The

ESPAD Report 2003

Alcohol and Other Drug Use Among Students
in 35 European Countries

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ESPAD

Preface

This is the third report published within the ESPAD project. It presents data on more than 100,000 European students in numerous diagrams and maps and around 150 tables. Independent researchers in 35 European countries have collaborated in planning, methodological discussions, the data collections and the reporting of the national results.

The two earlier reports presented data from 1995 and 1999. The first report covered 26 European countries, the second included data from 30 countries. The project now covers most of the European continent and has become an important source of information on young people's alcohol and drug use.

Moreover, the body of articles with analyses published in international scientific journals is growing. The enormous data mass now kept in each individual country will soon be gathered into a common database for further analyses.

The work with this report would not have been possible without the economic support from the Swedish Government. We are also grateful for the support we have got from the Pompidou Group at the Council of Europe and the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) in Lisbon.

We would like to take this opportunity to thank our colleagues in all ESPAD countries for the inspiring work, the good spirit and the always friendly and collaborative atmosphere that have characterised our meetings and seminars. We are also grateful to the teachers and huge number of students across Europe that participated in the 2003 data collection.

Stockholm in November 2004

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Table of Contents

Tables

Figures

Acknowledgements

The planning and implementation of the ESPAD 2003 project has been a collaborative effort of the research teams in each of the 35 countries. The importance of the researchers and their supporting institutions cannot be over-estimated. The project has no money for the participating countries, but rely on each participant's possibility to raise money within his or her country.

The Swedish Government, however, has supported the co-ordination of the work. This grant has also covered some of the costs for the meetings and for the printing of the report.

The Pompidou Group at the Council of Europe has supported the project from the first project meeting in 1994. In particular the support of the Pompidou Group has enabled researchers from eastern and central parts of Europe to participate in project meetings and regional seminars. Earlier the Pompidou Group also supported the meetings of the working group. A special thanks is due to Mr. Christopher Luckett and Mrs. Florence Mabileau-Whomsley at the Pompidou Group for their much appreciated assistance and support. We would also like to thank Richard Muscat at the Pompidou Group, for his valuable comments on this report.

Some support has also been given by the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) in Lisbon.

The ESPAD project has been co-ordinated by Björn Hibell and Barbro Andersson, Sweden. A working group, nominated by the ESPAD members at project meetings, has been collaborating with the co-ordinators of this project. These persons have been planning, developing and discussing all details in relation both to the project meetings and to the planning of the 2003 data collection. The working group has also actively taken part in the development of this report. Besides the co-ordinators the members of the working group include Salme Ahlström, Finland, Olga Balakireva, Ukraine, Thoroddur Bjarnason, Iceland, Anna Kokkevi, Greece and Mark Morgan, Ireland.

In addition to the results of the ESPAD 2003 survey, some comparable data from the Monitoring the Future Project in USA, and from a Spanish school survey has been included in this report. Lloyd Johnston, USA and Gregorio Barrio Anta, Spain have kindly provided these data.

Each country has been represented in the project by a researcher, who is also a contributing author of this report (see title page). There are, however, a number of persons who have done important work with the 2003 ESPAD study. They are presented below in alphabetical order by country.

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Funding agencies and supportive organisations

Introduction

Health effects of tobacco, alcohol and drug consumption are apparent on the individual as well as the societal level as a whole. The negative aspects are of great concern in municipalities and countries and for that matter the international community. Governments and major international bodies as the United Nations and the European Union are constantly looking for policy measures to reduce the negative impact of the use of different substances.

The wellbeing of young people is of special concern in all societies and ongoing efforts are made to reduce all types of dangerous behaviour. These include many aspects of the consumption of tobacco, alcohol and different kinds of illegal drugs. Most countries have laws in place that restrict the availability of these substances. The legal regulations may vary between countries but many of them include limitations especially targeted to young people.

The wellbeing of young people is visible in the Action plans of the European Union. The first covered the years from 1995 to 1999 and the second, the period from 2000 to 2004. A new plan from 2005 is in the preparative stage. The plan for 2000–2004 included the following six targets:

- To reduce significantly over five years the prevalence of illicit drug use, as well as new recruitment to it, particularly among young people under 18 years of age.
- To reduce substantially over five years the incidence of drug-related health damage (HIV, hepatitis B and C, TBC, etc.) and the number of drug-related deaths.
- To increase substantially the number of successfully treated addicts.
- To reduce substantially over five years the availability of illicit drugs.
- To reduce substantially over five years the number of drug related crimes.
- To reduce substantially over five years money-laundering and illicit trafficking of precursors.

The European Union established the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) in Lisbon. The centre is responsible for supplying objective, reliable and comparable data to provide the Community and member states with an overall view of drugs, drug addiction and their consequences. The tasks of EMCDDA include; to collect and analyse existing data, to improve data-comparison methods, to disseminate data and to co-operate with European and international organisations and third countries.

WHO formulated a European Alcohol action plan for the years 2000 to 2005 with the aim to reduce the harm caused by alcohol. To complement this broad plan a declaration on young people and alcohol was released in 2001. The declaration includes the following targets:

- To substantially reduce the number of young people who start consuming alcohol.
- To delay the age of onset of drinking by young people.
- To substantially reduce the occurrence and frequency of high-risk drinking among young people, especially adolescents and young adults.
- To increase education for young people on alcohol.
- To substantially reduce alcohol-related harm, especially accidents, assaults and violence, and particularly as experienced by young people.

The Pompidou Group at the Council of Europe provides a forum for European ministers, officials and other professionals to co-operate and exchange information about drugs. The main mission is the facilitation of the triangulation between policy, practice and research with the aim to promote evidence-based policy with focus on day-to-day practice as well as local level policy and practice.

Platforms are the main instruments through which the mission of the Pompidou Group has been implemented. The functions of the research platform includes to signal developments in the use of data and research as a basis for policy and practice. In relation to the ESPAD project this includes examination of the impact of the ESPAD project on policy and practice and to better understand risk factors and communicate this information to policymakers and practitioners to elaborate evidence-

based prevention policies and programmes.

The ESPAD project can play a key role in relation to the actions proposed by all these actors. One of the goals of the ESPAD project is to provide data that can be used as a part of the evaluation of the EU action plan on drugs as well as the WHO Europe declaration on young people and alcohol. In relation to the evaluation of the EU action plan co-operation with EMCDDA is essential. The same is true in relation to the Pompidou Group and its role to promote evidence-based drug policy measures.

There is a growing concern from policy makers and other decision makers about the negative effects of young peoples' consumption of different substances. Informed and well supported decisions demand comprehensive information, which is a key mission for the ESPAD project. With three data collections in 1995, 1999 and 2003 the ESPAD project provides a reliable overview of trends in licit and illicit drug use among European adolescents between 1995–2003 as well as a comprehensive picture of young peoples' use of tobacco, alcohol, cannabis and other drugs in Europe.

Background

The use of tobacco, alcohol and other drugs among young people is of great concern in most countries and many studies have been conducted to better understand consumption patterns. Traditionally, in spite of the significant number of studies conducted in many countries, it was rather difficult to obtain a comprehensive picture and more to the point compare the levels of alcohol and drug use prevalence in different countries. The main reason for this was that the studies involved different age groups with different questionnaires and at different times, i.e. too many disparate factors that made comparisons difficult.

During the 1980's a subgroup of collaborating investigators was formed within the Pompidou Expert Committee on Drug Epidemiology, Council of Europe, to develop a standardised school survey questionnaire and methodology. The purpose and rationale for the work was to produce a standard survey instrument, which would permit different countries to compare alcohol and drug use in student populations. The common questionnaire was used by eight countries in a pilot study. Unfortunately the studies differed in sample size, representativeness and range of ages studied and they were not performed simultaneously. Due to these differences data were not directly comparable. However, the survey instrument proved to be valid and reliable (Johnston et al. 1994).

Another study, who's primary objective is the health behaviour of children in Europe (aged 11, 13 and 15), was initiated by a small group of researchers in the beginning of the 1980s. The project was adopted by WHO and now has an increasing number of countries involved in it. Surveys have been conducted since 1983/84 and to date total some six, the last one in 2001/02. However, the focus of these studies is mainly health issues, although in later studies a few questions were asked on smoking, alcohol consumption and cannabis use (Currie et. al. 2004).

Some few countries conduct school surveys on a more or less regularl basis. However, the long series of annual school surveys in Sweden since 1971 is unique. Over the years however there has been a growing interest to compare the results from the Swedish school surveys with comparable data from other countries.

In the light of the experiences described above, 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 simultaneously performed school surveys on tobacco, alcohol and drugs in co-operation with the Pompidou Group. These contacts resulted in the first ESPAD study involving 26 European countries in 1995. The second study was conducted in 1999.

Purpose of the project

A main purpose of the ESPAD project is to collect comparable data on alcohol, tobacco and drug use among 15–16 year old students in European countries. The studies are conducted as school surveys by researchers in each participating country, during the same period of time and with a common methodology. By adopting this ESPAD format, comprehensive and comparable data on alcohol, tobacco and drug use among European students are produced.

The most important goal of this project is to monitor trends in alcohol and drug habits among students in Europe and to compare trends between countries and between groups of countries. The knowledge thus gained will be important in the future when changes in one part of Europe may serve as a possible forecast for other countries where changes have not yet appeared. Such trends may also function as the basis for future prevention initiatives.

In relations to the EU action plan on drugs and the WHO Europe declaration on young people and alcohol, a third goal of the ESPAD project is to provide data that can be used as a part of the evaluation of these charters.

The surveys are planned to be repeated every fourth year, thus providing long-term data on changes in alcohol and drug consumption among young people. The collected data should also be analysed in depth for a better understanding of young peoples' alcohol and drug behaviour. European countries which are not yet involved in the ESPAD project are welcome to join the next wave in 2007, to further the coverage across Europe as completely as possible.

The use of surveys

Knowledge pertaining to the levels of alcohol and drug use can be derived in different ways depending on which part of the phenomenon one wants to address. In many countries household surveys are conducted with the aim of measuring alcohol and drug habits in general populations. School surveys are also often performed, either complementary to other investigations or as the only measure.

A problem with surveys is that they usually do not reach some segments of the population, including heavy abuser populations, homeless or drop-outs from school. The latter is a group of young persons known to be vulnerable to alcohol and drug use. There are, however, other techniques available to measure drug use among these populations, e.g. snowball sampling, first treatment demand rates or estimates based on capture-recapture methods.

The rationale for school surveys is that students represent age-groups when onset of different substance use is likely to occur and therefore important to monitor. Another reason is ease of accessibility, students are as such within the school system, which also reduces the costs.

With student studies, it is a well accepted method to use group administrated questionnaires in a classroom setting where data are collected under the same conditions as a written test. The experience of using school surveys to collect information on alcohol and drug use certainly differs between countries. However, when students are the selected population for study, there are usually no other realistic ways of collecting data other than using group administrated questionnaires in the schools (usually in the classrooms).

A handbook on the methods usually required in the conduct of school surveys on drug abuse has recently been published by United Nations Office on Drugs and Crime (Hibell et al 2003). It includes information on the planning of school surveys, methodological issues, sampling issues, questionnaire development, data collection procedure as well as report writing.

National project plans and regional seminars

Prior to the survey each country produced a national project plan, following a standardised outline, describing the target population's distribution over the grades in school and the proportion of students expected to be enrolled in school (Hibell and Andersson 2002). The plans for sampling and field procedures were also described in detail.

In an effort to standardise the methodology regional seminars were held with small groups of investigators. The purpose of the seminars was to maximise the standardisation of the data collection procedure and to discuss and suggest which of the sampling procedures were most appropriate for the different countries with different conditions in terms of available school statistics. The seminars per se also functioned as training courses for the less experienced participants.

Participants and ownership

Each researcher raised funds in his or her own country and participated in the project and at project meetings independently and at own costs. Data collected in the project are owned by each country independently. The co-ordination of the project is financed by a mutual agreement between the Swedish Council for Information on Alcohol and Other Drugs (CAN) and the Swedish Government.

Participating countries

About 30 countries were involved in the planning process of the 1995 ESPAD study. Unfortunately a few of them were unable to raise the funding needed for data collection and thus the 1995 ESPAD Report included information gathered from 26 countries (Hibell et al 1997). In the second round of data collection held in 1999 data was collected from 30 countries.

For the 2003 survey, new countries have joined and this report includes data from 35 participating countries including Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, the Faroe Islands, Finland, France, Germany, Greece, Greenland, Hungary, Iceland, Ireland, Isle of Man, Italy, Latvia, Lithuania, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Russia (Moscow), the Slovak Republic, Slovenia, Sweden, Switzerland, Turkey, Ukraine and United Kingdom.

Five of these countries participated in the ESPAD project for the first time in 2003. They are Austria, Belgium, Germany, Isle of Man and Switzerland. Turkey collected data in 1995, but not in 1999, and re-joined for the 2003 survey. One country (FYROM – Former Yugoslav Republic of Macedonia) that participated in the 1999 study did not take part in the 2003 data collection exercise. Besides the 35 ESPAD countries the report also includes data from Spain and USA.

The structure of the 2003 ESPAD report

The structure of this report follows to a large extent the structure of previous ESPAD reports. A major difference is a new more analytical chapter about the relationship between some background variables and the consumption of alcohol and other drugs.

Moreover, one of the first chapters includes an overview of the study design and procedures. As mentioned earlier, a goal of the ESPAD project has of course been to standardise the procedures as much as possible, including the target population, the questionnaire, the sampling procedure as well

as the way in which data are collected. A complement to this overview can be found in Appendix I in which the sampling and field procedures are presented and commented on country by country.

Changes between the three data collections in 1995, 1999 and 2003 are presented in the first of the result chapters. This is the only part of the report that includes data from previous data collections. (An exception is the last of the tables in the table section, where recalculated data on estimates for alcohol consumption from the 1999 study are presented.) To give an overview of major changes from 1999 to 2003 in the countries that participated in both studies the chapter is made more explicit by the significant use of a number of diagrams. In addition to this, a new type of diagram has been introduced that provides information on the trends between all the three data collections country by country.

Major results from the 2003 data collection are presented in a separate chapter. As in previous reports, it includes maps that illustrate the differences between high and low prevalence countries for a large number of variables. The maps are complemented by bar graphs that _rank" all countries with available information.

The key results for individual countries are gathered in a separate chapter. It includes a country by country overview in which the findings of each country are compared with the averages of all 35 ESPAD countries.

Some of the most relevant variables describing the alcohol and drug situation among students across Europe are summarised in a short chapter. The overview includes information on cigarette smoking, alcohol consumption, drunkenness as well as the use of cannabis and other illicit drugs.

The last chapter includes correlates of adolescent substance use. The use of cigarettes, alcohol and cannabis use correlated to parental education, family structure, economic situation, parental control, truancy and sibling substance use.

The tables of the methodological chapter are presented in the text. However, the tables that include data related to the consumption of alcohol and other drugs are to be found in Appendix II.

Summary of the 2003 findings

Data on young people's alcohol and drug habits have been collected in three waves of the European School Survey Project on Alcohol and Other Drugs, ESPAD. The first study was conducted in 26 countries in 1995. The second survey was done in 1999 and reached 30 participating countries.

The focus of this chapter is on the findings from the surveys that were performed in 35 countries in 2003.

The participating countries include Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, the Faroe Islands, Finland, France, Germany (6 Bundesländer), Greece, Greenland, Hungary, Iceland, Ireland, Isle of Man, Italy, Latvia, Lithuania, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Russia (Moscow), the Slovak Republic, Slovenia, Sweden, Switzerland, Turkey (6 cities), Ukraine and the United Kingdom. The project is a collaborative project between independent research teams in the participating countries. More than 100,000 students participated in the 2003 data collection.

In this chapter a short version of the 2003 findings is presented. Key data on important variables are presented in summary tables 1–3. The behaviours included are cigarette smoking, alcohol consumption, drunkenness and use of illicit drugs.

Methodology

As in earlier studies, the surveys were conducted with a standardised methodology and a common questionnaire to provide as comparable data as possible. Data were mainly collected during Spring 2003 and the target population was students born in 1987. Thus, the age group studied turned 16 during the year of data collection. At the time of the data collections the average age was 15.8 years. Data were collected by group-administered questionnaires in schools on nationally representative samples of classes. Exceptions include Russia, where the study was restricted to Moscow only, Germany, where the study was performed in six Bundesländer and Turkey, where the study was restricted to six major cities in the six main regions in Turkey.

Teachers or research assistants collected the data.

The students answered the questionnaires anonymously in the classroom under conditions similar to a written test. The sample sizes in participating countries ranges between 555 in Greenland to almost 6,000 in Poland. However, small study groups are only found in small countries where no sampling was done. In all remaining countries, the sample size was close to or above the recommended number of 2,400.

The results of the survey were reported in a standardised format. These country reports form the basis of the content of this report.

Data quality

Every effort was made to standardise the methodology of the ESPAD project across countries. Nevertheless, some methodological issues inevitably arise in a comparative survey of 35 countries.

The validity is deemed to be high in most ESPAD countries. The cultural context in which the students have answered the questions has most probably differed between countries. However, this does not necessarily indicate large differences in the willingness to give honest answers. A few countries have experienced modest validity problems, but such problems are not of the magnitude necessary to seriously threaten the comparability of results.

For various reasons it was not possible to give precise levels of statistical significance in this report. Small differences in point estimates between countries or over time should therefore be interpreted with caution. However, given the size of the national samples and the sampling methods employed, differences of more than a few percentage points can with considerable confidence be considered significant.

Tobacco

he use of cigarettes 40 times or more in lifetime and the 30 days prevalence rates are presented in the summary tables. In nearly all ESPAD countries 50–80% of the students had smoked cigarettes at least once in their lifetime, and those who had smoked 40 times or more are mainly found in countries where the lifetime prevalence is high. In

Austria, the Czech Republic, the Faroe Islands, Greenland, Germany, Lithuania and Russia (Moscow) about 40% had smoked 40 times or more in their lifetime. The lowest prevalence rates are found in Turkey (13%), Malta (16%), Iceland and Portugal (18% each).

In eight of the 35 ESPAD countries more boys than girls had smoked 40 times or more in their lifetime. These countries are mainly found in the eastern parts of Europe such as Estonia, Latvia, Lithuania, Poland, Romania and Ukraine, but also in Cyprus and Turkey. Large differences in the other direction with more girls reporting this behaviour are mainly found in two northern islands, Greenland and the Isle of Man.

The highest percentage of students, which reported smoking during the last 30 days is found in Greenland, which stands apart from other countries on this variable (60%). High rates are also found in Austria, Bulgaria, Germany, Russia (Moscow) and the Czech Republic (43–49%). Particularly low proportions are found in Cyprus, Iceland, Sweden and Turkey with figures ranging between 18 and 25%.

Countries with substantially higher rates of last month smoking among boys include Cyprus, Latvia, Lithuania, Turkey and Ukraine. Considerably higher rates among girls are found in Greenland, Ireland, Isle of Man and the United Kingdom.

Alcohol consumption

Prevalence of alcohol consumption 40 times or more in lifetime is presented in the summary tables. They also contain the 30 days prevalence of alcohol consumption 10 times or more, as well as the 30 days prevalence of consuming beer, wine and spirits 3 times or more.

In two thirds of the ESPAD countries the vast majority (90% or more) of the students have drank alcohol at least once in their lifetime. However, these students do not all drink on a regular basis. A student who has been drinking at least 40 times can be labelled as more of a regular consumer. The prevalence rates of this frequency of drinking are much lower than the total lifetime prevalence.

The highest rates reporting use of alcohol 40 times or more in lifetime are primarily found in the same countries as reported the highest lifetime figures. They include Denmark, Austria, the Czech Republic, Isle of Man, the Netherlands and the United Kingdom (43–50%). The lowest proportion is reported from Turkey (7%) followed by Greenland, Iceland, Norway and Portugal (13–15%).

More boys than girls report this level of alcohol consumption. In a few countries, Isle of Man, Finland and Norway, the gender distribution is about equal. However, no country reports prevalence rates among girls that exceed those of the boys.

A higher frequency of alcohol use is revealed among students who had consumed alcohol 10 times or more during the last 30 days, i.e. at least every third day on average. About one quarter of the students in the Netherlands (25%) and about one fifth of the respondents in Austria, Belgium, Malta and the United Kingdom (17–21%) reported this frequency of alcohol use. In some countries, this drinking frequency is hardly reported at all. Proportions of 3% or less were found in Finland, Greenland, Iceland, Norway and Sweden. Thus, the very low prevalence rates are mainly concentrated to the Nordic countries.

Many students report rather frequent beer consumption. The percentages of students who had consumed beer 3 times or more during the last 30 days varies between 10 and 44%. The highest figures are found in Denmark, Bulgaria, the Netherlands and Poland (40–44%). The smallest proportions were reported from Norway and Turkey (10 and 14% respectively). Other countries where less than 20% had consumed beer that often include Finland, Hungary, Iceland and Portugal.

Drinking beer is a predominantly male behaviour in most ESPAD countries. The only exceptions are two countries in the North Atlantic, Greenland and Iceland, where almost equal proportions of girls and boys report frequent beer drinking.

A smaller number of students had been drinking wine than beer during the last 30 days. The proportions of students reporting a wine consumption frequency of 3 times or more during last 30 days are in most cases lower than 20%. However, one country stands out in this respect, as one third (35%) of the students in Malta reported this frequency of wine drinking. Other high prevalence countries include Austria, the Czech Republic, Greece, Italy and Slovenia (21–23%). The lowest proportions that reported this frequency of wine consumption are found in Finland, Iceland, Norway and Turkey (5% or less).

The number of students who had been drinking spirits during the last 30 days vary considerably between the ESPAD countries. This also holds true also when looking at the number of students who had been drinking 3 times or more during last month. The British Isles are at the top but also two

Mediterranean countries. The highest proportion is found in Malta, where 43% of the students reported this frequency of spirits consumption. The countries that come next include the Faroe Islands, Greece, Ireland, Isle of Man and the United Kingdom (37–39%).

In about half of the countries, more boys than girls report such frequent consumption of spirits. However, almost the same number of countries report prevalence rates that are equal or almost equal between the sexes. Only three countries report proportions among the girls that exceed those of the boys. These countries are all high frequency countries and they are all parts of the British Isles, i.e. Ireland, Isle of Man and the United Kingdom.

Drunkenness
Lifetime prevalence of having been drunk 20 times or more and the 30 days prevalence of being drunk 3 times or more are presented in the summary tables.

Some students have a rather limited experience of getting drunk, while others get intoxicated more frequently. However, in 30 of the 35 countries studied a majority of the students have been drunk at least once. The countries with the highest percentages indicating that they had been drunk 20 times or more in lifetime include Denmark, Ireland, Isle of Man, the United Kingdom, Estonia and Finland (26–36%). In other countries only a few report this frequency of drunkenness. In Turkey only 1% had been drunk 20 times or more and in Cyprus, France, Greece and Portugal this was reported by about 3% of the students.

In a majority of the countries there are more boys than girls that report this frequency of intoxication. In no country are the girls in majority. However, in relatively many countries the gender distribution is rather even. These countries include both the British Isles and most of the Nordic countries (Finland, the Faroe Islands, Iceland, Ireland, Isle of Man, Norway, Sweden and the United Kingdom).

The number of students who have been drunk 3 times or more during the last 30 days is of course much smaller, but the highest ranked countries are in most cases the same. Thus, in Denmark and Ireland about one fourth of the students had been drunk that often. Other countries with high prevalence rates include Isle of Man and the United Kingdom.

However, in about half of the ESPAD countries the number of students reporting this frequency of intoxication is 10% or less. The lowest figures are reported from Cyprus, France, Greece, Portugal and Turkey (1–4%).

Binge drinking
The frequency of having 5 or more drinks in a row, sometimes referred to as "binge drinking", provides an alternative measure of heavy alcohol use. The proportion indicating such consumption 3 times or more during the last 30 days vary considerably over the ESPAD countries. This is reported by one fifth to one third of the students in about half of the ESPAD countries.

The highest number of students reporting this behaviour is found in Denmark, Ireland, Isle of Man, Malta, the Netherlands, Norway, Poland, Sweden and the United Kingdom (24–32%). Thus, there is a concentration of countries to the northern and western parts of Europe with Malta as the only exception. Countries with the lowest binge drinking figures are Cyprus, France, Greece, Hungary, Iceland, Romania and Turkey (5–11%).

Illicit drugs
Lifetime use of various illicit drugs are presented in the summary tables, including cannabis, amphetamines, LSD, Ecstasy, tranquillisers or sedatives without a doctor's prescription and the use of inhalants. In addition the 30 days prevalence of cannabis is included.

The vast majority of students in all ESPAD countries that have tried any illicit drug have used marijuana or hashish. Thus, the number of students reporting cannabis use is almost identical with the total illicit drug prevalence.

The top country in this respect is the Czech Republic where 44% of the students have used marijuana or hashish. High prevalence rates are also reported in France, Ireland, Isle of Man, Switzerland and the United Kingdom (38–40%). Other countries where more than one fourth have used cannabis include Belgium, Germany, Greenland, Italy, the Netherlands, the Slovak Republic and Slovenia (27–32%).

The lowest levels are reported in Cyprus, Greece, Sweden, Romania and Turkey (3–7%), but also in the Faroe Islands, Finland and Norway (around 10%).

The use of cannabis during the last 30 days may indicate regular use. In some countries about one fifth of the students report this, in others much lower prevalence rates are noted. The countries with the highest 30 days prevalence include the Czech Republic, France, Isle of Man, Switzerland and the United Kingdom (19–22%).

In most ESPAD countries there are more boys than girls who have used cannabis. However, the gender differences are small in Bulgaria, Croatia, Greenland, Hungary, Iceland, Ireland, Russia (Moscow) the Slovak Republic and Slovenia.

The countries with the highest percentages of students reporting use of amphetamines are Estonia, Germany, Iceland, Lithuania and Poland (5–7%). In 13 countries 1% or less reported use of amphetamines.

The ESPAD students do not use LSD very frequently. The highest percentages are found in the Czech Republic and Isle of Man where 5–6% reported such use.

Ecstasy is the most used drug of those included in the questionnaire apart from cannabis. In the Czech Republic 8% had used it, followed by Croatia, Estonia, Ireland, Isle of Man, the Netherlands and the United Kingdom (5–7%).

Tranquillisers or sedatives can be used both as a legally prescribed medicine and as an illicit drug. The use of such substances without prescription is most common in Poland (17%) followed by Lithuania (14%), France and the Czech Republic (11–13%). The lowest prevalence rates are found in Austria, Bulgaria, Germany, Ireland, Ukraine and the United Kingdom (2% each).

The highest prevalence of inhalants is reported in Greenland, where 22% had ever used them. Other countries with high levels of inhalant use include Cyprus, Greece, Ireland, Isle of Man, Malta and Slovenia (15–19%).

Very small gender differences are found in relation to the use of inhalants. In a majority of the countries there are no gender differences, but in Belgium, Cyprus, Greece, Portugal and Ukraine more boys than girls reported this behaviour. Girls only reported more use than boys in one country, Ireland.

Conclusions

In summary, the pattern of alcohol consumption reveals that frequent drinking is most prevalent among students in the western parts of Europe, such as the British Isles, the Netherlands, Belgium but also in Austria, the Czech Republic and Malta. Very few students in the northern parts of Europe drink that often.

Beer consumption is most prevalent in Bulgaria, Denmark, the Netherlands and Poland, while wine consumption is most prevalent in typical wine producing countries such as Austria, the Czech Republic, Greece, Italy, Malta and Slovenia. The consumption of spirits is less uniform, with high prevalence rates in as disparate countries as the Faroe Islands, Greece, Ireland, Isle of Man, Malta and the United Kingdom.

The prevalence of drunkenness seem to be most concentrated to countries in the western parts of Europe, such as Denmark, Ireland, Isle of Man and the United Kingdom. Very few students report frequent drunkenness in Mediterranean countries such as Cyprus, France, Greece, Portugal, Romania and Turkey.

The illicit drug use is dominated by use of marijuana or hashish. Frequent use is mainly reported from countries in the central and western parts of Europe, where more than one third of the students have used it. The high prevalence countries include the Czech Republic, France, Ireland, Isle of Man, Switzerland and the United Kingdom. The low prevalence countries are found in the north as well as the south of Europe.

Summary table 1. Selected variables on tobacco, alcohol and drug consumption. Boys.

| Country | Cigarette smoking | | Alcohol consumption | | | | | Drunkenness | | Binge drinking a) last 30 days 3 times or more | Cannabis | | Lifetime use of other illicit drugs | | | Lifetime use of tranquillisers or sedatives b) | Lifetime use of inhalants b) |
| | | | | Last 30 days | | | | | | | | | | | | | |
	Lifetime use 40 times or more	Smoked during the last 30 days	Lifetime use 40 times or more	Any alcohol 10 times or more	Beer 3 times or more	Wine 3 times or more	Spirits 3 times or more	Lifetime 20 times or more	Last 30 days 3 times or more		Lifetime	Last 30 days	Amphetamines	LSD	Ecstasy		
Austria	41	48	53	27	50	20	36	37	22	..	23	12	4	2	3	1	14
Belgium	28	32	46	28	49	21	33	11	12	28	37	20	3	4	5	9	9
Bulgaria	32	42	33	13	55	16	27	15	17	26	23	10	2	2	3	2	4
Croatia	32	36	38	15	42	23	20	14	12	19	24	9	2	2	5	4	14
Cyprus	28	30	34	18	40	15	39	2	6	17	7	4	1	2	2	7	19
Czech Rep.	39	43	54	17	52	18	30	25	17	24	48	21	3	6	8	8	9
Denmark	26	27	57	18	54	6	34	41	30	31	27	10	5	1	3	4	9
Estonia	41	40	38	8	35	12	27	33	23	26	28	8	7	3	5	5	9
Faroe Isl.	39	42	34	6	38	7	42	26	20	21	9	2	1	0	0	5	10
Finland	32	35	20	3	22	4	10	25	15	18	11	3	1	1	1	4	8
France	..	31	30	10	26	11	21	4	5	13	42	26	3	1	4	10	12
Germany	40	43	43	15	45	12	28	16	11	31	31	14	5	3	3	1	12
Greece	19	27	43	17	39	27	41	4	3	14	7	2	0	1	2	3	17
Greenland	34	56	17	5	33	5	33	24	20	23	29	12	0	1	2	3	23
Hungary	33	39	27	8	23	20	23	16	11	12	18	7	3	2	3	7	6
Iceland	19	20	16	2	19	5	15	16	9	13	14	4	5	2	2	8	12
Ireland	25	28	42	17	47	6	29	32	27	31	38	16	1	2	4	2	14
Isle of Man	15	23	45	19	41	15	32	28	20	26	41	24	4	6	7	6	18
Italy	25	35	33	17	45	29	30	8	9	19	31	19	3	4	4	5	8
Latvia	39	46	30	7	42	12	13	19	12	24	20	5	3	1	3	2	8
Lithuania	49	49	45	13	38	12	15	29	17	19	18	8	6	3	3	10	6
Malta	17	28	41	25	45	42	44	7	7	32	13	5	1	1	1	2	16
Netherlands	28	32	55	34	55	7	36	9	10	37	32	17	2	3	6	7	7
Norway	23	24	17	3	16	5	17	14	12	25	9	3	2	1	2	3	6
Poland	32	35	36	13	50	9	18	15	13	17	23	10	6	3	3	12	10
Portugal	19	28	20	11	27	8	29	5	6	20	18	11	3	3	5	4	10
Romania	26	32	26	9	47	20	10	7	6	19	4	1	1	0	1	3	2
Russia	42	44	44	16	47	16	17	18	13	22	26	7	1	2	3	2	7
Slovak Rep.	35	39	42	12	32	21	27	20	14	20	32	10	2	2	3	3	10
Slovenia	26	35	32	10	31	28	19	20	16	23	31	14	0	1	3	3	15
Sweden	20	20	21	2	26	9	19	18	12	27	9	2	1	2	2	5	8
Switzerland	24	33	33	18	39	12	37	14	12	21	44	23	3	1	2	4	9
Turkey	17	22	10	4	14	4	7	3	4	9	6	3	3	2	3	3	5
Ukraine	38	49	24	6	45	17	18	24	18	28	29	8	1	1	2	3	9
United Kingdom	19	25	47	18	42	15	33	27	22	26	41	23	2	3	5	2	12

a) Binge drinking: 5 drinks or more in a row.
b) Without a doctor's prescription.

Summary table 2. Selected variables on tobacco, alcohol and drug consumption. Girls

| Country | Cigarette smoking | | Alcohol consumption | | | | | Drunkenness | | Binge drinking a) last 30 days 3 times or more | Cannabis | | Lifetime use of other illicit drugs | | | Lifetime use of tranquillisers or sedatives b) | Lifetime use of inhalants b) |
| | Lifetime use 40 times or more | Smoked during the last 30 days | Lifetime use 40 times or more | Last 30 days | | | | Lifetime 20 times or more | Last 30 days 3 times or more | | Lifetime | Last 30 days | Amphetamines | LSD | Ecstasy | | |
				Any alcohol 10 times or more	Beer 3 times or more	Wine 3 times or more	Spirits 3 times or more										
Austria	44	56	41	15	18	23	23	13	11	..	18	7	5	2	3	2	14
Belgium	26	33	27	13	24	15	26	3	4	14	28	13	2	1	4	10	5
Bulgaria	37	50	21	7	33	9	25	7	8	16	19	7	2	2	2	2	3
Croatia	29	37	16	11	14	15	18	5	5	10	20	7	3	1	4	9	14
Cyprus	12	14	12	6	16	8	23	0	1	6	2	1	1	0	1	5	15
Czech Rep.	38	43	40	10	28	24	27	13	10	13	40	17	5	5	8	14	9
Denmark	28	32	42	10	35	10	31	31	21	18	18	5	3	1	2	5	7
Estonia	29	33	26	5	16	15	21	19	13	15	18	4	8	2	5	13	7
Faroe Isl.	42	41	30	4	21	4	34	23	16	17	10	1	0	2	2	5	13
Finland	32	41	20	2	13	6	10	28	17	15	11	2	1	1	2	9	8
France	..	36	15	5	16	4	16	2	2	7	35	18	2	1	3	15	10
Germany	39	46	31	9	18	21	23	8	8	24	24	9	6	4	4	2	11
Greece	21	30	28	9	18	15	32	3	3	8	5	2	0	1	1	5	13
Greenland	49	65	9	4	32	6	20	18	19	16	26	11	0	0	2	4	22
Hungary	30	40	14	4	9	16	21	5	5	5	13	5	3	2	4	13	4
Iceland	17	20	12	1	17	5	13	15	9	9	11	4	5	1	3	10	11
Ireland	29	37	36	14	25	13	46	29	25	33	39	17	2	2	5	2	21
Isle of Man	28	36	44	13	13	20	46	29	25	30	38	19	2	3	6	4	20
Italy	25	40	16	6	22	16	21	3	3	8	23	12	2	2	2	7	5
Latvia	25	36	23	4	22	14	10	10	7	18	12	2	3	2	3	4	7
Lithuania	28	33	31	5	20	16	12	12	8	7	9	3	4	1	1	18	4
Malta	16	26	27	16	16	32	42	3	4	19	8	3	1	0	1	3	15
Netherlands	26	31	35	17	23	12	30	4	4	20	24	9	1	2	3	10	5
Norway	29	32	14	2	11	4	18	13	10	24	9	2	2	1	1	3	4
Poland	21	27	18	6	32	7	11	5	5	5	13	5	4	1	2	22	8
Portugal	17	27	8	4	10	3	24	2	2	10	12	5	3	1	3	7	6
Romania	15	26	12	3	22	9	5	2	2	5	2	0	0	0	0	7	1
Russia	38	44	34	10	30	19	14	13	9	12	18	6	1	1	2	3	6
Slovak Rep.	30	36	28	6	14	17	22	10	8	12	22	9	2	2	3	5	7
Slovenia	28	38	18	4	12	17	21	10	8	18	26	14	1	1	4	8	15
Sweden	24	27	14	1	14	8	17	15	9	22	6	1	1	1	1	7	8
Switzerland	24	34	20	7	18	8	33	6	6	11	36	17	3	1	2	7	6
Turkey	7	12	4	1	5	3	1	0	1	2	2	1	1	1	1	3	3
Ukraine	19	28	19	4	21	18	12	11	10	15	12	2	1	1	0	1	4
United Kingdom	24	34	39	15	17	22	43	27	25	29	35	16	3	1	5	1	13

a) Binge drinking: 5 drinks or more in a row.
b) Without a doctor's prescription..

Summary table 3.   Selected variables on tobacco, alcohol and drug consumption. All students.

| Country | Cigarette smoking | | Alcohol consumption | | | | | Drunkenness | | Binge drinking a) last 30 days 3 times or more | Cannabis | | Lifetime use of other illicit drugs | | | Lifetime use of tranquillisers or sedatives b) | Lifetime use of inhalants b) |
| | | | | Last 30 days | | | | | | | | | | | | |
	Lifetime use 40 times or more	Smoked during the last 30 days	Lifetime use 40 times or more	Any alcohol 10 times or more	Beer 3 times or more	Wine 3 times or more	Spirits 3 times or more	Lifetime 20 times or more	Last 30 days 3 times or more		Lifetime	Last 30 days	Amphetamines	LSD	Ecstasy		
Austria	42	49	48	21	36	22	30	21	17	..	21	10	4	2	3	2	14
Belgium	27	32	36	20	36	18	29	7	8	22	32	17	2	3	4	9	7
Bulgaria	35	46	27	9	43	14	25	10	10	21	21	8	2	2	3	2	3
Croatia	30	36	27	13	28	19	17	9	8	15	22	8	2	1	5	6	14
Cyprus	20	22	21	11	28	13	31	2	2	11	4	2	1	1	2	6	17
Czech Rep.	39	43	46	13	39	21	28	18	13	18	44	19	4	6	8	6	9
Denmark	27	30	50	13	44	9	31	36	26	24	23	8	4	1	2	11	8
Estonia	35	37	32	6	25	15	24	26	17	20	23	6	7	2	5	4	8
Faroe Isl.	41	41	32	4	31	7	37	24	18	19	9	1	1	1	1	9	8
Finland	32	38	20	2	18	5	10	26	16	15	11	3	1	1	1	5	11
France	..	33	22	7	20	8	19	3	3	9	38	22	2	1	3	13	11
Germany	40	45	37	11	30	17	24	12	10	28	27	12	5	3	3	2	11
Greece	20	28	35	13	28	21	37	3	3	11	6	2	0	1	2	4	15
Greenland	42	60	13	3	32	6	26	21	19	19	27	11	0	0	2	3	22
Hungary	31	39	21	6	17	19	22	11	9	8	16	6	3	2	3	10	5
Iceland	18	20	14	1	19	5	13	16	10	11	13	4	5	1	3	9	12
Ireland	27	33	39	16	36	10	38	30	26	32	39	17	1	2	5	2	18
Isle of Man	22	30	45	15	25	18	38	29	23	27	39	21	3	5	7	5	19
Italy	25	38	24	12	34	23	25	5	7	13	27	15	3	3	3	6	6
Latvia	32	40	26	6	32	12	12	14	8	22	16	4	3	1	3	3	7
Lithuania	39	41	38	8	28	13	14	21	12	13	13	6	5	2	2	14	5
Malta	16	27	33	20	29	35	43	4	5	25	10	4	1	1	1	3	16
Netherlands	27	31	45	25	40	11	34	6	7	28	28	13	1	2	5	8	6
Norway	26	28	15	3	14	3	17	14	12	24	9	3	2	1	2	3	5
Poland	26	31	27	10	41	8	14	10	10	11	18	8	5	2	3	17	9
Portugal	18	28	14	7	18	6	26	3	3	16	15	8	3	2	4	5	8
Romania	20	29	18	5	33	13	6	3	3	11	3	0	0	0	1	5	1
Russia	40	44	39	12	38	17	16	15	11	17	22	7	1	1	3	3	7
Slovak Rep.	32	37	34	9	38	19	25	14	11	15	27	10	2	2	3	4	9
Slovenia	27	36	25	7	21	21	20	15	12	22	28	14	1	1	3	5	15
Sweden	22	23	17	1	20	8	18	17	9	25	7	1	1	1	2	6	8
Switzerland	24	34	27	13	28	10	35	10	9	15	40	20	3	1	2	6	7
Turkey	13	18	7	4	10	4	5	1	1	5	4	2	2	2	2	3	4
Ukraine	28	39	22	5	34	17	16	18	16	22	21	5	1	1	1	2	6
United Kingdom	22	29	43	17	31	18	39	27	23	27	38	20	3	2	5	2	12

a) Binge drinking: 5 drinks or more in a row.
b) Without a doctor's prescription.

