples are given so that a 'drink' is understood to contain roughly the same amount of pure alcohol as a glass of wine.

(ᵇ) In 1995-2003 the question referred to 'five or more drinks in a row' and neither cider nor premixed drinks were included among the examples. A 2006 questionnaire test in eight countries found no significant differences between the two approaches.

Figure 21. Lifetime use of illicit drugs (ᵃ) by gender: 30-country trend 1995-2019 (percentage)
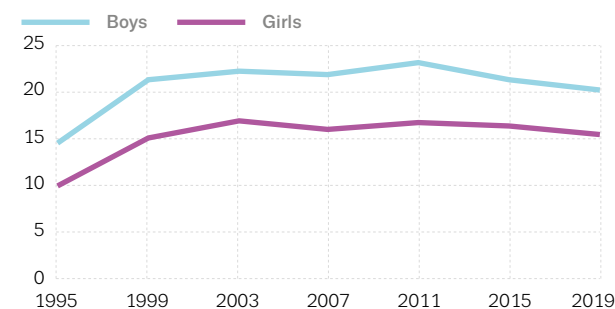
(a) Includes cannabis, amphetamine, cocaine, crack, ecstasy, LSD or other hallucinogens, heroin and (since 2007) GHB. Amphetamines were not included in 1995 in Czechia. Crack and LSD or other hallucinogens were not included in 1999 in the Netherlands. Crack was not included in 2015 in Denmark, Estonia, Finland and Sweden and in 2019 in Finland, Latvia and Norway. Cannabis was not included in 1995 in Denmark.

Figure 22. Lifetime use of cannabis by gender: 30-country trend 1995-2019 (percentage)
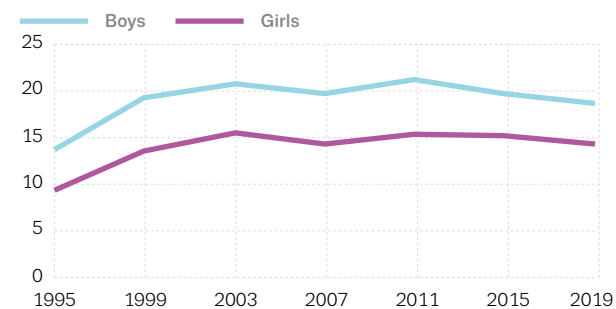
Figure 23. Cannabis use in the last 30 days by gender: 30-country trend 1995-2019 (percentage)
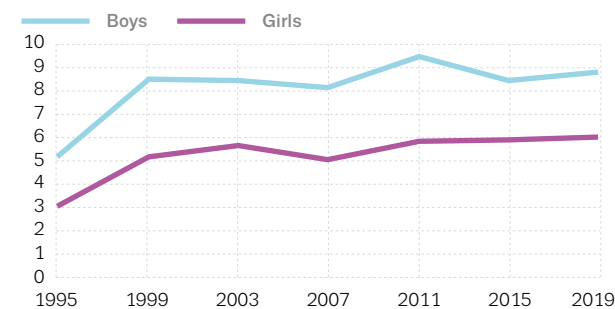
Figure 24. Lifetime use of illicit drugs (ª) other than cannabis by gender: 30-country trend 1995-2019 (percentage)
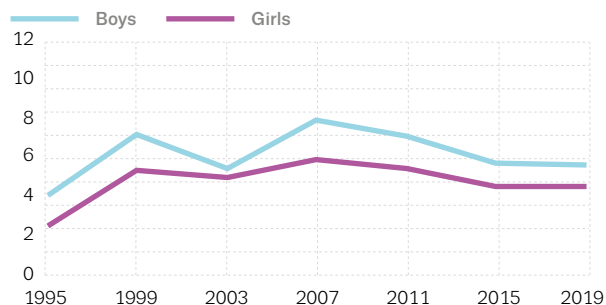
(a) Includes amphetamine, cocaine, crack, ecstasy, LSD or other hallucinogens, heroin and (since 2007) GHB. Amphetamines were not included in 1995 in Czechia. Crack and LSD or other hallucinogens were not included in 1999 in the Netherlands. Crack was not included in 2015 in Denmark, Estonia, Finland and Sweden and in 2019 in Finland, Latvia and Norway.

Figure 25. Lifetime use of inhalants by gender: 30-country trend 1995-2019 (percentage)
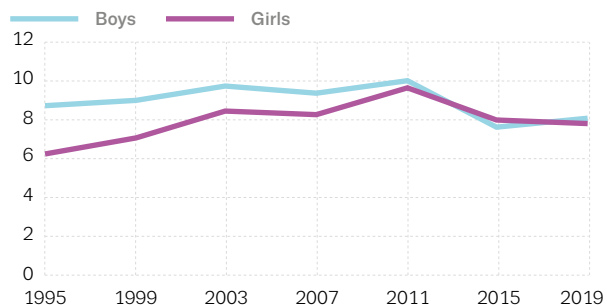
Figure 26. Lifetime use of tranquillisers or sedatives without a doctor's prescription by gender: 30-country trend 1995-2019 (percentage)
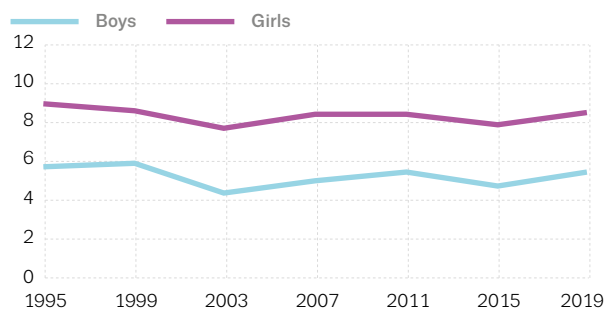
Country-specific trends

Individual country trends for eight key substance use variables for available years between 1995 and 2019 are shown in Figures 27-34 (see Additional Tables 102, 104, 106, 114, 118, 120, 122, 124 for the corresponding values). Trends, illustrated graphically, were estimated using analysis of variance, with survey year as the independent variable in the model. Post hoc tests (Tukey or Games-Howell, depending on the homogeneity of the variances) were used to assess which years were responsible for the changes in prevalence. Temporal changes in countries with only two data points should be interpreted with caution.

Lifetime cigarette use

Considering only tobacco smoking, a general decreasing trend in lifetime prevalence can be observed in the last survey years. Between 2015 and 2019 a significant decrease was found in 18 countries. The greatest decrease was observed in Czechia and Estonia, with a reduction in prevalence of 12 percentage points, followed by Monaco (11 percentage points) and France, Germany, Lithuania and Slovenia (9-10 percentage points each) (Figure 27). In Denmark, the Faroes, Hungary, Iceland, Ireland, North Macedonia, Norway, Portugal, Serbia, Slovakia and Ukraine, there was no change since 2015. Only three countries (Italy, Montenegro and Romania) do not follow the overall trend of a decline in tobacco smoking, instead displaying stable prevalence rates over the last three surveys. When looking at the cumulative prevalence of cigarette and/or e-cigarette use, 20 countries showed a significant increase between 2015 and 2019.

Daily cigarette use

The trends in the prevalence of daily cigarette use follow the pattern observed for lifetime cigarette smoking, showing a decrease in 15 countries between 2015 and 2019 and no significant changes in the remaining countries (Figure 28).

Reductions of 6-7 percentage points can be observed in Austria, Czechia, the Netherlands, Lithuania and Monaco with respect to 2015 prevalence rates.

When considering cigarette and/or e-cigarette use, the majority of countries show no significant change in prevalence rate since 2015; eight countries show a statistically significant decrease in rate, while Iceland, Ireland, Lithuania and Norway show a statistically significant increase.

Lifetime alcohol use

The prevalence of lifetime alcohol use showed an overall decline between 2015 and 2019 in 13 countries (Figure 29). In Lithuania and Sweden, substantial reductions of 7-8 percentage points have been observed since 2015. The only countries where alcohol use increased were North Macedonia, with the prevalence of alcohol use rising by 10 percentage points since 2015, and Portugal and Romania, with an increase of 4-5 percentage points with respect to the prevalence observed in 2015. Lifetime prevalence remained relatively stable in the other ESPAD countries.

Heavy episodic drinking

North Macedonia, Portugal and Ireland also show an increasing trend in heavy episodic drinking in the last 30 days between 2015 and 2019 (Figure 30). In 11 countries a decreasing trend can be observed between 2015 and 2019, particularly in Cyprus, with a substantial reduction of 14 percentage points, and Greece, Malta, Latvia and Lithuania, with a reduction of 7-8 percentage points.

In the majority of ESPAD countries the prevalence of heavy episodic drinking in the last 30 days remained relatively stable.

Lifetime cannabis use

In most participating countries, the prevalence of lifetime cannabis use increased between 1995 and 2003/2007 (Figure 31). In 2007 an increase was registered in five ESPAD countries, while a decrease was shown in 10 countries. In 2015 lifetime prevalence rates increased significantly in six countries and decreased significantly in seven. After this, decreases in prevalence occurred in 2019 in Bulgaria, Czechia, Estonia, Finland, France, Monaco and Portugal. In contrast, increases since 2015 occurred in Denmark and Norway. Lower rates of lifetime cannabis use in 2019 compared with 1995 can be observed in the Faroes, Iceland, Ireland and Ukraine.

Current cannabis use

The prevalence of current cannabis use has been quite stable in more than two thirds of the countries from 1995 to 2019 (Figure 32). Increasing rates with respect to the 2015 prevalence can be observed in Austria, Croatia, Finland, Latvia, Montenegro and Norway. Since 2015 decreases of 4-5 percentage points can be observed in Bulgaria and France.

Lifetime use of illicit drugs other than cannabis

The prevalence of lifetime use of illicit drugs other than cannabis increased significantly in 2007 compared with the previous survey year (Table 14), reaching a peak in the majority of ESPAD countries. Since 2007, the rates appear to have slightly decreased or stabilised, except in Estonia, Montenegro and Portugal (Figure 33). Compared with 2015, a significant reduction in prevalence was observed in 2019 in Bulgaria, North Macedonia, Italy, Malta, Montenegro, Poland and Romania. Estonia and Portugal are the only two countries where a significant increase in prevalence was observed compared with 2015.

Lifetime use of tranquillisers or sedatives without a doctor's prescription

The prevalence of lifetime use of tranquillisers or sedatives without a doctor's prescription was generally stable across years in the large majority of ESPAD countries. Between 2015 and 2019, a significant decrease in prevalence was observed in Bulgaria, Croatia, Czechia and North Macedonia. In contrast, Austria, Denmark, Estonia, Latvia, Lithuania and Slovakia showed a significant increase in prevalence over the same time period (Figure 34).

