

HEALTH POLICY FOR CHILDREN  
AND ADOLESCENTS, NO. 5



# HBSC

## INEQUALITIES IN YOUNG PEOPLE'S HEALTH

HEALTH BEHAVIOUR IN SCHOOL-AGED CHILDREN  
INTERNATIONAL REPORT FROM THE 2005/2006 SURVEY



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**cä**hru ...

child and adolescent health research unit

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# INEQUALITIES IN YOUNG PEOPLE'S HEALTH

**HBSC INTERNATIONAL REPORT**  
FROM THE 2005/2006 SURVEY

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# Preface

The Health Behaviour in School-aged Children (HBSC) study has earned a justified reputation as a unique provider of key insights into the health-related behaviours of young people. It builds a longitudinal data base that offers a convincing picture of patterns and issues in relation to the health and well-being of young people in many parts of the world.

This international report, the fourth to be published from the HBSC study, mirrors its predecessors by providing data on young people across a wide range of health, education, social and family measures. But while previous reports from the study have described patterns of health and behaviour with respect to gender, age, geographic and socioeconomic dimensions of health differentials, this one adopts a systematic approach to quantifying inequalities. The report sets out the associations between family affluence and the diverse health variables the study focuses on, presenting them by geographic region.

The health inequalities theme of the report ties closely with the interests of the WHO Regional Office for Europe, which is proud to continue its collaboration with the HBSC study. Socioeconomic factors play a crucial role in children's and young people's physical, psychological and social development, and adolescence is a key period in the emergence of health inequalities that persist into adulthood.

The publication of the report is timely, as it supports the further development and implementation of international and national policies and strategic frameworks that aim to tackle health inequalities. One example from the European Region is the *WHO European strategy for child and adolescent health and development*, which was adopted by the WHO Regional Committee in September 2005. The purpose of this strategy is to assist Member States in formulating their own policies and programmes. It identifies the main challenges to child and adolescent health and development and, most importantly, provides guidance based on evidence and experience gathered over recent years.

The WHO Regional Office, through its European Office for Investment for Health and Development, has launched a specific international forum whose aim is to maximize the impact the HBSC study can have across Member States. The WHO/HBSC Forum has held two meetings to date, the first focusing on healthy eating habits and physical activity levels among adolescents, and the second on social cohesion for mental well-being.

The forum, which uses data from the HBSC surveys as the fulcrum for discussion among international partners, has been developed to better facilitate the translation of research findings into effective policy-making and practice. It provides an opportunity for national teams of interdisciplinary policy-makers, health promotion practitioners, education system specialists, youth group representatives and communications experts to come together to discuss public health issues affecting young people, with a particular emphasis on addressing the social determinants of health and reducing health inequalities.

This HBSC report is the result of an enormous amount of work and effort by teams of investigators in all of the 41 countries and regions involved. But more than anything, it owes its success to the enthusiasm and willingness to share of the thousands of young people who took part and who offered the research teams fascinating insight into their thoughts, feelings and behaviours. The HBSC study cannot exist without these young people, and it is to them that we dedicate our efforts to influencing policy direction in the participating countries and regions to ensure better futures for all young people.

**Erio Ziglio and Vivian Barnekow**

*Country Policies and Systems*

*WHO Regional Office for Europe*

# Foreword

Young people are the future, and when given a chance, they can describe cogently, concisely and convincingly exactly how they want to see that future shape up.

The HBSC study, which now involves 41 countries and regions, is one of the most important mechanisms in place to give young people a voice in defining their futures. There is a lack of systematic data collection systems in relation to young people aged 11–15 years in most Member States of the WHO European Region, and HBSC goes a considerable way towards filling the gaps.

An important effect of the HBSC study has been to inspire an increasing number of countries to strengthen their capacity for data collection, analysis and utilization in this domain. We are also witnessing the increased utilization of HBSC data in reviewing existing policy and generating new policy at country level.

The data HBSC generates are young people's data – it is their thoughts, experiences, aspirations and concerns that fill the pages of this report and which will govern the actions that emerge from it.

The ethos of the HBSC study is that the participating young people are not “subjects” to be studied, but rather are partners in creating a data base that will influence the actions of policy-makers, public health experts, teachers, parents and other key stakeholders in the countries in which they live. Their participation provides deep and meaningful insights into what it is like growing up as a young person in the early part of the 21<sup>st</sup> century.

And that process of growing up as a young person in the early part of the 21<sup>st</sup> century is not without its challenges. The international report clearly shows that while there is much to celebrate in the health and well-being status of many young people, sizeable minorities are experiencing real and worrying problems in relation to issues such as overweight and obesity, body image, life satisfaction, substance misuse and bullying.

Policy-makers and professionals in the participating countries and regions should listen closely to the voices of their young people and ensure that those voices drive their efforts to identify and tackle the health inequalities that have such an impact on young people's health and futures.

The findings in this new international report will enable health systems to review their impacts and strengthen their stewardship in relation to initiatives that affect young people's health. Along with the national reports, it provides reliable data that health systems in Member States can use to support and encourage sectors such as education, social inclusion and housing to achieve their primary goals and, in so doing, have beneficial effects on young people's health. Strategies to improve health system performance in areas such as these will be on the agenda of the WHO European Ministerial Conference on Health Systems held in Tallinn, Estonia, on 25–27 June 2008.

Once again, the HBSC study has challenged all of us to question our perceptions, deepen our understanding and redouble our efforts to put in place the circumstances – social, economic, health and educational – within which young people can thrive and prosper.

**Dr Nata Menabde**

*Deputy Regional Director*

*WHO Regional Office for Europe*

# CHAPTER 1

## OVERVIEW OF HBSC STUDY AND 2005/2006 SURVEY

## AIMS OF THE REPORT

This international report from the Health Behaviour in School-aged Children (HBSC) World Health Organization collaborative cross-national study is the most comprehensive to date. It presents the key findings on patterns of health among young people in 41 countries and regions across Europe and North America. [Table 1](#) shows the participating countries and regions.

The document presents a status report on health, health-related behaviour and the social contexts of young people's health in 2005/2006 and provides the latest evidence from a unique cross-national study on the well-being of young people in industrialized nations.

It is the fourth in a series of international reports from the HBSC study published by the WHO Regional Office for Europe in the "Health policy for children and adolescents" (HEPCA) series. In addition to presenting key statistics on young people's health, each report has a particular theme.

In this report, the theme is *health inequalities*, encompassing gender, age and geographic and socioeconomic dimensions of health differentials. While previous reports have described patterns of health and behaviour with respect to these dimensions, this one takes a systematic approach to quantifying inequalities.

The aim of the report is to highlight where inequalities exist in aspects of young people's health and well-being to inform and influence policy and practice and to contribute to health improvement for all young people. This fits with the agenda of HBSC's partner, the World Health Organization, and in particular with the aims of the WHO/HBSC Forum. The forum is designed to address the socioeconomic determinants of health among adolescents and the development of an equity-oriented strategy for child and adolescent health, as expressed in the *WHO European strategy for child and adolescent health and development* (1).

## THEME OF THE REPORT

### Why inequalities?

The issue of health inequalities is now firmly set within the context of international policy development. The agenda has been developed on the basis of a growing body of evidence accumulated over the last 20 years which shows that people who live in disadvantaged social circumstances are more prone to illness, distress and disability and die sooner than those living in more advantaged circumstances (2–5). Evidence from around the world points to an increase in the gaps in health status and health care by socioeconomic status, geographical location, gender, race, ethnicity and age group (6,7).

In general, children and adolescents in the WHO European Region currently enjoy better health and development than ever before, but still fall a long way short of achieving their full health potential. This results in significant social, economic and human cost, with wide variations in young people's health in every Member State within the European Region.

Some may argue that health is equalized during adolescence (8,9), but Call et al. (10) suggest that health experience during this critical period has short- and long-term implications for the individual and for society. Graham & Power's work on life-course approaches to health interventions (11) highlights the adolescent period as being critical in determining adult behaviour in relation to issues such as tobacco use, dietary behaviour, physical activity and alcohol use, and that health inequalities in adult life are partly determined by early life circumstances. Data presented in this report on different ages during adolescence can help to determine the most effective types of interventions as young people travel through adolescence and into adulthood.

## DEFINING INEQUALITIES

The terms “health inequalities” and “health inequities” are used in different ways in different societies and by different authors (12).

Whitehead and Dahlgren (13) define health inequalities as *measurable differences in health experience and health outcomes* between different population groups – according to socioeconomic status, geographical area, age, disability, gender or ethnic group”. Inequality in this instance is about objective differences between groups and individuals measurable by mortality and morbidity.

In contrast, they define “health inequity” as *“the differences in opportunity”* for different population groups which result in, for example, unequal life chances and inadequate access to health services, nutritious food and appropriate housing. These differences, some of which are measurable, are perceived as being unfair and unjust (13).

“Inequalities in health” is the term that has been adopted for this report.

While the WHO Commission on the Social Determinants of Health claims that the vast majority of inequalities in health between and within countries are avoidable and consequently inequitable, the policy implications of the findings in this HBSC report may be different in different country contexts (14).

### Dimensions of inequalities

The traditional way of measuring health inequalities is by socioeconomic status, defined by an individual's position (or, in the case of adolescents, that of their parents) in the labour market. While few researchers would argue that gender, ethnicity, age, place of residence and disability are important dimensions of social difference, systematic exploration of the differences in health in relation to these dimensions is under-researched.

The Measurement and Evidence Network of the WHO Commission on the Social Determinants of Health (15) argue that these dimensions need to be researched in their own right to enable fully developed explanations of health inequalities to emerge. This is very important in policy terms as it is clear from evidence that different segments of the population respond very differently to identical public health interventions. Researchers therefore have an important role to play in furthering understanding of the individual influences of each of the dimensions of health inequalities and, indeed, how they interact with each other to produce health effects.

This report contributes to developing a better understanding in the context of adolescent health by presenting data from the 2005/2006 HBSC survey by socioeconomic status, gender, age and geography.

### Gender inequalities

An earlier HBSC report using data from the 1998 survey of 25 countries focused specifically on gender differences (16). The present report updates and extends those findings on gender and draws them alongside other dimensions of inequality. Given the stated international responsibility to achieve health equality between the genders (17), development of a better understanding of gender inequalities is fundamental to the improvement of young people's health and is necessary to better guide appropriate policy and practice responses.

### Age inequalities

Young people's behaviours, lifestyles and social context change dramatically as they grow and develop through their adolescent years. This is reflected in the health behaviours, health outcomes and social perspectives attributed to young people of different ages.

Past reports (18–20) have documented these age-related patterns, but this is the first HBSC international report to make health inequalities by age a specific focus. The age-related findings again point to the power of the 41 countries and regions participating in the 2005/2006 HBSC survey to identify consistent developmental trends across regions and cultures. This information can assist in the design of programmes and policies that result in positive behavioural choices and strategies that create positive social and physical environments in homes, schools and neighbourhoods.

### Geographic inequalities

Countries participating in the 2005/2006 HBSC survey cover a wide geographical area that spans the Americas, Greenland and Iceland, continental Europe and Israel. These 41 countries and regions include a diverse assortment of cultures, climates and topographies. The countries and regions participating in the 2005/2006 HBSC survey also have many differences in economic, historic and political systems, all of which could influence the health of young people.

This is the first international HBSC report to systematically identify differences in the health of young people according to these geographic contexts. The analyses provide additional insights into adolescent health and the geopolitical factors that may influence adolescent health patterns. The presentation of data in geographic map form provides an additional dimension for examining broad patterns across regions and identifying gender inequalities.

### Socioeconomic inequalities

In addition to inequalities by gender, age and geography, socioeconomic inequalities in health are a key focus of this international HBSC report.

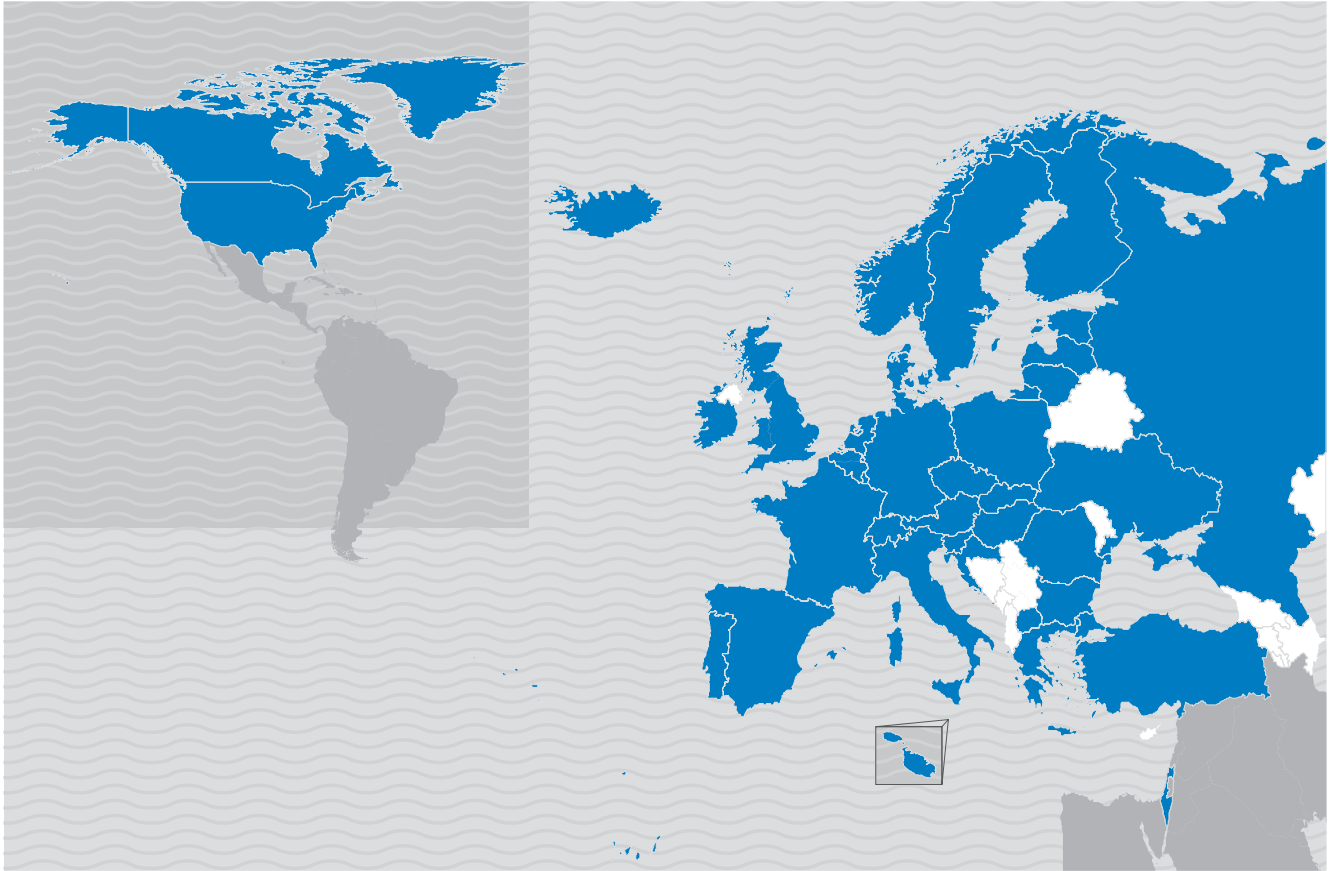
Socioeconomic factors play a crucial role in the physical, psychological and social development of children. The accumulation of health and social disadvantage through the life-course is of concern, and adolescence is a key period for the emergence of health inequalities that persist into adulthood. Relationships between socioeconomic inequalities and some specific health outcomes were included in the international report from the 2001/2002 HBSC survey (20). This new report shows associations with family affluence for all the health variables and presents them according to geographic region.

Many negative health behaviours such as smoking, alcohol and other drug use can be established during the teenage years, and such behaviours can be mechanisms by which social gradients of health emerge (21–23). Children and adolescents are therefore among the most important population groups to target for health promotion and protection. Young people may be particularly vulnerable to the health-impairing effects of inequity as they are unlikely to possess or control much of the wealth or power held by society. This supports a need to perform focused analyses of health inequalities among young people. HBSC continues to be a leader in the development of indicators to quantify and monitor such inequalities (24,25), and this remains one of the primary research goals of the cross-national HBSC research programme.

Graham & Power (11) are among those who have called for the debate on inequalities to be widened beyond those based on socioeconomic factors. This report makes a contribution to the wider evidence base by thematically considering inequalities among young people by gender, age and geography, in addition to the more obvious health inequalities that may arise through socioeconomic status.



Fig.1.  
PARTICIPATING COUNTRIES AND REGIONS IN THE 2005/2006 HBSC SURVEY



## OVERVIEW OF THE HBSC STUDY

The HBSC research network is an international alliance of researchers and research teams that collaborate on the cross-national survey of school students, Health Behaviour in School-aged Children.

The alliance dates from 1982, when researchers from three countries (United Kingdom (England), Finland and Norway) (26) agreed to develop and implement a shared research protocol to survey schoolchildren with the aim of collaborating cross-nationally. By 1983, researchers from Austria and Denmark had joined, and the HBSC study was adopted by the WHO Regional Office for Europe as a collaborative study.

The early successes of the HBSC project led to an agreement to continue to survey schoolchildren on a cyclical basis. The next survey round, conducted during the winter and spring of 1985/1986, included a total of 13 countries. Independent cross-sectional surveys have continued every four years since that time.

The growth of interest in the study of adolescent health and an appreciation of the value of cross-national comparisons led to an increase in country-based research teams applying to join the network and to participate in the cross-national study. Each research team has to meet certain requirements related to expertise, capacity and ability to raise funds for their national study and international collaboration. Membership is agreed by the International Assembly of Principal Investigators. [Table 1](#) illustrates the growth in the international network over the seven survey rounds since 1983.

The international HBSC research network is multidisciplinary with members coming from sociology, pedagogy, paediatrics, psychology, epidemiology, clinical medicine, human biology and public health. Other members have a policy development background. The approach to study development has therefore involved cross-fertilization of a range of perspectives.

While the overall aim of the study has been to gain new insights and increase understanding of adolescent health behaviours, health and well-being, there has been an increasing emphasis on the determinants of adolescent health, particularly in the contexts of young people's lives. The evidence produced from HBSC is therefore able to inform a wide range of policy and practice agendas.

The HBSC study is the product of the international network of researchers who work in topic-focused groups that collaborate to develop the conceptual underpinnings of the study, identify research questions, decide the methods and measurements to be employed and work on data analyses and the dissemination of findings.

A full research protocol is developed for each survey round. This includes:

- scientific rationales for topic areas;
- the international mandatory questionnaire (with recommendations and guidance for translation, layout and question order);
- required procedures for sampling, data collection and the preparation of the national data set; and
- directions for the use of the international data set and the collaboratively agreed procedures for data dissemination.

Members of the Methods Development Group and the International Coordinating Centre provide ongoing support to network members on issues such as translation, sampling and data documentation. Adherence to the international protocol is required for entry into the international data set, and this has been achieved for all data included in this report. The study methods are outlined briefly below, with more a more detailed description available elsewhere (27,28).

As the study has progressed and grown, there has been increased attention not only to methodological developments, but also to conceptual development, theory advancement and research dissemination. The international network is organized around an interlinked series of focus and topic groups concerned primarily with these issues.

TABLE 1.

	1983/1984	1985/1986	1989/1990	1993/1994	1997/1998	2001/2002	2005/2006
1	Austria						Austria
2	Denmark*						Belgium (Flemish)
3	England						Belgium (French)
4	Finland						Canada
5	Norway						Croatia
							Czech Republic
							Denmark
							England
							Estonia
							Finland
							France
							Germany
							Greece
							Greenland
							Hungary
							Ireland
							Israel
							Italy
							Latvia
							Lithuania
							Malta
							Netherlands
							Norway
							Poland
							Portugal
							Russian Federation
							Scotland
							Slovakia
							Slovenia
							Spain
							Sweden
							Switzerland
							TFYR Macedonia†
							Ukraine
							United States
							Wales
							Bulgaria
							Iceland
							Luxembourg
							Romania
							Turkey

\* carried out survey after scheduled fieldwork dates      \*\* national data file

The approach to method and item development explicitly recognizes not only the desire to serve a monitoring function, but also the requirement that the data can be analysed from a range of theoretical perspectives. There has been a substantial increase in the publication of scientific peer-reviewed papers (see [www.hbsc.org/publications.html](http://www.hbsc.org/publications.html) for a current list) which illustrate the variety of functions the HBSC data set can serve. Policy dissemination has proliferated at both national and international levels with the production of factsheets, briefing papers and reports.

### **Survey instrument**

The variables and items are chosen on the basis of the overall objectives of the study and on the scientific rationale underlying their use.

Questions are subject to piloting and pre-testing at international and national levels prior to the main survey (29–34). The international questionnaire consists of mandatory items employed in all participating countries and optional items, which are included by subsets of countries based on national interest, need and expertise. Many countries also include specific national questions, often of historic or local importance.

This report is based on findings from the mandatory section of the international questionnaire. Data on subsets of countries using specific optional areas of research will be published in future reports and papers.

The international standard questionnaire is developed in English and is subsequently translated into national and subnational languages. The research protocol also includes recommendations for layout and question order. Specific guidance is provided for translators on the underlying concepts being addressed. Questionnaires are then translated back into English for checking by the International Coordinating Centre, but it is important to acknowledge that some cross-national variation in the way students understand certain terms may remain. Cross-national differences in the interpretation of the questionnaire items have been subject to validation exercises, and every attempt has been made to achieve equivalence in meaning for questionnaire items. This work continues as new countries join the study (27).

Funding and the necessary approvals from health and education authorities and research ethics committees are negotiated at national level by country team members. National data are shared and compiled into an international data file for use by all member country teams as a condition of membership.

## Sampling

The international data file from the 2005/2006 survey contains data from more than 200 000 young people (Table 2). Sampling is conducted in accordance with the structure of national education systems within countries and is sometimes stratified by region or school type. The primary sampling unit is the school class or the whole school where a sample frame of classes is not available, classes then being randomly selected. The non-independence of students within classrooms is considered in the procedures for sample-size calculation, based on the deft values identified in previous survey rounds (28,35).

TABLE 2.

NUMBER OF RESPONDENTS IN THE 2005/2006 HBSC SURVEY, BY COUNTRY OR REGION, GENDER AND AGE GROUP

COUNTRY	GENDER		AGE GROUP			TOTAL
	BOYS	GIRLS	11	13	15	
Austria	2 340	2 435	1 694	1 587	1 494	4 775
Belgium (Flemish)	2 198	2 113	1 291	1 404	1 616	4 311
Belgium (French)	2 313	2 163	1 459	1 603	1 414	4 476
Bulgaria	2 405	2 449	1 586	1 580	1 688	4 854
Canada	2 732	3 055	1 466	2 032	2 289	5 787
Croatia	2 439	2 526	1 666	1 669	1 630	4 965
Czech Republic	2 411	2 364	1 509	1 601	1 665	4 775
Denmark	2 727	2 955	2 093	2 037	1 552	5 682
England	2 308	2 460	1 655	1 662	1 451	4 768
Estonia	2 217	2 260	1 421	1 469	1 587	4 477
Finland	2 474	2 719	1 783	1 725	1 685	5 193
France	3 551	3 590	2 493	2 426	2 222	7 141
Germany	3 632	3 592	2 231	2 441	2 552	7 224
Greece	1 746	1 944	1 087	1 187	1 416	3 690
Greenland	665	693	458	483	417	1 358
Hungary	1 677	1 821	1 096	1 215	1 187	3 498
Iceland	4 792	4 684	3 814	3 779	1 883	9 476
Ireland	2 451	2 389	1 370	1 785	1 685	4 840
Israel	2 248	3 102	1 619	1 734	1 997	5 350
Italy	1 974	1 946	1 242	1 343	1 335	3 920
Latvia	2 034	2 187	1 425	1 466	1 330	4 221
Lithuania	2 904	2 728	1 864	1 907	1 861	5 632
Luxembourg	2 162	2 138	1 262	1 531	1 507	4 300
Malta	686	703	509	526	354	1 389
Netherlands	2 114	2 114	1 350	1 515	1 363	4 228
Norway	2 428	2 269	1 578	1 585	1 534	4 697
Poland	2 649	2 840	1 550	1 652	2 287	5 489
Portugal	1 884	2 035	1 201	1 335	1 383	3 919
Romania	2 139	2 545	1 639	1 440	1 605	4 684
Russian Federation	3 892	4 340	2 759	2 718	2 755	8 232
Scotland	3 032	3 113	1 691	2 256	2 198	6 145
Slovakia	1 794	2 083	1 298	1 327	1 252	3 877
Slovenia	2 549	2 570	1 716	1 842	1 561	5 119
Spain	4 368	4 523	2 985	2 841	3 065	8 891
Sweden	2 179	2 213	1 513	1 353	1 526	4 392
Switzerland	2 233	2 346	1 506	1 573	1 500	4 579
TFYR Macedonia <sup>†</sup>	2 625	2 646	1 666	1 709	1 896	5 271
Turkey	2 847	2 705	2 072	1 812	1 668	5 552
Ukraine	2 388	2 681	1 491	1 749	1 829	5 069
United States	1 857	2 035	1 094	1 514	1 284	3 892
Wales	2 169	2 227	1 505	1 541	1 350	4 396
<b>TOTAL</b>	<b>100 233</b>	<b>104 301</b>	<b>66 707</b>	<b>69 954</b>	<b>67 873</b>	<b>204 534</b>

†The former Yugoslav Republic of Macedonia

Children aged 11, 13 and 15 years are the target for the international study. These age groups represent the onset of adolescence, the challenge of physical and emotional changes, and the middle years when important life and career choices are beginning. Countries time their data collection so that the mean ages within their samples are 11.5, 13.5 and 15.5 years respectively. Across the whole sample, the achieved mean ages were 11.6, 13.6 and 15.6 respectively (Table 3). There are nevertheless deviations, ranging from 11.2 to 12.0 in the youngest age group with similar patterns among 13-year-olds and 15-year-olds.

TABLE 3.

MEAN AGES OF RESPONDENTS IN THE 2005/2006 HBSC SURVEY, BY COUNTRY OR REGION AND AGE GROUP

COUNTRY	11-year-olds	13-year-olds	15-year-olds
Austria	11.2	13.2	15.2
Belgium (Flemish)	11.5	13.5	15.4
Belgium (French)	11.6	13.5	15.5
Bulgaria	11.6	13.6	15.6
Canada	11.7	13.6	15.5
Croatia	11.6	13.5	15.6
Czech Republic	11.5	13.4	15.4
Denmark	11.7	13.6	15.6
England	11.7	13.7	15.7
Estonia	11.8	13.8	15.8
Finland	11.8	13.8	15.8
France	11.6	13.6	15.6
Germany	11.3	13.3	15.4
Greece	11.7	13.7	15.6
Greenland	11.7	13.5	15.4
Hungary	11.5	13.5	15.5
Iceland	11.6	13.6	15.6
Ireland	11.6	13.5	15.5
Israel	12.0	13.9	15.9
Italy	11.9	13.8	15.8
Latvia	11.9	13.8	15.8
Lithuania	11.6	13.6	15.7
Luxembourg	11.6	13.5	15.5
Malta	12.0	13.8	15.8
Netherlands	11.6	13.5	15.4
Norway	11.5	13.5	15.5
Poland	11.7	13.7	15.7
Portugal	11.6	13.6	15.6
Romania	11.6	13.6	15.5
Russian Federation	11.4	13.5	15.6
Scotland	11.5	13.5	15.5
Slovakia	11.4	13.4	15.3
Slovenia	11.6	13.6	15.6
Spain	11.5	13.5	15.6
Sweden	11.5	13.5	15.5
Switzerland	11.4	13.5	15.4
TFYR Macedonia <sup>†</sup>	11.5	13.5	15.5
Turkey	11.9	13.9	15.9
Ukraine	11.8	13.6	15.7
United States	11.8	13.4	15.5
Wales	12.0	14.0	16.0
<b>TOTAL</b>	<b>11.6</b>	<b>13.6</b>	<b>15.6</b>

†The former Yugoslav Republic of Macedonia

Sample sizes of approximately 1500 in each age group are required to ensure a confidence interval of  $\pm 3\%$  around a proportion of 50%, and an estimated debt value of 1.2. As the samples drawn from schools and country teams are required to have included at least 95% of children within the age groups in the sample frames, it is frequently necessary to sample across school grades. The total populations in Iceland and Greenland are sufficiently small to render a census survey a more appropriate approach, and it should be noted that the sample frame covered a number of regions rather than the total national territory in Germany and the Russian Federation.

### Survey administration

Questionnaires were administered in schools between October 2005 and May 2006 in the vast majority of cases. Table 4 indicates the data collection period for each country and region.

TABLE 4.  
2005/2006 HBSC SURVEY: DATES OF FIELDWORK BY COUNTRY

COUNTRY	DATES	COUNTRY	DATES
Austria	February–March 2006	Latvia	February–April 2006
Belgium (Flemish)	March–June 2006	Lithuania	March–April 2006
Belgium (French)	January–February 2006	Luxembourg	February–May 2006
Bulgaria	March 2006	Malta	January 2006
Canada	November 2005–June 2006	Netherlands	September–November 2005
Croatia	April 2006	Norway	December 2005–January 2006
Czech Republic	May–June 2006	Poland	February–April 2006
Denmark	February–March 2006	Portugal	January 2006
England	September–October 2006	Romania	March–May 2006
Estonia	February–March 2006	Russian Federation	March–April 2006
Finland	March–May 2006	Scotland	February–March 2006
France	March–June 2006	Slovenia	February–March 2006
Germany	January–July 2006	Spain	May 2006
Greece	March–April 2006	Sweden	November–December 2005
Greenland	March–April 2006	Switzerland	January–March 2006
Hungary	April–May 2006	TFYR Macedonia <sup>†</sup>	April–May 2006
Iceland	February–March 2006	Turkey	May–June 2006
Ireland	April–June 2006	Ukraine	January–February 2006
Israel	May–June 2006	United States	January–May 2006
Italy	May 2006	Wales	January–March 2006

<sup>†</sup>The former Yugoslav Republic of Macedonia

Administration of the questionnaire in schools is conducted according to standard guidelines from the survey protocol. It is carried out by school teachers in some countries and by professional fieldworkers or members of school health teams in others. The process of data coding and entry also takes place at national level according to agreed procedures. National data sets are submitted to the international data bank along with complete documentation of the procedures adopted (noting any deviations).

### **Presentation of findings and analyses**

Bar charts present countries in descending order of prevalence for boys and girls combined for each age group, but it is important to avoid overinterpretation of the ranking of a country. Frequently, few percentage points separate adjacent countries, and such variation may fall within confidence intervals. For ease of reading the charts, percentages are presented rounded to the nearest whole number.

The HBSC average presented on each chart is based on equal weighting of each region, regardless of differences in achieved sample size. An asterisk sign ( \* ) is used on bar charts to identify countries where there is a statistically significant gender difference in prevalence.

Geographic maps of prevalence among 15-year-old boys and girls are presented for some questionnaire items. These maps are intended to show broad patterns of prevalence across Europe and North America and highlight any difference in this patterning between genders. The cut-off points between colour bands are fixed and inevitably there may be only a few percentage points between two regions falling within different colour shades.

Some countries were not able to collect data on certain topic areas due to cultural sensitivities. The following countries did not collect data on sexual health: Ireland, Norway, Poland, Turkey and the United States. Turkey did not collect data on substance use and Norway did not collect data on cannabis use.

In addition, data on sexual health are not presented for some countries (although these data were collected) due to differences in question format.

Statistical analyses were carried out to identify meaningful differences in the prevalence of health and social indicators by gender, age group, levels of family affluence and geographic region. The aim was to provide a rigorous, systematic statistical base for describing cross-national patterns in terms of the magnitude and direction of differences between subgroups. Analyses of geographic patterns were restricted to 15-year-olds. The findings are presented as bullet points and maps in Chapter 2. Analyses for age and gender take account of the effect of the survey design (including stratification, clustering and weighting) on the precision of the estimates presented. The significance level was set at 5%. The Complex Survey package of SPSS 14<sup>®</sup> (SPSS Inc, 2005) was used for all design-adjusted analyses.

Design-adjusted chi-square tests were carried out to assess statistical significance of differences between genders and changes between ages 11 and 15. Chi-square for trend was used to assess significance of differences between levels of family affluence and the Jonckheere-Terpstra test was used to assess statistical significance of differences between geographic areas. Statistical significance was used as a guide to aid interpretation and, in particular, to avoid overinterpretation of small differences. As only strong, consistent patterns between individual variables and family affluence are commented on in the text, adjustment of statistical significance level for multiple testing (36) did not alter the substantive conclusions.

Broad grouping of countries and regions was used for analyses of differences between them. For this purpose, the United Nations Statistical Division classification (37) was used. It uses a combination of macrogeographical (continental) regions, geographical subregions, and selected economic and other groupings:



- *northern Europe and North America*: Denmark, Estonia, Finland, Iceland, Ireland, Latvia, Lithuania, Norway, Sweden, United Kingdom (Scotland, England and Wales), Canada, Greenland, United States; referred to as north or northern countries when all countries are being considered together, and the terms northern Europe or North America are also used separately;
- *southern Europe and western Asia*: Croatia, Greece, Israel, Italy, Malta, Portugal, Slovenia, Spain, The former Yugoslav Republic of Macedonia, Turkey; referred to as south or southern countries when all countries are being considered together; all these countries would also be included in the term southern Europe, even although, strictly speaking, Turkey and Israel are in western Asia according to the United Nations classification;
- *western Europe*: Austria, Belgium (French and Flemish), France, Germany, Luxembourg, Netherlands, Switzerland; the region is also referred to as west or western countries;
- *eastern Europe*: Bulgaria, Czech Republic, Hungary, Poland, Romania, Russian Federation, Slovakia, Ukraine; also referred to as east or eastern countries.

In the report, further subgroups of countries are remarked upon occasionally, such as the Baltic states, if these countries show a particular pattern to which the authors wish to draw attention.

### **The Family Affluence Scale (FAS)**

Various aspects of socioeconomic status of young people are measured in the HBSC study, including occupational status of parents, family affluence and family poverty. In this report, family affluence has been selected to classify young people's socioeconomic status.

The HBSC Family Affluence Scale (FAS) measure is based on a set of questions on the material conditions of the households in which young people live. The questions are easy for children and young people to answer and cover car ownership, bedroom occupancy, holidays and home computers.

The measure has several benefits, such as the low percentage of missing responses from young people and its cross-national comparability (24,25,29,38–40). By contrast, parental occupation measures tend to suffer from missing data and differences in countries' classification schemes.

Family poverty affects a minority of young people (although this varies from country to country), but all young people can be categorized according to their family affluence. To this end, young people in each country are classified according to the summed score of the items, and this overall score is recoded to give values of low, middle and high family affluence.

**Calculating FAS**

The four questions in FAS are the following.

- “Does your family own a car, van or truck?”  
Response categories were: No (=0); Yes, one (=1); Yes, two or more (=2).
- “Do you have your own bedroom for yourself?”  
Response categories were: No (=0); Yes (=1).
- “During the past 12 months, how many times did you travel away on holiday with your family?”  
Response categories were: Not at all (=0); Once (=1); Twice (=2); More than twice (=3).
- “How many computers does your family own?”  
Response categories were: None (=0); One (=1); Two (=2); More than two (=3).

A composite FAS score was calculated for each young person based on his or her responses to these four items. Following previous HBSC surveys, the two highest response categories (“2” and “3 or more”) of the last two items (holidays and computers) were combined. A three-point ordinal scale was composed for the analysis, in which:

- FAS 1 (score = 0–3) indicated low affluence
- FAS 2 (score = 4, 5) indicated middle affluence
- FAS 3 (score = 6, 7) indicated high affluence.

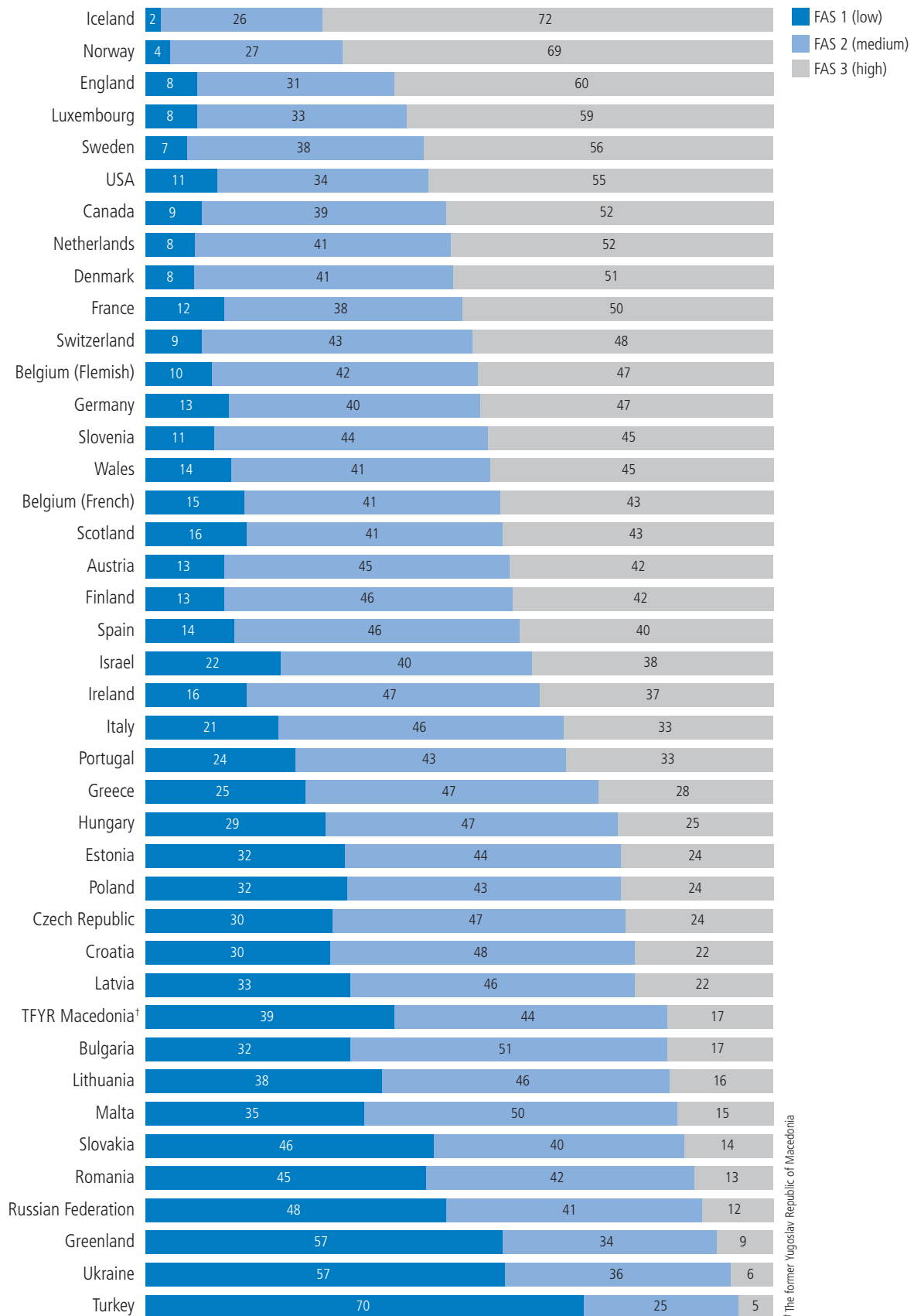
Statistical analysis of associations between family affluence (FAS) and contextual, health or behaviour variables were conducted for boys and girls separately, with all age groups together.

A positive association (represented by + in tables) between FAS and the prevalence of the variable, such as toothbrushing, means that the behaviour (in this example, toothbrushing) is more prevalent among young people from more affluent families.

A negative association (represented by – in tables) between FAS and the prevalence of the variable, such as smoking, means that the behaviour (in this example, smoking) is more prevalent among young people from less affluent families.

Fig. 2 shows the differences in family affluence according to FAS scores across countries. It is clear that countries vary according to their percentages of low, middle and high affluence young people.

Fig.2.  
FAMILY AFFLUENCE ACCORDING TO FAS COMPOSITE SCORES (ALL AGES)



## REFERENCES

- 1 WHO European strategy for child and adolescent health and development. Copenhagen, WHO Regional Office for Europe, 2005.
- 2 Black JM, Smith C, Townsend P. *Inequalities in health: the Black report*. Harmondsworth, Penguin, 1982.
- 3 Dahlgren G, Whitehead M. *Policies and strategies to promote equity in health*. Copenhagen, WHO Regional Office for Europe, 1992.
- 4 Acheson D. *Independent inquiry into inequalities in health report*. London, The Stationery Office, 1998.
- 5 Mackenbach J, Bakker M, eds. *Reducing inequalities in health: a European perspective*. London, Routledge, 2002.
- 6 *Equity in health and health care: a WHO/SIDA initiative*. Geneva, World Health Organization, 2006.
- 7 Zollner H. National policies for reducing social inequalities in health in Europe. *Scandinavian Journal of Public Health*, 2002, 30:Suppl. 59:6–11.
- 8 West P. Health inequalities in the early years: is there equalisation in youth? *Social Science and Medicine*, 1997, 44:833–858.
- 9 Sacker A, Schoon B, Bartley M. Social inequality and psychosocial adjustment throughout childhood: magnitude and mechanisms. *Social Science and Medicine*, 2002, 55:863–880.
- 10 Call K et al. Adolescent health and well-being in the twenty first century: a global perspective. *Journal of Research on Adolescence*, 2002, 12(1):69–98.
- 11 Graham H, Power C. *Childhood disadvantage and adult health: a lifecourse framework*. London, Health Development Agency, 2004.
- 12 Leon D, Walt G, Gilson L. International perspective on health inequalities and policy. *British Medical Journal*, 2001, 322:591–594.
- 13 Whitehead M, Dahlgren G. *Levelling up (part 1): a discussion paper on concepts and principles for tackling social inequities in health*. Copenhagen, WHO Regional Office for Europe, 2006.
- 14 *Achieving health equity: from root causes to fair outcomes*. Geneva, WHO Commission on Social Determinants of Health, 2007.
- 15 Kelly M et al. *The social determinants of health: developing an evidence base for political action. Final report to the WHO Commission on the Social Determinants of Health*. London, Universidad del Desarrollo/Nice, 2007.
- 16 Kolip P, Schmidt B. *Gender and health in adolescence. WHO policy series: health policy for children and adolescents*. Copenhagen, WHO Regional Office for Europe, 1999.
- 17 *Women and health. Mainstreaming the gender perspective into the health sector. Report of an expert group*. New York, NY, United Nations, 1998.
- 18 King A et al. *The health of youth: a cross-national survey. WHO Regional Publications, European Series no. 69*. Copenhagen, WHO Regional Office for Europe, 1996.
- 19 Currie C et al., eds. *Health and health behaviour among young people. WHO policy series: health policy for children and adolescents. Issue 1*. Copenhagen, WHO Regional Office for Europe, 2000.
- 20 Currie C, et al., eds. *Young people's health in context: international report from the HBSC 2001/2002 survey. WHO policy series: health policy for children and adolescents. Issue 4*. Copenhagen, WHO Regional Office for Europe, 2004.
- 21 Brener ND et al. Youth risk behavior surveillance – selected steps communities, 2005. Morbidity and mortality weekly report. *Surveillance Summaries / CDC*, 2007, 56(2):1–16.
- 22 Woodward M et al. Contribution of contemporaneous risk factors to social inequality in coronary heart disease and all causes mortality. *Preventive Medicine*, 2003, 36(5):561–568.
- 23 Wilkinson R, Marmot M, eds. *Social determinants of health: the solid facts*. Copenhagen, WHO Regional Office for Europe, 2003.
- 24 Currie C et al. Indicators of socioeconomic status for adolescents: the WHO Health Behaviour in School-aged Children survey. *Health Education Research*, 1997, 12(3):385–397.
- 25 Currie C et al. Researching health inequalities in adolescents: the development of the HBSC Family Affluence Scale. *Social Science and Medicine*, 2008, 66(6):1429–1436.
- 26 Aarø LE et al. Health behaviour in school-children. A WHO cross-national survey. *Health Promotion International*, 1986, 1(1):17–33.
- 27 Roberts C et al. Measuring the health and health behaviours of adolescents through cross-national survey research: recent developments in the Health Behaviour in School-aged Children (HBSC) study. *Journal of Public Health*, 2007, 15(3):179–186.
- 28 Roberts C et al. Methods. In: Currie C et al., eds. *Young people's health in context: international report from the HBSC 2001/2002 survey. WHO policy series: health policy for children and adolescents. Issue 4*. Copenhagen, WHO Regional Office for Europe, 2004.
- 29 Boyce W et al. The Family Affluence Scale as a measure of national wealth: validation of an adolescent self-reported measure. *Social Indicators Research*, 2006, 78(3):473–487.
- 30 Vereecken C, Maes LA. A Belgian study on the reliability and relative validity of the health behaviour in school-aged children food frequency questionnaire. *Public Health Nutrition*, 2003, 6:581–588.
- 31 Haugland S, Wold B. Subjective health in adolescence – reliability and validity of survey methods. *Journal of Adolescence*, 2001, 24(5):611–624.
- 32 Elgar F et al. Validity of self-reported height and weight and predictors of bias in adolescents. *Journal of Adolescent Health*, 2005, 37(5):371–375.
- 33 Torsheim T, Wold B, Samdal O. The Teacher and Classmate Support Scale: factor structure, test-retest reliability and validity in samples of 13- and 15-year-old adolescents. *School Psychology International*, 2000, 21:195–212.
- 34 Ravens-Sieberer U et al. An international scoring system for self-reported health complaints in adolescents. *European Journal of Public Health*, 2008, published online 8 February 2008 (doi:10.1093/eurpub/ckn001).
- 35 Roberts C et al. Methods. In: Currie C et al., eds. *Health and health behaviour among young people. WHO Policy series: health policy for children and adolescents. Issue 1*. Copenhagen, WHO Regional Office for Europe, 2000.
- 36 Benjamini Y, Hochberg Y. On the adaptive control of the false discovery rate in multiple testing with independent statistics. *Journal of Educational and Behavioural Statistics*, 2000, 25(1):60–83.
- 37 *Composition of macro geographical (continental) regions, geographical sub-regions, and selected economic and other groupings*. New York, NY, United Nations Statistical Division, 2008 (<http://unstats.un.org/unsd/methods/m49/m49regin.htm#europe>, accessed 11 April 2008).
- 38 Boyce W, Dallago L. Socioeconomic inequality. In: Currie C et al., eds. *Young people's health in context: international report from the HBSC 2001/2002 survey. WHO policy series: health policy for children and adolescents. Issue 4*. Copenhagen, WHO Regional Office for Europe, 2004.
- 39 Torsheim T et al. Material deprivation and self-rated health: a multilevel study of adolescents from 22 European and North American countries. *Social Science and Medicine*, 2004, 59(1):1–12.
- 40 Torsheim T et al. Country material distribution and adolescents' perceived health: multilevel study of adolescents in twenty-seven countries. *Journal of Epidemiology and Community Health*, 2006, 60:156–161.

# CHAPTER 2

## KEY DATA

## INTRODUCTION

This chapter presents contemporary data from all 41 countries and regions that participated in the 2005/2006 HBSC survey. Cross-national data are included on key health indicators of young people's health. We also present the findings by age group and gender and, as a new departure for the HBSC study, a systematic documentation of inequalities in the health of young people by levels of family affluence and geographical location.

The variables considered in this chapter are of three different types, as outlined in the HBSC conceptual framework. The framework envisages that the health and well-being of young people are determined by social and developmental contexts (1).

We first present data that describe the social context of health, specifically relating to family, peers and school. We then present data on *health behaviours* and *risk behaviours*: variables that describe behaviours which are potentially health sustaining and health damaging. Finally, we consider *health outcomes*: variables that describe current levels of health and well-being.

A logical and systematic approach has been taken to the presentation of each variable, which includes:

- a brief overview of literature emphasizing why this topic is important for young people's health and what is known about it already;
- a short summary of descriptive data on the prevalence of the social contextual variable, health/risk behaviour or health outcome, cross-nationally;
- illustrative figures and presentation of country-specific findings, presented separately for boys and girls aged 11, 13 and 15 years;
- tables showing the relationships between family affluence and each of the variables;
- a series of maps to illustrate cross-national differences among 15-year-olds; and
- key references.

Major findings are highlighted in bullet points.

All of the data presented here are drawn from the mandatory component of the HBSC survey questionnaire that is used in all countries. In some cases, countries excluded certain items on sensitive topics (such as sexual health, alcohol consumption and cannabis use), and for some countries data on sexual health are not presented (although these data were collected) due to differences in question format; this is indicated where appropriate. Analyses of geographic patterns were restricted to 15-year-olds. Country data are missing in a few exceptional cases; this is noted in the relevant data sections. Tables on some variables with different cut-offs (such as daily smoking) are presented in the annex. There are also some additional variables presented there which do not appear in Chapter 2.

## REFERENCE

- 1 Currie C et al., eds. *Young people's health in context: international report from the HBSC 2001/2002 survey. WHO policy series: health policy for children and adolescents. Issue 4.* Copenhagen, WHO Regional Office for Europe, 2004.

# SOCIAL CONTEXT

family  
peers  
school





**Parent–child communication is one of the basic building blocks of the family** as a developmental context and acts as an important protective factor in adolescence (1). Especially relevant is the role of parents in the development of the child’s communication skills, attitudes and behavioural patterns.

Ease of communication with parents is considered to be an indicator of both social support from parents and family connectedness, with parents remaining an important source of support throughout the adolescent period (2). The importance of positive relationships with parents has been well documented, particularly in relation to reduced levels of: delinquent behaviour (3,4); health-risk behaviour (5); depression (6); and experiencing psychosomatic symptoms (7). Specifically, adolescents who report easy communication with their mothers are more likely to report excellent or good self-rated health and are less likely to be current smokers (8,9), frequent alcohol drinkers (9,10) or sexually active (5).

### MEASURE

Young people were asked how easy it is for them to talk to their mother about “things that really bother you”. Response options ranged from “very easy” to “very difficult”. The findings presented here show the proportions who reported finding it either “easy” or “very easy” to talk to their mother.

### INEQUALITIES

**Age** In almost all countries, there is a significant decline between ages 11 and 15 in ease of communication with their mother among boys and girls.

**Gender** Gender differences are small and reach significance in a minority of countries. In these cases, boys are generally more likely to report easy communication with their mother than girls.

**Geography** Ease of communication with mother is highest among young people in eastern Europe and then among girls in southern Europe. Young people in western Europe and boys in northern Europe are less likely to report easy communication with their mother.

**Family affluence** Ease of communication with mother is significantly associated with higher family affluence in the majority of countries for girls and in around a third for boys.

### Associations between family affluence and indicators of health, by country/region and gender: FINDING IT EASY OR VERY EASY TO TALK TO MOTHER

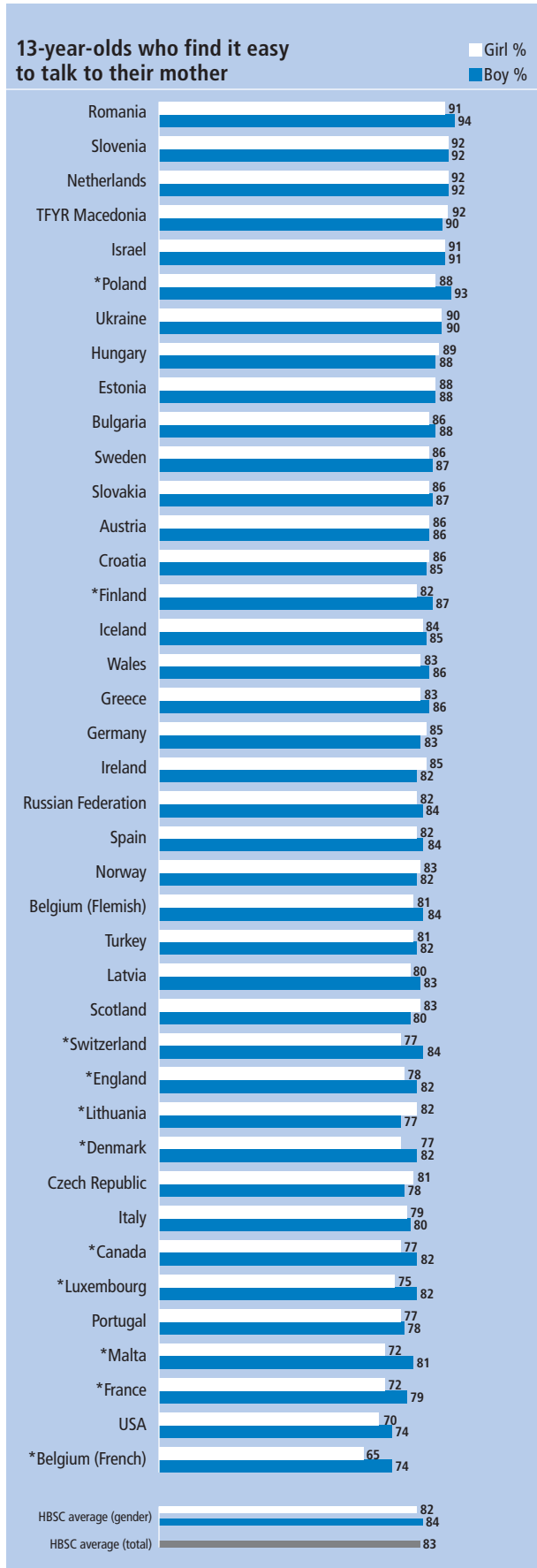
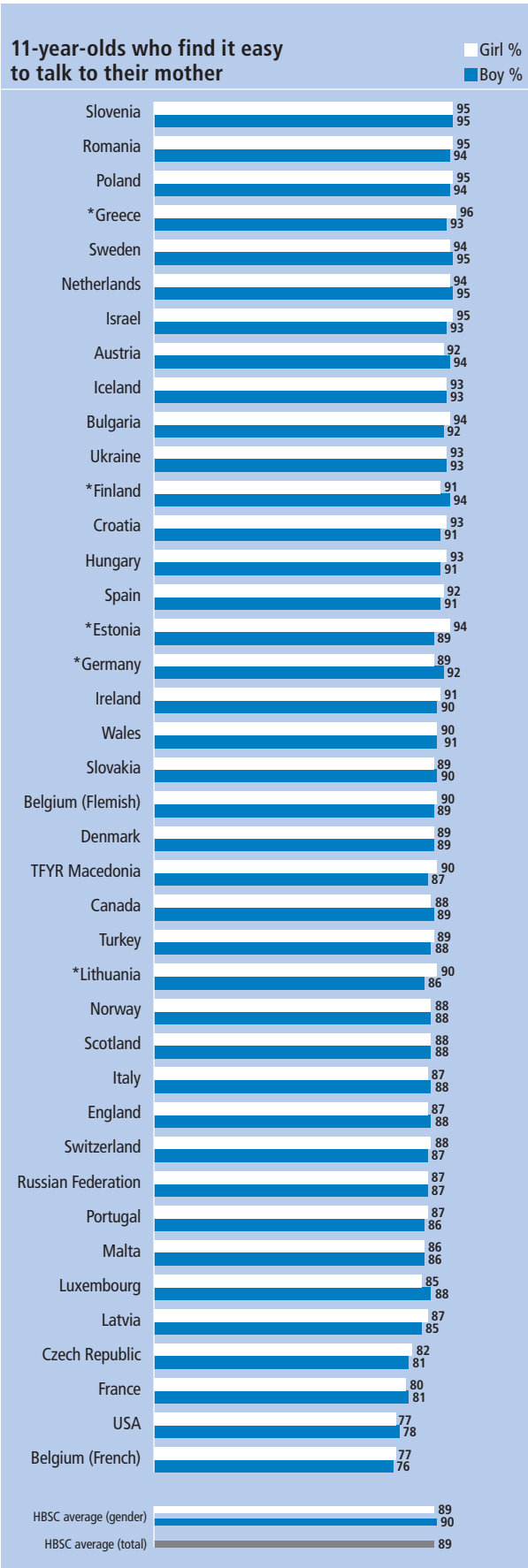
<b>NORTH</b>		Boys	Girls	<b>SOUTH</b>		Boys	Girls
Canada		+	+	Croatia			+
Denmark			+	Greece			+
England			+	Israel			+
Estonia		+	+	Italy			
Finland				Malta			
Iceland		+	+	Portugal			+
Ireland		+		Slovenia		+	+
Latvia			+	Spain			+
Lithuania		+		TFYR Macedonia <sup>†</sup>			
Norway			+	Turkey		+	+
Scotland			+				
Sweden		+					
USA			+				
Wales		+	+				
<b>WEST</b>		Boys	Girls	<b>EAST</b>		Boys	Girls
Austria		+	+	Bulgaria		+	
Belgium (Flemish)		+		Czech Republic			+
Belgium (French)				Hungary		+	
France				Poland			
Germany		+	+	Romania		+	+
Luxembourg			+	Russian Federation		+	+
Netherlands		+	+	Slovakia			
Switzerland			+	Ukraine			

Where family affluence is statistically significant at  $p < 0.05$ , countries are identified with +/–

+ indicates that higher levels of finding it easy to talk to mother are significantly associated with higher family affluence;

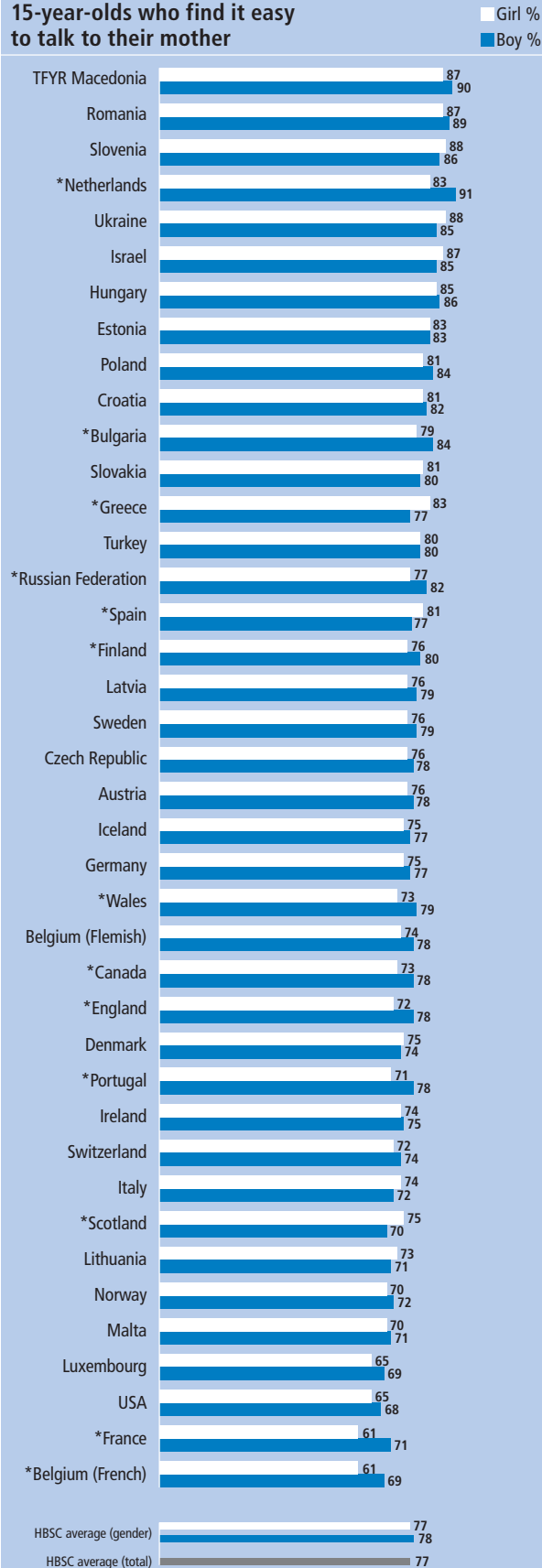
– indicates that higher levels of finding it easy to talk to mother are significantly associated with lower family affluence.