Study design and procedures

The target population

The target population for the ESPAD project is students that will become 16 years old during the year of the data collection i.e. they should all be born a specific year. The 1995 study focussed on students born in 1979 and in the second data collection in 1999 they were born in 1983. The third survey in 2003 targeted students born in 1987. The main idea behind the choice of this agegroup for the study is that the students should still be available in schools, but not too young to have had any experience of alcohol or drug use.

The mean age among surveyed students have been about the same in all three data collections. In 2003 the approximate mean age was 15.8 years with a range of 15.6–15.9 years (Table A in the chapter "Methodological considerations").

There are, however, differences between coun-tries in how well the samples represent the age-group. In some countries schooling is compulsory until the age of 15–16 years, while in others the students begin secondary school at this age. Fur-thermore, many students do not continue to secon-dary school, but leave for other training or for work. Table A shows the approximate proportion of the age cohort expected to be enrolled in school in different countries.

Available information about the proportion of the actual age cohort still in school shows that there are some differences between countries in this re-spect. However, with a few exceptions 85% or more of the 1987 age cohort was to be found at school at the time of the data collection. The lower this proportion, the less representative are the re-sults for the 1987 birth cohort.

The data collection instrument

The work of the Pompidou School Survey Sub-group in the 1980's resulted in a battery of ques-tions to be used by researchers in different coun-tries that were interested in performing school sur-veys. The content was very much influenced by the questionnaire already developed and used within the Monitoring the Future project in Michigan. Dr Lloyd Johnston, who was the chair of the School Survey Subgroup, is also head of the group of researchers engaged in the Monitoring the Future project.

The first ESPAD questionnaire was developed from the battery of questions that was tested by the Pompidou School Survey Subgroup. However, every question was discussed and agreed upon by the large group of collaborating investigators. A very large part of the first questionnaire was kept also in the 1999 and 2003 surveys.

The main part of the questionnaire constitutes of core questions to be used in all countries. In addi-tion a number of module and optional questions were included to be used at the choice of each country. The questionnaire is presented in Appen-dix III. It was also decided that each country might add questions of special interest provided that those questions were not of a nature that would affect the students' willingness to respond, or that their num-ber would overload the questionnaire.

It was decided that each country should translate the questionnaire into its own language and thereby adjust the wordings to make the questions as appro-priate as possible in the cultural context. Drug streetnames etc. should be adjusted to what was common in the country. Once the translation was ready, it should be back translated into English again. By doing this, discrepancies from the origi-nal might be discovered and corrected.

It was also recommended that each country should test the questionnaire in a small pilot study in order to discover any faults or difficulties while answering it. A test would also indicate how long time the students needed to complete the question-

naire. In the 2003 survey a little more than half of the countries did a pilot study (Table A). However, some of the countries that did not do so this time had tested the questionnaire in relation to earlier surveys.

Table A shows the number of core, optional and own questions included in different countries' questionnaires. For each question every single subquestion is counted as one variable.

All countries but one asked all, or nearly all, core questions. The main exception is France that only used 174 of the 309 core questions (56%). However, only a few own questions were put within the core questions. Hence, the context of the French core questions have most probably not affected the possibilities to compare with data from other countries.

The Swiss questionnaire includes a battery of questions in the midst of the ESPAD questions because they belonged thematically to this section. However, before doing so two versions of the questionnaire were piloted and no effects on the response pattern were identified.

Despite all efforts to standardise the data collection instrument, some discrepancies were inevitable. However, it may not be too optimistic to think that the discrepancies in the questionnaires only have had a very limited negative effect on the comparability of the findings from different countries. In the few cases when discrepancies are important enough to make a question less comparable, this will be commented in the result chapters.

Sampling procedure

The sample size and sampling procedures have been discussed at some ESPAD project meetings. It soon became clear that the ESPAD countries were very different in terms of what kind of school statistics are available. Some countries had detailed information about the number of schools, classes and students, while in others only e.g. the total number of schools, but not the size of them, was known. The sample should consist of randomly selected classes. As mentioned in an earlier part of this report, regional seminars were organised aimed at discussing the project plans in detail, including problems and opportunities for the sampling procedure in each country.

It was recommended that each country, with some minor exceptions, should draw a sample of about 2,800 students as a minimum, regardless of the size of the country (Bjarnason and Morgan,

2002). This was calculated to give about 2400 answered questionnaires, which would allow for breakdowns by sex plus another variable. However, in a few countries a lesser number of students participated, simply because the study population was smaller.

The target population of students born in 1987 was very differently distributed over schooltypes (academic, vocational etc.) and grades in different countries. At the regional seminars solutions to the sampling problems were discussed and suggested. In some countries the vast majority of the agegroup was found in one grade only. In others there were two or more grades where this agegroup was taught. Whenever possible it was recommended to include all grades with students born in 1987. However, in some countries the grade with the highest proportion of students born in 1987 was the only chosen.

Field procedure

In line with what was decided about the sampling and the data collection instrument, also the field procedures should be standardised as much as possible (Hibell and Andersson, 2002a). Due to cultural differences there are of course many factors, which make it difficult to follow exactly the same schedule in every country.

The recommended data collection period was March–April 2003. Most countries adhered to these dates, but the length of the period varied quite a lot, from one day only to about 2–3 months in some countries. For practical reasons the time of the data collection was different from the planned period in a few countries, including Malta (January), the

Netherlands (October–November), Poland (May–June), Portugal (May), Romania (June), Switzerland (May–June) and Turkey (May).

The data collection in a country was planned to take place during a certain week, which should not be proceeded by any holiday, ensuring that the students referred to a "normal" week when answering the questions, i.e. no extraordinary alcohol or drug consumption due to any celebration should be reflected in the answers. Schools unable to perform the survey during the assigned week were allowed to do so in the preceding week instead.

The headmaster of the participating schools were contacted and informed of the planned study. He or she was asked to inform the teacher(s) of the chosen class(es), but not to inform the students in order to avoid discussions among them, which could lead to biased data. The class teacher was asked to schedule the survey for one lecture following the same procedure as for a written test.

Data were collected by group administered questionnaires, under the supervision of a teacher or a research assistant. At some ESPAD project meetings much discussion have been directed towards this issue. It was thought that in many countries teachers would not be trusted by the students and therefore cause biased data. The solution to this problem was that in countries where it was judged to be possible to use teachers this ought to be done, while in others research assistants were used. It was considered crucial not whether a teacher or a research assistant was present, but whether they were trusted by the students or not. In a methodological study by Bjarnason (1995) no significant differences were found between teachers' or research assistants' modes of questionnaire administration. These findings suggest that, at least in some countries, the effect of administration mode is negligible.

It was recommended that each student should get an (unmarked) envelope to put his or her completed questionnaire in, before it was sealed by him- or herself. When the data collection was over the teacher/research assistant had to collect the sealed envelopes and send them back to the research institute.

The information to the survey leader included a written instruction, which described how to perform the data collection. The anonymous character of the study was stressed and the survey leader should refrain from walking around in the classroom while the forms were completed.

A standardised classroom report was used. On this form the survey leader gave information about the average time needed to complete the questionnaires, the number of absent and present students, the reasons for absence and other important information about the situation in the classroom. The classroom report also contained information about whether the students were interested in the study and worked seriously.

Methodological considerations

Introduction

All surveys encounter methodological problems which have to be considered when analysing the results. The 2003 ESPAD project is based on 35 national surveys united by a single project plan. The methodological issues that have been identified and resolved could fill several thick volumes such as this report. This chapter provides a brief overview of the issues of representativeness, reliability and validity in the ESPAD project. The chapter ends with a short summary of the most important conclusions.

In the first ESPAD survey in 1995 it was apparent that several of the participating countries were also conducting a school survey on alcohol and drug use for the first time. In this third ESPAD study, increased experience and a long co-operation have contributed to a more robust and standardises methodology. There are still some discrepancies and areas of concern that need to be addressed, but it should be stressed that overall the ESPAD project has accomplished a high degree of representativeness, reliability and validity.

In 1988 the Pompidou group of the Council of Europe initiated a pilot study of adolescent substance use. One of the main goals of the pilot study was to test the methodology, which resulted in a rather detailed discussion about the methodological results (Johnston et al. 1994). The discussion was a critical part of the report and has been very useful for the ESPAD project. The experiences of the pilot study were positive and implied that valid international research on substance use among students is feasible.

The ESPAD project relies on experiences from more than 30 years of school surveys in Sweden, the Pompidou pilot project as well as knowledge gained by individual researchers from all over Europe in earlier ESPAD data collections. Many of the questions in the ESPAD questionnaire originate from the Pompidou pilot study that, in turn, to a large extent was based on the questionnaire used in the Monitoring the Future Project in the USA.

The standardisation of survey methodology is one of the most important issues in the ESPAD project. However, it should be stressed that standardisation alone does not ensure that data are directly comparable between countries. It is not possible to control for everything and some influences are not even possible to measure. The cultural contexts in which the students have given their answers varies and formally identical measures may have very different meanings in different contexts.

In addition, one can never be certain of whether results from one country are more or less valid than those from another. This is one reason why the long-term goal, and one of the most characteristic features of the ESPAD project, is to compare trends in participating countries.

In the figures two dots (**..**) symbolise that data does not exist or is not available. A zero (0) means that the information is related to at least one person but to less than 0.5%. A short line (–) signifies that no one has given that answer.

To better ascertain the role of cultural context in different countries, and how it may impact on validity, a methodological study was conducted as one of the preparative measures prior to the ESPAD 99 data collection (Hibell et al. 2000). The methodology study was conducted in 1998 and included aspects of reliability as well as validity.

Data were collected in countries from different parts of Europe. Two countries hailed from northern/western parts of Europe (Denmark and Sweden), two from the Mediterranean (Cyprus and Malta) while three were situated in the central and eastern parts of Europe (Lithuania, the Slovak Republic and Ukraine).

The study indicated that the reliability as well as the validity was high in all seven countries. With a few modifications, the survey leader questionnaire (the classroom report) of the methodology study was used in the 1999 and 2003 data collections.

Changes over time

One of the important long-term goals of the ESPAD project is to track changes in adolescent substance use over time. While cultural context may affect the meaning of responses to formally stand -
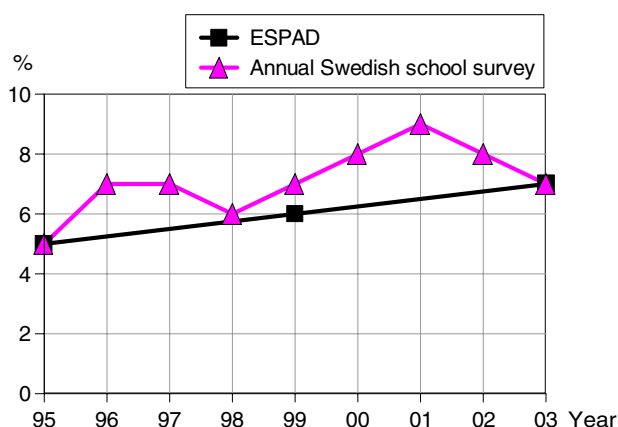
Figur A. *Lifetime prevalence of any illicit drug among girls in the ESPAD studies and in the annual Swedish school surveys.*
Source: Hvitfeldt et al. (2004)

ardised measures, changes in such responses over time may be relatively less affected by context. In other words, even if the percentages using a particular drug were not directly comparable between two countries, the increase or decrease in those two countries could still be compared.

It should be noted that the ESPAD survey is repeated every four years. In the next chapter changes between 1995 and 1999 as well as between 1999 and 2003 are shown country by country in simple graphs in which a straight line is drawn between the dots of each of the three data collections. However, four years is a relatively long period during which many changes might have occurred. In other words, the straight lines may mask considerable annual fluctuation. An example of this can be seen in figure A. Data from the annual Swedish school surveys show that there was an increasing trend from 1998 to 2001 in the proportion of girls that tried any illicit drug. After that there is a downward trend. However, the figures from the three ESPAD data collections are indicative of a weak increasing trend.

A note on statistical significance

As will be discussed in detail below, the sampling procedures in the ESPAD survey differ considerably between countries. This affects the precision of the estimates in each country but should in principle not bias the point estimate itself (Bjarnason and Morgan 2002). The calculation of standard errors is therefore rather complicated in many countries and the necessary software and resources to calculate them were in many cases unavailable. As a result, confidence intervals are not calculated for this report. This issue is an ongoing concern in the ESPAD project and will hopefully be resolved in future reports

In the current report figures are compared between countries and over time in terms of substantive rather than statistical significance. In general it can be assumed that differences that are large enough to have policy implications far exceed the limit of statistically significance differences. However, considerably caution should be exercised in comparing small differences in percentages.

Leena Metso (2000) has examined these issues in some detail using the Finnish ESPAD data collected in 1995 and 1999. As she points out, cluster sampling does not affect the estimates of percentages. However, she found a moderate level of intracluster correlation in the Finnish data. This implies that standard errors calculated for these data under the assumptions of simple random sampling would be too small and the precision of the results is therefore less than standard significance tests would suggest. This further underscores the importance of resolving the problems surrounding the calculation of standard errors in the future.

It is important to note that a certain difference in a particular variable between 1999 and 2003 maybe significant in one country but note so in another. Differences have to be tested separately from each country's results to make it possible to decide whether a difference is significant or not. However, to be able to do so it is necessary to have access to the whole data set and to use a statistical programme that accounts for cluster effects.

Methodological considerations

Representativeness

The target population of the ESPAD study is defined as the national population of students whose sixteenth birthday is in the calendar year of the survey (Bjarnason and Morgan 2002). In 2003 the goal of a national survey was reached in 32 of the 35 countries. In Russia the ESPAD survey targeted only students living in Moscow, the capital of the Russian Federation with about 8.5 million inhabitants. In Germany the data collection was limited to the six out of 16 federal states (Bundesländer) that agreed to participate. They were Bavaria, Brandenburg, Berlin, Hesse, Mecklenburg-Western Pomerania and Thuringia. The population in these Bundesländer are about 28.6 million out of 82.5 million in the whole of Germany. Finally, in Turkey data were collected in one major city in each of six different regions in the country. Participating cities were Adana, Ankara, Diyarbakir, Istanbul, Izmir and Samsun. While the results in these countries may to some degree reflect the situation in the country as a whole, they can only be representative of the population from which they are drawn.

Average age and time of the data collection

With the exception of the Netherlands, data were collected during the first half of 2003, with a majority conducted between the period March to May (Table A). The Dutch ESPAD researchers did not find it possible to collect data during springtime since this would most probably have resulted in substantially more refusals from schools and classes. Instead the questionnaires were administrated in October and November.

Based on the time of data collection, an approximate average age of the students has been estimated for each country (Table A). In all but one of the 35 ESPAD countries the average age varies between 15.7 and 15.9 years, which is the same range in average age as in 1999[1]. The only minor exception is Malta with the average age of 15.6 years. In the Netherlands the target population was redefined to be students born from August 1987 through July 1998, which gives an average age of 15.7 years. (A further discussion of this redefinition can be found in Appendix 1).

In 1999 data in Greece were collected in October which gave an average age of about 16.3 years,

while the corresponding figure in 2003 is 15.8 years. This age difference of seven months must be kept in mind when interpreting changes in the substance use figures between 1999 and 2003.

Representativeness of the samples

Sampling in the ESPAD project is based on classes as the final sampling unit (Bjarnason and Morgan 2002). This procedure is vastly more economical than sampling individual students and also has some desirable methodological properties. In particular, sampling entire classes can be expected to increase student perceptions of anonymity. Sampling individual students and asking them to fill out a questionnaire individually could affect the truthfulness of their answers and therefore bias the results of this study.

If students born in 1987 were in two or more grades it was recommended that it was advisable to sample classes from all those grades and then screen the target population by using a question on the year of birth. If it was not possible to sample more than one grade, the grade chosen should include the majority of students born in 1987. In countries where sampling was not so straightforward it was recommended that one seek co-operation of an experienced sociologist or statistician.

An overview of the sampling procedure in each country is provided in Table A. Further information can be found in chapter 2 and Appendix 1. The number of students born in 1987 in Faroe Islands, Greenland, Iceland, Isle of Man and Malta was similar to the number of students to be sampled according to the ESPAD guidelines (Bjarnason and Morgan 2002). In these countries all students were therefore targeted for sampling. In all other countries but one, classes were the sampling units. The only exception was Denmark where a small part of the sample was composed of schools (see Appendix 1). In some countries classes were the only sampling units, i.e. they were drawn from comprehensive lists of classes. In other countries school classes were the last units in a multistage stratified sampling process. In these countries schools were sampled before the final sampling of classes was done. In many countries sampled schools were asked to provide lists of classes before the final sample of classes could be effectively drawn.

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1   The calculated averages ages in the ESPAD 99 report were systematically 0.5 years too low.

Table A. *Characteristics of the ESPAD surveys in participating countries. Continues...*

Country	Born in 1983 still in school (approx. %)	Sampling unit(s)	Sample type	Grade level(s) included	Approx. mean age [a]	Represent-ativeness [b]
Austria	90	class	stratified random	grades 9–10	15.8	national (86%)
Belgium	99	school, class	systematic random	grades 8–10[c]	15.8	national (95%)
Bulgaria	72	school	stratified random	grades 9–10	15.9	national (100%)
Croatia	95	class	stratified random	grades 1–2	15.8	national (97%)
Cyprus	··	school	stratified random	grades 1–2	15.8	national (74%)
Czech Republic	95	school	stratified random	grade 1	15.7	national (~68%)
Denmark	98	school, class	stratified random	grade 9	15.8	national (85%)
Estonia	~80	school, class	systematic random	grades 8–10	15.7	national (~80%)
Faroe Islands	95	no sampling	total	grade 9	15.7	national (92%)
Finland	~100	school, class	systematic random	grade 9	15.7	national (93%)
France	98	school	stratified random	grades 8–11	15.8	national (93%)
Germany	92	class	systematic random	grades 9–10	15.7	6 Bundesl. (84%)
Greece	~100	class	stratified random	gymn 3rd, lycee A, B, C	15.8	national (93%)
Greenland	88	no sampling	total	grades 9–11	15.7	national (~100%)
Hungary	91	class	stratified random	grades 8–10	15.7	national (91%)
Iceland	99	no sampling	total	grade 10	15.7	national (99%)
Ireland	93	school, class	stratified random	grade 5	15.8	national (67%)
Isle of Man	≥ 80	no sampling	total	grades 10–11	15.8	national (100%)
Italy	~93	school	stratified random	grades 1–4	15.8	national (100%)
Latvia	87	classes	stratified random	grades 8–10, grade 1 vocational	15.8	national (89%)
Lithuania	96	school, class	systematic random	grades 8–10	15.7	national (97%)
Malta	95	no sampling	total	grade 5	15.6	national (75%)
Netherlands	~92	school, class	stratified random	grades 3–4 secondary school	15.7	national (92%)
Norway	100	classes	stratified random	grade 10	15.7	national (~100%)
Poland	95	class	systematic random	gymn. grade 3	15.9	national (92%)
Portugal	81	class	stratified random	grades 7–10	15.9	national (99%)
Romania	93	school, class	stratified random	grades 9–10	15.9	national (79%)
Russia (Moscow)	~95	school, class	systematic random [l]	9–10th secondary, 1st techn., profess., nurses	15.7	Moscow (98%)
Slovak Republic	98	school	stratified random	grades 1–4	15.7	national (~67%)
Slovenia	90–95	class	systematic random	grade 1	15.8	national (84%)
Sweden	95	class	systematic random	grade 9	15.7	national (95%)
Switzerland	98	class	strat syst random	grades 8–10	15.9	national (85%)
Turkey	60	school	stratified random	grades 9–10	15.9	six cities (90%)
Ukraine	90	school, class	stratified random	9–10th secondary, 1st vocat., techn., colleges	15.9	national (97%)
United Kingdom	>90	school, class	proportionate random	grades 4–6	15.8	national (100%)

a) A calculated figure based on the time of the data collection. In the 1999 report the calculated mean averages were systematically 0.5 years too low.

b) Representativiness in relation to the target population, i.e. students (not persons) born in 1987. The figure within brackets show the approximate population of students born in 1987 that attended participating grades.

c) Grade 8 was included only in the French speaking part.

d) Teachers in French and research assistants in Dutch speaking areas.

e) Individual envelopes were used in the French speaking parts. In the Flemish speaking parts where research assistants collected data the questionnaires were put in a class envelope.

f) Flemish and French speaking respectively.

g) Staff members from Department of Occupational and Public Health.

h) The students put their questionnaire in a locked letter box.

i) Class envelopes were used.

j) Two questionnaires were used. Form A contained 27 own questions and form B 43.

k) Staff members from Regional Health Services, research assistants and researchers.

l) 40 out of 208 classes were sampled via a two step random sample.

m) Only a small questionnaire test among data collection leaders.

Country	Data collection leader	Data collection period	Individ-ual en-velopes	Pilot study	Number of questions (variables)				Data weighted
					Core	Module	Optional	Own	
Austria	teacher	March 31–April 4	no	yes	294	36		13	no
Belgium	teacher, research assistant [d]	March–May	yes [e]	yes	309	57/0 [f]	–	35/120[f]	no
Bulgaria	research assistant	May 15–26	yes	no	300	147	–	–	no
Croatia	school councellor	April 1–15	yes	no	308	62	–	–	no
Cyprus	research assistant	March–April	no	yes	308	36	–	–	no
Czech Republic	research assistant	April 3–16	yes	no	309	25	–	36	no
Denmark	teacher	March 6–May 2	yes	no	307	24	–	8	no
Estonia	research assistant	March	yes	yes	309	54	–	2	no
Faroe Islands	staff from.. [g]	March 10–21	no [h]	yes	309	82	9	149	no
Finland	teacher	March–April	yes	no	306	16	3	6	no
France	doctor, nurse	March 17–May 18	no	yes	174	14	–	122	no
Germany	teacher	March–April	no [i]	no	308	17	–	8	yes
Greece	research assistant	March 1– April 30	no	yes	308	36	–	77	no
Greenland	teacher	March	yes	no	306	24	–	8	no
Hungary	research assistant	March 5–20	no	yes	308	5	–	–	yes
Iceland	teacher, research assistant	March 8–28	yes	yes	309	67	7	27/43[j]	no
Ireland	teacher	April	yes	no	309	16	–	–	no
Isle of Man	teacher	March 31–May 3	yes	no	309	71	–	26	no
Italy	teacher	March/April	yes	no	309	147	10	–	no
Latvia	research assistant	March–May	yes	no	309	57	–	38	yes
Lithuania	teacher	March–April	yes	no	309	41	–	–	no
Malta	teacher	January 22	no	no	303	74	–	–	no
Netherlands	research assistant [k]	October–November	no [i]	yes	309	–	–	4	yes
Norway	teacher	March–April	yes	no	309	12	–	6	yes
Poland	research assistant	May–June	yes	yes	309	22	–	32	yes
Portugal	teacher	May 28	yes	yes	294	–	–	117	no
Romania	research assistant	June 3–12	yes	yes	309	66	–	2	yes
Russia (Moscow)	research assistant	March–April	yes	no [m]	309	36	–	–	no
Slovak Republic	health staff	March 24–28	yes	yes	307	62	–	23	no
Slovenia	health staff	April 7–18	yes	yes	308	62	–	14	no
Sweden	teacher	March 17–21	yes	yes	309	38	10	3	no
Switzerland	teacher	May–June	yes	yes	309	59	–	96	no
Turkey	research assistant	May	yes	yes	308	36	–	–	no
Ukraine	research assistant	May 10–24	yes	yes	309	71	10	–	yes
United Kingdom	school staff	March–May	yes	yes	301	71	–	26	no

a) A calculated figure based on the time of the data collection. In the 1999 report the calculated mean averages were systematically 0.5 years too low.
b) Representativiness in relation to the target population, i.e. students (not persons) born in 1987. The figure within brackets show the approximate population of students born in 1987 that attended participating grades.
c) Grade 8 was included only in the French speaking part.
d) Teachers in French and research assistants in Dutch speaking areas.
e) Individual envelopes were used in the French speaking parts. In the Flemish speaking parts where research assistants collected data the questionnaires were put in a class envelope.
f) Flemish and French speaking respectively.
g) Staff members from Department of Occupational and Public Health.
h) The students put their questionnaire in a locked letter box.
i) Class envelopes were used.
j) Two questionnaires were used. Form A contained 27 own questions and form B 43.
k) Staff members from Regional Health Services, research assistants and researchers.
l) 40 out of 208 classes were sampled via a two step random sample.
m) Only a small questionnaire test among data collection leaders.

Some countries have not considered what might be called "the problem of small and large classes". In some countries all schools/classes have had the same probability to be sampled, independent of the size of the class and the school. In practice this means that students in small classes and schools are overrepresented in the samples. If students in these classes and schools have different alcohol and/or drug habits compared to students in large classes or schools, data are not entirely representative of the population. However, in many countries where this might be the case a stratified sample has been used and it seems reasonable to assume that the sizes of schools and classes are rather similar within strata. Furthermore, class size is rather standardised in many countries. As a whole the "problem of small and large classes" is not considered a major problem in the context of the entire ESPAD project.

Representativeness of participating grades

The target population of the ESPAD project is students who's 16th birthday falls during the year of data collection. For the 2003 study that they should be born in 1987. If possible, data were to be collected in March or April, which occurred in a large majority of the countries (Table A).

The definition of the ESPAD target population excludes individuals who are no longer in school. Thus, it should be kept in mind that the student populations are not coextensive with the birth cohorts, and those who have left school are more likely to have used different substances and are likely to use them at higher rates than students. However, in about three fourths of the countries with available information 90% or more of the birth cohort was enrolled in school (Table A). Important exceptions include Turkey, where only 60% of the cohort was enrolled in school, and Bulgaria, where 72% of the cohort was enrolled.

In some countries nearly all students born in 1987 were assigned to one grade only, while in other countries it was in two or more grades. When this was the case, it was recommended, if necessary resources were available, to include as many grades as possible that catered for students born in 1987. If only one of these grades could be included it should be the grade with the largest proportion of students born in 1987. In countries where not all grades with students in the target age group were included in the data collection the sample is only representative of the students found in the grades targeted.

In more than half of the countries 90% or more of the students born in 1987 were in the grades studied (Table A). In addition, the proportion was also rather high (85–89%) in some other countries. However, in some few countries the corresponding figure was considerably lower, including the Czech Republic, Ireland and the Slovak Republic (about 67% each), Cyprus (74%), Malta (75%) and Romania (79%). Due to changes in the Slovak school system the proportion of the 15–16 year old cohort diminished from 99% in 1999 to 67% in 2003. It is of course not possible to know how the results in countries with the smallest proportion of the 1987 cohort would have been affected if all relevant grades/school types had been included. This uncertainty should be kept in mind when reading the results and comparing countries.

In nearly all countries students born in other years than 1987 have usually also answered the questionnaire. However, the results in this report only reflect the answers of students born in 1987. It should be noted that the results from the USA are based on students in tenth grade, not students born in 1987. However, a large majority of the tenth graders in the USA were born in 1987, which yields some modest degree of non-comparability with the ESPAD countries. In addition, data from the Spanish school survey are included in some tables and are based only on students born in 1987.

School co-operation

The number of non-participating schools and classes are shown in Table B. As already mentioned, classes were the (final) sampling units in all countries but one. However, in most countries a multistage sample was drawn, which means that schools usually were sampled in the step before classes. Denmark had two samples. One was a sample of classes in public schools and the other a small sample of private and boarding schools. In the second sample schools were the final sampling unit since most private and boarding schools were rather small and did not have a class system. Consequently, all students born in 1987 in schools in the second sample were supposed to participate in the study.

With some exceptions the number of refusing schools and refusing classes was low or very low. The highest proportion were found in Belgium (54%), Denmark (47%), the United Kingdom (45%) and the Netherlands (28%). The number of non-participating classes was usually low. However, it was above 20% in four countries, including Denmark (35%), Austria (24%), Norway (23%) and Estonia (20%).

Table B. *Not participating schools and classes, eliminated questionnaires and average time to complete the questionnaire.*

Country	Non-participating		Eliminated questionnaires (%)[a]	Average time to complete the questionnaire (minutes)
	Schools	Classes		
Austria	..	79/331 [b]	0.9	41
Belgium	153/284	52/442 [c]	1.5	40/50[d]
Bulgaria	1/278	1/278	0.8	51
Croatia	1/113	2/238	0.6	45
Cyprus	1/43	..	5.0	57
Czech Republic	0/180	0/180	0.7	47
Denmark	35/74 [e]	74/214 [e]	0.3	37
Estonia	10/119	66/324	0.1	35
Faroe Islands	1/19	1/38	–	55
Finland	7/200 [f]	7/200 [f]	0.6	31
France	50/450	127/900	1.8	45
Germany	..	49/557 [g]	0.7	40
Greece	5/221[h]	13/448	2.3	52
Greenland	..	..	..	69
Hungary	6/407	8/432 [i]	0.1	48
Iceland	3/132	4/250	0.8	55
Ireland	12/120	20/216	0.7	37
Isle of Man	0/7	..	3.6	60
Italy	12/336	12/336 [j]	1.5	40
Latvia	..	14/436	1.2	49
Lithuania	1/277	1/316	0.0	44
Malta	4/65	3/245	0.4	50
Netherlands	76/268	5/194	0.5	31
Norway	..	60/265	0.3	36
Poland	6/390	6/390	0.9	37
Portugal	25/554	16/658	2.3	50
Romania	1/208	0/414	0.5	60
Russia (Moscow)	16/208	16/210	0.5	33
Slovak Republic	1/109	3/118 [k]	0.4	47
Slovenia	0/150	0/150	1.2	40
Sweden	27/200	27/200	1.4	35
Switzerland	..	65/473	0.6	42
Turkey	0/88	0/167	0.3	30
Ukraine	6/243	6/243	0.1	60
United Kingdom	64/141	..	0.8	..

a) Proportion of all answered questionnaires judged not to be seriosly answered when the questionnaires were scrutinised.
b) 28 classes were replaced.
c) In addition to this 17 classes were replaced.
d) Flemish and French speaking respectively.
e) Two samples were drawn in Denmark. One sample of 74 private and boarding schools and another of 214 classes i public schools.
f) The seven classes in the seven schools were replaced by substitutive schools/classes.
g) 15 classes were replaced.
h) 5 schools were replaced.
i) 16 classes were replaced.
j) 13 schools/classes were replaced.
k) 3 classes were replaced.

Information about non-participating schools and classes is not available from Greenland, which was cause for some concern since Greenland was one of the countries with highest school dropout rate in the ESPAD 99 data collection (24%).

In some countries, including Austria, Belgium, Finland, Germany, Greece, Hungary, Italy, Portugal and Slovak Republic non-participating schools or classes were replaced by other randomly selected schools/classes. The same was also done in the Monitoring the Future Survey in the United States. This procedure assumes that the replaced schools and classes are equivalent to those refusing. However, some of the schools/classes might have refused due to supposed "bad drug habits" among the students.

In nearly all countries school co-operation is reported to have been very good. In countries with few non-participating schools or classes the main reasons for not doing so were usually different kinds of schoolwork, examinations or other reasons that can be considered random occurrences. Hence for countries with few schools or classes that did not take part in the data collection there is reason to assume that non-participating schools and classes have not influenced the representativeness of the samples drawn.

Altogether seven countries reported a loss of schools and/or classes that represented at least 20% of the original sample. A recurring reason provided in these countries has been that schools are asked to take part in so many school surveys that they simply don't have the time to participate in all of them.

Austria used a particular technique that involved random replacement of refusing or non-responding schools. Despite this, a relatively large number of classes (24%) did not participate in the end. There is no information available on the drop-outs and whether the loss was systematic or not. However, the assumption adopted was that the non-participating classes were randomly distributed.

About 20% of the sampled classes in Estonia did not take part in the data collection exercise. However, in most of these classes no or only a few students born in 1987 were to be found. The proportion of missing students is much lower than the 20% indicate. Hence, there is reason to assume that the rather high proportion of non-participating Estonian schools and classes has not caused any important problems about the representativity.

The proportion of classes that did not participate in the Norwegian study increased from 14% in 1999 to 23% in 2003. A major reason was the impossibility of schools to accede to every request to participate in school surveys. The non-participating classes were spread all over the country and there were no indications that students in these classes have different alcohol and drug habits. However, since this conclusion is not based on any a systematic follow up, the high proportion of non-participating classes remains an uncertainty.

About 28% of all sampled schools in the Netherlands did not participate. Participating and non-participating classes were compared for school size and proportion of immigrant students. No significant differences were found. Compared to similar school surveys in the Netherlands the response rate was high. Even if there are reasons to assume that the non-participating schools did not bias the results to any degree that the comparability with other ESPAD countries was jeopardised, the rather high proportion of schools that did not participate should be noted.

In the United Kingdom 45% of the sampled schools did not participate in the data collection. The most common reason given for school refusals was that the school had taken part in other research projects. There were no discernible differences in the types of schools co-operating and not co-operating. Hence, there is reason to believe that the high proportion of non-participating schools has not biased the sample to any degree and hence it should be representative. However, the fact that relatively many schools did not want to participate should be borne in mind.

In Denmark two samples were drawn. One consisted of private and boarding schools in which 47% of the schools did not participate. In the other, and larger, sample of classes in public schools 35% of the schools did not take part in the survey. Non-participating schools were contacted and the most common explanation was that the schools did not have the time and that they had received too many inquiries to participate in lifestyle surveys. A comparison between participating and non-participating schools did not show any systematic differences. Taken together this would suggest that the relatively large number of non-participating schools and classes may not have caused major problems as far as representativeness is concerned. However, some uncertainty still remains.

The large proportion of school refusals in Belgium (54%) was in line with what was expected from earlier experiences. The major reason for non-participation was that Belgian schools were asked

to take part in so many school surveys that many of them simply did not have the time to accede to all requests. A comparison between participating and refusing Flemish speaking schools did not reveal any notable differences. If this was also so for French speaking schools then the problem of the large number of non-participating schools is not sufficient to jeopardise the possibilities for comparisons with data from other ESPAD countries.

In summary, the rather high drop-out rate of schools and classes in some countries raises questions about representativeness. The refusals nevertheless do not appear to be linked to any particular characteristics of the students but rather the attitudes and working conditions of the school staff. It should be noted that the problem is mainly related to countries from the western parts of Europe where the use of school surveys is most widespread.

Participating students

In order to obtain satisfactory precision of estimates for various subgroups of the population the ESPAD guidelines recommend a net sample of 2,400 participating students in each country (Bjarnason and Morgan 2002). Assuming that 10% of students would be absent and that some selected classes would be unable to participate, a sample size of 2,800 students was recommended. However, for countries where the target cohort was less than about 30,000, it could be advisable to reduce the sample size by a factor of (1-sf), where the sampling fraction (sf) equals sample size divided by cohort size.

In small countries with fewer than 2,800 students in each cohort, the total population was targeted. This was the case in the three countries with the smallest sample sizes; Greenland (555), the Faroe Islands (640) and Isle of Man (721) (Table C). In other ESPAD countries the figure varies from 1,906 (Greece), 1,925 (Russia/Moscow), 2,068 (United Kingdom) and 2,095 (the Netherlands) to 5,964 (Poland). (In USA 16,244 students took part in the study.) Thus, the number of participating students is satisfactory for international comparisons between countries.

In this report the results for all students are not weighted by gender. In other words, in countries where the proportion of boys in girls is not equal, the results are slightly skewed toward the patterns among the majority gender. However, in a large majority of the countries the distribution by sex was close to even. In three countries the difference between the sexes was more than 10 percentage points (i.e. 45–55%). In Austria 56% of the sample were boys, in Malta 44% and in Romania 42%.

The uneven gender distribution in Austria, with 56% boys in the data set is due to an uneven sex distribution in grade 10. The proportion of participating boys in Romania (42%) is most probably too low compared to the proportion of boys in the target population. For certain purposes it may be advisable to calculate a weighted proportion for these countries by taking the average of the numbers for boys and for girls.

The target population of Malta consisted of 47% boys, which is close to the 44% among those who participated. Thus, in practice Malta is within "the margin" of ±5%.

Response rates

The response rates in each country are shown in Table C. With the exception of Greenland the response rates are calculated as the proportion of students who completed the questionnaire out of all students in participating classes. Thus, the difference consists of students in participating classes who were ill or absent for other reasons on the day of the survey. Students in non-participating schools or classes are not included among the non-respondents. They are shown separately in Table B and discussed in the section above about school co-operation.

The response rates in participating classes are good or very good in nearly all countries. In 24 of the 35 countries 85% or more of the students in participating classes answered the questionnaire. The only country with a response rate below 80% is Greenland with 68%. However, this is not calculated in the same way as the response rate in the other countries. Due to a lack of information the response rate for Greenland is calculated as the proportion of participating students out of all individuals born in 1987 in the country. In other words, the figure includes young people in the birth cohort that were not enrolled in school as well as students in possible schools and classes that did not take part in the survey. Hence, the response rate in Greenland would have been substantially higher if it had been possible to calculate in the same way as in other countries.