Figure 27. Lifetime use of cigarettes by country: 1995-2019 (ᵃ) (percentage)
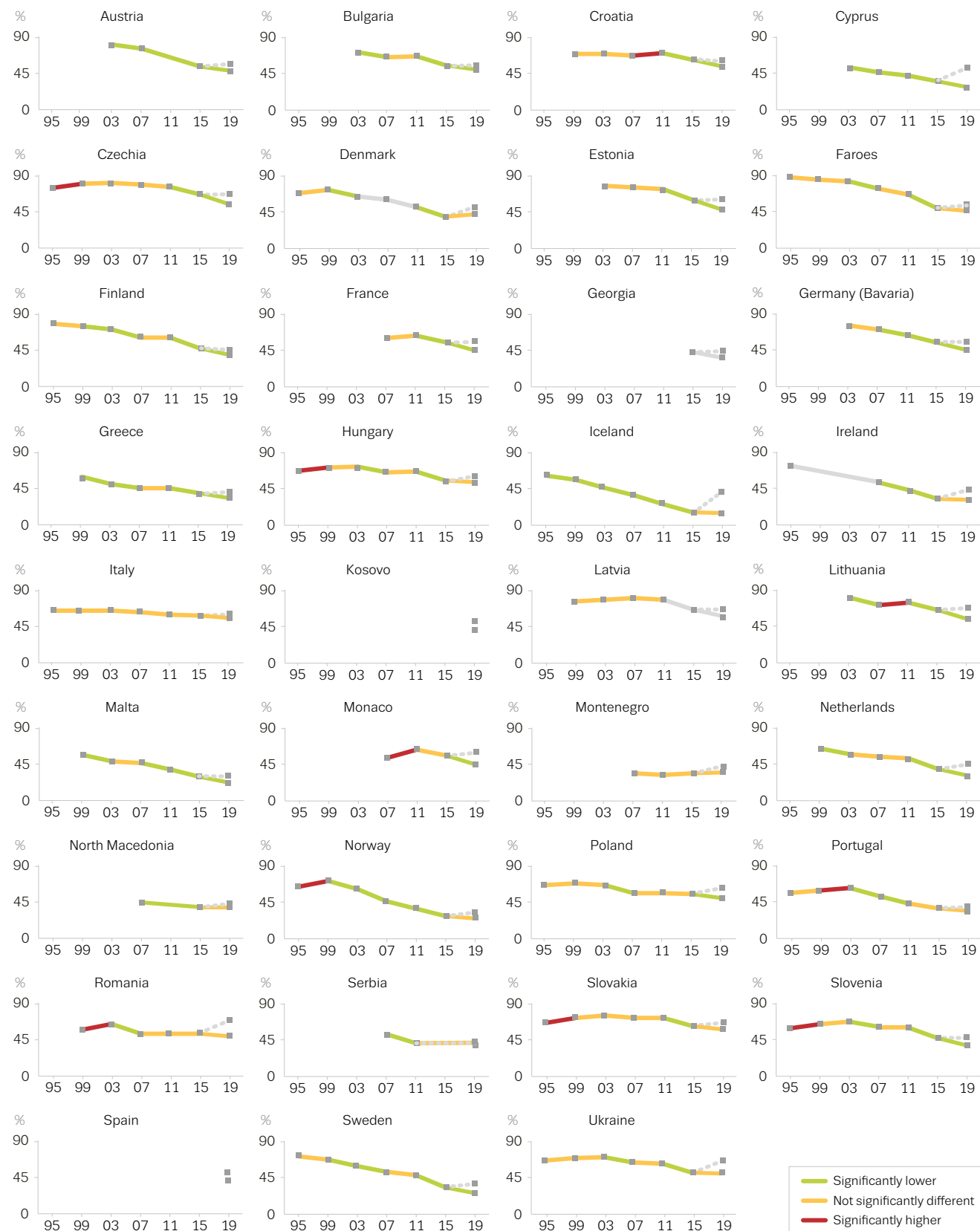
Legend:
- Significantly lower
- Not significantly different
- Significantly higher

(ᵃ) In the ESPAD 2019 questionnaire, questions about cigarette smoking specifically exclude e-cigarettes. Prevalence estimates for 2019 are therefore reported separately for cigarette use (solid line) and cigarette and/or e-cigarette use (dashed line, data not comparable).

Figure 28. Daily use of cigarettes by country: 1995-2019 (ª) (percentage)
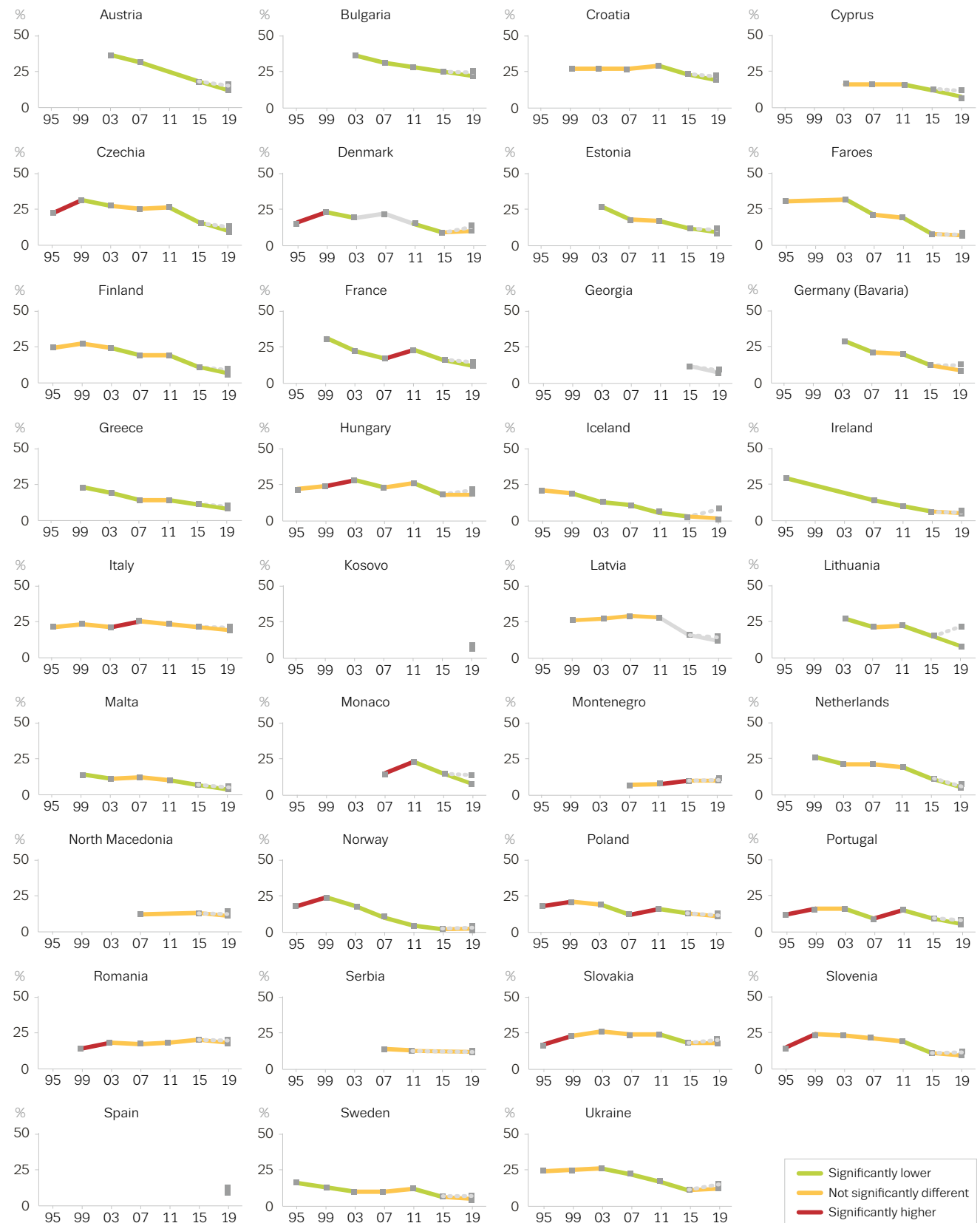
Legend:
- Significantly lower
- Not significantly different
- Significantly higher

(ª) In the ESPAD 2019 questionnaire, questions about cigarette smoking specifically exclude e-cigarettes. Prevalence estimates for 2019 are therefore reported separately for cigarette use (solid line) and cigarette and/or e-cigarette use (dashed line, data not comparable).

Figure 29. Lifetime use of alcohol by country: 1995-2019 (percentage)