<sup>†</sup>The former Yugoslav Republic of Macedonia



\* indicates a significant gender difference (at  $p < 0.05$ ). No data available for Greenland

### 15-year-olds who find it easy to talk to their mother



\* indicates a significant gender difference (at  $p < 0.05$ ). No data available for Greenland

### SUMMARY FINDINGS

Across all countries, the majority of young people report that they find it **easy or very easy to talk to their mother** about things that really bother them.

**11-year-olds: from 77% (Belgium (French)) to 95% (Slovenia)**

- Girls: 77% (Belgium (French), United States) to 96% (Greece)
- Boys: 76% (Belgium (French)) to 95% (Slovenia, Netherlands, Sweden)

**13-year-olds: from 70% (Belgium (French)) to 93% (Romania)**

- Girls: 65% (Belgium (French)) to 92% (Slovenia, Netherlands, TFYR Macedonia<sup>†</sup>)
- Boys: 74% (Belgium (French), United States) to 94% (Romania)

**15-year-olds: from 65% (Belgium (French)) to 89% (TFYR Macedonia<sup>†</sup>)**

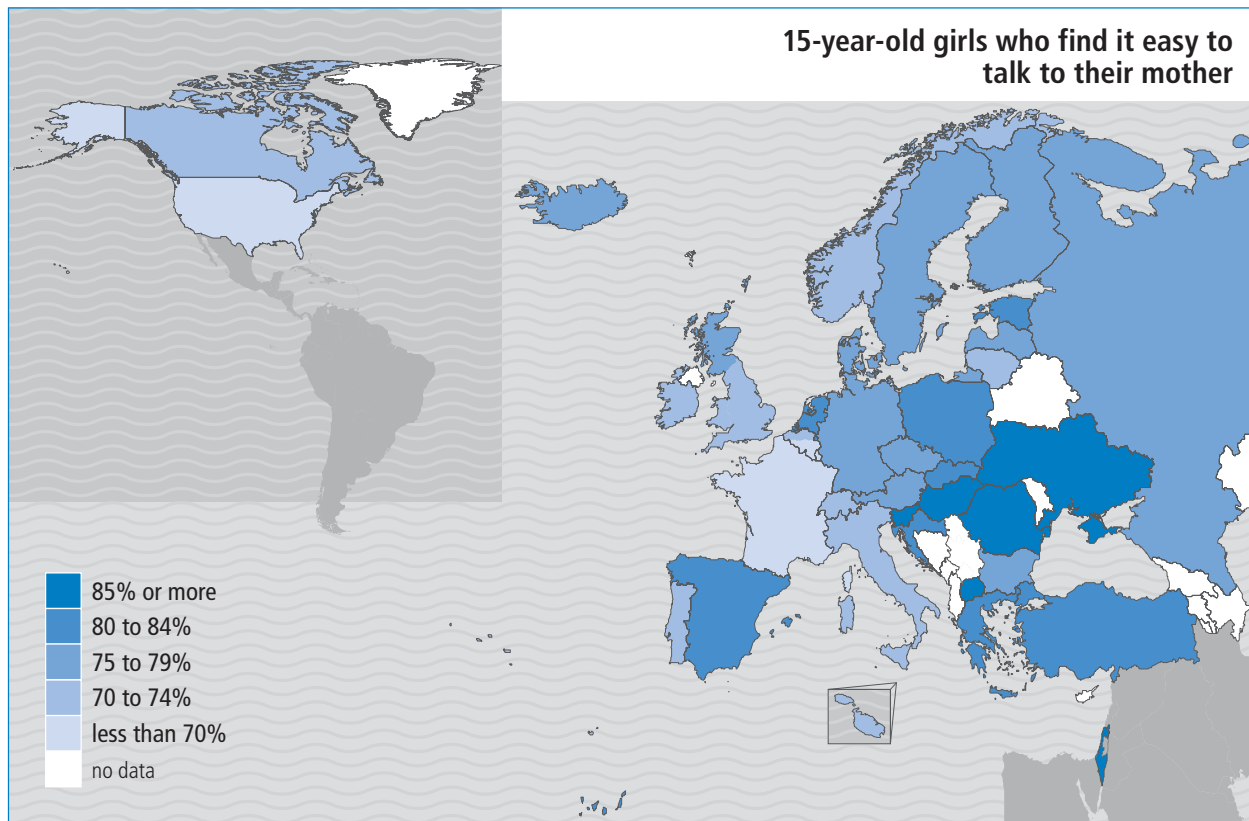
- Girls: 61% (Belgium (French), France) to 88% (Slovenia, Ukraine)
- Boys: 68% (United States) to 91% (Netherlands)

Some geographic differences in communication with mother are observed, but common to almost all countries is a decline with age in ease of talking to mother. Gender differences are small but where they do exist, they favour boys. Family affluence seems to be a more important factor for girls than boys across countries.

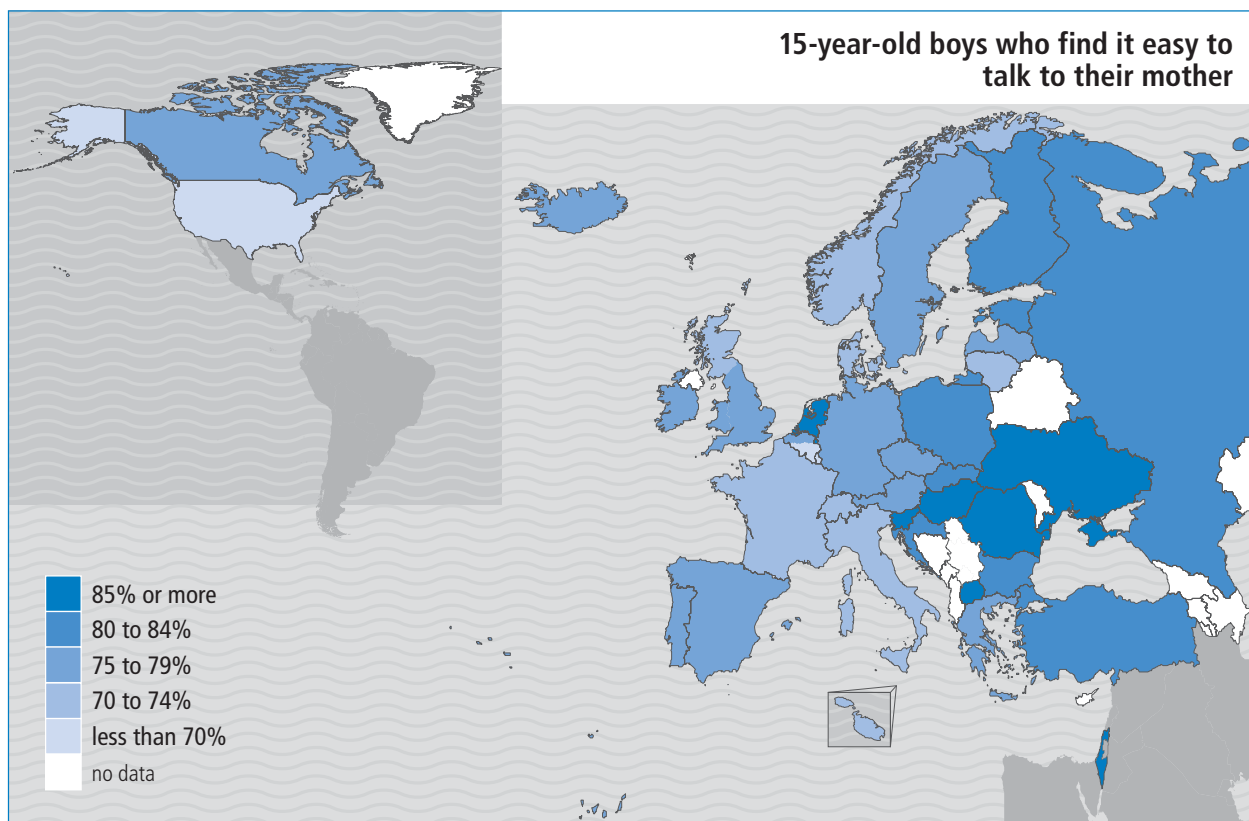
<sup>†</sup>The former Yugoslav Republic of Macedonia

### REFERENCES

- Rodrigo MJ, Palacios J, eds. *Familia y desarrollo humano [Family and human development]*. Madrid, Alianza, 1998.
- Laursen B. Conflict and social interaction in adolescent relationships. *Journal of Research on Adolescence*, 1995, 5(1):55–70.
- Youniss J, Yates M, Su Y. Social integration, community service and marijuana use in high school seniors. *Journal of Adolescent Research*, 1997, 12(2):245–262.
- Bogard L. Affluent adolescents, depression and drug use: the role of adults in their lives. *Adolescence*, 2005, 40:281–306.
- Resnick MD et al. Protecting adolescents from harm: findings from the National Longitudinal Study on Adolescent Health. *Journal of the American Medical Association*, 1997, 278:823–832.
- Young JF et al. The role of parent and peer support in predicting adolescent depression: a longitudinal community study. *Journal of Research on Adolescence*, 2005, 15(4): 407–423.
- Murberg TA, Bru E. School related stress and psychosomatic symptoms among Norwegian adolescents. *School Psychology International*, 2004, 25(3):317–322.
- Andersen MR et al. Mothers' attitudes and concerns about their children smoking: do they influence kids? *Preventive Medicine*, 2002, 34:198–206.
- Zamboni A et al. Socio-economic position and adolescents' health in Italy: the role of the quality of social relations. *European Journal of Public Health*, 2006, 16(6):627–632.
- Del Carmen Granado Alcon M et al. Greenlandic family structure and communication with parents: influence on schoolchildren's drinking behaviour. *International Journal of Circumpolar Health*, 2002, 61:319–331.



HBSC teams provided disaggregated data for Belgium and the UK; these data appear in the map above



HBSC teams provided disaggregated data for Belgium and the UK; these data appear in the map above

**While ease of communication with parents is a protective factor** for adolescents, the specific role of fathers has not been extensively explored.

Fathers' relationships with their children are described as being qualitatively different from those of mothers in that they are generally more playful and physical and more encouraging of competitiveness and independence (1,2). Of particular importance is the quality of the relationship when the father is not resident in the main family home (3), especially for boys and younger children (4,5).

Relationships with fathers have been associated with sexual risk taking (6), alcohol consumption (7), psychosocial adjustment and well-being (7,8), school performance and antisocial behaviour (9). Notably, it has been shown that increased positive communication with either mother or father is consistently associated with a wide range of adolescent health outcomes, with open communication and caring between adolescents and both their mother and father being particularly beneficial (10).

### MEASURE

Young people were asked how easy it is for them to talk to their father about "things that really bother you". Response options ranged from "very easy" to "very difficult". The findings presented here show the proportions that reported finding it either "easy" or "very easy" to talk to their father.

### INEQUALITIES

**Age** There is a significant decline in ease of talking to fathers between ages 13 and 15 in all countries for girls and all but one for boys.

**Gender** At ages 11, 13, and 15, boys are significantly more likely than girls to report that it is easy to talk to their father in almost all countries.

**Geography** Young people in eastern Europe have relatively high rates of ease of communication with father.

**Family affluence** Ease of communication with father is significantly associated with higher family affluence in almost all countries.

### Associations between family affluence and indicators of health, by country/region and gender: FINDING IT EASY OR VERY EASY TO TALK TO FATHER

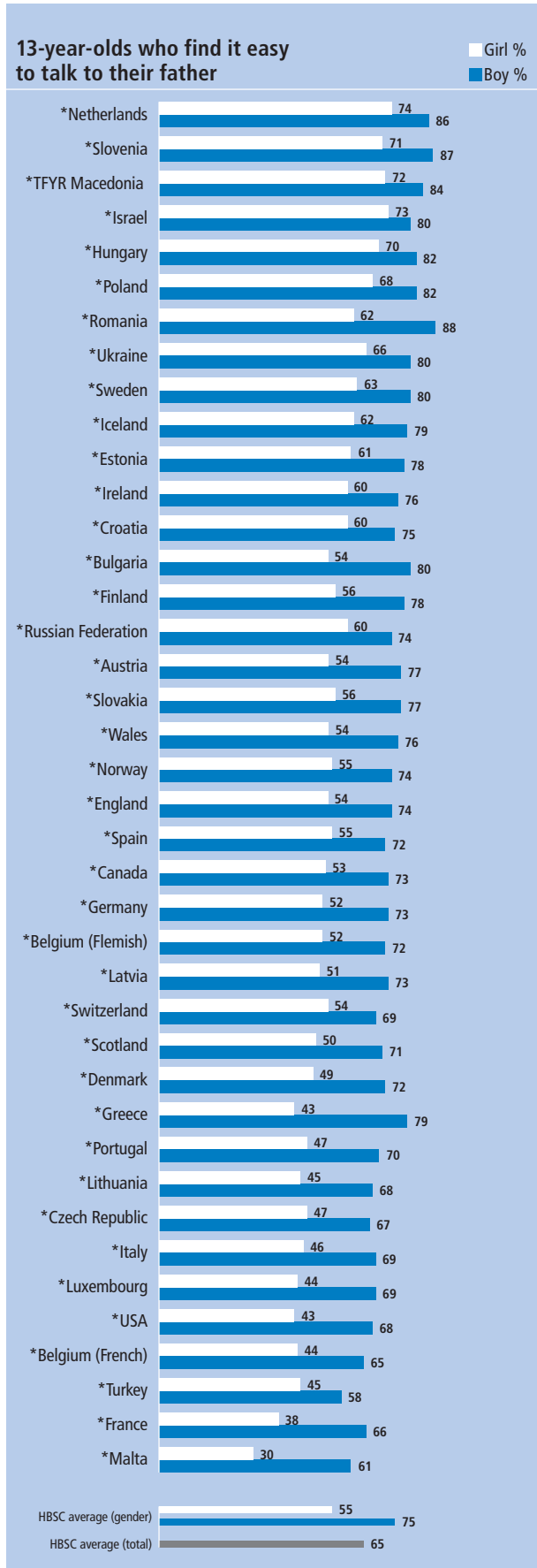
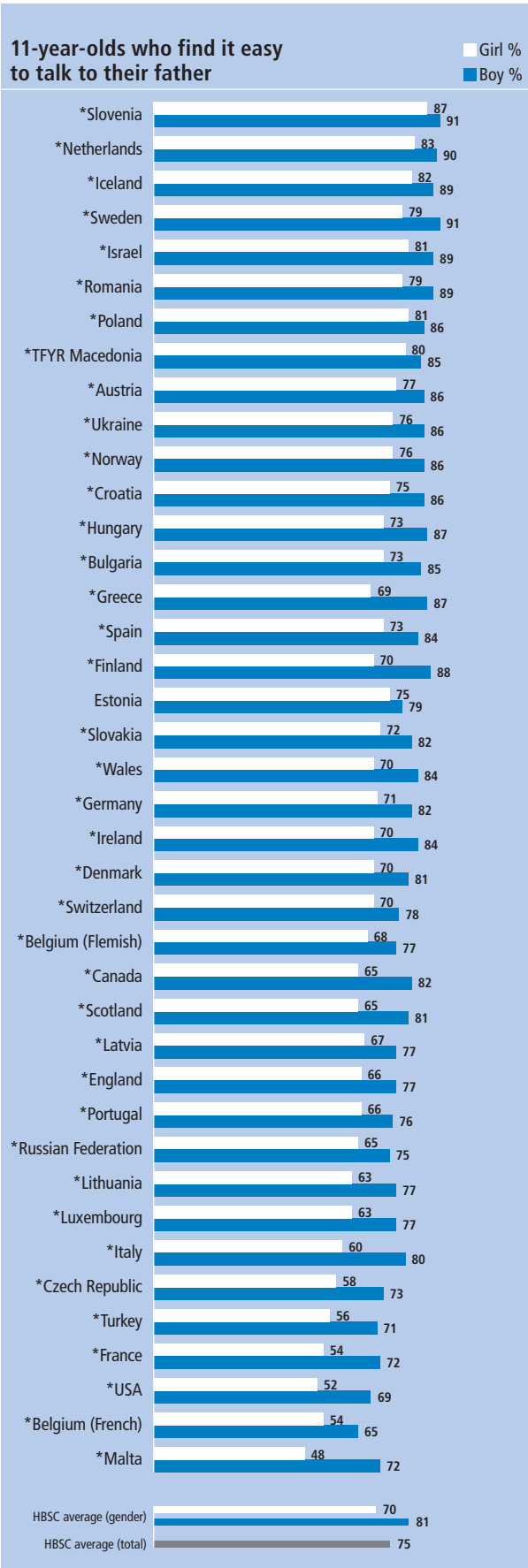
NORTH			SOUTH		
	Boys	Girls		Boys	Girls
Canada	+	+	Croatia	+	+
Denmark		+	Greece	+	+
England	+	+	Israel	+	+
Estonia	+	+	Italy	+	+
Finland	+	+	Malta	+	
Iceland	+	+	Portugal	+	+
Ireland	+	+	Slovenia	+	+
Latvia	+	+	Spain	+	+
Lithuania	+	+	TFYR Macedonia <sup>†</sup>	+	+
Norway		+	Turkey	+	+
Scotland	+	+			
Sweden	+	+			
USA	+	+			
Wales	+	+			
WEST			EAST		
	Boys	Girls		Boys	Girls
Austria	+	+	Bulgaria	+	+
Belgium (Flemish)	+	+	Czech Republic	+	+
Belgium (French)		+	Hungary	+	+
France			Poland	+	+
Germany	+	+	Romania	+	+
Luxembourg	+	+	Russian Federation	+	+
Netherlands	+	+	Slovakia		
Switzerland	+	+	Ukraine		+

Where family affluence is statistically significant at  $p < 0.05$ , countries are identified with +/—

+ indicates that higher levels of finding it easy to talk to father are significantly associated with higher family affluence;

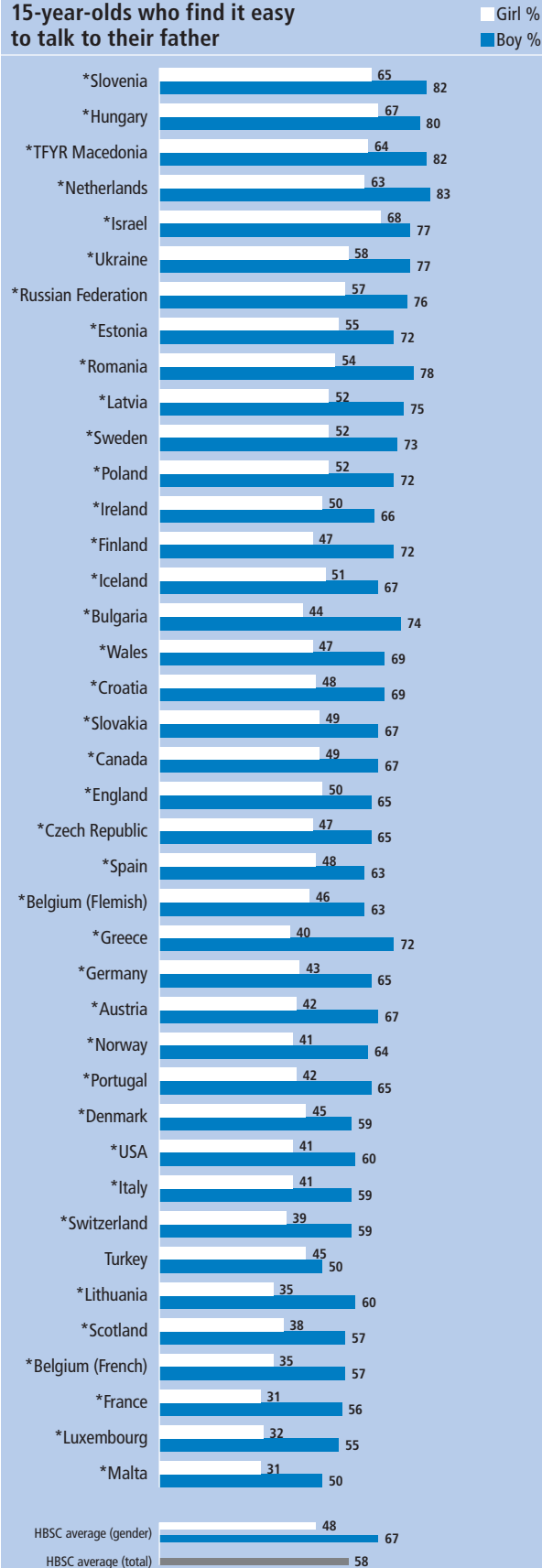
— indicates that higher levels of finding it easy to talk to father are significantly associated with lower family affluence.

<sup>†</sup>The former Yugoslav Republic of Macedonia



\* indicates a significant gender difference (at  $p < 0.05$ ). No data available for Greenland

### 15-year-olds who find it easy to talk to their father



\* indicates a significant gender difference (at  $p < 0.05$ ). No data available for Greenland

### SUMMARY FINDINGS

There are large cross-national variations in reports of finding it **easy or very easy to talk to their father** about things that really bother them.

**11-year-olds: from 58% (Malta) to 89% (Slovenia)**

- Girls: 48% (Malta) to 87% (Slovenia)
- Boys: 65% (Belgium (French)) to 91% (Sweden, Slovenia)

**13-year-olds: from 47% (Malta) to 80% (Netherlands)**

- Girls: 30% (Malta) to 74% (Netherlands)
- Boys: 58% (Turkey) to 88% (Romania)

**15-year-olds: from 41% (Malta) to 74% (Slovenia)**

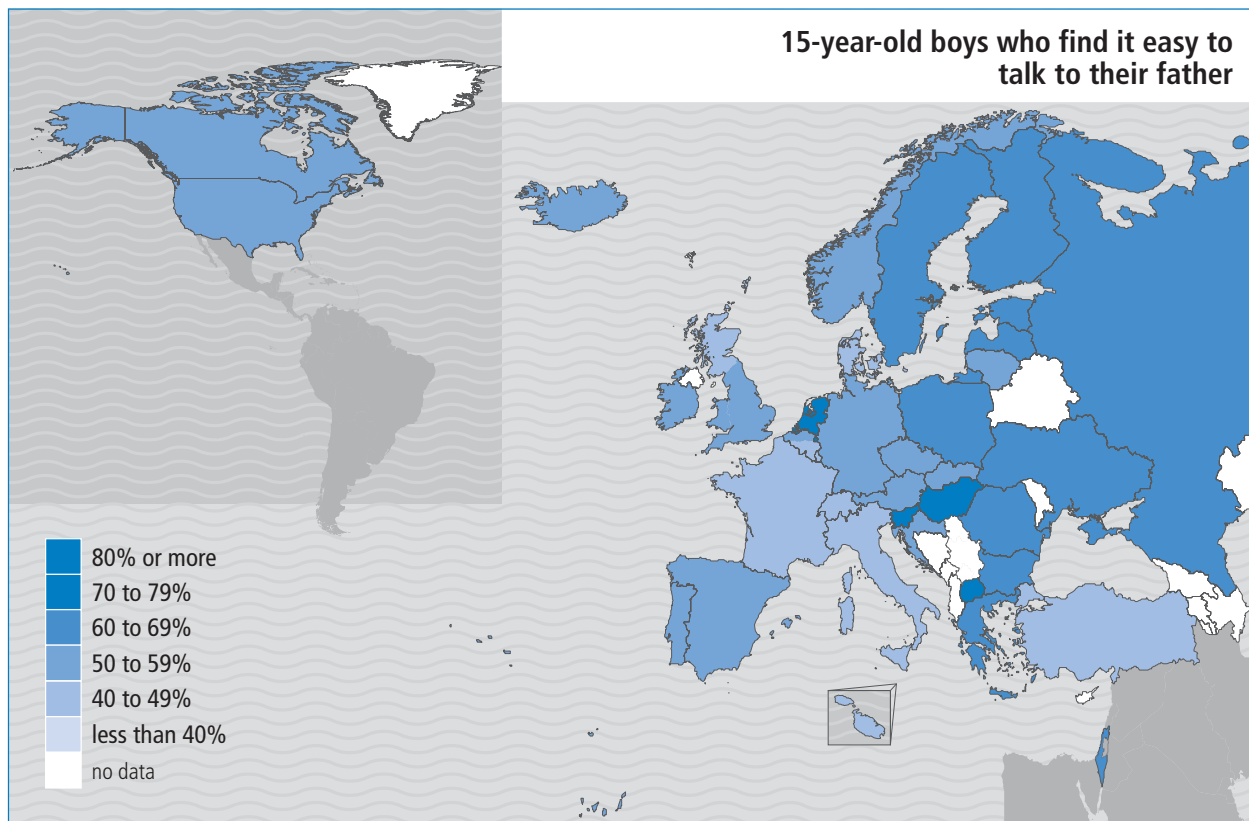
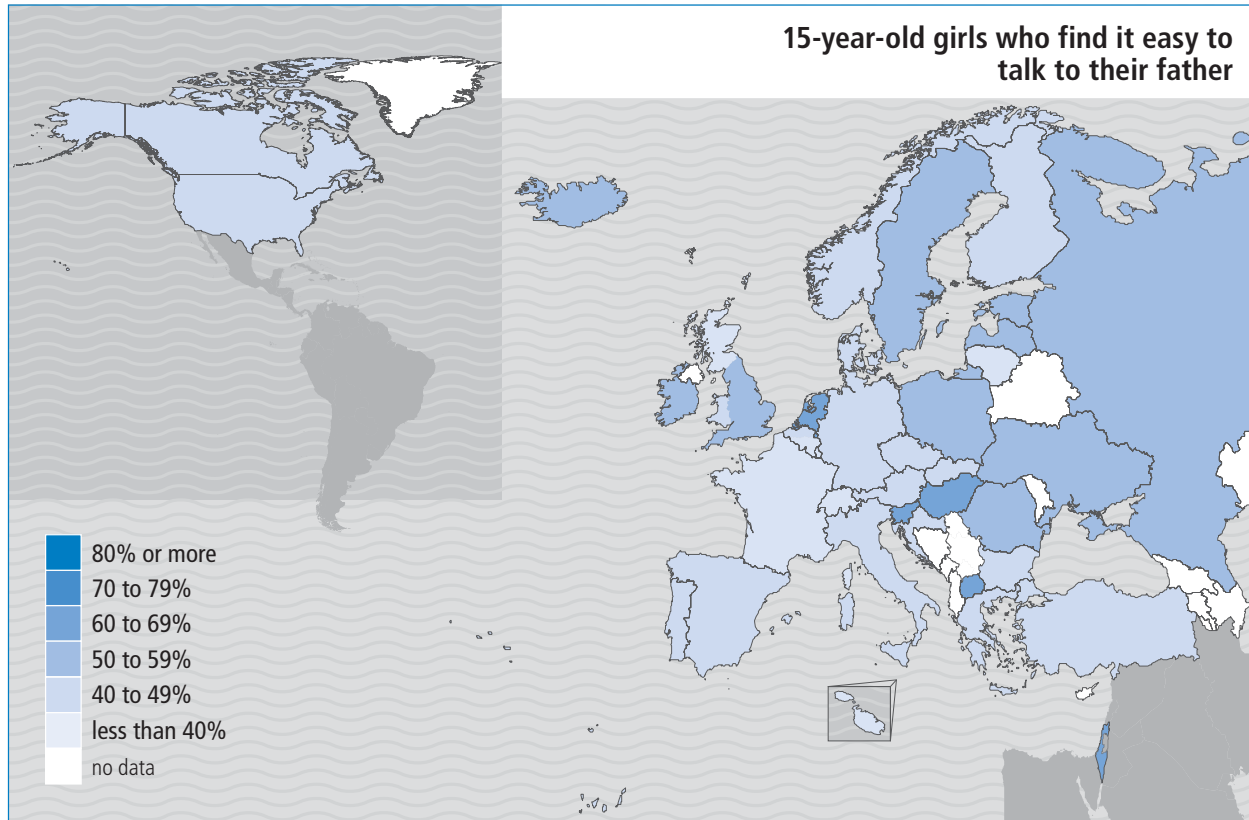
- Girls: 31% (Malta, France) to 68% (Israel)
- Boys: 50% (Malta, Turkey) to 83% (Netherlands)

The gender difference in ease of talking to father is striking in favour of boys and there are clear geographic differences. Family affluence also appears to be an important factor.

### REFERENCES

1. Lewis C. *Becoming a father*. Milton Keynes, Open University Press, 1986.
2. DeKlyen M, Speltz ML, Greenberg MT. Fathering and early onset conduct problems: positive and negative parenting, father-son attachment, and the marital context. *Clinical Child and Family Psychology Review*, 1998, 1:3–21.
3. Amato PR, Gilbreth JG. Non-resident fathers and children's well-being: a meta analysis. *Journal of Marriage and the Family*, 1999, 61:557–574.
4. Stewart A et al. *Separating together: how divorce transforms families*. New York, NY, Guilford, 1997.
5. Dunn J. Children's relationships with their non-resident fathers. *Journal of Child Psychology and Psychiatry*, 2004, 45:659–671.
6. Dias SF, Matos MG, Goncalves AC. Preventing HIV transmission in adolescents: an analysis of the Portuguese data from the Health Behaviour in School-aged Children study and focus groups. *European Journal of Public Health*, 2005, 15(3):200–204.
7. Del Carmen Granado Alcon M, Pedersen JM, Carrasco Gonzalez AM. Greenlandic family structure and communication with parents: influence on schoolchildren's drinking behaviour. *International Journal of Circumpolar Health*, 2002, 61:319–331.
8. Amato PR. Father-child relations, mother-child relations and offspring psychological well-being in early adulthood. *Journal of Marriage and the Family*, 1994 56:1031–1042.
9. Hwang CP, Lamb ME. Father involvement in Sweden: a longitudinal study of its stability and correlates. *International Journal of Behavioural Development*, 1997, 21:621–632.
10. Ackard DM et al. Parent-child connectedness and behavioural and emotional health among adolescents. *American Journal of Preventive Medicine*, 2006, 30(1):59–66.







**Friendship is a way of satisfying the need for a close relationship** and of feeling loved and accepted by a group, or belonging (1). Peers become crucial in helping adolescents to move from ideas to action (2), defining their identities and developing personal and social competences.

Friendship helps young people to adjust to new situations and face stressful life experiences. It predicts success in future relationships and is associated with happiness (3). Perceived support from peers is connected with higher self-esteem and good school adjustment, and with the absence of isolation or depression (4).

Children with few friends may have less opportunity to learn social skills and difficulties in relating to others can often perpetuate isolation (5). Solitary adolescents are often found to have a low self-worth, low life satisfaction and more frequent depressive moods. They are also more likely to become victims of bullying (6).

### MEASURE

Young people were asked how many close male and female friends they have at present. Response options ranged from “none” to “three or more” and were answered separately for males and females. The findings presented here show the proportions that reported having three or more friends of the same gender.

### INEQUALITIES

**Age** Having three or more close friends of the same gender decreases between age 11 and 15. This is a significant drop among boys in just under half of countries and among girls in just over half.

**Gender** Boys are more likely than girls to report having three or more close friends. This difference is significant in less than half of countries for both boys and girls.

**Geography** Young people in northern and western Europe are most likely to report having three or more close friends. Boys and girls in southern Europe and girls in eastern Europe are less likely to report such networks.

**Family affluence** Having three or more friends is significantly associated with higher family affluence in over half of countries for both boys and girls.

### Associations between family affluence and indicators of health, by country/region and gender: HAVING THREE OR MORE CLOSE FRIENDS OF THE SAME GENDER

<b>NORTH</b>		Boys	Girls	<b>SOUTH</b>		Boys	Girls
Canada		+	+	Croatia			
Denmark				Greece			+
England				Israel		+	+
Estonia		+	+	Italy		+	+
Finland		+		Malta			
Greenland				Portugal		+	+
Iceland		+	+	Slovenia			
Ireland		+	+	Spain		+	
Latvia		+		TFYR Macedonia <sup>†</sup>		+	
Lithuania		+		Turkey			+
Norway			+				
Scotland		+	+				
Sweden			+				
USA		+	+				
Wales		+					
<b>WEST</b>		Boys	Girls	<b>EAST</b>		Boys	Girls
Austria		+		Bulgaria		+	+
Belgium (Flemish)		+	+	Czech Republic			
Belgium (French)		+	+	Hungary			
France			+	Poland		+	+
Germany		+	+	Romania		+	+
Luxembourg		+	+	Russian Federation		+	+
Netherlands			+	Slovakia			
Switzerland		+	+	Ukraine			

Where family affluence is statistically significant at  $p < 0.05$ , countries are identified with +/–

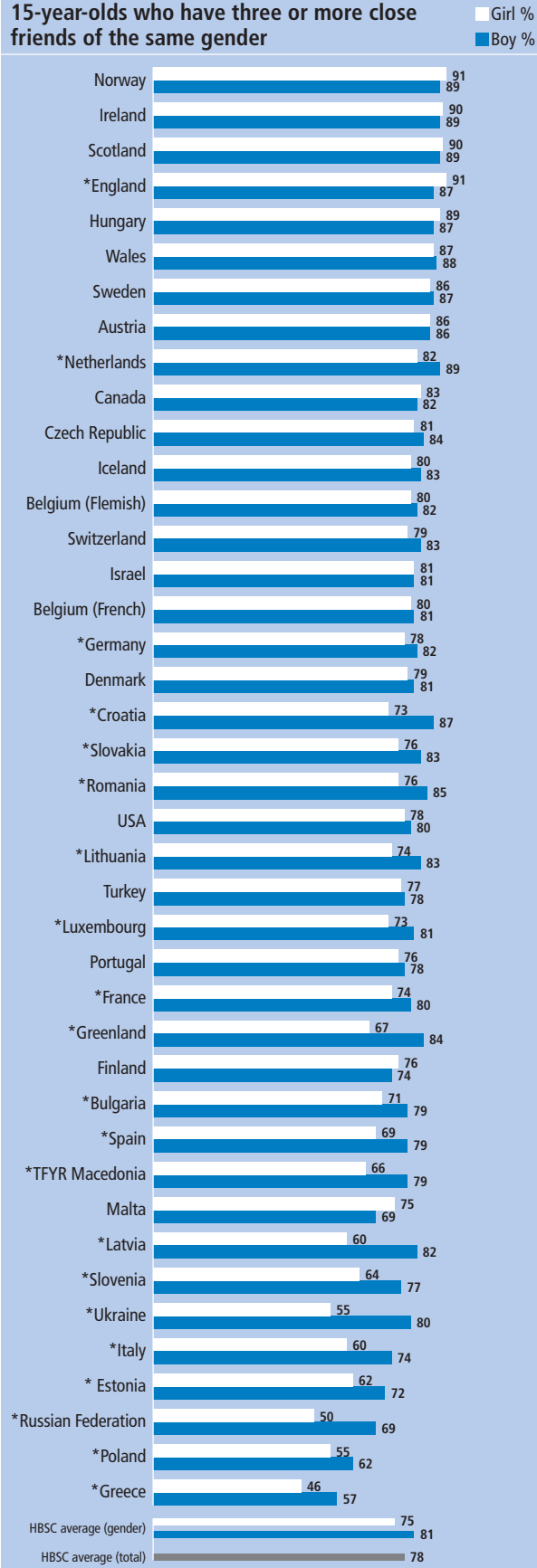
+ indicates that higher levels of reported number of friends are significantly associated with higher family affluence;

– indicates that higher levels of reported number of friends are significantly associated with lower family affluence.

<sup>†</sup>The former Yugoslav Republic of Macedonia



### 15-year-olds who have three or more close friends of the same gender



\* indicates a significant gender difference (at  $p < 0.05$ ).

### SUMMARY FINDINGS

Having three or more close friends of the same gender is commonplace among young people in almost all countries.

#### 11-year-olds: from 57% (Malta) to 91% (England)

- Girls: 51% (Greece) to 93% (England)
- Boys: 49% (Malta) to 92% (Norway)

#### 13-year-olds: from 58% (Greece) to 94% (Norway)

- Girls: 54% (Greece) to 94% (Norway)
- Boys: 59% (Malta) to 93% (Norway)

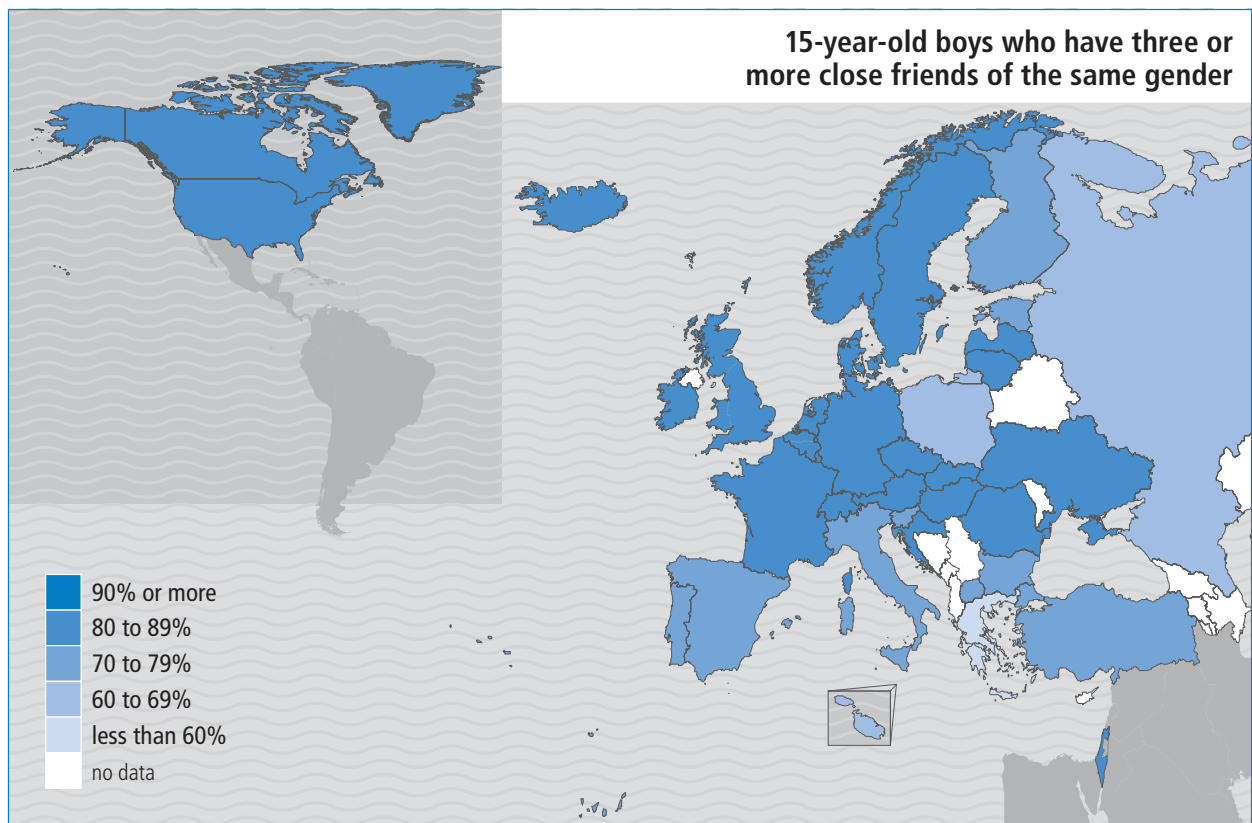
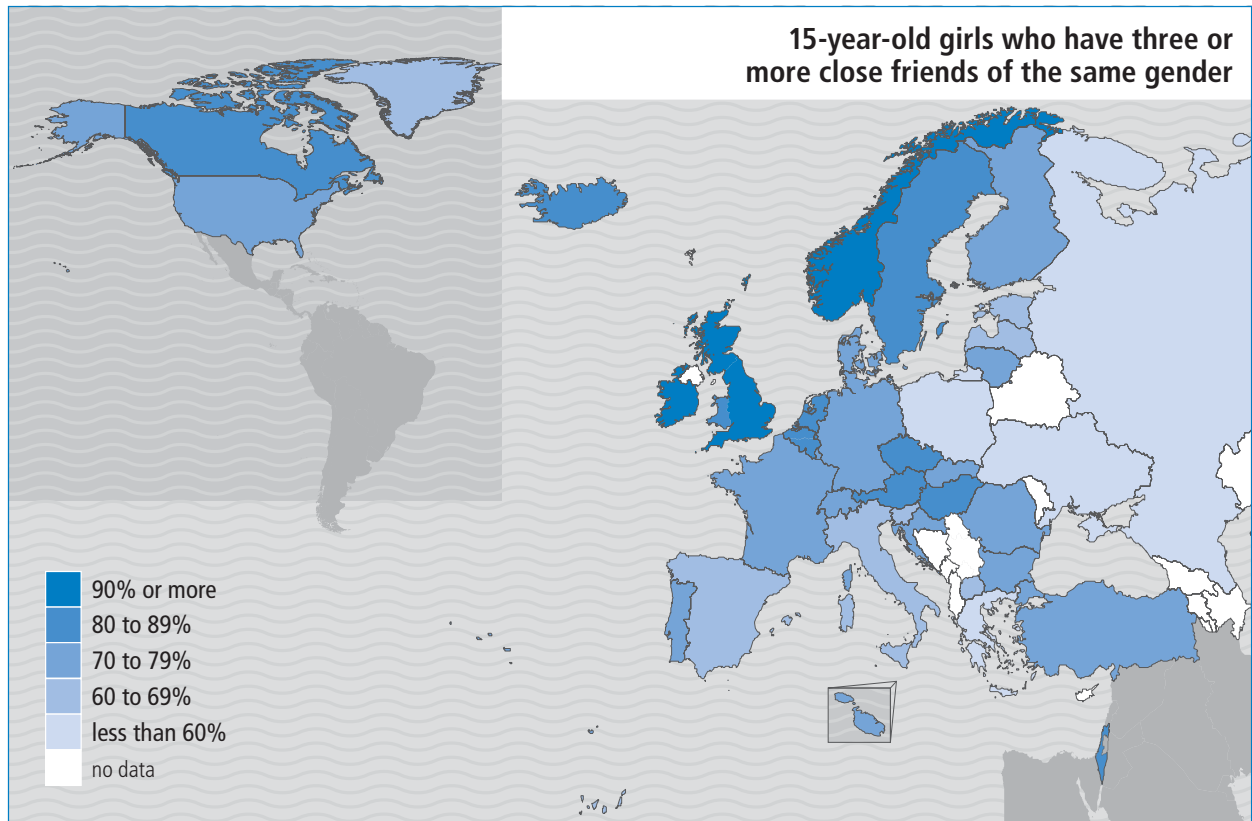
#### 15-year-olds: from 51% (Greece) to 90% (Norway)

- Girls: 46% (Greece) to 91% (Norway, England)
- Boys: 57% (Greece) to 89% (Norway, Ireland, Netherlands, Scotland)

While the vast majority of 11-year-olds report having three or more close friends of the same gender, there are more cross-national variations in the older age groups. Gender and family affluence both play a role in reports of these close friendships.

### REFERENCES

1. Baumister R, Leary MR. The need to belong: desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, 1995, 117:497–529.
2. Bosma H, Jackson S, eds. *Coping and self-concept in adolescence*. Berlin, Springer-Verlag, 1990.
3. Schneider BH. *Friends and enemies: peer relations in childhood*. London, Arnold, 2000.
4. Berndt TJ. Transitions in friendship and friends' influence. In: Graber JA, Brook Gunn J, Petersen AC, eds. *Transition through adolescence: interpersonal domains and context*. Mahwah, NJ, Erlbaum, 1996:57–84.
5. Bender D, Losel F. Protective and risk effects of peer relations and social support on antisocial behaviour in adolescents from multi-problem milieus. *Journal of Adolescence*, 1997, 20:661–678.
6. Kuntsche EN, Gmel G. Emotional well-being and violence among social and solitary risky single occasion drinkers in adolescence. *Addiction*, 2004, 99(3):331–339.



It has been estimated that adolescents spend a third of their waking time with their peers or friends (1). From pre-adolescence on, they generally try to be with their friends more than with their parents (2,3); adolescents may spend twice as much time with their peers than with their parents (4).

Time spent with friends in the evenings has been strongly linked with adolescent risk behaviour, most notably substance use (5,6). Most research concerning peer influence focuses on the risk resulting from engagement in peer groups, but peer contact is also important for the development of protective factors such as participation in physical activity and socializing through, for example, youth club membership. Both positive and negative influences exist and should be considered when exploring the complexity of peer dynamics (7).

### MEASURE

Young people were asked how many evenings per week they usually spend out with their friends. Response options were "0" to "7" evenings. The findings presented here show the proportions that reported spending four or more evenings per week out with friends. Data on time spent with friends after school can be found in the annex.

### INEQUALITIES

**Age** Rates of time spent out in the evenings with friends increase significantly between ages 11 and 15 years in the majority of countries for both boys and girls.

**Gender** 11- and 15-year-old boys are more likely than girls to report being out in the evenings in a majority of countries, while for 13-year-olds this is true in around half of countries.

**Geography** There is no clear geographic pattern for being out with friends in the evening among boys or girls.

**Family affluence** There is a significant association between family affluence and being out with friends in the evening in less than half of countries for boys and around a third for girls, but the direction of this association varies across countries.

### Associations between family affluence and indicators of health, by country/region and gender: SPENDING FOUR OR MORE EVENINGS PER WEEK OUT WITH FRIENDS

NORTH		Boys	Girls	SOUTH		Boys	Girls
Canada				Croatia		+	+
Denmark				Greece			
England		-	-	Israel		+	+
Estonia				Italy			
Finland				Malta			
Greenland		+		Portugal			
Iceland		+	+	Slovenia			
Ireland		-	-	Spain			-
Latvia				TFYR Macedonia <sup>†</sup>		+	+
Lithuania		+		Turkey		+	+
Norway		+					
Scotland		-	-				
Sweden							
USA							
Wales		-	-				
WEST		Boys	Girls	EAST		Boys	Girls
Austria				Bulgaria		+	+
Belgium (Flemish)				Czech Republic		+	
Belgium (French)				Hungary			
France		-	-	Poland			+
Germany				Romania		+	+
Luxembourg		-		Russian Federation		+	+
Netherlands				Slovakia			
Switzerland				Ukraine		+	

Where family affluence is statistically significant at  $p < 0.05$ , countries are identified with +/—

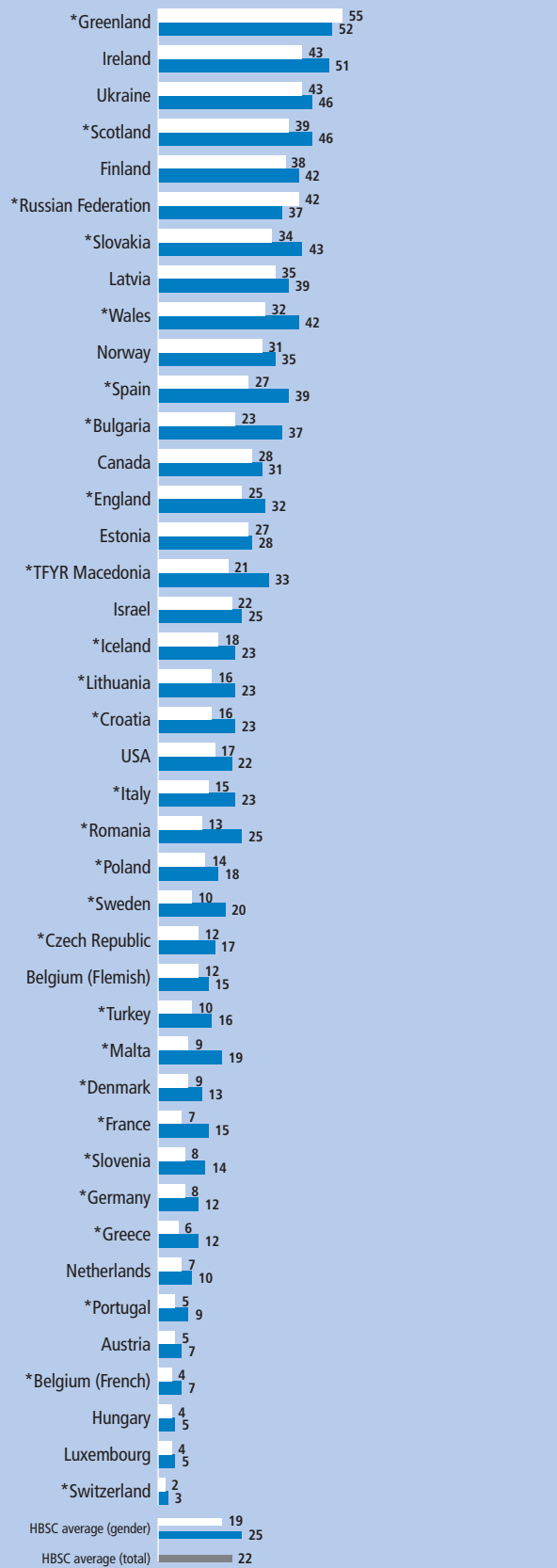
+ indicates that higher levels of time spent out with friends in the evening are significantly associated with higher family affluence;

— indicates that higher levels of time spent out with friends in the evenings are significantly associated with lower family affluence.

<sup>†</sup> The former Yugoslav Republic of Macedonia

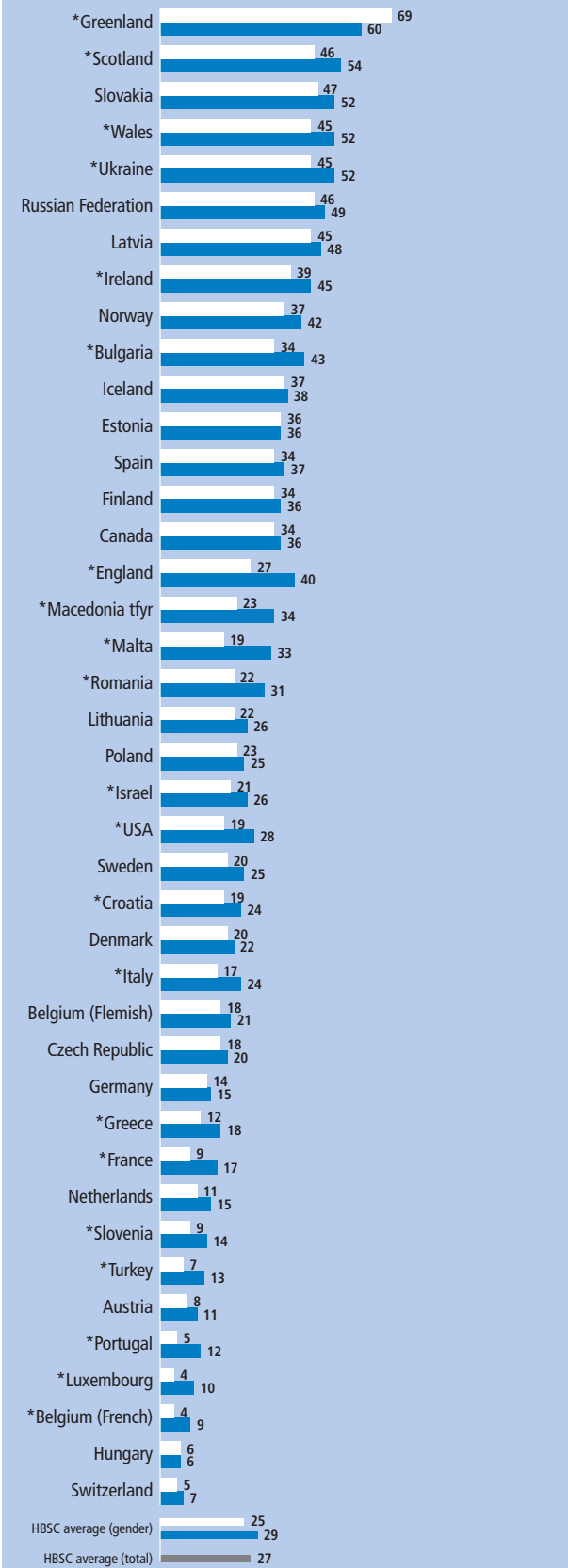
## 11-year-olds who spend four or more evenings per week out with friends

■ Girl %  
■ Boy %



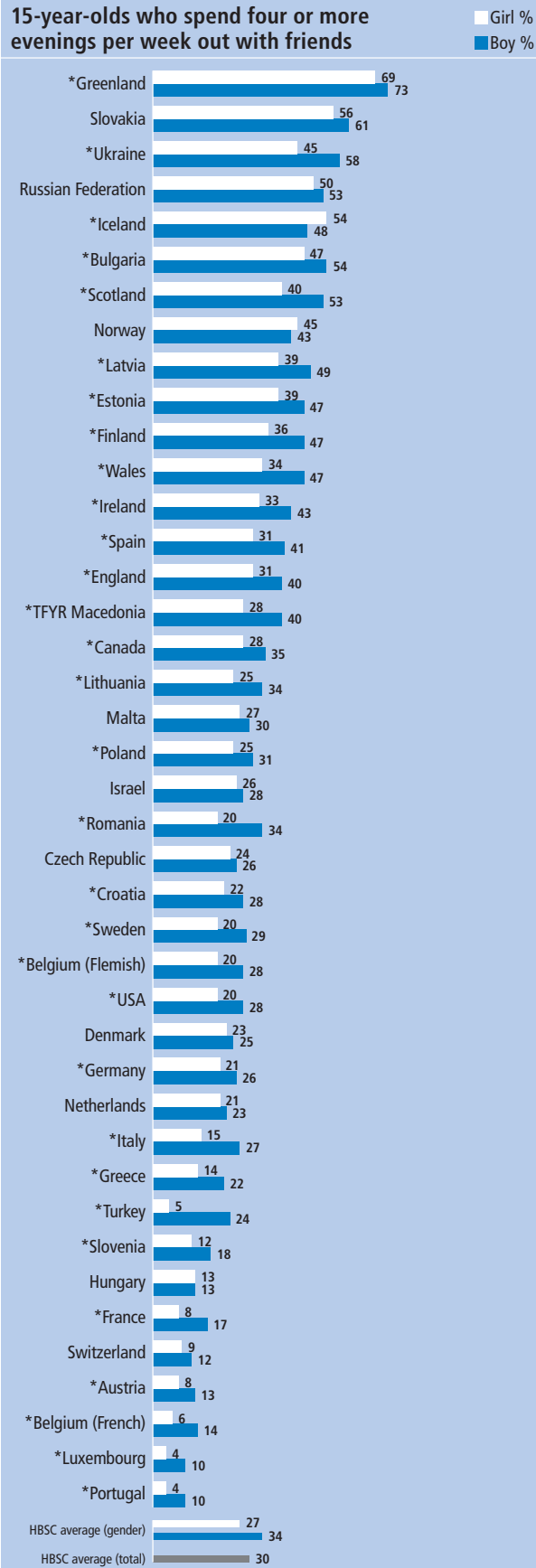
## 13-year-olds who spend four or more evenings per week out with friends

■ Girl %  
■ Boy %



\* indicates a significant gender difference (at p&lt;0.05).

### 15-year-olds who spend four or more evenings per week out with friends



\* indicates a significant gender difference (at  $p < 0.05$ ).

### SUMMARY FINDINGS

There are large cross-national differences in the prevalence of **spending four or more evenings per week out with friends** among all three age groups of young people.