In all countries that provided information on non-participation, the main reason to emerge was that students were ill or absent for other apparently random reasons. No country reported any major methodological problems in connection with absent students. Student refusal to participate was

Table C. *Participating students and response rates. Numbers and percentages among boys and girls.*

Country	Number of participating students				Response rates (%) [a]		
	Boys	Girls	Total		Boys	Girls	Total
Austria	1,340	1,062	2,402		··	··	90
Belgium	1,112	1,208	2,320		··	··	81[b, c]
Bulgaria	1,291	1,449	2,740		84	86	85
Croatia	1,446	1,438	2,884		88	88	88
Cyprus	999	1,153	2,152		··	··	88
Czech Republic	1,472	1,723	3,195		96	94	95
Denmark	1,504	1,474	2,978		90	88	89
Estonia	1,246	1,217	2,463		87	86	86
Faroe Islands	322	318	640		85	87	86
Finland	1,739	1,804	3,543		92	91	91
France	1,087	1,112	2,199		··	··	91
Germany	2,402	2,685	5,110		··	··	89[b]
Greece	886	1,020	1,906		··	··	83
Greenland	281	274	555		68[d]	69[d]	68[d]
Hungary	1,398	1,279	2,677		··	··	82
Iceland	1,728	1,604	3,348		82	80	81
Ireland	1,219	1,188	2,407		96	97	96
Isle of Man	340	381	721		··	··	85[b]
Italy	2,300	2,571	4,871		99	98	98
Latvia	1,372	1,469	2,841		83[b]	85[b]	84[b]
Lithuania	2,517	2,519	5,036		90	85	88
Malta	1,557	1,943	3,500		79	88	83
Netherlands	1,061	1,034	2,095		93[b]	93[b]	93[b]
Norway	1,945	1,888	3,833		··	··	87[d]
Poland	2,930	3,025	5,964		84	85	85
Portugal	1,389	1,557	2,946		97	96	96
Romania	1,823	2,548	4,371		82	84	84
Russia (Moscow)	880	1,045	1,925		78[b]	82[b]	80[b]
Slovak Republic	1,056	1,220	2,276		86	89	87
Slovenia	1,406	1,379	2,785		88	88	88
Sweden	1,592	1,640	3,232		87	87	87
Switzerland	1,278	1,335	2,613		··	··	83
Turkey	2,273	1,904	4,177		91	91	91
Ukraine	1,918	2,255	4,173		81	86	83
United Kingdom	1,083	985	2,068		··	··	84[b]

a) Participating students in participating classes.
b) Calculated on all students in participating classes.
c) 93% in Flemish and 74% in French speaking schools.
d) An estimate not based on classrooms reports. It shows the proportion of participating students out of all 1987 born students in the country and not the number of students in participating classes.

very low in nearly all countries. The rather high response rates in nearly all countries and the reports about the reasons for not participating, do not indicate any major methodological problems connected with the response rates.

Absent students are somewhat more prone to be involved in the use of various substances than is the case with students who are consistently in school (Grube and Morgan, 1989, Andersson and Hibell, 1995). A follow up study of students in Sweden shows that absent students had tried alcohol and illegal drugs more often than those present at the regular data collection (Andersson and Hibell ibid). Because of the relatively small number of absent students, the figures for the population as a whole were unchanged or only changed by one percentage point if absent students were included. In the school surveys in USA the corresponding average figure has been calculated to be 1.4% (Johnston et al, 2004). The difference in drug use between present and absent students may of course differ between countries and the effect of such differences is dependent upon the response rate. However, in the ESPAD context the alcohol and drug involvement among absent students is not a major methodological problem when students in different countries are compared.

Summary

To summarise the issues related to representativeness one can conclude that the average age of participating students across countries was 15.7–15.9 years, that the samples were representative and that the number of participating students was in line with the ESPAD protocol. In all countries but two a very large majority of those born in 1987 were enrolled in school (usually 90% or more). In a large majority of participating countries the proportion of students born in 1987 that were found in participating schools categories/grades was high (usually 90% or more). However, it was relatively low (below 80%) in five countries. School co-operation was satisfactory in most countries, even though many countries report problems with schools that were asked to participate in too many school surveys. Seven countries reported that 20% or more of the sampled schools or classes did not participate in the survey for this very reason.

The representativeness of the surveys in some countries is somewhat uncertain. Austria, Belgium, Denmark, the Netherlands, Norway and the United Kingdom have a relatively large number of non-participating schools or classes. In Austria and Romania the gender distribution was skewed. In Bulgaria and Turkey a substantial proportion of the 1987 birth cohort were not enrolled in school. In Cyprus, Ireland and Romania a substantial proportion of the target population were not in the selected grades and in Greenland the response rate is unknown. The results of the surveys in these countries are nevertheless deemed to be sufficiently representative of students born in 1987.

The fact that the Greek students in 2003 were seven months younger than in 1999 must be kept in mind when interpreting changes in the substance use figures from 1999 to 2003.

Reliability

Reliability, which is a necessary condition for validity, is the extent to which repeated measurements used under the same conditions produce the same result.

Data from different questions within the ESPAD questionnaire have been used to measure reliability. Two measures will be discussed. One is the inconsistency between two sets of questions measuring the lifetime prevalence for different drugs. The other is a quotient between the proportion of students who on the "honesty question" answered that they "already said" that they had used cannabis and the proportion who actually gave this answer.

In the ESPAD methodology study in 1998 students in seven countries were asked to complete the questionnaire on their use of alcohol and drugs on two separate occasions with a delay period on 3–5 days (Hibell et al. 2000). Since the studies were completely anonymous it was not possible to do a test-retest study limited only to individuals who participated in both data collections. No significant differences in the consumption patterns were found between the two data collections in any of the countries. This was true for alcohol consumption as well as drug prevalence which suggests that the reliability was very high in all seven ESPAD countries. Similar results with no significant differences were also reported from two repeated studies in Iceland and Hungary (Hibell et al. 1997).

Inconsistency in relation to lifetime use

For many drugs the questionnaire contained questions about lifetime use. A later set of questions dealt with the age at first use of different drugs. These questions included the alternative "never", which makes it possible to compare the prevalence of users of each drug according to these two questions.

Table D includes information on the proportion of students reporting drug use on one question and not on the other, i.e. giving inconsistent answers. The lowest inconsistency figures were found for anabolic steroids and other illicit drugs than cannabis (explained in Table D). In nearly all countries inconsistency rates are 0 or 1%, demonstrating that 99–100% gave consistent answers in relation to the consumption of these substances. With some very few exceptions the figures were nearly as low for tranquillisers and sedatives without a doctor's prescription. In about 80% of the countries the proportions with inconsistent answers were 3% or less. The highest figures were 6–7% and were reported from the Netherlands and Poland.

The figures are in many cases low also for cannabis. In a majority of the countries inconsistent answers were given by 3% or less of the students. The highest figures were found in Belgium, Bulgaria, Greenland and Ukraine (6–8%). The figures are also rather similar for the use of inhalants as well as tranquillisers or sedatives without a doctor's prescription. In about half of the countries 3% or less of the students gave inconsistent answers on their use of inhalants. The highest inconsistency figures are found in Greenland and Malta (10–11%) followed by Cyprus, Greece, Iceland, Isle of Man, Latvia, Poland and Slovenia (6–7%).

For cigarette smoking the proportion of inconsistent answers is somewhat higher (4–5%) with a majority of 5% or less. The highest figure is found in Turkey (15%), followed by Bulgaria, the Faroe Islands, Greenland, Latvia and Switzerland in which 7–8% of the students gave inconsistent answers on the lifetime prevalence of smoking cigarettes.

Some countries had rather high inconsistency rates for the variable been drunk. The highest are found in Greenland (16%), Bulgaria, Latvia, Ukraine (12–14%) and Portugal (10%). However, rather low figures are found in most countries and in about half of them they are 5% or less.

In most countries the inconsistency rates are low for all drugs. However, it is often lowest for anabolic steroids and "other illicit drugs" followed by tranquillisers and sedatives without a doctor's pre-

scription, cannabis and inhalants. Somewhat less consistency is reported for the variables cigarette and drunkenness.

Some of the high inconsistency rates can to a certain extent be explained by differences in the questions being matched. For instance the first question on inhalants was "On how many occasions (if any) have you sniffed a substance (glue, aerosols etc.) to get high?" In the second question some examples were omitted and it was written "When (if ever) did you FIRST do each of the following things?" One of the sub-questions was "Try inhalants (glue, etc) to get high". The different examples might give rise to different perceptions of the variable content. Students may also have been ambivalent when answering the question about the age of the first use of a drug. If a student had only used a drug once or twice and did not define himself or herself as a user and therefore may not have found it appropriate to give an age when he or she started. These students may have answered "never" since they think of their consumption as an experiment rather than use.

The question about the age at first use did not include a category like "I do not remember". If a student did not remember there is probably a risk that he/she answers never instead of "guessing" about an age, especially if the person has used the substance a few times only. An other possibility could be that the student simply do not answer the question.

There may also be other factors that complicate the interpretation of inconsistency rates. One is that the inconsistency rate may be affected by the prevalence rate. In other words, there are more people who can report their use inconsistently when there are more users in a country. However, there does not seem to be a strong relationship between high prevalence figures and high inconsistency figures. For none of the drugs the highest inconsistency figures are found in countries with the highest prevalence rates or the lowest found in countries with the lowest prevalence rates.

It could also be argued that a given inconsistency figure (e.g. 1%) is more "serious" in country A where 5% admit drug use than in country B where 50% do so. In country A the inconsistency is 20% of the prevalence rate, but in country B it is only 2% of the prevalence rate. The importance of the size of the inconsistency in relation to the prevalence figure can be illustrated by the cannabis figures. In a majority of the countries the inconsistency figures are between 0–3%. The Romanian inconsistency figure of 1% might be seen as high

Table D. *Some aspects of reliability. Two measures of inconsistency between two questions in a single administration. Percentages and quotients among all students.*

Country	Students reporting lifetime drug use on one question and not on the other (%) [a]							Quotient between two questions [b]
	Cigar-ettes	Been drunk	Inhal-ants	Canna-bis	Other illicit drugs[c]	Tranq. or sedat.[d]	Anabolic steroids	Cannabis
Austria	3	6	5	3	1	1	1	0.9
Belgium	3	6	3	6	1	4	1	0.7
Bulgaria	8	12	3	7	1	2	2	1.1
Croatia	2	7	4	2	0	2	1	0.8
Cyprus	4	5	6	1	1	3	1	1.5
Czech Republic	2	3	3	3	1	5	0	0.8
Denmark	3	2	3	1	0	2	0	0.9
Estonia	5	4	3	5	1	3	1	0.8
Faroe Islands	7	3	3	2	1	1	0	1.2
Finland	4	2	3	1	0	2	0	0.9
France	..	..	..	..	..	..	..	..
Germany	2	6	3	2	1	1	0	0.9
Greece	3	5	6	1	0	2	1	1.2
Greenland	7	16	11	6	1	1	0	0.9
Hungary	4	4	2	5	1	4	1	0.8
Iceland	2	2	7	1	0	3	..	1.1
Ireland	1	1	1	1	1	1	1	0.9
Isle of Man	0	0	7	1	0	0	0	0.9
Italy	5	6	5	5	2	4	1	0.8
Latvia	7	13	6	5	1	3	1	1.0
Lithuania	3	6	1	2	0	1	1	0.8
Malta	3	7	10	2	1	2	1	1.0
Netherlands	4	5	..	2	1	6	0	0.8
Norway	5	3	2	1	0	1	0	1.0
Poland	6	8	6	4	1	7	1	1.6
Portugal	3	10	5	4	1	3	1	0.9
Romania	6	7	1	1	0	2	0	1.7
Russia (Moscow)	5	7	5	3	1	1	1	0.8
Slovak Republic	6	5	3	3	0	2	0	0.8
Slovenia	5	8	6	3	1	2	1	0.9
Sweden	3	3	3	1	0	0	0	1.2
Switzerland	7	4	3	0	0	1	0	0.8
Turkey	15	8	3	2	3	2	4	0.7
Ukraine	6	14	4	8	1	1	1	0.4
United Kingdom	3	4	5	2	0	1	0	0.9

a) The first question is the self-reported lifetime prevalence question for the drug, while the second is a later one about the age at first use of the drug.
b) Quotient a/b between the proportion answering "I already said that I have used it" to the question "If you ever used marijuana or hashish, do you think that you would have said so in this questionnaire?" (a) and the proportion who reported that they ever used it (b).
c) Other illicit drugs include amphetamines, LSD and other hallucinogens, crack, cocaine, ecstasy and heroin. The figure is an average for these drugs.
d) Tranquillisers or sedatives without a doctor's prescription.

considering that only 3% answered that they had used cannabis. Thus for Romania as a country the prevalence figure of 3% could be seen as uncertain. However, in the ESPAD context, when data are compared with results from other countries, it is not of "vital importance" whether the "true figure" is 2 or 4%, if the "true figures" in all other countries are (much) above this level. In the ESPAD context Romania is still a country where very few students have used cannabis.

A more problematic inconsistency is found in Ukraine, where 21% admit that they have used cannabis but 8% give inconsistent answers, which means that "the true prevalence figure" may vary quite a lot (13–29%).

In 27 of the 34 countries with available information, consistent answers were provided by 92% or more of the respondents, which must be seen as a satisfactory result. In 8 cases the values were 10% or above, which is a cause for concern since "the true prevalence" may very quite substantially compared to the reported figure. However, it seems rather unlikely that (nearly) all students would opt for one of the "extreme positions", i.e. either denying real use or admitting use that never has occurred.

With the exception of cigarette smoking in Turkey and the use of inhalants in Greenland and Malta all 10+ inconsistency rates were found for the variable been drunk. With the exception of Greenland no country has more than one 10+ figure. If one also includes inconsistency figures that are high in comparison to other figures for the same drug, a few countries with relatively high figures might include Bulgaria (been drunk and cannabis use), Greenland (been drunk, use of inhalants and cannabis use), Latvia (been drunk), Malta (use of inhalants), Poland (tranquillisers and sedatives without a doctor's prescription), Portugal (been drunk), Turkey (cigarette smoking and use of anabolic steroids) and Ukraine (been drunk and cannabis use).

An inconsistency quotient

The other measure of reliability is the quotient between the answers to two questions. One is about the willingness to admit the use of marijuana or hashish (the so called "honesty question"). The students were asked: "If you had ever used marijuana or hashish, do you think you would have said so in this questionnaire?". The question could be used as a measure of validity and it is from this perspective that it is discussed in the next section. However, one of the response alternatives was "I already said I have used it" and this proportion has been compared with the proportion that reported cannabis use on the lifetime prevalence question.

Table D includes the quotient between these two proportions, with the "honesty answer" as the numerator and the "lifetime answer" as the denominator. A value of 1.0 means that the proportions are the same on both measures. The quotient is above 1.0 if more students answered that they already had said they have used the drug than actually reporting so on the direct question. Conversely, the quotient is below 1.0 if fewer students indicated that they have already admitted drug use than actually did admit to it on the direct question.

The quotient is 1.0±0.2 in 28 out of the 34 countries where it was possible to calculate. It was above 1.2 in Romania (1.7), Poland (1.6) and Cyprus (1.5) and below 0.8 in Ukraine (0.4), Belgium (0.7) and Turkey (0.7). The Ukrainian ESPAD researcher has found that amongst those who reported lifetime cannabis use 7.3% answered "definitely yes" on the honesty question, which in some way also is a correct answer. If these answers are added to the 8.7% that answered "I have already said I have used it" the figure is 16.0%, which is rather close to the lifetime prevalence figure. This seems like a plausible explanation. However, if so, why does this mainly occur in Ukraine? (If one accepts this "recalculation" the quotient is changed to 0.8).

For Romania, Cyprus and Turkey the deviant quotient measures are in part due to the low prevalence figures. Only 3–4% reported cannabis use on the lifetime prevalence question, which implies that only a rather few individuals can "cause" a high or a low quotient figure.

Summary

In the ESPAD methodology study in 1998 reliability was high in all the seven participating countries. In the 2003 ESPAD study the inconsistency rates are rather satisfactory in most countries and for most measured variables. No country scores high on all variables. However, Greenland shows rather high inconsistencies on three out of the seven measures – having been drunk, inhalants and cannabis. Three countries showed high inconsistency measures for two variables. They are Bulgaria (been drunk and cannabis use), Turkey (cigarette smoking and use of anabolic steroids) and Ukraine (been drunk and cannabis use). Ukraine also reports a low inconsistency quotient for cannabis. Four countries reported a high inconsistency figure for one vari-

able, including Latvia (been drunk), Malta (use of inhalants), Poland (tranquillisers and sedatives without a doctor's prescription) and Portugal (been drunk). Altogether the inconsistency measures demonstrate that reliability is good in most ESPAD countries. However, in Bulgaria, Greenland, Latvia, Malta, Poland, Portugal, Turkey and Ukraine the reliability is probably somewhat lower for one or a few variables.

Validity

The validity of answers is a major concern in survey research, in particular in surveys of sensitive behaviours like substance use. In ESPAD terms, validity could be said to be the degree to which the ESPAD questionnaire (including how data are collected) measures aspects of students' consumption of different substances that we have decided to measure.

Some researchers have used biological tests to study the validity of school surveys. Campanelli, Dielman and Shope (1987) found no significant differences in reported alcohol use between a control group and a group where saliva samples were collected prior to the survey. Kokkevi and Stefanis (1991) used urine samples collected after a school survey on drug use. Their findings validated students' reports of recent cannabis use. In recent years hair analysis has also been used to validate survey data about drug use. However, Harrison (1997) has argued that most research conducted on validating self-report has focused on criminal justice and treatment populations and is thus limited in its ability to determine how accurately respondents report drug use in general population surveys, such as household and school surveys.

Despite of the concerns with the generalizability of the results of most validation studies Harrison (1997) emphasizes some general conclusions. One is that the pattern of reporting is consistent with the social desirability hypothesis, i.e. that more stigmatised drugs are less validly reported than less stigmatised drugs. A second conclusion is that respondents are most willing to report lifetime use and least willing to report use that occurred in the very recent past. Third, self-administered questionnaires tends to produce more valid data than interviews in which the respondents are required to give a verbal response.

In a review of studies about drug use Morgan (1977) concludes that self-report methods for substance use are as reliable and valid as most other forms of behaviour. There are inconsistencies in such reports from time to time as in denial that of earlier admitted use in longitudinal studies, but these also occur with other behaviours. Adding special conditions to enhance validity (like the bogus pipeline) do not add anything to validity over and above anonymity and confidentiality. Morgan also concludes that when discrepancies occur between self-reports and other indices (physiological, collateral reports), it cannot be assumed that the self-reports are necessarily the less valid measure. Finally, self-reports have the greatest claim to construct validity, that is, the measures related in predicted ways to other outcomes and to antecedent factors.

In a discussion on validity in school surveys of USA Johnston and O'Malley (1985) also conclude on the bases of considerable inferential evidence that self report questions produce largely valid data.

High reliability is a necessary but not sufficient condition for validity. In the previous section it was concluded that the test-retest reliability was high in seven countries in the ESPAD methodology study as well as in two countries where such studies were conducted separately with the ESPAD questionnaire. It was also concluded that the inconsistency measures using a high level of reliability in most countries and for most drugs. However, this is in itself not enough to secure high validity.

Student co-operation

The primary condition for obtaining any data is that students in selected classes actually receive the questionnaire and are willing to respond to it. The first condition is nullified if the school or the teacher refuses to co-operate. If students do receive the questionnaire they must have enough time to complete it, understand the questions and they must be willing to answer the questions honestly.

The participation in the study was of course voluntary. However, in nearly all countries none or very few students were reported to have refused to participate. On the contrary, in many countries the

classroom reports state that many students were very interested in answering the questionnaire.

In a few countries it was necessary to get parental permission before students were allowed to participate in the project. Countries where parental permission was compulsory include France, Norway and the United Kingdom. In France as well as in the United Kingdom 1% of the parents refused their children to take part in the study. The corresponding figure was low also in Norway. Thus, parents refusing their children to participate in the ESPAD study is only a very limited problem.

A visual inspection of each questionnaire, sometimes combined with computer screening, was undertaken before data entry into the national databases. With very few exceptions, only a small fraction of all questionnaires were excluded during the scrutinising process. On average 1.0% of the questionnaires were excluded for that reason (Table B). However, there are a few countries which reported higher proportions of eliminated questionnaires, including Cyprus (5.0%), Isle of Man (3.6%), Greece (2.3%) and Portugal (2.3%). Unfortunately, information is not available from two of the ESPAD countries.

The survey leaders were asked to fill out classroom reports about disturbances during the data collection, the students interest in the survey as well as whether the students worked seriously. In 21 of 32 countries with available information 60% or more of the survey leaders did not report any disturbances during data collection (Table E). The highest figures were found in Cyprus (100%), Ireland (97%) and Croatia (95%) and the lowest in Russia (Moscow) (24%), the Slovak Republic (36%) and Belgium (41%). The highest proportions which reported disturbances from more than a few students are found in Greece, Russia (Moscow) and Turkey (16–18%) together with Belgium and the Slovak Republic (14% each). In most countries giggles or eye makings were the most commonly reported disturbances.

It should be noted that research assistants were responsible for data collection in all countries with widespread reported disturbances. Since they are not used to the "normal level of disturbance" in a classroom they are probably much more sensitive than teachers for different kinds of disturbances and, consequently, report them to a much higher degree. In three of these countries (Belgium, Poland and Russia (Moscow)) the research assistants had received special instructions to report all kinds of disturbances.

In nearly all countries a very large majority of the survey leaders (91–100%) reported that "all", "nearly all" or "a majority" of the students were interested in the study, and 75–100% reported that "all" or "nearly all" students were interested (Table E). The smallest proportions were reported from Slovenia (58%) and Turkey (68%).

The figures were very similar on the question of whether the students worked seriously. Nearly all data collection leaders (95–100%) answered that "all", "nearly all" or "a majority" of the students worked seriously on the questionnaire (Table E). With the exception of three countries the proportions answering "all" or "nearly all" were 75–100%. Again the exceptions were Turkey (65%) and Slovenia (69%), as well as Russia (Moscow) (69%).

Unfortunately, data from the survey leaders from Isle of Man and the United Kingdom were not available following an oversight in which the classroom reports were not used. However, from other indices gleaned from the country reports student co-operation was on par with that reported by other countries.

In summary, no countries reported problems with many students refusing to participate. The proportion of eliminated questionnaires was low in nearly all countries with 5.0% as the maximum figure. When disturbances did occur this rarely involved more than a few students. Even if some disturbances were reported in some countries, they seem very seldom to have negatively affected the student co-operation. Most survey leaders reported that the students were interested in the study and worked seriously.

Over all, student co-operation seems to have been good or very good in all participating countries.

Student comprehension

The number of questions included in the questionnaire varies somewhat between countries. Naturally, the length of the questionnaire has a direct effect on the time taken to complete it. In addition, a difference between students' experience in participating in these types of studies would also affect the time to complete questionnaires. For these and other reasons, it is not surprising that the time taken to complete the questionnaire varied between countries.

The average time to complete the questionnaire varied between 30 and 50 minutes in most countries (Table B). The highest figure (69 minutes) was reported from Greenland. A rather long time was

Table E. *Opinions of the data collection leaders* [a]. *Percentages.*

Country	Disturbances during the completion of the questionnaire			Kind of disturbances [b]			Student co-operation	
	No	A few students	More	Giggles or eye makings	Loud comm-ents	Other comm-ents	Students interested [c]	Students worked seriously [d]
Austria	76	20	5	5	12	7	95(77)	99(86)
Belgium [e]	41	45	14	26	13	34	92(80)	93(78)
Bulgaria	56	34	10	30	14	9	97(85)	97(89)
Croatia	95	4	1	2	3	2	100(100)	100(95)
Cyprus	100	–	–	5	3	3	95 (83)	95 (83)
Czech Republic	61	32	6	31	5	3	99(92)	98(88)
Denmark	84	13	2	7	8	9	99(95)	100(99)
Estonia	51	39	10	41	14	–	89(72)	96(83)
Faroe Islands	81	16	3	10	–	6	100(100)	100(91)
Finland	76	22	2	8	13	13	96(84)	99(94)
France	62	..	..	30	12	11	96(78)	..
Germany	81	15	3	5[f]	10[f]	2[f]	96(72)	99(82)
Greece	56	29	16	..	39	5	92(81)	92(81)
Greenland	68	30	2	21	42	37	100(93)	97(93)
Hungary	75	20	5	18	5	2	97(87)	98(91)
Iceland	71	23	6	16	1	–	96(88)	100(96)
Ireland	97	3	–	3	–	–	100(100)	100(100)
Isle of Man [g]	..	..	..	..	..	..	..	..
Italy	56	37	7	30	21	2	94(79)	98(86)
Latvia	67	27	6	21	14	..	94(79)	95(79)
Lithuania	72	24	11	17	11	1	96(86)	99(88)
Malta	83	17	–	17	–	–	98(86)	97(88)
Netherlands	81	——— 19[h] ———		5	4	18	..	99(96)
Norway	81	18	1	10	7	6	96(89)	99(93)
Poland	54	36	10	32	49	15	90(81)	92(74)
Portugal	69	26	6	25	9	5	98(86)	99(88)
Romania	90	8	2	10	2	0	98(92)	98(92)
Russia (Moscow)	24	60	16	53	7	1	93(72)	92(69)
Slovak Republic	36	50	14	46	16	21	97(86)	97(86)
Slovenia	57	——— 43[h] ———		24	13	9	92(58)	98(69)
Sweden	59	34	6	24	15	..	90 (82)	100 (96)
Switzerland	70	28	2	25	10	9	94(77)	100(94)
Turkey	54	28	18	36	13	8	89 (68)	92 (65)
Ukraine	48	41	11	40	15	7	99 (88)	100 (86)
United Kingdom [g]	..	..	..	..	..	..	..	..

a) In countries where more than one age group participated, the information is usually based on all participating students.
b) Percent of participating classes.
c) "All", "Nearly all" or "A majority" of the students were reported to have been uninterested in the survey (within brackets: "All" or "Nearly all" students).
d) "All", "Nearly all" or "A majority" of the students were reported to have worked seriously (within brackets: "All" or "Nearly all" students).
e) Information is only available from the Flemish speaking areas.
f) Classifications of free text answers.
g) The ESPAD classroom report was not used.
h) Only two answering categories were used (yes/no).

also utilised in Isle of Man and Romania with 60 minutes each. No countries reported that students refused to complete the questionnaire as a result of its length. On the other hand, one of the most frequent comments was that the questionnaire was long and repetitive.

Nor were there any countries that reported any major problems on the ability of students to understand the questionnaire.

Overall, student comprehension seems to have been satisfactory in all participating countries.

Anonymity

The validity of answers in surveys related to illegal behaviour, such as drug use, is dependent upon the respondents' trusting that reporting such behaviour would not result in any negative consequences. Thus, it is important that the students perceive the survey to be anonymous. Several measures were taken to ensure the perceived as well as the actual anonymity of the ESPAD survey.

The ESPAD protocol recommends distributing an envelope for each student to seal after having answered the questions. In 25 ESPAD countries individual envelopes were used (Table A). Countries that did not use individual envelopes used other methods to secure that the students felt that their anonymity was secured. These methods included a closed box and a large envelope for the entire class, often sealed in front of the class before being transported to the research institute.

It is also important that the students trust that the data collection leaders do not look at their answers. He or she could either be a teacher or a research assistant. In some countries with long traditions of school surveys students are used to teachers taking responsibility for the data collection. In other countries research assistants, or other persons not affiliated to the school, administered the questionnaire. The decision on the most suitable data collection leader was taken by each country independently. The base for that decision should of course be to choose the person most trusted by the students.

In a methodological study in Iceland, Bjarnason (1995) found no significant differences in either the reported prevalence or the reported frequency of drug use between randomly selected classes responding to the ESPAD questionnaire administered by their teachers and randomly selected classes that had the questionnaire administered to them by research assistants. These findings suggest that at least in some countries the mode of administration does not significantly affect the results of school surveys on drug use. It can thus be inferred that results obtained by a teacher administrator are fully comparable with results obtained by research assistants in countries where mode of administration may be more sensible.

In about half of the ESPAD countries teachers were data collection leaders, while more than one third choose research assistants (Table A). A few schools used health staff. The data collection leader was asked to stress the question of anonymity and to refrain from walking around in the classroom while the questionnaires were completed. The students were instructed verbally and in writing on the first page of the questionnaire that they should not put their names on the questionnaires or the envelopes.

No country reported any serious doubts about the anonymity aspect. As a whole, the question of anonymity seems to have been handled satisfactory in all participating countries.

Missing data rates

In the instructions to the students it was stressed that it was important to answer each question as thoughtfully and frankly as possible. However, since participation in the study was voluntary they were told that they could skip any questions they found objectionable for any reason. Thus, missing data rates on drug questions can be seen as an indicator of the respondents' willingness to report drug use. Of special interest are possible differences in missing data rates between different drugs and between drug questions and other questions.

Looking at the questionnaire as a whole the proportion of unanswered questions is low in most countries. In about two thirds of the countries with available information only 0–2% of the questions were unanswered (Table F). In only two it exceeded 5%. Because of mistakes in the layout and coding of multiple questions 21% of the data were missing in Estonia. The proportion of unanswered questions in Greenland was 10%. The high rate of missing values in Estonia is limited to a relatively small number of questions and does therefore not signal a threat to validity of the questions about substance use. Some caution should however be exercised in the interpretation of Greenlandic results as the rate of missing values indicates a reluctance by students to provide honest responses.

In some few countries the proportion of unanswered questions varies a little between core, module and own questions. The core ESPAD questions are to be situated in the beginning of the national

Table F. *Proportions of unanswered questions. All students.*

Country	Cigarettes[a]	Alcohol[b]	Been drunk[b]	Inhalants[b]	Cannabis[b]	Other illegal drugs[c]	Tranq. or sed.[d]	Anabolic steroids[e]	Core questions	Module questions	Own questions	All questions
Austria	1	4(4)	5(2)	2(1)	2(1)	1	1	1	1	2	4	2
Belgium	1	2(3)	2(2)	1(1)	1(1)	1	1	2	2	3	7	3
Bulgaria	2	5(6)	5(4)	3(1)	3(1)	2	1	2	6	3	–	5
Croatia	0	1(1)	1(0)	1(0)	1(0)	0	0	0	1	2	4	1
Cyprus	0	2(2)	1(1)	0(1)	0(1)	0	0	0	..	..	..	..
Czech Republic	1	2(2)	2(1)	1(0)	1(1)	0	0	0	1	4	4	2
Denmark	0	3(3)	3(2)	2(1)	2(1)	2	2	2	1	2	5	1
Estonia	1	3(3)	3(2)	1(1)	1(1)	2	2	2	25[f]	3	0	21[f]
Faroe Islands	1	5(2)	4(1)	3(1)	3(1)	2	2	2	6	3	5	5
Finland	0	1(0)	2(0)	2(0)	2(0)	1	1	1	1	1	2	1
France	..	5(3)	5(2)	2(1)	3(1)	2	1	3	3	3	..	3
Germany	0	2(2)	1(1)	1(0)	1(0)	0	0	1	1	1	2	1
Greece	1	2(2)	2(1)	1(0)	1(0)	1	0	1	1	1	1	1
Greenland	5	12(11)	13(14)	12(9)	12(10)	8	8	8	10	17	13	10
Hungary	1	4(3)	3(2)	1(0)	1(0)	1	0	1	2	3	–	2
Iceland	0	2(1)	2(1)	1(1)	1(0)	0	0	0	1[g]	1[g]	4[g]	2[g]
Ireland	0	4(4)	5(3)	3(1)	3(1)	2	2	2	2	2	..	2
Isle of Man	1	3(3)	3(2)	1(0)	1(1)	1	1	0	..	..	..	2
Italy	0	2(1)	2(1)	3(2)	3(2)	2	2	2	2	–	–	2
Latvia	0	3(2)	3(1)	0(0)	0(0)	0	0	0	1	3	4	2
Lithuania	0	0(0)	0(0)	0(0)	0(0)	0	0	0	0	0	..	0
Malta	1	4(3)	2(1)	2(1)	3(1)	1	1	1	3	2	–	3
Netherlands	1	4(3)	2(1)	2(0)	2(0)	1	1	2	3	..	13	3
Norway	1	7(3)	6(3)	7(3)	6(3)	4	4	5	3	4	10	3
Poland	1	2(2)	2(1)	1(0)	1(1)	1	1	1	..	..	..	..
Portugal	1	7(7)	4(3)	3(1)	3(2)	1	1	1	..	..	..	..
Romania	1	4(3)	3(1)	3(1)	3(1)	2	1	1	2	4	–	2
Russia (Moscow)	1	3(3)	4(2)	2(0)	2(1)	1	1	1	2	1	..	2
Slovak Republic	1	2(2)	2(2)	1(0)	1(0)	1	1	1	1	3	11	2
Slovenia	0	3(1)	2(1)	1(0)	1(0)	1	1	1	1	3	1	1
Sweden	1	3(1)	3(1)	2(1)	2(1)	2	2	2	2	2	7	2
Switzerland	–	0(0)	1(1)	0(0)	0(0)	0	0	0	2	2	8	1
Turkey	0	5(1)	8(4)	6(2)	5(2)	4	2	5	..	..	..	..
Ukraine	0	5(4)	4(3)	1(1)	2(1)	2	1	2	2	2	..	2
United Kingdom	0	3(3)	2(2)	1(1)	1(1)	1	1	1	1	5	7	1

a) Average for lifetime and 30 days prevalence.
b) Average for lifetime, 12 months and 30 days prevalence. Figures within brackets = lifetime prevalence only.
c) Other illegal drugs include amphetamines, LSD and other hallucinogenes, crack, cocaine, ecstasy, heroin and drugs by injection.
   The figure is an average of lifetime prevalence for these drugs.
d) Tranquillisers or sedatives without a doctor's prescription. Lifetime prevalence.
e) Lifetime prevalence.
f) The high proportion of unanswered core quesstions is related to mistakes in how Q37 and some other multiple questions
   were layouted and coded. This also "explain" the large number of unanswered questions in the questionnaire as a whole.
g) Based on those students that answered questionnaire A, i.e. the questionnaire that included almost all ESPAD core questions.

questionnaire and generally the rate of missing values for these questions was equal to or lower than the rate for country-specific question.

The proportions of unanswered questions for different substances are low for all drugs in most countries (usually 1–3%). It should be noticed, however, that they are higher in a few countries, including Greenland (high on all questions), Norway (rather high for illigal substances), Turkey (rather high for most substances) and Portugal (rather high for alcohol consumption). Apart from these concerns, the proportions of unanswered questions about the consumption of different substances does not constitute any methodological problems.

The proportion of unanswered questions in Greenland in the questionnaire as a whole (10%) was about the same as it was for most drug related variables. Consequently, it is mainly in Greenland that the proportion of unanswered questions, in the questionnaire as a whole as well as for questions on consumption of different substances, is so high that it needs careful consideration when interpreting the results.

Logical consistency

Closely related to the inconsistency measures discussed in the reliability section is the logical consistency. In the ESPAD project this is relevant for drug questions measuring the prevalence for the three time periods, namely lifetime, last 12 months and last 30 days. Logically the last 12 months prevalence cannot exceed the lifetime prevalence and the same is true for the last 30 days prevalence when compared with the last 12 months and lifetime prevalence.

Table G includes information on the proportion of inconsistent answers related to the three time periods for four variables; alcohol use (any alcoholic beverage), been drunk, cannabis use and use of inhalants. In nearly all countries and for all four variables, the reported proportions of inconsistent answers are very low. In other words, the proportion giving logically consistent answers across the three time periods is very high, usually 98% or more.

Rather high proportions of inconsistent answers are only found in a few countries and are concentrated on the two alcohol related variables. Inconsistent answers on these two questions are mainly reported from Greenland (10–12%), Bulgaria (9–10%), Ukraine (8–10%) and Portugal (7–10%). A high figure for alcohol use is also found in Cyprus (10%).

Faking good

Social desirability is an important methodological problem in all surveys, i.e. the tendency of respondents to give answers that they believe show them in a desirable light in the eyes of others. This becomes particularly important in surveys on behaviour that is not accepted by some social groups or are even illegal. In addition to the methods discussed above, it is possible to gauge the magnitude of the social desirability effect by asking respondents directly about the honesty of their responses.

In the ESPAD methodology study in seven countries data were collected twice with a lag time of 3–5 days (Hibell et al. 2000). The second time the questionnaire included some additional questions about the first study. One of them was whether they answered honestly to the questions on their drug consumption and another whether they thought that their classmates answered honestly.

Nearly all students in the seven countries said that they answered honestly to the questions related to their alcohol and drug habits. With some few exceptions, 95% or more of the students said yes.

Students were more sceptical about the honesty of their classmates, but the large majority nevertheless thought that "all" or "most" of their classmates answered honestly about their use of alcohol and drugs. About 85% or more of the students said that all or most of their classmates answered honestly to the questions about their consumption of the different substances.

At the end of the international ESPAD questionnaire the students were asked two questions on their willingness to admit drug use in a hypothetical fashion. The wording of the first question was "If you had ever used marijuana or hashish, do you think that you would have said so in this questionnaire?" The second question asked in the same fashion about heroin use. The response alternatives were "I already said that I have used it", "Definitely yes", "Probably yes", "Probably not" and "Definitely not".

The proportion of students reporting that they would definitely not report drug use is shown in Table G. In two-thirds of the countries with available information 7% or less answered that they definitely were unwilling to admit cannabis use if they had used it. The highest figure is reported from Greenland (30%) followed by Malta (13%), Croatia (12%), Latvia (12%) and Lithuania (10%).

In line with social desirability concerns the willingness to admit heroin use is slightly lower than

Table G. *Some aspects of validity: Inconsistent answers, unwillingness to admit drug use and reported knowledge and use of the dummy drug "relevin". Percentages among all students.*

Country	Inconsistent answers [a]				Unwillingness to admit drug use [b]		Dummy drug "relevin"	
	Alco-hol [c]	Been drunk	Canna-bis	Inhal-ants	Canna-bis	Heroin	Heard of	Reported own use
Austria	3	3	2	2	7	11	11	0.5
Belgium	4	2	1	0	5	9	8[g]	0.3[g]
Bulgaria	10	9	1	1	8	9	10	0.8
Croatia	3	2	1	0	12	15	14	0.2
Cyprus	10	4	1	2	6	6	10	0.3
Czech Republic	2	1	0	0	3	7	9	0.2
Denmark	1	1	0	0	3	5	6	0.1
Estonia	3	1	0	0	8	9	9	0.2
Faroe Islands	2	1	–	–	3	3	5	0.3
Finland	1	1	0	0	2	4	8	–
France	5	2	2	0	..	..	8[d]	0.4[d]
Germany	3	2	1	0	4	9	11	0.4
Greece	7	3	1	1	4	4	9	0.2
Greenland	10	12	3	2	30	46	5	0.2
Hungary	4	2	1	0	6	7	7	0.3
Iceland	2	1	1	1	5	8	11	0.7
Ireland	1	1	1	1	5	10	14	0.4
Isle of Man	–	–	–	–	7	12	16	0.6
Italy	5	3	1	1	4	7	11	1.2
Latvia	2	2	1	0	12	13	6	0.1
Lithuania	0	1	0	0	10	10	0	0.1
Malta	5	3	1	1	13	15	12	0.4
Netherlands	2	2	0	0	6	9	13[e]	0.9[e]
Norway	1	1	0	0	3	3	11	0.4
Poland	5	5	5	6	8	10	12	1.0
Portugal	10	7	2	1	4	5	9	0.8
Romania	5	4	0	0	8	7	11	0.1
Russia (Moscow)	6	7	4	2	5	8	10	0.1
Slovak Republic	3	3	2	1	3	5	8	0.0
Slovenia	5	3	1	1	4	6	7	0.1
Sweden	1	1	0	0	7	7	12	0.2
Switzerland	3[f]	2[f]	1[f]	0[f]	5	9	8	0.4
Turkey	4	3	1	1	3	3	9	1.3
Ukraine	10	8	1	0	8	9	6	0.4
United Kingdom	2	2	1	0	7	14	16	0.1

a) For each drug, inconsistent response pattern is defined as one in which any of the following is found: (a) thirty-day frequency is higher than annual frequency, (b) thirty-day frequency is higher than lifetime frequency, or (c) annual frequency is higher than lifetime frequency.
b) Students answering "definitely not" on the question "If you had ever used marijuana or hashish, do you think that you would have said so in this questionnaire?" and the corresponding question for heroin.
c) Any alcoholic beverage.
d) MOP was used as a dummy drug instead of relevin.
e) NSTC was used as a dummy drug instead of relevin.
f) Before the data cleaning process.
g) NTSC/BKR was used as a dummy drug instead of relevin.

for cannabis in many countries. Fifteen countries have proportions of 7% or less. The highest figures are found in Greenland (46%), Croatia (15%), Malta (15%), the United Kingdom (14%), Latvia (13%), Isle of Man (12%), Austria (11%) and Ireland (10%), i.e. to a large extent the same countries that also reported high proportions of students that were unwilling to admit to cannabis use.