Legend:
- Significantly lower
- Not significantly different
- Significantly higher
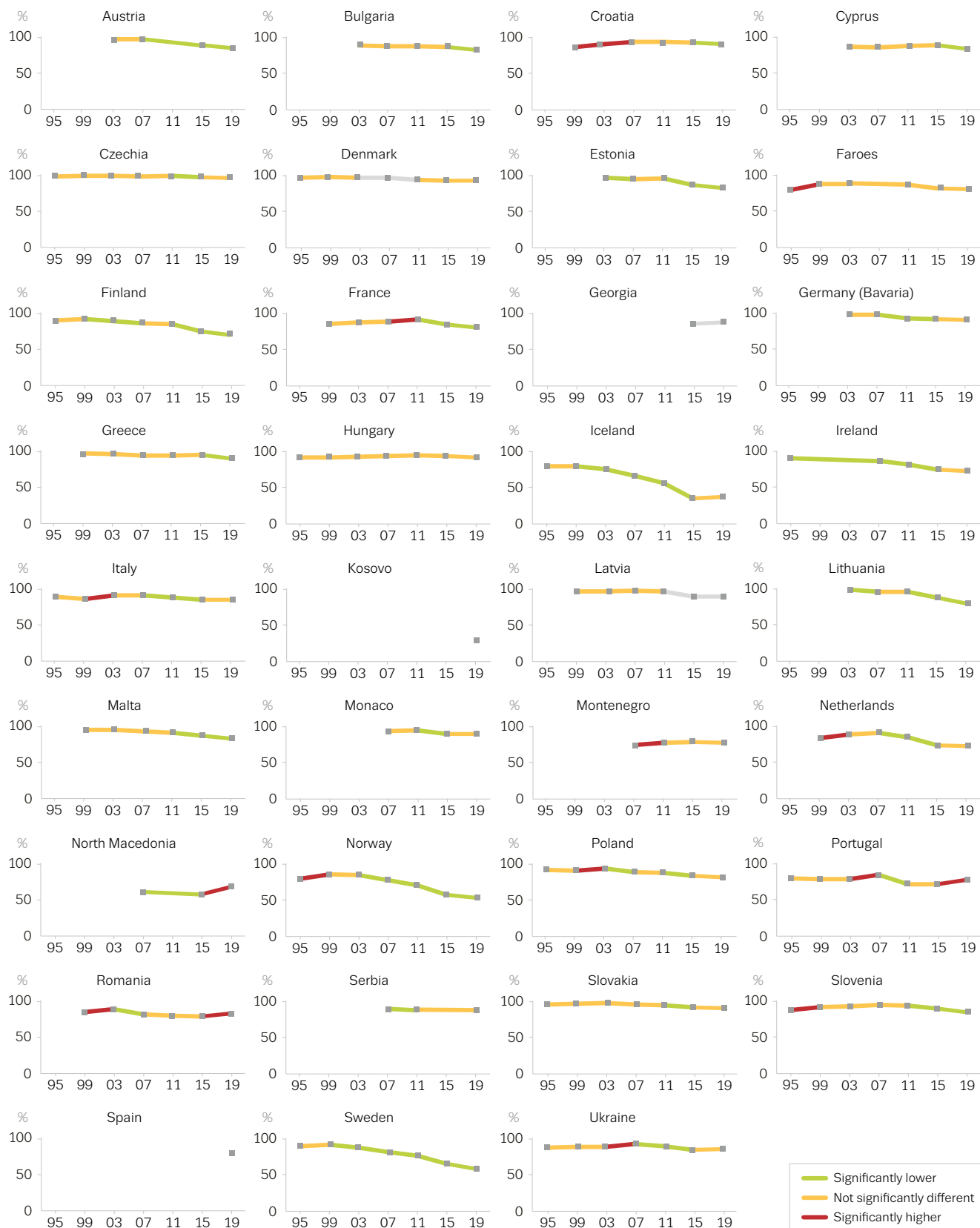
Figure 30. Heavy episodic drinking (five or more drinks on one occasion (ª)) during the last 30 days by country: 1995-2019 (percentage) (ᵇ)
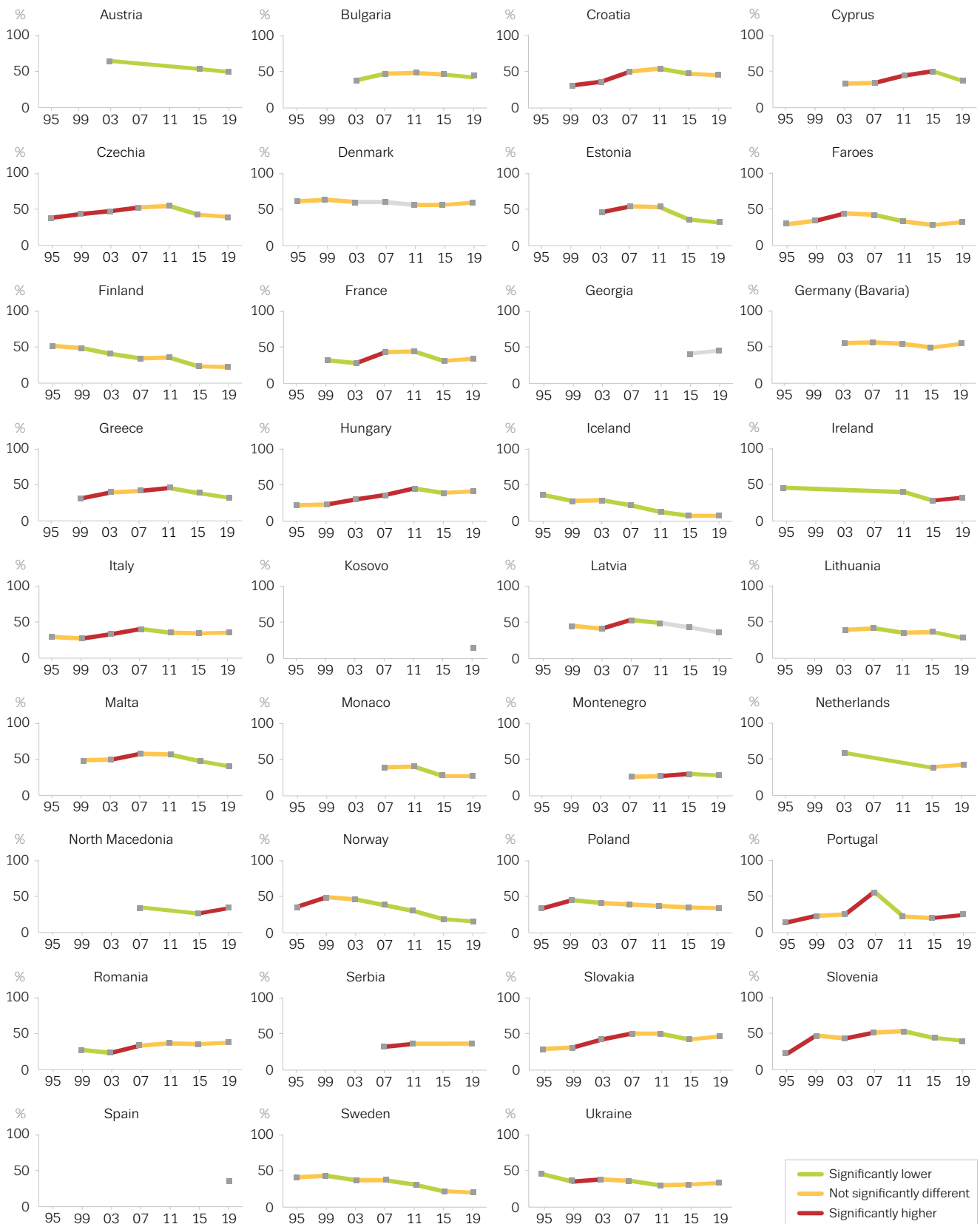
(ª) National examples are given so that a 'drink' is understood to contain roughly the same amount of pure alcohol as a glass of wine.

(ᵇ) In 1995-2003 the question referred to 'five or more drinks in a row' and neither cider nor premixed drinks were included among the examples. A 2006 questionnaire test in eight countries found no significant differences between the two approaches.

Figure 31. Lifetime use of cannabis by country: 1995-2019 (percentage)

Legend:
- Significantly lower
- Not significantly different
- Significantly higher
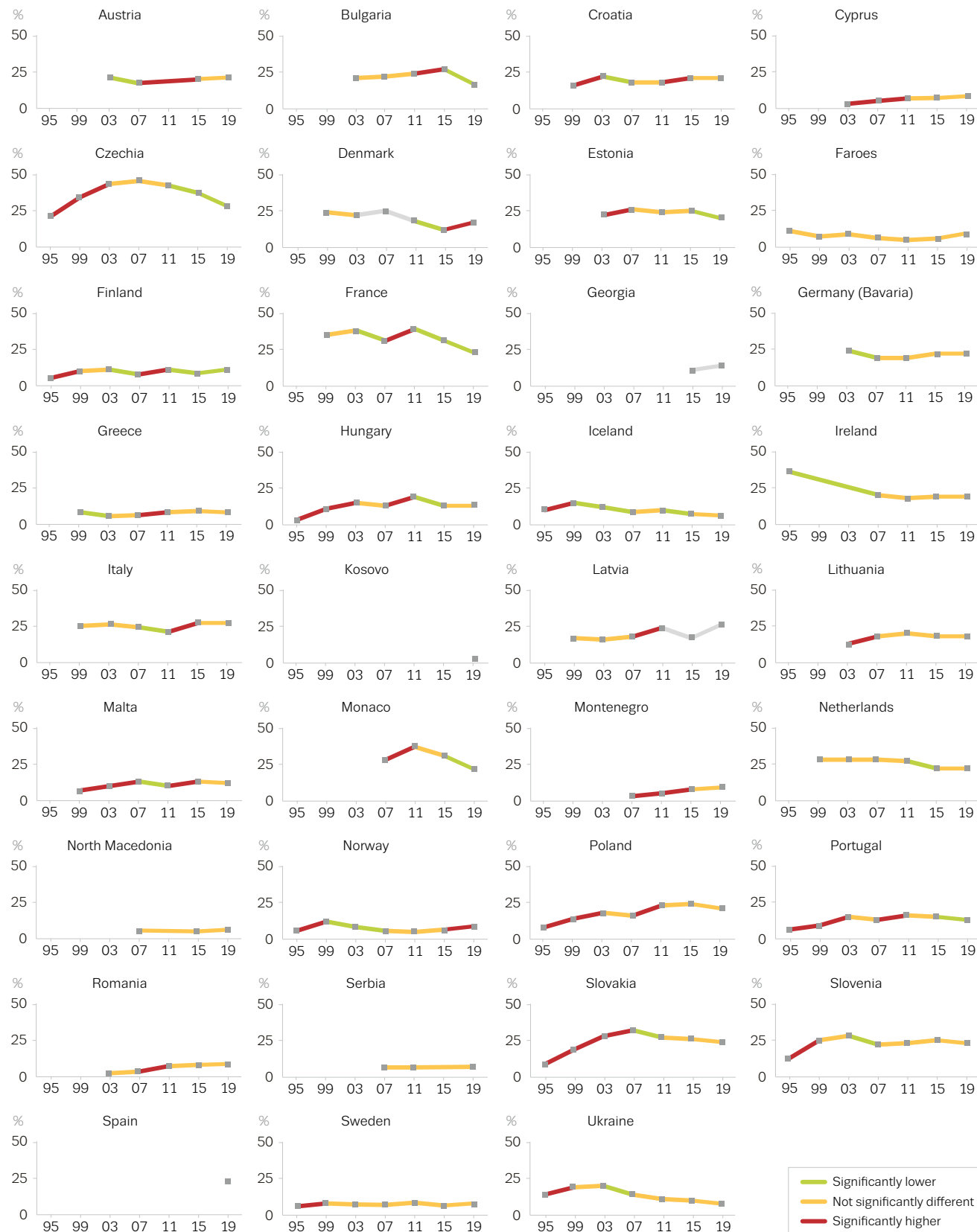
Figure 32. Current use of cannabis by country: 1995-2019 (percentage)