**11-year-olds: from 2% (Switzerland) to 54% (Greenland)**

- Girls: 2% (Switzerland) to 55% (Greenland)
- Boys: 3% (Switzerland) to 52% (Greenland)

**13-year-olds: from 6% (Switzerland) to 65% (Greenland)**

- Girls: 4% (Belgium (French), Luxembourg) to 69% (Greenland)
- Boys: 6% (Hungary) to 60% (Greenland)

**15-year-olds: from 6% (Portugal) to 71% (Greenland)**

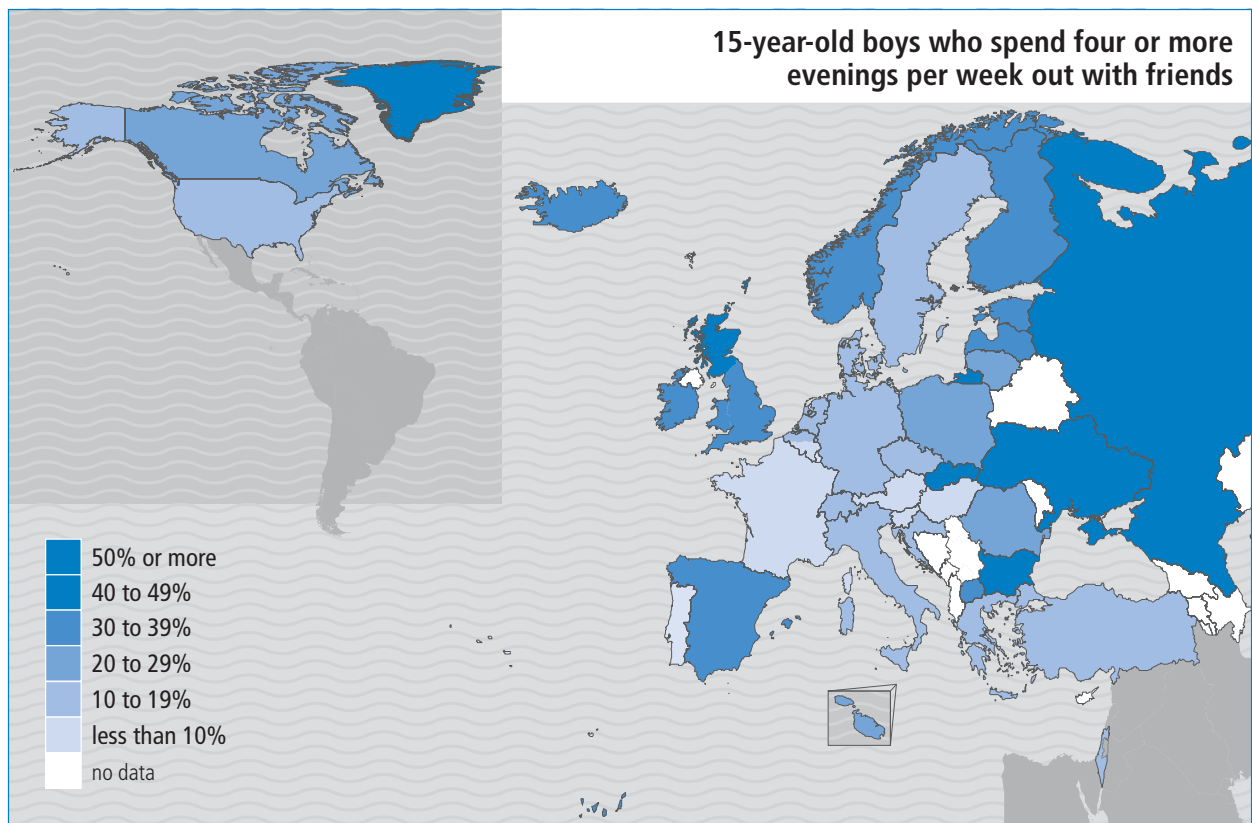
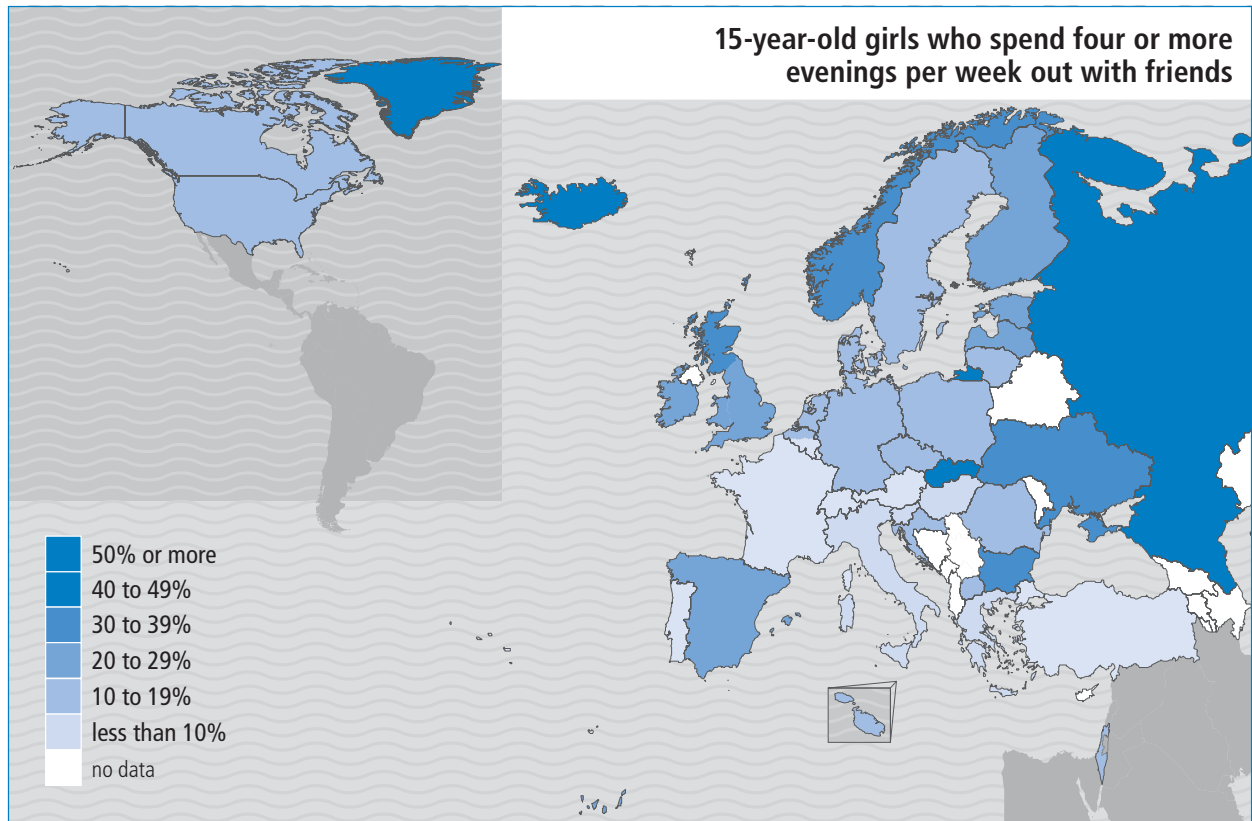
- Girls: 4% (Portugal, Luxembourg) to 69% (Greenland)
- Boys: 10% (Portugal, Luxembourg) to 73% (Greenland)

Boys are consistently more likely than girls to be out four or more evenings per week with friends. Family affluence is not a strong factor in most countries.

### REFERENCES

1. Brown BB, Klute C. Friendships, cliques, and crowds. In: Adams GR, Berzonsky MD, eds. *Handbook of adolescence*. Oxford, Blackwell, 2003:330–348.
2. Fuligni AJ et al. Early adolescent peer orientation and adjustment during high school. *Developmental Psychology*, 2001, 37(1):28–36.
3. Schneider BH. *Friends and enemies: peer relations in childhood*. London, Arnold, 2000.
4. Brown BB. Adolescents' relationships with peers. In: Lerner RM, Steinberg L, eds. *Handbook of adolescent psychology*. New Jersey, Wiley, 2004:364–394.
5. Settertobulte W, Matos M. Peers and health. In: Currie C et al., eds. *Young people's health in context: international report from the HBSC 2001/2002 survey*. WHO policy series: health policy for children and adolescents. Issue 4. Copenhagen, WHO Regional Office for Europe, 2004.
6. Del Carmen Granado Alcon M, Pedersen JM, Carrasco Gonzalez AM. Greenlandic family structure and communication with parents: influence on schoolchildren's drinking behaviour. *International Journal of Circumpolar Health*, 2002, 61:319–331.
7. Berndt T. Friendship and friends' influence in adolescence. In: Muss R, Porton H, eds. *Adolescent behavior and society*. Boston, MA, McGraw-Hill, 1999.







**Methods employed for peer communication have changed over the past decade**, and it has been suggested that although Internet use is associated with a special “online” peer group (1), high levels of electronic communication with peers may be negatively associated with schoolwork and other household or social duties (2).

Girls are more likely to use mobile telephones and boys are more likely to use the Internet, although it is not clear if these differences are consistent across countries or time periods.

The intensive use of new communication technologies has been associated with lower levels of self-rated health and poorer sleep habits (3), violence and hostility (4), musculoskeletal problems (5,6), increased overweight and obesity through the displacement of physical activity (7) and, paradoxically, with loneliness and social isolation (8). Technology use is also linked with improved cognition and school performance (9) and improved social relations when communicating with known peers rather than strangers (10).

### MEASURE

Young people were asked how often they talk to friend(s) on the phone, send them text messages or have contact through the Internet. Response options ranged from “rarely or never” to “every day”. The findings presented here show the proportions that reported electronic media communication with their friends every day.

### INEQUALITIES

**Age** There is a significant increase in prevalence of daily electronic communication among both boys and girls between ages 11 and 15 in all countries.

**Gender** Girls are more likely to report daily electronic communication; this gender difference is significant in most countries for the 11-year-old age group and in almost all countries for the older age groups.

**Geography** Young people in northern Europe are most likely to report daily electronic communication.

**Family affluence** Daily electronic communication is significantly associated with higher family affluence in almost all countries.

### Associations between family affluence and indicators of health, by country/region and gender: DAILY ELECTRONIC MEDIA CONTACT WITH FRIENDS

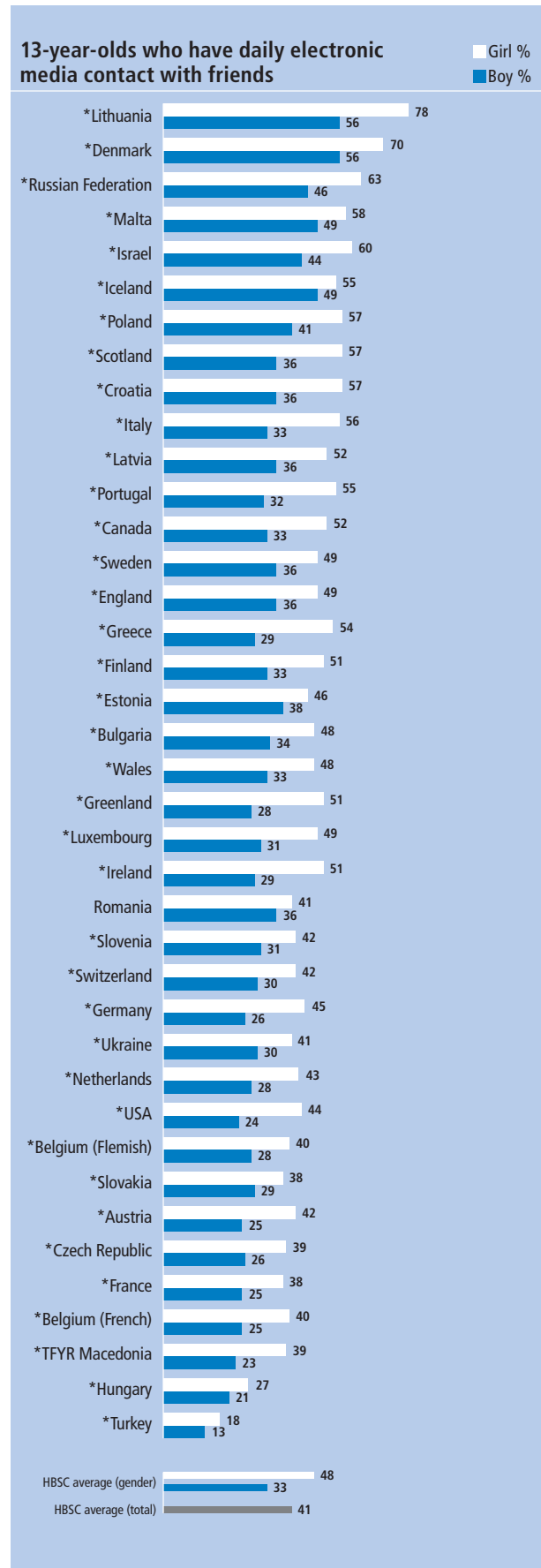
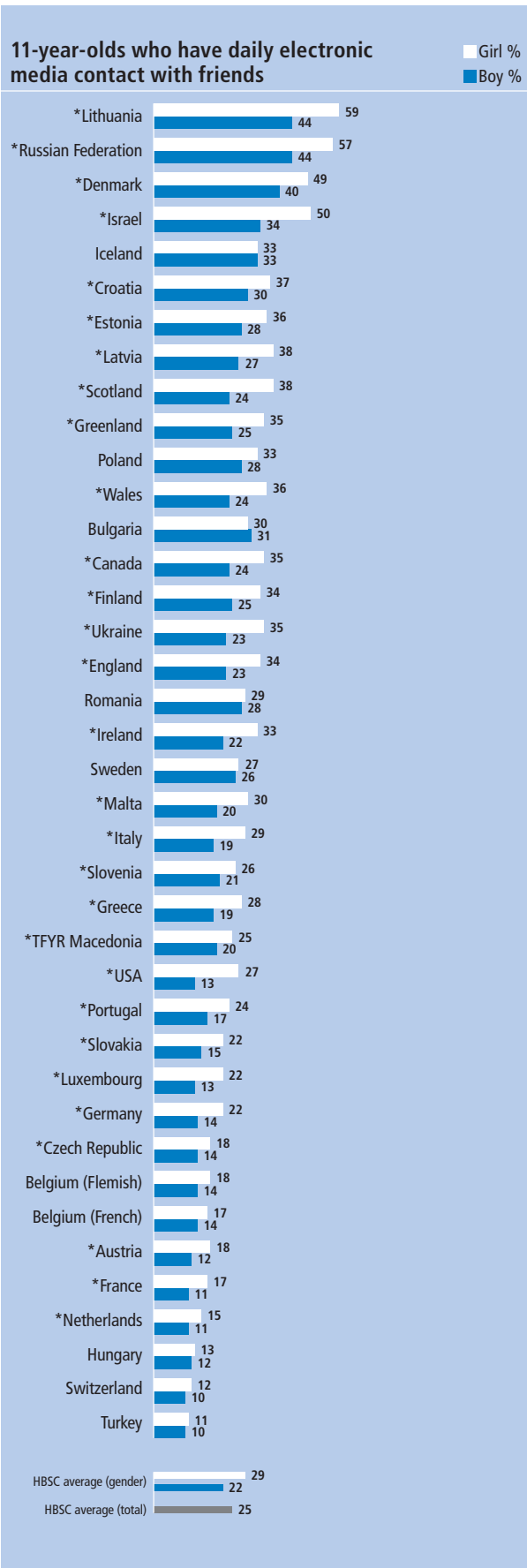
NORTH			SOUTH		
	Boys	Girls		Boys	Girls
Canada	+	+	Croatia	+	+
Denmark	+	+	Greece	+	+
England	+		Israel	+	+
Estonia	+	+	Italy	+	+
Finland	+	+	Malta	+	
Greenland	+	+	Portugal	+	+
Iceland	+	+	Slovenia	+	+
Ireland	+	+	TFYR Macedonia <sup>†</sup>	+	+
Latvia	+	+	Turkey	+	+
Lithuania	+	+			
Scotland	+	+			
Sweden		+			
USA	+	+			
Wales	+	+			
WEST			EAST		
	Boys	Girls		Boys	Girls
Austria	+	+	Bulgaria	+	+
Belgium (Flemish)	+		Czech Republic	+	+
Belgium (French)	+	+	Hungary	+	+
France	+	+	Poland	+	+
Germany	+	+	Romania	+	+
Luxembourg	+	+	Russian Federation	+	+
Netherlands	+	+	Slovakia	+	+
Switzerland	+	+	Ukraine	+	+

Where family affluence is statistically significant at  $p < 0.05$ , countries are identified with +/–

+ indicates that higher levels of e-media contact with friends are significantly associated with higher family affluence;

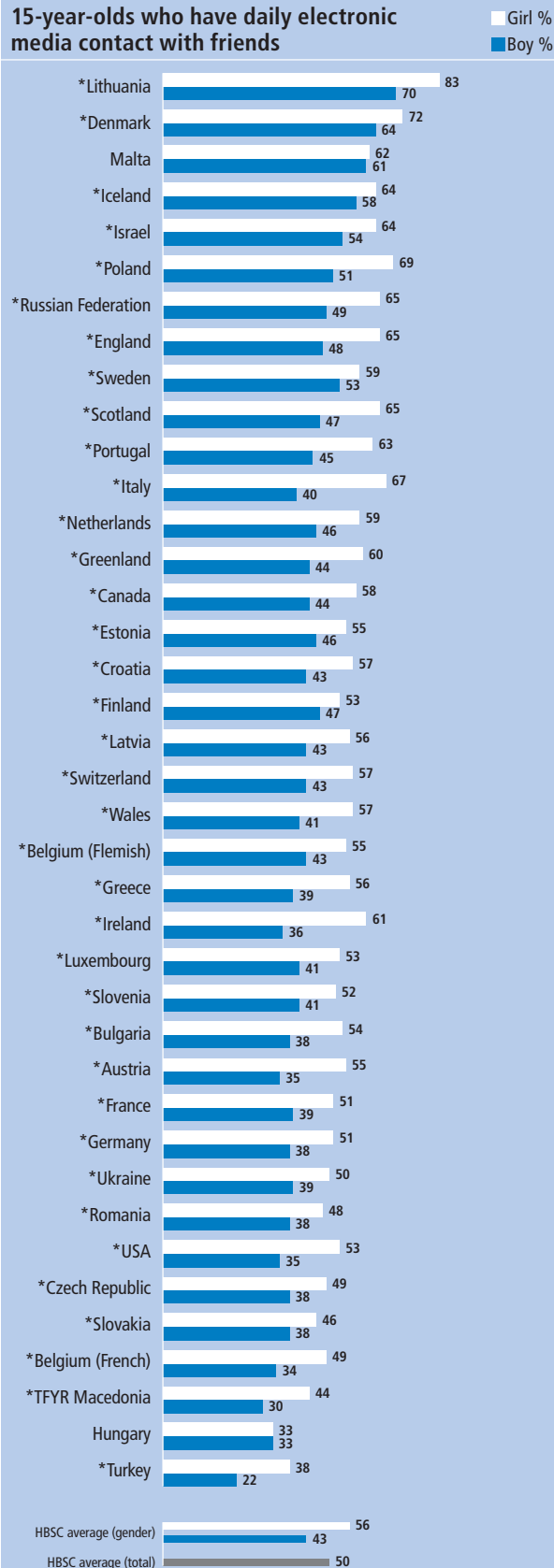
– indicates that higher levels of e-media contact with friends are significantly associated with lower family affluence.

<sup>†</sup> The former Yugoslav Republic of Macedonia



\* indicates a significant gender difference (at  $p < 0.05$ ). No data available for Norway or Spain

### 15-year-olds who have daily electronic media contact with friends



\* indicates a significant gender difference (at  $p < 0.05$ ). No data available for Norway or Spain

### SUMMARY FINDINGS

There are large differences between countries in the proportion of young people's reporting of **daily electronic media contact with friends**.

#### 11-year-olds: from 10% (Turkey) to 52% (Lithuania)

- Girls: 11% (Turkey) to 59% (Lithuania)
- Boys: 10% (Switzerland, Turkey) to 44% (Lithuania, Russian Federation)

#### 13-year-olds: from 16% (Turkey) to 67% (Lithuania)

- Girls: 18% (Turkey) to 78% (Lithuania)
- Boys: 13% (Turkey) to 56% (Lithuania, Denmark)

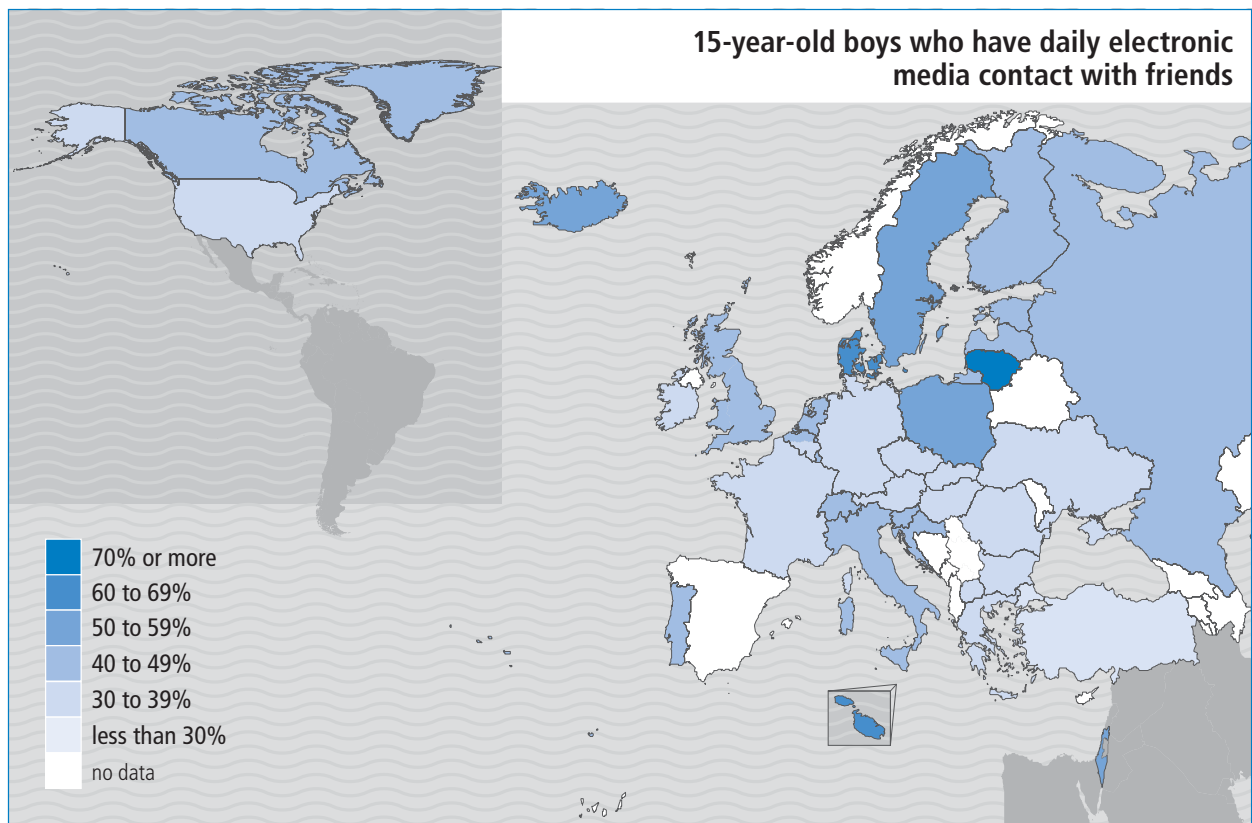
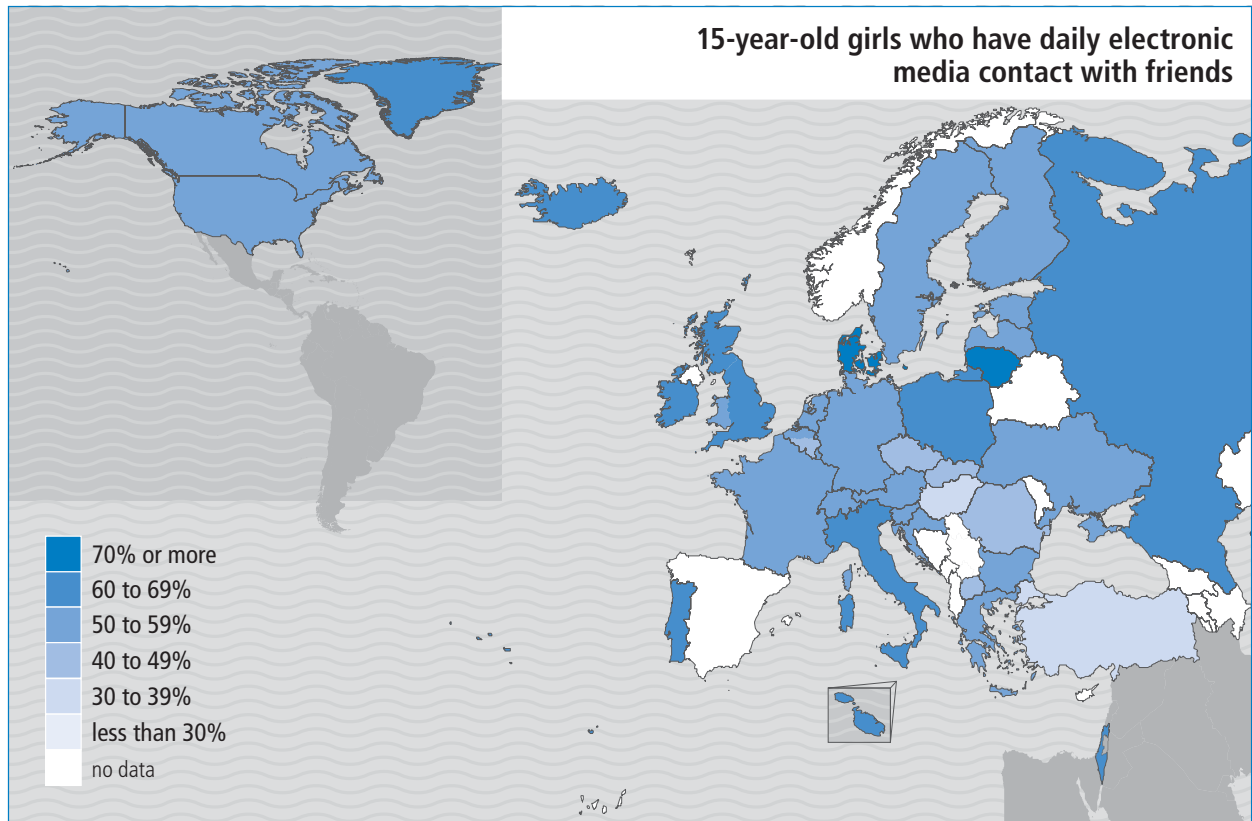
#### 15-year-olds: from 30% (Turkey) to 76% (Lithuania)

- Girls: 33% (Hungary) to 83% (Lithuania)
- Boys: 22% (Turkey) to 70% (Lithuania)

There are increases with age in daily electronic contact with friends. It is consistently more common among girls and also among higher affluence groups. Geographically, it is more frequently reported in northern Europe.

### REFERENCES

1. Prezza M, Giuseppina Pacilli M, Dinelli S. Loneliness and new technologies in a group of Roman adolescents. *Computers in Human Behavior*, 2004, 20:691–709.
2. Wallace P. *The psychology of the internet*. Cambridge, Cambridge University Press, 1999.
3. Punamäki RL et al. Use of information and communication technology (ICT) and perceived health in adolescence: the role of sleeping habits and waking-time tiredness. *Journal of Adolescence*, 2006, 30(4):569–585.
4. Kuntsche E. Hostility among adolescents in Switzerland? Multivariate relations between excessive media use and forms of violence. *Journal of Adolescent Health*, 2004, 34:230–236.
5. Alexander LM, Currie CC. Young people's computer use: implications for health education. *Health Education*, 2004, 4:254–261.
6. Hakala PT et al. Frequent computer-related activities increase the risk of neck, shoulder and low back pain in adolescents. *European Journal of Public Health*, 2006, 16(5):536–541.
7. Kautiainen S et al. Use of information and communication technology and prevalence of overweight and obesity among adolescents. *International Journal of Obesity*, 2005, 29:925–933.
8. Kraut R et al. Internet paradox: a social technology that reduces social involvement and psychological well-being? *American Psychologist*, 1998, 53:1017–1031.
9. Subrahmanyam K, Greenfield P, Kraut R. The impact of computer use on children's and adolescents' development. *Applied Developmental Psychology*, 2001, 22:7–30.
10. Gross EF, Juvonen J, Gable SLN. Internet use and well-being in adolescence. *Journal of Social Issues*, 2002, 58:75–90.



**Students' experiences in school coincide with a crucial developmental period in their lives** and influence the development of their self-esteem, self-perceptions and health behaviours. These in turn influence students' current and future health and life satisfaction (1–4).

School satisfaction has been considered as an indicator of the emotional aspect of quality of life in the school setting (5). A positive experience of school is seen as a resource for health, while a negative experience may constitute a risk factor. "Liking school" has consequently been identified as a protective factor against sexual risk taking (6) and substance use, most notably smoking (3,7,8) and alcohol consumption (9).

Students who dislike school are those who are most likely to be failing academically and to be at greatest risk of dropping out, adopting unhealthy behaviours, exhibiting psychosomatic symptoms and experiencing reduced quality of life (5,6).

### MEASURE

Young people were asked how they feel about school at present. Response options ranged from "I like it a lot" to "I don't like it at all". The findings presented here show the proportions that reported liking school a lot.

### INEQUALITIES

**Age** There is a significant decline in the prevalence of young people reporting that they like school a lot between ages 11 and 15 in most countries for both boys and girls.

**Gender** Girls at all ages are more likely to say they like school a lot: these differences are significant for 11-year-olds in almost all countries, for 13-year-olds in over half and 15-year-olds in just under half of countries.

**Geography** There are no clear geographical patterns in liking school a lot.

**Family affluence** There is a significant association between high family affluence and liking school a lot in a minority of countries for girls and a small number for boys. For a further very small number of countries, there is also a significant association between liking school a lot and low family affluence.

### Associations between family affluence and indicators of health, by country/region and gender: LIKING SCHOOL A LOT

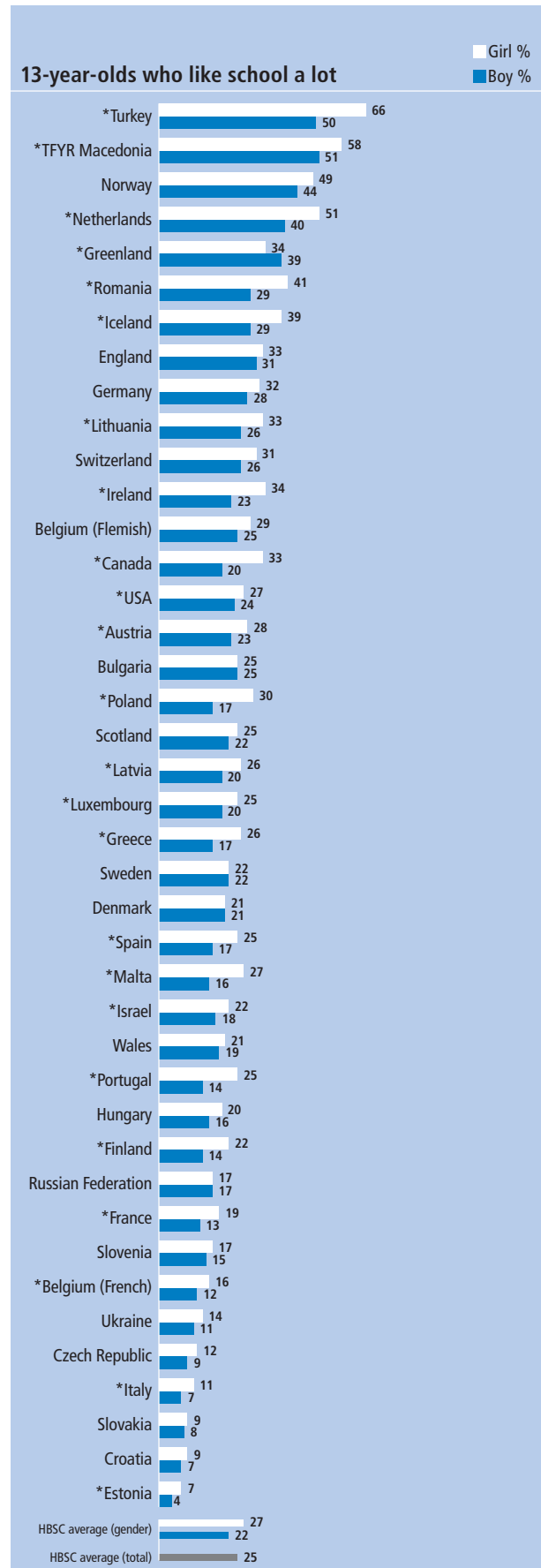
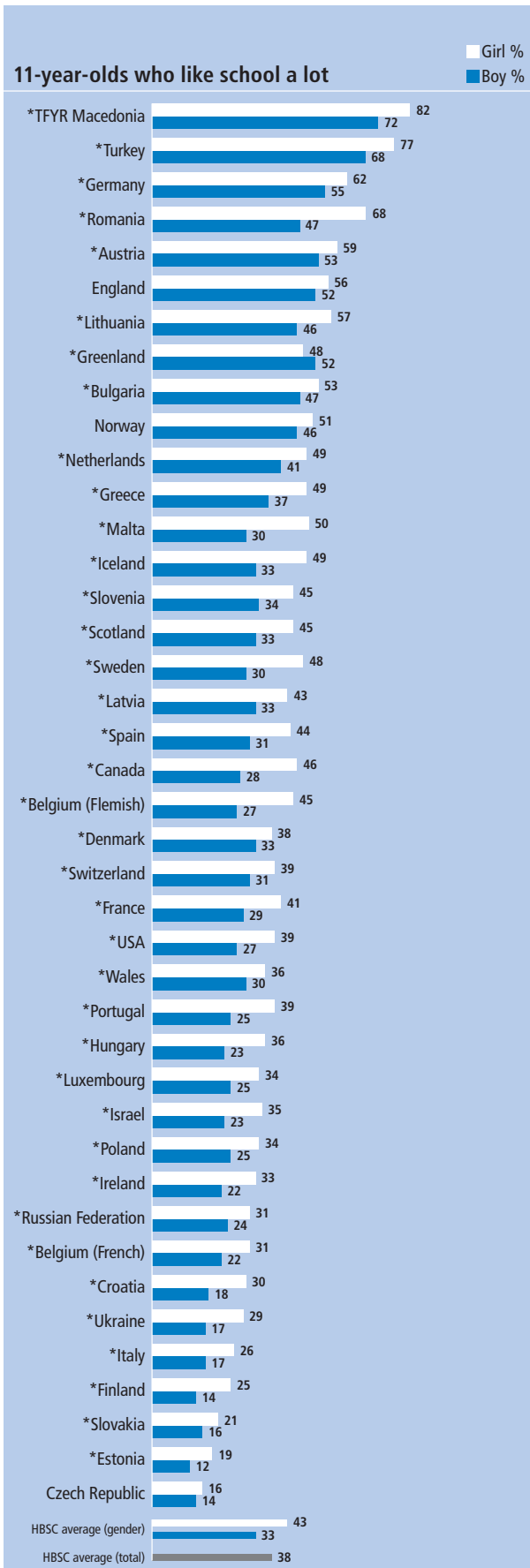
<b>NORTH</b>		Boys	Girls	<b>SOUTH</b>		Boys	Girls
Canada		+		Croatia			
Denmark				Greece			+
England		+	+	Israel			–
Estonia				Italy			
Finland		+		Malta			–
Greenland		–	–	Portugal			+
Iceland		+	+	Slovenia			–
Ireland			+	Spain			
Latvia		+	+	TFYR Macedonia <sup>†</sup>			+
Lithuania				Turkey		–	–
Norway			+				
Scotland			+				
Sweden							
USA			+				
Wales			+				
<b>WEST</b>		Boys	Girls	<b>EAST</b>		Boys	Girls
Austria				Bulgaria			
Belgium (Flemish)				Czech Republic			+
Belgium (French)		–		Hungary			+
France				Poland			
Germany				Romania			
Luxembourg				Russian Federation			+
Netherlands		–		Slovakia			
Switzerland				Ukraine			

Where family affluence is statistically significant at  $p < 0.05$ , countries are identified with +/–

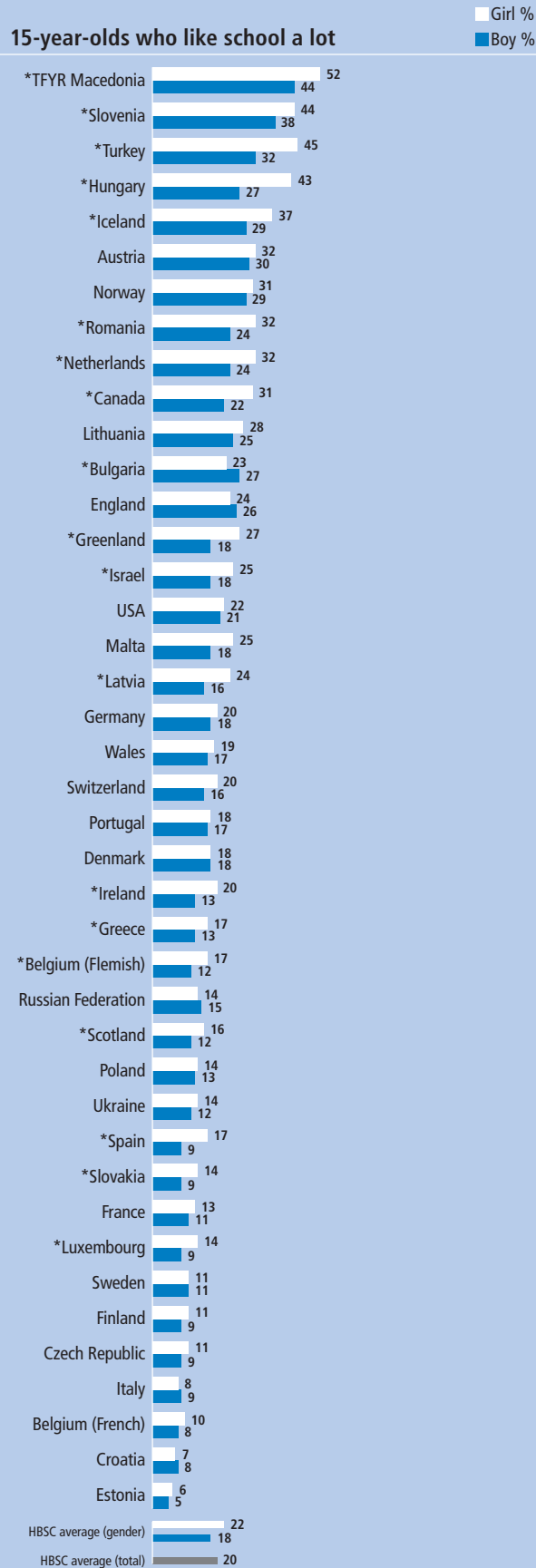
+ indicates that higher levels of liking school are significantly associated with higher family affluence;

– indicates that higher levels of liking school are significantly associated with lower family affluence.

<sup>†</sup>The former Yugoslav Republic of Macedonia

\* indicates a significant gender difference (at  $p < 0.05$ ).

## 15-year-olds who like school a lot



\* indicates a significant gender difference (at  $p < 0.05$ ).

## SUMMARY FINDINGS

There are very large cross-country differences in the prevalence of **liking school a lot**.

**11-year-olds: from 15% (Czech Republic) to 77% (TFYR Macedonia†)**

- Girls: 16% (Czech Republic) to 82% (TFYR Macedonia†)
- Boys: 12% (Estonia) to 72% (TFYR Macedonia†)

**13-year-olds: from 6% (Estonia) to 58% (Turkey)**

- Girls: 7% (Estonia) to 66% (Turkey)
- Boys: 4% (Estonia) to 51% (TFYR Macedonia†)

**15-year-olds: from 6% (Estonia) to 48% (TFYR Macedonia†)**

- Girls: 6% (Estonia) to 52% (TFYR Macedonia†)
- Boys: 5% (Estonia) to 44% (TFYR Macedonia†)

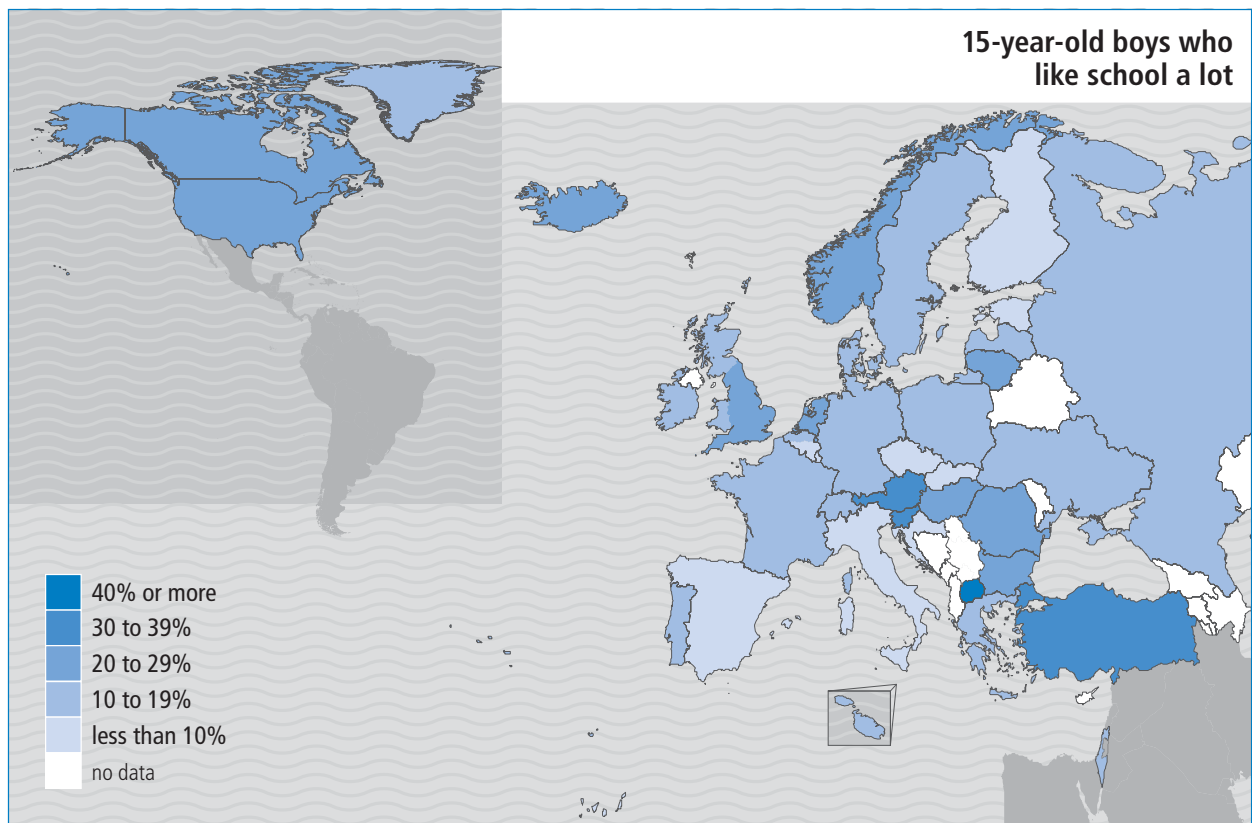
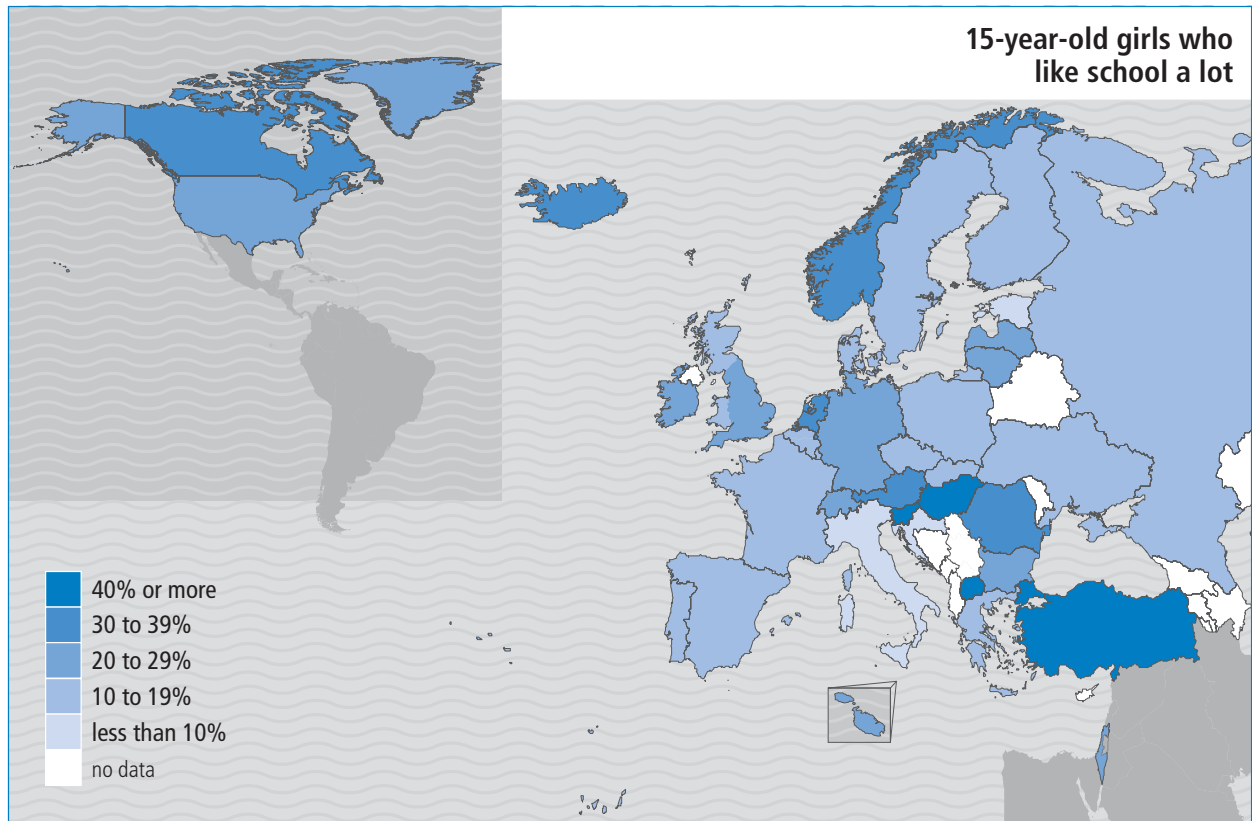
There is a consistent gender difference across countries at age 11, but this gender gap narrows along with a general decline in liking school a lot between ages 11 and 15. Neither geography nor family affluence is a strong predictor of liking school a lot.

†The former Yugoslav Republic of Macedonia

## REFERENCES

1. Due P et al. Socio-economic health inequalities among a nationally representative sample of Danish adolescents: the role of different types of social relations. *Journal of Epidemiology and Community Health*, 2003, 57:692–698.
2. Hurrelmann K, Leppin A, Nordlohne E. Promoting health in schools: the German example. *Health Promotion International*, 1996, 10(2):121–131.
3. Samdal O et al. Students' perceptions of school and their smoking and alcohol use: a cross-national study. *Addiction Research*, 2000, 8(2):141–167.
4. Torsheim T, Wold B. School-related stress, school support and somatic complaints: a general population study. *Journal of Adolescent Research*, 2001, 16:293–303.
5. Samdal O et al. Achieving health and educational goals through schools: a study of the importance of school climate and students' satisfaction with school. *Health Education Research*, 1998, 13(3):383–397.
6. Dias SF, Matos MG, Goncalves AC. Preventing HIV transmission in adolescents: an analysis of the Portuguese data from the Health Behaviour in School-aged Children study and focus groups. *European Journal of Public Health*, 2005, 15(3):200–204.
7. Nutbeam D et al. Warning! Schools can damage your health: alienation from school and its impact on health behaviour. *Journal of Paediatrics and Child Health*, 1993, 29(Suppl.1):25–30.
8. Rasmussen M et al. School connectedness and daily smoking among boys and girls: the influence of parental smoking norms. *European Journal of Public Health*, 2005, 15(6):607–612.
9. Maes L, Lievens J. Can school make a difference? A multilevel analysis of adolescent risk and health behaviour. *Social Science and Medicine*, 2003, 56:517–529.







**The school environment, or the psychosocial school climate,** has been studied primarily from the perspective of increasing young people's academic achievement (1,2). Objective and subjective academic achievement are considered to be important education outcomes determined by school performance.

Academic achievement is an important predictor of future life chances, including education and employment opportunities, and for adult morbidity and premature mortality. During adolescence, however, perceived school performance or academic self-efficacy has been documented as being a more consistent and stronger predictor of health and well-being than objective academic achievement (3).

Perceived school performance has been previously associated with a range of school-related factors, including school satisfaction and positive school ethos or climate (4). It has also been associated with life satisfaction (5,6) and bullying (7) as well as health outcomes, including fewer subjective health complaints, higher self-rated health and reduced levels of smoking (8).

### MEASURE

Young people were asked what, in their opinion, their class teacher(s) think about their school performance compared to their classmates. Response options ranged from "very good" to "below average". The findings presented here show the proportions that reported their perceived school performance as either "very good" or "good".

### INEQUALITIES

**Age** There is a significant decline in the prevalence of young people reporting that they are doing well or very well at school in all countries for girls and all but one for boys between the ages of 11 and 15.

**Gender** At all ages, girls are more likely than boys to report that they are doing well or very well at school; this is a significant gender difference in the majority of countries at all ages.

**Geography** There is no clear geographic pattern in reporting doing well or very well at school.

**Family affluence** Perception of school performance is significantly lower in young people from families of lower affluence in the majority of countries.

### Associations between family affluence and indicators of health, by country/region and gender: GOOD PERCEIVED SCHOOL PERFORMANCE

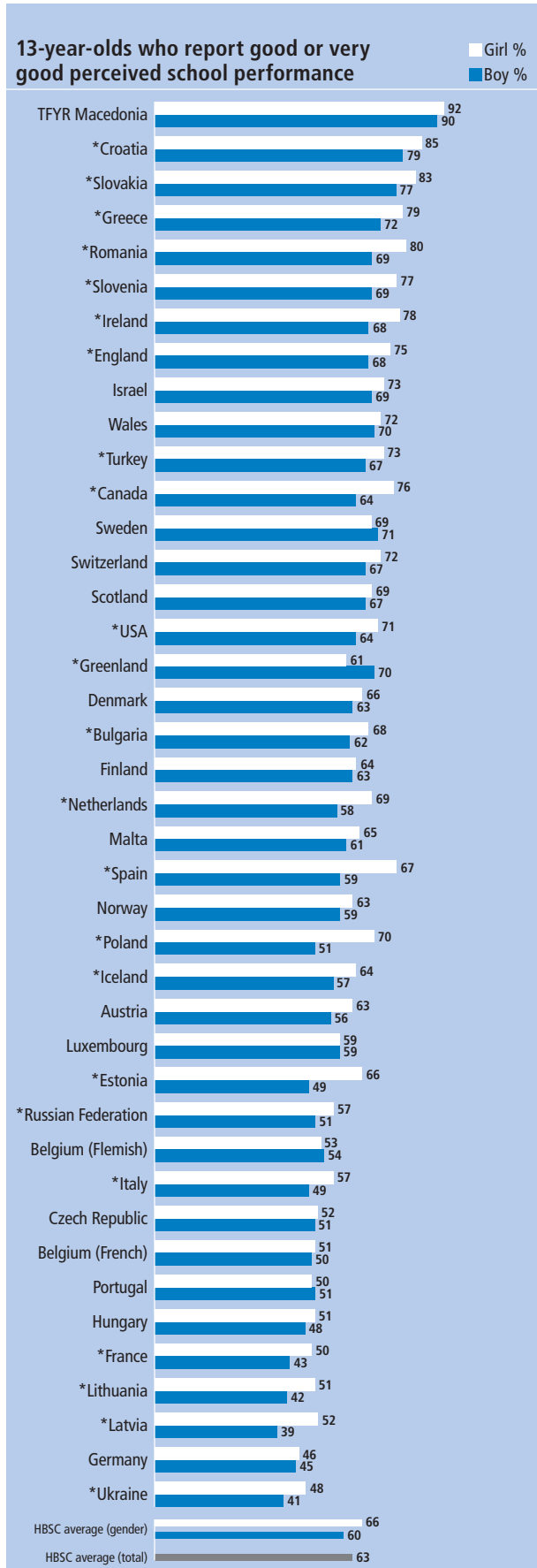
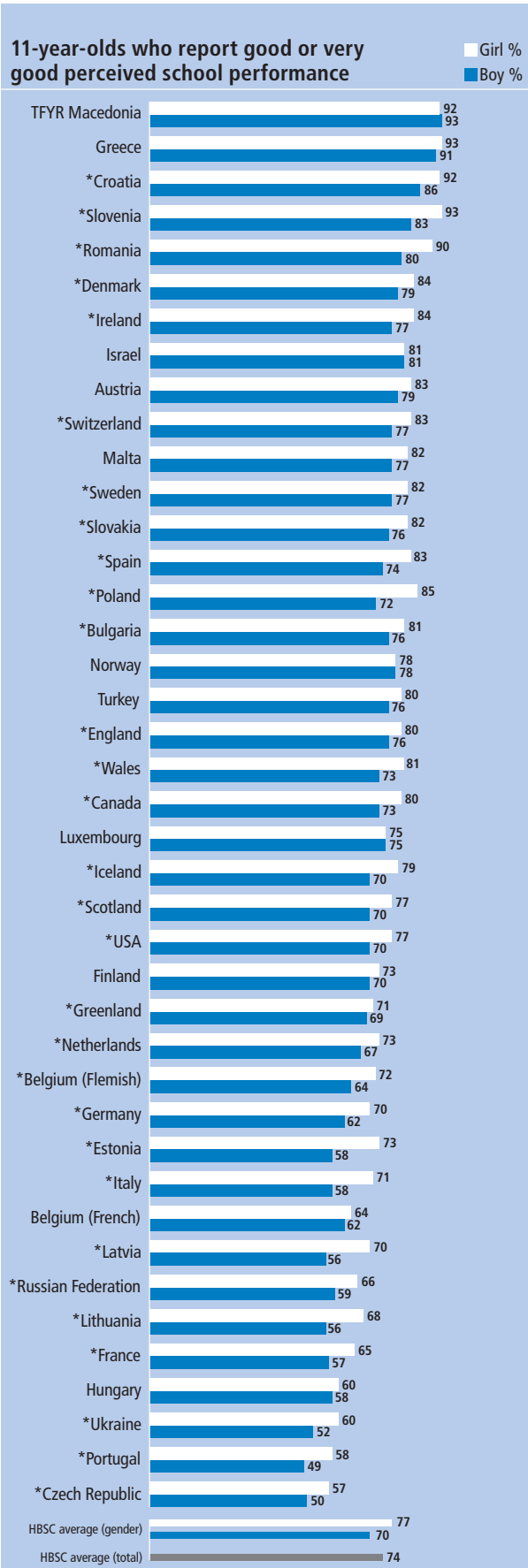
NORTH			SOUTH		
	Boys	Girls		Boys	Girls
Canada	+	+	Croatia	+	+
Denmark	+	+	Greece	+	+
England	+	+	Israel		+
Estonia	+	+	Italy	+	+
Finland	+	+	Malta		
Greenland			Portugal	+	+
Iceland	+	+	Slovenia	+	
Ireland	+	+	Spain	+	+
Latvia		+	TFYR Macedonia <sup>†</sup>		
Lithuania	+	+	Turkey		
Norway		—			
Scotland	+	+			
Sweden	+	+			
USA	+	+			
Wales	+	+			
WEST			EAST		
	Boys	Girls		Boys	Girls
Austria			Bulgaria		+
Belgium (Flemish)		+	Czech Republic	+	+
Belgium (French)		+	Hungary	+	+
France	+	+	Poland	+	+
Germany	+	+	Romania		+
Luxembourg	+	+	Russian Federation		+
Netherlands	—		Slovakia	+	+
Switzerland	+	+	Ukraine	+	+

Where family affluence is statistically significant at  $p < 0.05$ , countries are identified with +/—

+ indicates that higher levels of perceived school performance are significantly associated with higher family affluence;

— indicates that higher levels of perceived school performance are significantly associated with lower family affluence.

<sup>†</sup>The former Yugoslav Republic of Macedonia

\* indicates a significant gender difference (at  $p < 0.05$ ).

### 15-year-olds who report good or very good perceived school performance



### SUMMARY FINDINGS

Perceived very good or good school performance varies across countries.

**11-year-olds: from 54% (Czech Republic) to 93% (TFYR Macedonia†)**

- Girls: 57% (Czech Republic) to 93% (Greece, Slovenia)
- Boys: 49% (Portugal) to 93% (TFYR Macedonia†)

**13-year-olds: from 44% (Ukraine) to 91% (TFYR Macedonia†)**

- Girls: 46% (Germany) to 92% (TFYR Macedonia†)
- Boys: 39% (Latvia) to 90% (TFYR Macedonia†)

**15-year-olds: from 34% (Hungary) to 87% (TFYR Macedonia†)**

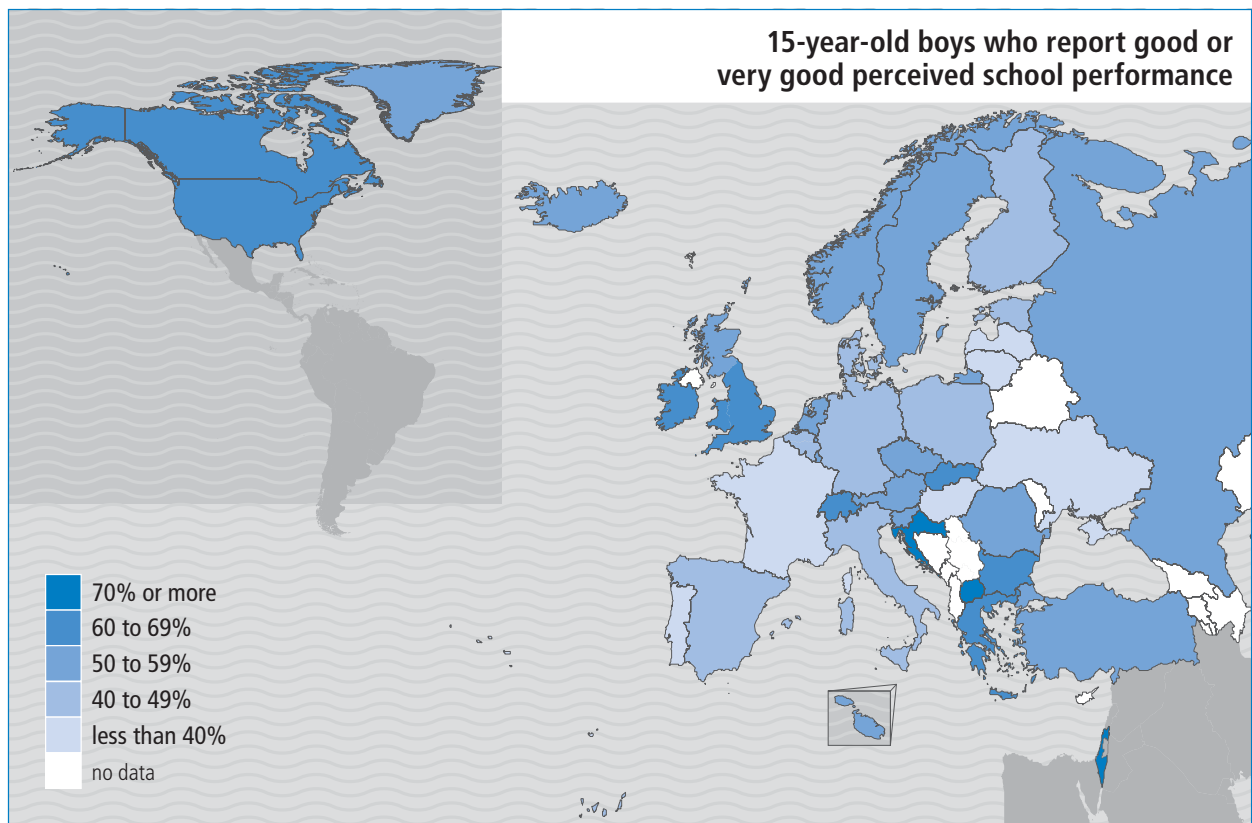
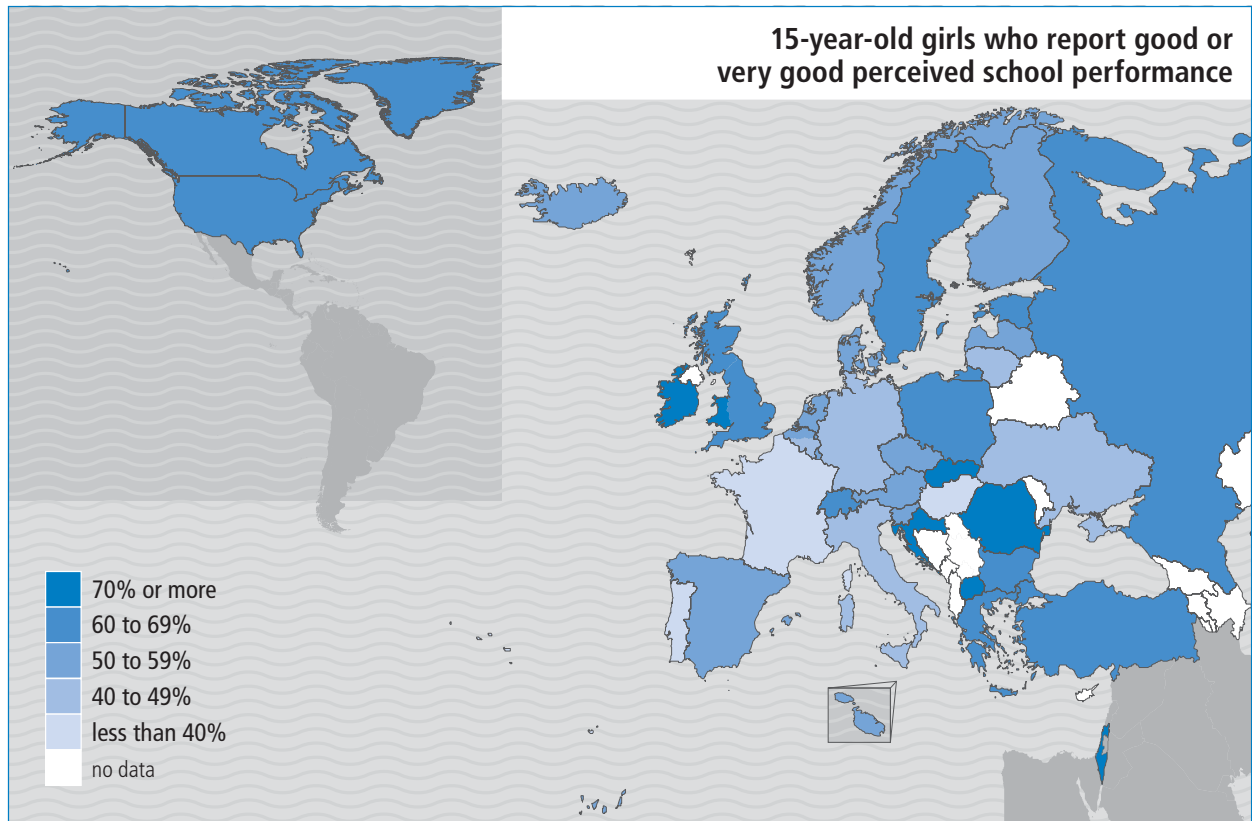
- Girls: 37% (France) to 89% (TFYR Macedonia†)
- Boys: 28% (Hungary) to 85% (TFYR Macedonia†)

Gender and family affluence are significant factors in assessment of very good or good school performance, with girls and those from high-affluence families more likely to report performing well at school. Although there is a decline with age in some countries, levels remain high at age 15.