A high proportion of students answering that they would not be willing to admit drug use may signal problems with validity, but this is not necessarily the case. Students who have never used drugs tend to be rather strongly opposed to their use and this opposition may in part be reflected in their answers to these questions. To the extent that responses to this question reflects the opinions of the non-drug using population these questions give a pessimistic view of the actual willingness of the drug using population to report their use of different substances.

It should also be born in mind that the questions are hypothetical. If a student really tries cannabis in the future, he or she might be willing to admit that in a survey even if he or she answered negatively in the ESPAD questionnaire.

Combining these two arguments give rise to a third reflection. If a student in the future decides to try an illegal drug for the first time, the same reasons behind that change might also be the reasons for a changed willingness to admit that use.

The questions on the hypothetical willingness to report drug use may be most useful in a cross-cultural context. In countries where a high proportion would definitely not admit such use many adolescents apparently consider it so shameful that they could not hypothetically imagine reporting it. The figures of unwillingness to admit drug use are rather high in some countries but much smaller in others, indicating that a probable underreporting may differ somewhat between countries. Students in Greenland are extremely reluctant to admit the use of both cannabis (30%) and heroin (46%). Countries with rather high figures (12+%) for both drugs also include Croatia, Latvia and Malta.

It can be concluded that self-reported surveys most likely underestimate the prevalence of drug use and that underreporting probably differs somewhat between countries. It also seems reasonable to assume that underreporting to some extent differs between drugs. There is, however, no reason to believe that such differences undermine the overall conclusions of the study. However, the high figures for Greenland should be kept in mind.

Faking bad

In addition to the risk of underreporting in drug surveys, the tendency of some adolescents to pretend they have used drugs can pose a threat to validity. To test this, the non-existent dummy drug "relevin" was included among real drugs in the questionnaire. The plausibility of this drug name is reflected in the fact that on average 9% of the students believe they have heard about it before. However, as shown in Table G, very few students report having used the dummy drug. In all participating countries but three the figure is 0.9% or less, with an average of 0.4%. However, in neither of these three countries the figure exceeds 1.3%.

Very few students have answered that they have used the dummy drug relevin, which could be seen as a clear indicator that students do not routinely exaggerate drug experience. Thus, it seems reasonable to assume that high prevalence rates of drug use in practice nearly are unaffected by a possible general tendency to exaggerate drug use. However, these results also underline the need for caution in interpreting the prevalence of less common drugs such as heroin and LSD. For each country, the proportion reporting use of the non-existant drug relevin could be used as a baseline for plausibility. If 0.9% of students in a given country have used a non-existing drug, the first 0.9% of students reporting using existing drugs should be interpreted with extreme caution.

Construct validity

The using of existing theories, results from earlier studies and logical inference, makes it possible to evaluate the extent to which variables are related to one another in a valid fashion. Such construct validity was discussed rather extensively in the Pompidou six-country pilot study which provided the base for the ESPAD questionnaire. The conclusion was that "there is considerable evidence of construct validity in the current data sets" (Johnston et al. 1994).

For instance, it is logical to expect that countries with high proportions of students reporting use of different drugs also should have high proportions reporting drug use among friends. This was tested in the 1995 ESPAD report with the outcome of very strong relationships for LSD ($r_{xy} = 0.95$), cannabis ($r_{xy} = 0.92$) as well as for drunkenness ($r_{xy} = 0.87$), which indicate a high validity (Hibell et al. 1997).

The validity of the questionnaire

The comparability of the questionnaire across countries is of vital importance in any multi-national survey project. The equivalency of the translation of questions into different languages is therefore an important aspect of validity. The standard ESPAD questionnaire is written in English. In non-English speaking countries the questionnaire was translated to the native language and then translated back by another translator and then both the original and the back translated version were compared for anomalies.

However, the equivalency of questionnaires is not only a matter of literal translation. It is also a matter of equivalent understanding. Thus, the question per se should be "understood" in the same way in all countries irrespective of the original wording in the model questionnaire. When necessary, the questions have been "culturally adjusted" to the situation in a country. For instance drugs or nicknames should be adjusted to the situation in each single country. If this is not done correctly, it may pose difficulties for comparisons with other countries.

In Austria and Germany the fixed answering categories to the questions about alcohol consumption at the last drinking occasion were changed to open alternatives. However, the answers to these open ended questions are judged not to be comparable with the answers given in other countries that have used the fixed answering categories. Hence, these data will be presented separately in the tables.

For instance, the concept "drunkenness" is difficult to translate in equivalent terms into different languages. In the 2003 Russian (Moscow) survey a new translation of drunkenness was used. It was a little less harsh than the earlier translation and was tested in a split half test among participating students in Moscow. The new translation resulted in more students providing an affirmative answer on drunkenness (for example 24% compared with 15% for being drunk 20 times or more often). The Russian ESPAD researchers concluded that the new translation is more appropriate and that it should be used in the chapter that describes the situation in 2003. However, the old version will be used for comparisons between the 1995, 1999 and 2003 surveys.

With some few exceptions no country reported any major problems with the translation of the questionnaire. Thus, it seems reasonable to assume that the translation of the questionnaire is a non-issue and does not jeopardise the possibility to compare results between the ESPAD countries. In the few cases when this was not so it is commented on in the result chapter.

The cultural context

The standardisation of the different steps in the data collection procedure was the adopted method by the ESPAD project to provide as much as possible a suitable framework for comparability between countries. This included the target population, the questionnaire and how data were collected and treated, all of which have been described in earlier sections. However, as already stressed in the introduction of this chapter, it has not been possible to standardise every detail. This holds true for the cultural contexts in which the students have provided their replies.

The role of cultural context will be discussed from two perspectives. One is whether the questions are understood or perceived in the same way in all countries and the other the willingness to give true/valid answers.

To allow comparisons between countries it is necessary that students answer the same questions. All countries but one included (nearly) all core questions while others also used the module and optional questions of the ESPAD questionnaire.

In the section "The validity of the questionnaire" it was described how the questionnaires were translated and "culturally adjusted". No major problems were reported in this process.

However, even if no single researcher noticed any "problems" in his or her own country, i.e. that the questions were not technically correct, one cannot automatically assume that students in different countries did not perceive them any differently. Does, for example the word "solvent", even if exemplified, signify the same thing for a student in Ukraine, Norway or Italy? "Being drunk" may mean many different things for students in Iceland, Hungary and Portugal?

Apparently one cannot ascertain in total whether students in different countries have understood the questions in the same way. On the other hand, for most variables the differences between high and low prevalence countries are considerable and it seems very unlikely that possible differences in the understanding or perception of some questions paves the way to "explaining" these differences.

Earlier in this section, different indices for cultural context have been elaborated. Student co-operation, missing data rates and reported willingness to answer honestly differ somewhat between coun-

tries, which is suggestive that the cultural context in which the questions have been answered may vary between countries. However, for each of these indicators only a rather few countries seem to differ in any major way from any of the others.

Other validity indicators, including student comprehension and reported dummy drug use, do not prompt for any important differences between participating countries.

The willingness to admit drug use may be influenced by societal attitudes towards a given drug. The results from the ESPAD project show that perceived risk of substance use and disapproval of different types of substance use differ between countries. The same is also true in relation to the availability of different drugs. Taken together, these results indicate that social desirability may vary between countries. Thus, in a country with low availability and negative attitudes towards drugs a student might be less willing to admit drug use than a student in a country with high availability and positive attitudes towards drugs.

Similar issues may also be relevant when considering that in some countries drugs and drug use are often mentioned in mass media and discussed at school, while the situation may be the opposite in others.

Some ESPAD countries have long traditions in the conduct of school surveys while the ESPAD study was the first in others. These different traditions and, consequently, differences in the students experiences of surveys could in principle affect the willingness to answer honestly and thus this may differ between countries.

One of the conclusions of the methodological discussions in the ESPAD 95 report (Hibell et al. 1997) was that the cultural context in which the students answered the questions most probably differed between countries and that one could not exclude that these differences may have differently impacted on the willingness to answer honestly.

To obtain a better insight into the effects of cultural context, the ESPAD methodology project was conducted in 1998 (Hibell et al. 2000). The answers from the students about their own honesty and the expected honesty of their classmates, as well as data from the survey leaders, clearly indicated a high reliability and validity in the seven participating countries. It could not be excluded, however, that the validity might have been slightly lower in one or two out of the seven participating countries (Cyprus, Denmark, Lithuania, Malta, Ukraine, the Slovak Republic and Sweden; i.e.

countries in different parts of Europe).

The cultural context in which the students answered the questions most probably differed between the seven countries. However, it does not seem plausible that validity differed very much. One reason for this outcome, indicated by the methodology study, might be that the students really trusted that anonymity and confidentiality would be observed.

Even if some doubts remain on the effect of cultural context for the validity, especially in countries that did not participate in the methodology study, it does not seem likely that the "true" answer in a low prevalence country (e.g. 2% admitting cannabis use) should be more than doubled or tripled (i.e. above 4–6%) and that the "true" figure in a high prevalence country (e.g. 30%) should not be somewhere between ±5% (i.e. between 25–35%). Thus, a low prevalence country is most probably still a low prevalence country "in reality" and a high prevalence country "still" a high prevalence country, even if the exact difference between the two countries is not known for certain. However, it may be difficult to draw any firm conclusions about significant differences between countries with only small differences in prevalence figures.

Summary

An analysis of available information strongly suggests that the validity of the ESPAD studies is high in most countries. These indicators include student co-operation, student comprehension, anonymity, reported dummy drug use and construct validity. The main threats to validity are related to missing data rates, logical inconsistencies and reported lack of willingness to answer honestly. Validity problems are encountered in a limited number of countries, mainly Greenland but to some extent also Croatia, Latvia and Malta. However, it should be noted that with the exception of Greenland, none of these countries are indicated on more than one of the validity measures. The importance of the cultural context should not be underestimated, but responses by students and survey leaders in the ESPAD methodology project indicated that the students usually answered rather honestly. These conclusions are also supported in the present study by the very large proportion of the data collection leaders that reported that students were interested in the study and worked seriously. Validity problems seem to be limited in scope and to affect only a few countries.

Comparisons with other survey data

In some ESPAD countries data are available from other studies measuring alcohol and drug habits among youth. Comparisons between those data and results from the ESPAD study can provide valuable information on whether differences in alcohol and drug habits between students in different ESPAD countries are realistic. In this perspective, results from two studies in a country do not have to be exactly the same. What is important is that they are of the similar magnitude.

It could be questioned whether this is a measure of validity or not. Even if the results of two surveys are similar one could argue that this is not sufficient proof for validity. However, the general consensus is that school surveys usually do provide rather valid results, thus comparisons with other data should further provide valuable insights as to the validity of the ESPAD project, at least in countries with comparable data.

Comparable data are available in Sweden, Norway and the Netherlands. Comparisons on four variables from the Study of Health Behaviour in School-aged Children (HBSC) (Currie et al. 2004) are discussed below

Data accrued in the studies used for comparisons are not always collected in the same way, with the use of same questions or on exactly the same age groups. The most important methodological differences are mentioned in the tables (H–N). Again, these differences stress the importance of focusing on magnitudes rather than on exact figures.

In Norway the figures for most variables are similar in both studies (Table H). The proportion that said that they had used any alcohol in their lifetime was slightly higher in the ESPAD study compared to that obtained from a national survey that employed the use of mailed questionnaires. However, the latter survey specified a lower limit of at least a bottle of beer or 10 cl of wine or 2.5 cl of spirits but the ESPAD did not contain any minimum quantities so the difference between the two studies seems reasonable.

For all other variables the figures are remarkably similar, including measures related to three different time frames, i.e. lifetime (intoxication, use of cannabis, use of amphetamines and use of inhalants), last 12 months (intoxication, use of cannabis and use of inhalants) and last 30 days (any alcohol and cigarette smoking).

In Sweden slightly more boys in the ESPAD study answered that they have ever been drunk and that they were drunk at the age of 13 or younger compared to estimates from the regular national school survey in 2003, while for the remaining five variables there were no differences of note (Table I). Among girls there were no differences at all for any of the seven variables. The questions on drunkenness were not the same in the two surveys, which may be a source for the difference in the answers. However, in the total ESPAD context, figures for lifetime prevalence for boys range from 25 to 87% while figures for being drunk at the age of 13 or earlier range from 8 to 42%, the differences between the two Swedish studies among boys are probably of minor importance.

A third country with information from another school survey is the Netherlands. It was conducted in parallel with the ESPAD study and used the same questionnaire with some minor differences. Hence, the Dutch comparison should be seen more

Table H. *Alcohol and drug use in Norway. Frequency of lifetime, last 12 months and last 30 days use. Data from ESPAD and a national survey in 2003. Percentages among all respondents [a].*

	ESPAD 15–16 years	National survey [b] 15–16 years
Lifetime		
Any alcohol	84	72[c]
Intoxicated	59	56
Cannabis	9	8
Amphetamines	2	2
Inhalants	6	5
Last 12 months		
Intoxicated	54	52 (last 6 months)
Cannabis	6	6 (last 6 months)
Inhalants	3	2 (last 6 months)
Last 30 days		
Any alcohol	51	51
Smoke cigarettes	28	27 (smoke tobacco)
Number of respondents	3,833	563

a) Percentages are based on respondents answering respective question.
b) Data were collected by mailed surveys with a response rate of about 50%.
c) Specified to at least a bottle of beer or 10cl of wine or 2,5 cl of spirits.
Source: Skretting (2000, 2004).

Table I. *Alcohol and drug use in Sweden. Frequency of lifetime and last 30 days use. Data from ESPAD and the annual Swedish school survey 2003 in grade 9. Percentages among boys and girls* [a].

	Boys		Girls	
	ESPAD	Annual school survey 2003	ESPAD	Annual school survey 2003
Lifetime				
Been drunk	62	56	62	60
Been drunk at the age of 13 or younger	25	19	19	18
Used any illicit drug	10	7	7	7
Used cannabis	9	6	6	6
Used inhalants	8	8	8	6
Used anabolic steroids	1	1	0	0
Last 30 days				
Used cannabis	2	2	1	2
Number of respondents	1,592	2,667	1,640	2,559

a) Percentages are based on students answering respective question.
Source: Hvitfeldt et al. (2004).

as a measure of reliability than of validity.

Data from the two surveys are very similar for alcohol consumption and cannabis use during lifetime, last 12 months as well as last 30 days (Table J). This is also the case for cigarette smoking during the last 30 days. The slightly higher figures in the ESPAD study can be explained by a slightly larger number of boys in the ESPAD sample.

In the 1995 ESPAD report comparisons between ESPAD data and data from national surveys were presented for England, Hungary, Iceland and Scotland. None of them showed any important differences (Hibell et al. 1997).

The proportion of Finish ESPAD students that have ever used cannabis increased from 1995 to 1999 and was unchanged in 2003. A similar trend of an increase in the late 90's and a levelling out in the beginning of this century has also been reported from 15–19 year old Finns in a nation wide survey (Hakkarainen and Metso, 2003).

Many countries that participate in the ESPAD project are also involved in the HBSC study. Comparable information was available for alcohol consumption and drunkenness. Many countries in the HBSC study also asked questions on the use of cannabis.

The latest round of data collection for the HBSC study was conducted in 2001–2002 with the goal to

produce mean ages of 11.5, 13.5 and 15.5 years. Comparisons with the ESPAD study is therefore limited to the oldest age group in the HBSC survey. Table 3 in Annex 1 of the HBSC report (Currie et al. 2004) shows that the mean ages in the oldest age group varied from 14.8 to 16.4 years while the corresponding range in ESPAD was 15.6–15.9. Since a difference of only a few months might indeed have an impact on the experiences with different substances, comparisons between the HBSC and ESPAD studies have been limited to countries in which the differences of the mean ages are not larger than ±0.2 years.

There are some small differences between the two surveys in the way in which alcohol consumption and drunkenness have been measured. In ESPAD the figures for alcohol consumption show the proportion of boys and girls that had used alcohol 3 or more times during the last 30 days, while the HBSC survey measured the proportion that drank alcohol at least weekly. ESPAD data for drunkenness show the proportion that have "ever been drunk" while HBSC reports the proportion that has been "drunk" 2 or more times. Possible differences in the measures of lifetime and 12 months prevalence of cannabis use are less obvious between the two surveys.

The relationship is rather strong on the alcohol

Methodological considerations

Table J. *Alcohol and drug use in the Netherlands. Frequency of lifetime, last 12 months and last 30 days use. Data from ESPAD and a parallell school survey (PEIL). Percentages among all respondents [a].*

	ESPAD [b]	PEIL [c]
Lifetime		
Any alcohol	92	90
Cannabis	29	27
Last 12 months		
Any alcohol	88	86
Cannabis	23	22
Last 30 days		
Any alcohol	76	73
Cannabis	13	13
Smoke cigarettes	31	29

a) Percentages are based on respondents answering respective question. The questions were the same. However, in the PEIL study the answering categories were separate up to 10 (0, 1, 2 etc. till 10 times) while they were combined in ESPAD (1–2, 3–5, 6–9 times).

b) Since there are no weight factors for the PEIL study for the selected birth cohort ESPAD figures are also unweighted, wich means that there in a few cases are minor differences compared with data in the result sections.

c) The national sample of the PEIL study included students that were 10–18 yures. However, for this comparison the selected age group is matced to the ESPAD target population.

Source: Dorsselaer and Monshouwer (2004).

use variable, with $r_{xy}=0.91$ for boys and 0.90 for girls and with Spearmans rank correlation (r_{rank}) on 0.89 and 0.78 respectively (Table K). The r_{xy} figures are about the same for drunkenness with 0.89 for boys and 0.90 for girls, while the r_{rank} values are a little higher with 0.93 and 0.96 (Table L).

The cannabis variables also show a high correlation between the ESPAD and HBSC surveys. For lifetime use of cannabis the r_{xy} was 0.96 and r_{rank} 0.93 for boys as well as for girls (Table M). The r_{xy} values are more or less equivalent for both sexes (0.94 for boys and 0.95 for girls) on the 12 months prevalence figures for cannabis, while r_{rank} was a little higher for girls (0.94) than for boys (0.85) (Table N).

Overall, the comparisons between ESPAD data in Norway, Sweden and the Netherlands and results from other surveys in these three countries, as well as comparisons between the ESPAD and HBSC surveys, show very similar figures. The same conclusions were also drawn from earlier studies in England, Hungary, Iceland and Scotland.

Even if ESPAD data are "validated" by data from other studies, this really only applies to the countries involved and says nothing of the remaining ESPAD countries. On the other hand, it does not seem unrealistic to expect the situation to be rather equivalent in similar countries, i.e. mainly countries from the western part of Europe (since six of the seven countries included in the individual country comparisons were from this part of Europe as well as nine of the thirteen countries in the ESPAD – HBSC comparison).

It is more difficult to form an opinion on the countries of central and eastern Europe, even if the comparisons between the two 1995 Hungarian studies indicated very similar results and the comparisons between the ESPAD and HBSC studies included four countries from these parts of Europe.

Table K. *Alcohol use in the ESPAD and HBSC surveys. Students answering 3 times or more often during the last 30 days (ESPAD) or at least weekly (HBSC). Percentages among boys and girls [a), r_{xy} and Spearmans rangcorrelation cofficient (r_{rank}).*

Country	Boys		Girls	
	ESPAD	HBSC	ESPAD	HBSC
	3+ times last 30 days	1+ times a week	3+ times last 30 days	1+ times a week
Netherlands	62	56	49	47
Malta	60	56	48	40
Denmark	59	50	50	44
Italy	48	48	30	28
Switzerland	47	39	37	28
Poland	43	29	29	10
Slovenia	35	42	24	26
Portugal	34	21	19	11
Ukraine	31	29	24	19
Hungary	30	34	21	19
Norway	22	20	22	19
Finland	21	18	23	16
Sweden	20	23	16	17
	r_{xy}=0.91		r_{xy}=0.90	
	r_{rank}=0.89		r_{rank}=0.78	

a) Percentages are based on students answering respective question.
Source: Currie et al. (2004).

Table L. *Drunkenness in the ESPAD and HBSC surveys. Students who have ever been drunk (ESPAD) and drunk at least twice (HBSC). Percentages among boys and girls [a), r_{xy} and Spearmans rangcorrelation cofficient (r_{rank}).*

Country	Boys		Girls	
	ESPAD	HBSC	ESPAD	HBSC
	Ever been drunk	Drunk 2+ times	Ever been drunk	Drunk 2+ times
Denmark	87	68	84	65
Ukraine	80	61	75	45
Slovenia	74	44	65	38
Finland	68	53	70	56
Poland	67	40	51	23
Hungary	65	47	56	26
Switzerland	64	39	53	27
Sweden	62	40	62	38
Netherlands	60	35	50	22
Norway	55	39	62	41
Italy	53	23	49	17
Malta	52	25	44	18
Portugal	36	26	29	19
	r_{xy}=0.89		r_{xy}=0.90	
	r_{rank}=0.93		r_{rank}=0.96	

a) Percentages are based on students answering respective question.
Source: Currie et al. (2004).

Table M. *Lifetime use of cannabis in the ESPAD and HBSC surveys. Percentages among boys and girls[a], r_{xy} and Spearmans rangcorrelation cofficient (r_{rank}).*

Country	Boys		Girls	
	ESPAD	HBSC	ESPAD	HBSC
Switzerland	44	49	36	40
Netherlands	32	29	24	23
Italy	31	27	23	18
Slovenia	31	31	26	25
Ukraine	29	33	12	15
Denmark	27	26	18	21
Poland	23	25	13	12
Hungary	18	17	13	11
Portugal	18	25	12	15
Malta	13	9	8	4
Finland	11	11	11	10
Sweden	9	8	6	7
	$r_{xy}=0.96$		$r_{xy}=0.96$	
	$r_{rank}=0.93$		$r_{rank}=0.93$	

a) Percentages are based on students answering respective question.
Source: Currie et al. (2004).

Table N. *12 months prevalence of cannabis use in the ESPAD and HBSC surveys. Percentages among boys and girls [a], r_{xy} and Spearmans rangcorrelation cofficient (r_{rank}).*

Country	Boys		Girls	
	ESPAD	HBSC	ESPAD	HBSC
Switzerland	35	40	28	35
Netherlands	27	24	18	19
Italy	24	24	19	17
Slovenia	24	27	22	21
Denmark	21	24	13	19
Poland	19	21	9	9
Ukraine	18	21	6	8
Portugal	15	25	11	14
Hungary	13	15	9	10
Malta	10	8	7	4
Finland	7	8	8	7
Sweden	5	5	4	5
	$r_{xy}=0.94$		$r_{xy}=0.95$	
	$r_{rank}=0.85$		$r_{rank}=0.94$	

a) Percentages are based on students answering the respective question.
Source: Currie et al. (2004).

Conclusions

The methodological discussion on representativeness, reliability and validity is rather extensive. The most salient conclusions are listed below (they are not ranked in any order).

General conclusions

- None of the countries experienced methodological problems that made it impossible to compare their data with the data of other countries.

- The drug use figures are probably somewhat underestimated and underreporting appears to differ somewhat between countries. However, the relative ranking of high and low prevalence countries is not likely to be affected by differences in underreporting between countries.

- Despite some differences in cultural context the validity of the ESPAD survey is assumed to be high in most ESPAD countries.

- The report does not provide confidence intervals for individual figures. It is important to interpret differences in point estimates with caution.

- Individual countries suffer from methodological problems that should be taken into account when analysing their figures. These problems are briefly reviewed below.

- The magnitude of various kinds of drug use in different ESPAD countries probably reflects country differences quite well, especially between distinguished groups of countries with different experiences of drug use.

- It is more important to concentrate on the magnitudes of the estimates than on single figures, both when analysing data in single countries as well as when interpreting trends and differences between countries.

- Small discrepancies between countries should be considered carefully. They may not reflect valid differences.

Country-specific conclusions

- In **Austria** there were rather many classes that did not participate, which indicate some uncertainty. Boys were slightly overrepresented, and thus data ought to have been weighted.

- A large number of schools and classes in **Belgium** did not participate in the data collection. There were sufficient reasons to believe that this did not impact on representativity, but the high figure calls for some caution.

- The proportion enrolled in school of those born in 1987 was also low in **Bulgaria** (72%). Inconsistency rates were rather high for alcohol consumption, drunkenness and cannabis use, which call for some caution when interpreting the figures of these variables.

- Relatively large proportions in **Croatia** answered that they were unwilling to report possible use of cannabis (12%) and heroin (15%), which points to some uncertainty.

- The sample in the **Czech Republic** only "covered" about 68% of all students born in 1987, which mainly limits the representativeness to students in grade 1.

- The sample in **Cyprus** only "covered" 74% of all students born in 1987, which mainly limits the representativeness to students in grades 1 and 2.

- A large number of schools and classes in **Denmark** refused to participate. Even though no systematic differences were found between participating and refusing schools, one cannot exclude the risk that the study is not fully representative for Danish students.

- The proportion of non-participating schools and classes is unknown in **Greenland**, which cause some concern since school drop-out rates was rather high in 1999. The proportions of inconsistent answers were rather high as well as the proportions of unanswered questions. Many students reported an unwillingness to admit drug use. Hence, some caution is recommended when comparing data from Greenland with those from other ESPAD countries.

- Students in **Greece** were seven months younger in 2003 than in the 1999 data collection, which must be kept in mind when interpreting changes in the substance use figures from 1999 to 2003.

- In **Ireland** a relatively small proportion of students born in 1987 were found in the only participating grade in the ESPAD study (67%). Consequently Irish data are mainly representative for students born in 1987 that attended grade 5.

- Compared with other countries rather large proportions in **Latvia** reported that they were unwilling to report possible use of cannabis (12%) and heroin (13%). Rather many students gave inconsistent answers to questions on drunkenness. Hence, some caution is recommended when interpreting the figures of these variables.

- The participating grade in **Malta** only included 75% of all students born in 1987. Hence, data are mainly representative for students attending grade 5. The inconsistency figure for inhalants was rather high and relatively large proportions reported that they were unwilling to report possible use of cannabis (13%) and heroin (15%). Hence, some caution is recommended when interpreting the figures of these variables.

- Rather many schools in **the Netherlands** refused to participate, which points to some uncertainty.

- Rather many classes in **Norway** did not participate, which raises some uncertainty. The proportions of unanswered questions on illegal substances were higher in Norway (4–7%) than in nearly all other countries, which might indicate an underreporting to a slightly higher degree than in some other ESPAD countries.

- Of all student born in 1987 in **Romania** only 79% were found in participating school categories and grades. Thus, data were mainly representative for students born in 1987 enrolled in grades 9 and 10 in regular high schools. Boys were underrepresented in the Romanian sample and data should have been weighted to correct for this.

- Participating grades in **the Slovak Republic** only included a rather small proportion of all students born in 1987 (67%), which was smaller than that in 1999 when the coverage was 99%.

Thus, data from the Slovak Republic are mainly representative for students born in 1987 that were found in grades 1–4. Some caution is recommended when comparisons are made between data from 1999 and 2003.

- The proportion of the survey leaders in **Slovenia** that reported that "all" or "nearly all" students were interested in the study and worked seriously was rather low. However, there are no other indications that the reliability or validity should be lower than in other ESPAD countries.

- The proportion of the 1987 birth cohort enrolled in school was low in **Turkey** (60%). The inconsistency figures were high for cigarette smoking and the proportion of unanswered questions on alcohol consumption, drunkenness and the use of inhalants, cannabis and other illegal drugs were rather high, which calls for some caution when interpreting many of the substance use variables.

- Some reliability and validity measures for drunkenness and cannabis use in **Ukraine** call for some caution when interpreting the figures for those variables.

- A large proportion of sampled schools in the **United Kingdom** did not participate. No differences were found when participating and non-participating schools were compared. However, the high proportion calls for some caution.

Changes in the use of alcohol and other drugs 1995–2003

This chapter presents changes in the use of alcohol and other drugs between 1995–2003 that are best exemplified by diagrams and scatter plots. Changes between 1999 and 2003 as well as between 1995 and 1999 are also included for selected variables. The variables selected are the same as those used in the 1999 ESPAD report. However, not all countries participated in 1995 or 1999 and in some instances data for one of the years may be missing on a specific variable. In both cases missing data are marked by two dots (..) in the bar graphs. A zero (0) signifies that at least 1 but less than 0.5 % have given this answer, while a short line (–) means that no student has given that answer.

A study that is based on a random sample from a specific population will always result in a point estimate within a certain confidence interval. This means that a small difference in proportions can be caused by random sampling fluctuations rather than true differences in the populations under study. The confidence intervals enable the researcher to establish whether a difference should be considered a true difference or not. For various reasons described elsewhere in this report, no confidence intervals have been calculated for the surveys included in this study (see the chapter "Methodical considerations"). Consequently, the comments in this section of the report are based on substantive differences and changes, while differences of only a few percentage points are disregarded.

In order to maintain consistency between this and the 1999 report we have only highlighted changes of more than three percentages points. Thus, values for a specific variable for a specific country that are unchanged or only changed within the range of three percentage points are coloured in yellow in the diagrams. Figures that have increases more than three percentage points are marked in red and figures that have decreased by more than three percentages points are marked in green.

It should be pointed out however, that this is only to facilitate interpretation as a difference within the yellow section of the diagrams may very well be statistically significant.

The comments on each diagram focus mainly on the pattern of changes and the grouping of countries that fall within this pattern. The actual levels (percentages) of involvement in the various behaviours that are shown are usually disregarded as these findings are discussed in more detail in the next chapter, where the results are presented for each country that participated in the data collection in 2003. The gender pattern is demonstrated in the bar graphs, but is not discussed in the text. However, the next chapter includes some comments about gender differences.

When data from 2003 are compared to those from earlier data collections it should be observed that the Romanian figures from the 1999 data collection included in this report are in some cases not those as found in the ESPAD 99 report since it by mistake included answers from students not born in 1983. Hence, to rectify this anomaly in this report, the Romanian figures for 1999 are only based on students belonging to the target population. It should also be observed that the Slovenian figures for cigarette smoking during the last 30 days have been recalculated for 1995 as well as for 1999.

Greek students were seven months younger in 2003 than in the 1999 data collection, which must be kept in mind when interpreting changes from 1999 to 2003. A smaller proportion (67%) of the target population in the Slovak Republic participated in 2003 compared to 1999 (99%), which have limited the possibilities to compare data from the two surveys. The same is true for Portugal where the proportion of the target population that was included in the sampling frame increased from 66% in 1995 to 83% in 1999 and to 99% in 2003.

Changes in cigarette smoking

Lifetime use of cigarettes
40 times or more

(Figures 1a–c)

In many of the countries the proportion of students that smoked at least 40 cigarettes in their lifetime was about the same in 2003 as it was in 1999. However, when changes occurred it was more common that these were downward rather than upward.

The highest prevalence of smoking cigarettes at least 40 times is in most cases found in the eastern parts of Europe including the Czech Republic, Estonia, Lithuania and Romania. However, the two countries at the very top are still the same as they were in 1999, Greenland and Faroe Islands, despite the fact that the proportion reporting this behaviour had decreased somewhat in Greenland. The prevalence rates are also almost unchanged for this variable in other countries. This would seem to suggest that in countries where the prevalence rates were quite high in 1999, they have remained so in 2003.

Countries where an increase can be observed were mainly found in eastern parts of Europe (the Czech Republic, Estonia, Lithuania and Romania). However, the prevalence rates in Romania are still among the lowest.

The proportions reporting lifetime use of cigarettes 40 times or more decreased in some of the ESPAD countries between 1999 and 2003. As mentioned above, this was apparent in the high prevalence country Greenland, but also in Denmark, Finland, Ireland and Norway, all of which were half way up the list in 1999. Decreases, however, were also observed in countries that reported rather low prevalence rates in 1999 (Greece, Iceland, Malta and United Kingdom).

When looking at the trend development for this particular behaviour between 1995 and 2003, only Lithuania has a clear upward tendency in this measure of lifetime use, while no country shows a continuous decrease over the years.

Cigarette smoking during the last 30 days

(Figures 2a–c)

Having smoked more than 40 times in a lifetime does not in itself refer to most recent habits. The last 30 days prevalence rates on the other hand, give an overall assessment of actual smoking habits.

As in 1999 the top countries are still to be found in the eastern parts of Europe together with Greenland and the Faroe Islands. The prevalence rates are extremely high in Greenland and surpass other top

ESPAD countries by about 15 percentage points. It was, however, even higher in 1999 and thus they have somewhat decreased in 2003.

In many of the top countries the prevalence rates were relatively unchanged between 1999 and 2003. Despite a decrease in Bulgaria between the two surveys, this does not alter the fact that the country is still the second highest on this variable followed by Russia (Moscow) and the Czech Republic. Some countries with relatively high prevalence rates in 1999 have lower figures for 2003, including Denmark, Finland, France, Ireland and Norway. However, this also occurred in countries with somewhat lower prevalence rates such as Greece, Iceland, Malta, Sweden and the United Kingdom.

An increase in the prevalence rate for the 30 days smoking was observed in Cyprus, Estonia and Romania, although these countries' position in the prevalence hierarchy are different – Cyprus and Romania are among the countries with the lowest prevalence rates, while Estonia is somewhere in the middle with respect to all ESPAD countries.

Changes in 30 days smoking over the eight years in the countries that have conducted all three ESPAD studies show that very few of them have any continuous trends. However, the Estonian students reported increases from 1995 to 1999 to 2003, while students' responses in Iceland and Ireland were indicative of a unidirectional decrease between the three surveys.

Daily smoking at the age of 13 or younger

(Figures 3a–c)

Many young people who experiment with smoking do so a few times but do not necessarily continue to smoke on a regular basis. Others, however, have already started daily smoking at an early age. Countries where smoking is highly prevalent also generally have a higher proportion of students that started to smoke at the age of 13.

From 1999 to 2003 very small changes occurred on this variable in most of the countries. In Estonia, Faroe Islands and Latvia, however, a rather big increase was noted. A change in the opposite direction only occurred in two countries, Ireland and United Kingdom, where a rather big decrease was observed. This results in a change in these countries 1999 position in the prevalence hierarchy; they are replaced at the top of list by the Faroe Islands and Estonia in 2003.

In many countries the prevalence rates for daily

smoking at the age of 13 have been rather stable over the three ESPAD data collections. No country shows either a continuous increase or decrease between the three surveys.

Changes in alcohol consumption

Alcohol use 40 times or more in lifetime

(Figures 4a–c)

The diagrams show that the prevalence rates on this variable were relatively unchanged in many ESPAD countries. However, in some of them the proportion of students who report this behaviour have noticeably increased. The twelve countries where this was observed include Bulgaria, Croatia, the Czech Republic, Estonia, the Faroe Islands, Hungary, Italy, Latvia, Lithuania, Russia (Moscow), the Slovak Republic and Ukraine. From the above list it would appear that the increases have predominantly occurred in the eastern parts of Europe, but also in the Faroe Islands and Italy.

Changes in the opposite direction were only found in three countries, all of which were among the top countries in 1999: Denmark, Greece and the United Kingdom. Denmark and the United Kingdom still hold onto their top ranking despite the recent decrease, but Greece has fallen down the list.

The trend development for this variable over the period 1995 to 2003 shows that in some of the countries there has been a unidirectional increase over the years. An upward trend can be observed in six countries, all of which are found in the eastern parts of Europe and include Croatia, the Czech Republic, Estonia, Lithuania, the Slovak Republic and Ukraine.

Alcohol use 20 times or more during the last 12 months

(Figures 5a–c)

Changes in the proportion of students who drank alcohol 20 times or more during the last 12 months are very similar to the lifetime prevalence of drinking 40 times or more. Thus, an increase was observed in a large number of countries, mainly in the eastern parts of Europe.

The twelve countries where increasing proportions of students report such frequency of drinking include Bulgaria, Croatia, the Czech Republic, Estonia, the Faroe Islands, Hungary, Italy, Latvia, Lithuania, Russia (Moscow), the Slovak Republic and Ukraine. A decrease was found in Denmark, Greece and Ireland.

Over the years from 1995 to 2003 a continuous increasing number of students reported drinking 20 times or more in the last 12 months in the Czech Republic, Estonia, Lithuania, and the Slovak Republic. Others were relatively unchanged over the same time period but in no country was there evidence for a decrease in this trend.

Alcohol use 10 times or more during the last 30 days

(Figures 6a–c)

Among 15–16 year old students in Europe, an alcohol consumption frequency of 10 times or more over the last 30 days is relatively uncommon but the prevalence rates differ substantially.

However, between 1999 and 2003 rather small changes were observed and in the main the situation is one of status quo. Nevertheless, changes occurred in a few of the countries, some of which were rather noteworthy. Thus, increased figures were observed in Bulgaria, Croatia, Italy, Latvia and Russia (Moscow). A decrease was reported by only one country, Denmark.

From the rather stable situation between 1999 and 2003 it follows that the top countries remain, including Malta, the United Kingdom, Ireland and Denmark.

Looking at the trends over the eight years no continuous changes were found, neither in a positive nor negative direction.

Beer consumption 3 times or more during the last 30 days

(Figures 7a–c)

The pattern of frequent beer consumption has changed in different directions among young people in Europe over the actual four years. Moreover, it is not simply a pattern of an increase in low prevalence countries and a decrease in high prevalence countries, but a mixture of both. However, the increases tend to be mainly found in the eastern parts of Europe.