Legend:
- Significantly lower
- Not significantly different
- Significantly higher
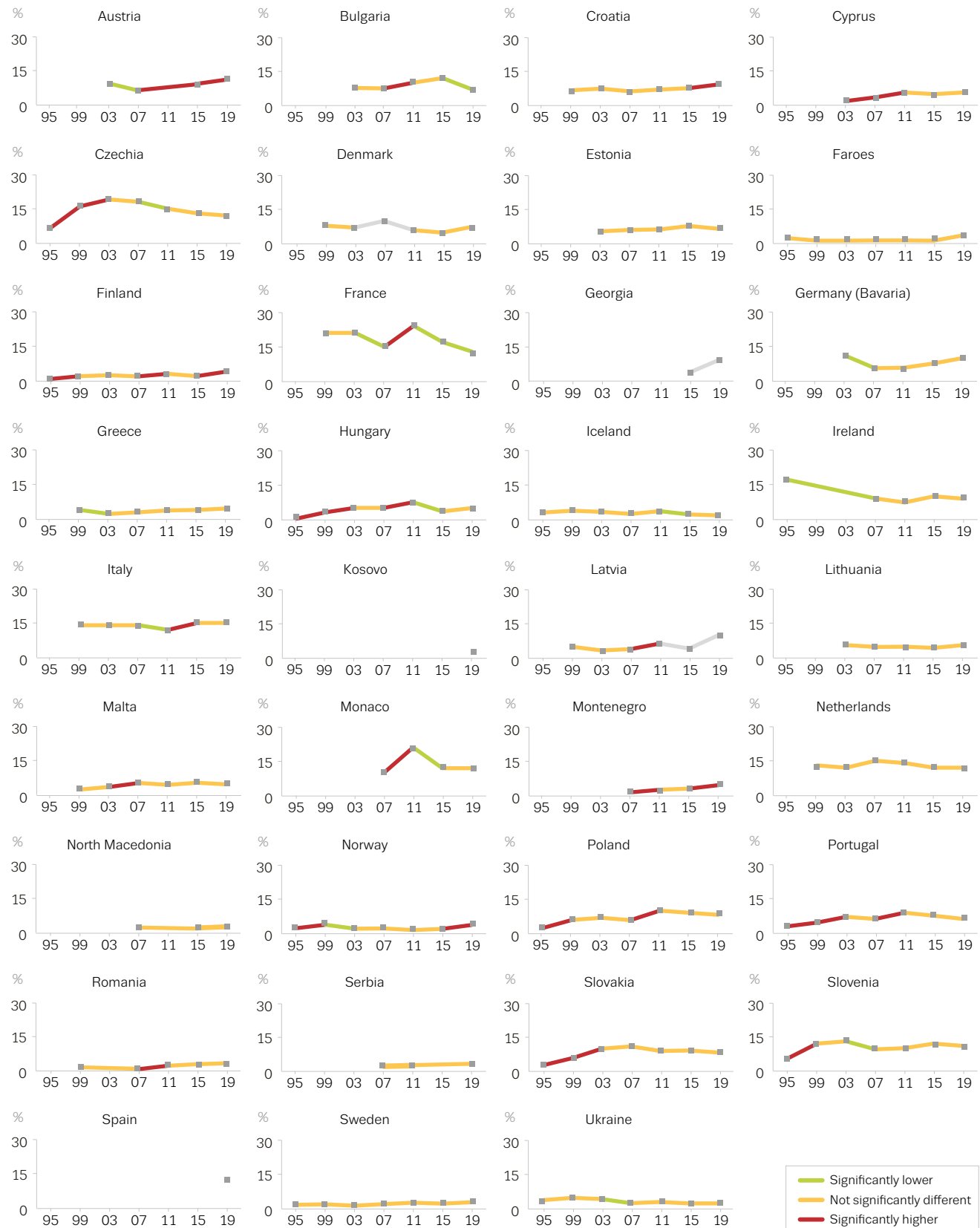
Figure 33.   Lifetime use of illicit drugs other than cannabis (^{a}) by country: 1995-2019 (percentage)
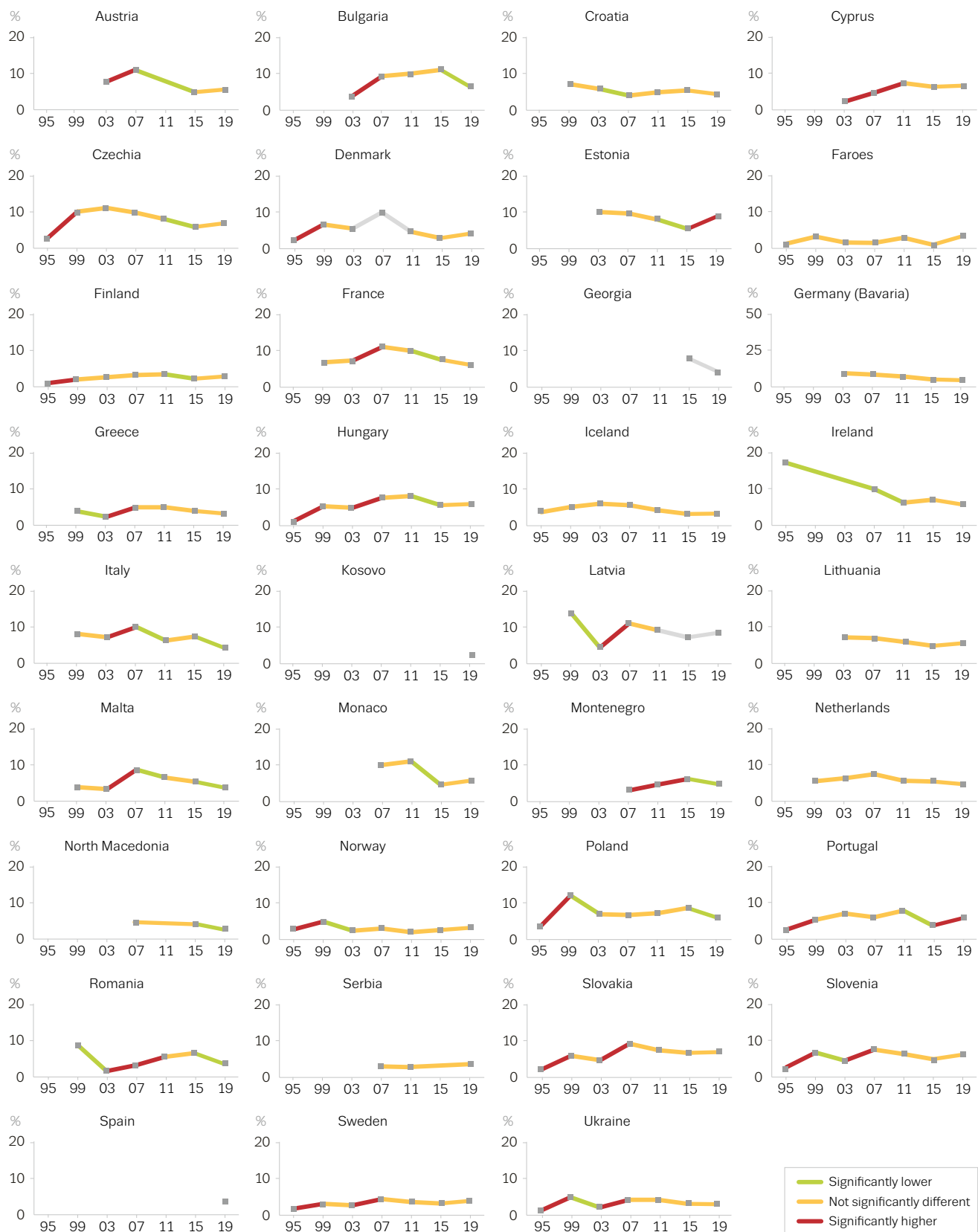
(^{a}) Includes amphetamine, cocaine, crack, ecstasy, LSD or other hallucinogens, heroin and (since 2007) GHB. Amphetamines were not included in 1995 in Czechia. Crack and LSD or other hallucinogens were not included in 1999 in the Netherlands. Crack was not included in 2015 in Denmark, Estonia, Finland and Sweden and in 2019 in Finland, Latvia and Norway.

Figure 34. Lifetime use of tranquillisers or sedatives without a doctor's prescription by country: 1995-2019 (percentage)

Legend:
- Significantly lower
- Not significantly different
- Significantly higher
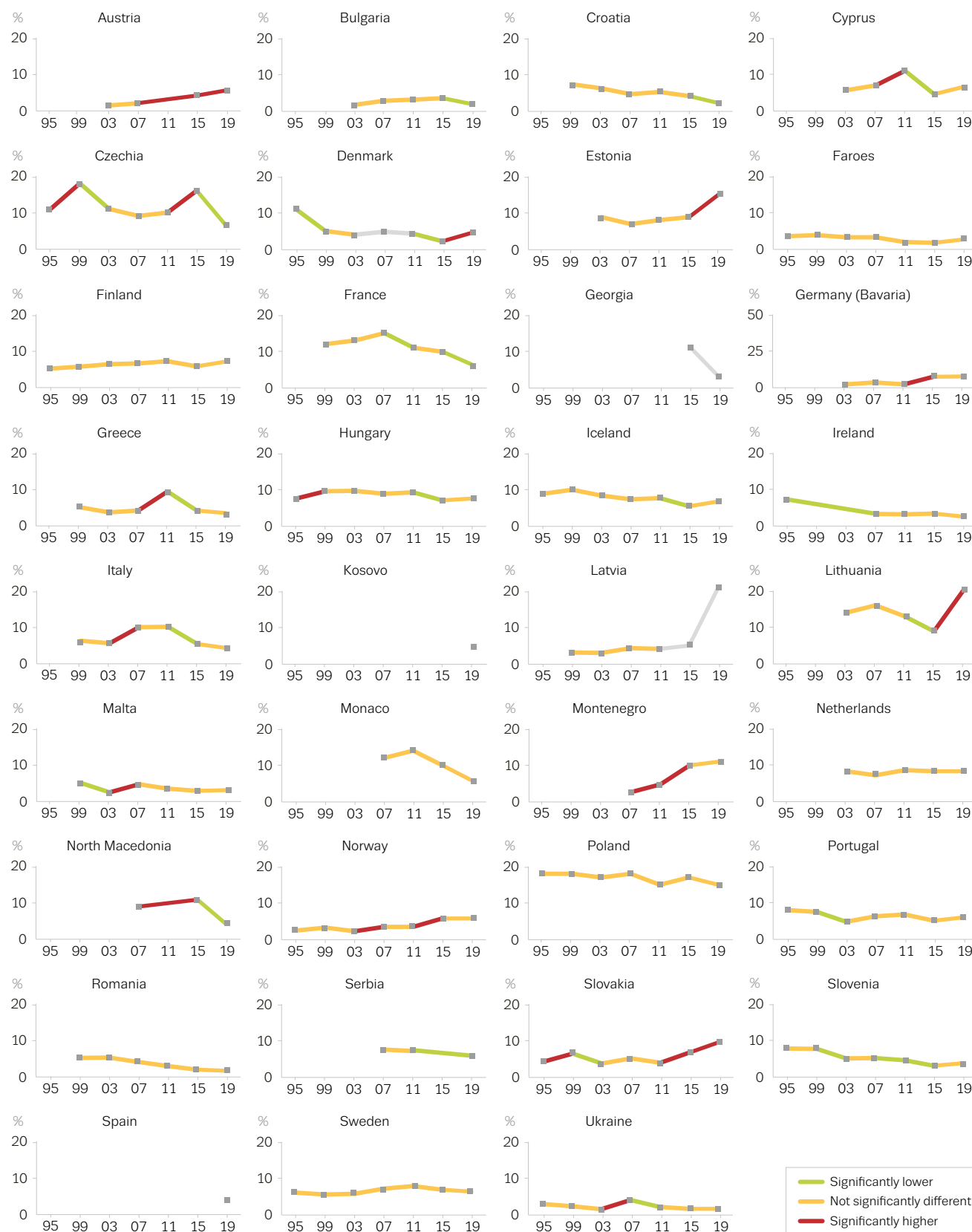
Discussion
and conclusion

Discussion and conclusion

The effects of tobacco, alcohol and drug use, as well as other forms of risk behaviour (i.e. gambling, gaming and internet addiction), are recognised both on an individual level and on a societal level, and local and national governments, as well as major international bodies, e.g. the United Nations and the European Union, continually seek policy measures to reduce their negative impact.

The well-being of young people is of special concern in all societies and constant efforts are being made to reduce all types of risk behaviour. These include many aspects of the consumption of tobacco, alcohol and different types of illicit drugs, and, additionally today, online and gaming addictions, which may also have negative consequences. All countries have laws in place that restrict the availability of psychoactive substances, and despite the legal frameworks varying between countries they often include restrictions specifically intended to protect young people.

Globally, as well as among adolescent students, the two most common substances of use or abuse continue to be alcohol and tobacco. Over past decades, international and national control policies targeting prices, age restrictions and availability for minors have been implemented. It has been observed that alcohol and tobacco use among young Europeans has declined in parallel somewhat in recent years.

The proportion of young people who use illicit drugs has remained rather stable over the past two decades. This is primarily because of a stable trend in cannabis use. In spite of the many school and community prevention activities, the repeated messages from policymakers and the media, and coordinated efforts to decrease the availability of illegal drugs and implement reforms in national drug policies, the ESPAD results show that in 2019 one in six adolescents aged 15-16 years in Europe has used an illicit drug in their lifetime.

An important challenge in monitoring drug use in Europe is that it now encompasses a wider range of substances than in the past, for example NPS such as synthetic cannabinoids and synthetic cathinones. While consumption levels of NPS among adolescents in Europe seem to be low, the emergence of these new substances has raised particular concerns, with the real extension in use being difficult to measure. Furthermore, the non-medical use of prescription drugs, such as tranquilisers or sedatives, has rapidly gained popularity among adolescents, to the point that these drugs are now the second most often reported misused substance, excluding tobacco and alcohol, to get high; this is followed by painkillers.

In addition, concerns related to the excessive use of social media, gaming and gambling among young people have been expressed by professionals, as they have been shown to have a similar potential for addiction as psychoactive substances.

ESPAD is committed to contributing to the systematic collection and reporting of information about substance use and addictive behaviours among adolescents in Europe, and helping to understand the patterns and trends that are critical for designing robust, more targeted policies. This has led the ESPAD community to extend the scope of the 2019 survey to include new substances and new forms of risk behaviour compared with previous data collections. NPS use, social media use, gaming and gambling patterns and self-perceived problems related to their use, together with a wider investigation of high-risk cannabis use, have therefore received special attention.