†The former Yugoslav Republic of Macedonia

### REFERENCES

1. Mortimore P. *The road to improvement: reflections on school effectiveness*. Lisse, Swets & Zeitlinger, 1998.
2. Samdal O, Dur W, Freeman J. School. In: Currie C et al., eds. *Young people's health in context: international report from the HBSC 2001/2002 survey. WHO policy series: health policy for children and adolescents. Issue 4*. Copenhagen, WHO Regional Office for Europe, 2004.
3. Suldo SM, Riley KN, Shaffer EJ. Academic correlates of children and adolescents' life satisfaction. *School Psychology International*, 2006, 27(5):567–582.
4. Voelkl KE. School warmth, student participation, and achievement. *Journal of Experimental Education*, 1995, 63:127–138.
5. Sulder SM, Huebner ES. Is extremely high life satisfaction during adolescence advantageous? *Social Indicators Research*, 2006, 78:179–203.
6. Huebner ES, Gilman R, Laughlin JE. A multimethod investigation of the multidimensionality of children's well-being reports: discriminant validity of life satisfaction and self-esteem. *Social Indicators Research*, 1999, 46:1–22.
7. Nansel TR et al. Bullying behaviours among US youth: prevalence and association with psychosocial adjustment. *Journal of the American Medical Association*, 2001, 285(16):2094–2100.
8. Ravens-Sieberer U, Kokonyei G, Thomas C. School and health. In: Currie C et al., eds. *Young people's health in context: international report from the HBSC 2001/2002 survey. WHO policy series: health policy for children and adolescents. Issue 4*. Copenhagen, WHO Regional Office for Europe, 2004.



**Feeling under pressure or stressed by schoolwork** is considered to be a component of school adjustment and is analogous to job strain in an occupational setting (1).

It has been shown that while school-related stress is found in individual students, it is also a characteristic of the wider context of the school or classroom. This suggests that the perception of feeling under pressure is not merely one of individual differences between students, but is also associated with school and classroom-level factors (2).

School-related stress has been linked with perceived academic demands from parents and teachers (3). As with stress from other sources, high levels of school-related stress have been associated with a range of health and well-being outcomes, including lower self-rated health (4), lower quality of life and less satisfaction with school (3), and with increases in reported psychological and somatic symptoms (1,2,5).

### MEASURE

Young people were asked how pressured they feel by the schoolwork they have to do. Response options ranged from “a lot” to “not at all”. The findings presented here are the proportions that reported feeling pressured by schoolwork either “a lot” or “some”.

### INEQUALITIES

**Age** There is a significant increase in reporting of schoolwork-related pressure between ages 11 and 15. This is a significant rise in the majority of countries for boys and almost all countries for girls.

**Gender** At age 11, boys are more likely to report schoolwork pressure than girls; this is a significant difference in around half of countries. At age 13, however, the gender pattern is reversed, and a significantly higher proportion of girls report pressure in a minority of countries; by age 15, this is true for the majority of countries.

**Geography** Young people in western Europe report relatively lower levels of schoolwork pressure.

**Family affluence** Few countries show a significant association between reported schoolwork pressure and family affluence. In most of these cases, higher levels of schoolwork pressure are associated with lower family affluence.

### Associations between family affluence and indicators of health, by country/region and gender: FEELING PRESSURED BY SCHOOLWORK

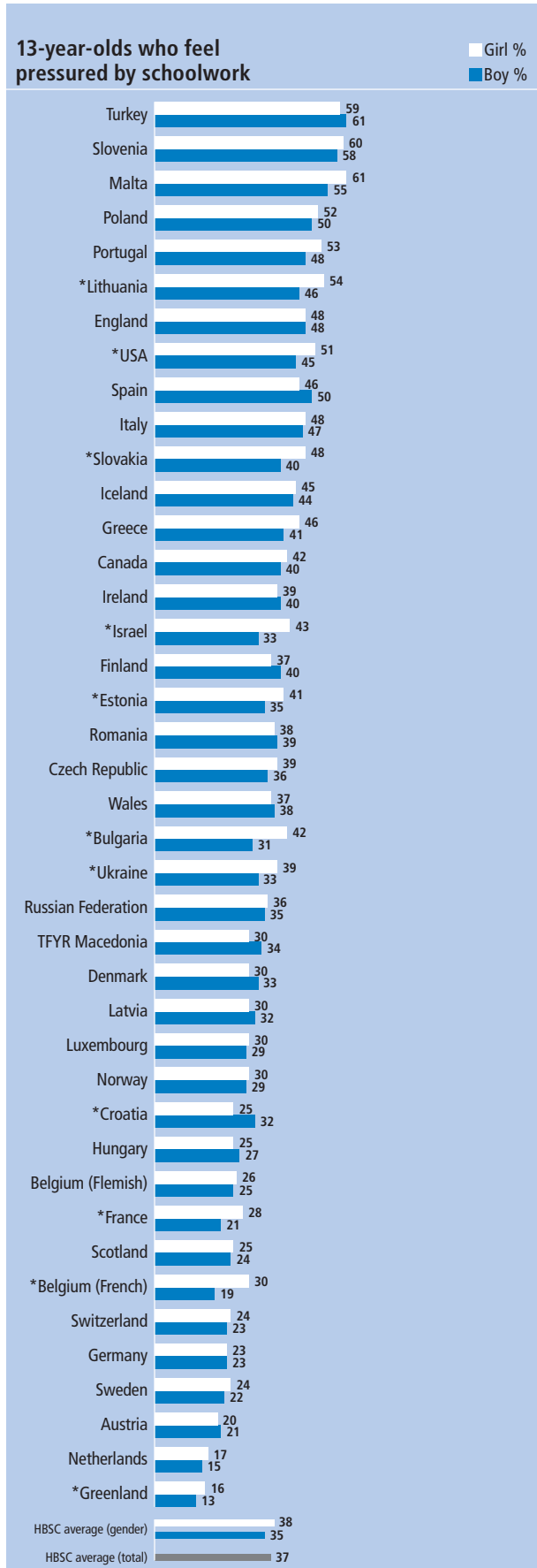
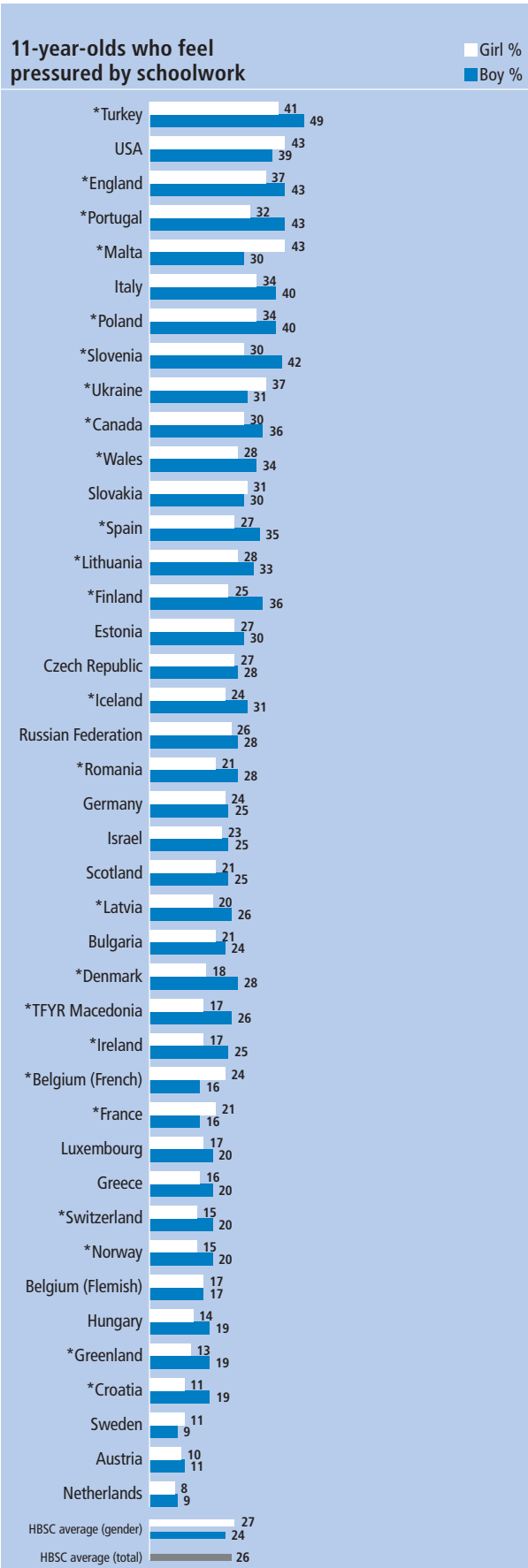
<b>NORTH</b>		Boys	Girls	<b>SOUTH</b>		Boys	Girls
Canada				Croatia		+	
Denmark			–	Greece			
England				Israel		–	
Estonia		–		Italy			
Finland				Malta			
Greenland				Portugal			
Iceland		–		Slovenia			
Ireland				Spain			
Latvia				TFYR Macedonia <sup>†</sup>			
Lithuania		+	+	Turkey			
Norway							
Scotland							
Sweden							
USA							
Wales							
<b>WEST</b>		Boys	Girls	<b>EAST</b>		Boys	Girls
Austria				Bulgaria			
Belgium (Flemish)				Czech Republic			–
Belgium (French)				Hungary			
France				Poland			
Germany		–	–	Romania			
Luxembourg		+	–	Russian Federation		–	–
Netherlands				Slovakia			
Switzerland		–		Ukraine			

Where family affluence is statistically significant at  $p < 0.05$ , countries are identified with +/–

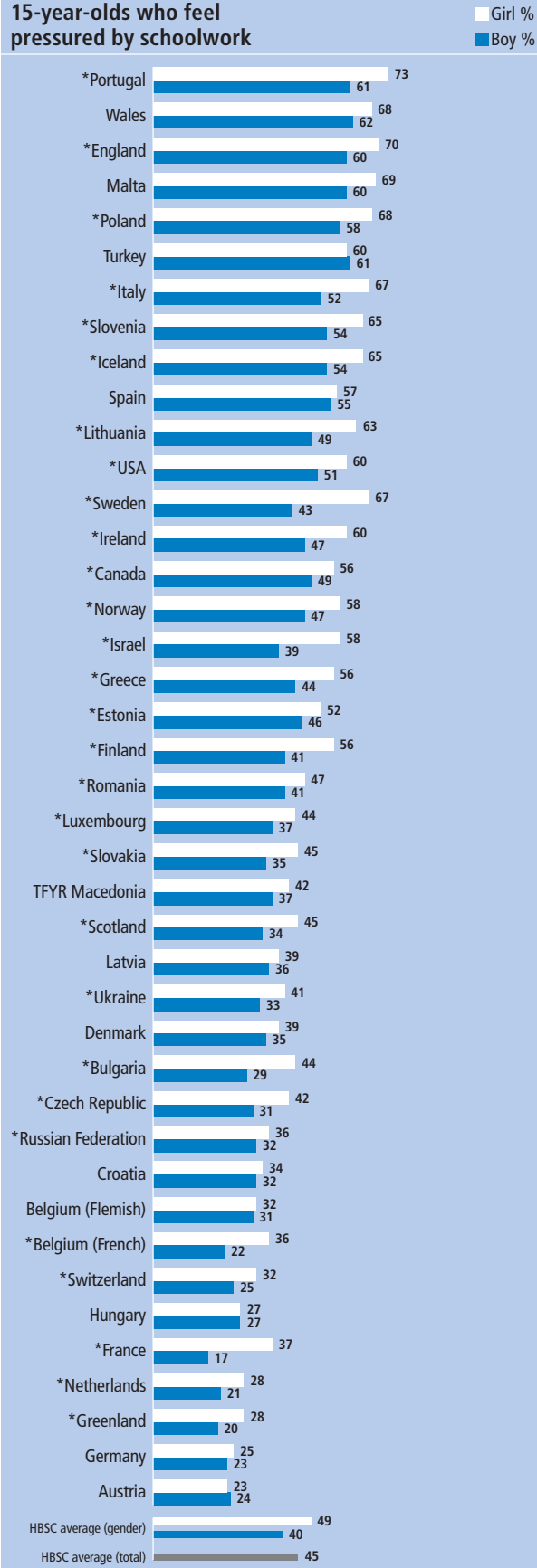
+ indicates that higher levels of school pressure are significantly associated with higher family affluence;

– indicates that higher levels of school pressure are significantly associated with lower family affluence.

<sup>†</sup>The former Yugoslav Republic of Macedonia

\* indicates a significant gender difference (at  $p < 0.05$ ).

### 15-year-olds who feel pressured by schoolwork



\* indicates a significant gender difference (at  $p < 0.05$ ).

### SUMMARY FINDINGS

There are large cross-country differences in the prevalence of feeling **pressured by schoolwork** to some or a high degree reported by young people.

#### 11-year-olds: from 9% (Netherlands) to 45% (Turkey)

- Girls: 8% (Netherlands) to 43% (United States, Malta)
- Boys: 9% (Netherlands, Sweden) to 49% (Turkey)

#### 13-year-olds: from 14% (Greenland) to 60% (Turkey)

- Girls: 16% (Greenland) to 61% (Malta)
- Boys: 13% (Greenland) to 61% (Turkey)

#### 15-year-olds: from 23% (Austria) to 68% (Portugal)

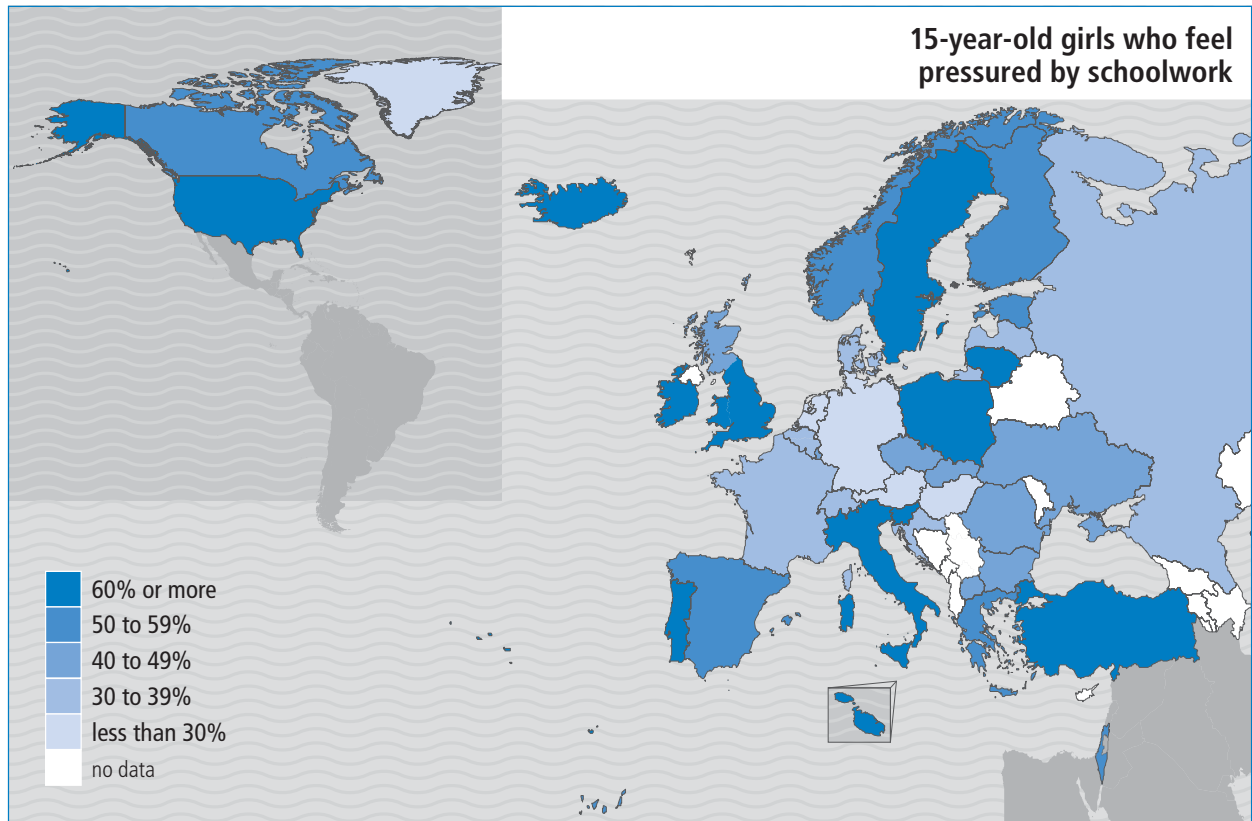
- Girls: 23% (Austria) to 73% (Portugal)
- Boys: 17% (France) to 62% (Wales)

A gender interaction can be observed at age 13, when the pattern of higher levels of pressure by schoolwork in boys is reversed. Girls at age 15 feel the greatest pressure in most countries. Geographical patterns indicate that western European young people are least likely to report feeling pressured by schoolwork to some or a high degree. Family affluence is not a significant factor.

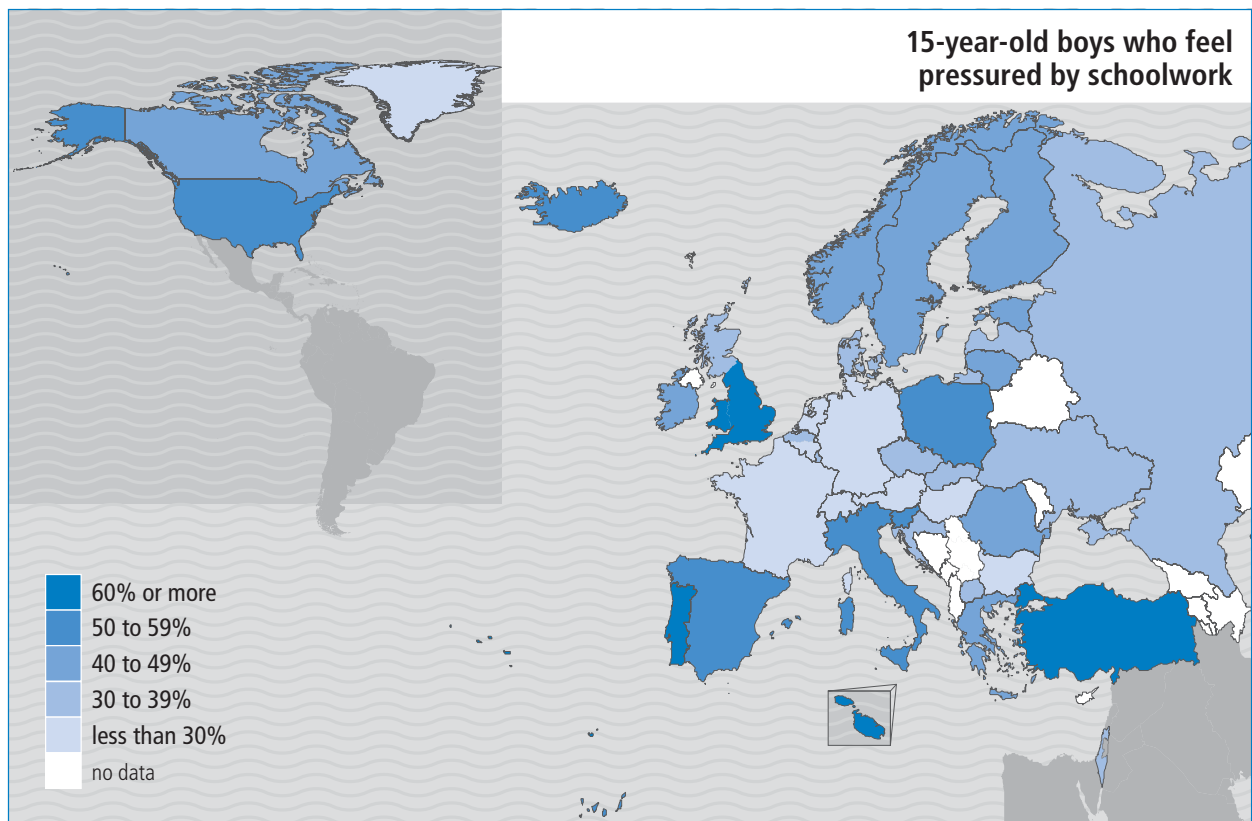
### REFERENCES

1. Torsheim T, Wold B. School-related stress, school support and somatic complaints: a general population study. *Journal of Adolescent Research*, 2001, 16(3):293–303.
2. Torsheim T, Wold B. School-related stress, support and subjective health complaints among early adolescents: a multilevel approach. *Journal of Adolescence*, 2001, 24:701–713.
3. Vieno A et al. School setting, school climate and wellbeing in early adolescence: a comprehensive model. *European Journal of School Psychology*, 2004, 2(1-2):219–238.
4. Ravens-Sieberer U, Kokonyei G, Thomas C. School and health. In Currie C et al., eds. *Young people's health in context: international report from the HBSC 2001/2002 survey. WHO policy series: health policy for children and adolescents. Issue 4*. Copenhagen, WHO Regional Office for Europe, 2004.
5. Samdal O et al. Achieving health and educational goals through schools: a study of the importance of school climate and students' satisfaction with school. *Health Education Research*, 1998, 13(3):383–397.





HBSC teams provided disaggregated data for Belgium and the UK; these data appear in the map above



HBSC teams provided disaggregated data for Belgium and the UK; these data appear in the map above



**Perceived support from classmates** is considered to be an example of a specific type of social support (1). The extent to which students perceive they are supported by each other at school or class level has been identified as an important aspect of the school climate.

Classmate support has been described as being important in the development of young people's sense of identity (2) and the extent to which they feel supported by peers is related to perceptions of school, including satisfaction with school (3). Others have considered classmate support to be an indicator of school connectedness (4) and have shown that rather than helping students to deal with stress at school, classmate support has a direct effect on health in the school setting (5).

Support from classmates has been associated with a range of school-related factors, including school motivation (1), school-related stress (6), self-efficacy (7) and bullying (8), and on health outcomes such as somatic and psychological health complaints (1,5,9) and psychosocial well-being (7).

### MEASURE

Young people were asked to show how much they agreed or disagreed with the statement: "Most of the students in my class(es) are kind and helpful". Response options ranged from "strongly agree" to "strongly disagree". The findings presented here show the proportions that reported they either agreed or strongly agreed with the statement.

### INEQUALITIES

**Age** There is a significant decline in the proportions of girls in the majority of countries reporting their classmates are kind and helpful. The same is true for boys in around half of countries.

**Gender** Gender differences are generally small, with girls more likely to report kind and helpful classmates than boys at ages 11 and 15 years in a minority of countries. At age 13 years, less than half of countries find that girls report kind and helpful classmates significantly more often than boys, and a similar number find that boys report it more often than girls.

**Geography** Young people in eastern Europe report relatively low levels of classmate support.

**Family affluence** Reported classmate support is significantly associated with family affluence in half of countries for boys and over a third for girls. Higher levels of classmate support are associated with higher affluence in the vast majority of these cases, particularly in northern Europe.

### Associations between family affluence and indicators of health, by country/region and gender: AGREEING THAT CLASSMATES ARE KIND AND HELPFUL

NORTH		Boys	Girls	SOUTH		Boys	Girls
Canada		+	+	Croatia			
Denmark		+		Greece			
England		+	+	Israel		-	-
Estonia		+	+	Italy			
Finland		+		Malta			
Greenland			-	Portugal			
Iceland		+	+	Slovenia			
Ireland				Spain		+	+
Latvia				TFYR Macedonia <sup>†</sup>			
Lithuania		+	+	Turkey			-
Norway		+					
Scotland		+	+				
Sweden		+					
USA		+	+				
Wales							
WEST		Boys	Girls	EAST		Boys	Girls
Austria				Bulgaria			
Belgium (Flemish)		+	+	Czech Republic			
Belgium (French)				Hungary		+	
France		-		Poland			
Germany		+	+	Romania			
Luxembourg				Russian Federation		+	+
Netherlands			+	Slovakia			
Switzerland		+	+	Ukraine		+	

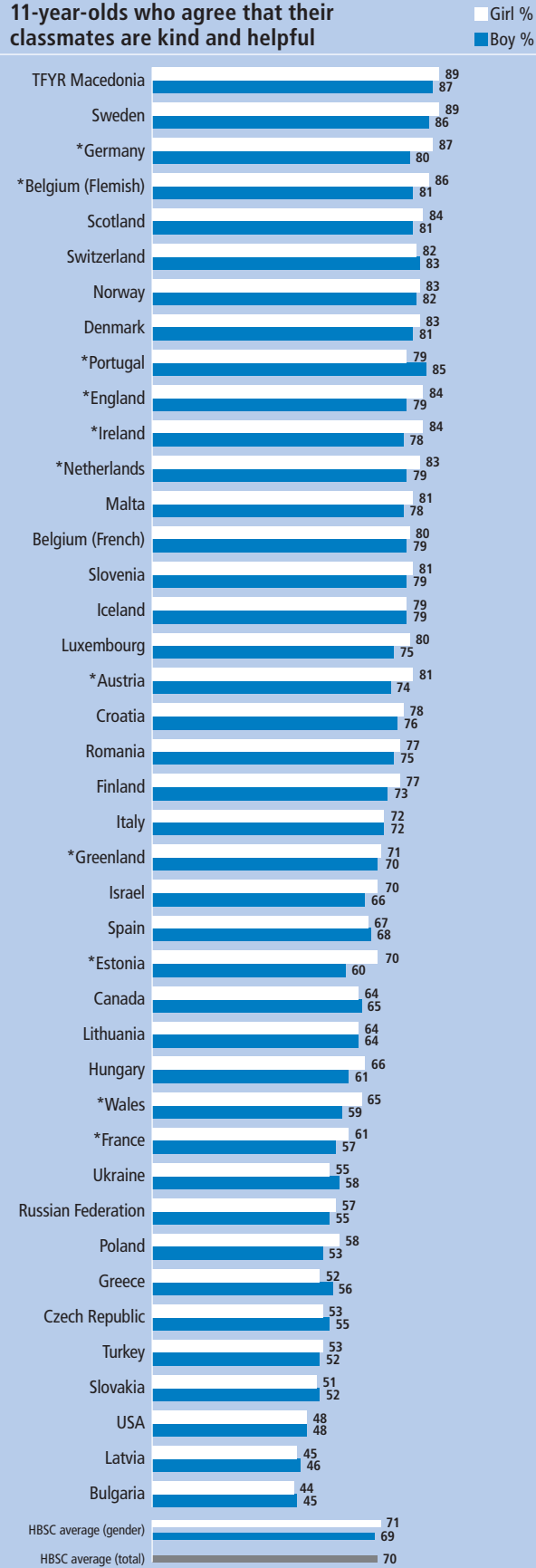
Where family affluence is statistically significant at  $p < 0.05$ , countries are identified with +/—

+ indicates that higher levels of classmate support are significantly associated with higher family affluence;

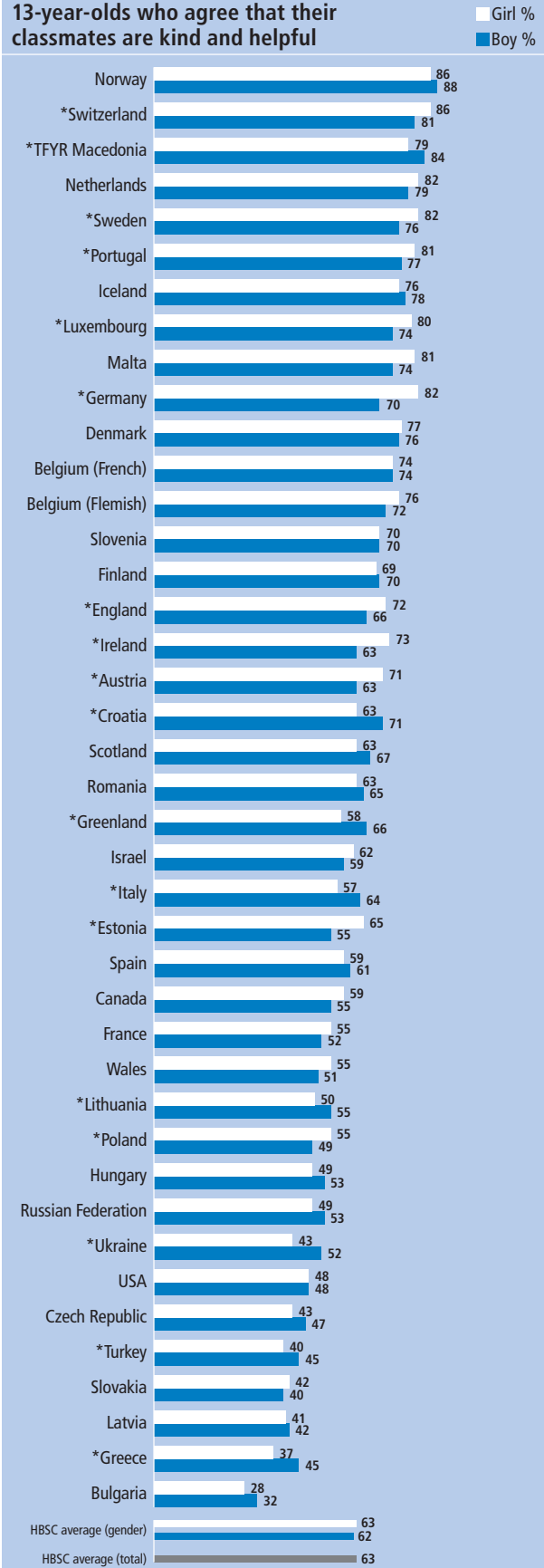
— indicates that higher levels of classmate support are significantly associated with lower family affluence.

<sup>†</sup>The former Yugoslav Republic of Macedonia

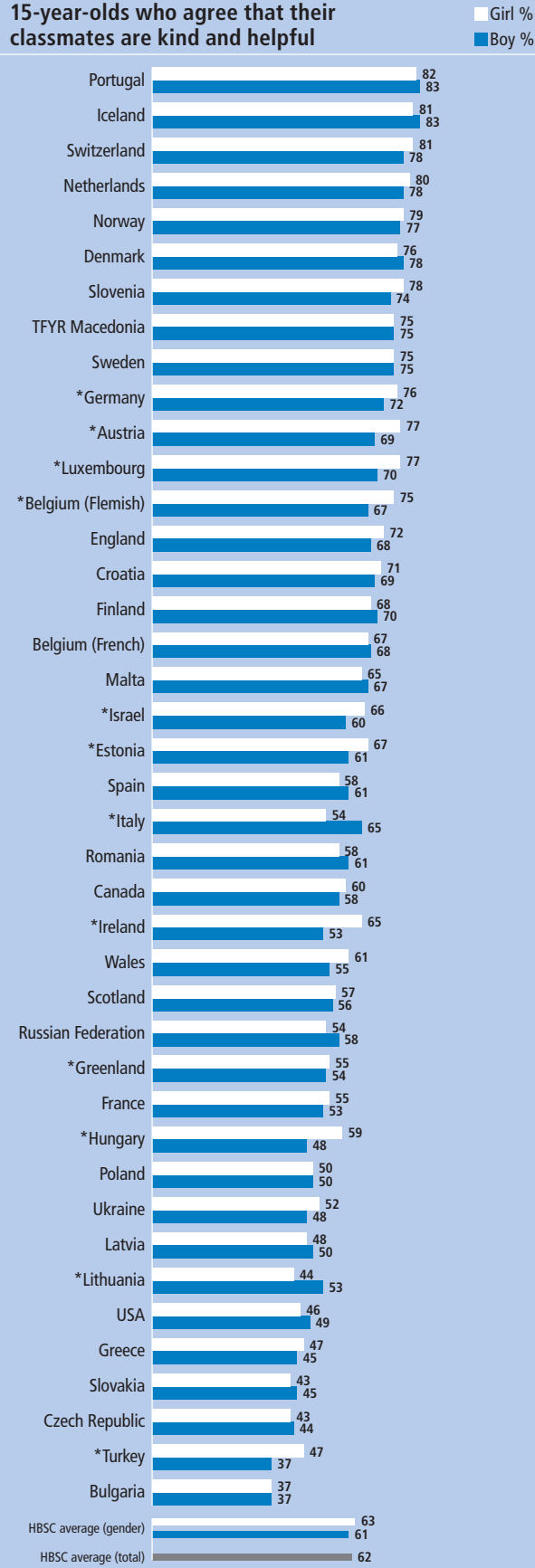
## 11-year-olds who agree that their classmates are kind and helpful



## 13-year-olds who agree that their classmates are kind and helpful

\* indicates a significant gender difference (at  $p < 0.05$ ).

### 15-year-olds who agree that their classmates are kind and helpful



\* indicates a significant gender difference (at  $p < 0.05$ ).

### SUMMARY FINDINGS

Agreeing or strongly agreeing that most **classmates are kind and helpful** varies across countries.

**11-year-olds: from 45% (Bulgaria) to 88% (TFYR Macedonia<sup>†</sup>)**

- Girls: 44% (Bulgaria) to 89% (TFYR Macedonia<sup>†</sup>, Sweden)
- Boys: 45% (Bulgaria) to 87% (TFYR Macedonia<sup>†</sup>)

**13-year-olds: from 30% (Bulgaria) to 87% (Norway)**

- Girls: 28% (Bulgaria) to 86% (Switzerland, Norway)
- Boys: 32% (Bulgaria) to 88% (Norway)

**15-year-olds: from 37% (Bulgaria) to 82% (Portugal)**

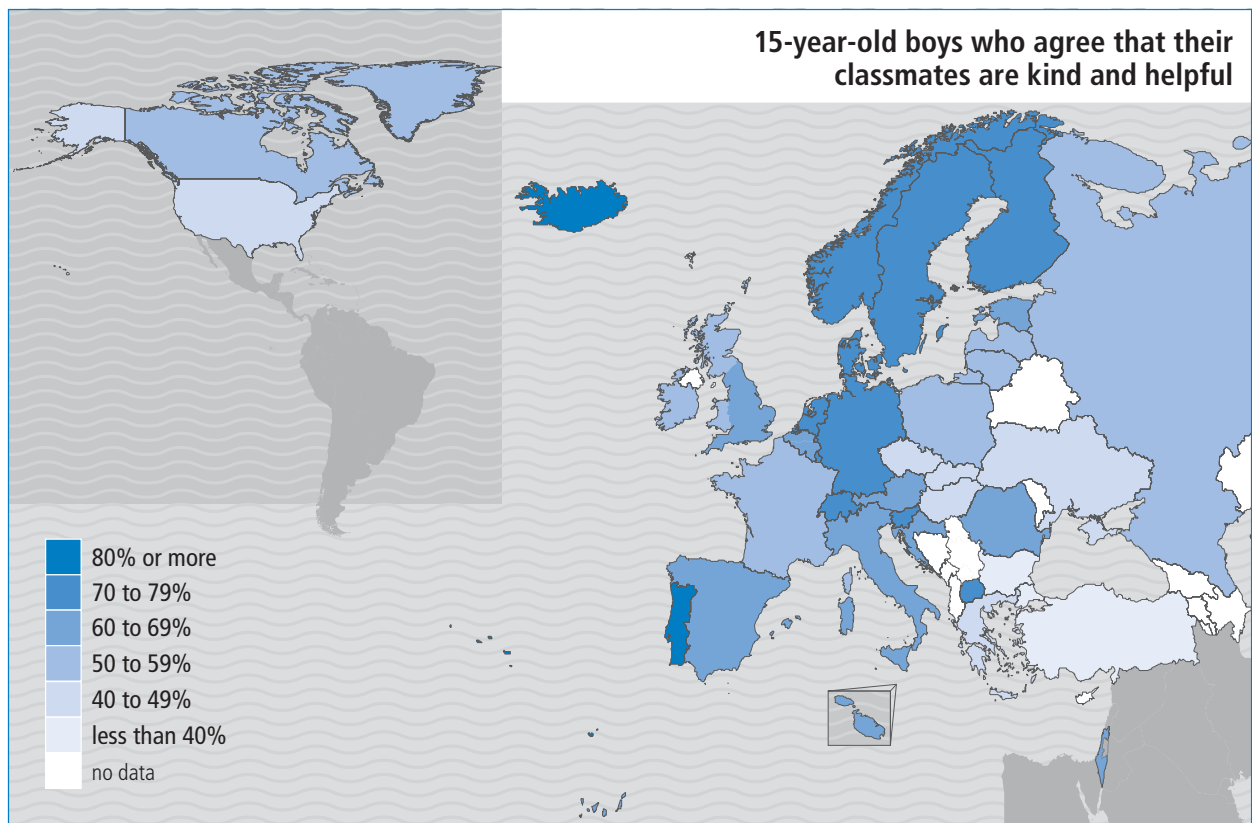
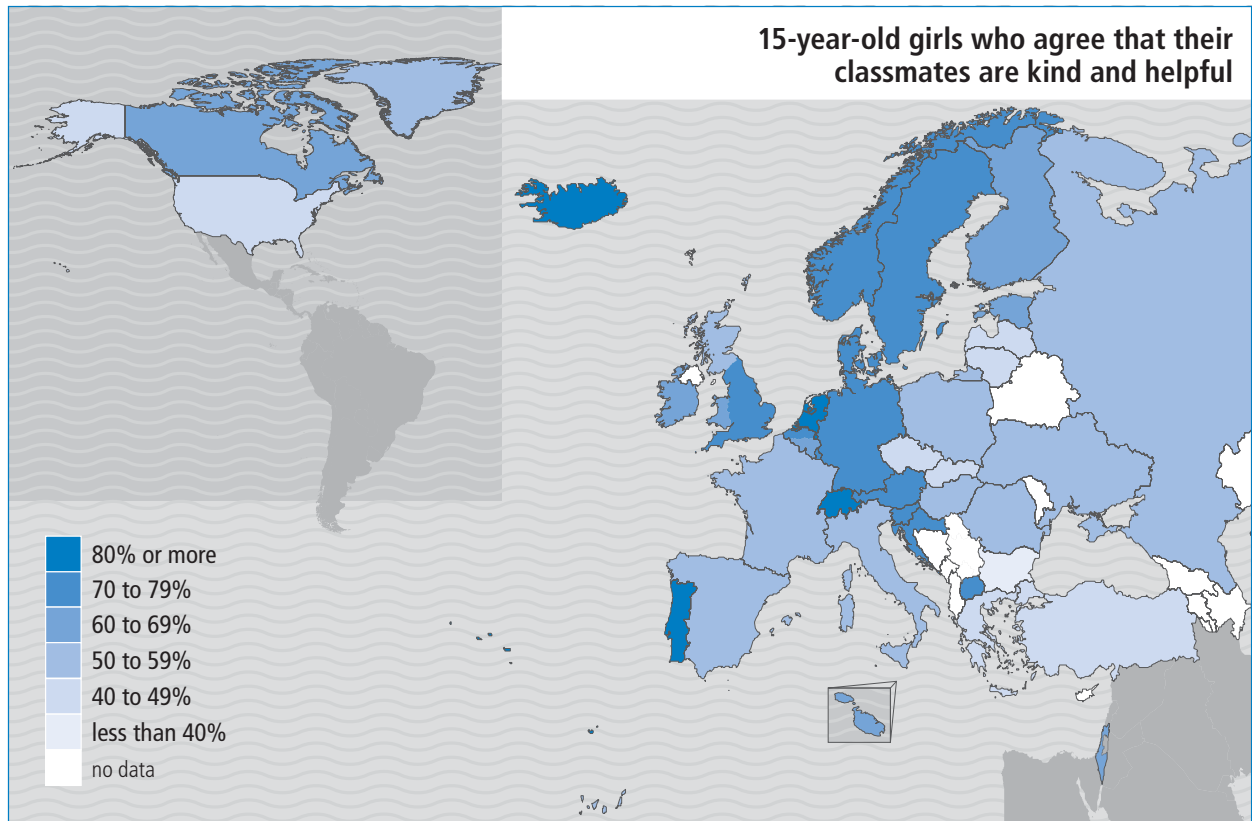
- Girls: 37% (Bulgaria) to 82% (Portugal)
- Boys: 37% (Bulgaria, Turkey) to 83% (Portugal, Iceland)

The clearest patterns are the decline with age in agreeing that classmates are kind and helpful, which is seen in many countries, and the lower levels reported by young people in eastern Europe. Family affluence appears to be a significant factor in most northern European countries, particularly for boys.

<sup>†</sup>The former Yugoslav Republic of Macedonia

### REFERENCES

1. Torsheim T, Wold B, Samdal O. The teacher and classmate support scale: factor structure, test-retest reliability and validity in samples of 13- and 15-year-old adolescents. *School Psychology International*, 2000, 21(2):195–212.
2. Cauce AM et al. Social support during adolescence: methodological and theoretical considerations. In: Nestmann F, Hurrelman K, eds. *Social networks and social support in childhood and adolescence*. Berlin, Walter de Gruyter, 1994:89–108.
3. Samdal O et al. Achieving health and educational goals through schools: a study of the importance of school climate and students' satisfaction with school. *Health Education Research*, 1998, 13(3):383–397.
4. Thompson D et al. School connectedness in the Health Behaviour in School-aged Children study: the role of students, school and school neighbourhood characteristics. *Journal of School Health*, 2006, 76(7):379–386.
5. Torsheim T, Wold B. School-related stress, school support and somatic complaints: a general population study. *Journal of Adolescent Research*, 2001, 16(3):293–303.
6. Vieno A et al. School setting, school climate and wellbeing in early adolescence: a comprehensive model. *European Journal of School Psychology*, 2004, 2(1–2):219–238.
7. Vieno A et al. Social support, sense of community in school, and self-efficacy as resources during early adolescence: an integrative model. *American Journal of Community Psychology*, 2005, 39:177–190.
8. Nansel TR et al. Cross-national consistency in the relationship between bullying behaviours and psychosocial adjustment. *Archives of Pediatric and Adolescent Medicine*, 2004, 158:730–736.
9. Torsheim T, Wold B. School-related stress, support and subjective health complaints among early adolescents: a multilevel approach. *Journal of Adolescence*, 2001, 24:701–713.



# HEALTH OUTCOMES

self-rated health  
life satisfaction  
multiple health complaints  
medically attended injuries  
overweight and obesity  
body image



**The World Health Organization defines health as a resource for living a productive life** (1), the absence of which may impede the achievement of life goals. In adolescence, which is characterized as a period of relative good health and low mortality, poor health may have particular significance. Poor health may affect the fulfilment of the developmental tasks of adolescence, and there may also be long-term negative effects.

Self-rated health is a subjective indicator of general health. It is found to be predictive of objective health outcomes in adults (2,3) and is a more appropriate measure of adolescent health than traditional morbidity and mortality measures. It is therefore more relevant as a question to adolescent lives.

Self-rated health has been associated with symptoms of anxiety and depression (4) and with school and family factors such as academic achievement, positive school experiences, bullying, family structure and communication with parents (5–7).

### MEASURE

Young people were asked to describe their health ("would you say your health is ...?"), with response options of "excellent", "good", "fair" and "poor". The findings presented here show the proportions that reported their health as either "fair" or "poor".

### INEQUALITIES

**Age** There is a tendency for higher reporting of fair or poor health among older children, with a significantly higher level of fair or poor health among 15-year-old boys than 11-year-old boys in under half of countries. For girls, this is the case in most countries.

**Gender** Fair or poor health tends to be more commonly reported by girls than boys at all ages. These gender differences are significant for 11-year-olds in a minority of countries, but in the majority of countries for 13-year-olds and almost all for 15-year-olds.

**Geography** Boys in northern Europe are more likely to report fair or poor health and the opposite is true for boys living in southern Europe. There is no clear geographic pattern among girls.

**Family affluence** Low family affluence is significantly associated with higher levels of fair or poor health in the majority of countries for girls and around three quarters of countries for boys.

### Associations between family affluence and indicators of health, by country/region and gender: FAIR OR POOR SELF-RATED HEALTH

<b>NORTH</b>		Boys	Girls	<b>SOUTH</b>		Boys	Girls
Canada		–	–	Croatia			–
Denmark		–	–	Greece			
England		–	–	Israel			–
Estonia		–	–	Italy		–	–
Finland		–	–	Malta			
Greenland				Portugal		–	–
Iceland		–	–	Slovenia			–
Ireland		–	–	Spain		–	–
Latvia			–	TFYR Macedonia <sup>†</sup>			–
Lithuania		–	–	Turkey		–	–
Norway		–					
Scotland		–	–				
Sweden		–	–				
USA		–	–				
Wales		–	–				
<b>WEST</b>		Boys	Girls	<b>EAST</b>		Boys	Girls
Austria		–	–	Bulgaria		–	–
Belgium (Flemish)		–	–	Czech Republic			–
Belgium (French)		–	–	Hungary		–	–
France		–	–	Poland		–	–
Germany		–	–	Romania		–	–
Luxembourg		–	–	Russian Federation		–	–
Netherlands		–	–	Slovakia			
Switzerland		–	–	Ukraine		–	–

Where family affluence is statistically significant at  $p < 0.05$ , countries are identified with +/–

+ indicates that higher levels of poor/fair self-rated health are significantly associated with higher family affluence;

– indicates that higher levels of poor/fair self-rated health are significantly associated with lower family affluence.

<sup>†</sup>The former Yugoslav Republic of Macedonia

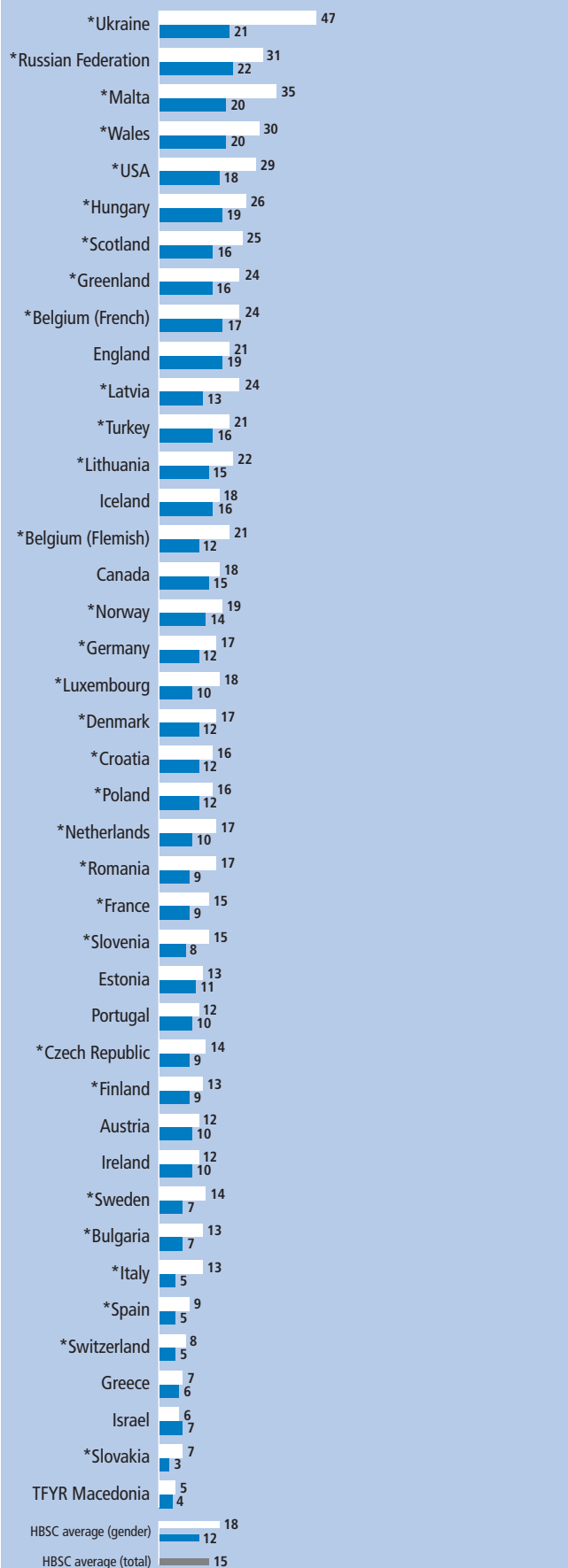
## 11-year-olds who rate their health as fair or poor

■ Girl %  
■ Boy %



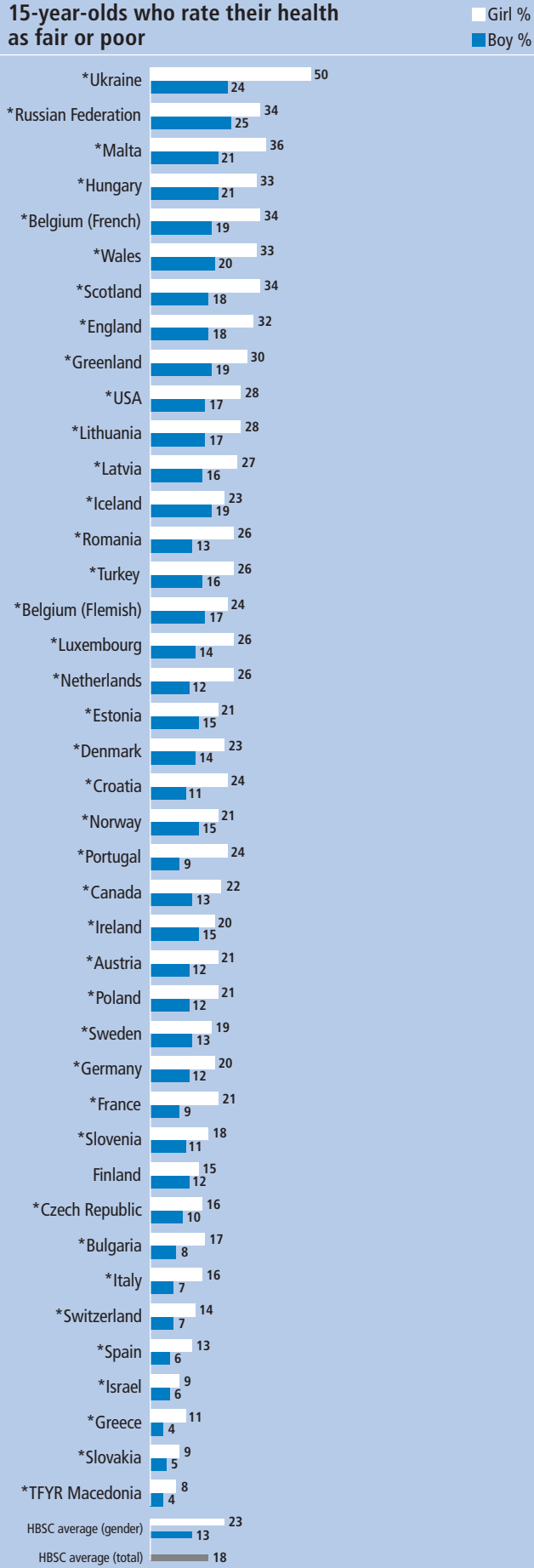
## 13-year-olds who rate their health as fair or poor

■ Girl %  
■ Boy %

\* indicates a significant gender difference (at  $p < 0.05$ ).



### 15-year-olds who rate their health as fair or poor



\* indicates a significant gender difference (at  $p < 0.05$ ).

### SUMMARY FINDINGS

There are large cross-national differences in reported levels of fair or poor health among all three age groups of young people.

#### 11-year-olds: from 4% (Greece) to 28% (Ukraine)

- Girls: 3% (Greece) to 37% (Ukraine)
- Boys: 3% (TFYR Macedonia<sup>†</sup>) to 23% (United States)

#### 13-year-olds: from 5% (TFYR Macedonia<sup>†</sup>) to 34% (Ukraine)

- Girls: 5% (TFYR Macedonia<sup>†</sup>) to 47% (Ukraine)
- Boys: 3% (Slovakia) to 22% (Russian Federation)

#### 15-year-olds: from 6% (TFYR Macedonia<sup>†</sup>) to 37% (Ukraine)

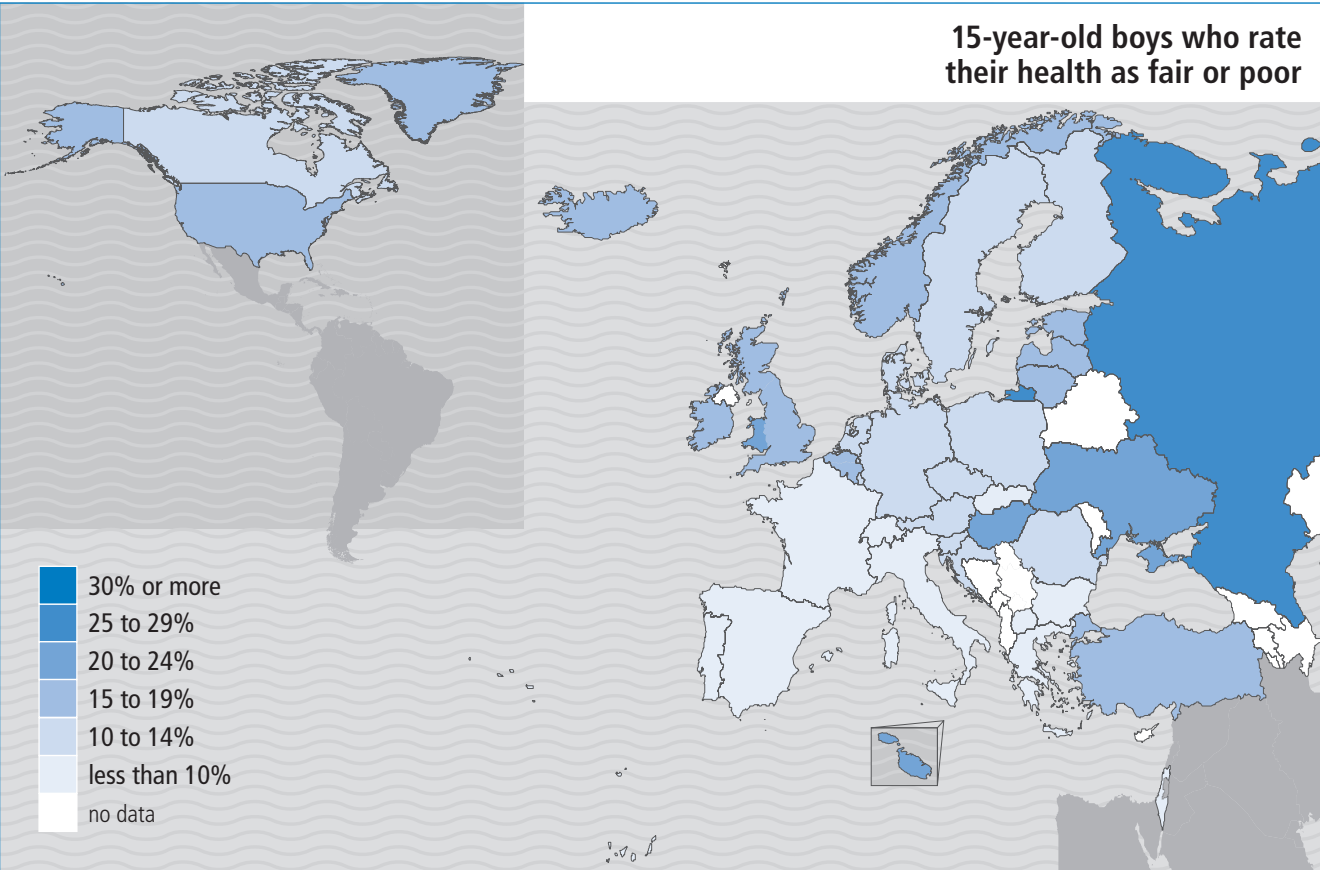
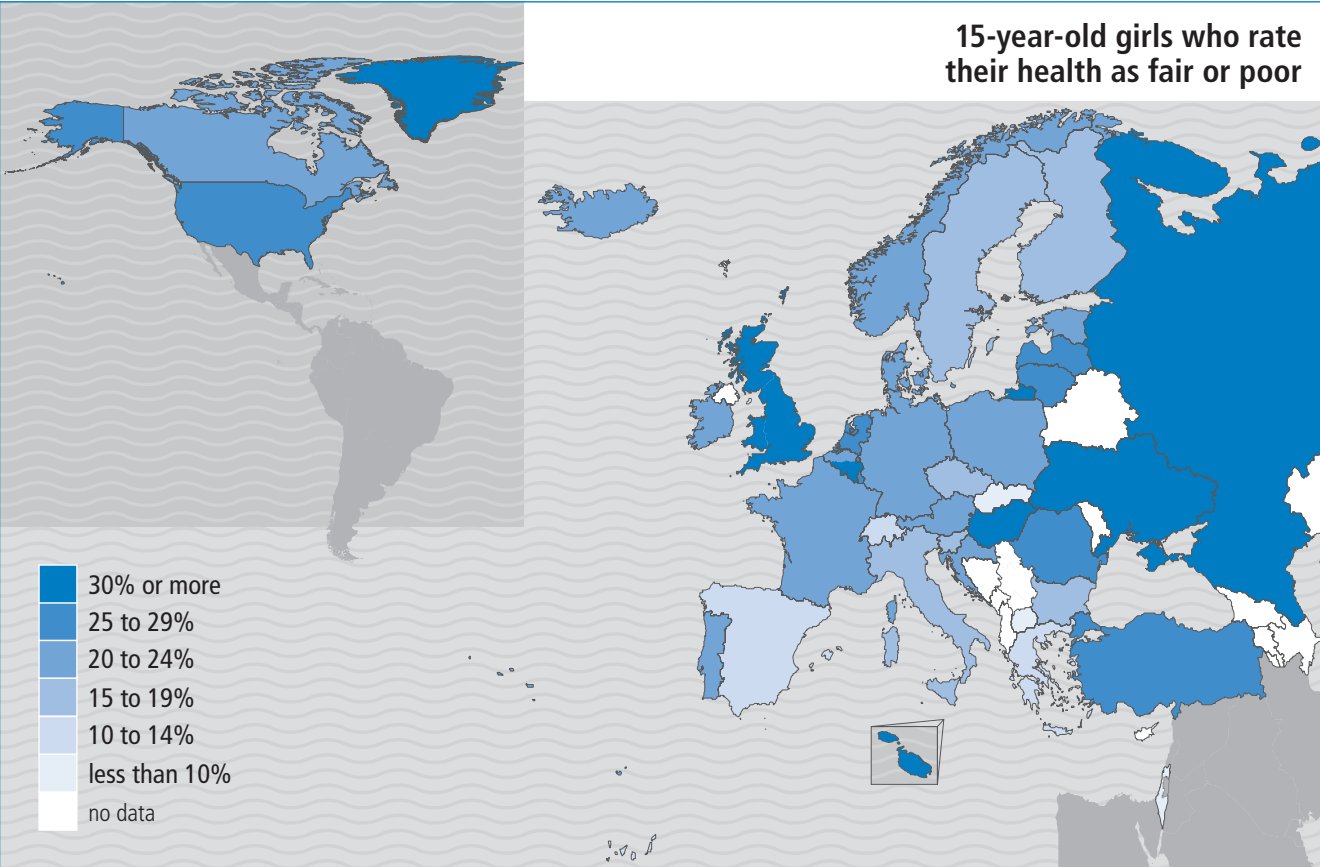
- Girls: 8% (TFYR Macedonia<sup>†</sup>) to 50% (Ukraine)
- Boys: 4% (TFYR Macedonia<sup>†</sup>, Greece) to 25% (Russian Federation)

Fair or poor self-rated health tends to be more common among older children and girls. It is clearly patterned by geography and low family affluence.