Increases in the proportions reporting that they had consumed beer three times or more during the last 30 days were found in Bulgaria, Croatia, the

Figure 1a. *Changes between 1999 and 2003 in lifetime use of cigarettes 40 times or more. Countries above the line have increased prevalence rates, and countries below have decreased. All students.*
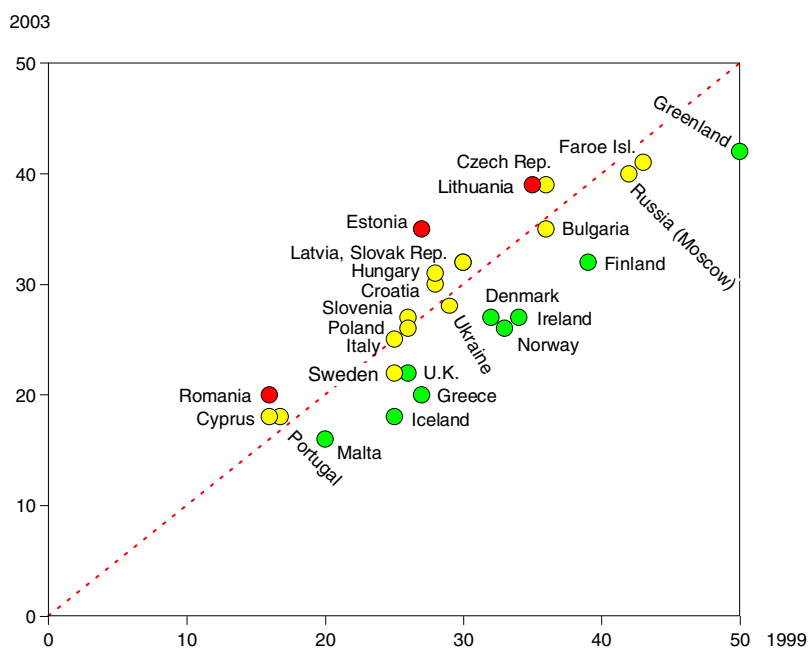
Figure 1b. *Changes between 1995 and 2003 in lifetime use of cigarettes 40 times or more. Percentages among boys and girls (values within brackets refer to all students 1995, 1999, 2003). Data sorted by all students 2003.*
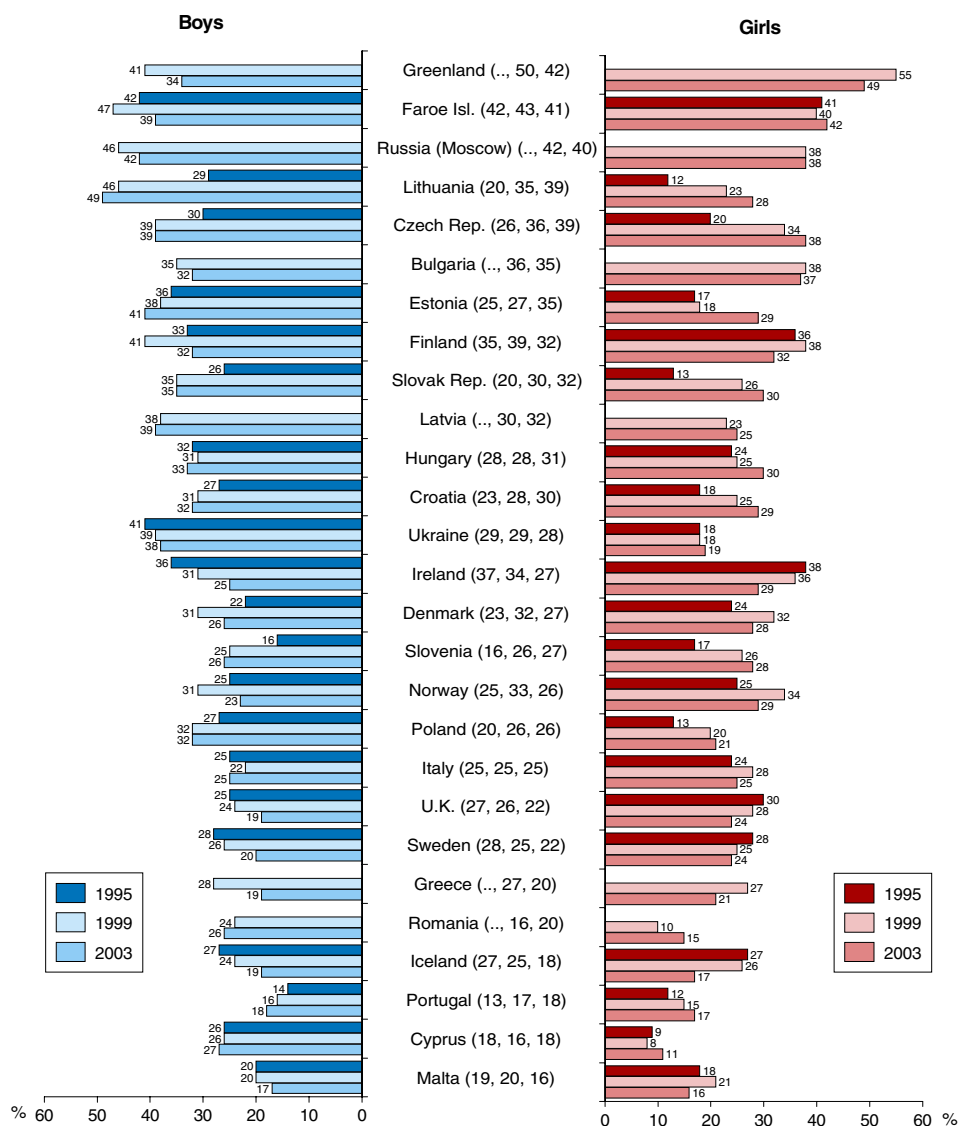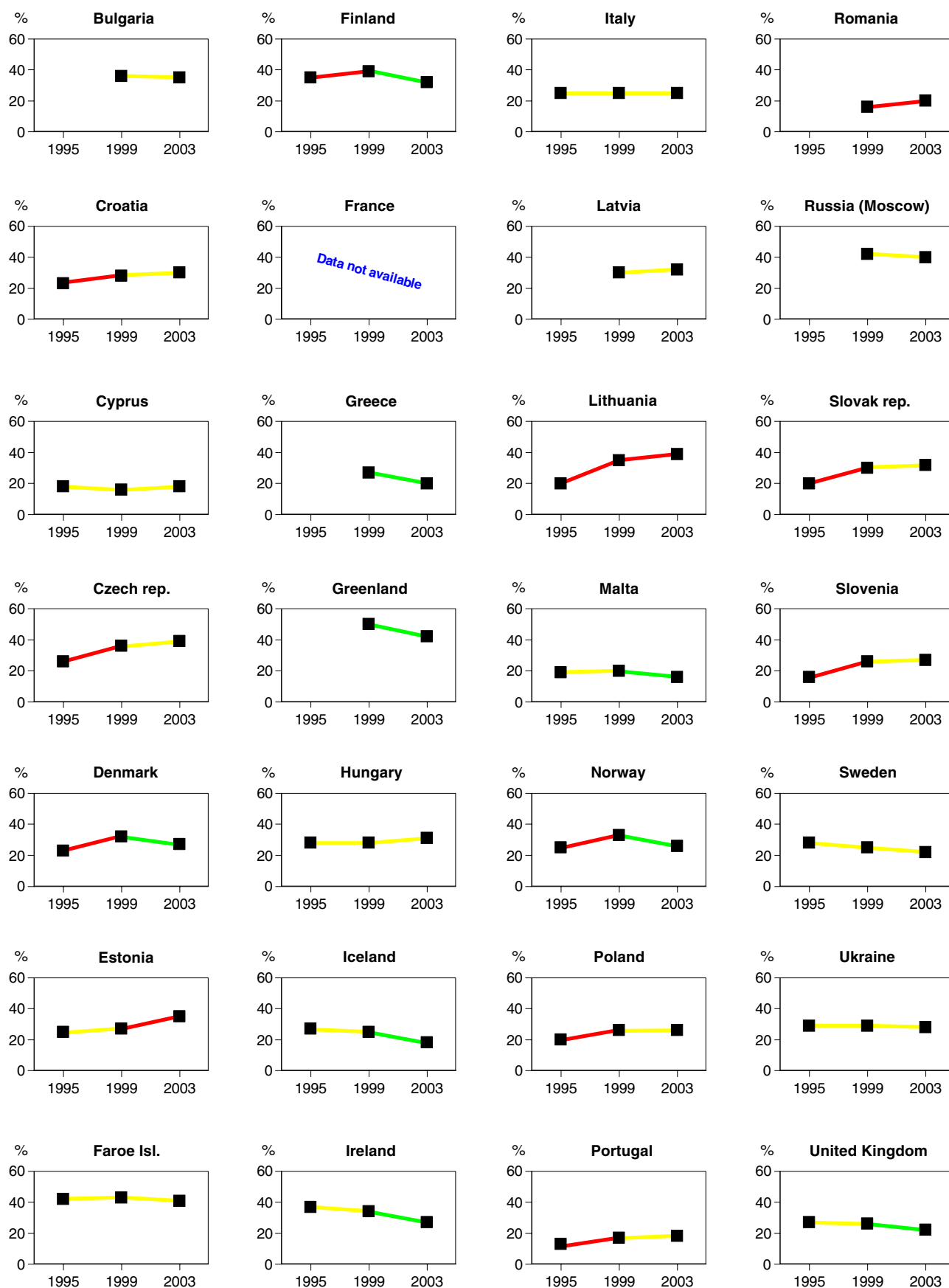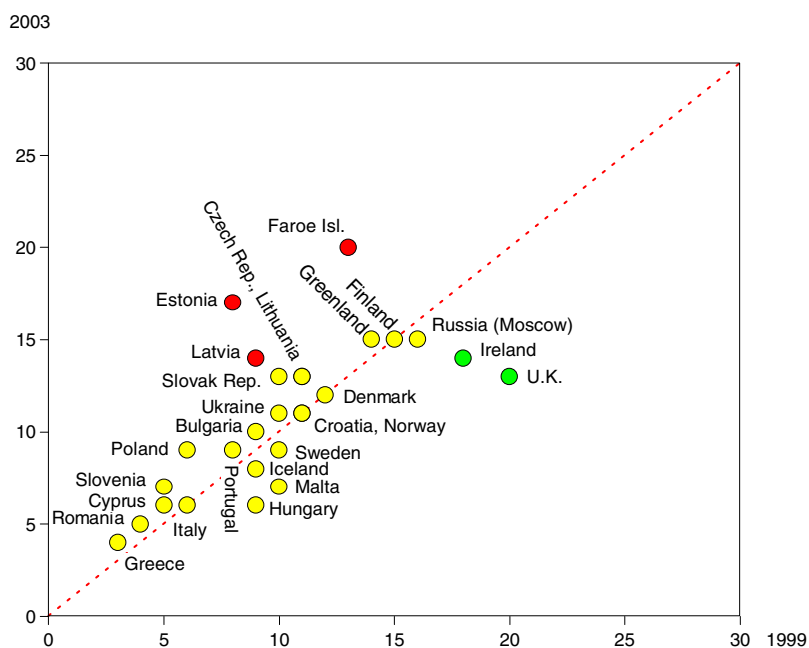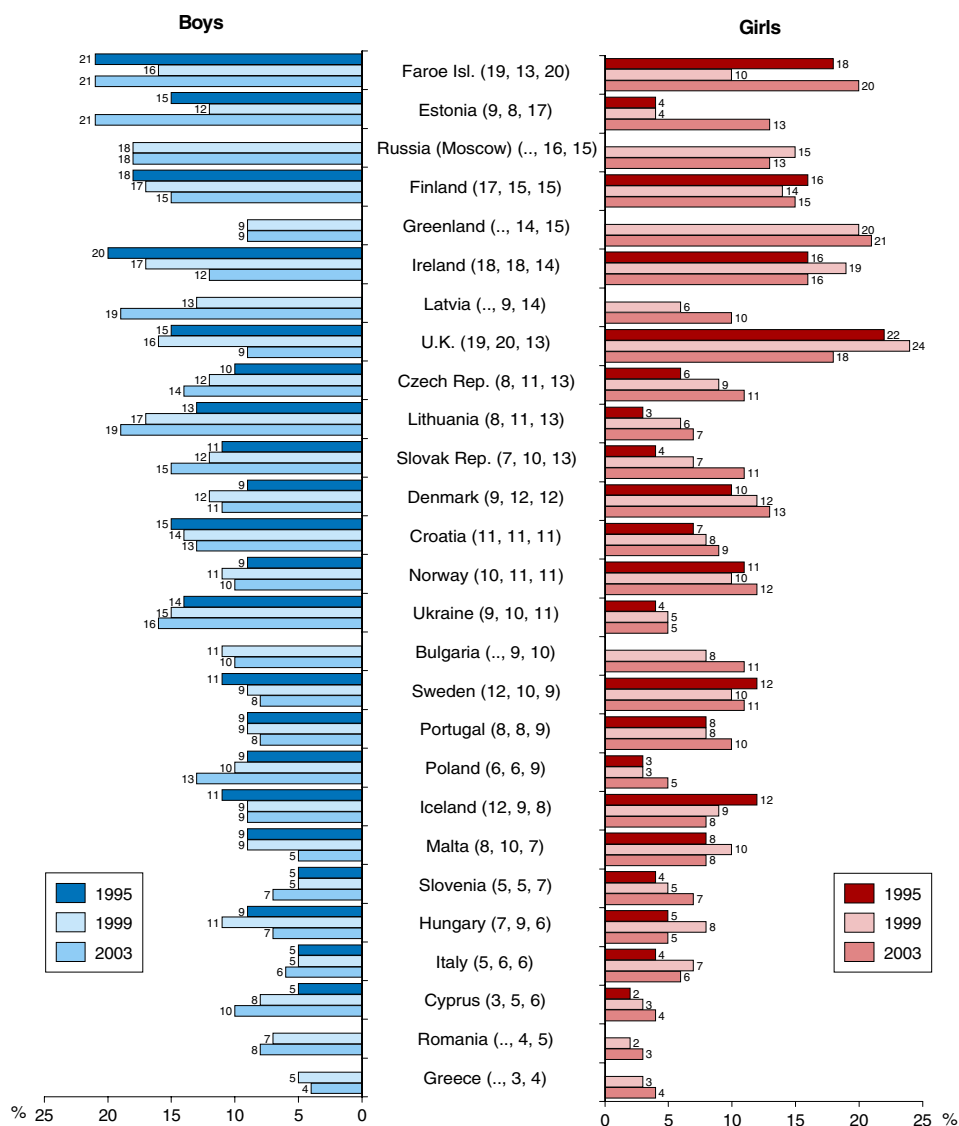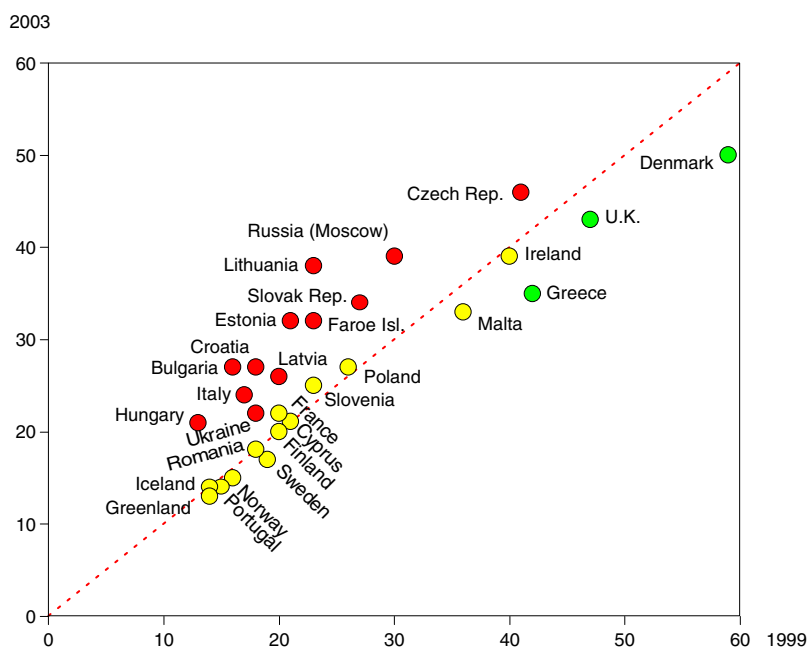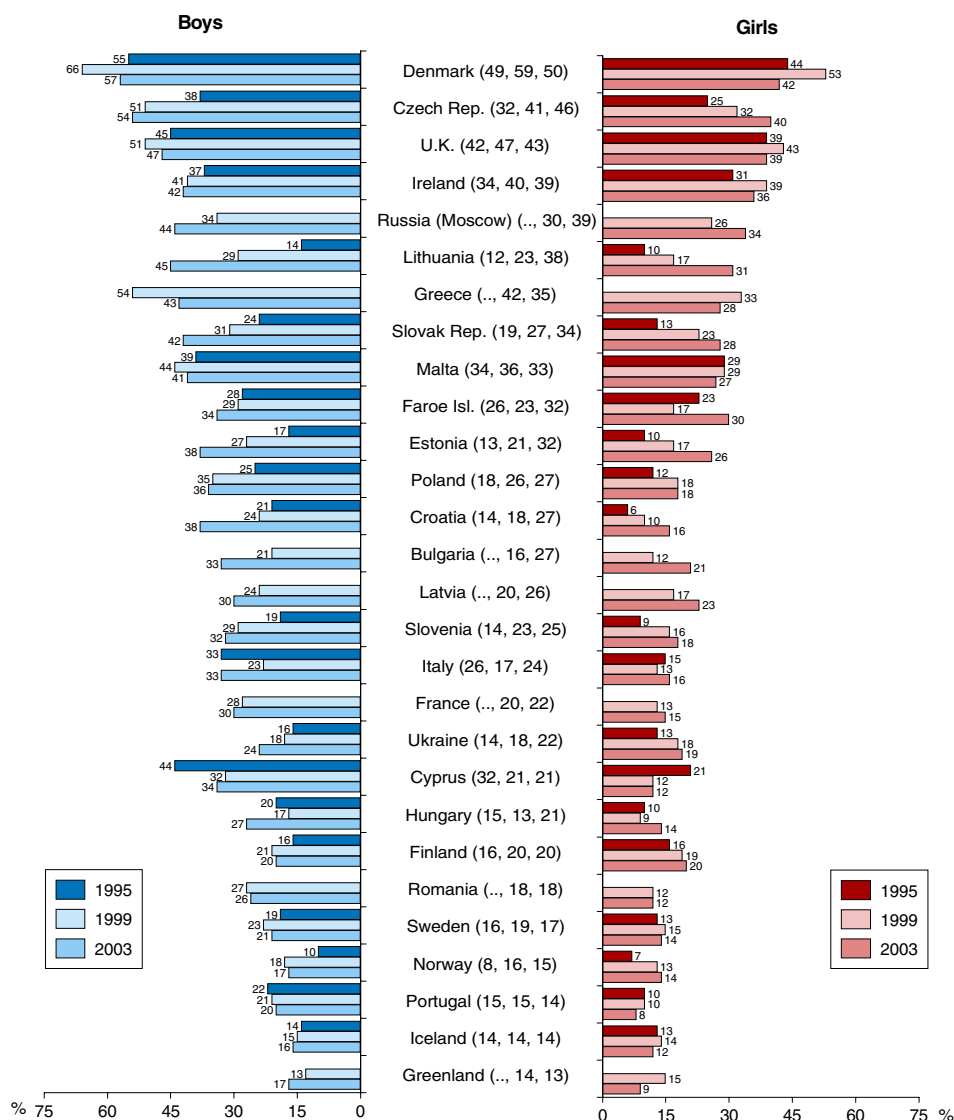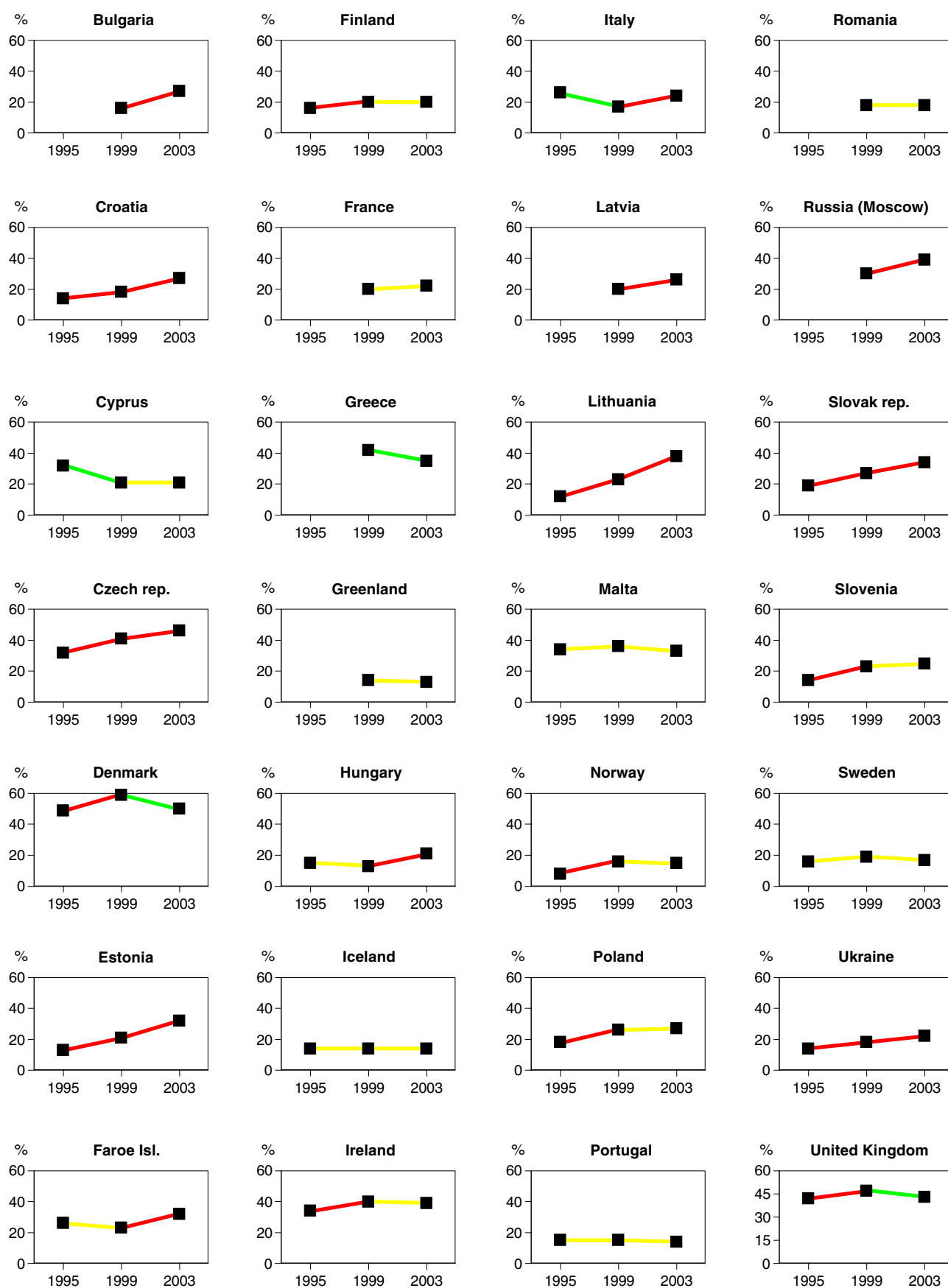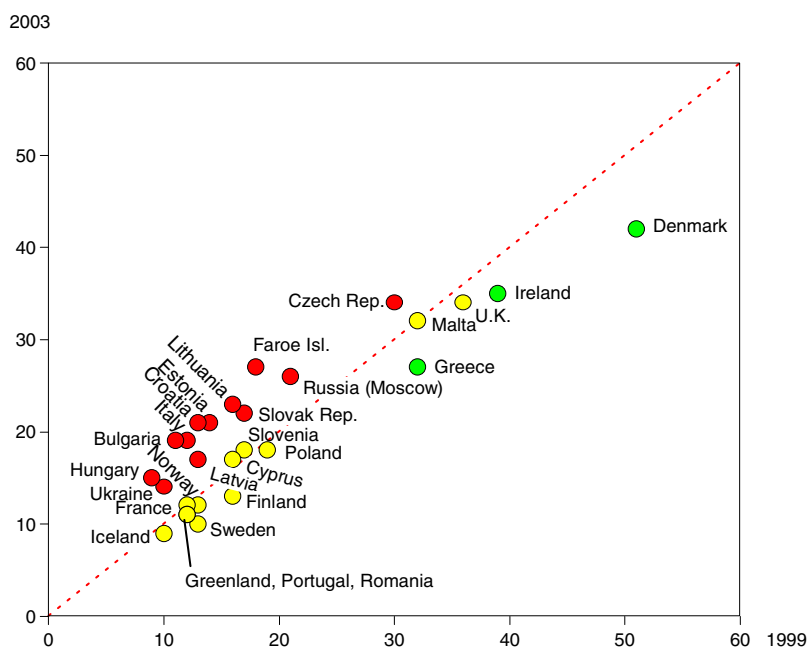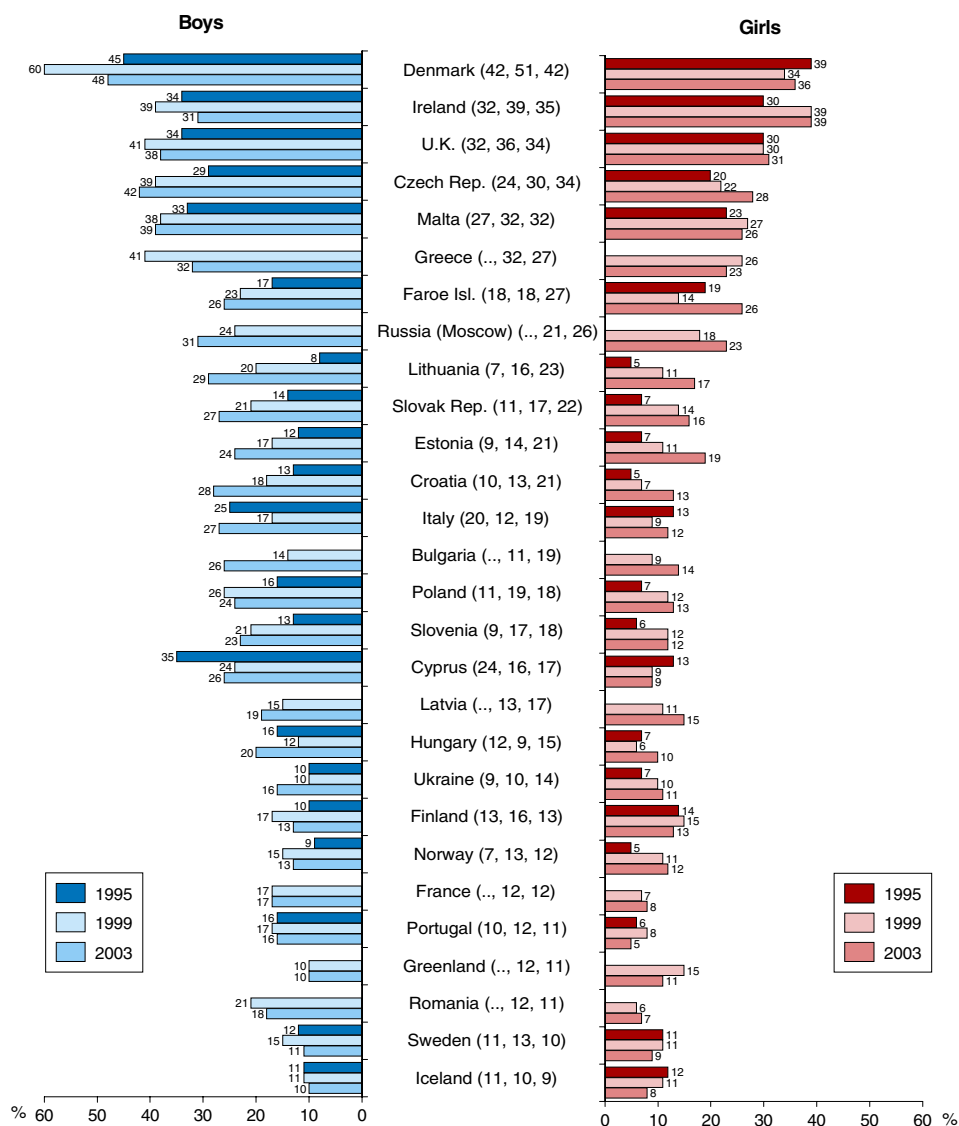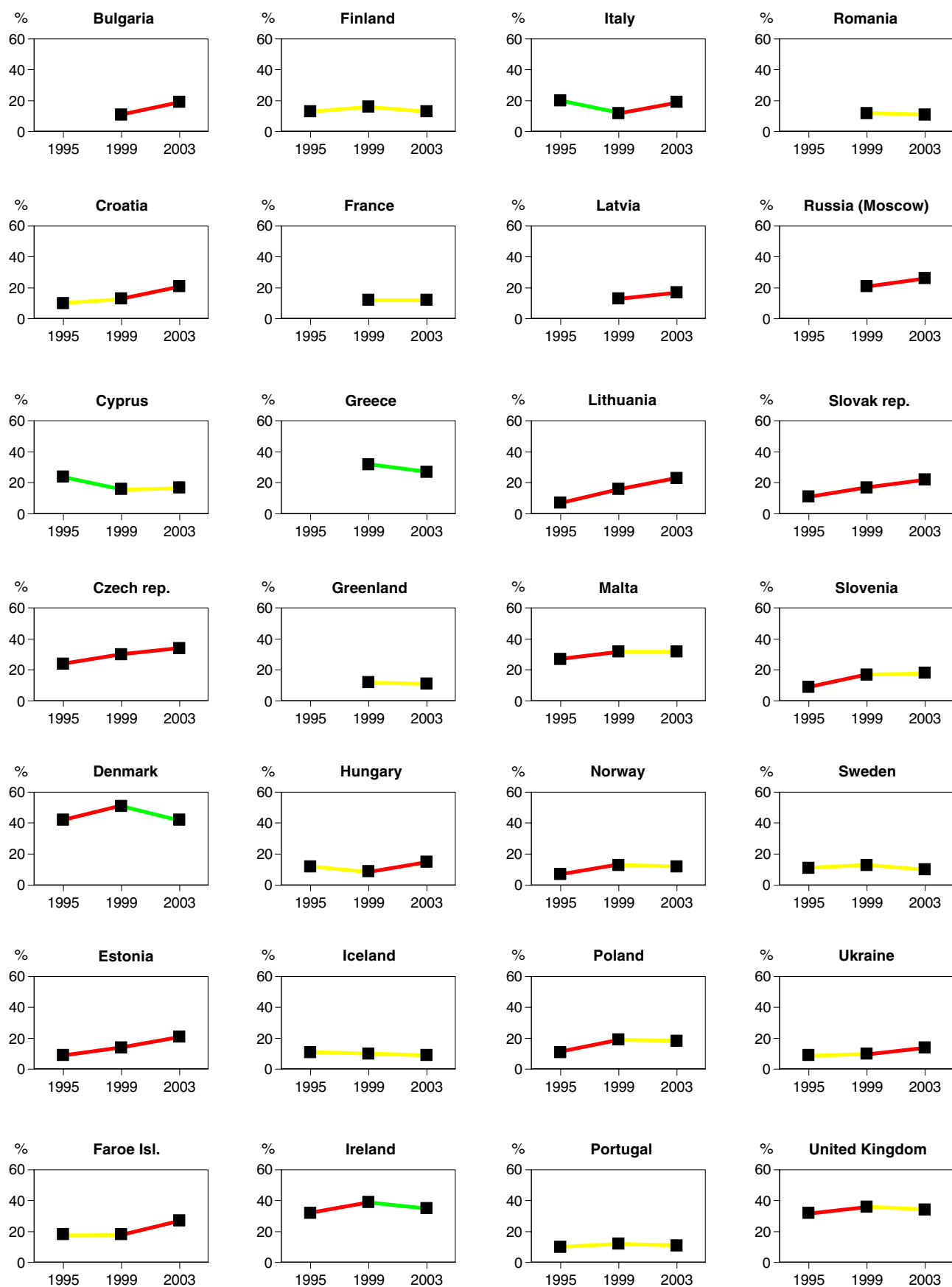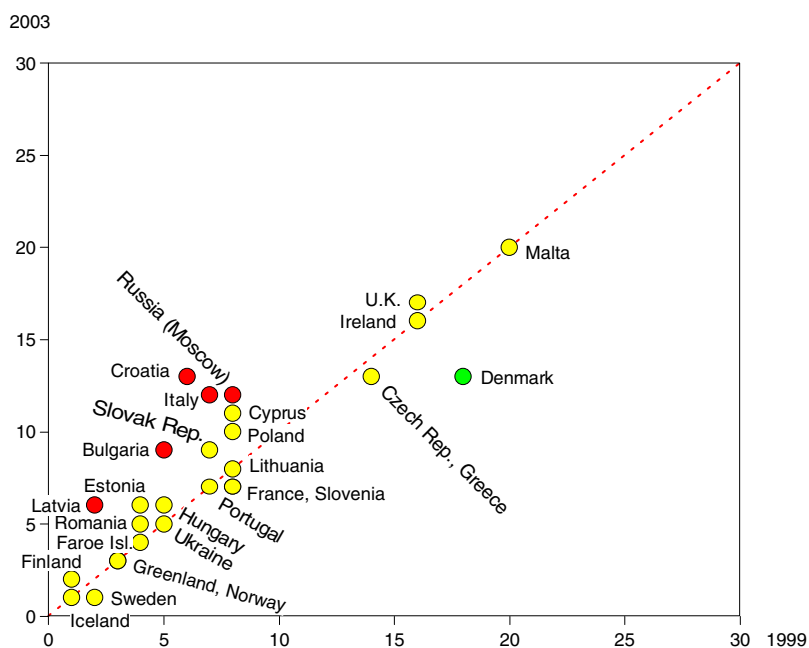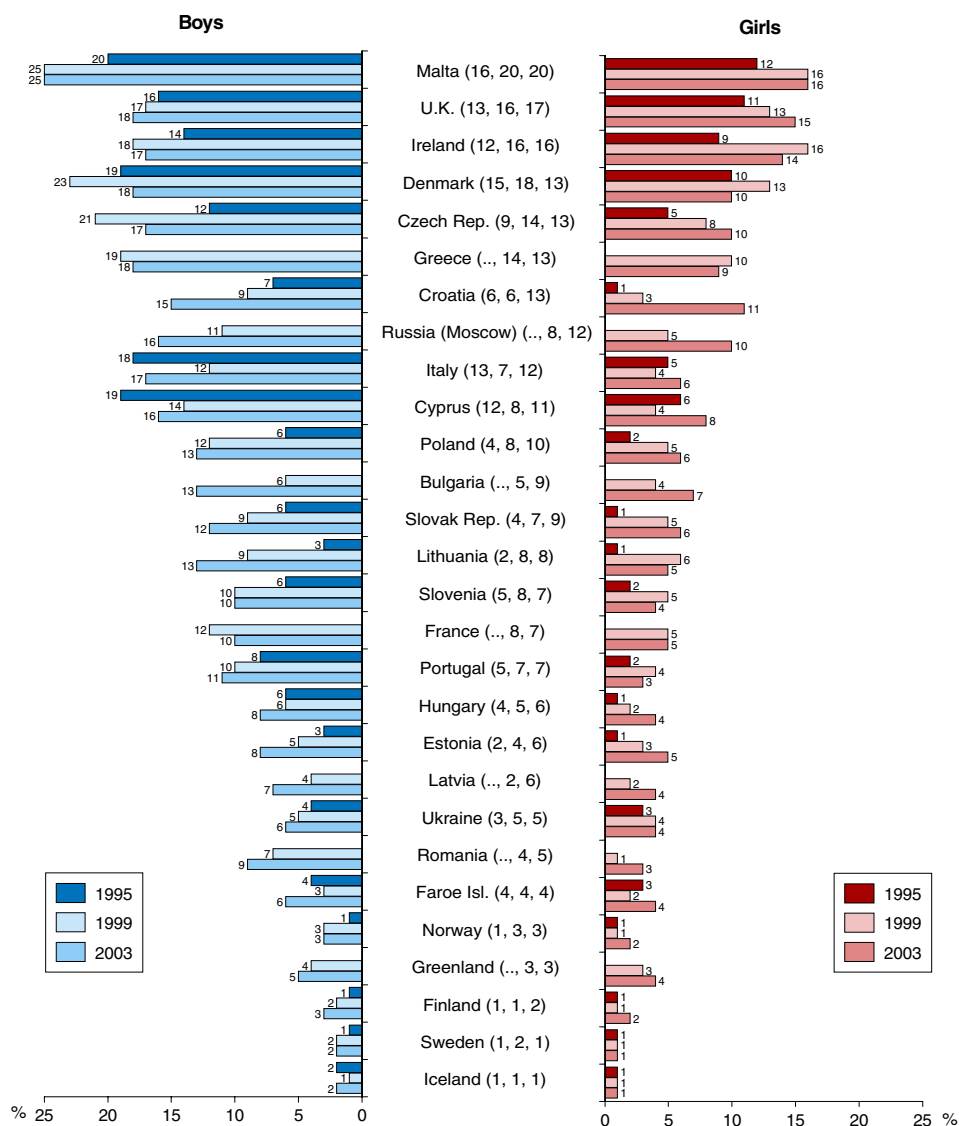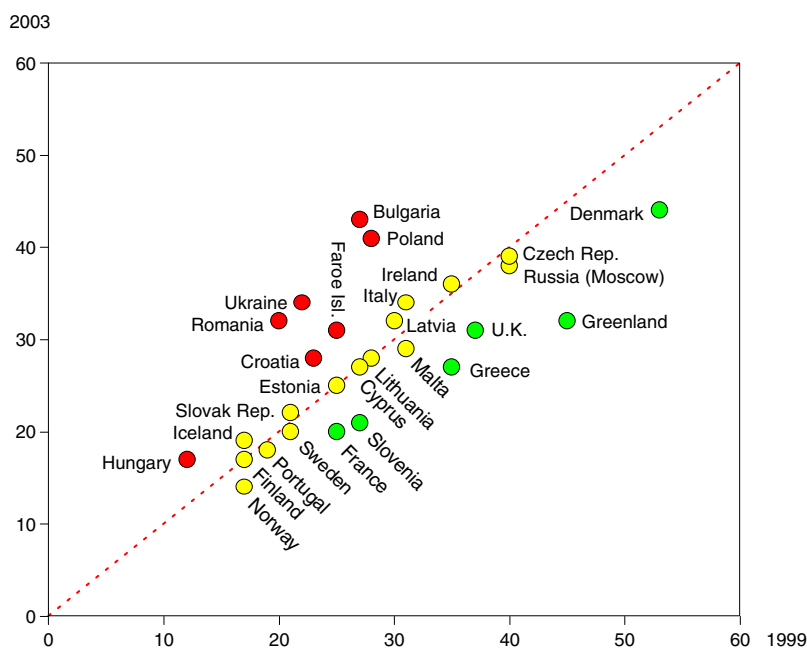
Figure 1c. *Changes between 1995 and 2003 in lifetime use of cigarettes 40 times or more, by country. All students.*

Figure 2a. *Changes between 1999 and 2003 in cigarette smoking during the last 30 days. Countries above the line have increased prevalence rates, and countries below have decreased. All students.*
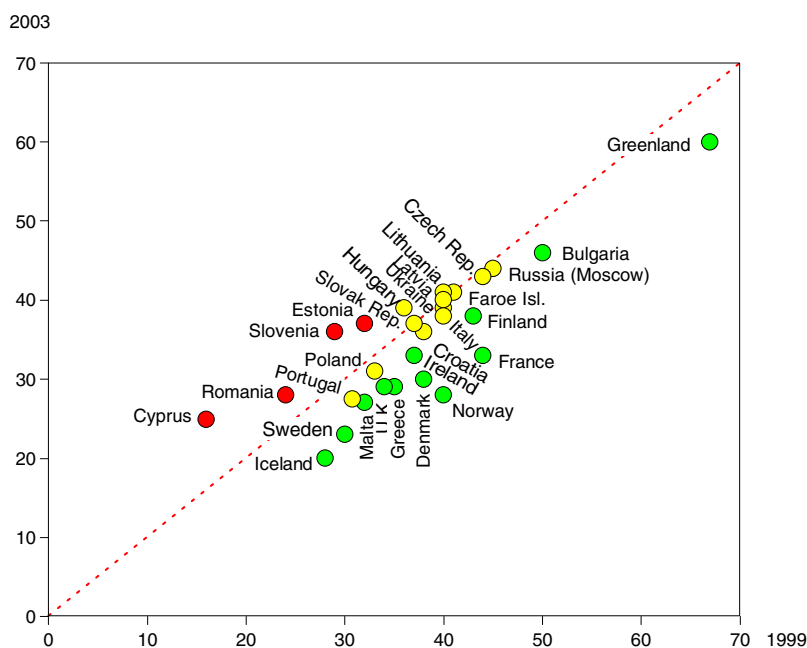
Figure 2b. *Changes between 1995 and 2003 in cigarette smoking during the last 30 days. Percentages among boys and girls (values within brackets refer to all students 1995, 1999, 2003). Data sorted by all students 2003.*