Cigarette and e-cigarette use

Progress in reducing tobacco consumption has been registered in many European areas (GBD 2015 Tobacco Collaborators, 2017; WHO, 2019a) and the results of the 2019 ESPAD survey provide evidence in the same direction.

In 2019 the majority of ESPAD students had never smoked traditional cigarettes (58 %) and one fifth of the sample (20 %) reported being a current smoker. With regard to national patterns, the highest prevalence of current tobacco smoking (32 %) was reported in Bulgaria and Italy, followed by Romania (31 %). Iceland reported by far the lowest prevalence rate (5.1 %), followed by Norway and Malta (10 % each).

Looking at the overall ESPAD trends for cigarette smoking, gender differences seem to have narrowed over time. In 1995 boys showed higher rates than girls with regard to all indicators. In 2019 these differences were negligible at the overall level and usually rather small in most countries.

On average, 3 % of the ESPAD students said that they had smoked cigarettes daily at age 13 or younger. It is important to note that the proportion of adolescents who initiated daily smoking at a very early age has decreased over the last 24 years. Exceptions exist to this general pattern, however; for example, in Bulgaria and Slovakia the percentage of students who started smoking daily at age 13 or younger was two times higher (about 6 % for both) than the ESPAD average.

The decreasing trend in smoking may be considered to be at least partially driven by policy measures, including restrictions on the underage purchase of tobacco products and restrictions on tobacco advertising, that have been implemented in the majority of European countries in the context of the FCTC (Shibuya et al., 2003). A recent study based on 2007-2015 European ESPAD data, comparing European countries that did and did not implement a point-of-sale display ban on tobacco products, concluded that the implementation of such regulations was associated with a stronger decrease in regular youth smoking (Van Hurck et al., 2019).

Although cigarette smoking is the most common form of tobacco use worldwide, considering only this may lead to an underestimation of current nicotine consumption because of the growing use of alternative products and new nicotine delivery technologies. For this reason, in the 2019 survey, questions asking about cigarette smoking were reformulated to explicitly exclude e-cigarettes, and new questions on the use of e-cigarettes and other nicotine-based products were introduced. Even though this partially restricts direct comparisons with earlier ESPAD data, as previous respondents may have included those using e-cigarettes, the changes implemented are useful to capture and better describe contemporary patterns of nicotine consumption.

Introduced on the European market in the last 10 years, e-cigarettes allow the inhalation of a vaporised chemical liquid mixture, which may or may not contain nicotine, in different concentrations (Clapp and Jaspers, 2017). Even though electronic nicotine delivery systems have been argued to be safer than traditional tobacco cigarettes, especially for those who switch from traditional tobacco products, research has suggested that they may not be without risk and potential long-term consequences. It has been reported that aerosols may sometimes contain high levels of nicotine and detectable levels of heavy metals and carcinogens (Farsalinos and Polosa, 2014; Olmedo, et al., 2014).

Since their entrance on the market, the use of nicotine-based electronic products, including e-cigarettes and heated tobacco products, has spread widely in European countries; they are increasingly used as a complement to or as an alternative to traditional tobacco combustion products.

Analysing the relationship with tobacco smoking at first e-cigarette use, the ESPAD results show that, overall, 4.2 % of students were regular tobacco smokers when they first tried e-cigarettes, 14 % were occasional tobacco smokers and 23 % were non-smokers (see Additional Table 9a).

Possibly because of the alleged reduced harm related to the use of these products, e-cigarettes and heat-not-burn tobacco products have been shown to attract former smokers and never smokers, particularly among youths (Kong et al., 2017; Perikleous et al., 2018; WHO, 2019a; Yoong et al., 2018), leading to an increase in the prevalence of consumption when considering nicotine intake as a broader category. Although regulation at European level is fragmented and varied across countries, the prevention of initiation of use of electronic nicotine and electronic non-nicotine delivery systems by non-smokers, especially minors and vulnerable groups, is one of the WHO recommendations about these products, together with the prevention of unproven health claims being made about such devices (WHO, 2020).

The 2019 ESPAD results show an average lifetime e-cigarette use of 40 % among 16-year-old students, ranging from 18 % in Serbia to 65 % in Lithuania, with higher rates for boys than girls, both on average (46 % for boys versus 34 % for girls) and in most ESPAD countries. Moreover, 11 % and 1.7 % of the students reported first use and daily use at age 13 or younger, respectively.

In 2019 lifetime e-cigarette use among boys (46 %) was even more prevalent than lifetime tobacco smoking (43 %) (European average). Looking at both genders together, lifetime e-cigarette use was more common than lifetime tobacco smoking in 15 countries and last-30-day e-cigarette use was more common than last-30-day tobacco smoking in five countries.

A marked increase in the development and use of electronic nicotine delivery systems has been noted worldwide, and first- and subsequent-generation e-cigarettes are becoming more and more popular among adolescents in many countries. For example, in the United States the prevalence of use among young people (aged 10-24 years) has increased substantially in the past 5 years (Cullen et al., 2018), and the latest report of the Monitoring the Future study estimated that more than one third of high school students have used e-cigarettes in the past year (Johnston et al., 2020).

E-cigarette use among adolescents is a concern because the extent of any possible adverse health effects is not well understood; there is an ongoing debate about both the relative benefits and risks and the possible long-term health implications of using these products. For these reasons, the Forum of the International Respiratory Societies (FIRS) has issued a position statement, noting that negative health effects cannot be ruled out (Bals et al., 2019); similarly, the WHO has stated that, even if it is too early to provide a clear answer on the long-term impact of e-cigarette use, these products are harmful to health and unsafe (WHO, 2019b, 2020).

Although there is currently no scientific agreement on whether or not electronic nicotine delivery systems can be a gateway to tobacco smoking (Chyderiotis et al., 2020; Liu et al., 2020), the ESPAD results suggest that a substantial proportion of the adolescent population that uses e-cigarettes does so without previous experience of traditional cigarette smoking.

When considering cigarette and e-cigarette use together, the prevalence of lifetime use rises to 53 % and that of current users rises to 26 %.

Although gender differences in rates of cigarette smoking have shown a gradual narrowing over time, once the use of e-cigarettes is taken into account as a measure of nicotine intake, male students show higher rates (from 5 up to 30 percentage points) in the majority of countries (see Figures 15-16 and Additional Tables 102 and 103).

These results may be possibly explained by findings from other studies suggesting that the acceptability of smoking, which had been declining, appears to have been re-normalised to some degree during the rapid growth in use of e-cigarettes (Hallingberg, et al., 2020). As briefly highlighted, arguments on the net potential costs and benefits of the introduction of new nicotine delivery systems are clearly complex. What the results from the ESPAD study suggest is that the use of e-cigarettes in association with or as a replacement for traditional tobacco products among adolescents is a non-negligible phenomenon that should be closely monitored.

Alcohol use

Even though alcohol use among adolescents seems to have decreased in many ESPAD countries, it is still rather high, with on average around 80 % of students reporting alcohol use in their lifetime and almost half reporting use in the last month. There are large variations between countries in the prevalence of alcohol use in 2019, with the Nordic countries (except Denmark) traditionally showing low rates of lifetime and current consumption. The lowest rate was found in Kosovo, but low rates were also observed in the Baltic states, as well as in Montenegro and North Macedonia. Patterns of alcohol use, such as frequency of intake, average ethanol intake and heavy episodic drinking, are rather diverse across ESPAD countries. For instance, high scores on all indicators were observed in Austria, Denmark, Germany, Hungary and the Netherlands. In the Mediterranean countries (Italy, Greece and Spain), moderate to high frequencies of intake are combined with low to moderate average quantities of intake and moderate rates of heavy episodic drinking. Although adolescents may generally drink less than adults, excessive alcohol consumption of any form among

adolescents is associated with a number of acute alcohol-related harms (Hingson and White, 2014; Lees et al., 2020; Petit et al., 2014; Windle and Windle, 2017).

Analysis of the previous six ESPAD waves and 28 participating countries highlighted that, up to 2015, moderate decreasing trends in alcohol use were present for both genders in all European regions except for the Balkan countries (Kraus et al., 2018). The overall temporal changes in the prevalence of current alcohol use, as well as heavy episodic drinking, between the previous survey and the present survey are negligible, indicating that the downwards trend has levelled off and remains rather constant in 2019. Nevertheless, Hungary, Ireland, Romania, Slovakia and Ukraine reported an increase in current alcohol use of five or more percentage points and Austria, Bulgaria, Cyprus, Czechia, Lithuania and Malta reported a decrease in current alcohol use of five or more percentage points between 2015 and 2019. Comparable changes in the prevalence of heavy episodic drinking were found in the Faroes, Germany and North Macedonia (increase), and Austria, Bulgaria, Cyprus, Greece, Latvia, Lithuania and Malta (decrease). With an overall decrease of one percentage point in both the prevalence of current alcohol use and prevalence of heavy episodic drinking in boys and an increase of one percentage point in the prevalence of current alcohol use and a constant rate of heavy episodic drinking in girls between 2015 and 2019, the gender gap in the prevalence of heavy episodic drinking has almost closed (boys 36 % versus girls 34 %) and that in prevalence of current use has closed. Similar observations have been reported for the United States. Results from the Monitoring the Future study suggest that heavy episodic drinking is declining among teens, with greater declines for boys than girls, leading to gender convergence (Clark Goings et al., 2019; Johnston et al., 2015).

Beverage preference, defined by the proportion of the volumes of pure alcohol consumed in different types of alcoholic beverages at the last drinking occasion, varies across ESPAD countries. Overall, in terms of prevalence rates and perception of availability, spirits have gained ground over beer, particularly among female students.

The literature on beverage choice shows associations between beverage preference and drinking motives, quantity of alcohol intake and frequency of heavy drinking. For instance, beer and spirits are reported to be consumed in larger amounts than wine on heavier drinking occasions (Callinan and MacLean, 2016), and preference for beer seems to be associated with risky drinking patterns and illicit drug use (Dey et al., 2014). However, the likelihood of negative alcohol-related consequences or the use of other substances increased among people with risky drinking behaviours, regardless of beverage preference (Dey et

al., 2014). While the differences in beverage preference between countries may be explained by differences in drinking culture, lifestyle factors and personal characteristics (Flensborg-Madsen et al., 2008; Room and Mäkelä, 2000), it is worthwhile noting that the distribution of preferred beverages in adolescents diverges from the traditional characterisation of drinking cultures (Iontchev, 1998; Room and Mäkelä, 2000). Drinking characterised by a preference for wine is typically associated with Mediterranean countries (e.g. Italy or France), whereas a preference for beer drinking is mainly associated with countries in central Europe (e.g. Czechia). Northern countries, on the other hand, are typically characterised by a preference for spirits (e.g. Finland and Norway). Figure 5 clearly shows that traditional characterisations of beverage choice may no longer be as valid as they once were, especially among the adolescent population (Bräker and Soellner, 2016).