<sup>†</sup> The former Yugoslav Republic of Macedonia

### REFERENCES

1. *The Ottawa Charter for Health Promotion*. Copenhagen, WHO Regional Office for Europe, 1986.
2. Ilder EL, Benyamani Y. Self-rated health and mortality: a review of twenty-seven community studies. *Journal of Health and Social Behaviour*, 1997, 38(1):21–37.
3. Burstrom B, Fredlund P. Self-rated health: is it a good predictor of subsequent mortality among adults in lower as well as in higher social classes? *Community Health*, 2001, 55:836–840.
4. Gaspar de Matos M et al. Anxiety, depression and peer relationships during adolescence: results from the Portuguese National Health Behaviour in School-aged Children survey. *European Journal of Psychology of Education*, 2003, 18(1):3–14.
5. Ravens-Sieberer U, Kokonyei G, Thomas C. School and health. In: Currie C et al., eds. *Young people's health in context: international report from the HBSC 2001/2002 survey*. WHO policy series: health policy for children and adolescents. Issue 4. Copenhagen, WHO Regional Office for Europe, 2004.
6. Torsheim T et al. Material deprivation and self-rated health: a multilevel study of adolescents from 22 European and North American countries. *Social Science and Medicine*, 2004, 59:1–12.
7. Schnor C, Volmer-Larsen Niclasen B. Bullying among Greenlandic school children: development since 1994 and relations to health and health behaviour. *International Journal of Circumpolar Health*, 2006, 65(4):305–312.



**Optimal human functioning includes both the absence of illness and the presence of well-being (1).** Well-being has many facets (2,3). Absence of distress is of major importance, but equally relevant is the presence of positive affective states, such as happiness and excitement.

The individual's overall evaluation of life, referred to as reported life satisfaction, is an important aspect of well-being. Life satisfaction has been defined as a person's evaluation of various areas of his or her life (4). It has been studied from both global (that is, satisfaction with life as a whole) and domain-specific perspectives (such as satisfaction with school or home experiences).

Life satisfaction is associated with a host of health-related outcomes, such as substance use (5) and participation in physical activity (6). Positive school experience is associated with higher levels of life satisfaction among adolescents, while a negative experience of school is related to lower life satisfaction (7).

### MEASURE

Young people were asked to rate their life satisfaction using the measurement technique known as the Cantril ladder (8). The "ladder" has 10 steps: the top of the ladder indicates the best possible life and the bottom the worst possible life. Respondents were asked to indicate the step of the ladder at which they would place their lives at present (from "0" to "10"). The findings presented here show the proportions reporting a score of "6" or more.

### INEQUALITIES

**Age** There is a significant decline in levels of life satisfaction between ages 11 and 15 among girls in almost all countries, but this applies to boys in only a minority of countries.

**Gender** In the majority of countries, boys report high life satisfaction more often than girls at ages 13 and 15.

**Geography** Boys in northern and western Europe are more likely to report high life satisfaction, while those in eastern and southern Europe are significantly less likely to do so.

**Family affluence** High life satisfaction is significantly associated with higher family affluence in almost all countries for both boys and girls.

### Associations between family affluence and indicators of health, by country/region and gender: HIGH LIFE SATISFACTION

NORTH			SOUTH		
	Boys	Girls		Boys	Girls
Canada	+	+	Croatia	+	+
Denmark	+	+	Greece	+	+
England	+	+	Israel	+	+
Estonia	+	+	Italy	+	+
Finland	+	+	Portugal	+	+
Greenland			Slovenia	+	+
Iceland	+	+	Spain	+	+
Ireland	+	+	TFYR Macedonia <sup>†</sup>	+	+
Latvia	+	+	Turkey	+	+
Lithuania	+	+			
Norway	+	+			
Scotland	+	+			
Sweden	+	+			
USA	+	+			
Wales	+	+			
WEST			EAST		
	Boys	Girls		Boys	Girls
Austria	+	+	Bulgaria	+	+
Belgium (Flemish)	+	+	Czech Republic	+	+
France	+	+	Hungary	+	+
Germany	+	+	Poland	+	+
Luxembourg	+	+	Romania	+	+
Netherlands	+	+	Russian Federation	+	+
Switzerland	+	+	Slovakia	+	+
			Ukraine	+	+

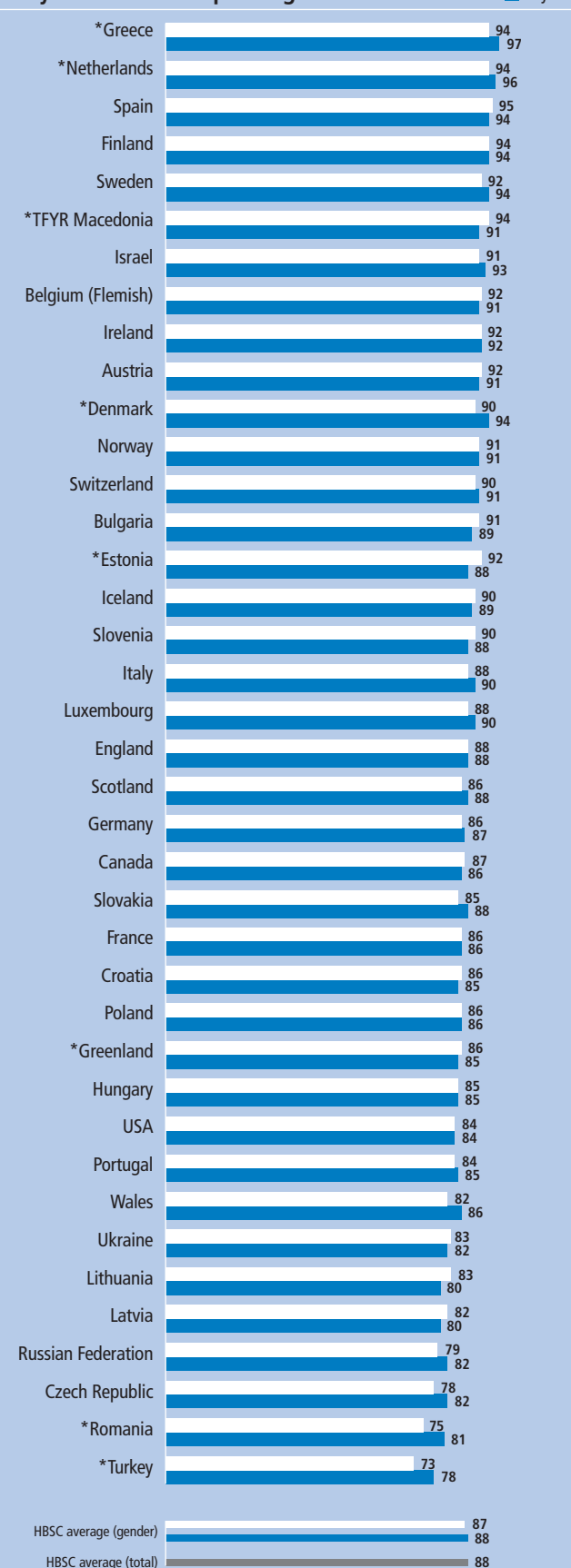
Where family affluence is statistically significant at  $p < 0.05$ , countries are identified with +/–

+ indicates that higher levels of life satisfaction are significantly associated with higher family affluence;

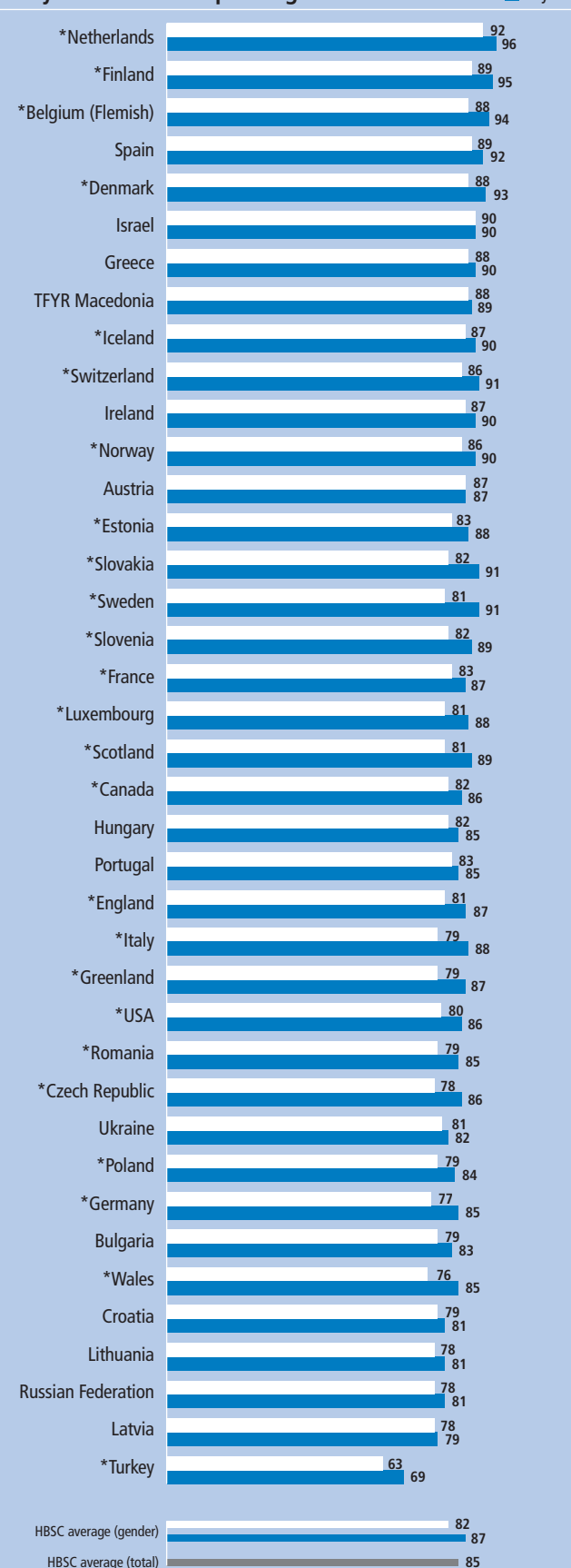
– indicates that higher levels of life satisfaction are significantly associated with lower family affluence.

<sup>†</sup>The former Yugoslav Republic of Macedonia

### 11-year-olds who report high life satisfaction

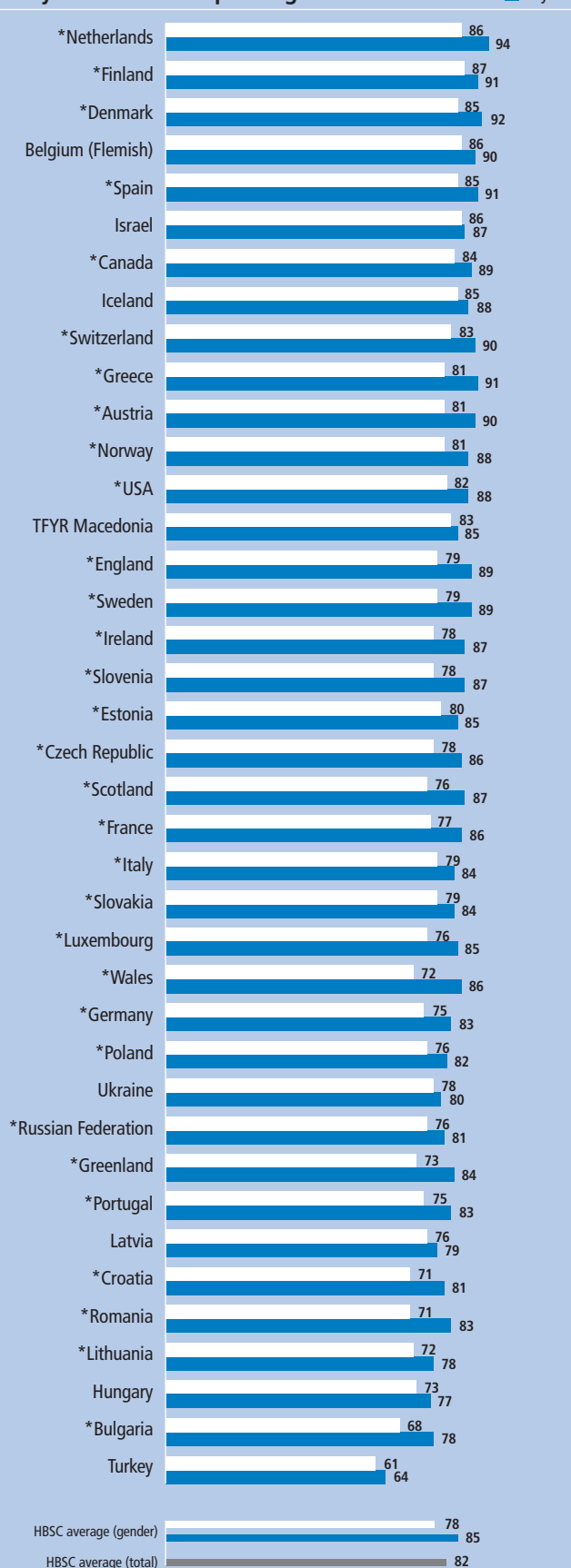


### 13-year-olds who report high life satisfaction



\* indicates a significant gender difference (at  $p < 0.05$ ). No data available for Belgium (French) and Malta

### 15-year-olds who report high life satisfaction



\* indicates a significant gender difference (at  $p < 0.05$ ). No data available for Belgium (French) and Malta

### SUMMARY FINDINGS

**High life satisfaction**, with a score of "6" or more on a 10-point ladder, is common among young people in all countries.

**11-year-olds: from 76% (Turkey) to 95% (Greece)**

- Girls: 73% (Turkey) to 95% (Spain)
- Boys: 78% (Turkey) to 97% (Greece)

**13-year-olds: from 66% (Turkey) to 94% (Netherlands)**

- Girls: 63% (Turkey) to 92% (Netherlands)
- Boys: 69% (Turkey) to 96% (Netherlands)

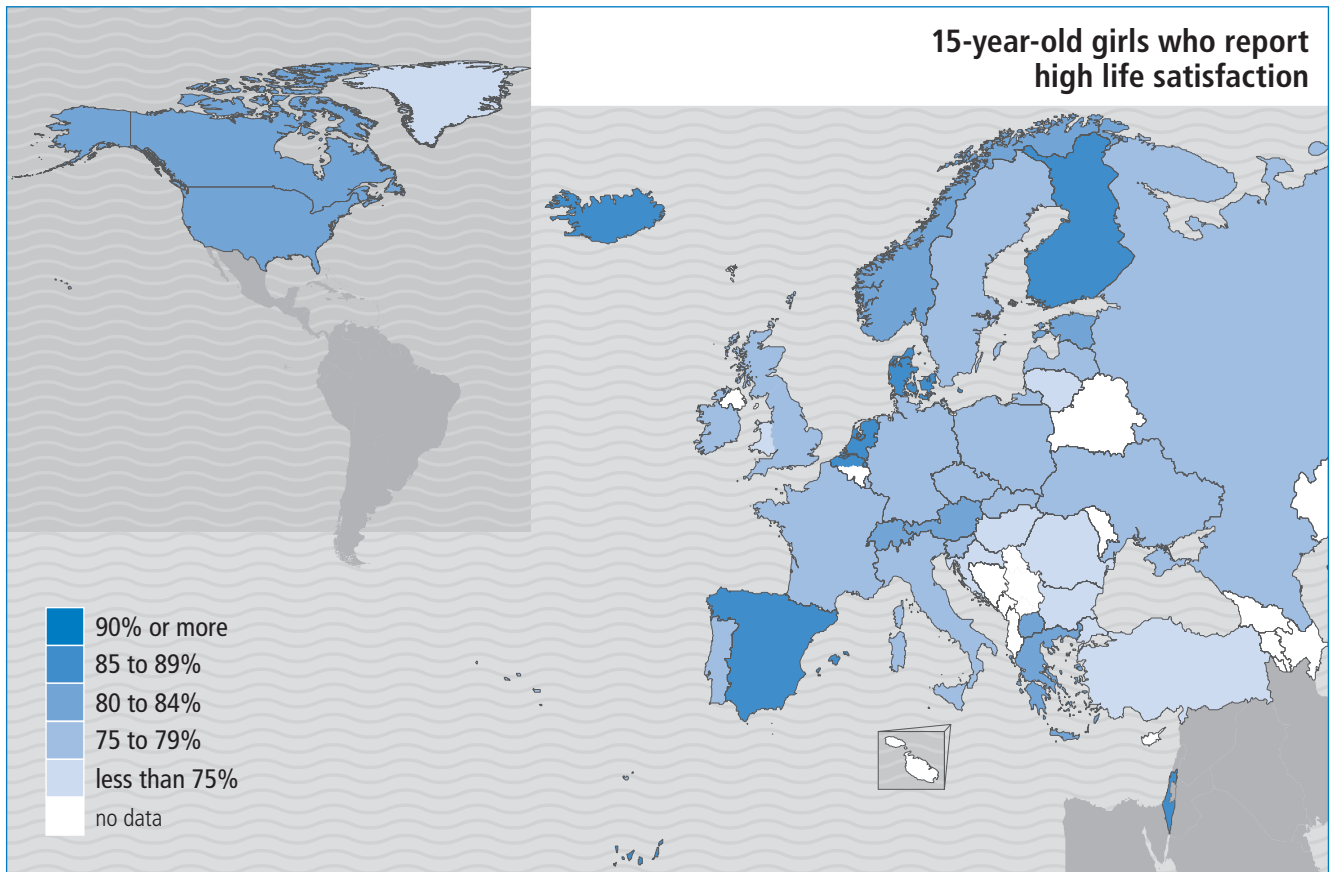
**15-year-olds: from 62% (Turkey) to 90% (Netherlands)**

- Girls: 61% (Turkey) to 87% (Finland)
- Boys: 64% (Turkey) to 94% (Netherlands)

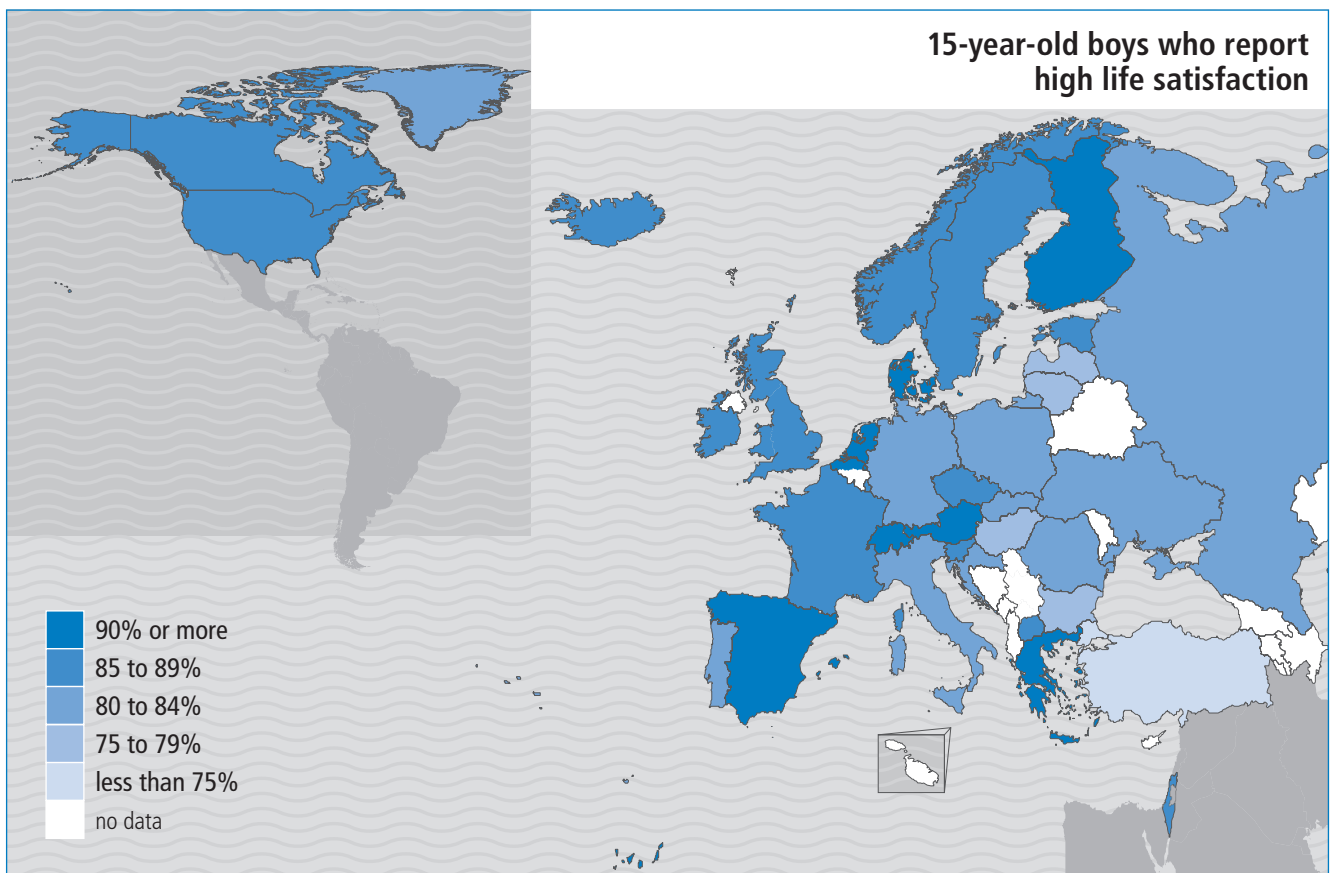
All dimensions of inequality are apparent in high life satisfaction. A widening gender gap is observed as children grow older, with boys more likely to report high life satisfaction by age 15 in most countries. Family affluence is clearly a significant factor across all almost countries, and is geographically patterned.

### REFERENCES

1. Seligman MEP, Csikszentmihalyi M, eds. Special issue on happiness, excellence, and optimal human functioning. *American Psychologist*, 2000;55:1.
2. Diener E. Subjective well-being. *Psychological Bulletin*, 1984, 95:542–575.
3. Wilkinson RB, Walford W. The measurement of adolescent psychological health: one or two dimensions? *Journal of Youth and Adolescence*, 1998, 27:443–455.
4. Diener E, Diener M. Cross-cultural correlates of life satisfaction and self-esteem. *Journal of Personality and Social Psychology*, 1995, 68:653–662.
5. Zullig KJ et al. Relationship between perceived life satisfaction and adolescents' substance abuse. *Journal of Adolescent Health*, 2001, 29:279–288.
6. Thome J, Espelage DL. Relations among exercise, coping, disordered eating, and psychological health among college students. *Eating Behaviors*, 2004, 5:337–351.
7. Ravens-Sieberer U, Kokonyei G, Thomas C. School and health. In: Currie C et al., eds. *Young people's health in context: international report from the HBSC 2001/2002 survey*. WHO policy series: health policy for children and adolescents. Issue 4. Copenhagen, WHO Regional Office for Europe, 2004.
8. Cantril H. *The pattern of human concern*. New Brunswick, NJ, Rutgers University Press, 1965.



HBSC teams provided disaggregated data for Belgium and the UK; these data appear in the map above



HBSC teams provided disaggregated data for Belgium and the UK; these data appear in the map above



**Health is a particularly important resource, and poor health may have long-term negative effects.**

Psychosomatic complaints or symptoms are thought to be indicators of how adolescents are responding to stressful situations. Subjective health complaints include somatic symptoms like headaches or back aches and psychological symptoms such as nervousness or irritability. Such subjective health complaints can place an immense burden on the individual and on the health care system.

The HBSC symptom checklist consequently represents a non-clinical measure of mental health, reflecting two facets of health – one psychological and one somatic (1,2). All the items on the checklist can nevertheless be used together to measure psychosomatic complaints (3,4).

Experiencing subjective health complaints has been associated with negative school experiences (5,6) (that include both being bullied and bullying others (6)), food poverty (7), relationships with peers (5,6), lower academic performance (8), increased demand for primary care services (9) and higher medicine use (10).

### MEASURE

Young people were asked how often in the last six months they had experienced a number of symptoms: headache; stomach ache; feeling low, irritable or bad tempered; feeling nervous; difficulties in getting to sleep; and feeling dizzy. Response options for each symptom ranged from “about every day” to “rarely or never”. The findings presented here show the proportions that reported experiencing two or more symptoms more than once a week (considered as experiencing multiple health complaints). Data on the individual symptoms of headache and feeling low can be found in the annex.

### INEQUALITIES

**Age** There is a significant increase in reporting of multiple health complaints between ages 11 and 15 among girls in almost all countries, but boys in only a minority.

**Gender** There are significant gender differences at all ages in the reporting of multiple health complaints. This is the case in the majority of countries at age 11, all countries at age 13 and almost all at age 15.

**Geography** Boys and girls in eastern and southern Europe have relatively high levels of multiple health complaints, while those in northern and western Europe are less likely to report these complaints.

**Family affluence** High prevalence of multiple health complaints is significantly associated with lower family affluence in the majority of countries for girls and around half for boys.

### Associations between family affluence and indicators of health, by country/region and gender: MULTIPLE HEALTH COMPLAINTS MORE THAN ONCE A WEEK

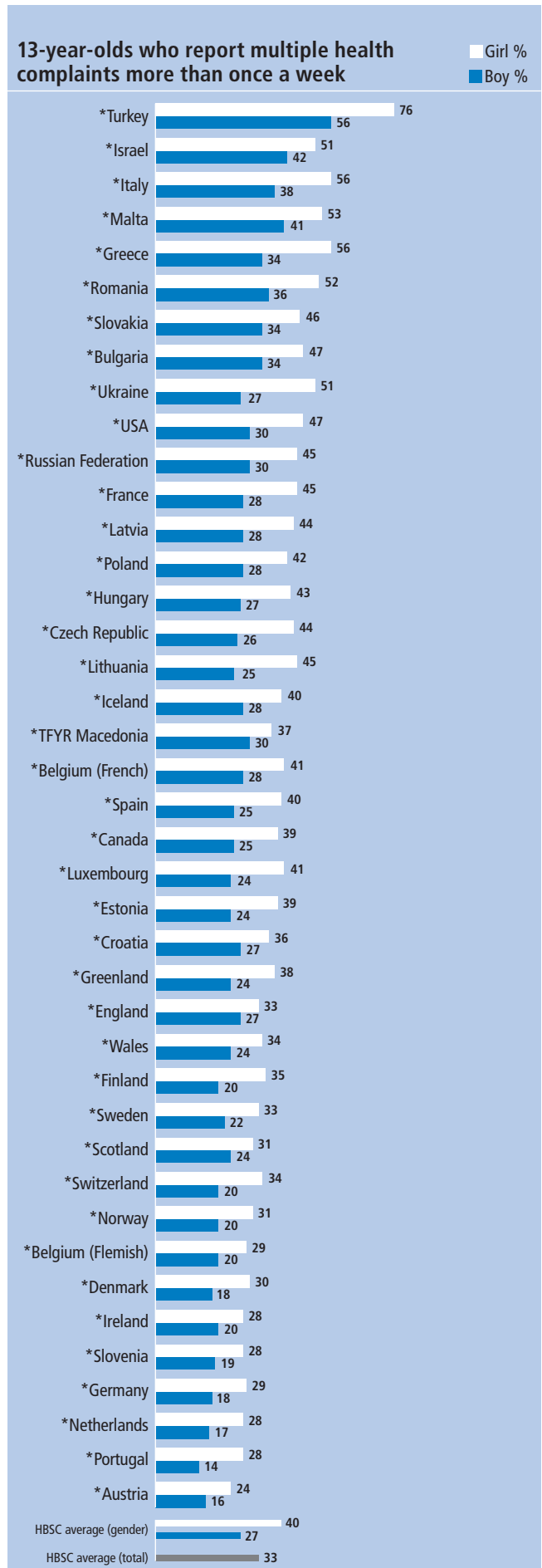
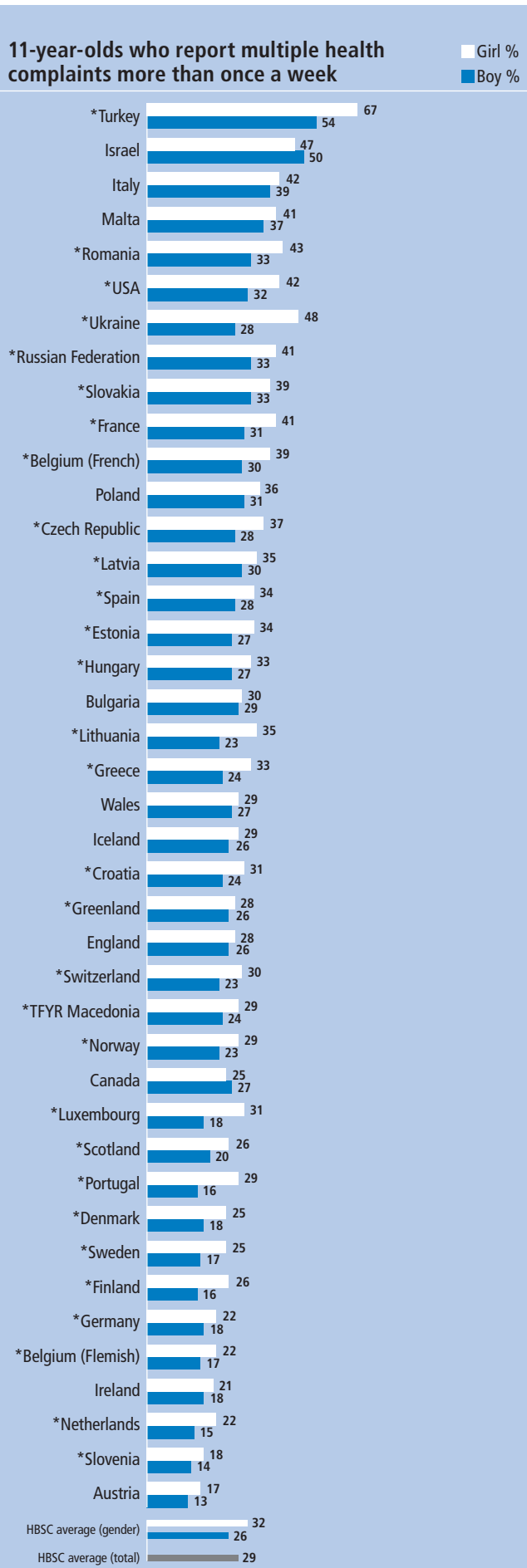
NORTH			SOUTH		
	Boys	Girls		Boys	Girls
Canada	–	–	Croatia		–
Denmark		–	Greece		–
England	–	–	Israel	–	–
Estonia	–	–	Italy		–
Finland	–		Malta		
Greenland			Portugal		–
Iceland	–	–	Slovenia		
Ireland	–	–	Spain	–	–
Latvia		–	TFYR Macedonia <sup>†</sup>		–
Lithuania	–	–	Turkey	–	–
Norway	–	–			
Scotland	–	–			
Sweden					
USA		–			
Wales	–	–			
WEST			EAST		
	Boys	Girls		Boys	Girls
Austria	–	–	Bulgaria		–
Belgium (Flemish)	–	–	Czech Republic		–
Belgium (French)	–	–	Hungary		–
France	–	–	Poland	–	–
Germany	–	–	Romania	–	–
Luxembourg	–	–	Russian Federation		
Netherlands	–	–	Slovakia		
Switzerland			Ukraine		

Where family affluence is statistically significant at  $p < 0.05$ , countries are identified with +/–

+ indicates that higher levels of health complaints are significantly associated with higher family affluence;

– indicates that higher levels of health complaints are significantly associated with lower family affluence.

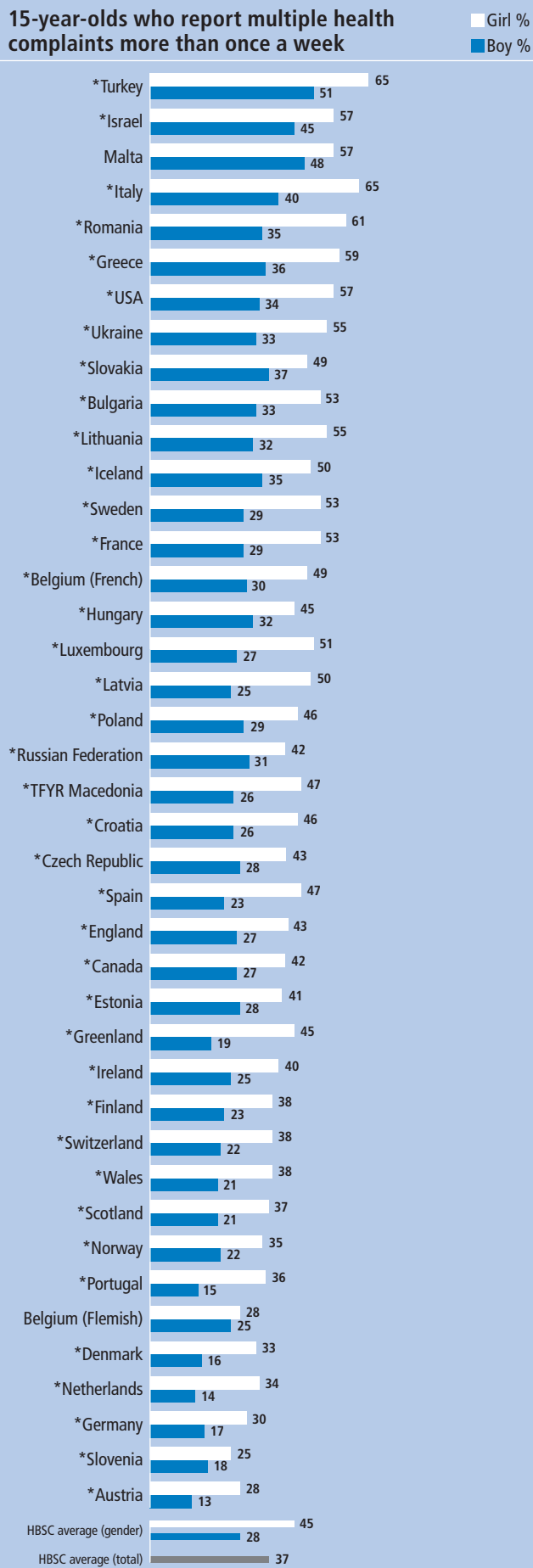
<sup>†</sup>The former Yugoslav Republic of Macedonia



\* indicates a significant gender difference (at  $p < 0.05$ ).



### 15-year-olds who report multiple health complaints more than once a week



\* indicates a significant gender difference (at  $p < 0.05$ ).

### SUMMARY FINDINGS

There are large cross-national differences in the reporting of **multiple health complaints** (two or more symptoms more than once a week).

#### 11-year-olds: from 15% (Austria) to 60% (Turkey)

- Girls: 17% (Austria) to 67% (Turkey)
- Boys: 13% (Austria) to 54% (Turkey)

#### 13-year-olds: from 20% (Austria) to 66% (Turkey)

- Girls: 24% (Austria) to 76% (Turkey)
- Boys: 14% (Portugal) to 56% (Turkey)

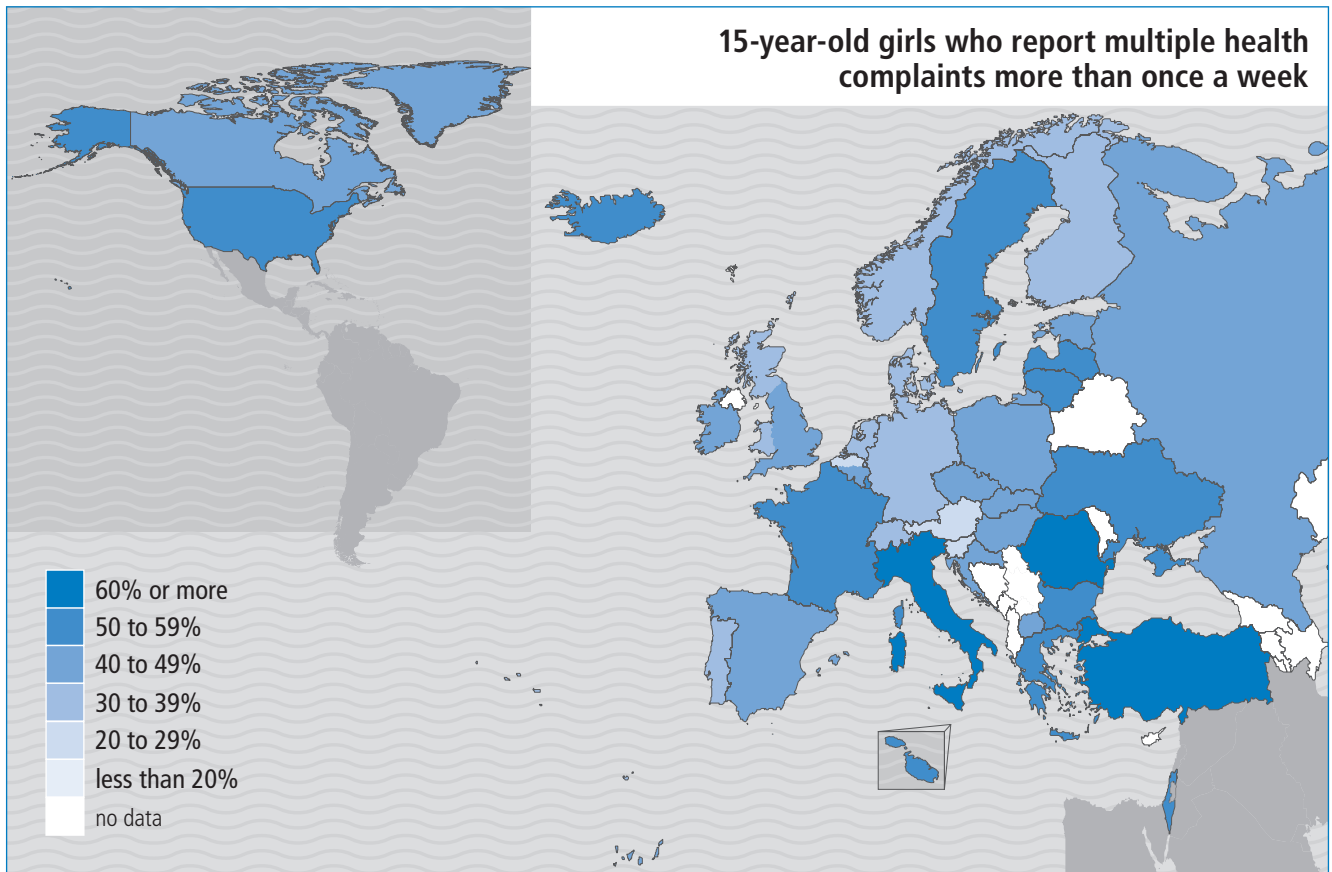
#### 15-year-olds: from 21% (Austria) to 57% (Turkey)

- Girls: 25% (Slovenia) to 65% (Turkey, Italy)
- Boys: 13% (Austria) to 51% (Turkey)

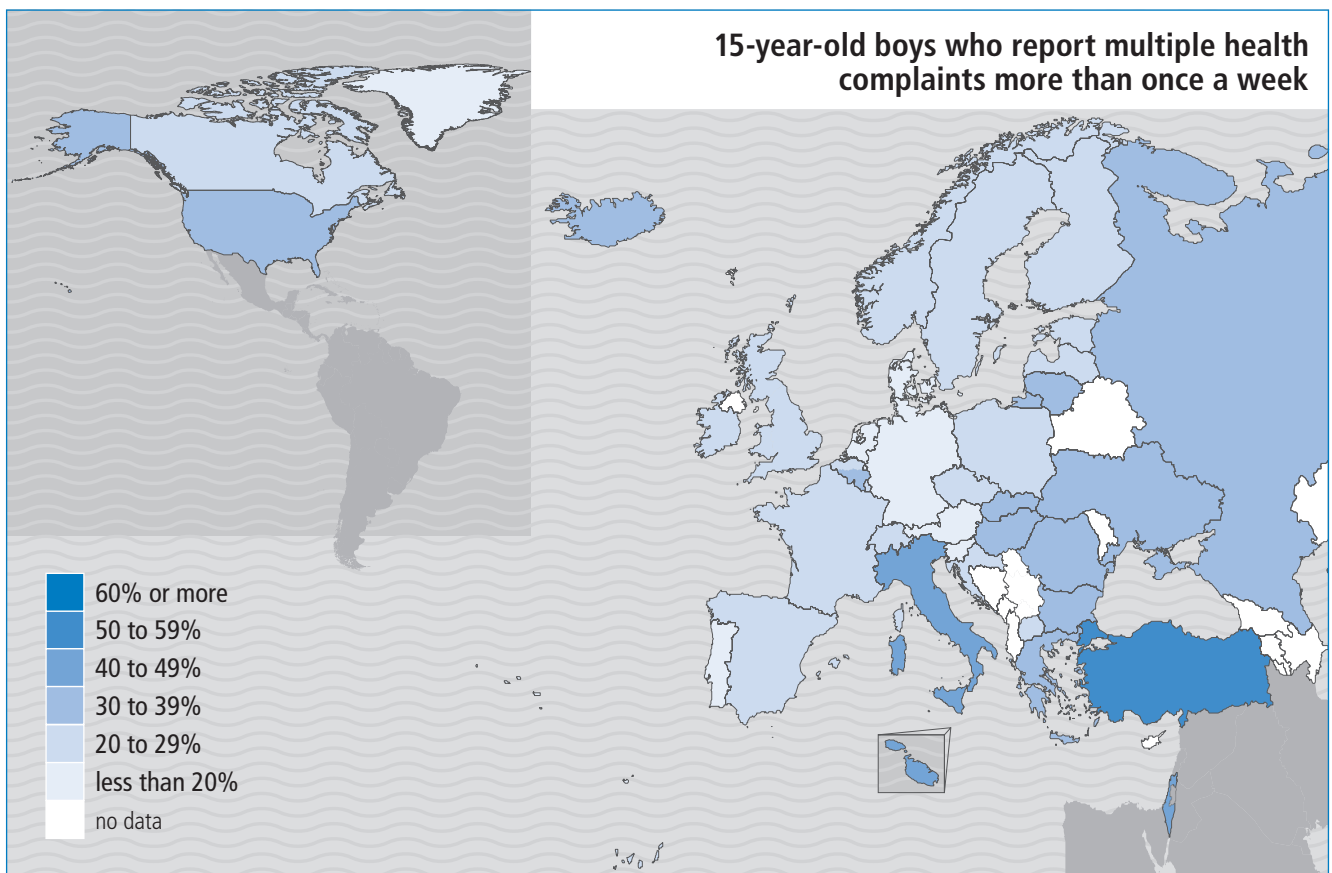
There are highly consistent gender and age differences in multiple health complaints. Family affluence is a significant factor. Geographically, levels are higher in eastern and southern Europe.

### REFERENCES

1. Haugland S et al. Subjective health complaints in adolescence – a cross national comparison of prevalence and dimensionality. *European Journal of Public Health*, 2001, 11(3):4–10.
2. Hetland J, Torsheim T, Aarø LE. Subjective health complaints in adolescence: dimensional structure and variation across gender and age. *Scandinavian Journal of Public Health*, 2002, 30(3):223–230.
3. Ravens-Sieberer U et al. and the HBSC Positive Health Group. An international scoring system for self-reported health complaints in adolescents. *European Journal of Public Health*, 2008 (doi:10.1093/eurpub/ckn001, accessed 8 February 2008).
4. Hagquist C, Andrich D. Measuring subjective health among adolescents in Sweden. *Social Indicators Research*, 2004, 68(2):201–220.
5. Torsheim T, Wold B. School-related stress, support, and subjective health complaints among early adolescents: a multilevel approach. *Journal of Adolescence*, 2001, 24:701–713.
6. Ravens-Sieberer U, Kokonyei G, Thomas C. School and health. In: Currie C et al., eds. *Young people's health in context: international report from the HBSC 2001/2002 survey*. WHO policy series: health policy for children and adolescents. Issue 4. Copenhagen, WHO Regional Office for Europe, 2004.
7. Molcho M et al. Food poverty and health among schoolchildren: findings from the Health Behaviour in School-aged Children (HBSC) study. *Public Health Nutrition*, 2007, 10(4):364–370.
8. Krilov LR et al. Course and outcome of chronic fatigue in children and adolescents. *Paediatrics*, 1998, 102(2):360–366.
9. Belmaker E. Use of medical services by adolescents with non-specific somatic symptoms. *International Journal of Adolescent Medicine and Health*, 1985, 1:1–2.
10. Hansen EH et al. International survey of self-reported medicine use among adolescents. *Annals of Pharmacotherapy*, 2003, 37:361–366.



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**With advances in hygiene and the control of infectious diseases** during the latter half of the 20th century, injuries have emerged as the largest cause of morbidity and mortality among children and young people over 12 months of age (1). As minor injuries are commonly experienced by adolescents, it is important to distinguish between trivial and medically attended injuries in this age group (2).

Injury is the leading cause of acute health problems among adolescents in developed countries, with medical and other consequences of adolescent injury imposing a significant burden on society. Injury can also be interpreted as a marker for high-risk adolescent lifestyles that include multiple risk-taking behaviour and associated health-related consequences (3). A range of studies have reported on how injury is linked with other risk behaviours such as substance use (drinking, drunkenness, tobacco use and illicit drug use) (4–6) and truancy (7).

### MEASURE

Young people were asked how many times during the last 12 months they had been injured and had to be treated by a doctor or nurse. Response options ranged from “I was not injured in the past 12 months” to “four times or more”. The findings presented here show the proportions that reported having a medically attended injury at least once in the past 12 months.

### INEQUALITIES

**Age** There is an increase in prevalence of injury between ages 11 and 15 in both boys and girls in around half the countries. While the same general trend is evident in other countries, the age difference is not significant.

**Gender** Boys are significantly more likely to report injury than girls in almost all countries across all age groups.

**Geography** Medically attended injury rates are relatively high among boys and girls in northern Europe and among girls in western Europe, while rates in eastern Europe are relatively low.

**Family affluence** Injury rates are significantly higher among young people from more affluent families in the majority of countries.

### Associations between family affluence and indicators of health, by country/region and gender: MEDICALLY ATTENDED INJURY IN THE LAST 12 MONTHS

<b>NORTH</b>			<b>SOUTH</b>		
	Boys	Girls		Boys	Girls
Canada	+	+	Croatia	+	+
Denmark		+	Greece	+	
England	+	+	Israel		+
Estonia	+	+	Italy	+	+
Finland	+	+	Malta		+
Greenland			Portugal	+	+
Iceland	+		Slovenia	+	+
Ireland	+	+	Spain	+	+
Latvia	+	+	TFYR Macedonia <sup>†</sup>		
Lithuania	+		Turkey		
Norway	+	+			
Scotland	+	+			
Sweden	+	+			
USA	+	+			
Wales					
<b>WEST</b>			<b>EAST</b>		
	Boys	Girls		Boys	Girls
Austria	+		Bulgaria	+	
Belgium (Flemish)		+	Czech Republic	+	+
Belgium (French)		+	Hungary		+
France	+	+	Poland	+	+
Germany	+	+	Romania	+	+
Luxembourg		+	Russian Federation	+	+
Netherlands	+	+	Slovakia	+	+
Switzerland	+	+	Ukraine	+	+

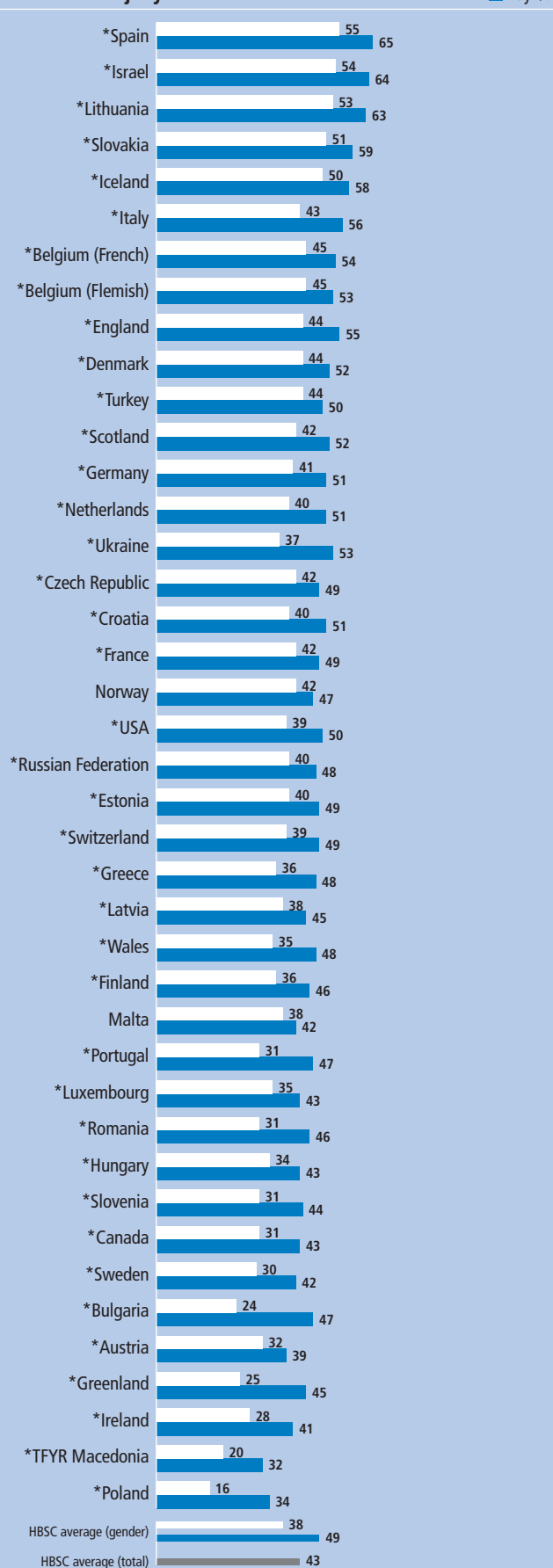
Where family affluence is statistically significant at  $p < 0.05$ , countries are identified with +/–

+

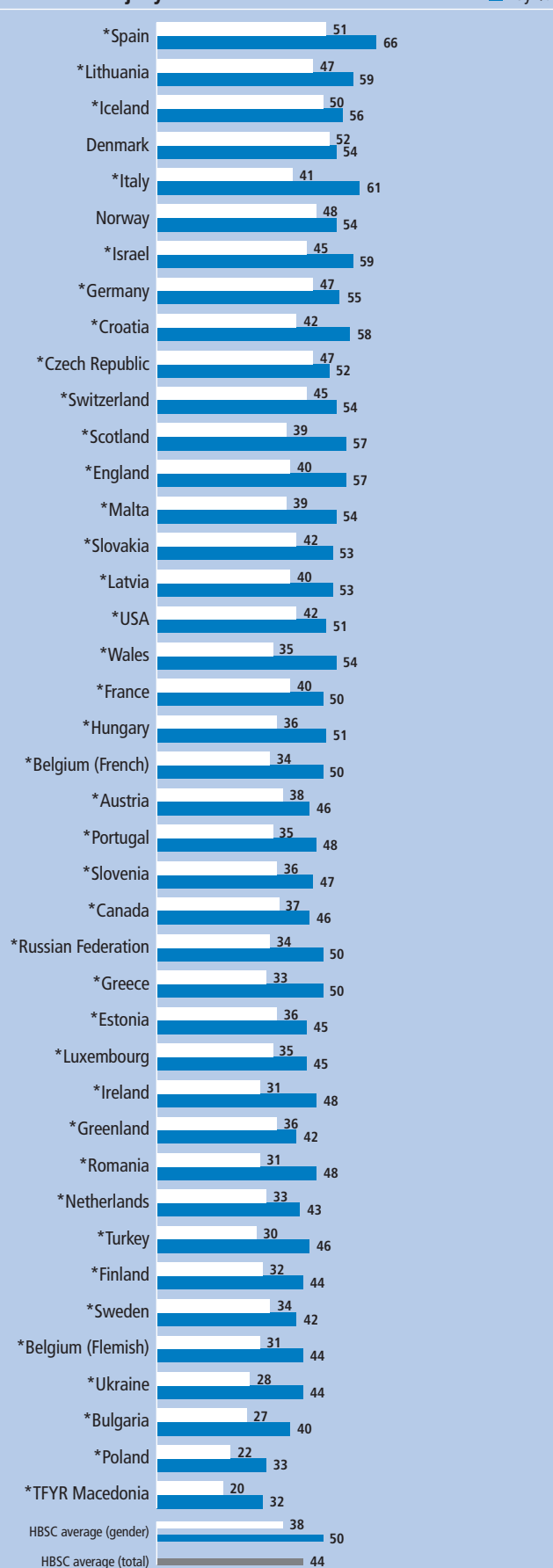
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<sup>†</sup>The former Yugoslav Republic of Macedonia

**11-year-olds who report at least one medically attended injury in the last 12 months**

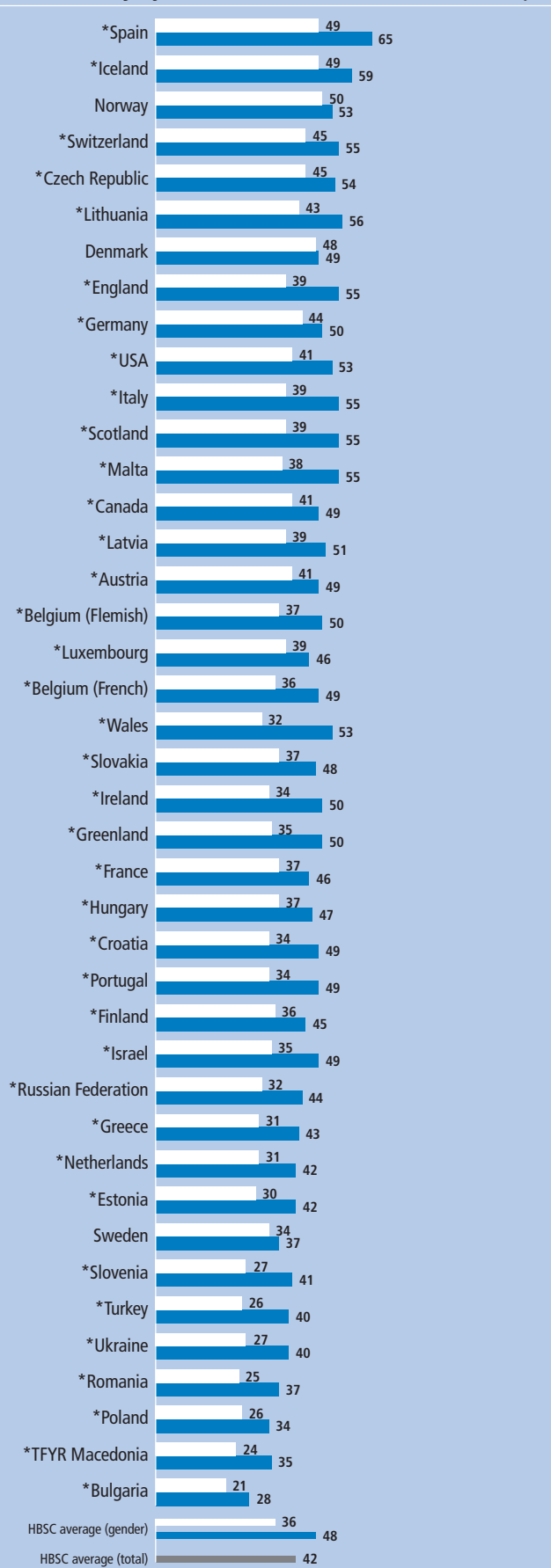


**13-year-olds who report at least one medically attended injury in the last 12 months**



\* indicates a significant gender difference (at  $p < 0.05$ ).

### 15-year-olds who report at least one medically attended injury in the last 12 months



\* indicates a significant gender difference (at  $p < 0.05$ ).

### SUMMARY FINDINGS

The proportion of young people reporting **medically attended injury** at least once in the last 12 months varies across countries, with a three-fold difference between lowest and highest rates.