Changes in the use of alcohol and other drugs 2003
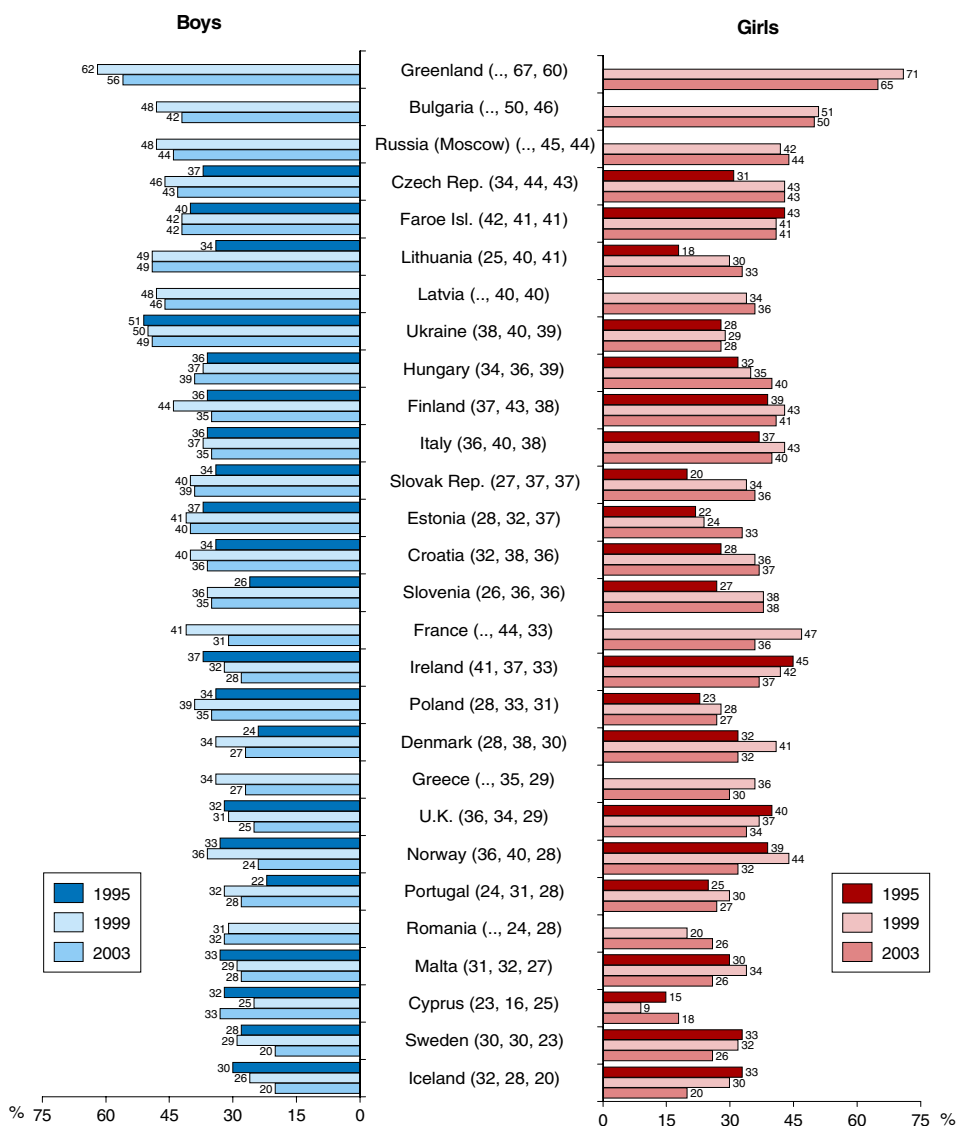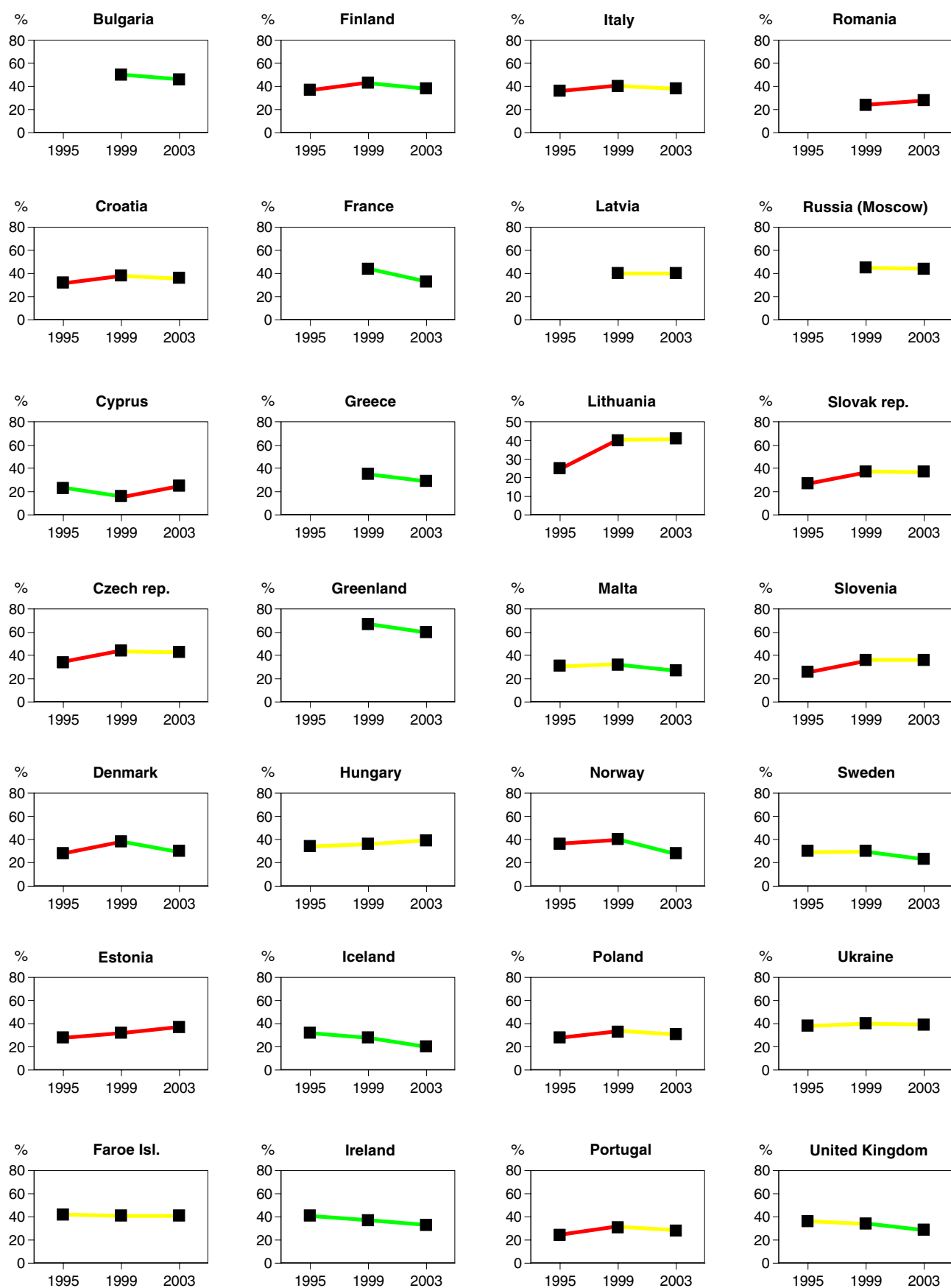
Figure 2c. *Changes between 1995 and 2003 in cigarette smoking during the last 30 days, by country. All students.*

Figure 3a. *Changes between 1999 and 2003 in daily smoking at the age of 13 or younger. Countries above the line have increased prevalence rates, and countries below have decreased. All students.*

Figure 3b. *Changes between 1995 and 2003 in daily smoking at the age of 13 or younger. Percentages among boys and girls (values within brackets refer to all students 1995, 1999, 2003). Data sorted by all students 2003.*
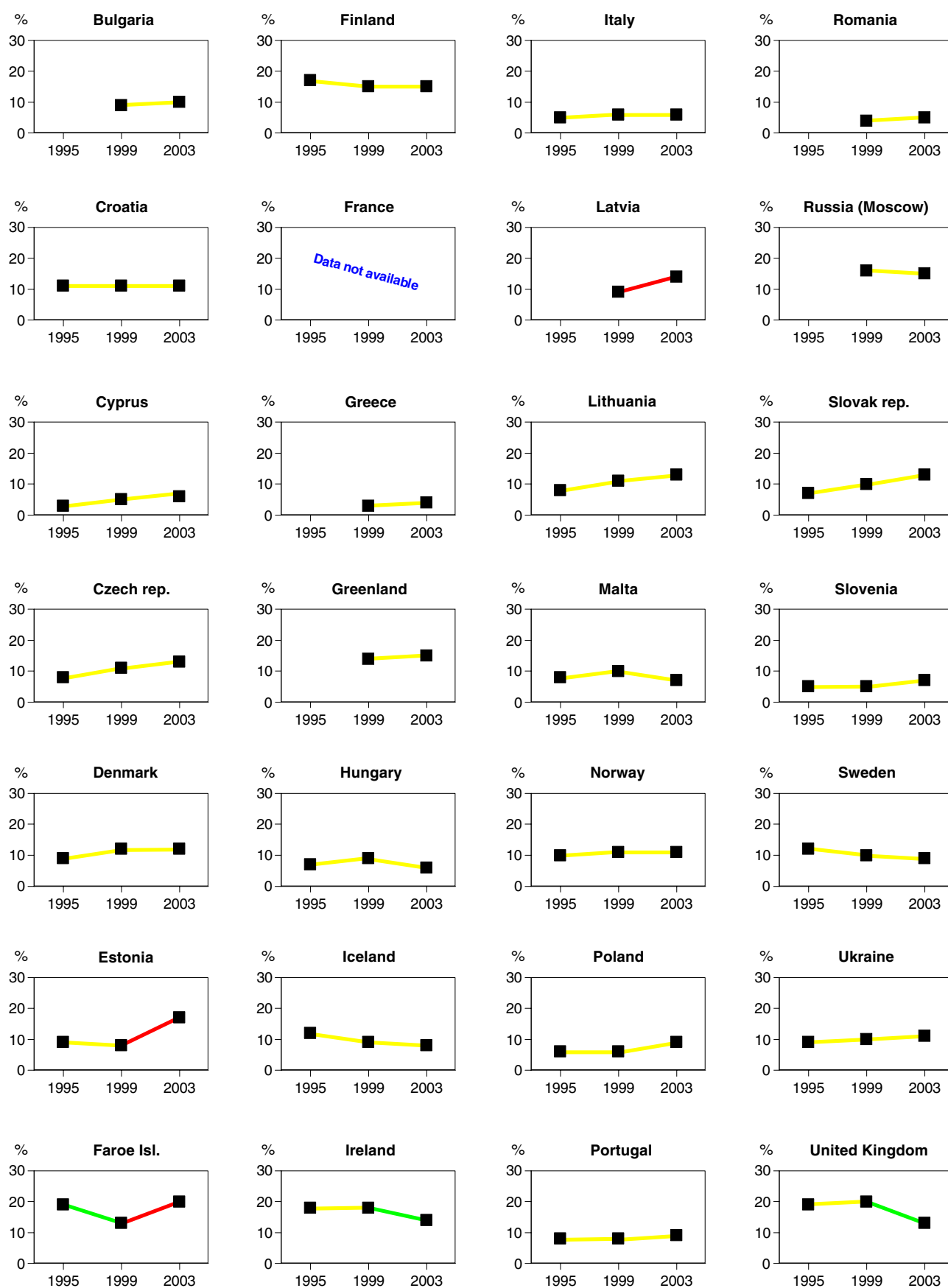
Figure 3c. *Changes between 1995 and 2003 in daily smoking at the age of 13, by country. All students.*

Figure 4a. *Changes between 1999 and 2003 in lifetime use of any alcoholic beverages 40 times or more. Countries above the line have increased prevalence rates, and countries below have decreased. All students.*

Figure 4b. *Changes between 1995 and 2003 in lifetime use of any alcoholic beverages 40 times or more. Percentages among boys and girls (values within brackets refer to all students 1995, 1999, 2003). Data sorted by all students 2003.*

Figure 4c. *Changes between 1995 and 2003 in lifetime use of any alcoholic beverages 40 times or more, by country. All students.*

Figure 5a. *Changes between 1999 and 2003 in use of any alcoholic beverages 20 times or more during the last 12 months. Countries above the line have increased prevalence rates, and countries below have decreased. All students.*

Figure 5b. *Changes between 1995 and 2003 in use of any alcoholic beverages 20 times or more during the last 12 months. Percentages among boys and girls (values within brackets refer to all students 1995, 1999, 2003). Data sorted by all students 2003.*

Changes in the use of alcohol and other drugs 2003

Figure 5c. *Changes between 1995 and 2003 in use of any alcoholic beverages 20 times or more during the last 12 months, by country. All students.*

Figure 6a. *Changes between 1999 and 2003 in use of any alcoholic beverages 10 times or more during the last 30 days. Countries above the line have increased prevalence rates, and countries below have decreased. All students.*

Figure 6b. *Changes between 1995 and 2003 in use of any alcoholic beverages 10 times or more during the last 30 days. Percentages among boys and girls (values within brackets refer to all students 1995, 1999, 2003). Data sorted by all students 2003.*
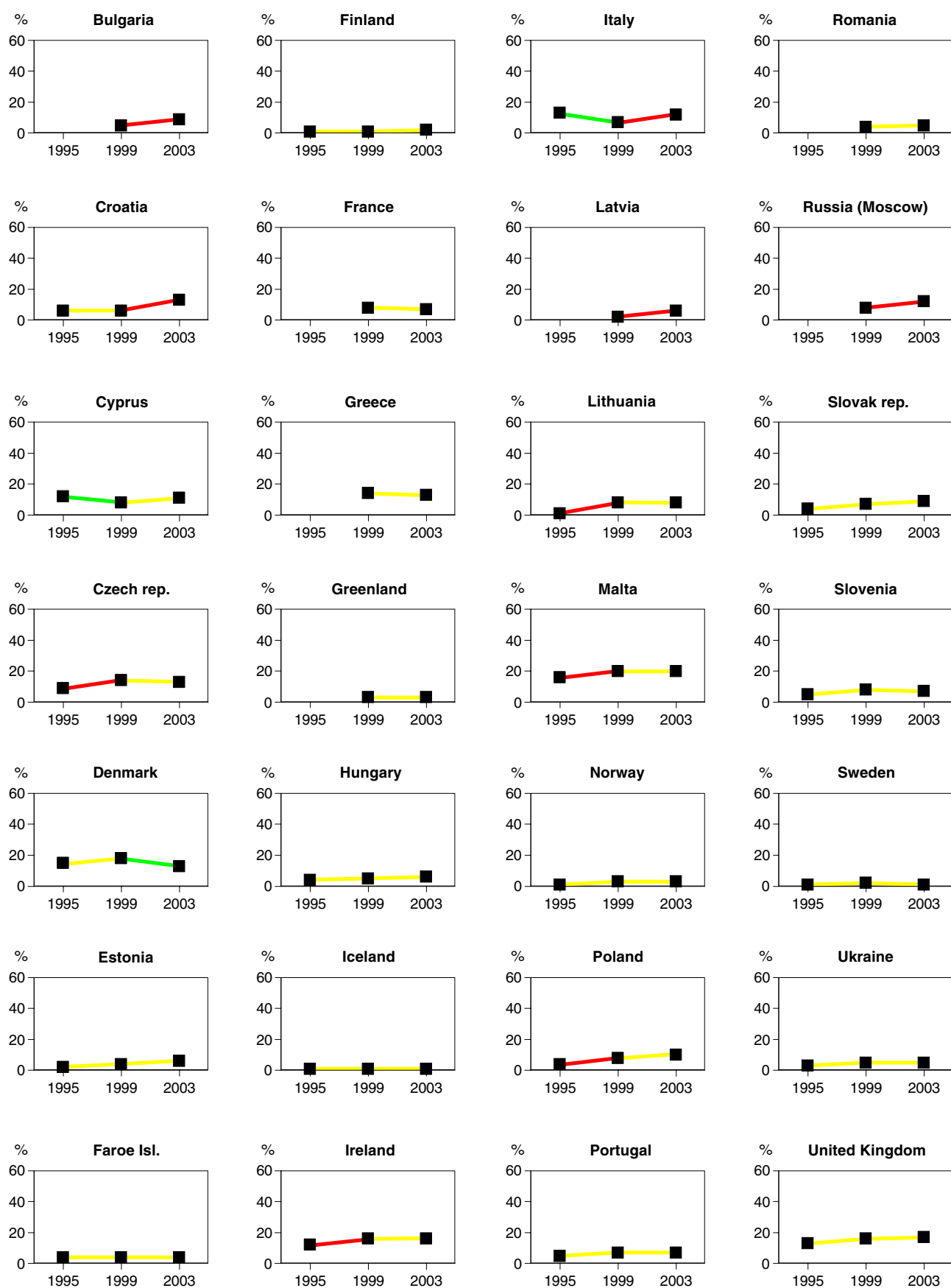
Figure 6c. *Changes between 1995 and 2003 in use of any alcoholic beverages 10 times or more during the last 30 days, by country. All students.*

Figure 7a. *Changes between 1999 and 2003 in beer consumption 3 times or more during the last 30 days. Countries above the line have increased prevalence rates, and countries below have decreased. All students.*

Figure 7b. *Changes between 1995 and 2003 in beer consumption 3 times or more during the last 30 days. Percentages among boys and girls (values within brackets refer to all students 1995, 1999, 2003). Data sorted by all students 2003.*

Changes in the use of alcohol and other drugs 2003
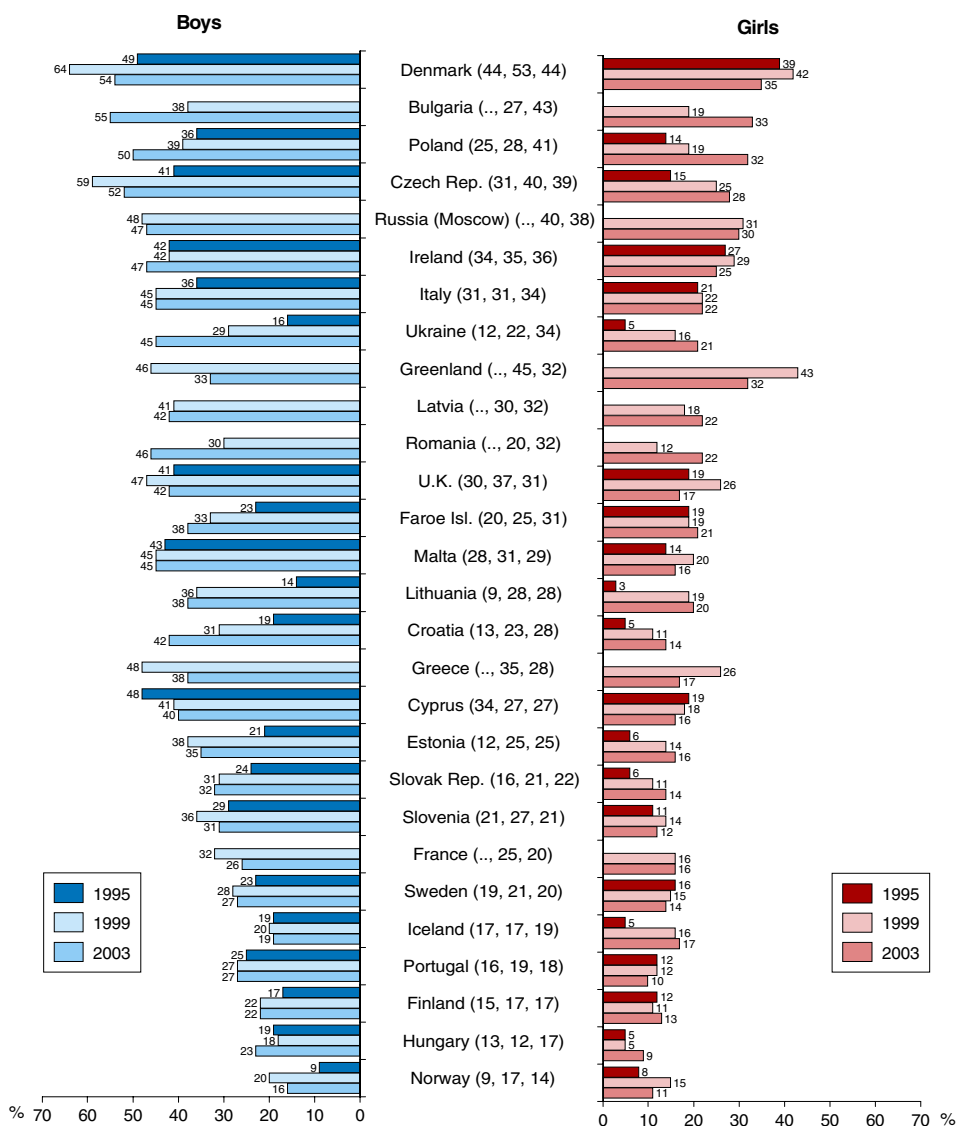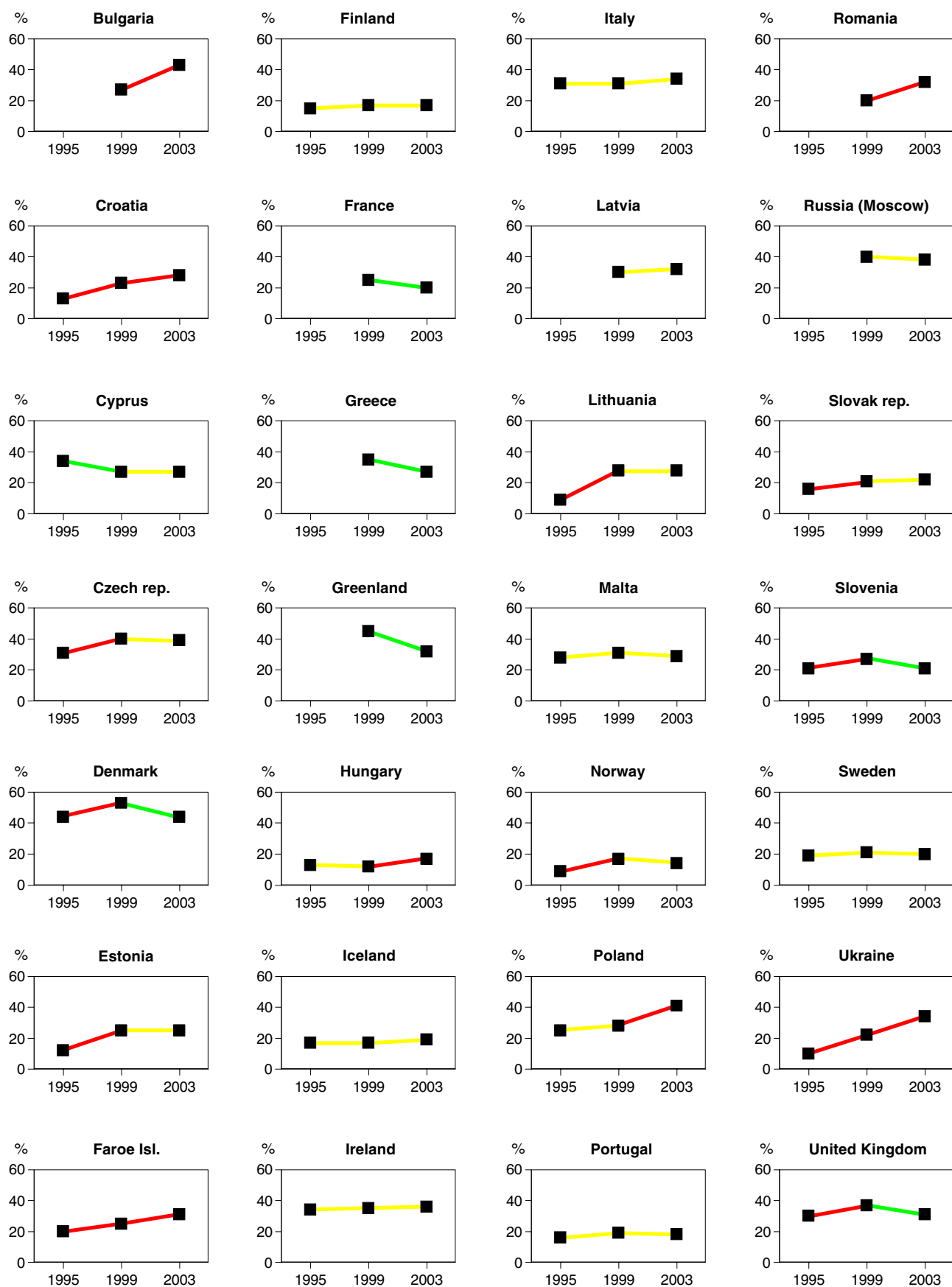
Figure 7c. *Changes between 1995 and 2003 in beer consumption 3 times or more during the last 30 days, by country. All students.*

Faroe Islands, Hungary, Poland, Romania, the Slovak Republic and Ukraine. Decreases were not only observed in the top two countries in 1999 (Denmark and Greenland) but also in France, Greece, Slovenia and the United Kingdom.

Despite the decrease Denmark still ranks highest in this regard in 2003. Other countries that have joined this group after rather pertinent increases in the prevalence figures include Bulgaria, Poland and the Slovak Republic.

Over the years 1995 to 2003 an increase in the prevalence rates of having consumed beer 3 times or more in the last 30 days were found in Croatia, the Faroe Islands, the Slovak Republic and Ukraine. No country showed a continuous decreasing trend over the last eight years.

Wine consumption
3 times or more during the last 30 days
(Figures 8a–c)
The proportions of students who reported wine consumption as frequent as 3 times or more during the last 30 days were unchanged between 1999 and 2003 in most countries, including the highest ranking country in 1999 and 2003 (Malta). In five countries, however, an increase was observed. These were Croatia, Greece, Hungary, Italy and Russia (Moscow). In only Denmark and France was there a notable decrease in the prevalence rate of wine consumption at this frequency.

When focusing on the development of this behaviour over the eight years of the ESPAD project, it is clear that the proportions to a large extent remain rather unchanged in many countries. No countries show a unidirectional increasing or decreasing trend between 1995 and 2003.

Consumption of spirits
3 times or more during the last 30 days
(Figures 9a–c)
There is a wide variety in the 30 days prevalence rates in the consumption of spirits 3 times or more in the past 30 days in the participating countries. In many of them, the figure for 2003 was similar to that in 1999. Hence, the high and low prevalence countries hold their positions.

However, an increase in the reported consumption of spirits 3 times or more over the last 30 days was observed in nine countries. They include Cyprus, Estonia, the Faroe Islands, Greece, Greenland, Ireland, Italy, Poland, Portugal, the Slovak Republic and the United Kingdom. The consumption of spirits has declined in Denmark and France.

For this variable there was a continuous upward trend between 1995 and 2003 in the Faroe Islands, Ireland, Portugal, the Slovak Republic and the United Kingdom. No country showed a continuous decrease over the period.

Consumption of 101 cl of beer or more on the last drinking occasion
(Figures 10a–c)
The proportion of students in 2003 that reported that they had consumed at least 101 cl beer the last time they drank any alcohol, were very much the same as they were in 1999. There were some notable decreases, especially among the top prevalence countries like Denmark, Greenland and Ireland. Other countries where decreases were observed include Norway, Sweden and the United Kingdom. An increase was only noted in two countries (Croatia and Latvia). Despite the drop in prevalence rates on this variable, Denmark and Ireland remain ranked higher than other countries in this regard, while Greenland drops to a similar level as several other countries.

The overall assessment of the findings from 1995 to 2003 is that the prevalence rates on this variable have remained rather stable over the years in most ESPAD countries. A long term decreasing trend was only found in one country (Sweden).

Consumption of 101 cl of alcopops or more on the last drinking occasion
(Figures 11a–b)
Alcopops are not available in all ESPAD countries. Thus, only some countries included this beverage when asking about consumption on the last drinking occasion. However, the pattern of consumption of at least 101 cl alcopops on the last drinking occasion is of course of interest to those countries where it is available. The results are very diverse. Generally, the prevalence rates are very low. Moreover, only a few countries showed any change from 1999 to 2003.

However, the changes that did occur are relevant and are apparent in only four countries. These are Denmark, Ireland, Norway and the United Kingdom, where big increases in alcopops consumption were in evidence between 1999 and 2003.

Consumption of 15 cl of wine or more on the last drinking occasion
(Figures 12a–c)
The question related to wine consumption on the last drinking occasion was slightly altered for the

2003 survey. The amount indicating one glass was increased from 10 to 15 centilitres. This must be borne in mind when comparing the results on this variable between surveys, although it may not have changed the estimated number of glasses consumed by students. It can be argued, however, that most students would appear to consider 1–2 glasses of wine rather similar irrespective of whether in parenthesis it stated 10–20 cl or 15–30 cl.

The proportion of students that indicated 15 centilitres or more on last drinking occasion decreased in ten countries. They include Denmark, the Faroe Islands, Finland, France, Iceland, Latvia, Lithuania, Norway, Romania and the Slovak Republic. The only countries with increasing proportions were Croatia and Russia (Moscow). Since the definition of the volume that relates to a glass of wine was larger in 2003 than it was in 1999, this in itself might have tilted the bias in favour of the number of countries reporting a decrease and thus should be taken into consideration when viewing such figures.

A unidirectional increase from 1995 to 2003 was only observed in Croatia.

Consumption of 11 cl of spirits on the last drinking occasion
(Figures 13a–c)
In many ESPAD countries the prevalence rates for the consumption of a relatively large quantity of spirits on last drinking occasion did not change between 1999 and 2003. This is true for high prevalence as well as low prevalence countries.

However, in a few countries increases were observed and in one of them, the Faroe Islands, which topped the list last time, the increase was 12 percentage points. Other countries where increases were observed include the Czech Republic, Estonia, Italy and the Slovak Republic.

Countries where the prevalence decreased include four of the Nordic countries (Denmark, Iceland, Norway, Sweden) together with Russia (Moscow) and the United Kingdom.

The highest ranked countries in 1999 were again in the top group in 2003 (the Faroe Islands, Malta and Ireland). However, the top group now also includes some of the countries that showed increased prevalence rates for this variable between the two data collections (the Czech Republic and Estonia).

Looking at the development of this variable over the years reveals that in only one country, the Slovak Republic, was there a continuous upward trend. A continuous decreasing trend was also only found in one country (Iceland).

Drunkenness, 20 times or more in lifetime
(Figures 14a–c)
The proportion of students who reported been drunk 20 times or more in a lifetime was relatively stable between 1999 and 2003 in many of the ESPAD countries. The increases that were observed were mainly found in the eastern parts of Europe. Increased prevalence rates were reported from Estonia, the Faroe Islands, Hungary, Ireland, Latvia, Lithuania, Russia (Moscow), the Slovak Republic and Ukraine. The only decreases in this respect were reported from Denmark and Iceland. Denmark nevertheless remained the highest ranked country in students reporting having been drunk 20 times or more in their lifetime.

Over the years a unidirectional increase in the proportion of students that reported this behaviour was observed in five countries. They include Estonia, Ireland, Lithuania, the Slovak Republic and Ukraine. No one of the countries showed unidirectional decrease from 1995 to 2003.

Drunkenness, 10 times or more in the last 12 months
(Figures 15a–c)
In the 15–16 age group, the experience of being drunk is a rather recent event for most of the students. Therefore, the prevalence rates of been drunk 10 times or more over the last year is not very different from been drunk 20 times or more in a lifetime.

The response pattern on this variable revealed that the figures were relatively unchanged between 1999 and 2003 in most countries. Increased values were reported from two Baltic States (Estonia and Lithuania) as well as from the Faroe Islands and the Slovak Republic. A decrease was observed in countries, which in 1999 were among the top group , including Denmark, Finland, Iceland and the United Kingdom, i.e. all four from the northern parts of Europe. With the exception of Iceland, these countries along with Ireland rank highest on this measure of adolescent drunkenness in the past 12 months.

A long-term increase in the prevalence rates for been drunk 10 times or more in the last 12 months was observed only in Estonia for the period 1995–2003.
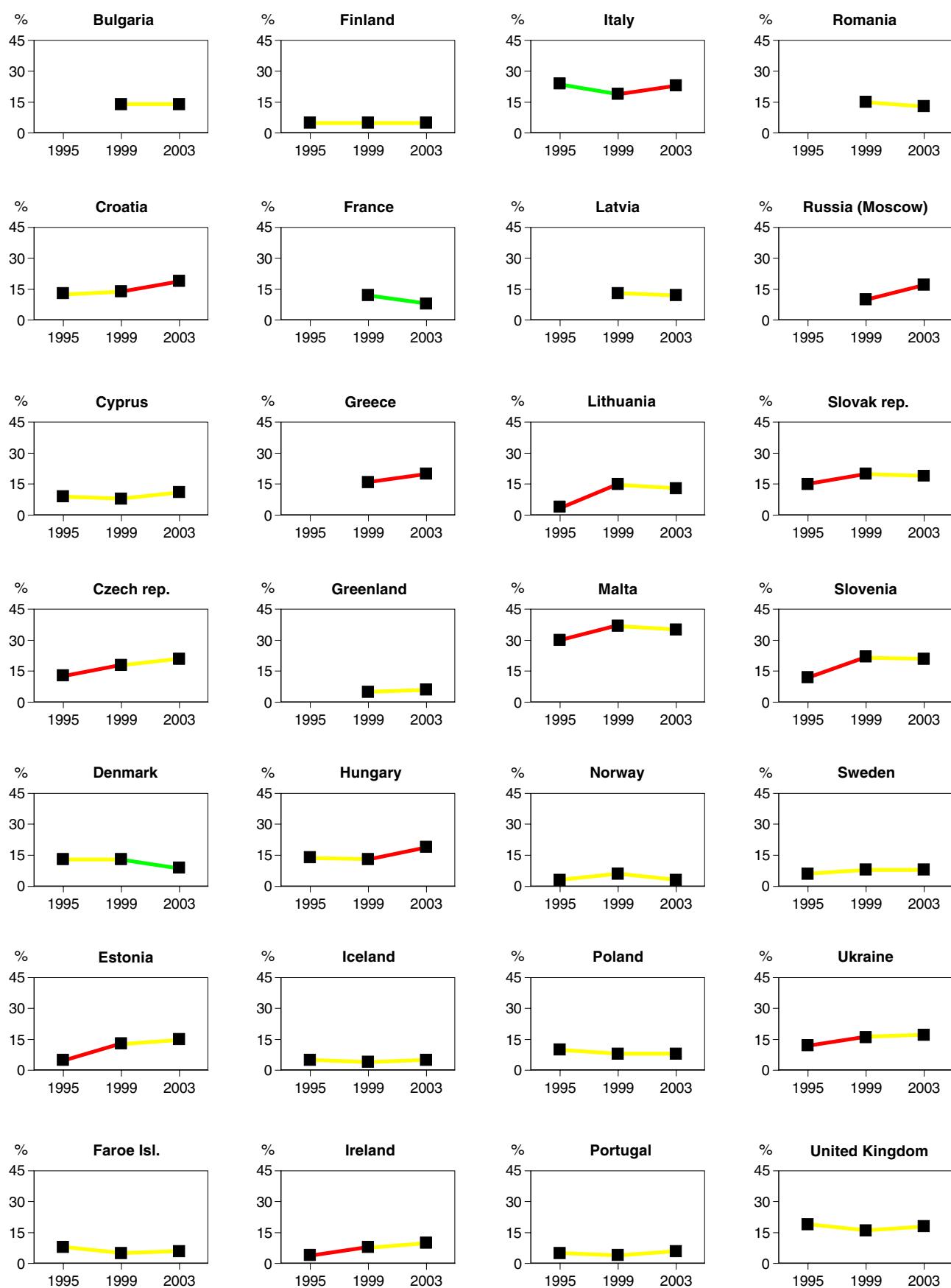
Figure 8a. *Changes between 1999 and 2003 in wine consumption 3 times or more during the last 30 days. Countries above the line have increased prevalence rates, and countries below have decreased. All students.*
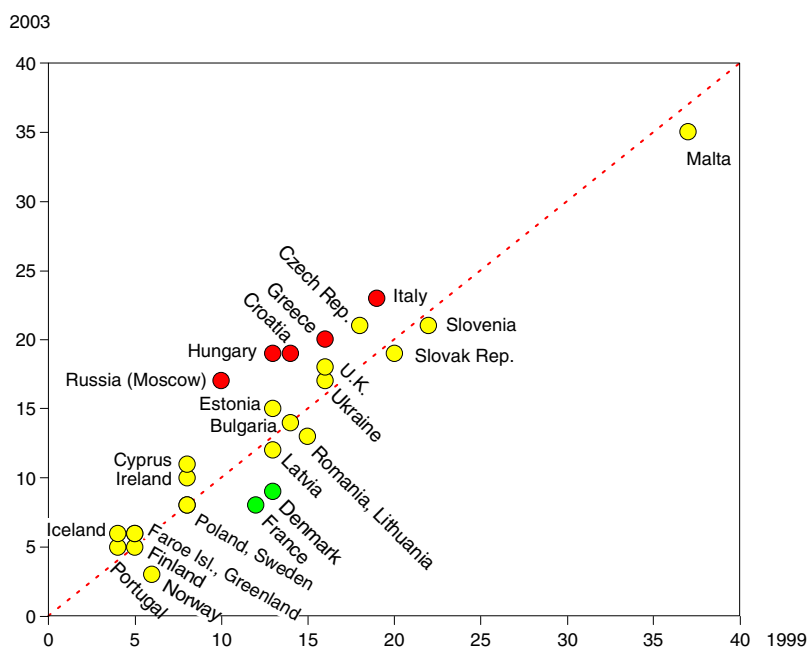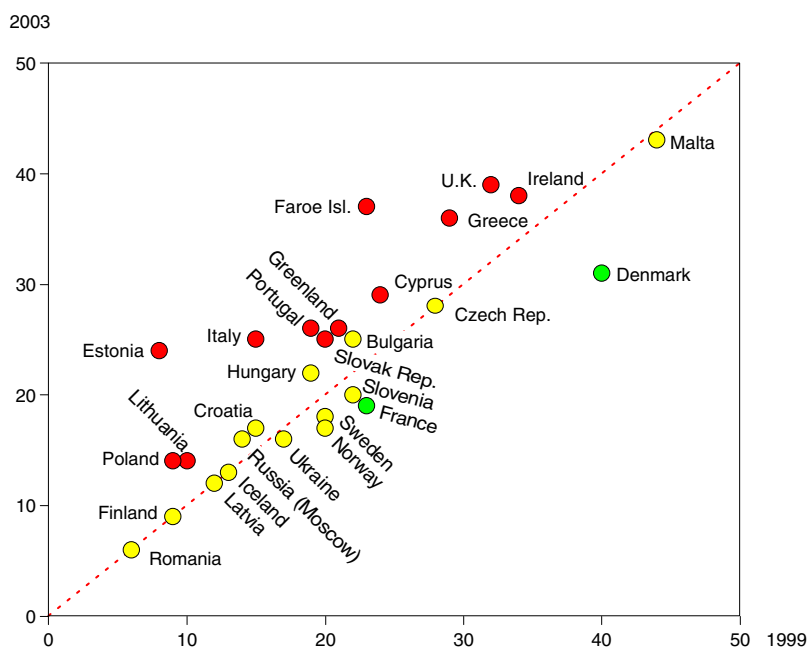