The current literature explains the generally observed reduction in alcohol consumption among adolescents across Europe, which is confirmed by the ESPAD data, as a 'devaluation' of alcohol in concert with a change in the social position of alcohol (Kraus et al., 2019). For example, it has been argued that the cultural reputation of drinking may have changed among young people in such a way that drinking has lost its undisputed symbolic power as a rite of passage to adulthood (Törrönen et al., 2019). There is also some evidence that changes in drinking and intoxication regulations applied at the national level have contributed to the decline in alcohol use among youths (Raitasalo et al., 2020). In a recent pooled analysis based on data from the Global School-based Student Health Survey (GSHS) and the ESPAD survey, strict policies targeting alcohol availability, marketing and pricing were inversely associated with lifetime alcohol use among adolescents, although not with current alcohol consumption (Noel, 2019). The author reported that pricing policies were also inversely correlated with current binge drinking status among current drinkers.

However, Hendriks et al. (2020) have recently expressed concerns about social media contexts, where alcohol-related posts are frequently shared among influencers and adolescents. Taking advantage of the influencers' posts, alcohol brands may find a way to circumvent norms that prohibit advertising for minors. Moreover, teenagers continue to be broadly exposed to alcohol adverts on a daily basis (Gallopel-Morvan et al., 2017). This might partially explain the still high prevalence of alcohol use observed in the ESPAD data. The evidence for a strong link between exposure to alcohol advertising and adolescent drinking behaviour has led to the suggestion that stronger measures counteracting the exposure of adolescents to alcohol advertisements might act as an effective policy measure (Anderson et al., 2009; Jernigan et al., 2016).

Cannabis use

Within Europe, and further afield, cannabis use continues to generate significant policy and public interest. Demand and supply indicators confirm that cannabis is still the most widely used illicit drug in Europe and in other parts of the world. In the European Union, it is estimated that 90.2 million adults aged 15-64 years, corresponding to 27.2 % of this age group, have tried cannabis during their lives (EMCDDA, 2020). Cannabis products account for the largest share (39 %) of the European illicit drug retail market, with an estimated minimum value of EUR 11.6 billion in 2017 (EMCDDA, 2019). These facts, as well as the increase in the variety of cannabis products and their potency, have triggered debate around how society should respond to this substance. In recent years, many countries have reformed laws on cannabis, and a number of jurisdictions, such as Uruguay, Canada and some US states, have legalised its recreational use. However, little is known about the population-level effects of such reforms (Pacula et al., 2015; Stevens, 2019; Waddell and Wilson, 2017) and, while these legal changes are mainly intended for adults, the potential effects on adolescent cannabis use are of particular concern (Cerdá et al., 2017). When considering changes in cannabis regulation in any direction, it is essential to have comparable and representative information on the prevalence and patterns of cannabis use in adolescents, correlated (protective or risk) factors and temporal trends across European countries.

Based on the 2019 ESPAD results, the average lifetime prevalence of cannabis use among adolescents in participating countries remained stable at the 2015 level (16 %), with a high cross-country variability. The countries with the highest prevalence of cannabis use were Czechia (28 %), Italy (27 %) and Latvia (26 %). It is worth noting that in Czechia, as well as in other countries (Bulgaria, France and Monaco) characterised by high levels of lifetime use in 2015, a decrease in lifetime use of up to 10 percentage points was observed in 2019. This development warrants further investigation to gain insights into possible factors influencing the decreases. In Italy and Latvia, the rates remained rather stable compared with the previous survey. Low lifetime prevalence rates were found in four of the Nordic countries (the Faroes, Iceland, Norway and Sweden), several Balkan states (including Kosovo, North Macedonia, Serbia, Montenegro and Romania) and Cyprus and Greece, all with rates under 10 %. With respect to 2015, the average ESPAD prevalence of use in the last year remained stable at 13 %, with the lowest rate observed in Kosovo (2 %) and the highest rate observed in Czechia (23 %). The average prevalence of current use (last month) also remained stable (6.6 % in 2015 and 7.1 % in 2019), with a significant increase observed in six countries and a significant decrease observed in Bulgaria and France. The high prevalence

of current users (13 % or higher) in Italy, France and the Netherlands has occurred despite the different cannabis regulations in place in these three countries.

On average, 2.4 % of the ESPAD students reported that they had first used cannabis at age 13 or younger. This prevalence was slightly lower than in 2015 (3.1 %) and is consistent with the slow increase in the age of onset of cannabis use observed since 2011. The highest rates were found in France (4.5 %) and Italy (4.4 %); however, whereas in France a decrease of about 1.5 percentage points was observed compared with 2015, in Italy no change between 2015 and 2019 was observed.

The results of the CAST measure for cannabis high-risk use suggest that, on average, 4.0 % of students in the total ESPAD population can be considered to be at risk of developing cannabis-related problems. This corresponds to an average proportion of 35 % among students who reported cannabis use in the last year, with a large variability observed across countries. Interestingly, in Kosovo, Cyprus, Montenegro, Serbia and Sweden, which were the countries with the highest proportion of users at high risk of developing cannabis-related problems, the prevalence of cannabis use in the last 12 months was among the lowest in Europe, whereas several of the countries with the highest prevalence of last-year use (Netherlands, Latvia and Czechia) reported some of the lowest proportions of users at high risk of developing cannabis-related problems. This suggests that there is not a simple and direct relation between cannabis use and risky use, with potential influences of other factors, such as quantities actually used, as well as broader social and cultural factors. These factors may include how different societies react to cannabis use, which may influence the self-assessment of excessive use, the willingness to stop using, the recommendations by others (e.g. parents or teachers) to stop using and the development of conflicts in relation to use (Philbin et al., 2019; Santaella-Tenorio et al., 2019). It should be noted that the CAST results need to be interpreted with caution. As pointed out in the methodology section of this report, different coding systems and cut-off scores have been applied since its initial validation in 2007. For the purpose of comparison with the ESPAD 2011 results, and based on previous research, in this report the binary version with a cut-off score of 2 or more points has been adopted, but it is clear that different computation methods would produce different results. It is widely recognised that further research is needed to reach a common agreement on the best computation method for the CAST for different target populations. In addition, it is necessary to investigate the cross-cultural validity of the CAST scale in the context of cross-national studies. In this respect, the fact that the 2019 survey was able to provide relevant data for all participating countries is important for future studies in this area.

Based on the 30-country trend, the perceived availability of cannabis increased slightly from 33 % in 2015, with an average of 32 % of ESPAD students perceiving the substance to be easy or fairly easy to obtain in 2019. It should be noted that perceived availability is not automatically related to cannabis use and problems. For instance, in the Netherlands the proportion of last-year users classified by the CAST as being at high risk of cannabis-related problems is among the lowest in Europe (25 %), whereas in Kosovo this proportion is among the highest (69 %).

Long-term trends in ESPAD average cannabis use indicate an increase in both lifetime and last-month use between 1995 and 2019, from 11 % to 16 % and from 4.1 % to 7.4 %, respectively. However, since 2011 a slow downwards trend can be observed for lifetime use, while a stabilisation has been observed in the rate of last-month cannabis use since 2007.

Overall, the 2019 data suggest that cannabis use and its perceived availability vary widely among European adolescents, with the large differences in these indicators across ESPAD countries not showing any tendencies towards convergence. As research shows, the links and causal relationships between policy, availability and cannabis use are still unclear (Shi et al., 2015; Stevens, 2019; van Ours and Williams, 2015). In recent years, new forms of cannabis have been developed as a result of advances in production techniques, and cannabis products tend to be much more potent than in the past (EMCDDA, 2019b). This means that, even in countries where the prevalence of use underwent limited changes, the potential health risks for adolescents may have changed.

The changing context depicted by the ESPAD results, as well as the need to consider the complicated interplay between national- or community-level and individual-level characteristics (Burdzovic Andreas and Bretteville-Jensen, 2017), highlight the increasing challenges that policymaking and prevention strategies are currently confronted with.

New psychoactive substance use

The so-called NPS are generally defined as psychotropic drugs not controlled by the United Nations drug conventions, but which may pose a public health threat comparable to that caused by substances listed in these conventions (EU, 2017). The European Early Warning System, which is operated by the EMCDDA and Europol and is designed to identify NPS through a multidisciplinary network of 30 national early warning mechanisms, was monitoring around 790 such uncontrolled substances by the end of 2019 (EMCDDA, 2020). Some of these substances used to be, or

still are, marketed as legal alternatives to traditional drugs or, in some cases, as replacements for those drugs. In recent years, European countries have legislated to control the trade and sale of these substances. These national legislations take different approaches but often use definitions of chemical groups, so the common result is that many of the identified substances are immediately under legal control. Given the complexity of interpreting some of the groups, coupled with the inaccurate labelling of substances, in many cases users will not be aware of the exact legal status of the substances they are using (EMCDDA, 2018).

The advent of NPS has raised considerable concern at international and European levels, notably because of the high number of substances identified by the Early Warning System every year. In addition, there have been reports of a growing number of intoxicated people presenting in emergency departments after use of NPS with adverse somatic and psychiatric effects that sometimes seem to be more severe than those induced by established drugs with similar subjective effects (Brown et al., 2018; Logan, 2017).

In this context, it is essential to obtain epidemiologically valid, reliable and comparable information on the prevalence and patterns of NPS use, both among adults and among children. However, while a range of studies have reported on significant levels of NPS use or exposure, these tend to have focused on selected samples (Bretteville-Jensen, 2014; Weinstein et al., 2017), and there is very limited scientific literature on the prevalence of NPS use in representative samples of the general population. In this context, the ESPAD study collected information on NPS use among school students at a European level for the first time in 2015 (ESPAD Group, 2016). Information was collected again in 2019 for NPS in general and, in addition, specifically for synthetic cannabinoid and synthetic cathinone use.

On average, 3.4 % of the ESPAD students surveyed had tried NPS during their lifetime and 2.5 % had used them in the past 12 months, which indicates higher levels of use than for amphetamine, ecstasy, cocaine or LSD individually. However, if stimulants (amphetamine, methamphetamine, ecstasy, cocaine and crack) are combined (4.1 % lifetime prevalence) (see Additional Table 63c), the level of use of NPS is lower, as it is when compared with the use of inhalants or psychoactive medicines. A salient characteristic of NPS is that most users are in fact polysubstance users (see Additional Table 69c), with 77 % of lifetime NPS users also having engaged in heavy episodic drinking at least once in the last 30 days and 88 % having tried at least one illicit drug. In 84 % of cases NPS users had previous experience with cannabis, and in 45 % of cases NPS users

had previous experience with stimulants (amphetamine/ methamphetamine or ecstasy or cocaine/crack). These findings indicate that NPS use should not be viewed as an isolated, specific phenomenon, but that it needs to be seen as part of the broader phenomenon of polysubstance use. Regarding the use of NPS in the last 12 months, several countries reported a relatively high prevalence, for example Czechia (4.9 %), Latvia and Estonia (both 4.7 %), Poland (4.5 %) and Monaco (4.0 %), but in a substantial number of countries (13) the prevalence was lower than 2.0 %, with the lowest rates reported in North Macedonia, Finland and Portugal (below 1.0 %). The results of the 2015 survey are not fully comparable with the 2019 results because of the different response categories. Bearing this in mind, the 2015 results were in a similar range to those of 2019, with slightly higher values in 2015, when the average lifetime prevalence was 4.2 % and the last-12-month prevalence was 2.9 %.

Seizure and other data suggest that the most common NPS available on the European market are stimulants, often cathinones, and synthetic cannabinoids (EMCDDA, 2020). To better investigate this, in some ESPAD countries additional questions were asked about the consumption of synthetic cannabinoids and cathinones. The average lifetime prevalence of synthetic cannabinoid use, calculated across 20 out of 35 countries, was 3.1 %, whereas the consumption of cathinones, calculated across 19 out of 35 countries, was lower, with 1.1 % of the ESPAD students reporting lifetime use. Among the last-12-month users of NPS, the most frequently reported form of synthetic substance used was herbal (54 %), followed by powders or tablets (27 %), liquids (13 %) and other forms (17 %).