#### 11-year-olds: from 25% (Poland) to 59% (Spain)

- Girls: 16% (Poland) to 55% (Spain)
- Boys: 32% (TFYR Macedonia<sup>†</sup>) to 65% (Spain)

#### 13-year-olds: from 26% (TFYR Macedonia<sup>†</sup>) to 57% (Spain)

- Girls: 20% (TFYR Macedonia<sup>†</sup>) to 52% (Denmark)
- Boys: 32% (TFYR Macedonia<sup>†</sup>) to 66% (Spain)

#### 15-year-olds: from 24% (Bulgaria) to 56% (Spain)

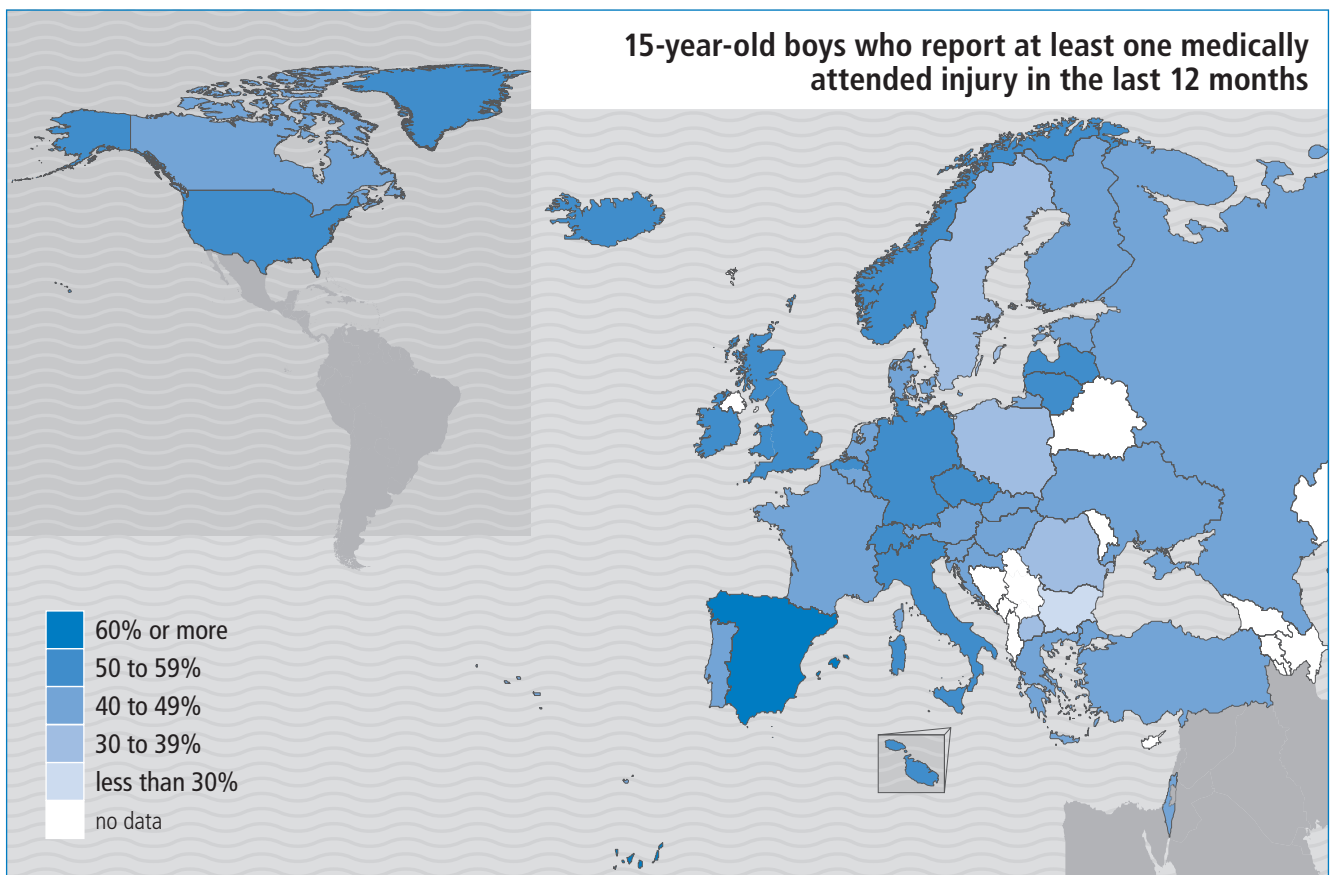
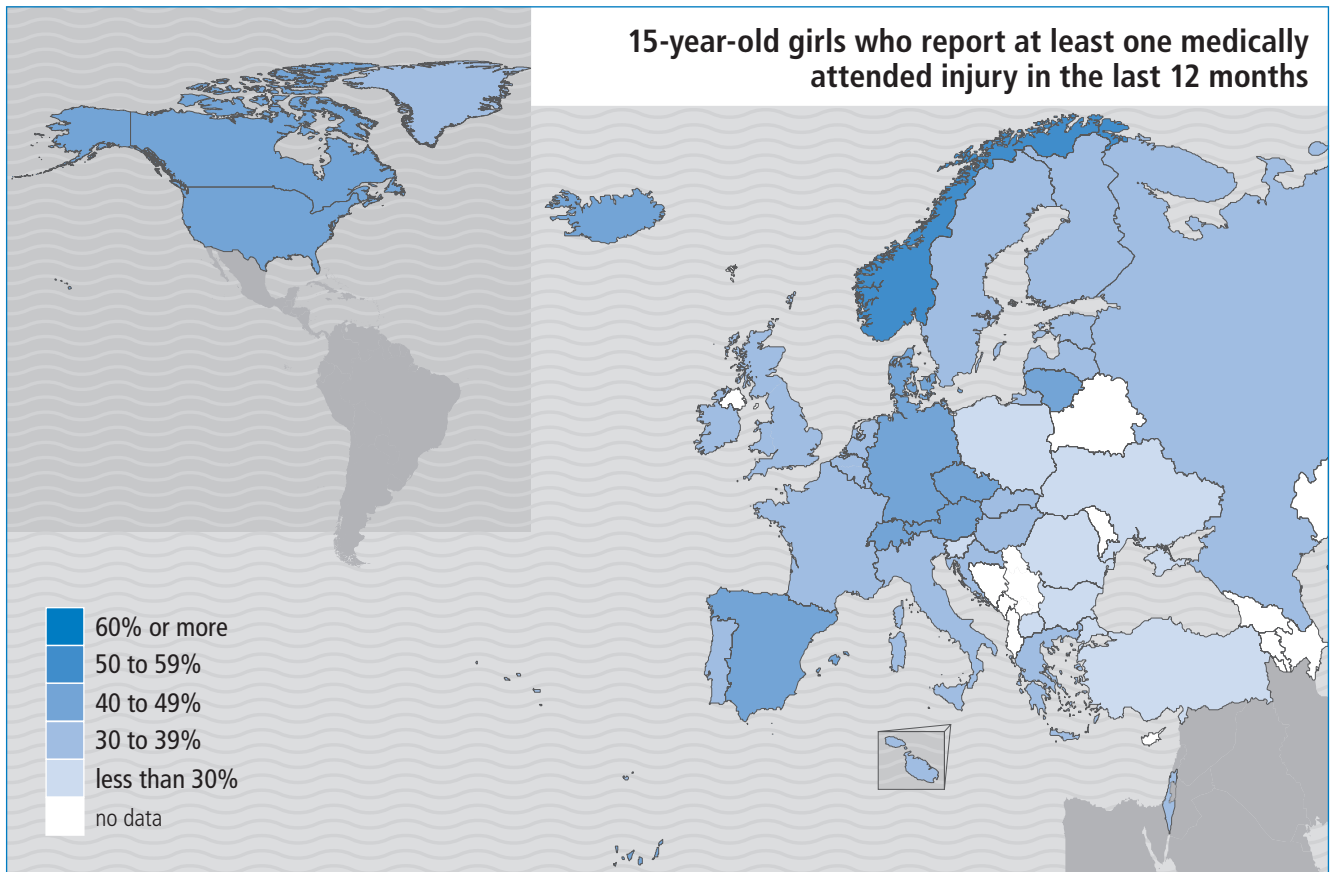
- Girls: 21% (Bulgaria) to 50% (Norway)
- Boys: 28% (Bulgaria) to 65% (Spain)

While there are large cross-national differences in medically attended injury rates, there are consistent gender and socioeconomic patterns, with boys and more affluent groups showing higher prevalence.

<sup>†</sup> The former Yugoslav Republic of Macedonia

### REFERENCES

1. Web-based injury statistics query and reporting system [web site]. Atlanta, GA, National Center for Injury Prevention and Control, Centers for Disease Control and Prevention, US Department of Health and Social Services, 2000 (<http://www.cdc.gov/wisquars/default.htm>, accessed 24 April 2008).
2. Christoffel KK et al. Standard definitions of childhood injury research: excerpts from a conference report. *Pediatrics*, 1992, 89:1027–1034.
3. Jessor R, Jessor SL. *Problem behaviour and psychosocial development: a longitudinal study of youth*. New York, NY, Academic Press, 1990.
4. Pickett W et al. Cross national study of injury and social determinants in adolescents. *Injury Prevention*, 2005, 11:213–218.
5. Simpson K et al. Multi-level analysis of associations between socioeconomic status and injury among Canadian adolescents. *Journal of Epidemiology and Community Health*, 2005, 59:1072–1077.
6. Chiolerio A, Schmid J. Repeated self-reported injuries and substance use among young adolescents: the case of Switzerland. *Sozial und Präventivmedizin*, 2002, 47(5):289–297.
7. Pickett W et al. Gradients in risk for youth injury associated with multiple-risk behaviours: a study of 11 329 Canadian adolescents. *Social Science and Medicine*, 2002, 55:1055–1068.





The World Health Organization recognizes that childhood overweight and obesity have reached epidemic proportions in most industrialized countries (1). The Body Mass Index (BMI), calculated as the weight in kilograms (kg) divided by height in metres squared (m<sup>2</sup>) (kg/m<sup>2</sup>), is the most commonly employed index of adiposity status among children and adolescents. BMI is associated with direct measures of fatness (2), cardiovascular risk factors (3), social and psychological problems (4) and with general health-related quality of life (5). A high BMI during childhood and adolescence is associated with an increased risk of adult obesity (6,7) and premature mortality (8,9).

Due to the problems associated with being overweight or obese, the study of adiposity status in young people is of considerable importance. HBSC has adopted the international BMI standards for young people, based on the work of Cole et al. (10), that are recommended by the International Obesity Task Force (IOTF). These are referred to as the IOTF cut-offs. It should be noted that these cut-offs used with self-reported BMI may lead to underestimation of overweight and obesity (11).

### MEASURE

Young people were asked to give their height (without shoes) and weight (without clothes). BMI was calculated from this information and cut-offs for overweight and obesity allocated as indicated above.

There were high levels of missing data in several countries related to this measure. Where these exceeded 30%, this is indicated in the figures overleaf. Findings for these countries should be interpreted with caution. A table showing missing data rates for all countries is presented in the annex.

### INEQUALITIES

**Age** There is little evidence of significant age differences in overweight or obesity among either boys or girls, but there is a tendency for 15-year-old girls to have lower levels of overweight or obesity than those aged 11.

**Gender** Boys are significantly more likely to be overweight or obese than girls in around half of countries at age 11, and in the majority of countries at ages 13 and 15.

**Geography** Boys and girls in North America are most likely to be overweight or obese, and girls in eastern Europe show the lowest levels of overweight and obesity.

**Family affluence** Family affluence is significantly associated with overweight or obesity in around half of countries. In most of these cases for boys, and all of them for girls, those from lower affluence families are more likely to be overweight or obese. This pattern is strongest in western Europe.

### Associations between family affluence and indicators of health, by country/region and gender: OVERWEIGHT AND OBESITY

<b>NORTH</b>		Boys	Girls	<b>SOUTH</b>		Boys	Girls
Canada		–	–	Croatia			
Denmark		–	–	Greece			
England				Israel			
Estonia				Italy			
Finland				Malta			
Greenland		+		Portugal			–
Iceland		–	–	Slovenia		–	–
Ireland				Spain		–	–
Latvia		+		TFYR Macedonia <sup>†</sup>			
Lithuania				Turkey		+	
Norway							
Scotland							
Sweden		–	–				
USA		–	–				
Wales		–					
<b>WEST</b>		Boys	Girls	<b>EAST</b>		Boys	Girls
Austria		–	–	Bulgaria			
Belgium (Flemish)		–		Czech Republic			
Belgium (French)		–	–	Hungary			
France		–	–	Poland			
Germany		–	–	Romania			
Luxembourg		–	–	Russian Federation		+	
Netherlands		–	–	Slovakia			–
Switzerland		–		Ukraine			

Where family affluence is statistically significant at  $p < 0.05$ , countries are identified with +/–

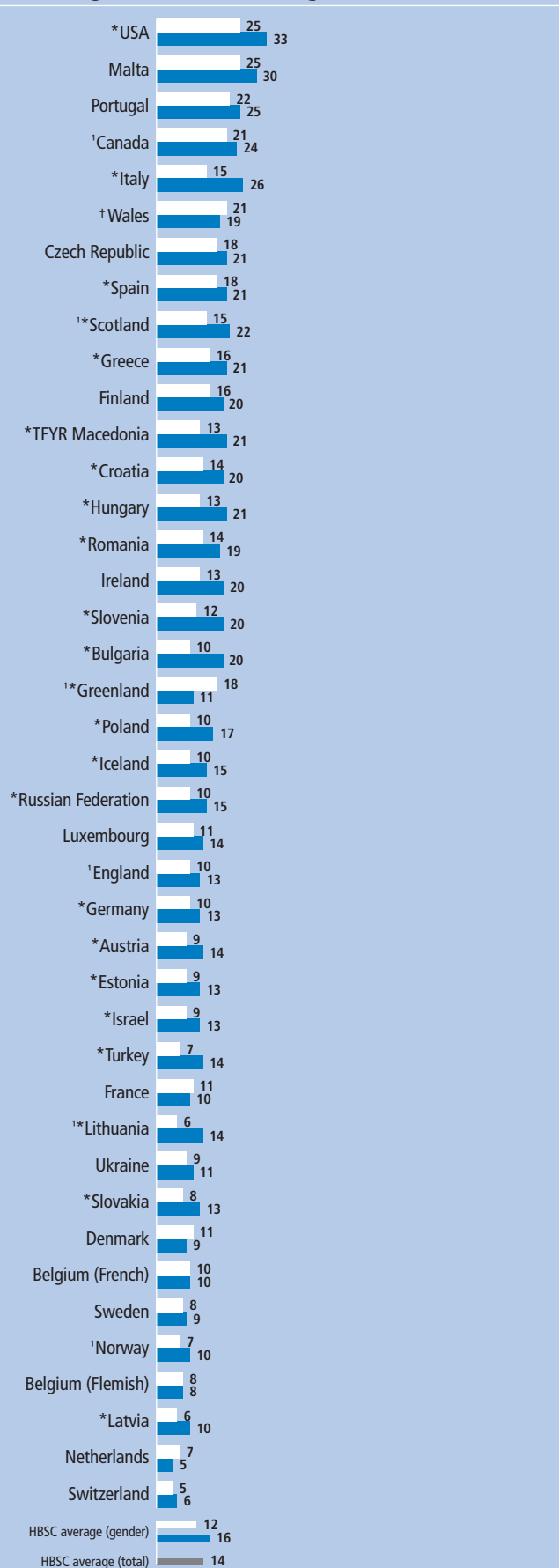
+ indicates that higher levels of overweight and obesity are significantly associated with higher family affluence;

– indicates that higher levels of overweight and obesity are significantly associated with lower family affluence.

<sup>†</sup>The former Yugoslav Republic of Macedonia

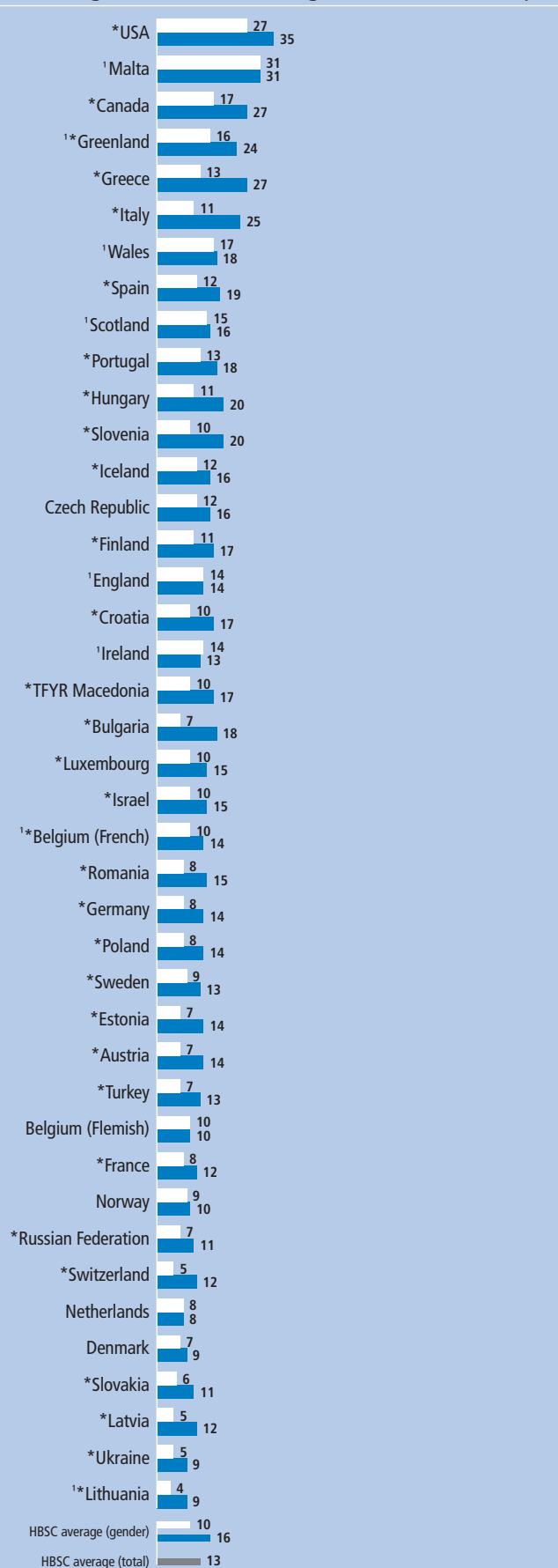
## 11-year-olds who report that they are overweight or obese according to BMI

■ Girl %  
■ Boy %



## 13-year-olds who report that they are overweight or obese according to BMI

■ Girl %  
■ Boy %

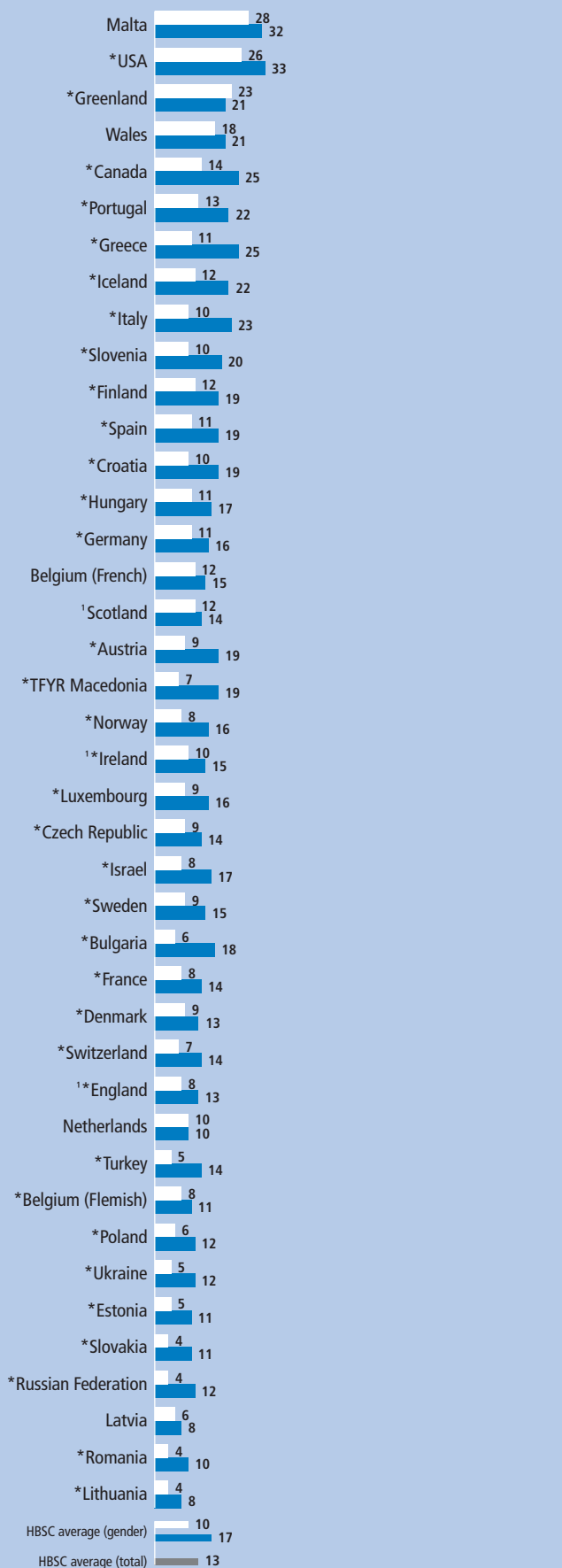


\* indicates a significant gender difference (at  $p < 0.05$ ). <sup>1</sup> indicates 30% or more missing data



### 15-year-olds who report that they are overweight or obese according to BMI

■ Girl %  
■ Boy %



\* indicates a significant gender difference (at  $p < 0.05$ ). <sup>1</sup> indicates 30% or more missing data

### SUMMARY FINDINGS

There are considerable variations across countries in prevalence of **overweight or obesity**.

**11-year-olds: from 6% (Netherlands, Switzerland) to 29% (United States)**

- Girls: 5% (Switzerland) to 25% (United States, Malta)
- Boys: 5% (Netherlands) to 33% (United States)

**13-year-olds: from 6% (Lithuania) to 31% (Malta)**

- Girls: 4% (Lithuania) to 31% (Malta)
- Boys: 8% (Netherlands) to 35% (United States)

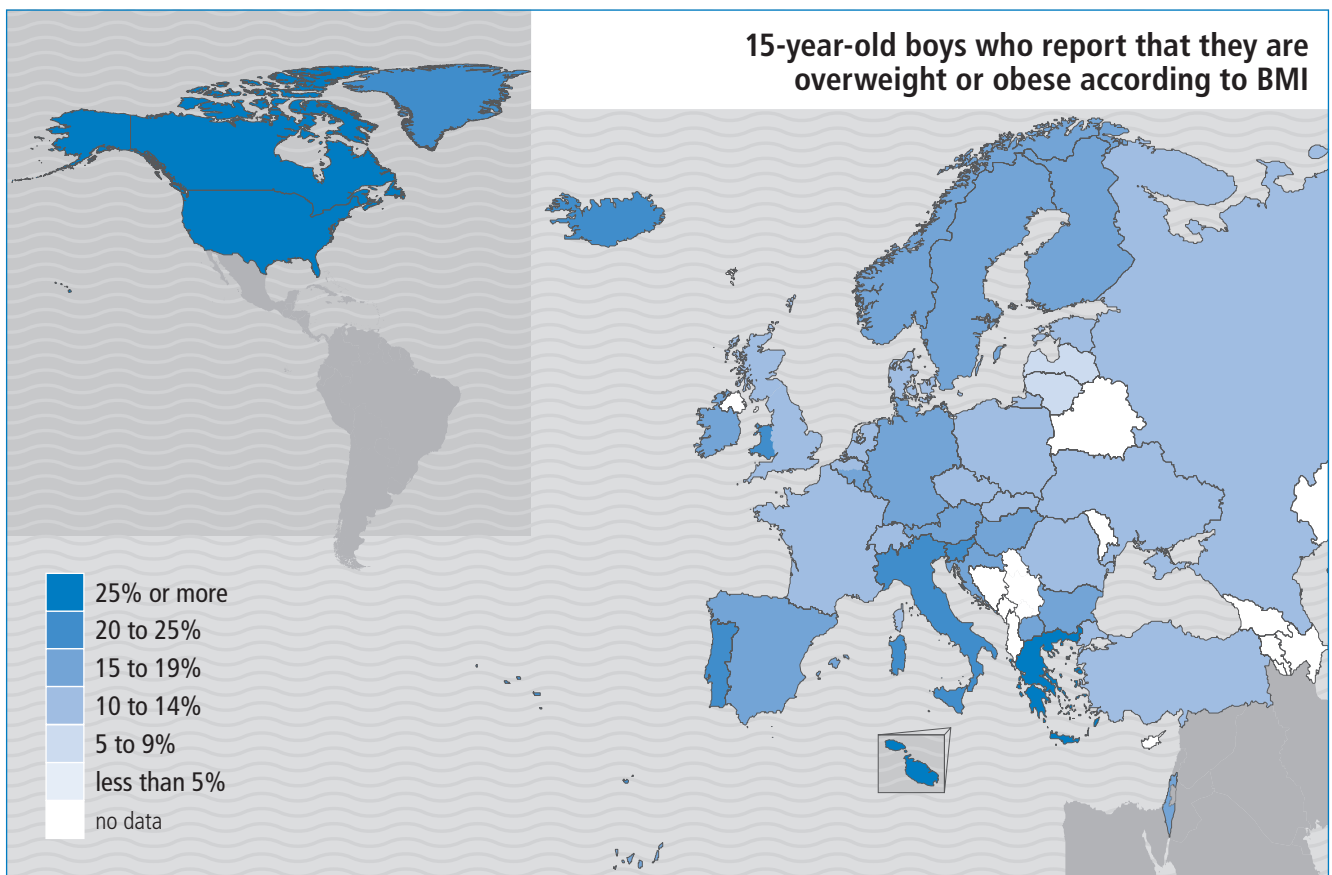
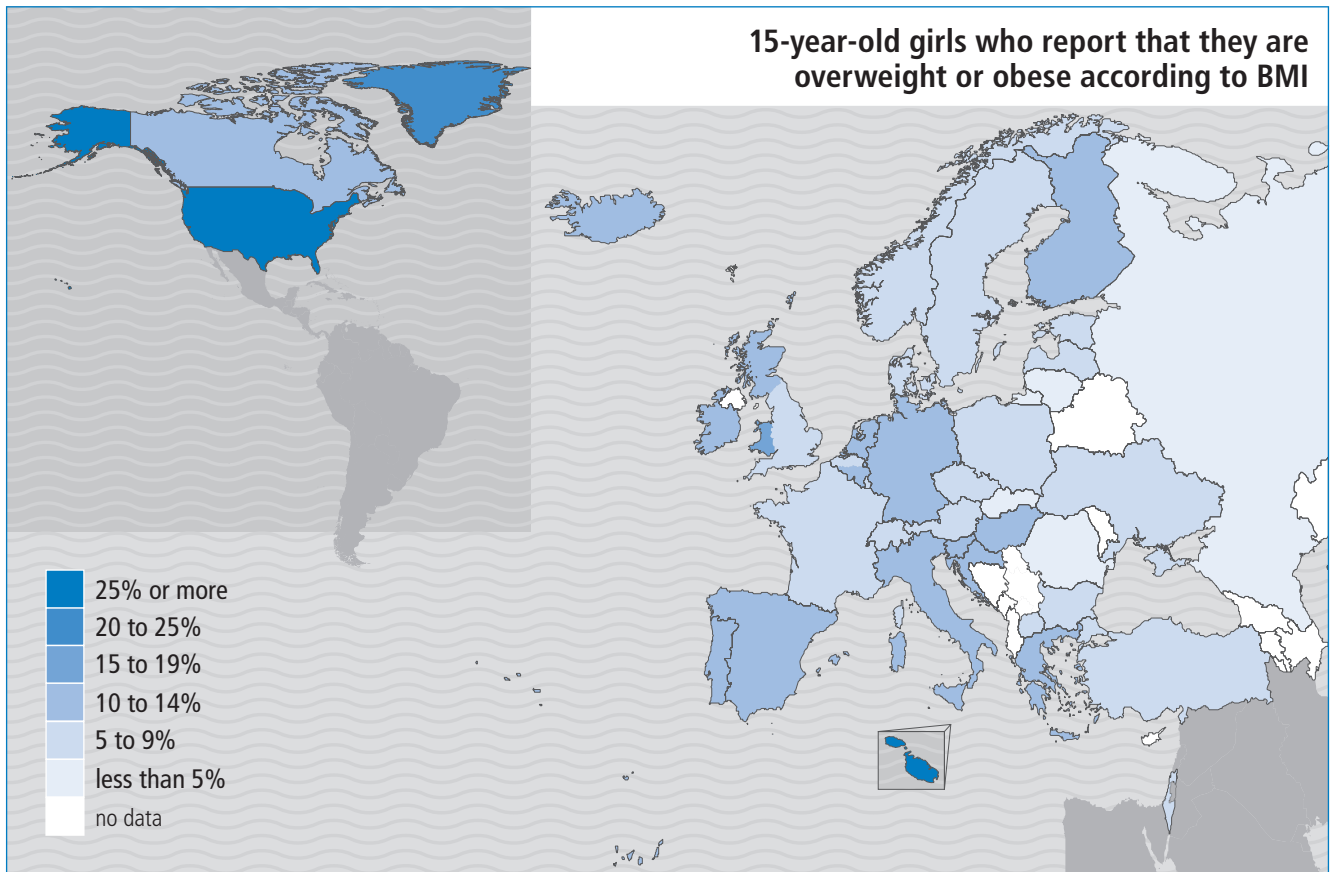
**15-year-olds: from 6% (Lithuania, Romania) to 30% (Malta)**

- Girls: 4% (Lithuania, Romania, Slovakia, Russian Federation) to 28% (Malta)
- Boys: 8% (Latvia, Lithuania) to 33% (United States)

Although there are few age patterns, boys and those from low affluence families report higher levels of overweight and obesity, particularly in North America and western Europe.

### REFERENCES

1. *Obesity: preventing and managing the global epidemic: report of a WHO consultation on obesity. WHO technical report series no. 894.* Geneva, World Health Organization, 2004.
2. Roche AF et al. Grading body fatness from limited anthropometric data. *American Journal of Clinical Nutrition*, 1981, 34:2831–2838.
3. Katzmarzyk PT et al. The utility of the international child and adolescent overweight guidelines for predicting coronary heart disease risk factors. *Journal of Clinical Epidemiology*, 2003, 56:456–462.
4. Janssen I et al. Associations between overweight and obesity with bullying behaviors in school-aged children. *Pediatrics*, 2004, 113:1187–1194.
5. Williams J et al. Health-related quality of life of overweight and obese children. *Journal of the American Medical Association*, 2005, 293:70–76.
6. Whitaker RC et al. Predicting obesity in young adulthood from childhood and parental obesity. *New England Journal of Medicine*, 1997, 337:869–873.
7. Guo SS et al. Body mass index during childhood, adolescence and young adulthood in relation to adult overweight and adiposity: the Fels Longitudinal Study. *International Journal of Obesity Related Metabolic Disorders*, 2000, 24:1628–1635.
8. Engeland A et al. Body mass index in adolescence in relation to total mortality: 32-year follow-up of 227 000 Norwegian boys and girls. *American Journal of Epidemiology*, 2003, 157:517–523.
9. Engeland A et al. Obesity in adolescence and adulthood and risk of adult mortality. *Epidemiology*, 2004, 15:79–85.
10. Cole TJ et al. Establishing a standard definition for child overweight and obesity worldwide: international survey. *British Medical Journal*, 2000, 320:1240–1243.
11. Elgar FJ et al. Validity of self-reported height and weight and predictors of bias in adolescents. *Journal of Adolescent Health*, 2005, 37(5):371–375.



**Increasing rates of overweight and obesity among children are important global public health concerns** (1). Being slim is greatly valued in society, especially for females, and the stigmatization of overweight and obesity appears to be increasing (2). Young people experience many bodily changes throughout adolescence. Body image has an important role in self-evaluation, mental health and psychological well-being (3–5).

Pubertal development is often associated with poorer body image among girls but with more positive body attitudes among boys (5,6), which has been attributed to gendered sociocultural expectations. Body image acts independently of actual body weight (7); indeed, the perception of being overweight is the strongest predictor of attempts to lose weight, with consequent dieting that can pose health risks. High levels of body dissatisfaction and body image disturbances are also predictive of depressive mood, psychosomatic complaints and disordered or inappropriate eating behaviours (5,8–10).

### MEASURE

Young people were asked about how they perceive their body. Response options ranged from “much too thin” to “much too fat”. The findings presented here are the proportions that reported perceiving their body to be either “a bit too fat” or “much too fat”.

### INEQUALITIES

**Age** Among girls, 15-year-olds are significantly more likely than 11-year-olds to report that they are “too fat” in most countries. For boys between age 11 and 15, an increase in reporting that they are “too fat” is found in fewer than half the countries.

**Gender** Girls at ages 13 and 15 in almost all countries are more likely than boys to report that they are “too fat”. This is also true among 11-year-olds in the majority of countries.

**Geography** Among girls, those in western and northern Europe are most likely to report that they are “too fat”. Girls in southern Europe tend to be least likely to report this. A similar pattern is observed for boys.

**Family affluence** There is a significant association in a minority of countries between family affluence and the perception of being too fat; in almost all these cases, it is associated with low family affluence. This pattern is strongest in western Europe, where the majority of countries show this association, compared to almost none in eastern Europe.

### Associations between family affluence and indicators of health, by country/region and gender: FEELING TOO FAT

<b>NORTH</b>		Boys	Girls	<b>SOUTH</b>		Boys	Girls
Canada		–	–	Croatia			
Denmark		–	–	Greece			
England				Israel			
Estonia				Italy			
Finland				Malta			
Greenland		+		Portugal			–
Iceland		–	–	Slovenia		–	–
Ireland				Spain		–	–
Latvia		+		TFYR Macedonia <sup>†</sup>			
Lithuania				Turkey		+	
Norway							
Scotland							
Sweden		–	–				
USA		–	–				
Wales		–					
<b>WEST</b>		Boys	Girls	<b>EAST</b>		Boys	Girls
Austria		–	–	Bulgaria			
Belgium (Flemish)		–		Czech Republic			
Belgium (French)		–	–	Hungary			
France		–	–	Poland			
Germany		–	–	Romania			
Luxembourg		–	–	Russian Federation		+	
Netherlands		–	–	Slovakia			–
Switzerland		–		Ukraine			

Where family affluence is statistically significant at  $p < 0.05$ , countries are identified with +/–

+ indicates that higher levels of negative body image are significantly associated with higher family affluence;

– indicates that higher levels of negative body image are significantly associated with lower family affluence.

<sup>†</sup>The former Yugoslav Republic of Macedonia

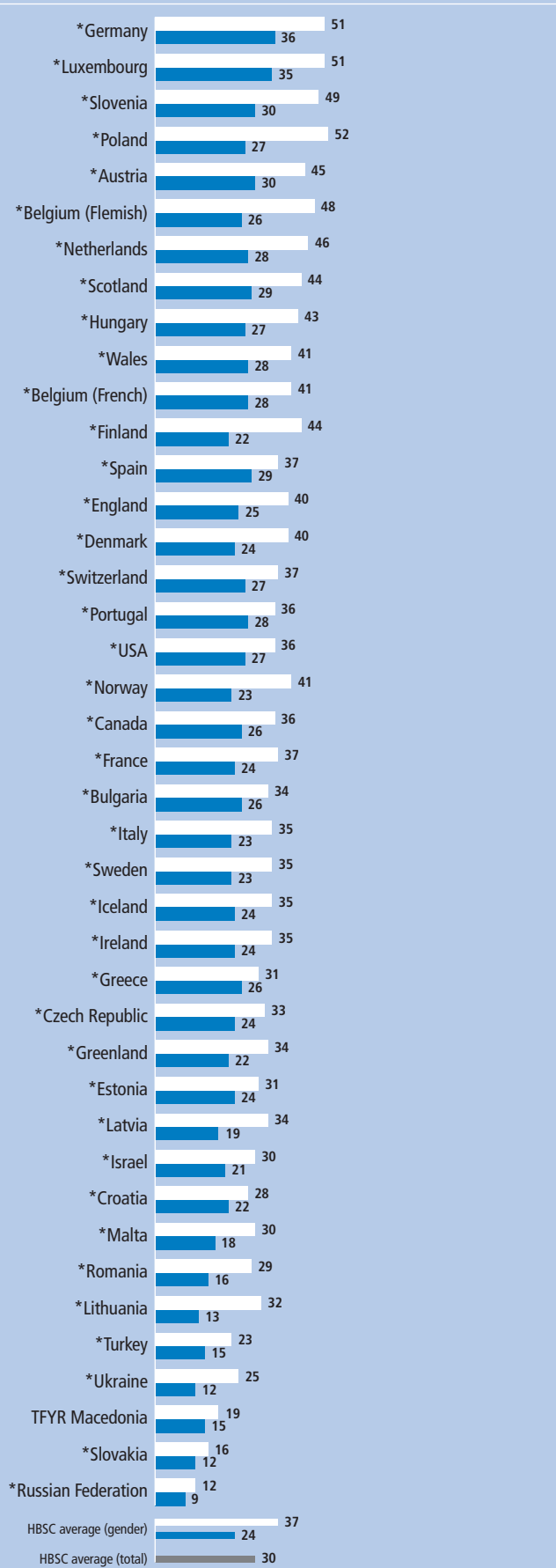
## 11-year-olds who think they are too fat

■ Girl %  
■ Boy %



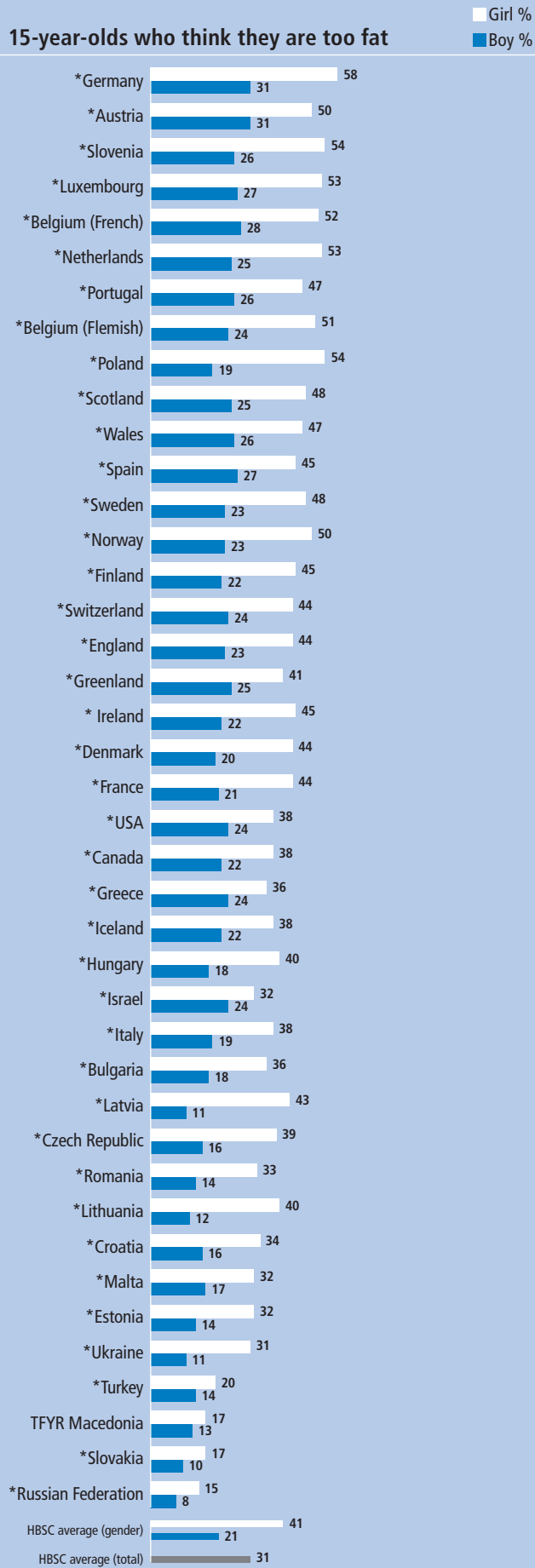
## 13-year-olds who think they are too fat

■ Girl %  
■ Boy %



\* indicates a significant gender difference (at  $p < 0.05$ ).

## 15-year-olds who think they are too fat

\* indicates a significant gender difference (at  $p < 0.05$ ).

## SUMMARY FINDINGS

There are large variations across countries in the proportion who report that they are **a bit or much too fat**; this is the case for all three age groups.

**11-year-olds: from 10% (Slovakia) to 35% (Slovenia)**

- Girls: 11% (Russian Federation, Slovakia) to 40% (Poland)
- Boys: 9% (Slovakia) to 30% (Slovenia)

**13-year-olds: from 11% (Russian Federation) to 44% (Germany)**

- Girls: 12% (Russian Federation) to 52% (Poland)
- Boys: 9% (Russian Federation) to 36% (Germany)

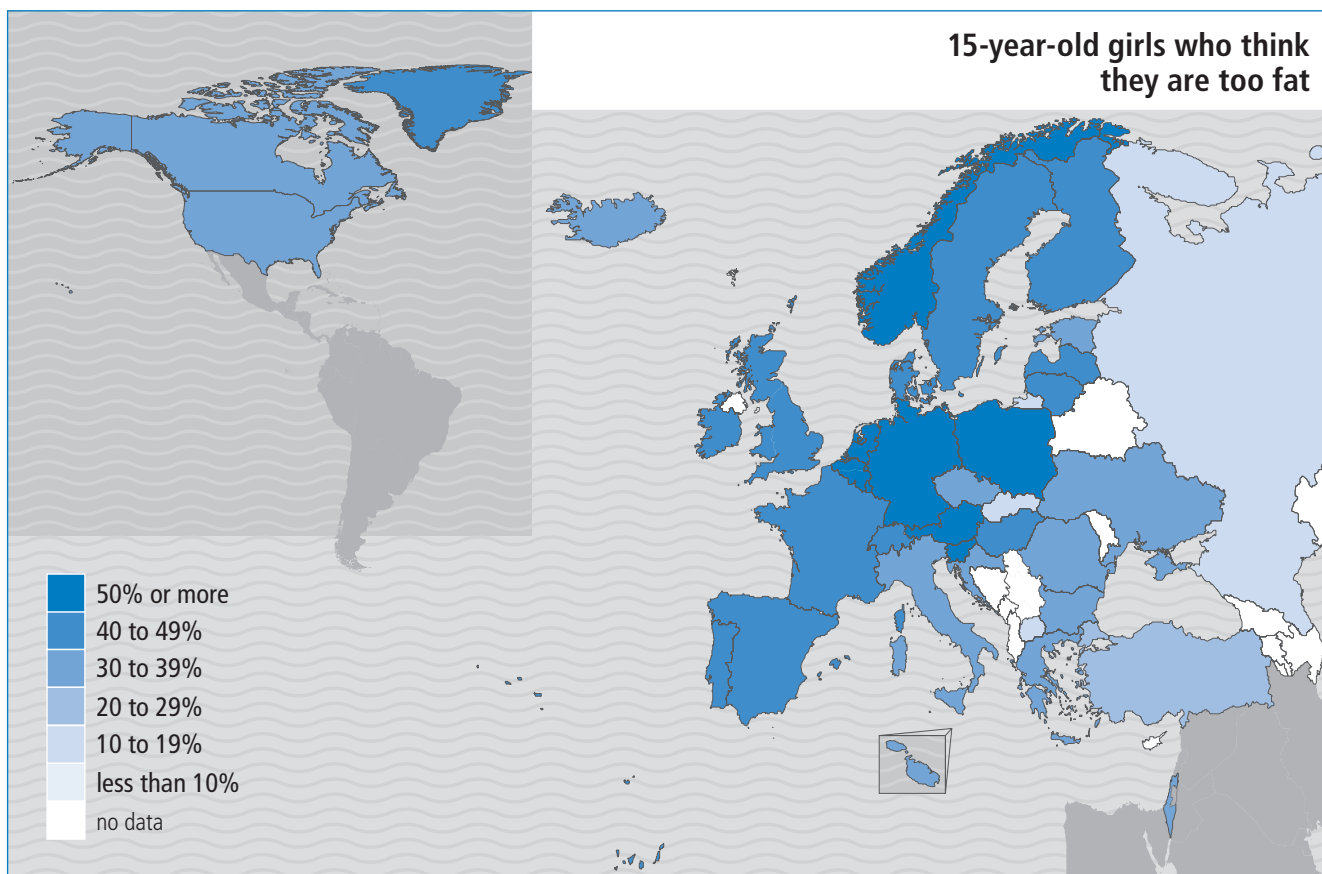
**15-year-olds: from 11% (Russian Federation) to 44% (Germany)**

- Girls: 15% (Russian Federation) to 58% (Germany)
- Boys: 8% (Russian Federation) to 31% (Germany, Austria)

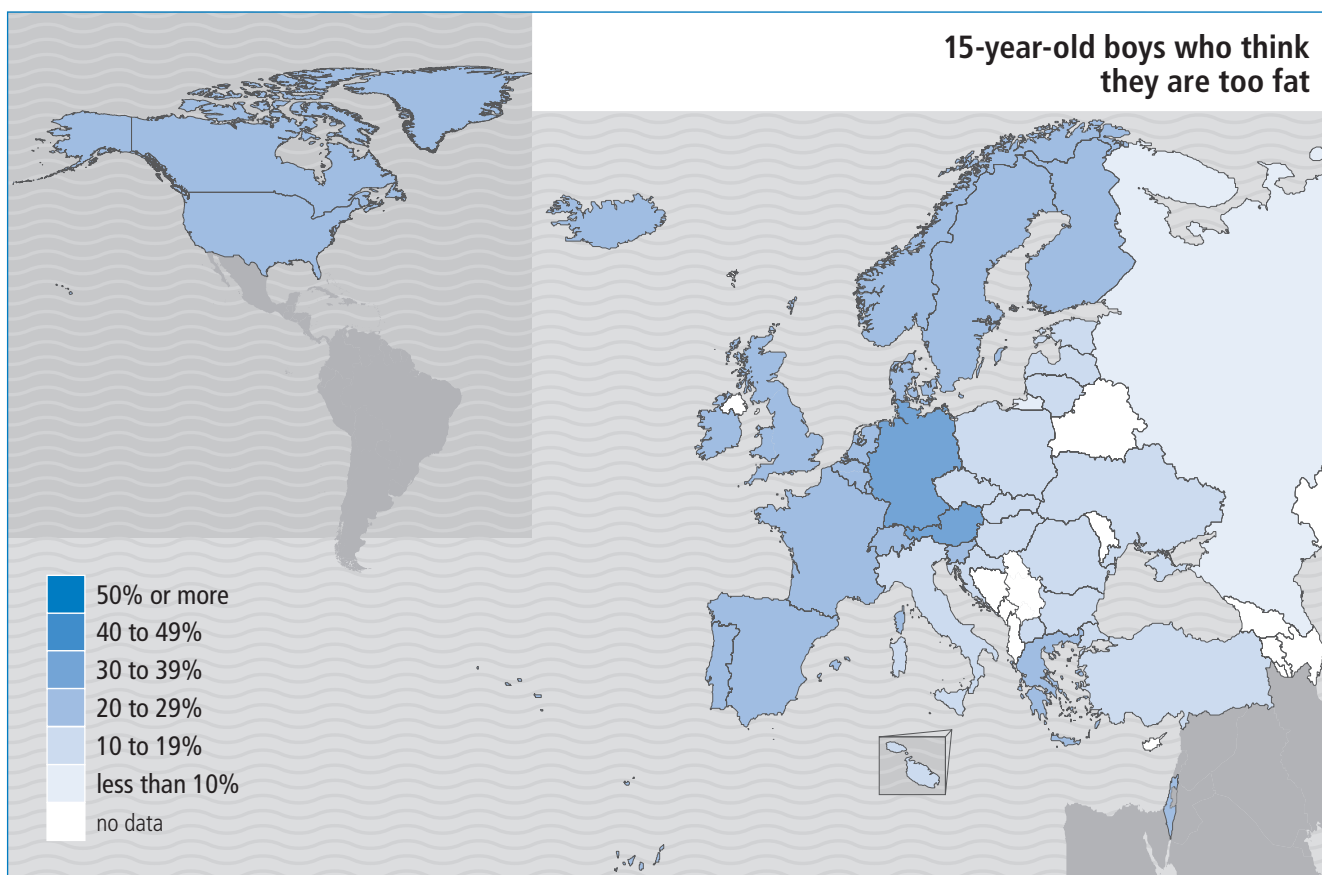
It is a universal finding that girls are more likely than boys to judge themselves as a bit or much too fat, and that this negative body image becomes more prevalent with age. Feeling too fat is more apparent among girls living in northern and western Europe.

## REFERENCES

1. *Obesity: preventing and managing the global epidemic: report of a WHO consultation on obesity. WHO technical report series no. 894.* Geneva, World Health Organization, 2004.
2. Latner JD, Stunkard AJ. Getting worse: the stigmatization of obese children. *Obesity Research*, 2003, 11:452–456.
3. Siegel JM et al. Body image, perceived pubertal timing, and adolescent mental health. *Journal of Adolescent Health*, 1999, 25(2):155–165.
4. Williams JM, Currie C. Self-esteem and physical development in early adolescence: pubertal timing and body image. *Journal of Early Adolescence*, 2000, 20:129–149.
5. Ge X et al. Pubertal transitions, perceptions of being overweight and adolescents' psychological maladjustment: gender and ethnic differences. *Social Psychology Quarterly*, 2001, 64:363–375.
6. Németh Á, Bodzsár ÉB, Aszmann A. Maturation status and psychosocial characteristics of Hungarian adolescents. *Anthropológiai Közlemények (Anthropological Communications)*, 2002, 43:85–94.
7. Strauss RS. Self-reported weight status and dieting in a cross-sectional sample of young adolescents. National Health and Nutrition Examination Survey III. *Archives of Paediatric and Adolescent Medicine*, 1999, 153:741–747.
8. Stice E et al. Body-image and eating disturbances predict onset of depression among female adolescents. *Journal of Abnormal Psychology*, 2000, 109(3):438–444.
9. Siegel JM. Body image change and adolescent depressive symptoms. *Journal of Adolescent Research*, 2002, 17:27–41.
10. Thompson AM, Chad KE. The relationship of social physique anxiety to risk for developing an eating disorder in young females. *Journal of Adolescent Health*, 2002, 31:183–189.



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# HEALTH BEHAVIOURS

eating behaviour

oral health

weight reduction behaviour

physical activity

television watching





## SECTION 3: HEALTH BEHAVIOURS

### EATING BEHAVIOUR: BREAKFAST CONSUMPTION

A regular breakfast is part of a healthy diet, which in turn has traditionally been considered an important factor in a healthy lifestyle (1). Breakfast contributes to the quality and quantity of a person's daily dietary intake (2), and breakfast-skipping has been linked to inadequate dietary nutrition in several studies (3,4). Breakfast-skipping also influences cognition and learning (5) and consequently may impact on adolescents' capacity to take advantage of learning opportunities provided by schools and families.

Missing breakfast has been associated with several other health-compromising behaviours, such as higher levels of smoking (6), alcohol and drug use (7) and more sedentary lifestyles (8). Breakfast-skipping has also been linked with the increased consumption of snacks low in fibre and high in fat later in the day (9) and an increased risk of obesity (10).

#### MEASURE

Young people were asked how often they eat breakfast on school days and at weekends. Breakfast was defined in the question as "more than a glass of milk or fruit juice". The findings presented here are the proportions reporting eating breakfast every school day.

#### INEQUALITIES

**Age** Daily breakfast eating on school days decreases significantly between the ages of 11 and 15 among boys in most countries and among girls in all countries.

**Gender** Girls are less likely to eat breakfast on every school day. Among 13- and 15-year-olds, significant gender differences are found in almost all countries. By contrast, there are similar rates of breakfast eating by boys and girls in most countries at age 11.

**Geography** There is no clear geographic pattern for eating breakfast every school day.

**Family affluence** Eating breakfast daily is significantly associated with family affluence in the majority of countries for boys and over half for girls. It is associated in most cases with higher family affluence, particularly in western and northern Europe.

#### Associations between family affluence and indicators of health, by country/region and gender: EATING BREAKFAST EVERY SCHOOL DAY

NORTH		Boys	Girls	SOUTH		Boys	Girls
Canada		+		Croatia		+	
Denmark		+	+	Greece		+	
England		+	+	Israel			
Estonia				Italy		+	+
Finland		+	+	Malta		+	
Greenland		+		Portugal			
Iceland		+	+	Slovenia		+	
Ireland		+	+	Spain		+	+
Latvia		–		TFYR Macedonia <sup>†</sup>		–	
Lithuania				Turkey		–	
Norway		+	+				
Scotland		+	+				
Sweden		+	+				
USA		+	+				
Wales		+	+				
WEST		Boys	Girls	EAST		Boys	Girls
Austria			+	Bulgaria		–	–
Belgium (Flemish)		+	+	Czech Republic			+
Belgium (French)		+	+	Hungary			
France		+	+	Poland		+	
Germany		+	+	Romania		+	
Luxembourg		+	+	Russian Federation			–
Netherlands		+	+	Slovakia			
Switzerland		+	+	Ukraine			

Where family affluence is statistically significant at  $p < 0.05$ , countries are identified with +/–

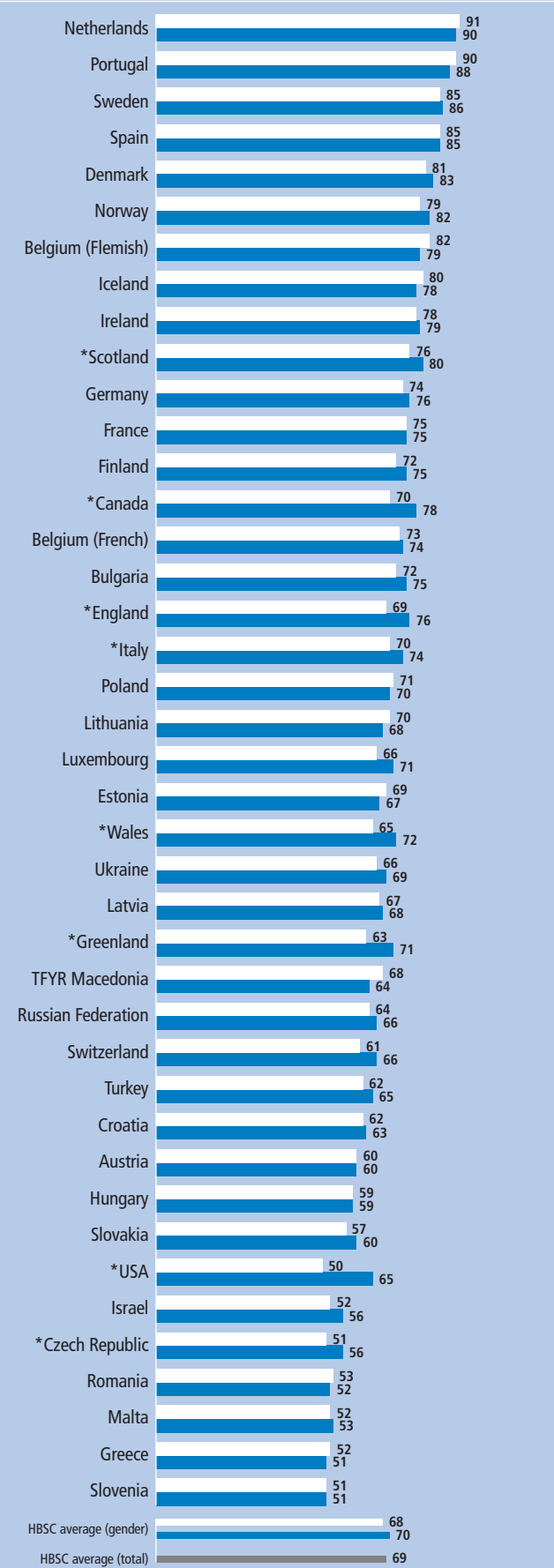
+ indicates that higher levels of breakfast consumption are significantly associated with higher family affluence;

– indicates that higher levels of breakfast consumption are significantly associated with lower family affluence.

<sup>†</sup> The former Yugoslav Republic of Macedonia

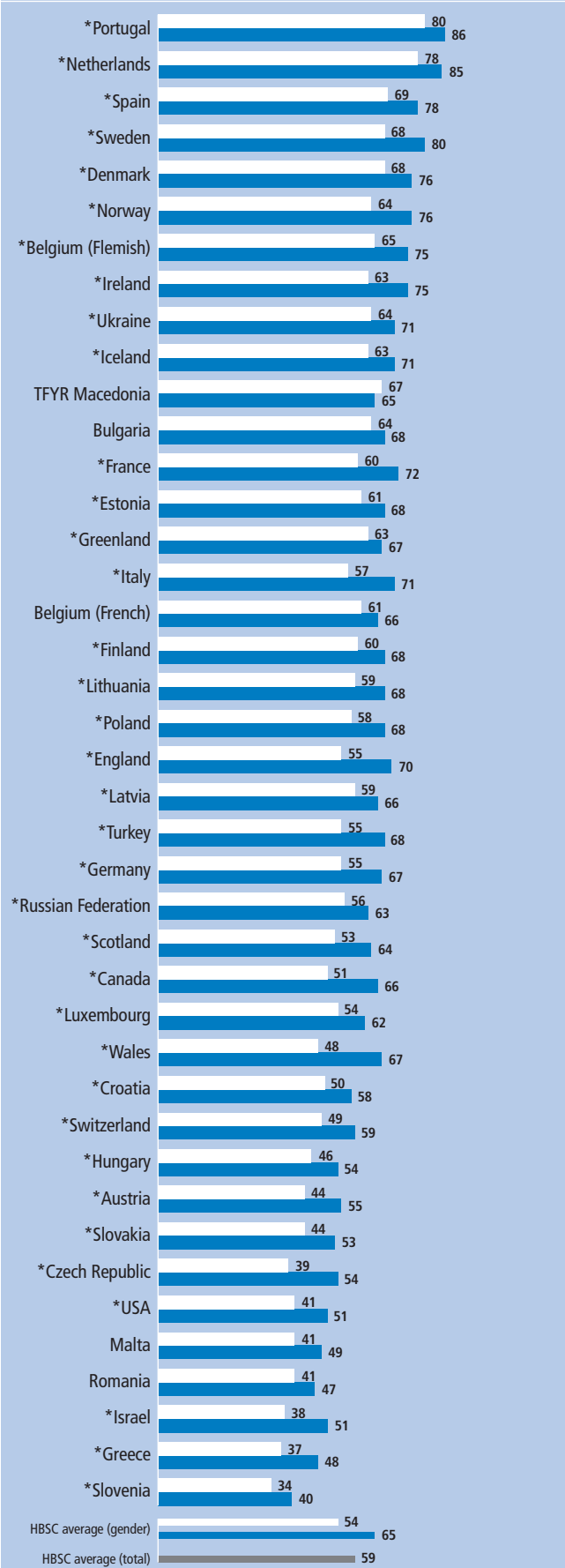
## 11-year-olds who eat breakfast every school day

Girl %  
Boy %

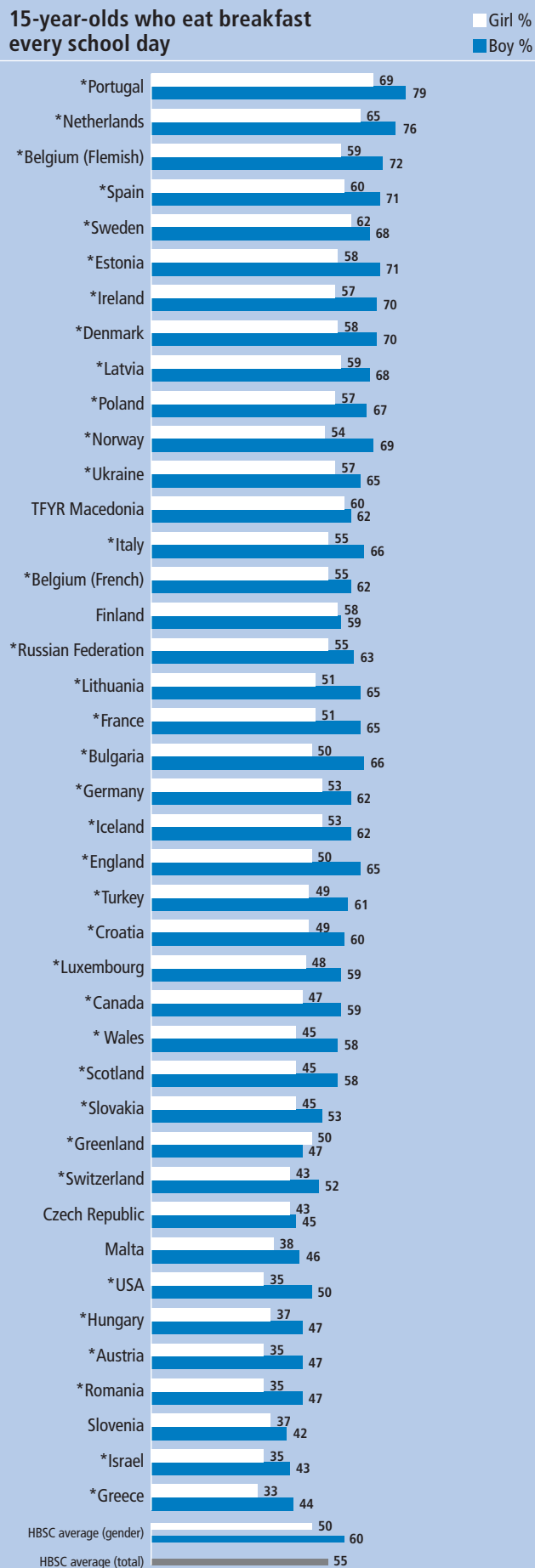


## 13-year-olds who eat breakfast every school day

Girl %  
Boy %

\* indicates a significant gender difference (at  $p < 0.05$ ).