Figure 8b. *Changes between 1999 and 2003 in wine consumption 3 times or more during the last 30 days. Percentages among boys and girls (values within brackets refer to all students 1995, 1999, 2003). Data sorted by all students 2003.*
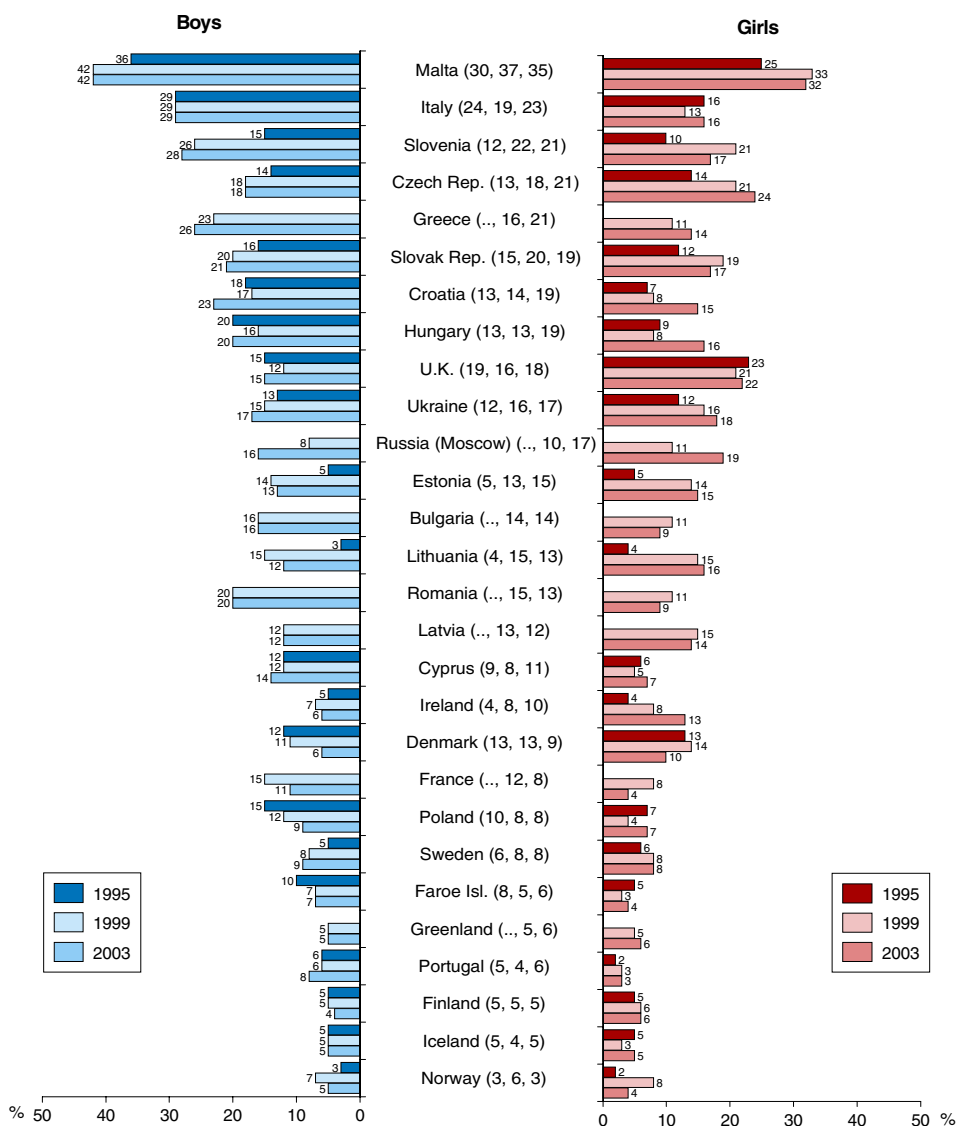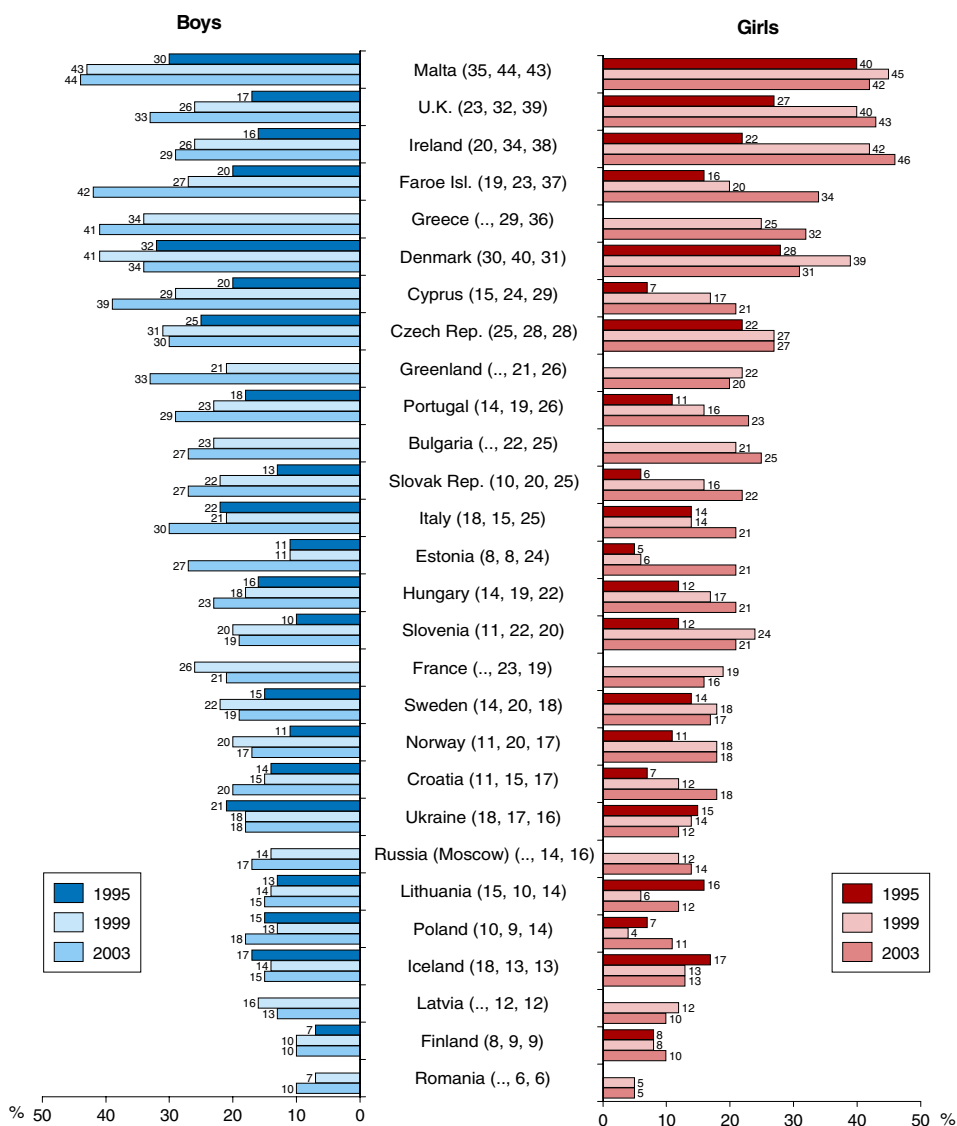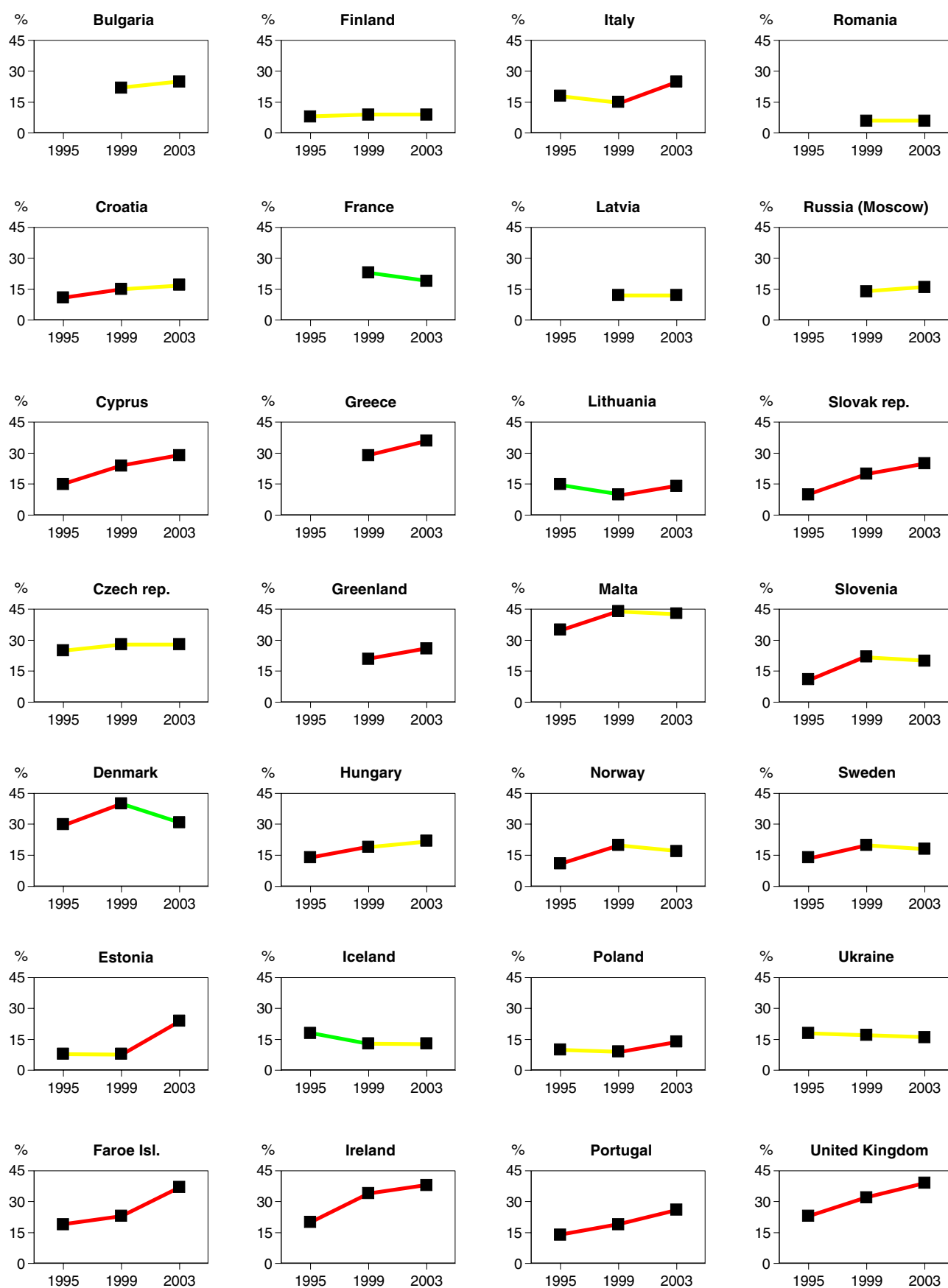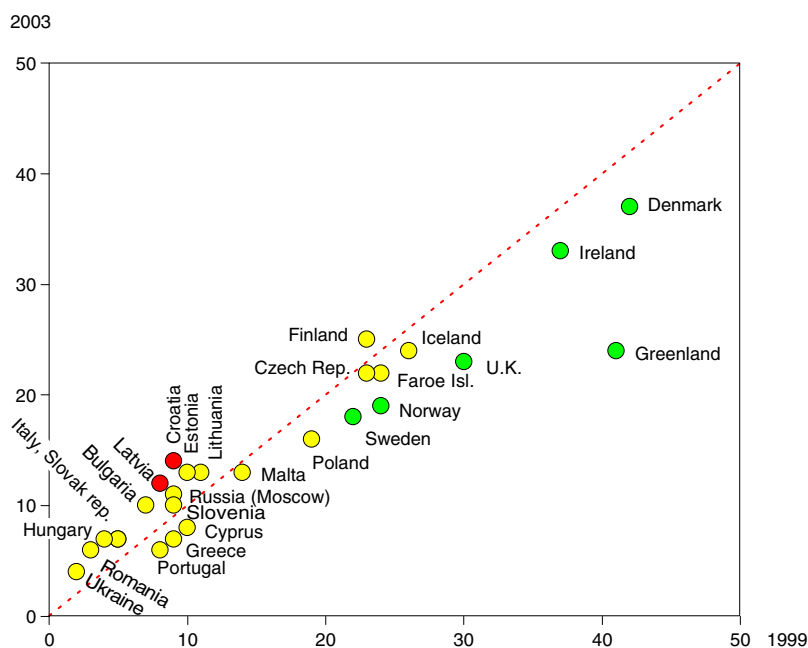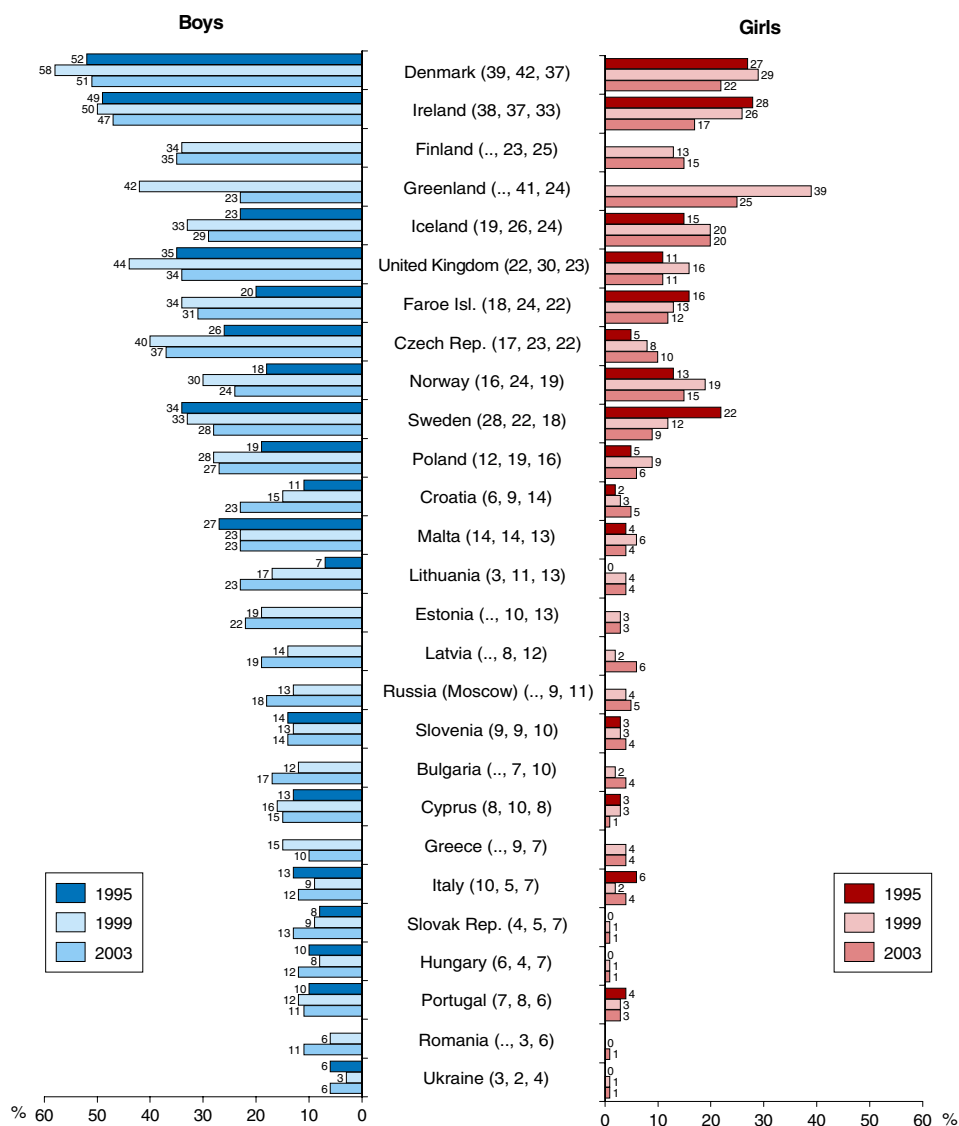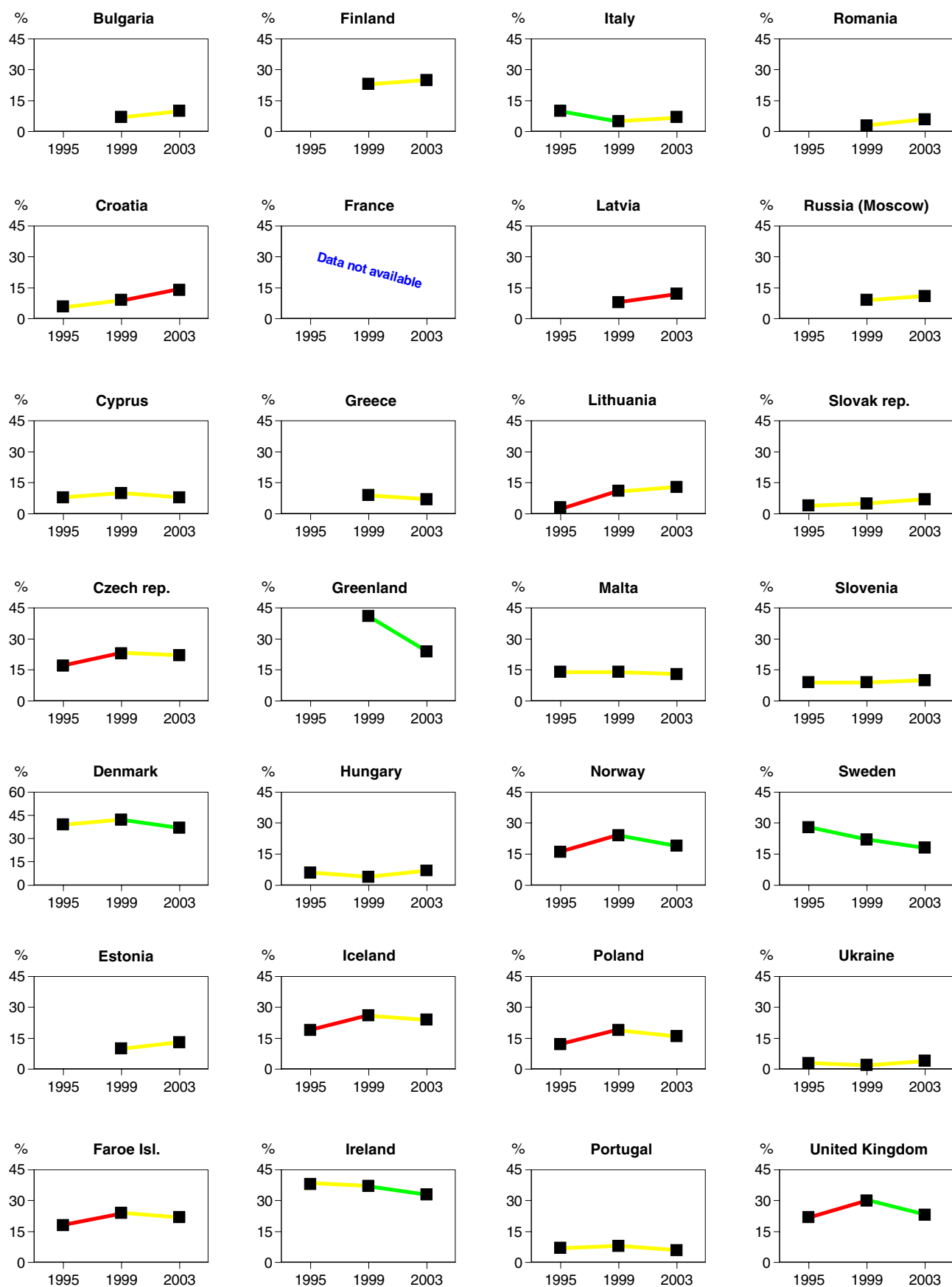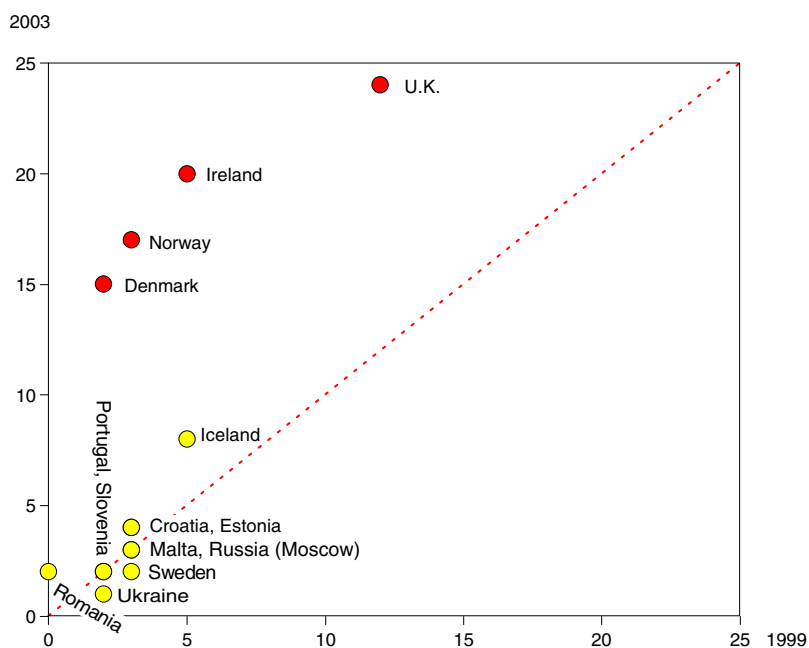
Figure 8c. *Changes between 1995 and 2003 in wine consumption 3 times or more during the last 30 days, by country. All students.*

Figure 9a. *Changes between 1999 and 2003 in consumption of spirits 3 times or more during the last 30 days. Countries above the line have increased prevalence rates, and countries below have decreased. All students.*

Figure 9b. *Changes between 1999 and 2003 in consumption of spirits 3 times or more during the last 30 days. Percentages among boys and girls (values within brackets refer to all students 1995, 1999, 2003). Data sorted by all students 2003.*

Figure 9c. *Changes between 1995 and 2003 in consumption of spirits 3 times or more during the last 30 days, by country. All students.*

Figure 10a.
Changes between 1999 and 2003 in consumption of 101 cl beer or more on the last drinking occasion. Countries above the line have increased prevalence rates, and countries below have decreased. All students.

Figure 10b. *Changes between 1995 and 2003 in consumption of 101 cl beer or more on the last drinking occasion. Percentages among boys and girls (values within brackets refer to all students 1995, 1999, 2003). Data sorted by all students 2003.*

Figure 10c. *Changes between 1995 and 2003 in consumption of 101 cl beer or more on the last drinking occasion, by country. All students.*

Figure 11a. *Changes between 1999 and 2003 in consumption of 101 cl alcopops or more on the last drinking occasion. Countries above the line have increased prevalence rates, and countries below have decreased. All students.*

Figure 11b. *Changes between 1995 and 2003 in consumption of 101 cl alcopops or more on the last drinking occasion. Percentages among boys and girls (values within brackets refer to all students 1995, 1999, 2003). Data sorted by all students 2003.*

Changes in the use of alcohol and other drugs 2003
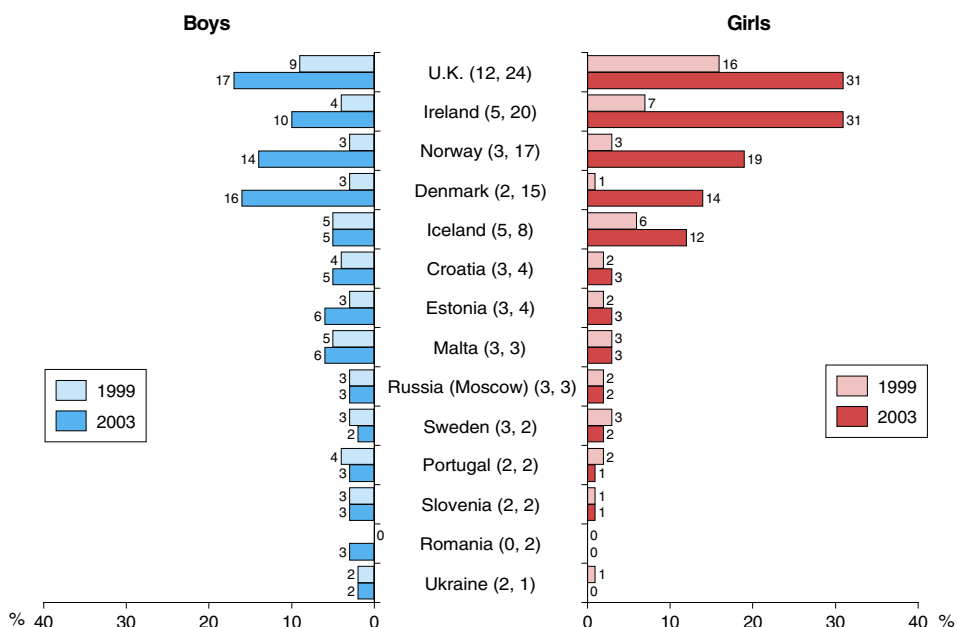
Drunkenness,
3 times or more during the last 30 days
(Figures 16a–c)

The prevalence rates for been drunk 3 times or more in the last 30 days did not change very much in the participating countries between 1999 and 2003. Countries where an increase was found include Estonia, the Faroe Islands, Italy and Ukraine, i.e. countries that are rather disparate geographically. A decrease was only reported in Denmark and Sweden. The former remained, despite the decrease, in the top position for this behaviour followed by Ireland and the United Kingdom.

During the eight years of the ESPAD project a continued increasing in prevalence rates were found in Estonia and Ukraine.

Binge drinking 3 times or more
in the last 30 days
(Figures 17a–c)

The proportion of students, who reported "binge drinking", i.e. drinking five or more drinks in a row at one drinking occasion, have increased in many ESPAD countries between 1999 and 2003. These countries include Bulgaria, Estonia, the Faroe Islands, Latvia, Lithuania, Portugal, the Slovak Republic, Sweden and Ukraine. Thus increases predominantly occurred in low prevalence countries across disparate parts of the European map. Decreasing figures were reported from Denmark, Greece, Greenland, Hungary, Iceland and Poland. Despite these changes the top countries more or less retained their positions, although two of them, Denmark and Poland, dropped down somewhat from 1999 to 2003. In both surveys the highest

figures were reported from Ireland.

A continuous increase in the prevalence rates for binge drinking between 1995, 1999 and 2003 was only found in Estonia.

Drunk at the age of 13 or younger
(Figures 18a–c)

Many young people start drinking alcohol at a rather early age and some of them drink to the point of intoxication, as showed in the previous parts of this chapter. The proportion of students who reported been drunk at the age of 13 or younger differed to quite a degree among ESPAD countries. From 1999 to 2003 the proportions that report this behaviour remain rather unchanged in many of them, while in others rather large changes occurred.

The proportion of students that have been drunk at the age of 13 or younger mainly increased in the eastern parts of Europe, including Bulgaria, Croatia, Estonia, Latvia, Lithuania, Russia (Moscow), the Slovak Republic, Slovenia and Ukraine. However, an increase was also reported in the Faroe Islands. Decreased percentages were only found in Denmark, Greenland and Romania. The top group still includes Denmark, Finland, Russia (Moscow) and the United Kingdom and they have been joined by Estonia. Greenland, which was in the top group in 1999 reported a decrease in 2003.

Between 1995 and 2003 Ukraine was the only country in which a continuous increasing proportion of students reported been drunk at the age of 13. No country showed a continuous trend in the opposite direction.

Changes in illicit drug use prevalence
### Lifetime use of any illicit drug
(Figures 19a–c)

The proportion of students that have tried illicit drugs varies to a significant extent amongst countries, from less than 5% to almost half (44%) of the student population. Between 1999 and 2003 the prevalence rates for this variable increased in nine of the ESPAD countries. They include Bulgaria, Croatia, the Czech Republic, Estonia, Greenland, Hungary, Ireland, Portugal and the Slovak Republic. Decreasing prevalence rates were found in Greece, Latvia, Norway and Romania.

Among the four top countries from 1999 a further increase occurred in the Czech Republic and Ireland, while France and the United Kingdom remained relatively unchanged. Increases of 7–8 percentage points in the lifetime experiences of any illicit drug use were found in Bulgaria, the Czech Republic, Ireland and the Slovak Republic.

The trend in prevalence rates over time between 1995 and 2003 show that a continuous increase has occurred in six ESPAD countries. The sizes of these increases vary but in many countries the rates have doubled or tripled. The countries in which increases

Figure 12a. *Changes between 1999 and 2003 in consumption of 15 cl wine or more on the last drinking occasion. Countries above the line have increased prevalence rates, and countries below have decreased. All students.*
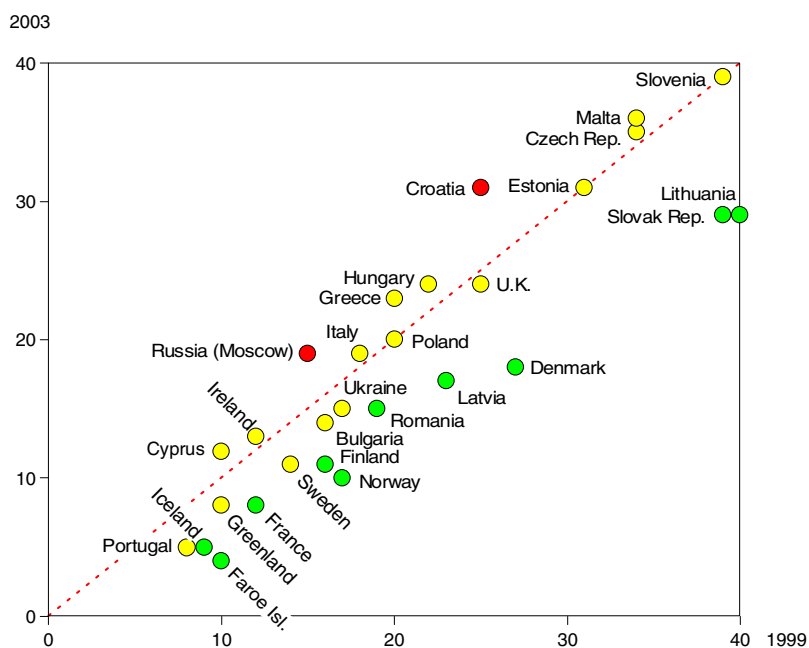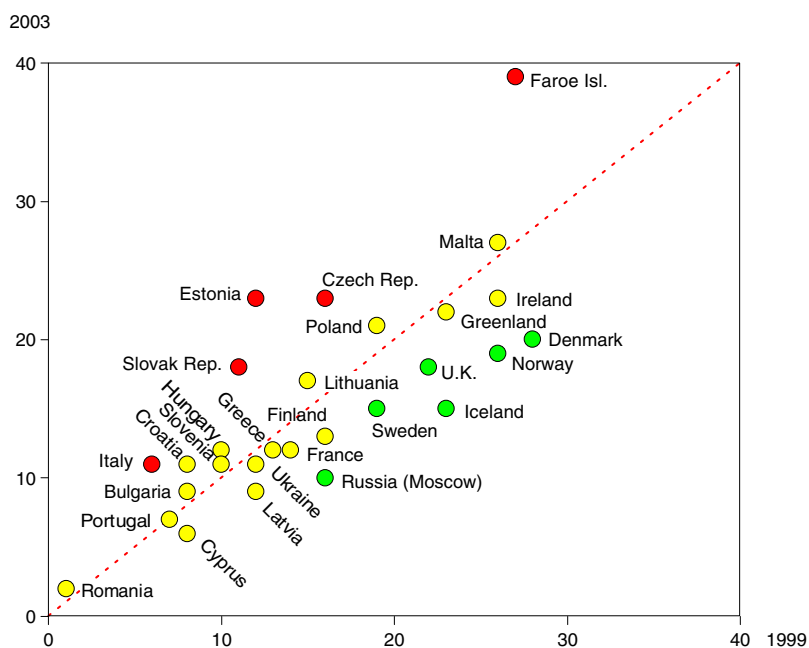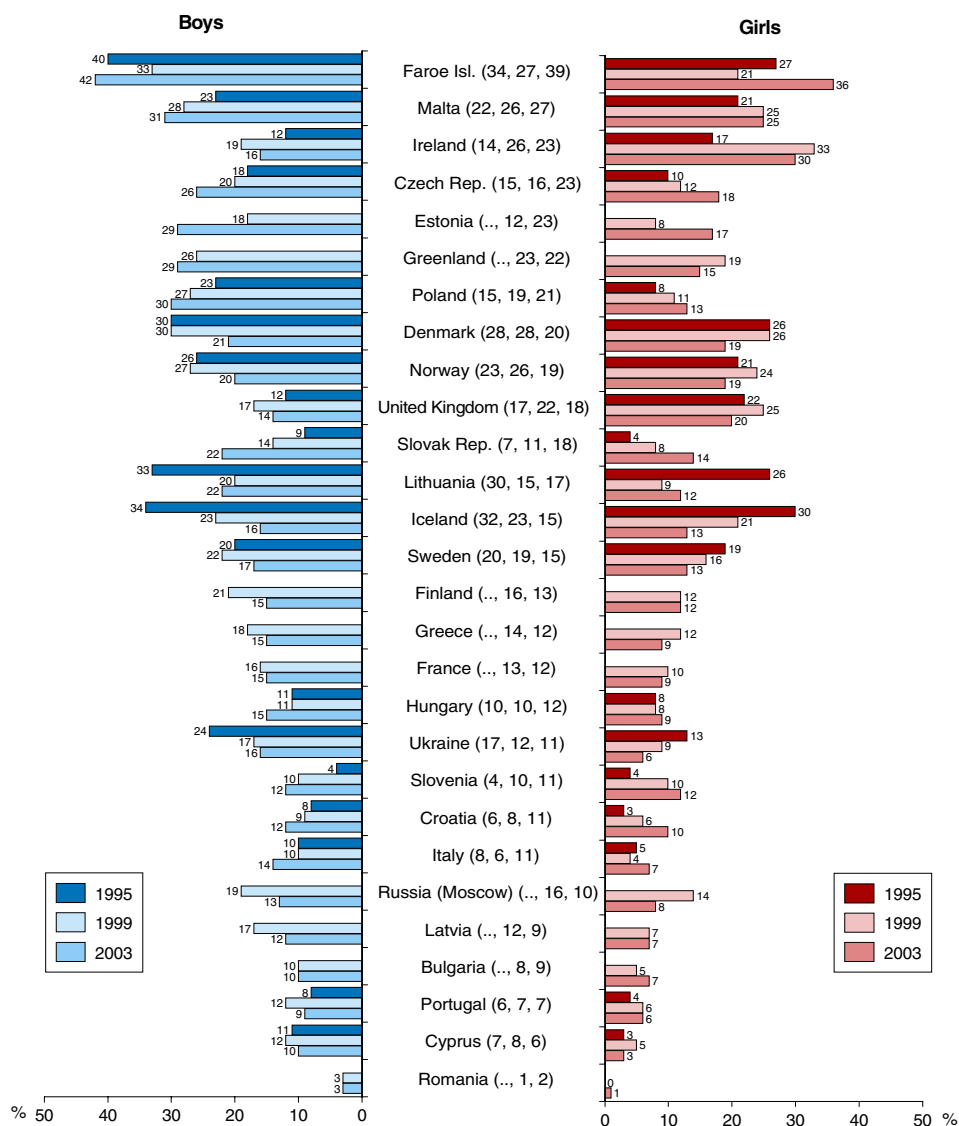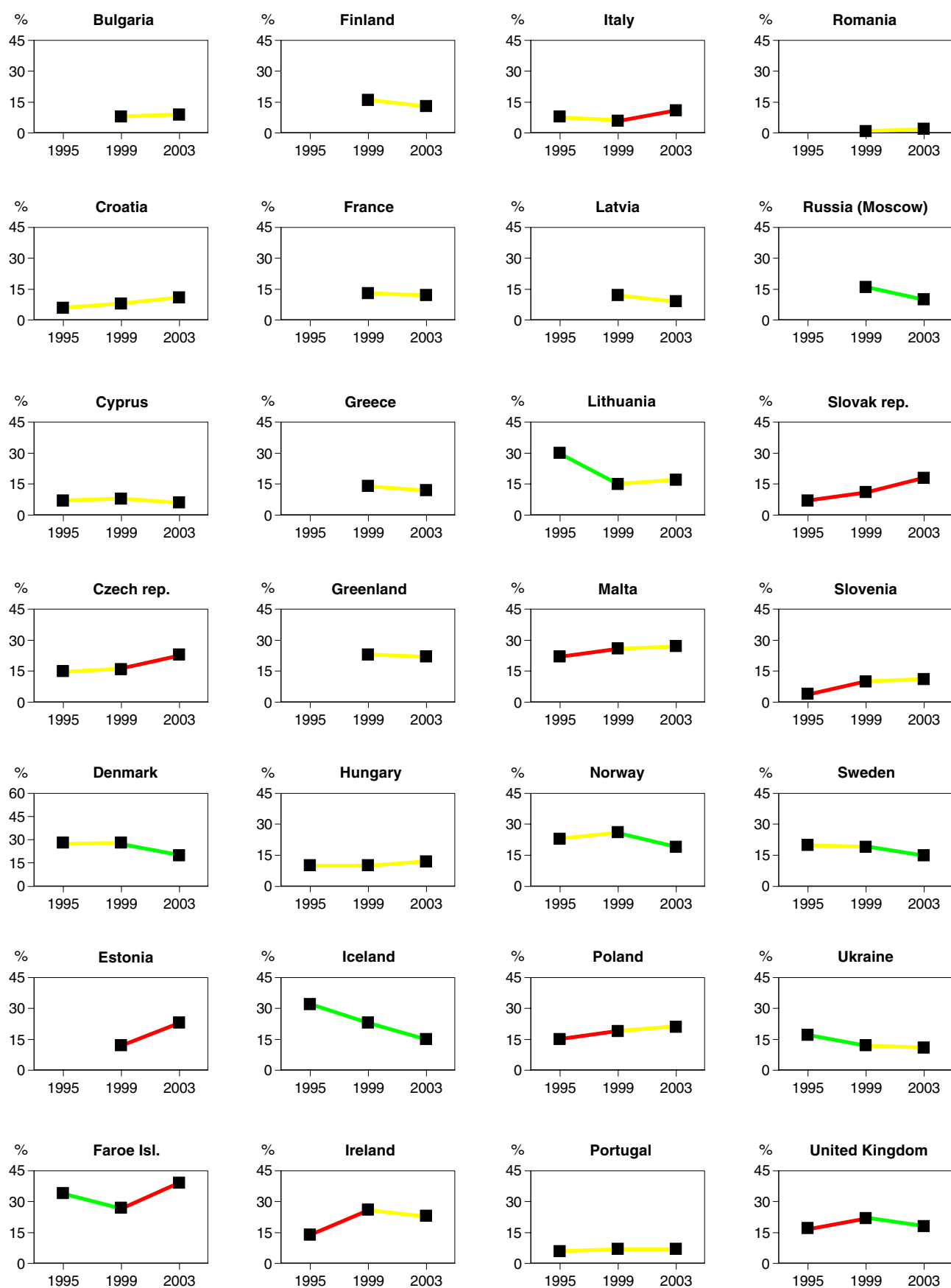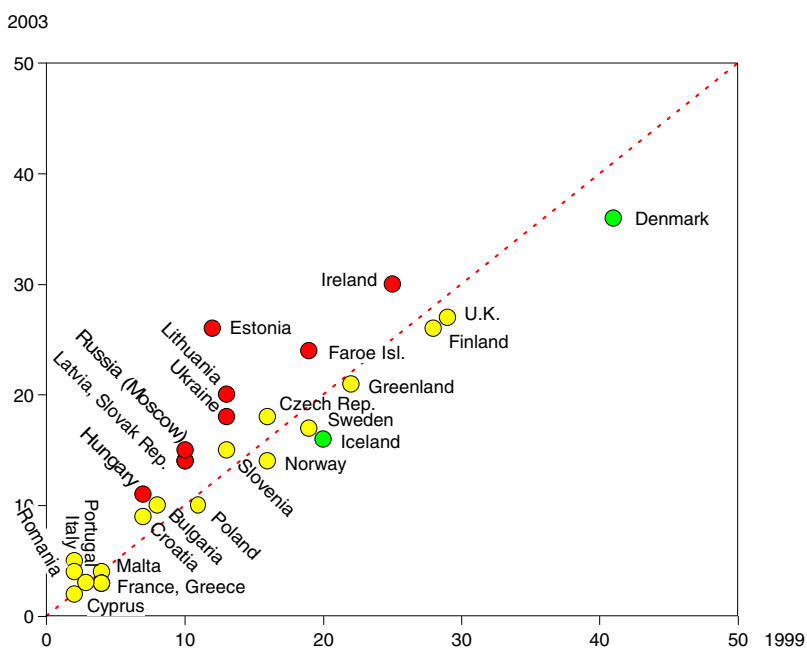