Since 2015 the ESPAD study has been one of the first international epidemiological studies to include NPS use. There is currently a lack of internationally comparable data in this area. In the United States, despite concerns about the use of 'synthetic marijuana', the Monitoring the Future study has reported a steady and marked decrease in last-12 month use among 8th, 10th and 12th grade students, from 4.4 %, 8.8 % and 11 % in 2012 to 2.7 %, 2.6 % and 3.3 % in 2019, respectively (Johnston et al., 2020). The age of 10th grade students in the United States is similar to that of students included in ESPAD. Although caution should be exercised when making comparisons, it is observed that levels of use of synthetic cannabinoids are of the same order of magnitude, with relatively low levels of use for both (3.1 % for lifetime use in Europe and 2.6 % for last-year use in the United States). This report presents the basic data on NPS prevalence and patterns of use, but this should be followed by more in-depth analysis of patterns of use (notably polydrug use) and the risk and protective factors related to NPS use.

Pharmaceutical use for non-medical purposes

The use of pharmaceuticals for non-medical purposes is considered globally as a major emerging problem that needs to be monitored. The misuse of pharmaceuticals is defined as the use of a medication that is not prescribed to a user or that is taken in a manner not recommended by a doctor or not in line with the medicine information leaflet (e.g. higher doses, using non-approved routes of administration). It also captures situations in which the medication is illegally obtained (e.g. purchased from a dealer or via the internet) or obtained under false pretences (e.g. doctor shopping or feigning symptoms). Students may misuse pharmaceuticals for a range of reasons, including to induce euphoria, to enhance the effects of alcohol and other drugs, to self-medicate illness or injury, to mitigate the symptoms of withdrawal from alcohol and other drugs and to improve school performance (Larance et al., 2011; McCabe et al., 2017). On average, 9.2 % of the students reported lifetime use of pharmaceuticals for non-medical purposes, with quite large differences across countries (range: 2.8 % to 23 %). The highest prevalence was found in Slovakia (23 %), followed by Latvia (22 %) and Lithuania (21 %). The lowest rates were found in Ukraine (2.8 %) and Georgia, the Faroes, Bulgaria and Italy (4-5 %). Both on average and in the vast majority of ESPAD countries, girls were more likely than boys to have used pharmaceuticals for non-medical purposes.

The types of pharmaceuticals used most often were tranquillisers or sedatives without a doctor's prescription (ESPAD average: 6.6 %), followed by painkillers in order to get high (ESPAD average of 4.0 %). Only a few students reported having used anabolic steroids (ESPAD average: 1.0 %). While in general the use of tranquillisers and sedatives and of painkillers to get high was higher among girls than boys, slightly more boys than girls reported the use of anabolic steroids, even though no appreciable gender differences were seen, both on average and within countries.

There is some evidence suggesting that approximately one third of young people who use prescription drugs for non-medical purposes (for example, in order to get high) may be at higher risk of developing symptoms of a prescription drug use disorder (Chen, 2016; Schepis et al., 2008). At the same time, research suggests that adolescents may seek out controlled substances for the purposes of intoxication because they believe that these substances are safer than illicit drugs (McCabe et al., 2009; SAMHSA, 2017).

Gambling

The increased availability of gambling opportunities resulting from the progressive liberalisation of the gambling sector in many countries over the past few decades, coupled with widespread access to new forms of gambling on the internet, is raising concerns regarding adolescents' participation in gambling (Griffiths and Parke, 2010; Kingma, 2008; Volberg et al., 2010). This is seen as a public health issue as it is deemed that increasing gambling opportunities have led to increases in adolescent gambling (Calado et al., 2017a; Meyer et al., 2009) and even problem gambling (Delfabbro et al., 2016).

The 2019 ESPAD results show that 22 % of adolescent students in Europe reported gambling for money on at least one game in the past 12 months. Cross-country comparisons reveal important variations in the reported levels of past-year gambling, ranging from 11 % in Kosovo to 33 % in Greece and Cyprus. In all countries, considerably more boys than girls engaged in gambling for money.

As described in the methodology section, in 2019 gambling prevalence was calculated as the proportion engaging in at least one gambling activity (playing on slot machines, playing cards or dice for money, playing the lottery, betting on sports or animal races) in the last 12 months.

The 2019 ESPAD results also show that the most popular gambling activity was lotteries, reported by 49 % of last-year gamblers. Interestingly, lottery gambling was the only gambling activity that was more prevalent among female gamblers (57 %) than male gamblers (45 %).

Young people often start gambling at a young age by buying lottery tickets and scratch cards for themselves, despite the age restrictions (Gosselt et al., 2013; St-Pierre et al., 2011), which may account for the higher figure obtained for lotteries than for the other gambling activities. The fact that adolescents often have their first contact with gambling through lottery products (Delfabbro et al., 2014; St-Pierre et al., 2011), has led some to consider lottery gambling as a 'gateway' to gambling among this age group (Malischnig et al., 2020). The highest proportions of students reporting past-year gambling activity who engaged in lotteries were observed in Greece (74 %) and Cyprus (69 %), and this mainly drives their position as the top European countries in terms of gambling prevalence (33 %). The particularly high proportion of students engaging in lottery gambling in Greece, corresponding to 25 % of all 16-year-old students in the country, has been previously explained by the high degree of normalisation of gambling, especially lottery playing (often not perceived as gambling), in society overall (Molinaro et al., 2018).

Slightly less than half of the ESPAD students who gambled spent money on sports or animal races (45 %) and playing cards or dice (44 %). The highest sports betting proportions were observed in Montenegro (75 %) and Croatia (76 %). In

Croatia the popularity of sports betting may be attributed to the liberal approach of the national gambling policy, reflected in the widespread and increasing availability of sports betting points of sale (Ricijaš et al., 2016).

The least prevalent gambling activity was slot machines, which on average were played by one in five adolescent gamblers (21 %). In some countries (Czechia and Greece) the proportion of gamblers playing at slot machines was less than 10 %. Finland reported the highest proportion of slot machine gamblers (60 %). Interestingly, Finland and Montenegro were also among the European countries with the highest gambling prevalence (30 % and 32 %, respectively). Finland has been reported as a case of particular interest because of its exceptional decentralised system of slot machines, guaranteeing easy access in places of everyday life, such as supermarkets and cafés (Raisamo et al., 2017). Although previous findings suggest that raising the legal age for gambling to 18 years as of mid-2011 significantly decreased the prevalence of slot machine use among minors, the general availability of gambling products was not reduced until early 2019 and enforcement of regulations on minimum age is limited (Raisamo et al., 2017; Warpenius et al., 2016). This might explain the 2019 ESPAD results, which indicate that in Finland slot machines were the most prevalent type of game used by gamblers and that almost one in five ESPAD students in the country (18 %) gambled money on this game during the last year. Finland was also the country with the highest prevalence of slot machine use in 2015, for both offline (19.2 %) and online (9.1 %) gambling (Molinaro et al., 2018).

With the introduction of the Lie/Bet screening test for problem gambling in the core part of the ESPAD 2019 questionnaire, information on the extent of problem gambling behaviour in all participating countries is now available. On average, 5.0 % of students who had gambled in the last 12 months met the criteria for problem gambling, which corresponds to a prevalence of 1.4 % in the total student population. This proportion was particularly high in Georgia (12 %), followed by Denmark (9.1 %) and Romania (8.5 %). Interestingly, Georgia (13 %) and Denmark (12 %) were the countries with the second and third lowest prevalence of gambling in the last year. This means that, although gambling is not widespread among adolescents in these two countries, more than one in 10 students who gambled in the past year had already experienced problems related to gambling. This is not the case for Romania, where gambling seems to be a much more popular activity among students (25 % prevalence of past-year gambling). In fact, when looking at the estimated proportion of problem gambling among all students, the prevalence found in Romania (2.5 %) and Montenegro (2.6 %) were the highest.

In 2019, the core part of the ESPAD questionnaire also included the CSPG (Rockloff, 2012), a test that is used to assess the intensity of gambling. Based on the scores on the CSPG, 15 % of students who gambled in the last 12 months met the criteria for excessive gambling, which corresponds to 3.8 % of all students participating in the survey. In line with previous research (Calado et al., 2017b), like almost all ESPAD figures concerning gambling, the extent of estimated problem and excessive gambling was more prevalent among boys.

It is interesting to note that the prevalence of gambling participation and the prevalence of excessive and/or problem gambling are not necessarily correlated, as shown by the example of Greece. While this country ranks first in terms of gambling prevalence, the results from the Lie/Bet and CSPG screening tests suggest that the estimates of problem and excessive gamblers, respectively, were not particularly high, which indicates that most students gamble recreationally. This is also consistent with the fact that the most popular gambling type is lotteries, which the literature indicates are least correlated with the development of problem gambling behaviour (Rockloff, 2012).

In most countries gambling is legal and increasingly available (Williams et al., 2012). Consequently, today's youths are growing up in an environment in which gambling is part of everyday life and an activity that many adults engage in (Volberg et al., 2010). Previous findings indicate that a high proportion of children and adolescents start gambling at an early age, between 10 and 12 years of age (Wynne et al., 1996; Gupta and Derevensky, 1998).

Concerns about adolescent gambling (Calado et al., 2017a; Gupta and Derevensky, 2014) and the resulting need to analyse the comparative prevalence of gambling and problem gambling rates across different countries and across time have motivated the further investigation of the various dimensions of gambling in this report.

The association of excessive gambling with an increased use of legal and illegal substances found in previous studies (Cook et al., 2015; Špolc et al., 2019; Vieno et al., 2018) was also observed in this study (see Additional Table 101b). It has been hypothesised that this is because of the influence of common underlying factors, such as impulsivity and sensation seeking (Cosenza and Nigro, 2015; Nigro and Cosenza, 2016), suggesting a potential effectiveness of prevention and intervention programmes targeted at all kinds of risk behaviours, focusing on the most prevalent risk activities (Špolc et al., 2019).

Social media use and gaming

Over the past three decades, the use of digital technologies and the internet has become an integral part of the daily life of European citizens. Internet use has continued to spread worldwide, with a tenfold increase in fixed or mobile subscriptions in 2019 compared with 20 years ago (4 131 million internet users worldwide in 2019 compared with 495 million in 2001) (ITU, 2019).

With the increase in internet access, online communication has become widespread, especially for adolescents (Bucksch et al., 2016; Livingstone et al., 2017). Although there is concern about an association between adolescent social media use and negative health implications, such as sleep problems, anxiety, low self-esteem and depression (Ehrenreich and Underwood, 2016; Hussain and Griffiths, 2018; Richards et al., 2015; Wong et al., 2020), as well as the possibility that social media experiences may engender feelings of exclusion or victimisation (Fabris et al., 2020; Underwood and Ehrenreich, 2017), teenagers can also experience benefits from social media, such as social support, greater social connectedness and greater ease of interaction (Barry et al., 2017; Berryman, 2018; Gerwin et al., 2018; Kuss et al., 2017; Seabrook et al., 2016).

In 2019 within the last 7 days students had used social media for 2-3 hours on a typical school day and for 6 or more hours on a typical non-school day. Fewer online hours on a non-school day were reported in Austria, Czechia, Iceland, Slovenia and Denmark.