### 15-year-olds who eat breakfast every school day



### SUMMARY FINDINGS

The proportion of young people **eating breakfast every school day** varies considerably between countries, with a range of around 40% to 50% at all ages.

**11-year-olds: from 51% (Slovenia) to 90% (Netherlands)**

- Girls: 50% (United States) to 91% (Netherlands)
- Boys: 51% (Slovenia, Greece) to 90% (Netherlands)

**13-year-olds: from 37% (Slovenia) to 83% (Portugal)**

- Girls: 34% (Slovenia) to 80% (Portugal)
- Boys: 40% (Slovenia) to 86% (Portugal)

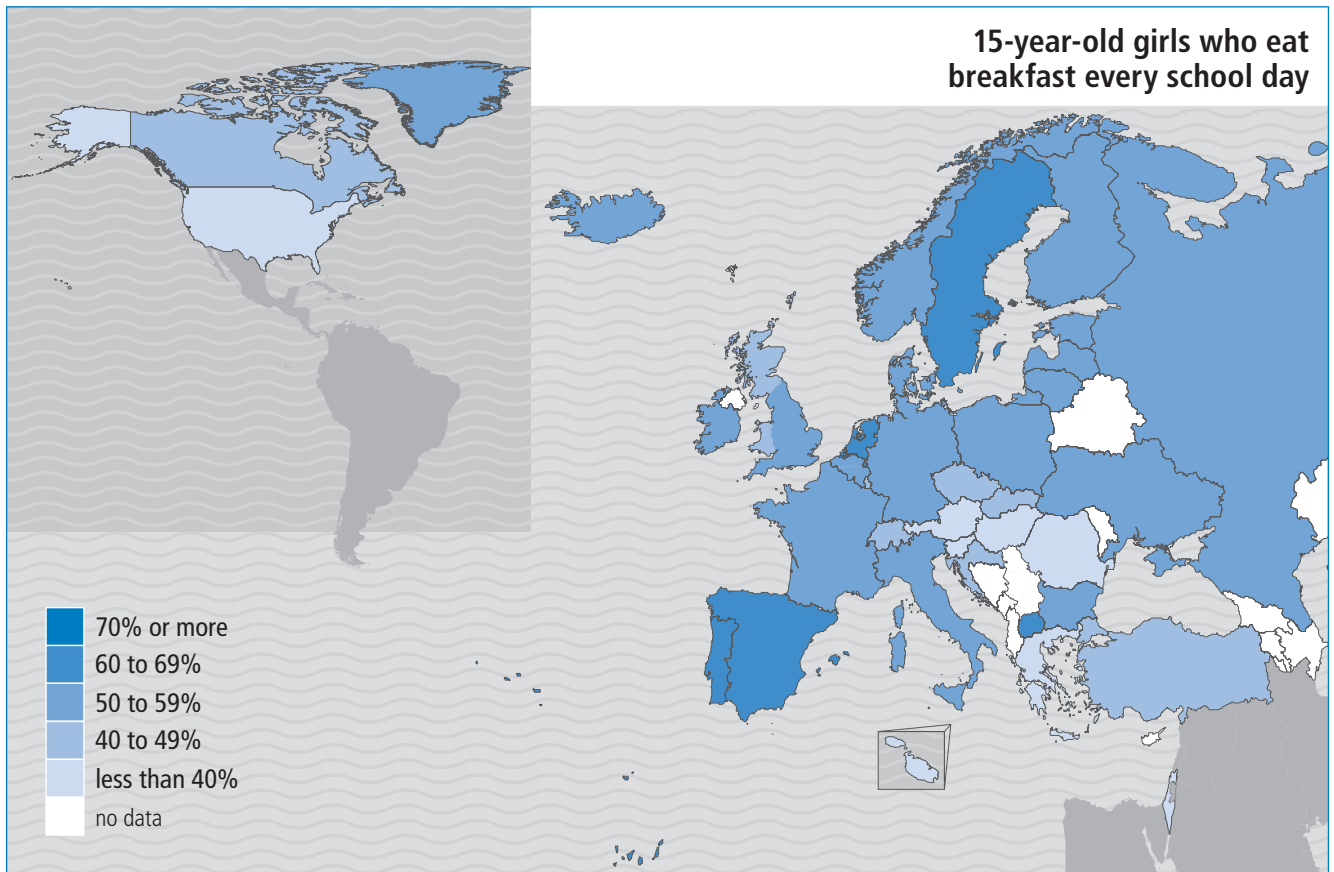
**15-year-olds: 38% (Greece) to 73% (Portugal)**

- Girls: 33% (Greece) to 69% (Portugal)
- Boys: 42% (Slovenia) to 79% (Portugal)

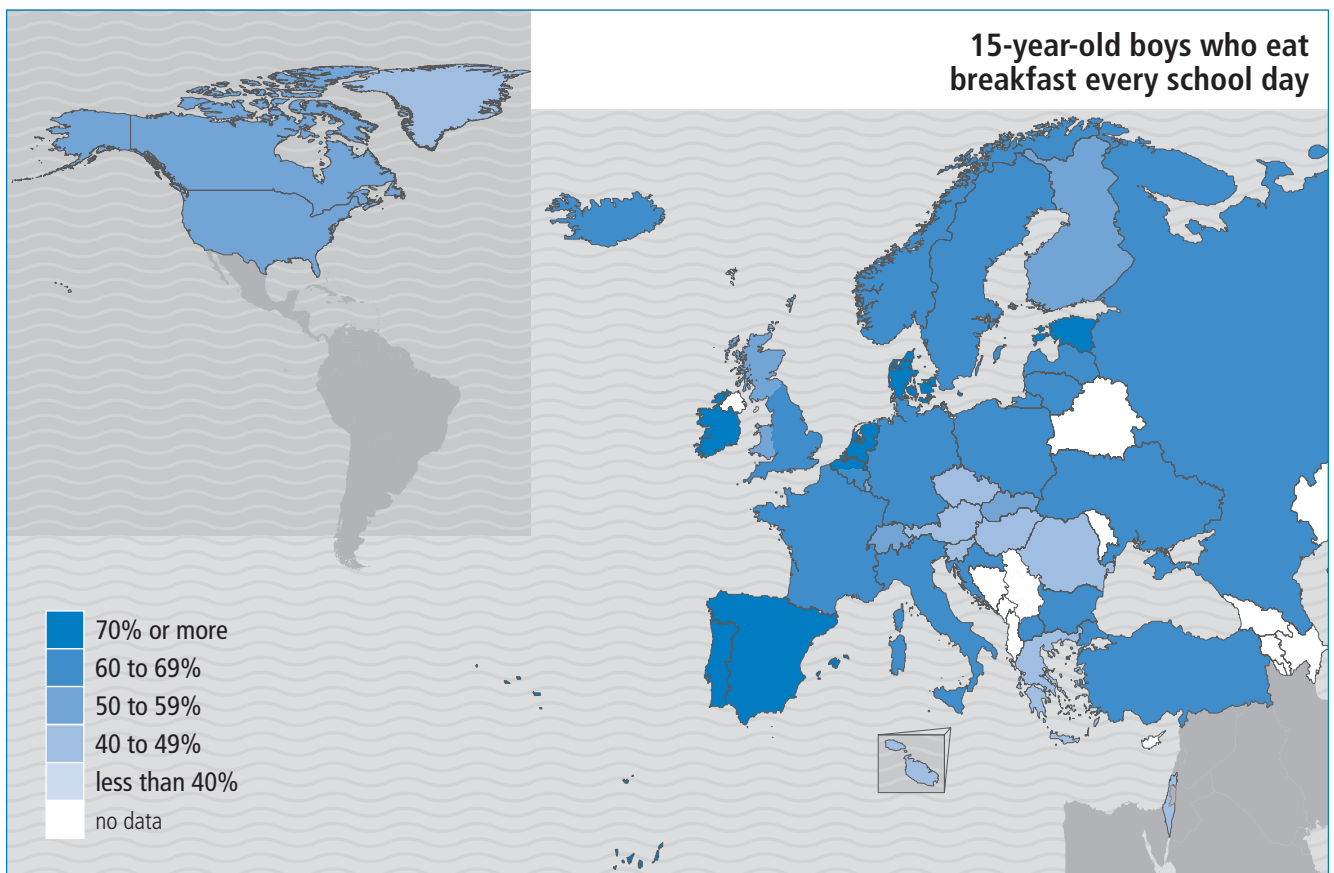
Eating breakfast every school day appears to be commonplace in some countries, but less so in others. It declines across the teenage years, especially among girls. Those from less affluent families, particularly in northern and western Europe, are less likely to eat breakfast every school day.

### REFERENCES

1. Keski-Rahkonen A et al. Genetic and environmental factors in breakfast eating patterns. *Behavioural Genetics*, 2004, 34:503-514.
2. Pollitt E. Does breakfast make a difference in school? *Journal of the American Dietetic Association*, 1995, 95:1134-1139.
3. Nicklas TA et al. Breakfast consumption affects adequacy of total daily intake in children. *Journal of the American Dietetic Association*, 1993, 93:886-891.
4. Sampson AE et al. The nutritional impact of breakfast consumption on the diets of inner-city African-American elementary school children. *Journal of the National Medical Association*, 1995, 87:195-202.
5. Wesnes KA et al. Breakfast reduces declines in attention and memory over the morning in schoolchildren. *Appetite*, 2003, 41:329-331.
6. Hoglund D, Samuelson G, Mark A. Food habits in Swedish adolescents in relation to socioeconomic conditions. *European Journal of Clinical Nutrition*, 1998, 52:784-789.
7. Isralowitz RE, Trostler N. Substance use: toward an understanding of its relation to nutrition-related attitudes and behavior among Israeli high school youth. *Journal of Adolescent Health*, 1996, 19:184-189.
8. Baumert PW Jr, Henderson JM, Thompson NJ. Health risk behaviors of adolescent participants in organized sports. *Journal of Adolescent Health*, 1998, 22:460-465.
9. Resnicow K. The relationship between breakfast habits and plasma cholesterol levels in schoolchildren. *Journal of School Health*, 1991, 61: 81-85.
10. Wolfe WS et al. Overweight schoolchildren in New York: prevalence and characteristics. *American Journal of Public Health*, 1994, 84(5):807-813.



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## SECTION 3: HEALTH BEHAVIOURS

### EATING BEHAVIOUR: FRUIT CONSUMPTION

**Healthy food habits during adolescence are important for several reasons.** Young people's eating practices affect their risk of developing a number of immediate health and social problems, such as weight gain leading to obesity and type 2 diabetes, inadequate bone mineralization, disordered eating practices and poor academic performance (1,2). Additionally, evidence suggests that adolescents' consumption patterns track into young adulthood (3,4).

A diet with low fruit, vegetable and fibre intake and high sodium and fat intake puts adolescents at increased risk for long-term health problems such as cancer and cardiovascular diseases. Fruit and vegetables were selected for inclusion here as indicators of healthy eating because of their high priority for most countries (5,6). Continued attention to increasing fruit and vegetable consumption is an important way of optimizing nutrition to reduce disease risk and maximize good health (7).

#### MEASURE

Young people were asked how often they eat fruit. Response options ranged from "never" to "more than once a day". The findings presented here are the proportions that reported eating fruit at least every day or more than once a day. Data on vegetable consumption can be found in the annex.

#### INEQUALITIES

**Age** Daily fruit consumption drops significantly between ages 11 and 15 in most countries. This is the case among boys in almost all countries and among girls in the majority of countries.

**Gender** Girls at all ages in most countries are more likely to eat fruit daily.

**Geography** Fruit consumption is relatively low among boys in parts of northern Europe (some Scandinavian countries and the Baltic states), but otherwise there are no clear geographic patterns among boys or girls.

**Family affluence** Low family affluence is significantly associated with lower levels of fruit consumption among boys and girls in the majority of countries.

#### Associations between family affluence and indicators of health, by country/region and gender: DAILY FRUIT CONSUMPTION

NORTH			SOUTH		
	Boys	Girls		Boys	Girls
Canada	+	+	Croatia	+	+
Denmark		+	Greece	+	+
England	+	+	Israel		
Estonia	+	+	Italy	+	
Finland	+	+	Malta	+	
Greenland	+	+	Portugal	+	+
Iceland	+	+	Slovenia	+	+
Ireland	+	+	Spain	+	+
Latvia	+	+	TFYR Macedonia <sup>†</sup>	+	+
Lithuania	+	+	Turkey	+	+
Norway		+			
Scotland	+	+			
Sweden					
USA		+			
Wales	+	+			
WEST			EAST		
	Boys	Girls		Boys	Girls
Austria	+		Bulgaria	+	+
Belgium (Flemish)	+		Czech Republic	+	+
Belgium (French)		+	Hungary	+	+
France	+	+	Poland	+	+
Germany	+	+	Romania	+	+
Luxembourg		+	Russian Federation	+	+
Netherlands	+		Slovakia	+	+
Switzerland			Ukraine	+	+

Where family affluence is statistically significant at  $p < 0.05$ , countries are identified with +/–

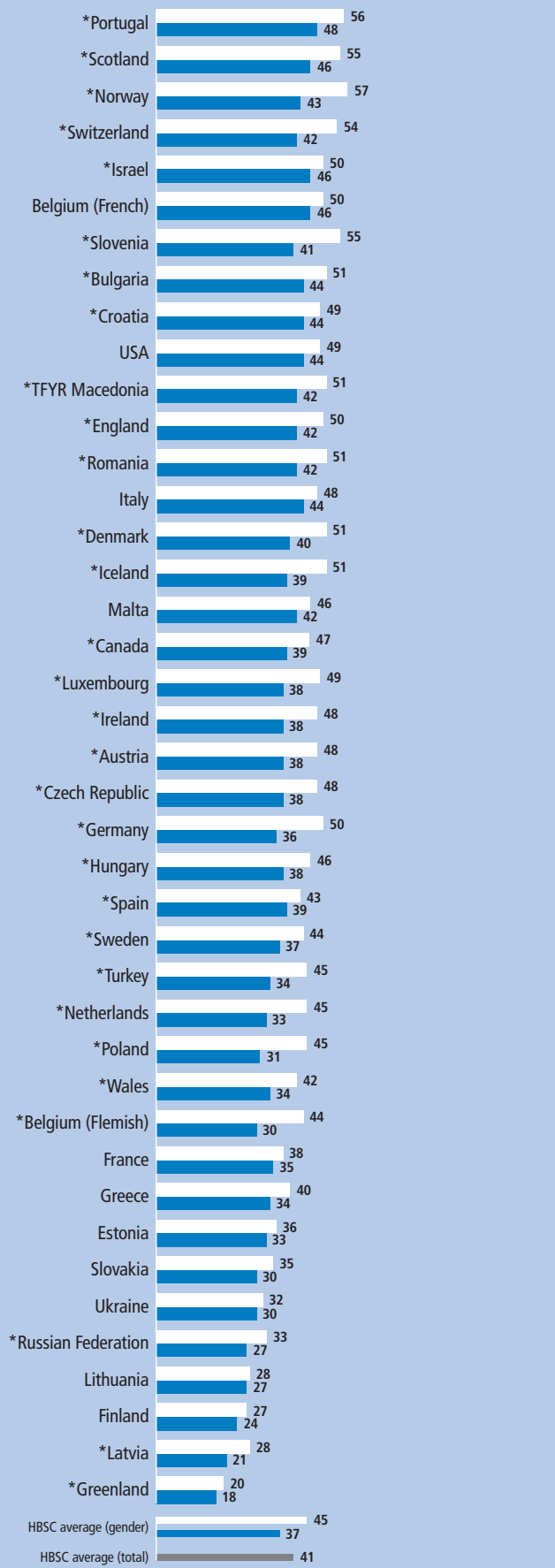
+ indicates that higher levels of fruit consumption are significantly associated with higher family affluence;

– indicates that higher levels of fruit consumption are significantly associated with lower family affluence.

<sup>†</sup>The former Yugoslav Republic of Macedonia

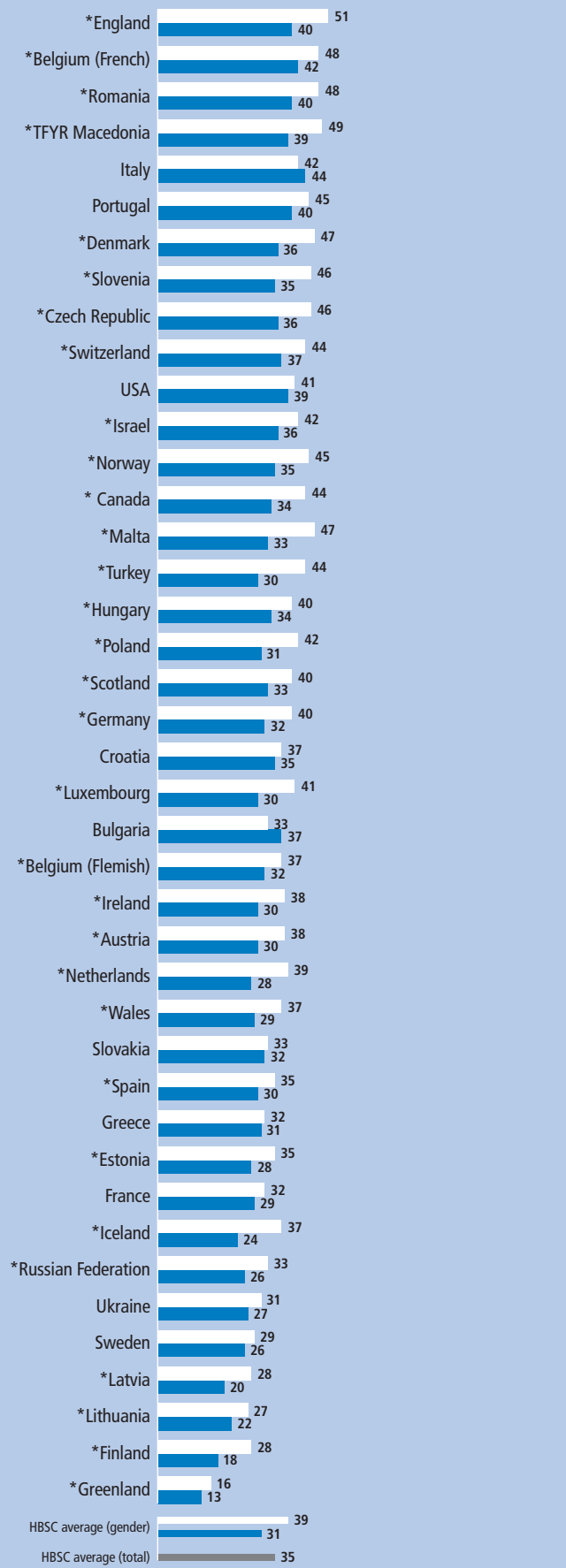
## 11-year-olds who eat fruit daily

■ Girl %  
■ Boy %



## 13-year-olds who eat fruit daily

■ Girl %  
■ Boy %

\* indicates a significant gender difference (at  $p < 0.05$ ).

## 15-year-olds who eat fruit daily

Girl %  
Boy %



\* indicates a significant gender difference (at  $p < 0.05$ ).

## SUMMARY FINDINGS

There are variations across countries in the extent of **daily fruit consumption** among all three age groups of young people.

**11-year-olds: from 19% (Greenland) to 52% (Portugal)**

- Girls: 20% (Greenland) to 57% (Norway)
- Boys: 18% (Greenland) to 48% (Portugal)

**13-year-olds: from 15% (Greenland) to 46% (England)**

- Girls: 16% (Greenland) to 51% (England)
- Boys: 13% (Greenland) to 44% (Italy)

**15-year-olds: from 11% (Greenland) to 42% (Italy)**

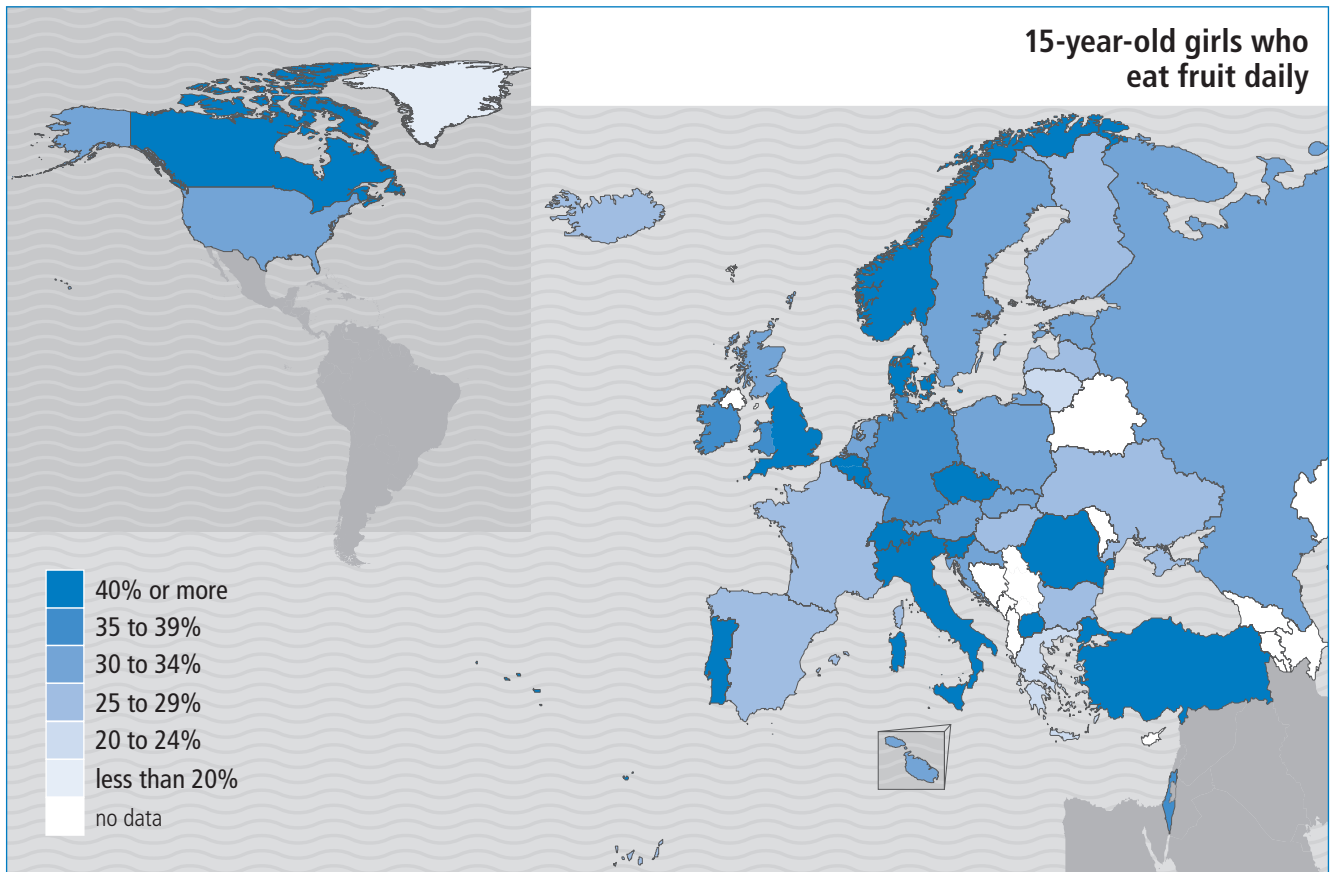
- Girls: 10% (Greenland) to 47% (Italy)
- Boys: 12% (Greenland) to 40% (Belgium (French))

Daily fruit consumption varies between countries, but the rates decline with age and are lower among boys and those from low affluence families in almost all countries.

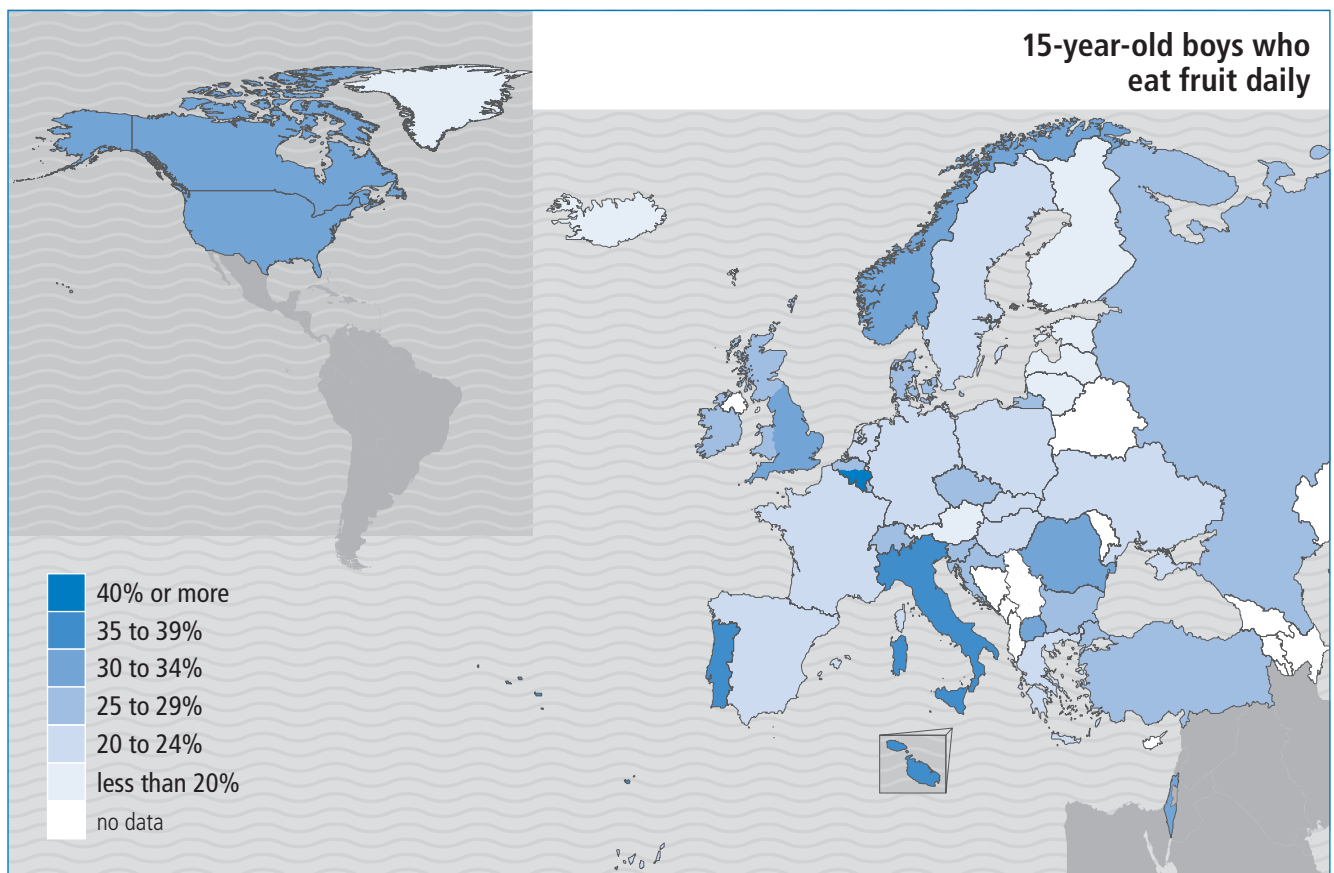
## REFERENCES

- Centers for Disease Control and Prevention. Guidelines for school health programs to promote lifelong healthy eating. *Journal of School Health*, 1997, 67:9–26.
- Lytle LA, Kubik MY. Nutritional issues for adolescents. *Best Practice & Research Clinical Endocrinology & Metabolism*, 2003, 17:177–189.
- Lien N, Lytle LA, Klepp KI. Stability in consumption of fruit, vegetables, and sugary foods in a cohort from age 14 to age 21. *Preventive Medicine*, 2001, 33:217–226.
- Kelder SH et al. Longitudinal tracking of adolescent smoking, physical activity, and food choice behaviors. *American Journal of Public Health*, 1994, 84:1121–1126.
- World Health Assembly global strategy on diet, physical activity and health. *Resolution WHA55.23*. Geneva, World Health Organization, 2002.
- Green paper: promoting healthy diets and physical activity: a European dimension for the prevention of overweight, obesity and chronic disease. Brussels, Commission of the European Communities, 2005.
- Van Duyn MA, Pivonka E. Overview of the health benefits of fruit and vegetable consumption for the dietetics professional: selected literature. *Journal of the American Dietetic Association*, 2000, 100:1511–1521.





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## SECTION 3: HEALTH BEHAVIOURS

### EATING BEHAVIOUR: SOFT DRINKS CONSUMPTION

**Non-diet soft drinks were selected for inclusion as an indicator of less-healthy food intake, primarily in the context of the increasing prevalence of overweight and obesity.**

Soft drinks are generally considered as “empty calories” that inhibit the intake of more nutritious foods, posing serious challenges to adolescent compliance with current dietary guidelines (1,2). It has been estimated that soft drinks are the greatest single contributor to dietary energy intake (at 7%) in the United States (3). Some argue for a direct link between increased consumption of soft drinks and decreases in the intake of fibre, calcium and protein (4–7). Consumption of soft drinks and other sugars has been associated with an elevated risk of poor oral health in adolescence, particularly dental erosion and caries, and this relationship is cumulative (8–10).

#### MEASURE

Young people were asked how often they consume soft drinks. Soft drinks were defined as “Coke or other soft drinks that contain sugar”. Response options ranged from “never” to “more than once a day”. The findings presented here are the proportions that reported drinking soft drinks every day or more than once a day.

#### INEQUALITIES

**Age** There is a general tendency (more so in boys) for soft drinks consumption to increase between ages 11 and 15. This increase is significant in more than half the countries among boys, but in fewer than half the countries among girls.

**Gender** Soft drinks consumption is higher among boys than girls, especially among 15-year-olds, where the difference reaches significance in the majority of countries. The gender difference is significant in around half the countries at age 11 and 13.

**Geography** The lowest levels of soft drinks consumption are found among boys and girls in northern Europe, while girls in eastern Europe have notably high rates. Canada has noticeably lower rates than its neighbours, the United States and Greenland, for both boys and girls.

**Family affluence** Family affluence is significantly associated with soft drinks consumption among girls in around two thirds of countries and around half of countries for boys. Those from low affluence families in the majority of countries are more likely to consume soft drinks, and this pattern is strongest in western and northern Europe. The reverse pattern is seen in eastern Europe and the Baltic states; the consumption of soft drinks is associated with high family affluence in over half of these countries.

#### Associations between family affluence and indicators of health, by country/region and gender: DAILY CONSUMPTION OF SOFT DRINKS

<b>NORTH</b>		Boys	Girls	<b>SOUTH</b>		Boys	Girls
Canada	–	–		Croatia			
Denmark	–	–		Greece			–
England	–	–		Israel			–
Estonia	+			Italy			–
Finland				Malta			–
Greenland	–			Portugal			
Iceland	–	–		Slovenia			
Ireland	–	–		Spain		–	–
Latvia	+	+		TFYR Macedonia <sup>†</sup>			+
Lithuania	+			Turkey		+	+
Norway			–				
Scotland	–	–					
Sweden			–				
USA	–	–					
Wales	–	–					
<b>WEST</b>		Boys	Girls	<b>EAST</b>		Boys	Girls
Austria			–	Bulgaria		+	+
Belgium (Flemish)	–	–		Czech Republic			
Belgium (French)	–	–		Hungary		–	–
France	–	–		Poland		+	
Germany	–	–		Romania		+	+
Luxembourg			–	Russian Federation		+	+
Netherlands			–	Slovakia			
Switzerland				Ukraine		+	+

Where family affluence is statistically significant at  $p < 0.05$ , countries are identified with +/–

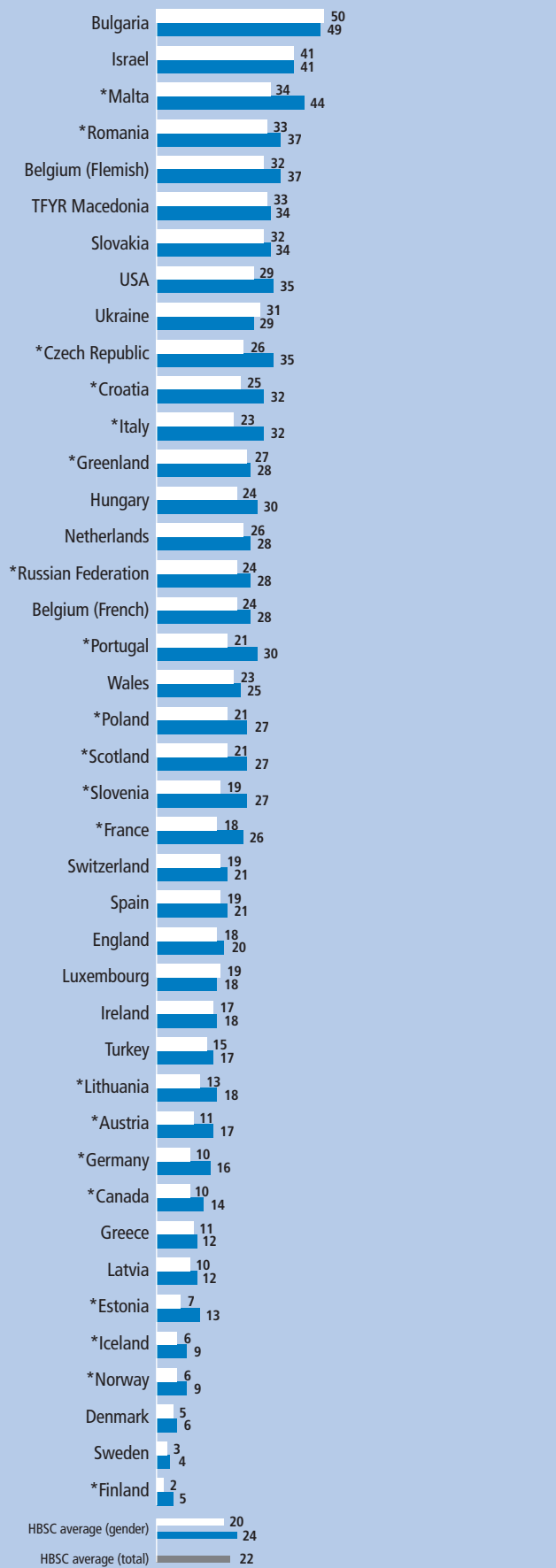
+ indicates that higher levels of soft drinks consumption are significantly associated with higher family affluence;

– indicates that higher levels of soft drinks consumption are significantly associated with lower family affluence.

<sup>†</sup>The former Yugoslav Republic of Macedonia

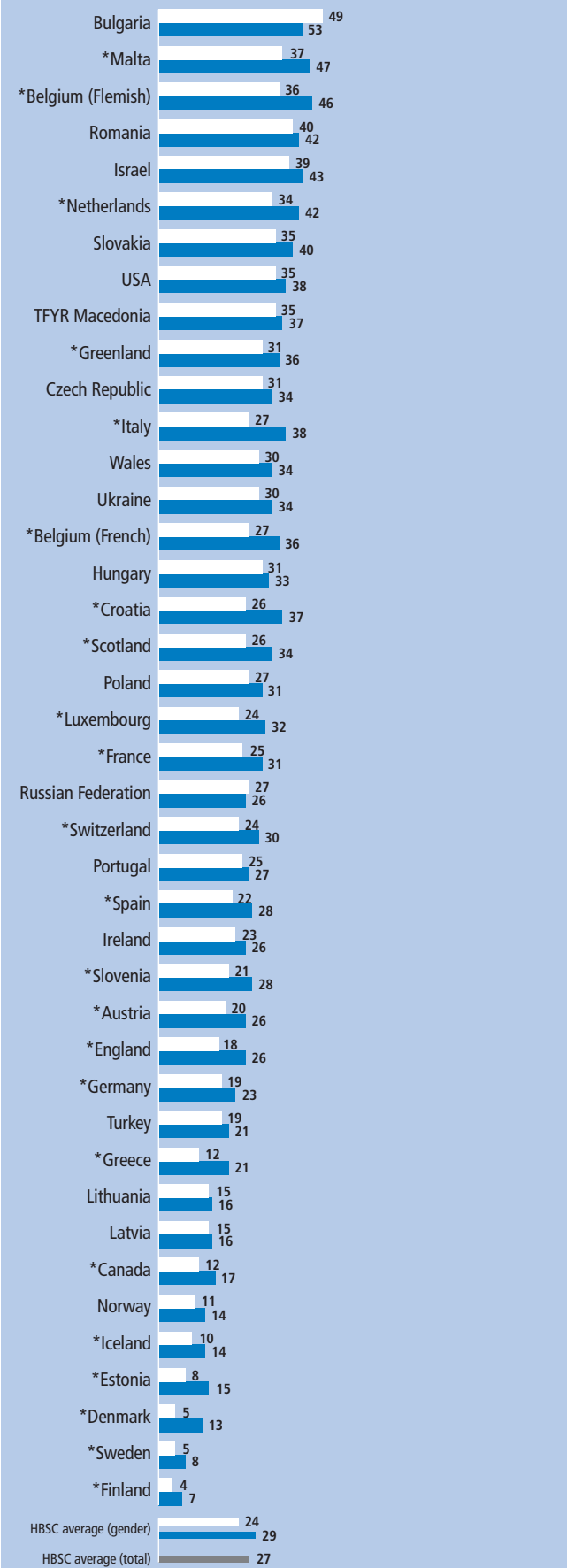
## 11-year-olds who drink soft drinks daily

■ Girl %  
■ Boy %

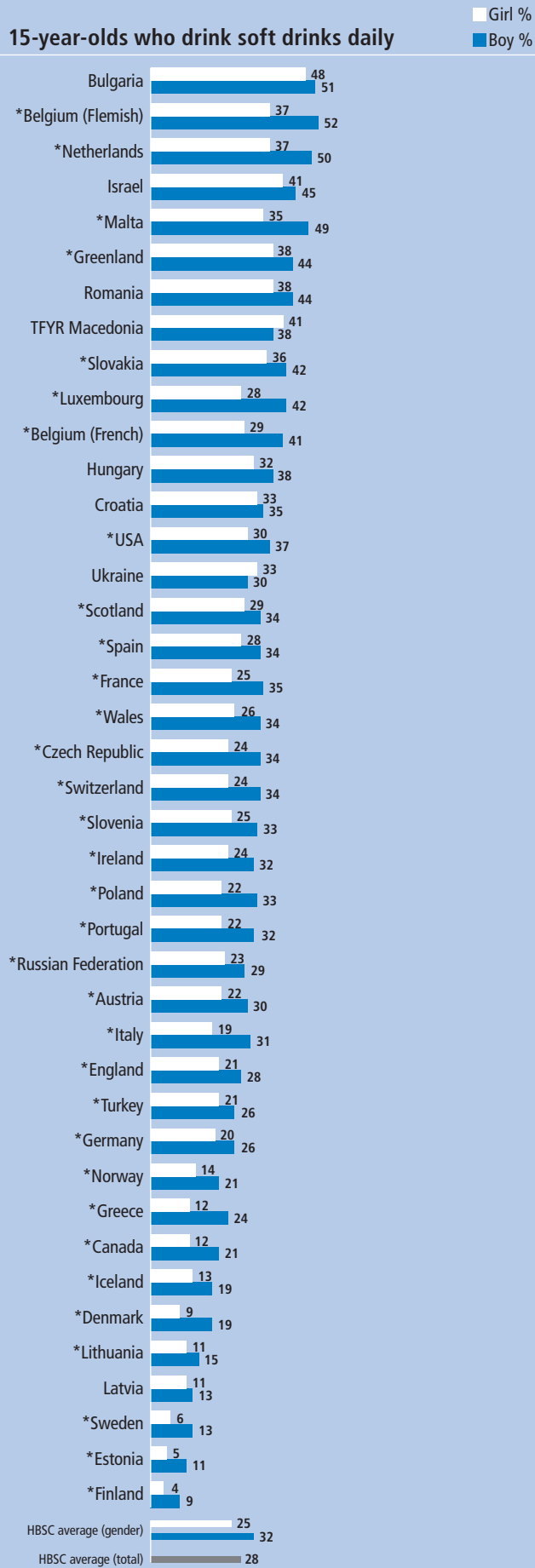


## 13-year-olds who drink soft drinks daily

■ Girl %  
■ Boy %

\* indicates a significant gender difference (at  $p < 0.05$ ).

## 15-year-olds who drink soft drinks daily



\* indicates a significant gender difference (at  $p < 0.05$ ).

## SUMMARY FINDINGS

There are very large variations across countries in the extent of **daily soft drinks consumption** among all three age groups of young people.

## 11-year-olds: from 4% (Finland) to 50% (Bulgaria)

- Girls: 2% (Finland) to 50% (Bulgaria)
- Boys: 4% (Sweden) to 49% (Bulgaria)

## 13-year-olds: from 6% (Finland) to 51% (Bulgaria)

- Girls: 4% (Finland) to 49% (Bulgaria)
- Boys: 7% (Finland) to 53% (Bulgaria)

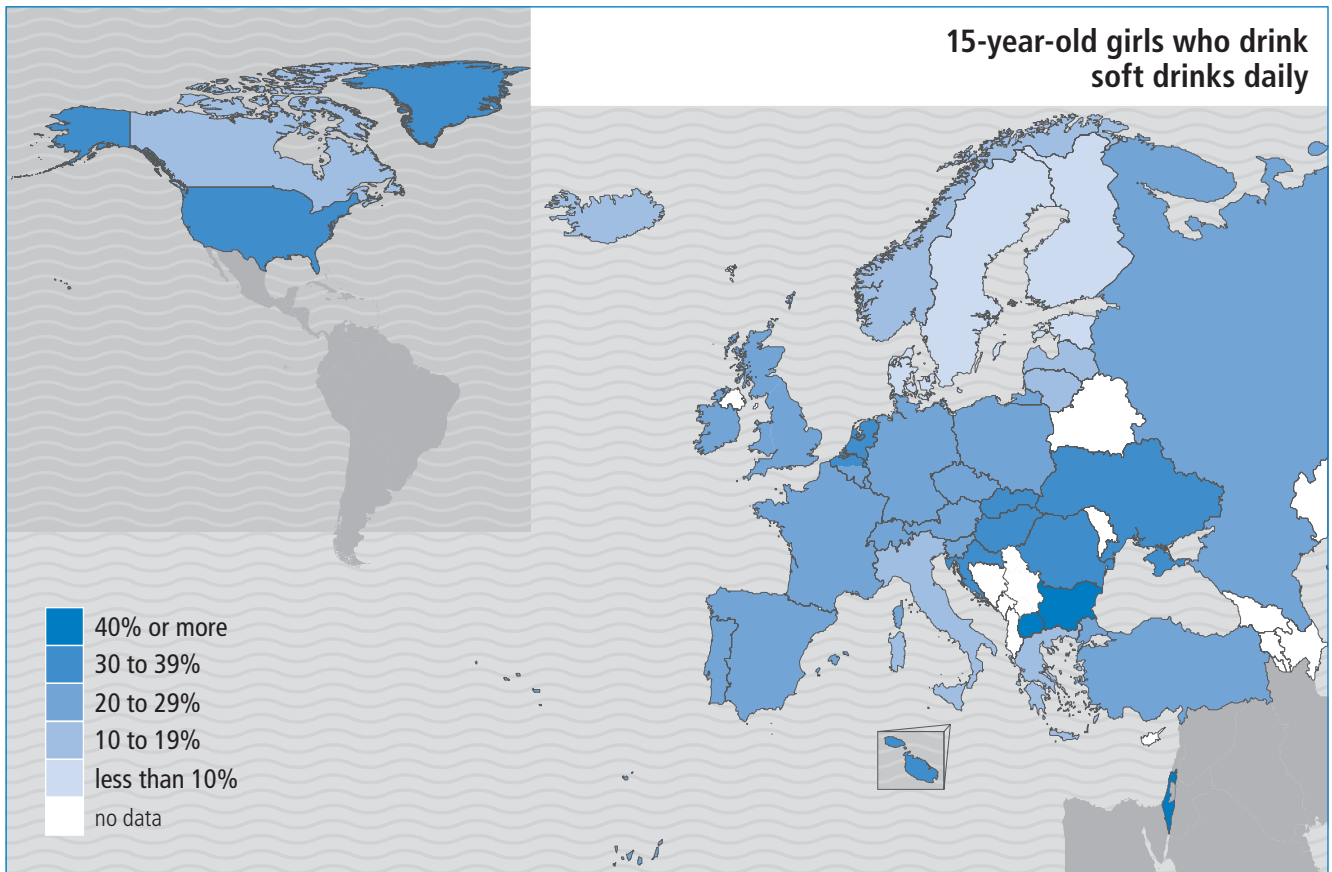
## 15-year-olds: from 6% (Finland) to 50% (Bulgaria)

- Girls: 4% (Finland) to 48% (Bulgaria)
- Boys: 9% (Finland) to 52% (Belgium (Flemish))

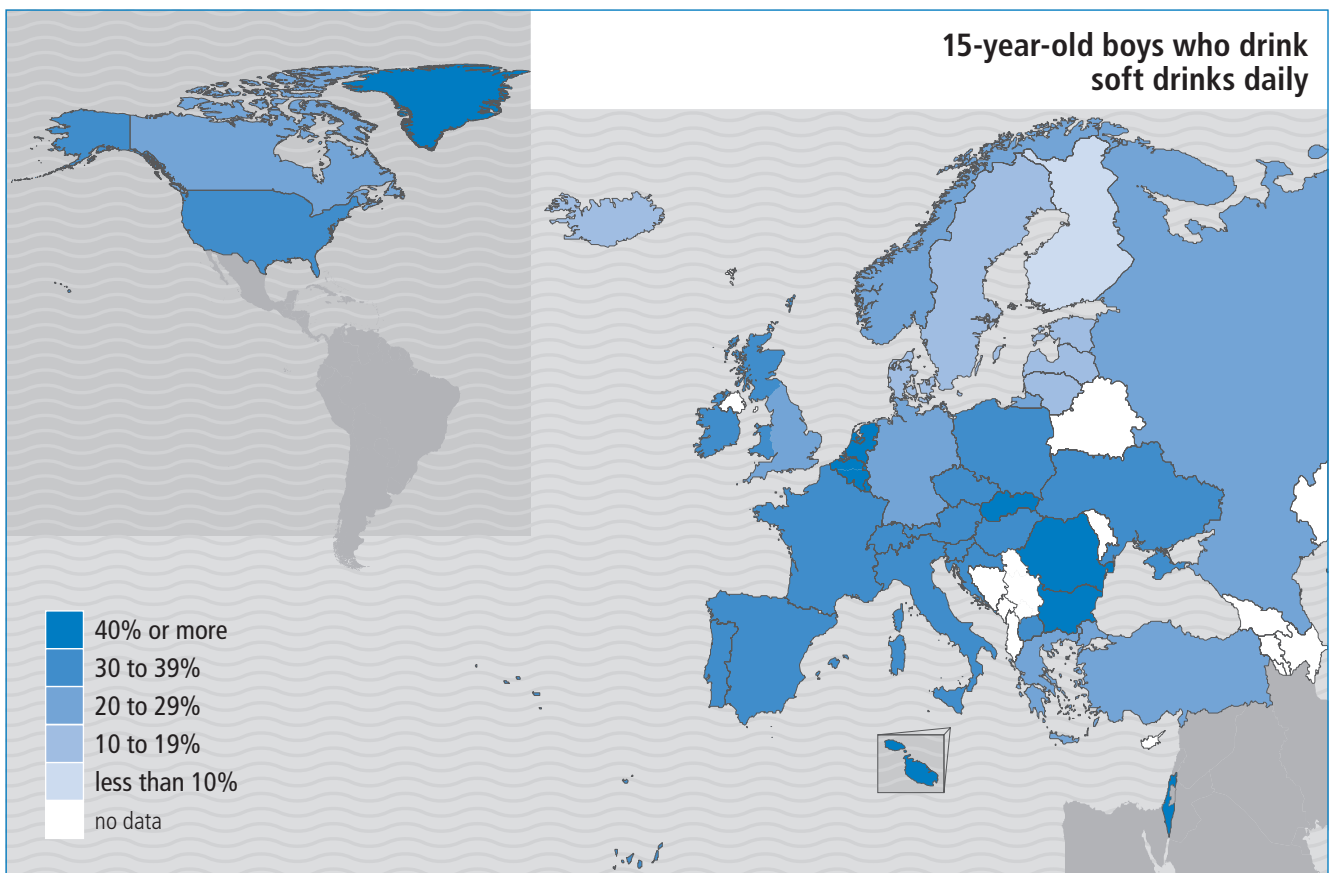
The variations between countries for daily soft drink consumption are very large, with the lowest levels in northern Europe. Consumption tends to be higher among older adolescents and, especially for girls, in less affluent families.

## REFERENCES

1. Guenther PM. Beverages in the diets of American teenagers. *Journal of the American Dietetic Association*, 1986, 86:493–499.
2. Harnack L, Stang J, Story M. Soft drink consumption among US children and adolescents: nutritional consequences. *Journal of the American Dietetic Association*, 1999, 99:436–441.
3. Block G. Foods contributing to energy intake in the US: data from NHANES III and NHANES 1999–2000. *Journal of Food Composition and Analysis*, 2004, 17:439–447.
4. St Onge MP, Keller KL, Heymsfield SB. Changes in childhood food consumption patterns: a cause for concern in light of increasing body weights. *American Journal of Clinical Nutrition*, 2003, 79:537–543.
5. Mrdjenovic G, Levitsky DA. Nutritional and energetic consequences of sweetened drink consumption. *Journal of Pediatrics*, 2003, 142:604–610.
6. Larson NI et al. Calcium and dairy intakes of adolescents are associated with their home environment, taste preferences, personal health beliefs and meal patterns. *Journal of the American Dietetic Association*, 2006, 106:1816–1824.
7. Fray CD, Johnson RK, Wang MQ. Children and adolescents' choices of food and beverages high in added sugars are associated with intakes of key nutrients and food groups. *Journal of Adolescent Health*, 2004, 34:56–63.
8. Sheiham A. Dietary effects on dental diseases. *Public Health Nutrition*, 2001, 4:569–591.
9. Touger-Decker R, van Loveren C. Sugars and dental caries. *American Journal of Clinical Nutrition*, 2003, 78:881S–892S.
10. Tahmassebi JF et al. Soft drinks and dental health: a review of the current literature. *Journal of Dentistry*, 2006, 34(1):2–11.



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**The two main dental diseases – caries and periodontal disease – can be considered as behavioural diseases that can be effectively prevented by good oral hygiene and by restricting the frequency and amount of sugar consumption (1).**

Toothbrushing is considered to be an important method for maintaining gum health and controlling plaque formation, particularly when combined with a fluoride toothpaste. The universally recommended frequency for toothbrushing is twice a day (1). Perceived cleanliness and hygiene are important motivators for regular toothbrushing (2). It has been shown that poor oral health limits personal choices and social opportunities and diminishes life satisfaction (3). Toothbrushing has been associated with self-esteem and, to a lesser degree, the extent to which adolescents feel they have control over their own health (4).

Previous results from the HBSC study have found that regular toothbrushing is more frequent among girls, adolescents from more affluent families and those with parents with higher-level occupations (5).

### MEASURE

Young people were asked how often they brushed their teeth. Response options ranged from “never” to “more than once a day”. The findings presented here are the proportions that reported brushing their teeth more than once a day.

### INEQUALITIES

**Age** There is a general tendency towards an increase in toothbrushing more than once a day between ages 11 and 15, particularly among girls. This increase is significant in more than half of countries among girls and in around a third of countries among boys.

**Gender** Rates of toothbrushing more than once a day are consistently higher among girls than boys across all three age groups. This gender difference is significant in all countries among 13- and 15-year-olds and in almost all among 11-year-olds.

**Geography** There is no clear geographic pattern for brushing teeth more than once a day.

**Family affluence** Lower levels of toothbrushing more than once a day are significantly associated with lower family affluence; this is true for both boys and girls in almost all countries.

### Associations between family affluence and indicators of health, by country/region and gender: TOOTHBRUSHING MORE THAN ONCE A DAY

NORTH			SOUTH		
	Boys	Girls		Boys	Girls
Canada	+	+	Croatia	+	+
Denmark	+	+	Greece	+	+
England	+	+	Israel	+	+
Estonia	+	+	Italy	+	+
Finland	+	+	Malta	+	
Greenland	+	+	Portugal	+	+
Iceland	+	+	Slovenia	+	+
Ireland	+	+	Spain	+	+
Latvia	+	+	TFYR Macedonia <sup>†</sup>	+	+
Lithuania	+	+	Turkey	+	+
Norway	+	+			
Scotland	+	+			
Sweden	+	+			
USA		+			
Wales	+	+			
WEST			EAST		
	Boys	Girls		Boys	Girls
Austria	+	+	Bulgaria	+	+
Belgium (Flemish)	+	+	Czech Republic	+	+
Belgium (French)	+	+	Hungary	+	+
France	+		Poland	+	+
Germany	+	+	Romania	+	+
Luxembourg	+	+	Russian Federation	+	+
Netherlands	+	+	Slovakia	+	+
Switzerland	+		Ukraine	+	+

Where family affluence is statistically significant at  $p < 0.05$ , countries are identified with +/–

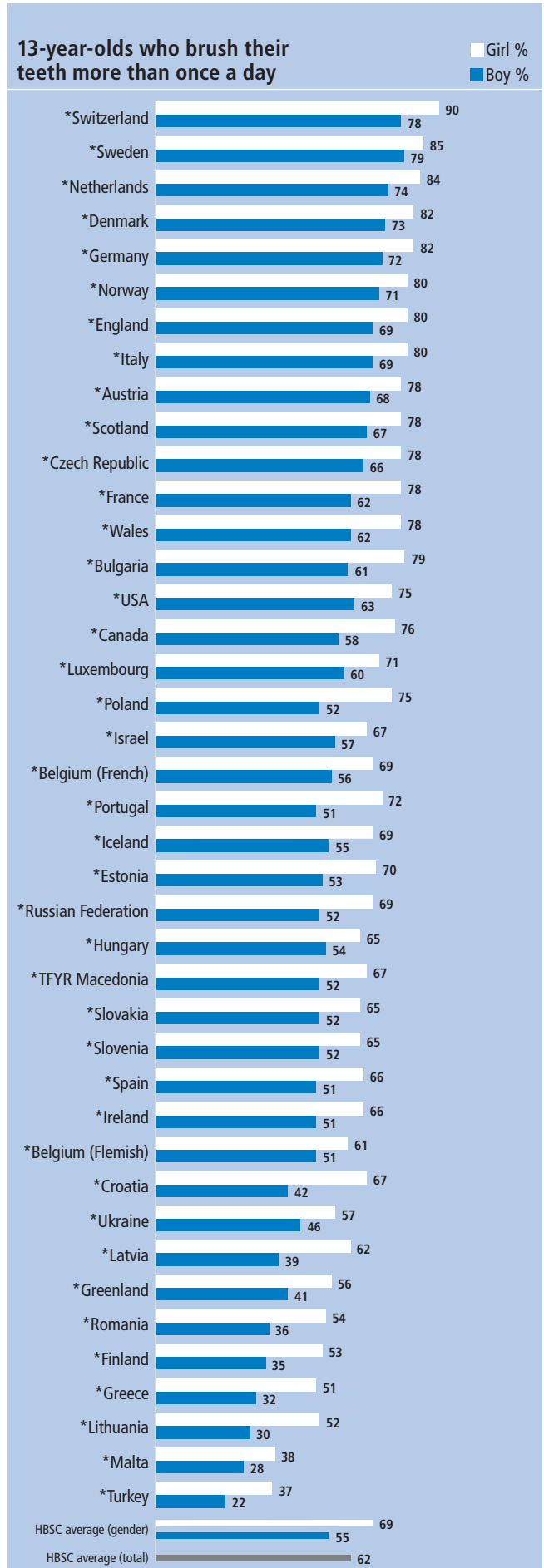
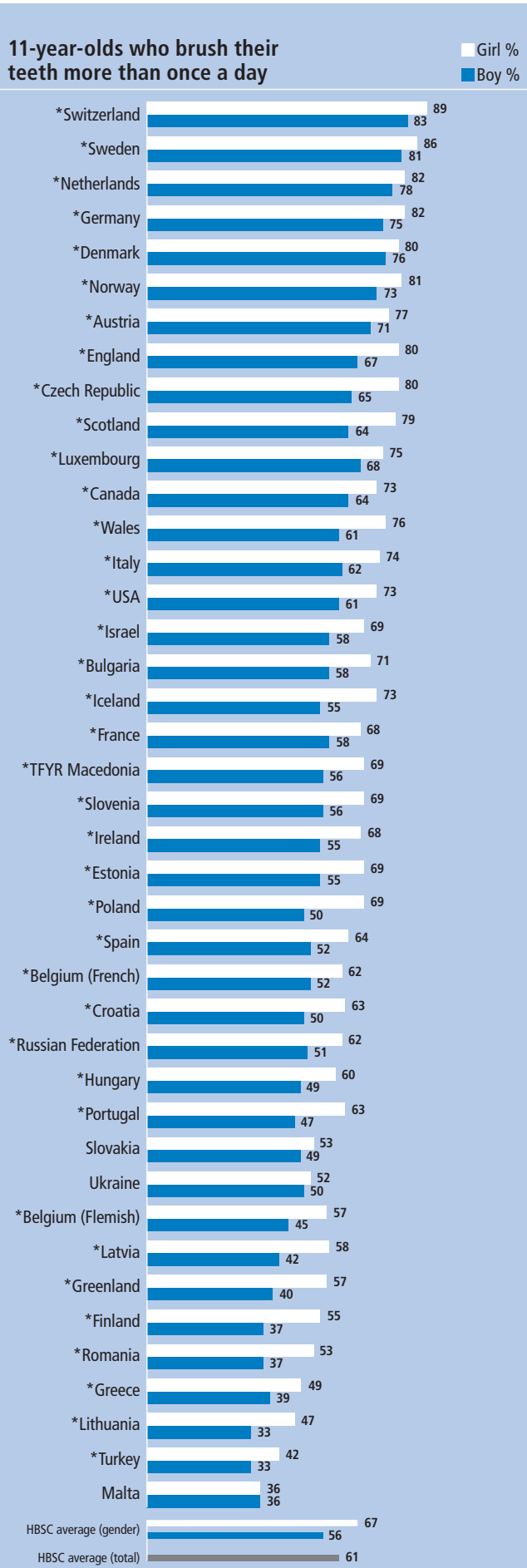
+

 indicates that higher levels of tooth brushing are significantly associated with higher family affluence;

–

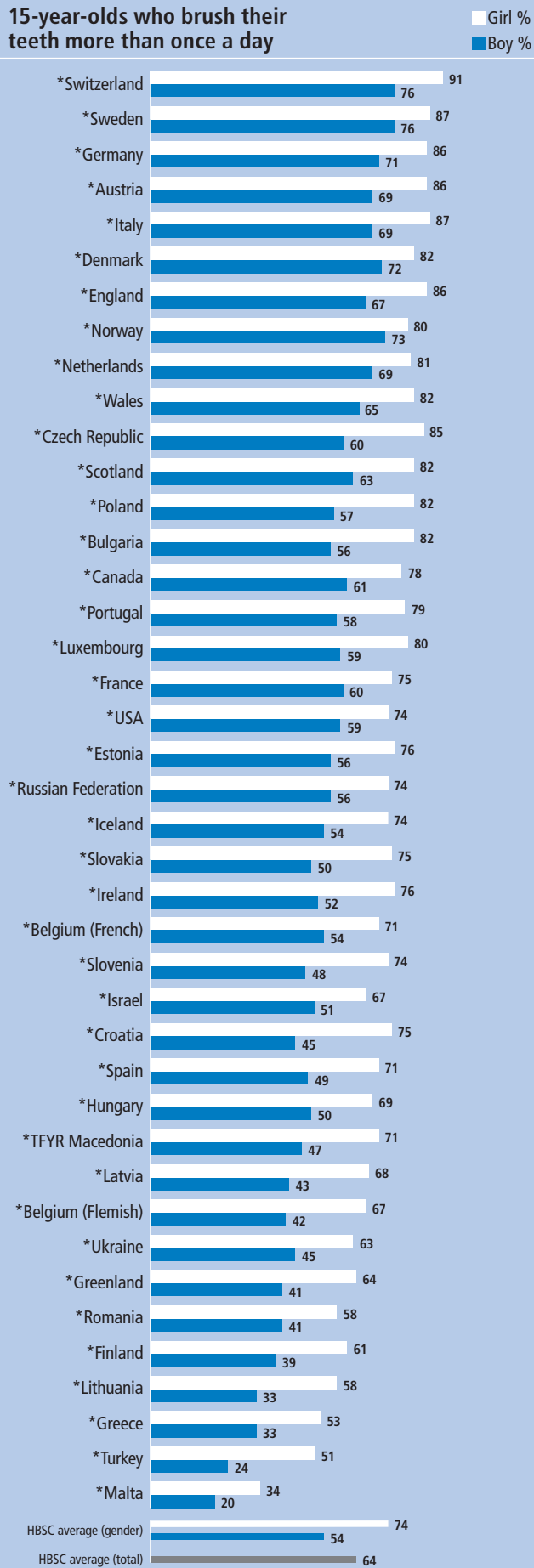
 indicates that higher levels of tooth brushing are significantly associated with lower family affluence.