Figure 12b. *Changes between 1995 and 2003 in consumption of 15 cl wine or more on the last drinking occasion. Percentages among boys and girls (values within brackets refer to all students 1995, 1999, 2003). Data sorted by all students 2003.*

Changes in the use of alcohol and other drugs 2003
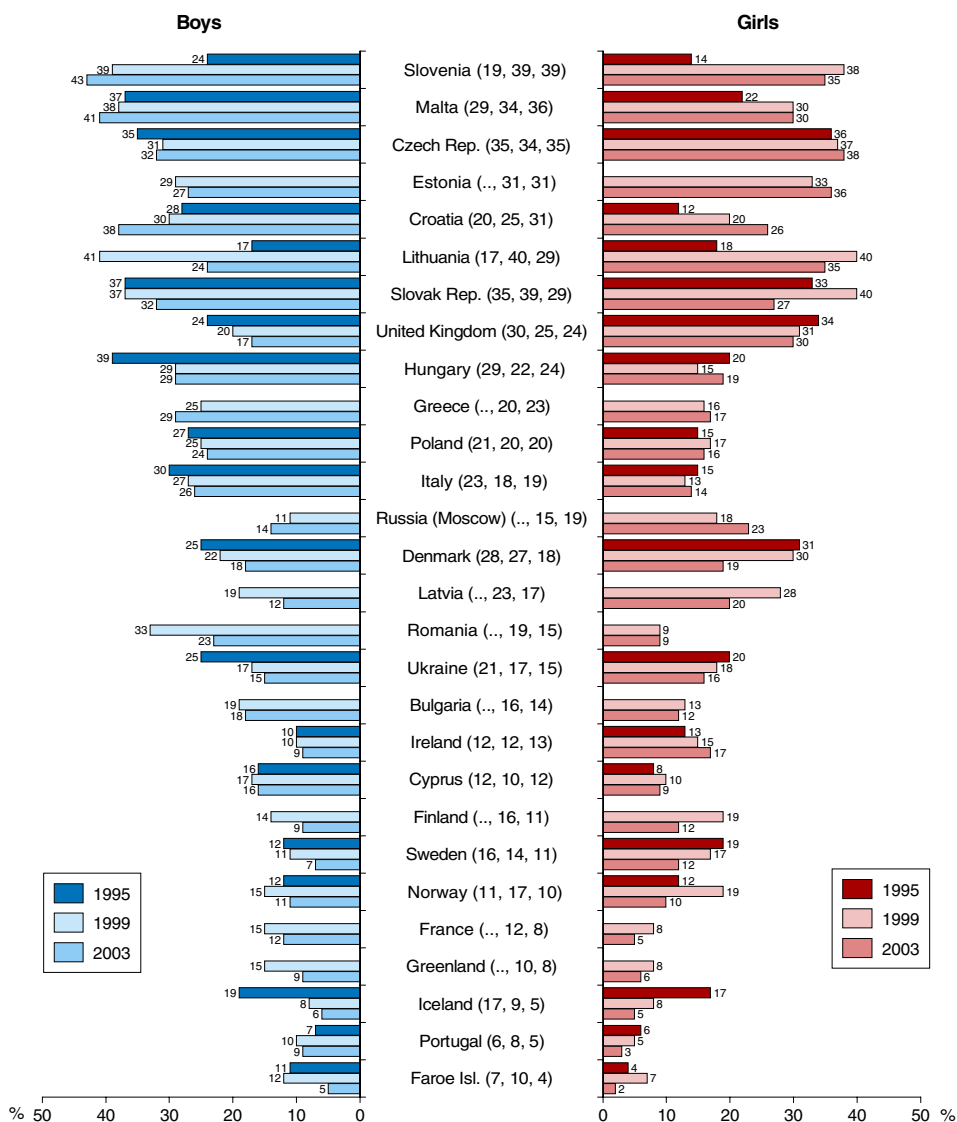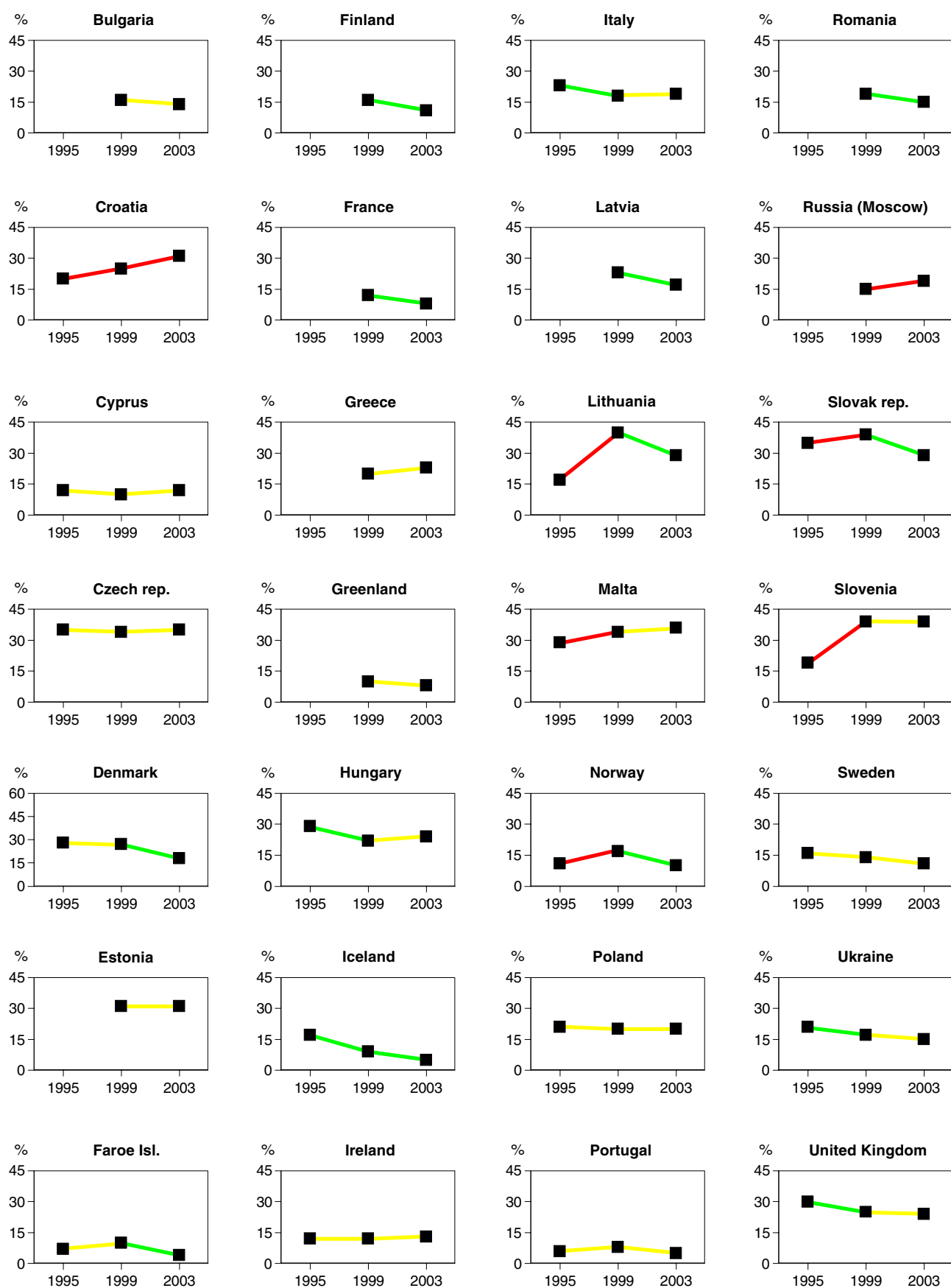
Figure 12c. *Changes between 1995 and 2003 in consumption of 15 cl wine or more on the last drinking occasion, by country. All students.*
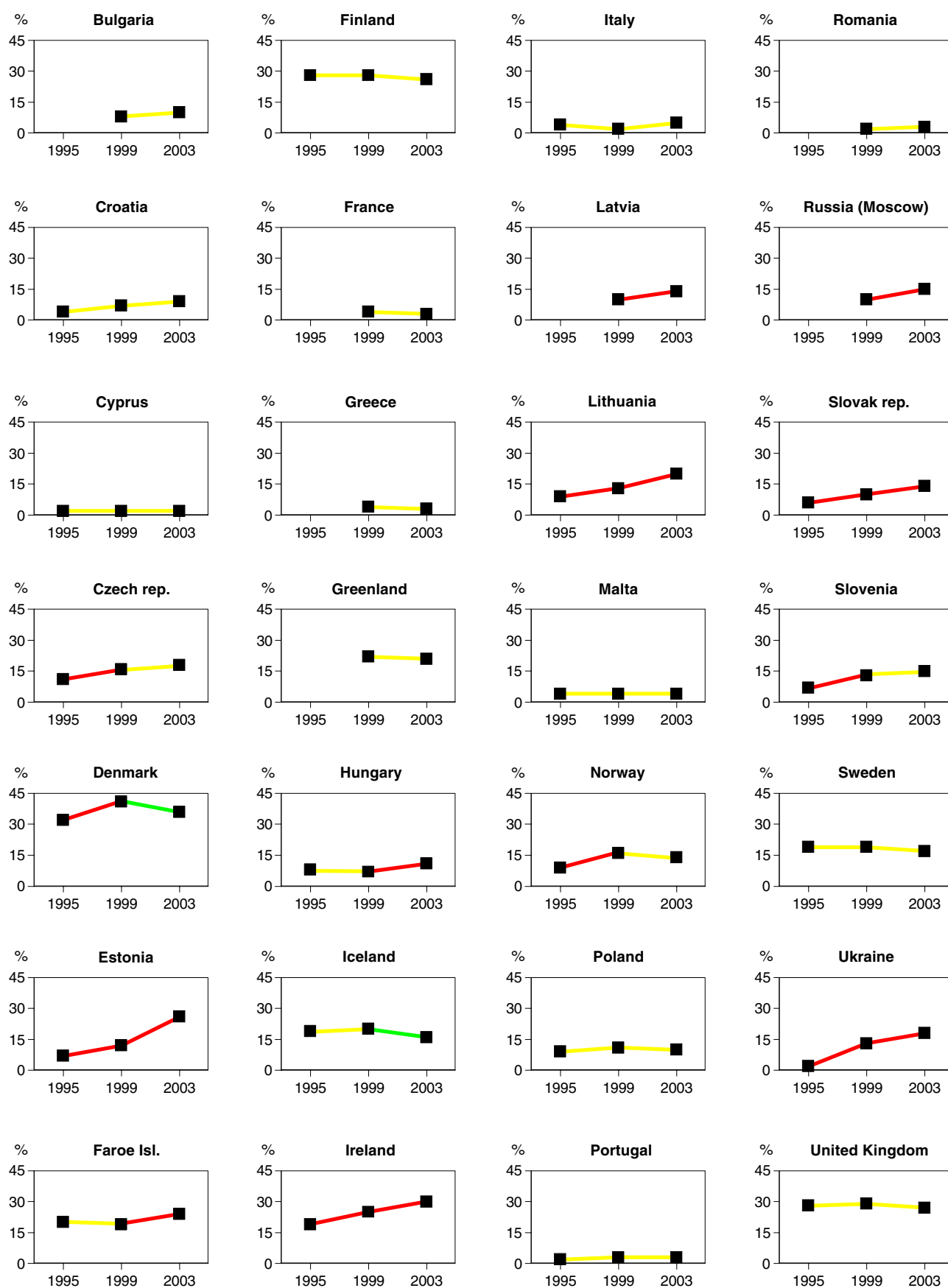
Figure 13a. *Changes between 1999 and 2003 in consumption of 11 cl spirits or more on the last drinking occasion. Countries above the line have increased prevalence rates, and countries below have decreased. All students.*

Figure 13b. *Changes between 1995 and 2003 in consumption of 11 cl spirits or more on the last drinking occasion. Percentages among boys and girls (values within brackets refer to all students 1995, 1999, 2003). Data sorted by all students 2003.*

Figure 13c. *Changes between 1995 and 2003 in consumption of 11 cl spirits or more on the last drinking occasion, by country. All students.*

Figure 14a. *Changes between 1999 and 2003 in the proportion who have been drunk 20 times or more in lifetime. Countries above the line have increased prevalence rates, and countries below have decreased. All students.*
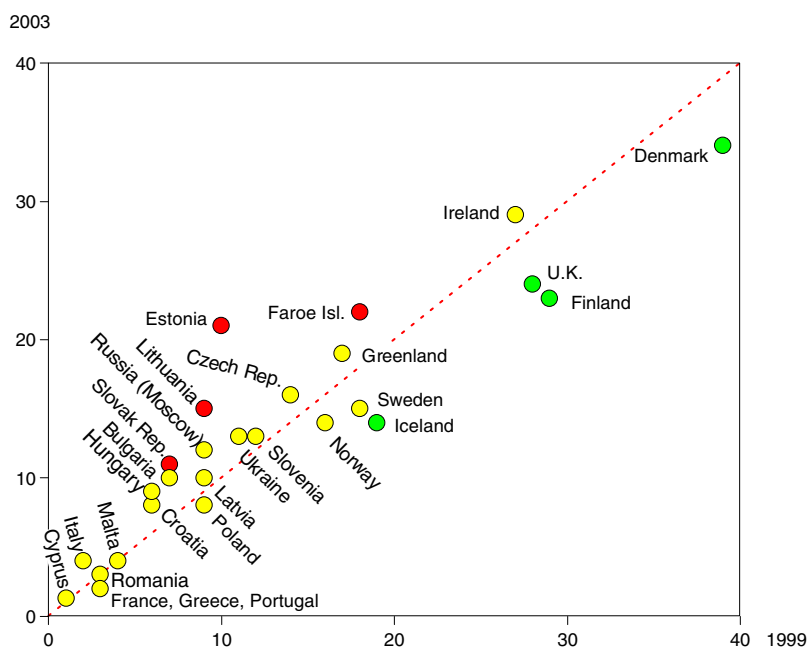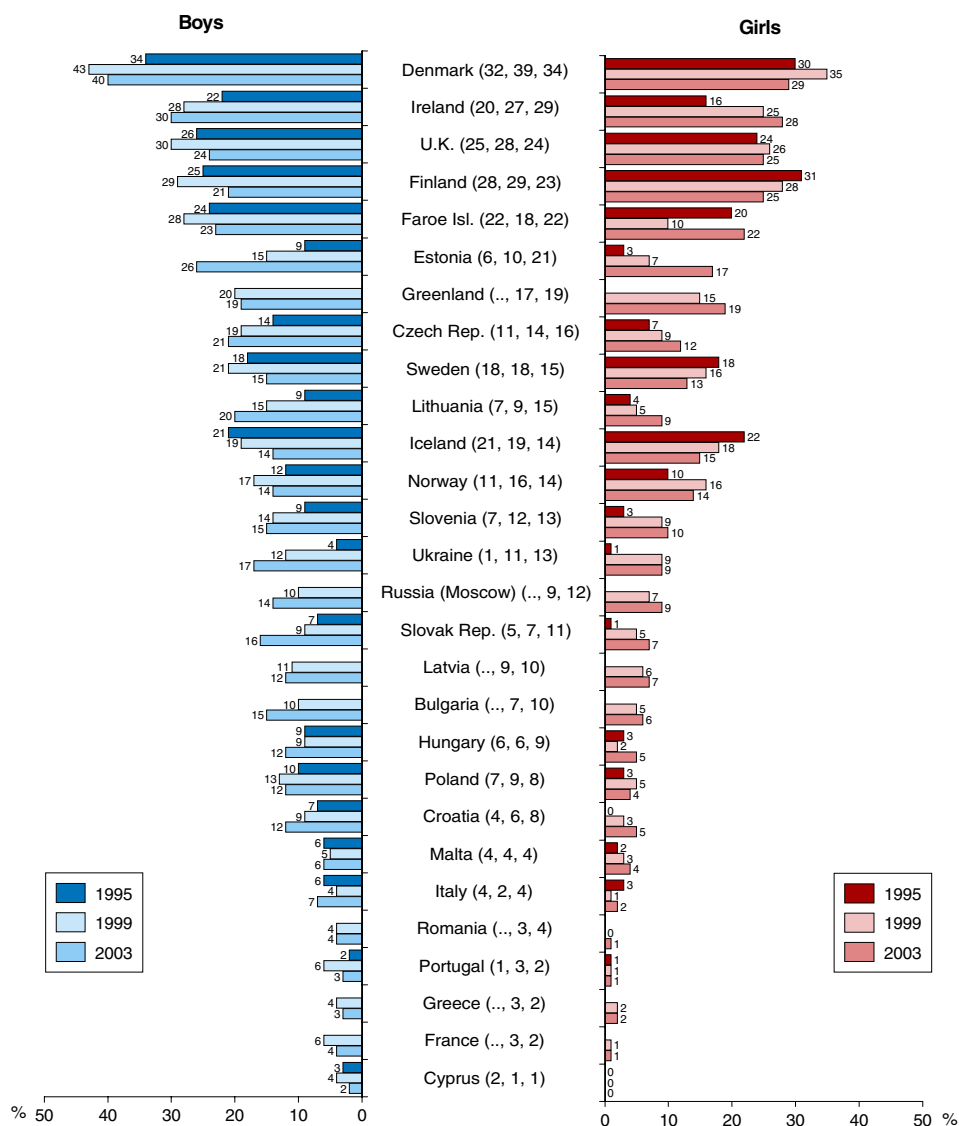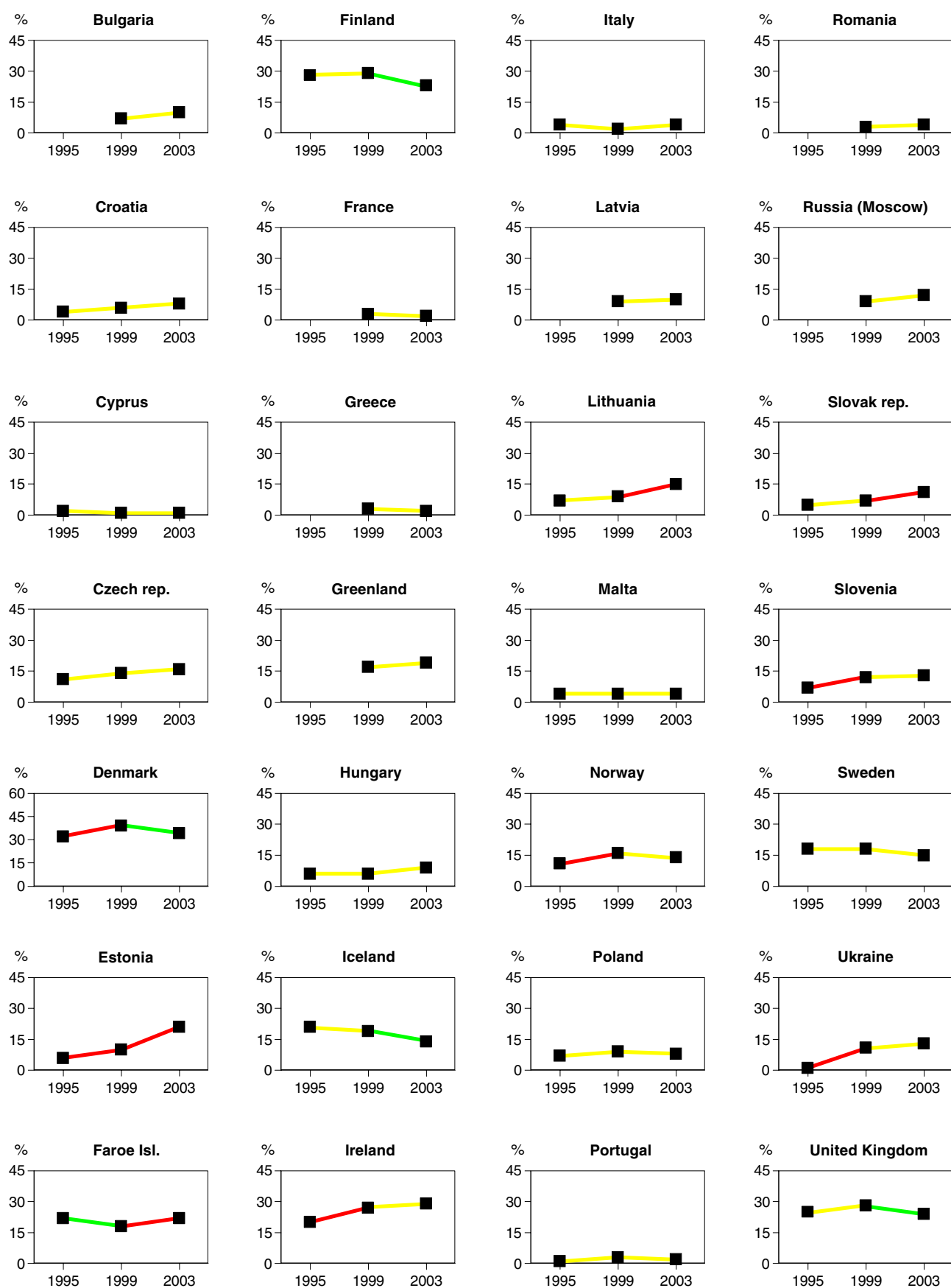
Figure 14b. *Changes between 1995 and 2003 in the proportion who have been drunk 20 times or more in lifetime. Percentages among boys and girls (values within brackets refer to all students 1995, 1999, 2003). Data sorted by all students 2003.*

Changes in the use of alcohol and other drugs 2003
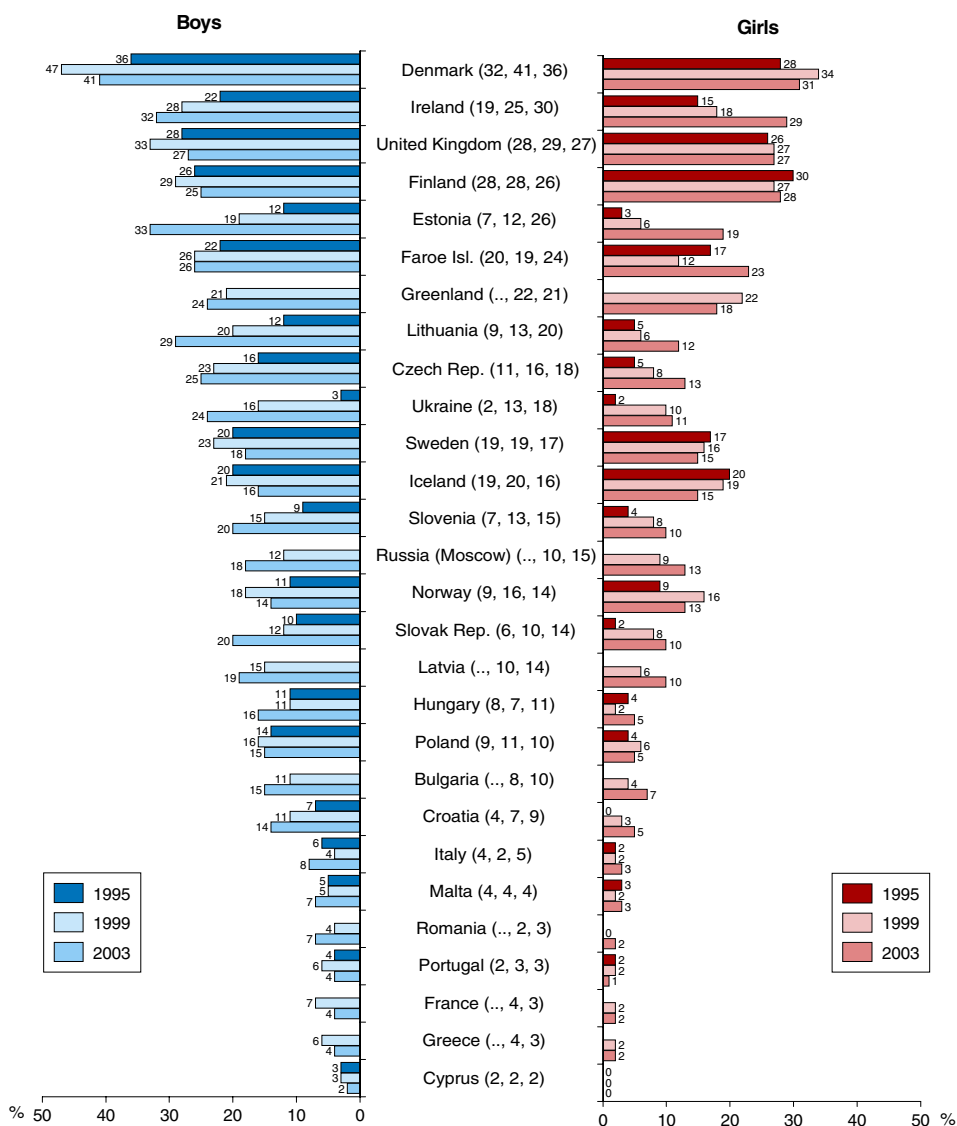
Figure 14c. *Changes between 1995 and 2003 in the proportion who have been drunk 20 times or more in life-time, by country. All students*

Figure 15a. *Changes between 1999 and 2003 in the proportion who have been drunk 10 times or more during last 12 months. Countries above the line have increased prevalence rates, and countries below have decreased. All students.*
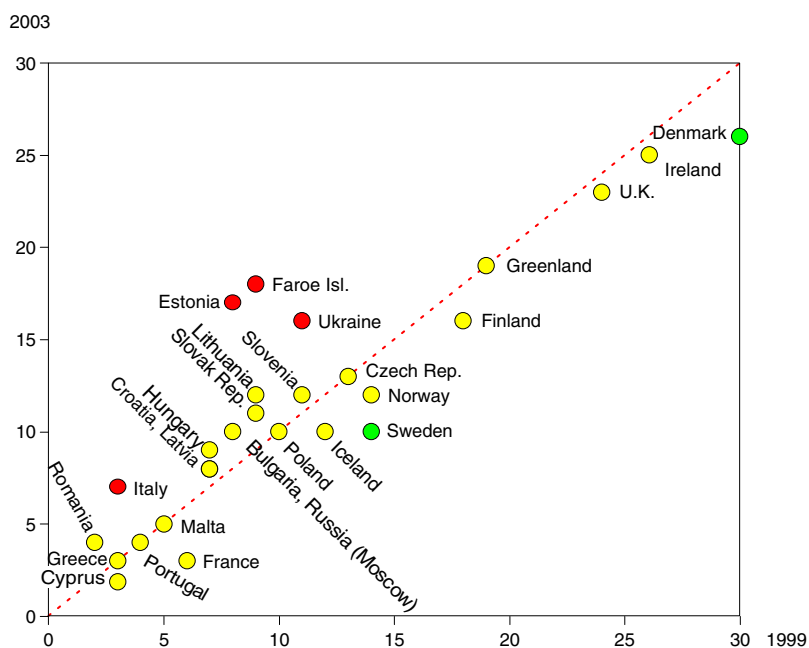
Figure 15b. *Changes between 1995 and 2003 in the proportion who have been drunk 10 times or more during last 12 months. Percentages among boys and girls (values within brackets refer to all students 1995, 1999, 2003). Data sorted by all students 2003.*
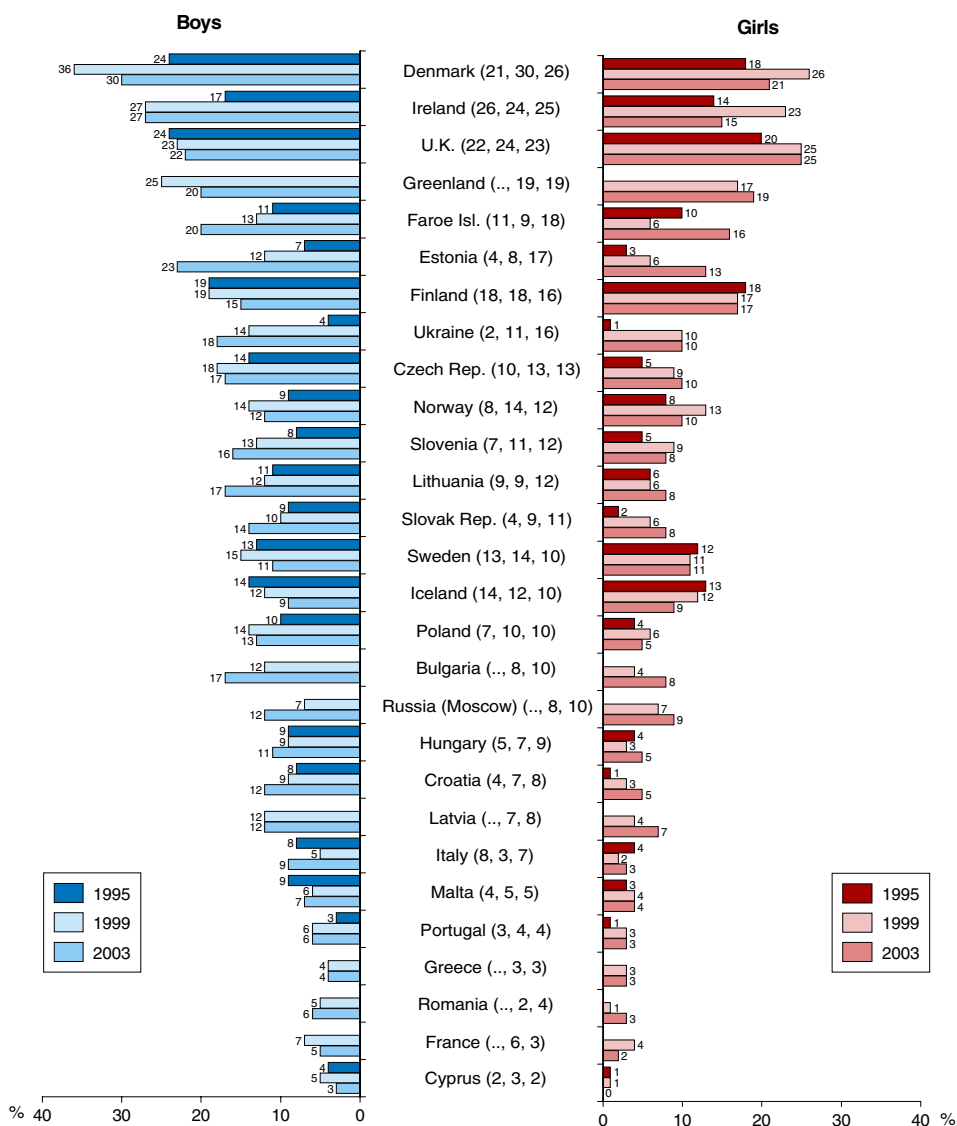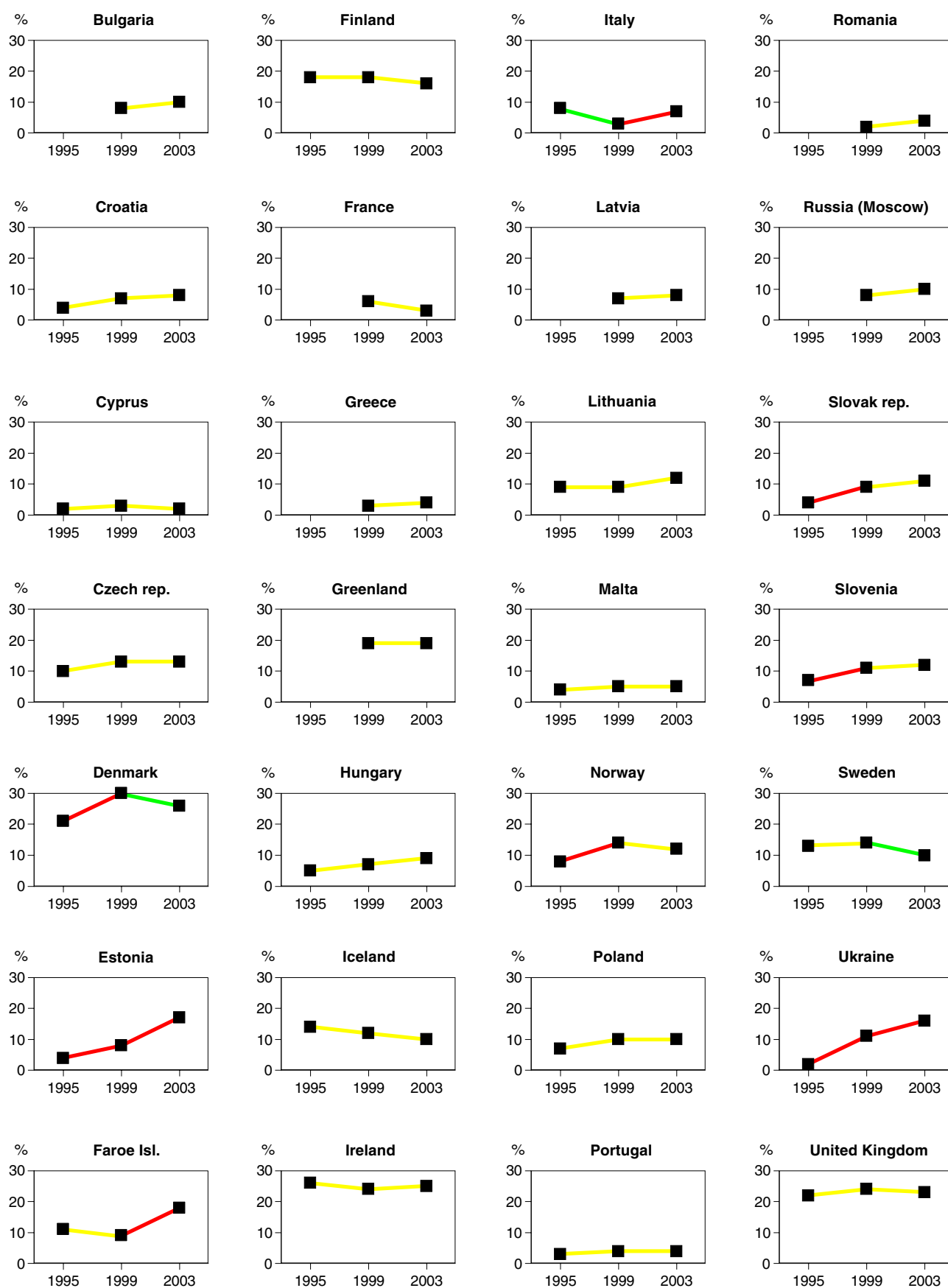
Figure 15c. *Changes between 1995 and 2003 in the proportion who have been drunk 10 times or more during last 12 months, by country. All students.*

Figure 16a. *Changes between 1999 and 2003 in the proportion who have been drunk 3 times or more during last 30 days. Countries above the line have increased prevalence rates, and countries below have decreased. All students.*
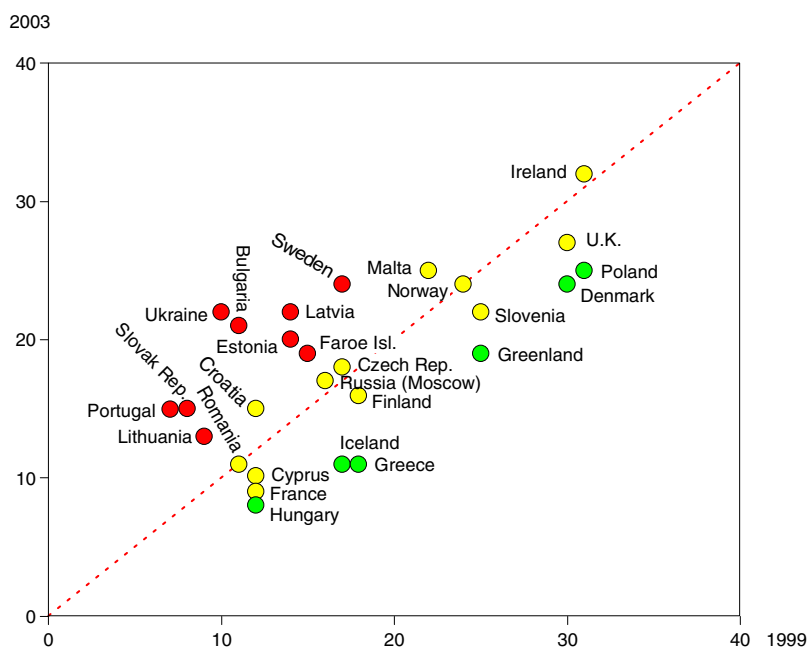

Figure 16b. *Changes between 1995 and 2003 in the proportion who have been drunk 3 times or more during last 30 days. Percentages among boys and girls (values within brackets refer to all students 1995, 1999, 2003). Data sorted by all students 2003.*

Figure 16c. *Changes between 1995 and 2003 in the proportion who have been drunk 3 times or more during last 30 days, by country. All students.*

Figure 17a. *Changes between 1999 and 2003 in the proportion who have reported "binge drinking" 3 times or more during last 30 days. Countries above the line have increased prevalence rates, and countries below have decreased. All students.*

Figure 17b. *Changes between 1995 and 2003 in the proportion who have reported "binge drinking" 3 times or more during last 30 days. Percentages among boys and girls (values within brackets refer to all students 1995, 1999, 2003). Data sorted by all students 2003.*