It is perhaps noteworthy that, in some countries, more than 10 % of students reported no use of social media on a typical school day (such as Kosovo, Georgia, Bulgaria, Cyprus, North Macedonia and Slovakia), as well as on a typical non-school day (Kosovo, Georgia and Bulgaria).

Differences between countries in time spent online may not necessarily reflect cultural differences; rather, they may be due to differences in ability to access to the internet and devices with internet capability, although wide coverage of internet access in most countries in Europe can be assumed. Moreover, as reported by the EU Kids Online 2020 report (Smahel, 2020), which provides data from 19 European countries, smartphones are now the preferred means of accessing the internet for most children, meaning that they have 'anywhere, anytime' connectivity, with the majority of children reporting that they use their smartphone daily, with time spent online each day almost doubling in many countries in the last 10 years.

Even though no significant differences were found between boys and girls in terms of social media use on a typical school day in most ESPAD countries, when looking at non-school days girls were slightly more likely than boys to spend more time on social media. These results differ from those reported by Smahel et al. (2020). A gender difference in social media use was also found in the 2014 (HBSC) study, with more girls than boys aged 13 and 15 years reporting daily social media contact with friends (Inchley et al., 2016).

Over the last two decades, driven mainly by the increasing popularity of smartphones and tablets, gaming has become more popular and is increasingly played on these devices. Since 2005 weekly use of gaming, both online and mobile, has doubled (OFCOM, 2015). Nonetheless, with regard to time spent on gaming activities, the majority of ESPAD students reported not having played digital games within the last 30 days, both on a typical school day and on a typical non-school day.

Research on factors associated with excessive gaming indicates that early-onset, opposite-sex friends and minimal parental mediation increase the risk (Lissak, 2018; Müller et al., 2015; Sugaya et al., 2019), as well as high impulsivity and sensation-seeking personality traits (Griffiths et al., 2012; Salvarli and Griffiths, 2019). Several studies have focused on the negative health effects of gaming, ranging from mental health problems, such as sleep disorders, anxiety and depression, to addictive behaviours and health risks related to sedentary behaviour (Mihara and Higuchi, 2017; Stockdale and Coyne, 2018; Throuvala et al., 2020). An increased engagement in gaming was also related to a higher rate of bullying in boys and lower life satisfaction in girls (Brooks et al., 2016) and a higher rate of social isolation and feelings of loneliness among all students (Stockdale and Coyne, 2018; van den Eijnden et al., 2018).

Even though country differences are considerable, and the wide availability of game types is aimed at attracting boys as well as girls, playing games is still associated with gender, with boys spending more time than girls on gaming activities in most countries, on both school days and non-school days.

Whether it represents a disorder, an underlying psychopathological manifestation or a common behaviour among adolescents, as well as information on hours spent on social media or gaming, their individual perception of problems related to time spent on these activities is of particular interest.

To provide a better understanding of this issue, the ESPAD questionnaire introduced two non-clinical screening tools, adapted from Holstein et al. (2014), that focus on a student's perception of problems related separately to social media use and gaming.

The results based on these two different summary indexes indicate a greater self-perception of high risk of problems

related to the use of social media (46 % on average) than gaming activities (21 %). Noticeable gender differences, correlating with those found in the amount of time spent on these activities, were in line with previous research (Holstein et al., 2014; Kuss et al., 2012; Spilková et al., 2017): problems related to social media use were more prevalent among girls across all European countries, while those related to gaming were more prevalent among boys.

As recent research concludes, the current patterns of internet use (e.g. time spent online, young age of users, number of technological devices and diverse online activities engaged in) are associated with a risk of addiction (Lopez-Fernandez and Kuss, 2019). Young people who frequently go online for leisure purposes, in terms of both social media use and gaming, are more likely to be engaged excessively and/ or display addiction symptoms. In this respect, it is important to further monitor the topic of social media use and gaming among adolescents, as the risks related to this behaviour present a challenge for public health policies across Europe.

Limitations

Although the ESPAD survey is based on a common methodology, there are some limitations that may weaken the validity of the estimates. First, in France, data were collected a year earlier than in the majority of countries (in the spring of the previous year); therefore, the target population was defined as students who reach the age of 16 in 2018. In the Netherlands, data were collected half a year later than in the majority of countries (in the autumn of 2019) and students were on average half a year older. The target population was, however, redefined to give an average age in line with the other participating countries that collected data in spring. Second, the class/school participation rates in Denmark (21 %) and the Netherlands (35 %) were exceptionally low compared with the ESPAD average of 85 %. Low participation rates, however, may not necessarily lead to biased estimates, unless the behaviour in question is unequally distributed across schools and classes. A simulation study from Germany found that school non-participation in surveys assessing substance use among students is not as problematic as expected (Thrul et al., 2016). Systematic exclusion of schools, based on the size of the city, school or class, on the school environment or on schools' substance use policies, resulted in significant but rather small changes in prevalence estimates. Third, in some countries, sampling was possible only in particular regions of the country. In Cyprus, data collection was restricted to government-controlled areas, representing approximately 80 % of the population. In Finland, the Åland Islands were not covered by the sampling frame and in Georgia the occupied territories of Abkhazia and South Ossetia were not included. In Germany, the sampling frame covered only the federal

state of Bavaria. In Kosovo, 4 % of the target population enrolled in schools in Northern Kosovo and/or functioning under the parallel structures of the Ministry of Education of Serbia within the other Serbian municipalities were not covered by the sampling frame. In Ukraine, the Autonomous Republic of Crimea was not included in the survey, nor were the territories of Donetsk and Luhansk, which are not controlled by the Ukrainian government. In these cases, estimates represent only the population of the region where the survey took place.

Conclusion

The main lesson learned from the 2019 ESPAD data collection is that it is essential to maintain a strong commitment to the monitoring of relevant changes in long-term trends, as well as the emergence of new substances and new forms of substance use and risk behaviours among adolescents.

The data on tobacco consumption present a relevant example. After seeing a decreasing use of tobacco for decades, new growth in nicotine use can now be observed. In fact, a number of devices that enable more diverse consumption of this substance, i.e. e-cigarettes or heat-not-burn tobacco devices, have entered the market in recent years, and there are indications that nicotine consumption among adolescent students is growing again. Although the policies aimed at preventing and reducing cigarette smoking have had long-term effects on adolescents in a large number of European countries, these new fashions and ways of consuming nicotine may challenge the progress achieved and so it is essential to continue close monitoring, particularly among young people.

Despite high levels of variation between countries, the overall prevalence of alcohol use showed a slight decreasing trend among adolescents, highlighting that the cultural reputation of drinking has changed over the years among young people, particularly following the technological revolution and with the widespread change in social presentation and in interactions between parents and children. However, despite strict regulations concerning alcohol use in some countries, adolescents still report that alcohol is relatively easy to access and high rates of heavy episodic drinking are still found, especially in central European countries.

The 2019 ESPAD data also confirm that cannabis continues to be a readily available, established drug in Europe. The 2019 survey included an important dimension of cannabis monitoring, the assessment of risky use, which will provide important insights to help formulate more targeted policies and interventions. In many European countries cannabis use is fairly widespread among adolescents, and interventions

may be necessary not only to prevent any use but also to prevent any potential progression from occasional use to more risky or sustained patterns of use.

The use of NPS continues to be a source of considerable concern, but the 2015 and 2019 survey results show that the prevalence of use is relatively low among European adolescents, although not negligible. An important point highlighted by the 2019 results is that NPS use is part of the broader phenomenon of polydrug use, and that use of NPS is markedly associated with alcohol and drug use. In any case, the availability of NPS and adolescents' access to, and use of, these substances need to be monitored, considering the ongoing emergence of new substances.

The 2019 ESPAD data confirm that gambling for money has become a rather popular activity among European students and that the emergence of problematic behaviours, such as excessive and problem gambling, must also not be underestimated in this young age group. This means not only that enforcement of age limits for gambling and of restrictions on gambling advertisements should be improved, but also that prevention efforts should be made to instruct young generations about gambling mechanisms and the real probability of winning. In addition, particular attention should be given to adolescents' closest relationships, such as with family members and reference adults. In fact, the high degree of normalisation of gambling in societies and the culture of gambling within the family environment have been recognised as important drivers of gambling onset and youth progression into problem gambling.

Over the past two decades, driven primarily by the growing popularity of smartphones and tablets, social media and online games have become increasingly popular and easily accessible.

Young people are an important target group for many drug and addictive behaviour prevention interventions. They are also the section of the population most familiar with information and communication technologies and most open to their use in many areas of their life. These two factors

mean that this group is most likely to be willing to accept and benefit from the use of this technology for the delivery of prevention interventions and, perhaps, some forms of treatment adapted to adolescents.

With the 2019 data collection, ESPAD brings together comparable information from over 30 European countries over a period of 24 years. This places the project in a unique position to continue to make a valuable contribution to the development of credible and effective policies and interventions to protect youth health and social well-being in general. In this sense, throughout its lifetime, ESPAD has proved its capacity to incorporate relevant new developments, including what is possibly one of the main 21st-century developments in the field of addictions, the behaviours (e.g. gambling) that can lead to similar personal and social problems as those caused by psychoactive substances. It has also been accepted that, because of the methodology used, target age group and rather long time cycle, ESPAD does not intend to identify every local or short-lived drug issue. However, it is an essential tool for assessing which developments have a real public health and social relevance and which ones are of limited impact, with both aspects being important for policy formulation.

From this perspective, ESPAD will strive to increase its impact through closer cooperation with other relevant international and national projects that focus on adolescent health and substance use, either inside Europe (e.g. HBSC, Mediterranean School Survey Project on Alcohol and Other Drugs in Schools (MedSPAD)) or outside Europe (e.g. Monitoring the Future).

In the coming years, ESPAD is committed not only to continuing to monitor patterns of substance use but also to assessing developments in internet use, as well as online gaming and gambling. Furthermore, it will increase efforts to promote research addressing the new challenges to increase the understanding of substance use and risk behaviours and provide evidence to develop and assess effective policies and interventions.

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About this report

This report presents the results from the seventh wave of data collection, conducted in 35 countries during the spring and autumn of 2019. It gives a comprehensive picture of the present situation among European young people as regards the use of cigarettes, alcohol, illicit drugs, inhalants, new psychoactive substances and pharmaceuticals, but also insights into gambling, social media use and gaming. The report presents as well an overview of trends in 1995-2019.

About the EMCDDA

The European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) is the central source and confirmed authority on drug-related issues in Europe. For 25 years, it has been collecting, analysing and disseminating scientifically sound information on drugs and drug addiction and their consequences, providing its audiences with an evidence-based picture of the drug phenomenon at European level.

The EMCDDA's publications are a prime source of information for a wide range of audiences including policymakers and their advisors; professionals and researchers working in the drugs field; and, more broadly, the media and general public. Based in Lisbon, the EMCDDA is one of the decentralised agencies of the European Union.

About ESPAD

The European School Survey Project on Alcohol and Other Drugs (ESPAD) is a collaborative effort of independent research teams in more than 40 European countries, making it the largest cross-national research project on adolescent substance use in the world.

ESPAD was founded in 1993, on the initiative of the Swedish Council for Information on Alcohol and Other Drugs (CAN) and with the support of the Pompidou Group at the Council of Europe. In later years, ESPAD has also established increasingly close cooperation with the EMCDDA, and at present the agency plays an important role in the coordination of the ESPAD project.

Most of the European continent is now covered by ESPAD, meaning that it provides a reliable overview of trends in substance use among 15- to 16-year-old European students. Data are collected every 4 years.

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