<sup>†</sup> The former Yugoslav Republic of Macedonia



\* indicates a significant gender difference (at  $p < 0.05$ ).

### 15-year-olds who brush their teeth more than once a day



\* indicates a significant gender difference (at  $p < 0.05$ ).

### SUMMARY FINDINGS

There are large variations across countries in the proportion in all three age groups who report **toothbrushing more than once a day**.

**11-year-olds: from 36% (Malta) to 86% (Switzerland)**

- Girls: 36% (Malta) to 89% (Switzerland)
- Boys: 33% (Lithuania, Turkey) to 83% (Switzerland)

**13-year-olds: from 30% (Turkey) to 84% (Switzerland)**

- Girls: 37% (Turkey) to 90% (Switzerland)
- Boys: 22% (Turkey) to 79% (Sweden)

**15-year-olds: from 27% (Malta) to 84% (Switzerland)**

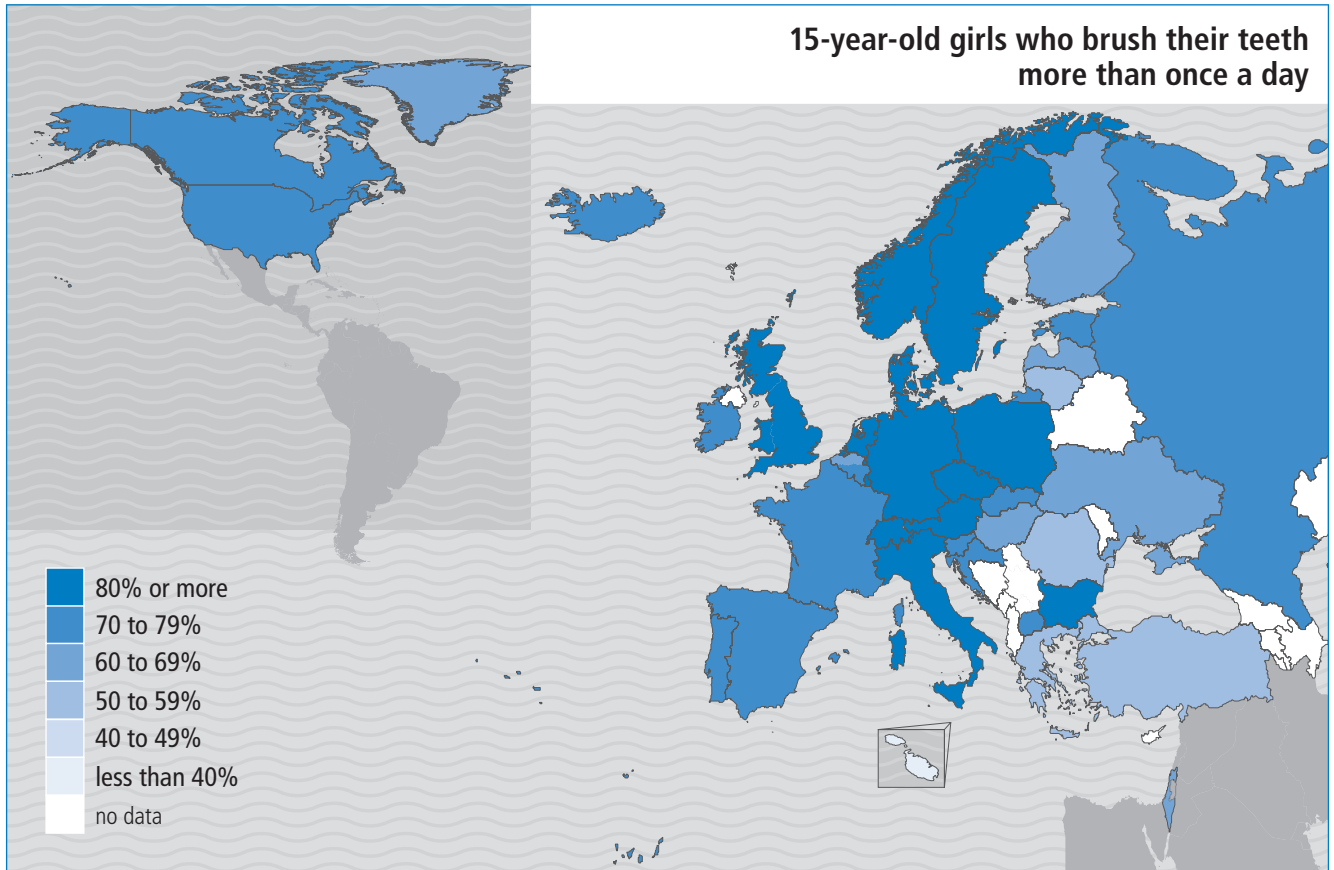
- Girls: 34% (Malta) to 91% (Switzerland)
- Boys: 20% (Malta) to 76% (Switzerland, Sweden)

Variations in toothbrushing more than once a day are high between countries. It is a universal finding that girls and children with higher family affluence brush their teeth more frequently. Rates tend to be lower in younger children.

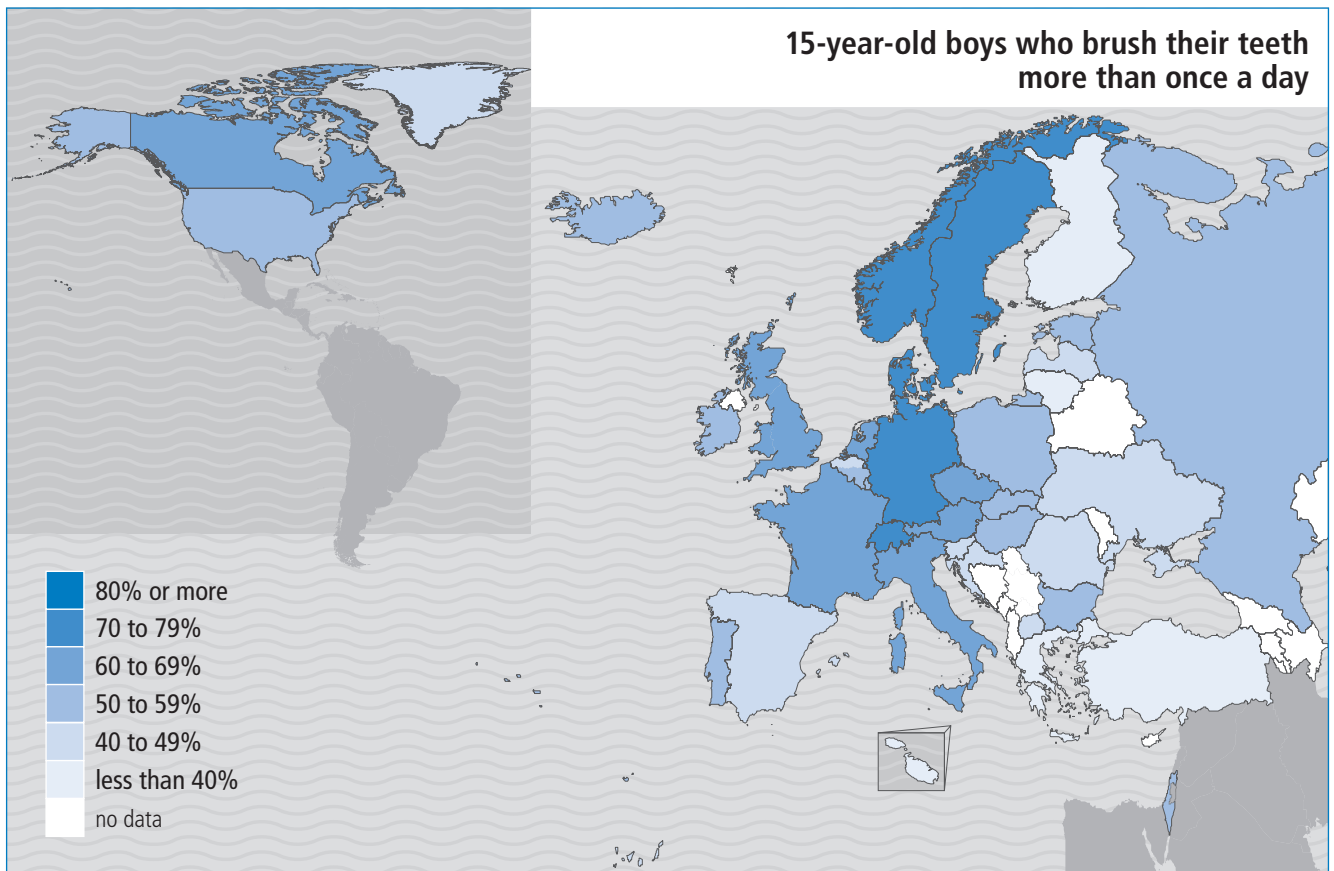
### REFERENCES

1. Loe H. Oral hygiene in the prevention of caries and periodontal disease. *International Dentistry Journal*, 2000, 50:129–39.
2. Macgregor IDM, Balding JW. Self-esteem as a predictor of toothbrushing behavior in young adolescents. *Journal of Clinical Periodontology*, 1991, 18:312–316.
3. Macgregor IDM, Regis D, Balding JW. Self-concept and dental health behaviors in adolescents. *Journal of Clinical Periodontology*, 1997, 24:335–339.
4. McGrath C, Bedi R. Gender variation in the social impact of oral health. *Journal of the Irish Dental Association*, 200, 46:87–91.
5. Maes L et al. Tooth brushing and social characteristics of families in 32 countries. *International Dental Journal*, 2006, 56:159–67.





HBSC teams provided disaggregated data for Belgium and the UK; these data appear in the map above



HBSC teams provided disaggregated data for Belgium and the UK; these data appear in the map above



**Dieting can be an ineffective means of controlling weight.** Attempts to lose weight may lead to a cycle of restrictive dieting followed by overeating or binge eating, which ultimately promotes weight gain. It has been reported that adolescent dieters gain more weight than non-dieters during three years of follow-up (1).

Extensive and/or long-term dieting to lose weight has potentially serious consequences for young people's development. It can lead to increased irritability, problems with concentration and sleep disturbances, menstrual irregularities, risk of growth retardation, delayed sexual maturation and nutritional deficiencies (2). Extreme dieting is believed to be associated with low self-esteem and other negative psychological states such as depression, anxiety, eating disorders and suicidal ideation (1,3–7).

### MEASURE

Young people were asked whether they were currently "on a diet or doing something else to lose weight". Response options were: "No, my weight is fine"; "No, but I should lose some weight"; "No, I need to put on weight"; and "Yes". The findings presented here are the proportions that reported that they were currently engaged in weight reduction behaviour: that is, they are on a diet or doing something else to lose weight.

### INEQUALITIES

**Age** Among girls in almost all countries, 15-year-olds are significantly more likely than 11-year-olds to report that they are engaging in weight reduction behaviour. The greatest increase appears to occur between 11 and 13 years. The opposite pattern is found for boys, where the tendency is for a decrease in weight reduction behaviour. The drop between ages 11 and 15 is significant in around half of the countries.

**Gender** Girls at all ages are more likely to report weight reduction behaviour. The gender difference is significant in every country at age 15 and in almost all countries at age 13, but the gender difference is significant in only a minority of countries at age 11, when rates are lower.

**Geography** There are no evident geographic patterns in weight reduction behaviour in terms of prevalence rates.

**Family affluence** There is a significant association between family affluence and weight reduction behaviour in a minority of countries. For girls, this behaviour is generally associated with higher family affluence; otherwise, no clear patterns are observed.

### Associations between family affluence and indicators of health, by country/region and gender: WEIGHT REDUCTION BEHAVIOUR

<b>NORTH</b>		Boys	Girls	<b>SOUTH</b>		Boys	Girls
Canada		–		Croatia			
Denmark				Greece			+
England				Israel			
Estonia			+	Italy			
Finland				Malta			
Greenland		+		Portugal			+
Iceland				Slovenia			
Ireland				Spain			
Latvia				TFYR Macedonia <sup>†</sup>			
Lithuania		+	+	Turkey			+
Norway		–					
Scotland							
Sweden							
USA							
Wales							
<b>WEST</b>		Boys	Girls	<b>EAST</b>		Boys	Girls
Austria			+	Bulgaria			+
Belgium (Flemish)				Czech Republic		+	
Belgium (French)		–		Hungary			
France				Poland		+	+
Germany				Romania			+
Luxembourg		–		Russian Federation			+
Netherlands			–	Slovakia			
Switzerland				Ukraine			+

Where family affluence is statistically significant at  $p < 0.05$ , countries are identified with +/–

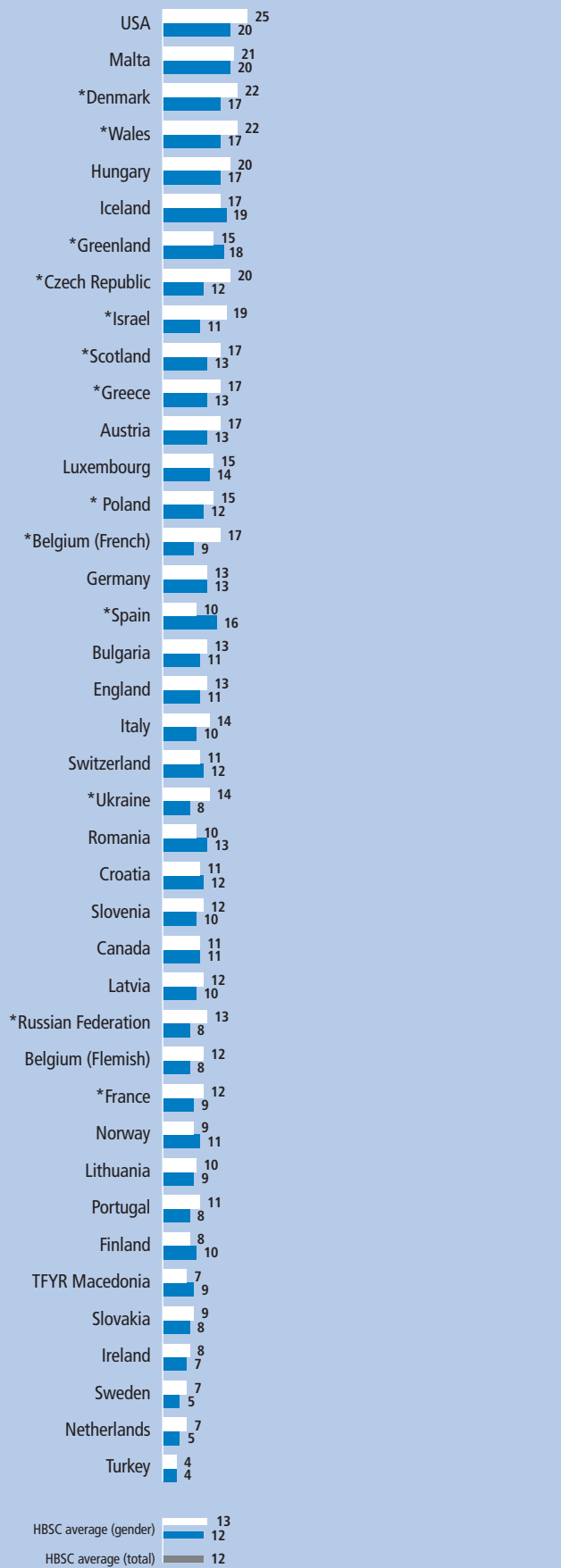
+ indicates that higher levels of weight reduction behaviour are significantly associated with higher family affluence;

– indicates that higher levels of weight reduction behaviour are significantly associated with lower family affluence.

<sup>†</sup> The former Yugoslav Republic of Macedonia

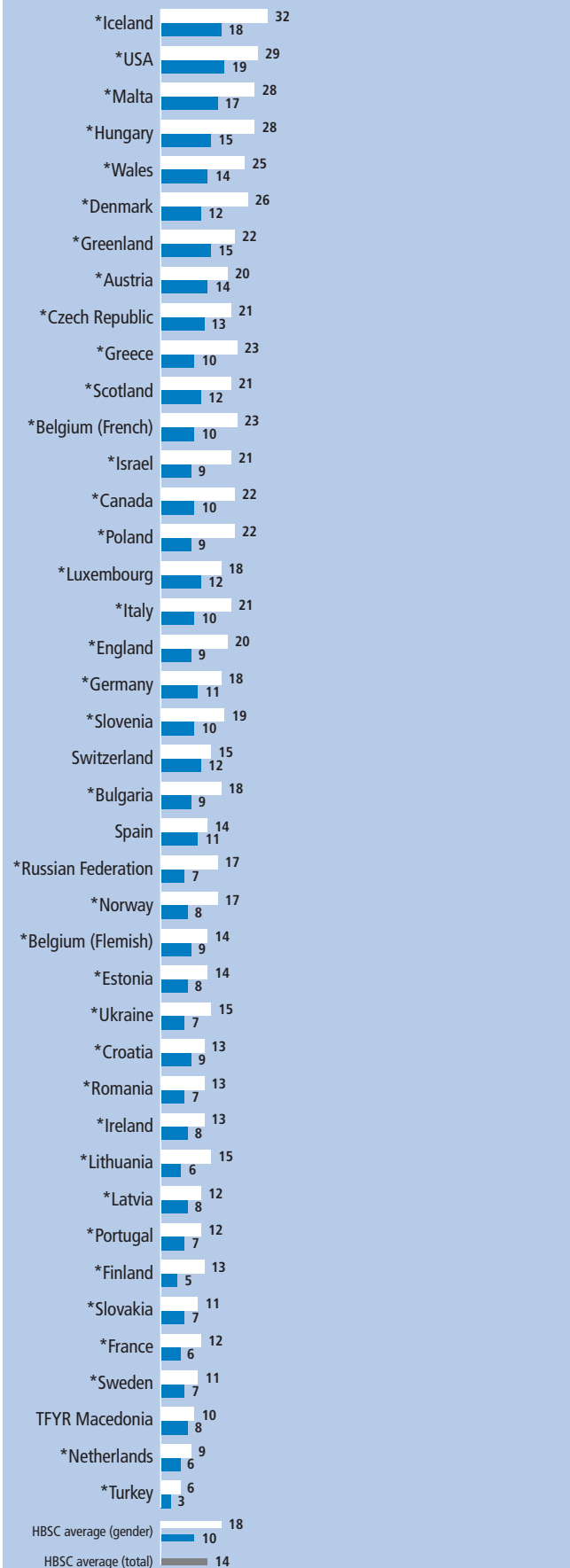
## 11-year-olds who engage in weight reduction behaviour

■ Girl %  
■ Boy %

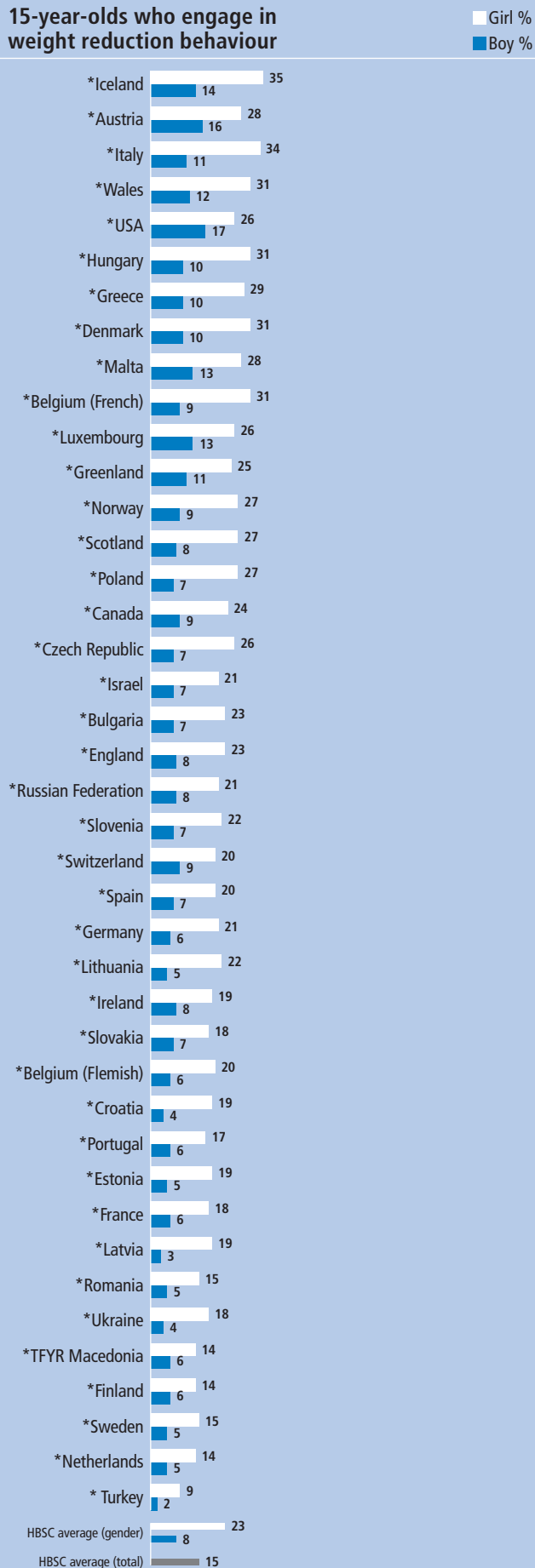
\* indicates a significant gender difference (at  $p < 0.05$ ). No data available for Estonia

## 13-year-olds who engage in weight reduction behaviour

■ Girl %  
■ Boy %

\* indicates a significant gender difference (at  $p < 0.05$ ).

### 15-year-olds who engage in weight reduction behaviour



### SUMMARY FINDINGS

There are variations across countries in the proportion of young people who report that they currently engage in **weight reduction behaviour**. These variations are more evident between girls in different countries.

**11-year-olds: from 4% (Turkey) to 23% (United States)**

- Girls: 4% (Turkey) to 25% (United States)
- Boys: 4% (Turkey) to 20% (United States, Malta)

**13-year-olds: from 4% (Turkey) to 25% (Iceland)**

- Girls: 6% (Turkey) to 32% (Iceland)
- Boys: 3% (Turkey) to 19% (United States)

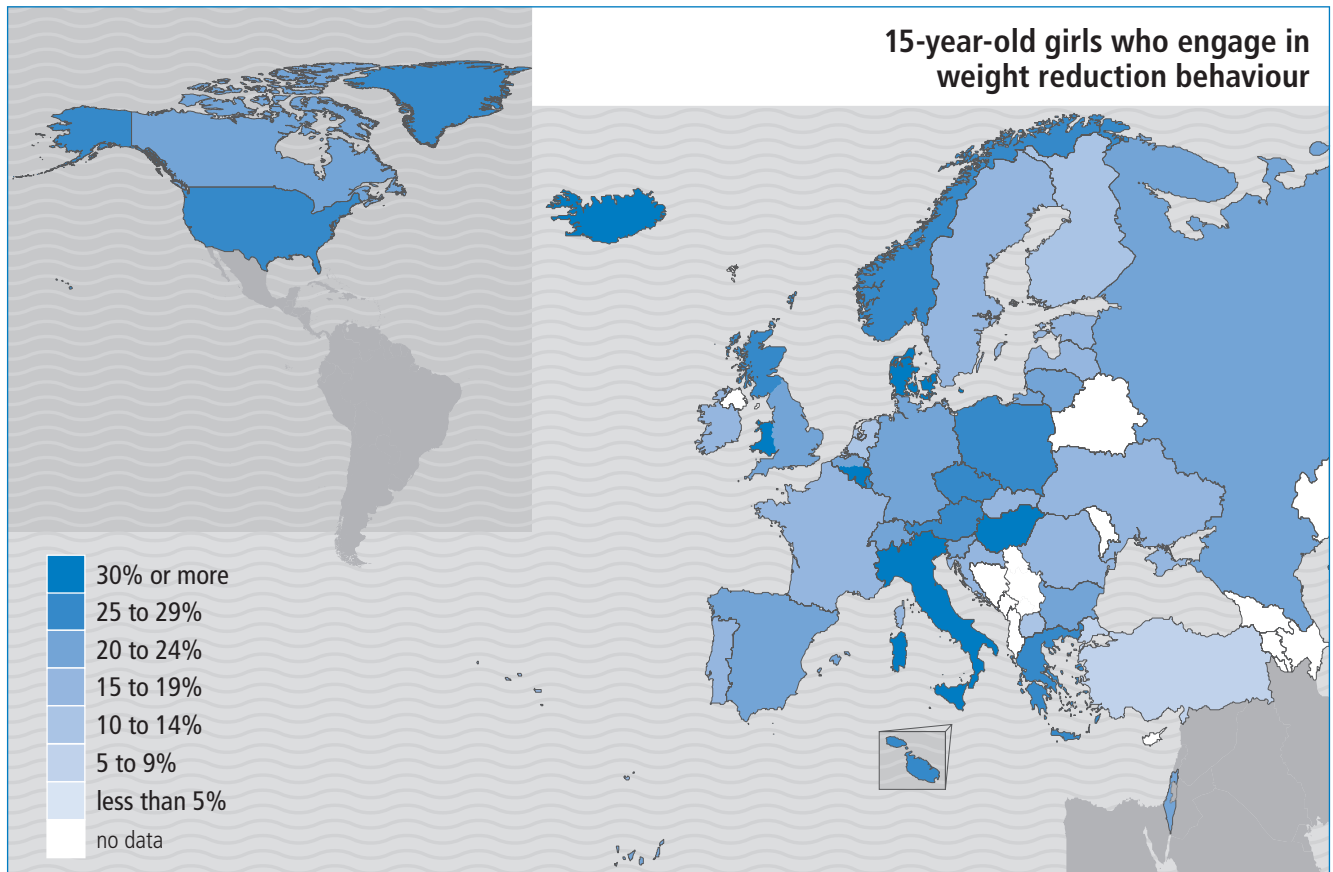
**15-year-olds: from 6% (Turkey) to 24% (Iceland)**

- Girls: 9% (Turkey) to 35% (Iceland)
- Boys: 2% (Turkey) to 17% (United States)

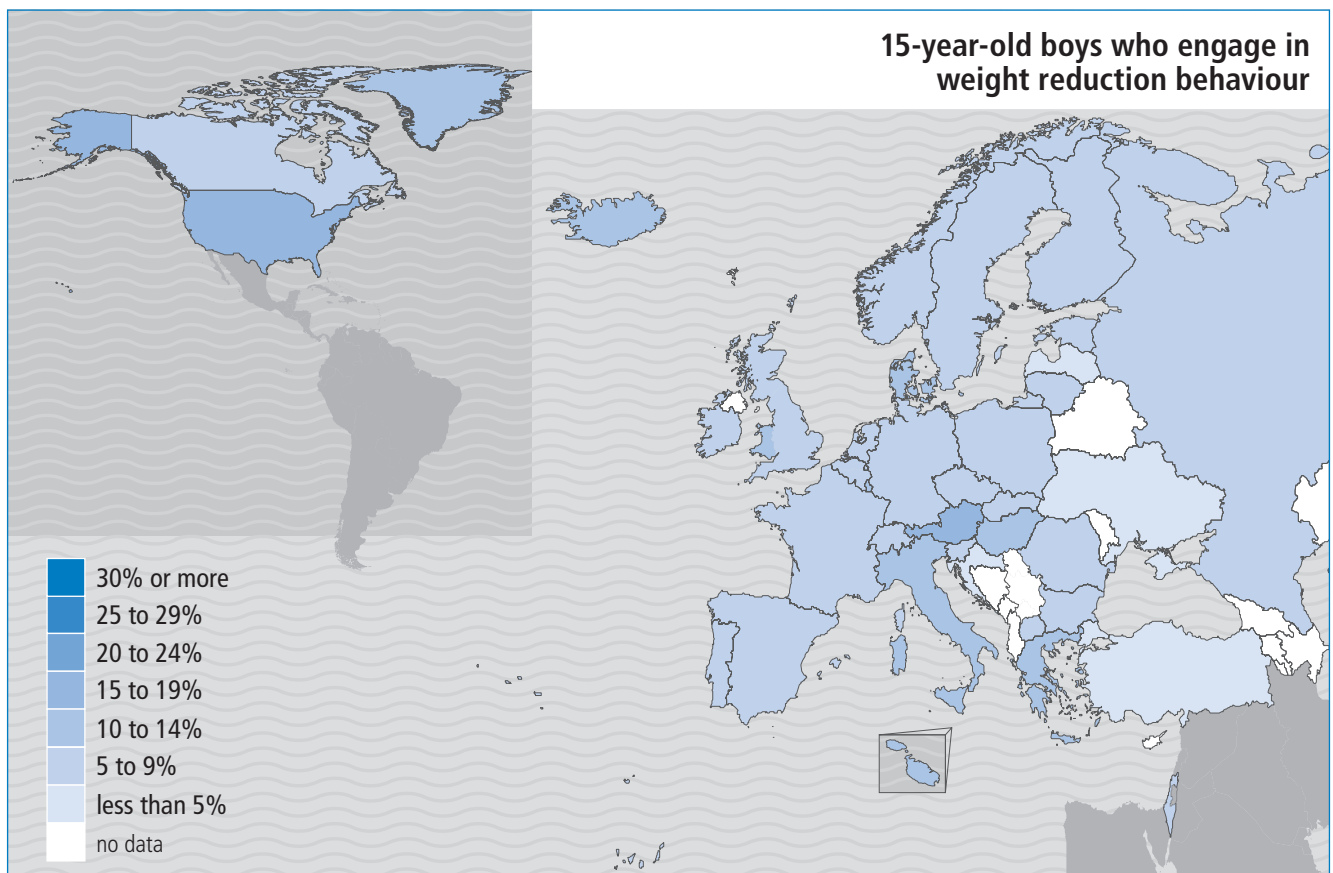
The strongest patterns observed in weight reduction behaviour are among girls. They have consistently higher rates than boys, and this increases with age in all countries. It is generally unrelated to family affluence. It seems that attempting to lose weight is a common feature of girls' lifestyles by the age of 13, especially in western and northern Europe.

### REFERENCES

1. Field AE et al. Relation between dieting and weight change among pre-adolescents and adolescents. *Pediatrics*, 2003, 112(4):900–906.
2. Pesa J. Psychosocial factors associated with dieting behaviors among female adolescents. *Journal of School Health*, 1999, 69(5):196–201.
3. Ge X et al. Pubertal transitions, perceptions of being overweight and adolescents' psychological maladjustment: gender and ethnic differences. *Social Psychology Quarterly*, 2001, 64:363–375.
4. Edmunds H, Hill AJ. Dieting and the family context of eating in young adolescent children. *International Journal of Eating Disorders*, 1999, 25:435–440.
5. Patton GC et al. Onset of adolescent eating disorders: population based cohort study over 3 years. *British Medical Journal*, 1999, 318:765–768.
6. Siegel JM. Body image change and adolescent depressive symptoms. *Journal of Adolescent Research*, 2002, 17:27–41.
7. Thompson AM, Chad KE. The relationship of social physique anxiety to risk for developing an eating disorder in young females. *Journal of Adolescent Health*, 2002, 31:183–189.



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HBSC teams provided disaggregated data for Belgium and the UK; these data appear in the map above

**Physical activity can lead to improvements in both long- and short-term physical and mental health** (1–5) and there is increasing evidence that it is also associated with academic and cognitive performance (3,6). The primary mechanism for overweight and obesity is an imbalance of energy intake versus energy expenditure. Lack of physical activity and excess sedentary behaviour account for one side of this equation.

The establishment of healthy patterns of physical activity during childhood and adolescence is important, as physical activity tracks during adolescence and from adolescence to adulthood (2,7). It is recommended that children participate in at least 60 minutes of moderate-to-vigorous physical activity (MVPA) daily. This recommendation has been adopted by governmental and professional organizations (8,9).

### MEASURE

Young people were asked to report the number of days over the past week that they were physically active for a total of at least 60 minutes per day. The question was preceded by explanatory text that defined MVPA as “any activity that increases your heart rate and makes you get out of breath some of the time” (10) and gave some examples of such activities. The findings presented here show the proportions that meet the recommended guidelines of at least 60 minutes physical activity every day over the past week. Data on vigorous physical activity can be found in the annex.

### INEQUALITIES

**Age** There is a tendency for higher reporting of daily MVPA among younger children. In the majority of countries, there are significantly higher levels among 11-year-olds than 15-year-olds for both boys and girls.

**Gender** Boys report higher daily MVPA than girls at all ages and in all countries. Gender differences are significant in the majority of countries at all ages.

**Geography** There is little obvious geographical patterning of daily MVPA.

**Family affluence** A significant association between low family affluence and lower prevalence of daily MVPA is found in under half of countries across all geographic regions for girls and boys.

### Associations between family affluence and indicators of health, by country/region and gender: DAILY MODERATE-TO-VIGOROUS PHYSICAL ACTIVITY

NORTH			SOUTH		
	Boys	Girls		Boys	Girls
Canada	+	+	Croatia	+	
Denmark	+		Greece		+
England			Israel		
Estonia	+	+	Italy		
Finland		+	Malta		
Greenland			Portugal	+	
Iceland	+	+	Slovenia	+	
Ireland			Spain	+	+
Latvia	+		TFYR Macedonia <sup>†</sup>		+
Lithuania	+		Turkey		
Norway					
Scotland					
Sweden	+				
USA					
Wales					
WEST			EAST		
	Boys	Girls		Boys	Girls
Austria		+	Bulgaria	+	
Belgium (Flemish)			Czech Republic	+	+
Belgium (French)			Hungary		
France			Poland	+	+
Germany			Romania		+
Luxembourg	+		Russian Federation	+	+
Netherlands	+	+	Slovakia		
Switzerland	+		Ukraine		

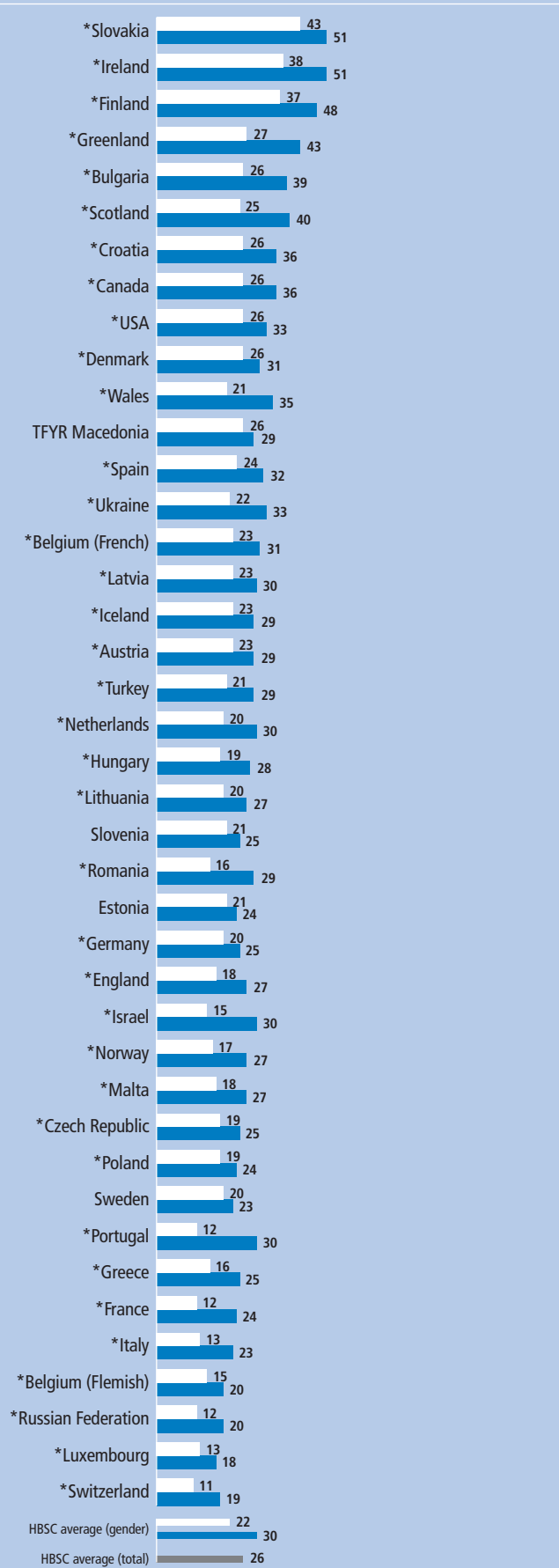
Where family affluence is statistically significant at  $p < 0.05$ , countries are identified with +/–

+ indicates that higher levels of physical activity are significantly associated with higher family affluence;

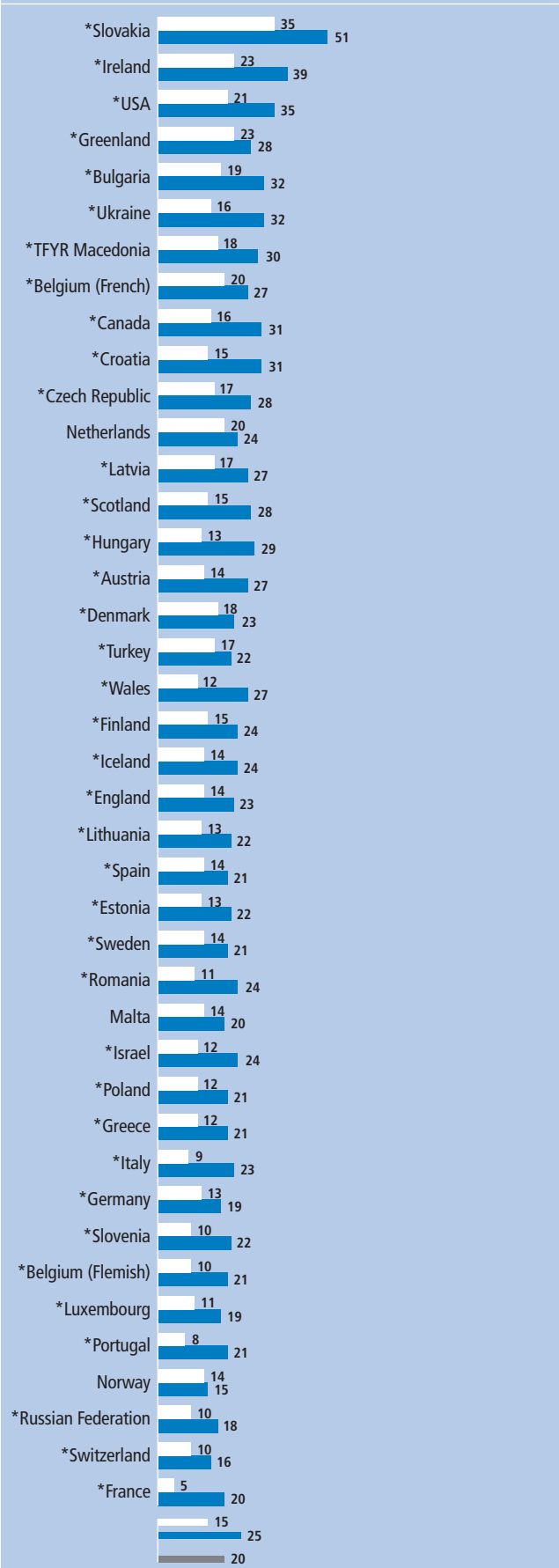
– indicates that higher levels of physical activity are significantly associated with lower family affluence.

<sup>†</sup> The former Yugoslav Republic of Macedonia

## 11-year-olds who report at least one hour of moderate-to-vigorous activity daily

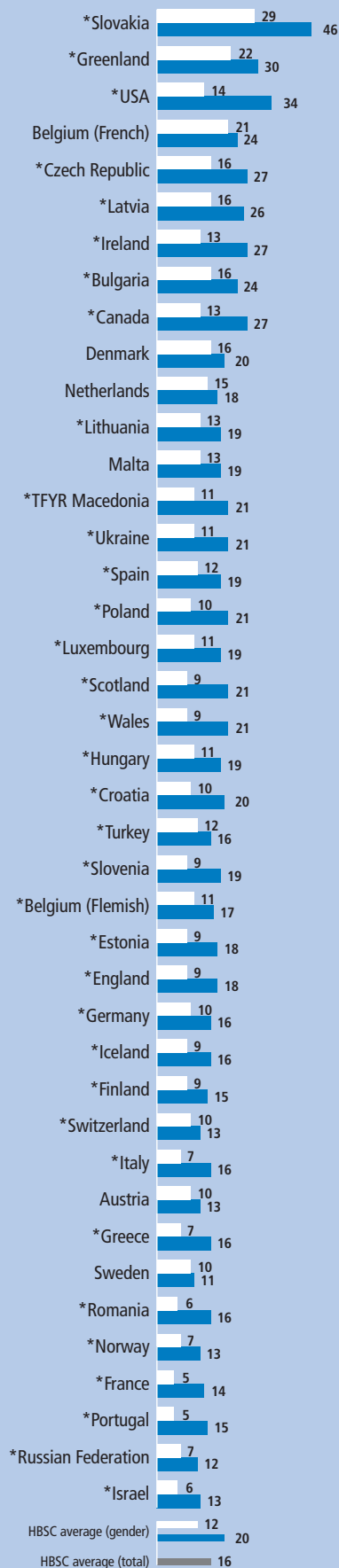
 Girl %  
Boy %


## 13-year-olds who report at least one hour of moderate-to-vigorous activity daily

 Girl %  
Boy %

 \* indicates a significant gender difference (at  $p < 0.05$ ).

### 15-year-olds who report at least one hour of moderate-to-vigorous activity daily

■ Girl %  
■ Boy %



\* indicates a significant gender difference (at  $p < 0.05$ ).

### SUMMARY FINDINGS

There are large cross-national differences in reported levels of **daily moderate-to-vigorous physical activity (MVPA)** for at least 60 minutes per day among all three age groups of young people.

**11-year-olds: from 15% (Switzerland) to 46% (Slovakia)**

- Girls: 11% (Switzerland) to 43% (Slovakia)
- Boys: 18% (Luxembourg) to 51% (Slovakia, Ireland)

**13-year-olds: from 12% (France) to 42% (Slovakia)**

- Girls: 5% (France) to 35% (Slovakia)
- Boys: 15% (Norway) to 51% (Slovakia))

**15-year-olds: from 8% (Israel) to 37% (Slovakia)**

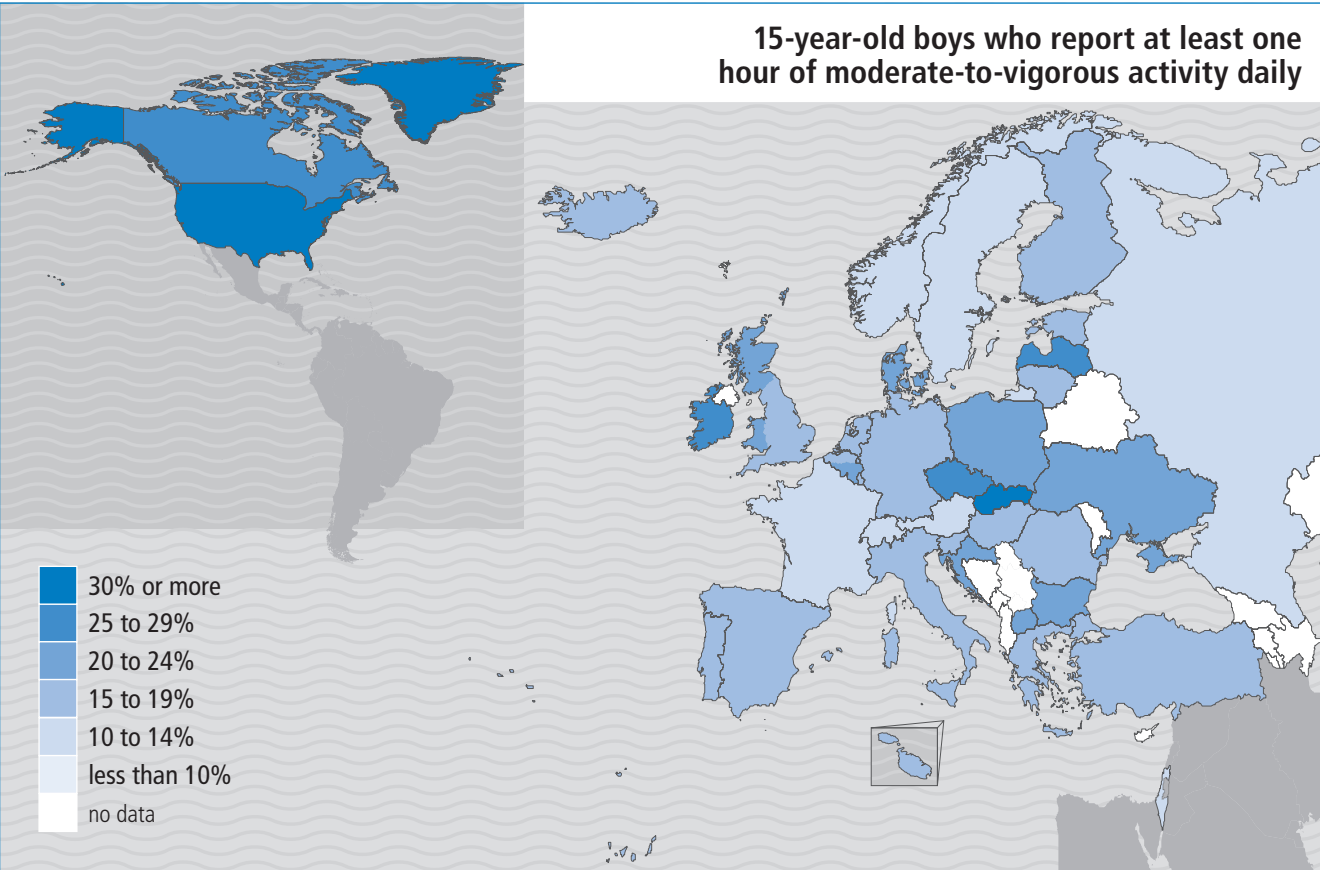
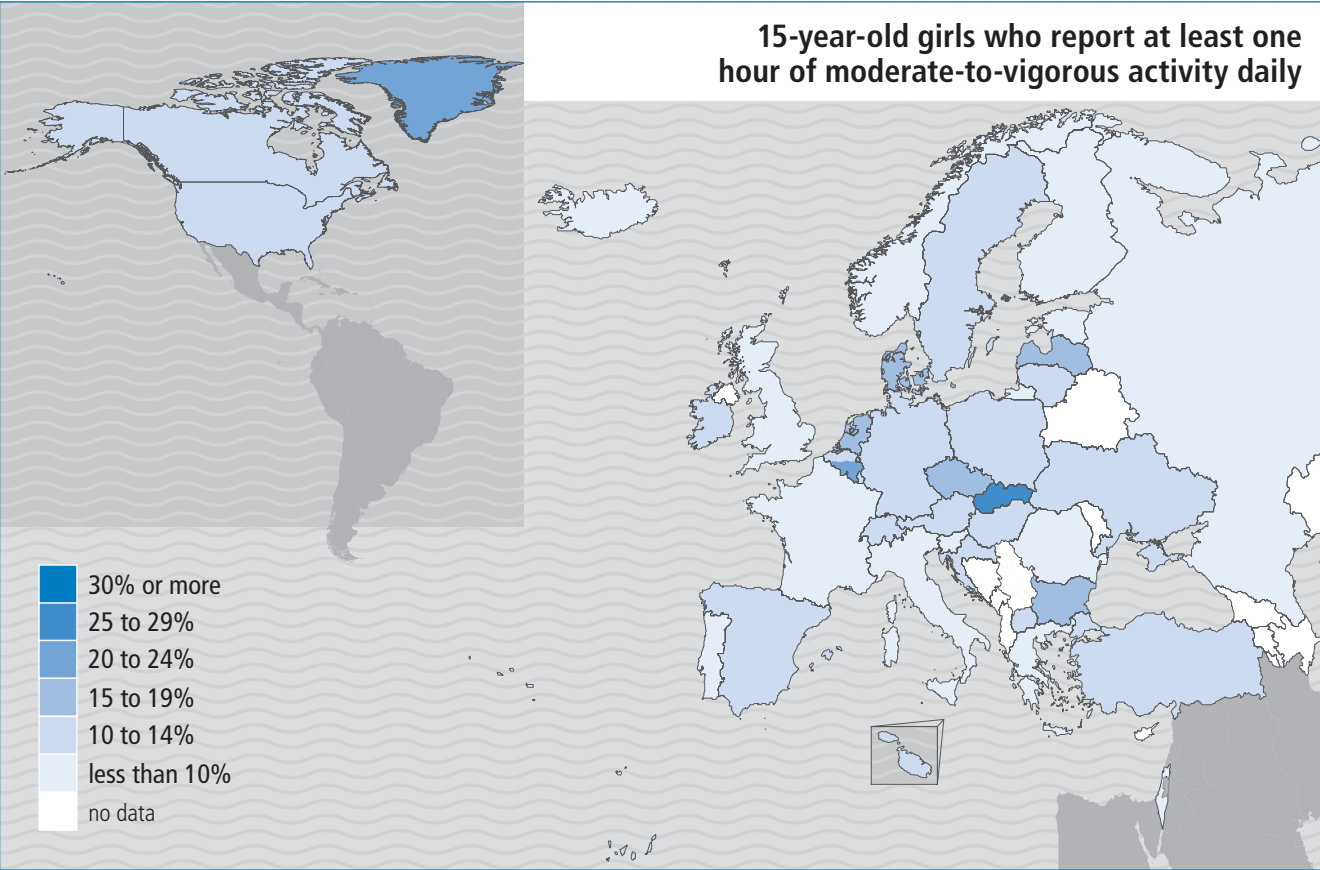
- Girls: 5% (France, Portugal) to 29% (Slovakia)
- Boys: 11% (Sweden) to 46% (Slovakia)

Differences in levels of daily MVPA are quite high between countries, but are not patterned by geography. In almost all countries, however, boys and younger children are more active.

### REFERENCES

1. Janssen I et al. The independent influence of physical inactivity and obesity on health complaints in 6th to 10th grade Canadian youth. *Journal of Physical Activity and Health*, 2004, 1:331–343.
2. Hallal PC et al. Adolescent physical activity and health: a systematic review. *Sports Medicine*, 2006, 36:1019–1030.
3. Strong WB et al. Evidence based physical activity for school-age children. *Journal of Pediatrics*, 2005, 146:732–737.
4. Parfitt G, Eston RG. The relationship between children's habitual activity level and psychological well-being. *Acta Paediatrica*, 2005, 94:1791–1797.
5. Penedo FJ, Dahn JR. Exercise and well-being: a review of mental and physical health benefits associated with physical activity. *Current Opinion in Psychiatry*, 2005, 18:189–193.
6. Nelson MD, Gordon-Larsen P. Physical activity and sedentary behavior patterns are associated with selected adolescent health risk behaviours. *Pediatrics*, 2006, 117:1281–1290.
7. Kelder SH et al. Longitudinal tracking of adolescent smoking, physical activity, and food choice behaviours. *Journal of Public Health*, 1994, 84:1121–1126.
8. *Promoting better health for young people through physical activity and sports: a report to the President*. Washington, DC, Center for Disease Control and Health Promotion, US Government Printing Office, 2004.
9. Chief Medical Officer. *At least five a week: evidence on the impact of physical activity and its relationship to health*. London, Department of Health, 2004.
10. Prochaska JJ, Sallis JF, Long B. A physical activity screening measure for use with adolescents in primary care. *Archives of Paediatrics and Adolescent Medicine*, 2001, 155:554–559.







## SECTION 3: HEALTH BEHAVIOURS

### SEDENTARY BEHAVIOUR: WATCHING TELEVISION

**The primary mechanism for overweight and obesity is imbalance between energy intake and expenditure.** Excess sedentary behaviour contributes to one side of this equation (1).

Time spent in sedentary activities reduces daily energy expenditure, and a dose–response relationship between sedentary behaviour and prevalence of overweight has been reported (2,3). There is also evidence that the effects of sedentary behaviour build up over the course of childhood (4). It appears that sedentary behaviour contributes to weight status independently of the level of physical activity (3,5).

Current recommendations suggest that children should not have any more than one to two hours of quality television and video viewing per day (6,7). Television viewing has been associated with bullying (8), higher consumption of energy-dense foods (9), sweets and soft drinks, and lower consumption of fruit and vegetables (10).

#### MEASURE

Young people were asked how many hours per day they watch television (including videos and DVDs) in their spare time on weekdays and at weekends. The findings presented here are the proportions reporting watching television for two or more hours every weekday. Data on other sedentary behaviours, computer and electronic media use can be found in the annex.

#### INEQUALITIES

**Age** There is a general increase in television viewing with age and the increase between age 11 and 15 is significant in just over half of countries for boys and girls.

**Gender** Gender differences in television watching are small, reaching significance in a third or fewer countries (where boys have higher rates). These differences are found in a minority of countries at all ages.

**Geography** Boys in western Europe have lower rates of television watching, while relatively high rates are evident in eastern Europe. This pattern is mirrored for girls, although it is less pronounced.

**Family affluence** Television watching is significantly associated with family affluence among girls in over half of countries and slightly fewer for boys. In almost all these cases, higher levels of television watching are associated with lower family affluence; this pattern is strongest in western and northern Europe.

#### Associations between family affluence and indicators of health, by country/region and gender: WATCHING TELEVISION FOR TWO OR MORE HOURS ON WEEKDAYS

NORTH			SOUTH		
	Boys	Girls		Boys	Girls
Canada	–	–	Croatia	+	
Denmark	–		Greece		
England		–	Israel	+	
Estonia		–	Italy		
Finland		–	Portugal		
Greenland			Slovenia		–
Iceland		–	Spain	–	–
Ireland	–	–	TFYR Macedonia <sup>†</sup>		–
Latvia			Turkey		
Lithuania	–	–			
Norway					
Scotland		–			
Sweden	–	–			
USA	–	–			
Wales	–				
WEST			EAST		
	Boys	Girls		Boys	Girls
Austria		–	Bulgaria	+	+
Belgium (Flemish)	–	–	Czech Republic		–
Belgium (French)	–	–	Hungary		
France	–	–	Poland		–
Germany	–	–	Romania	+	
Luxembourg	–		Russian Federation		–
Netherlands		–	Slovakia		
Switzerland	–	–	Ukraine		

Where family affluence is statistically significant at  $p < 0.05$ , countries are identified with +/–

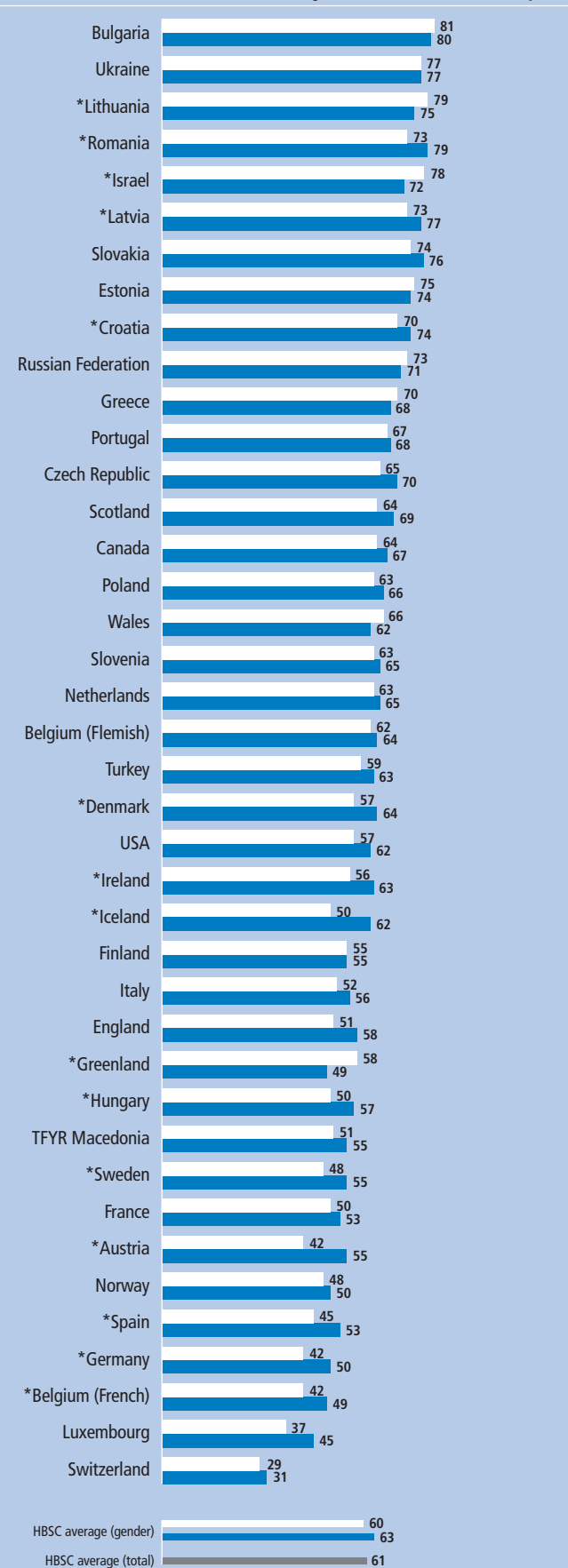
+ indicates that higher levels of watching TV are significantly associated with higher family affluence;

– indicates that higher levels of watching TV are significantly associated with lower family affluence.

<sup>†</sup> The former Yugoslav Republic of Macedonia

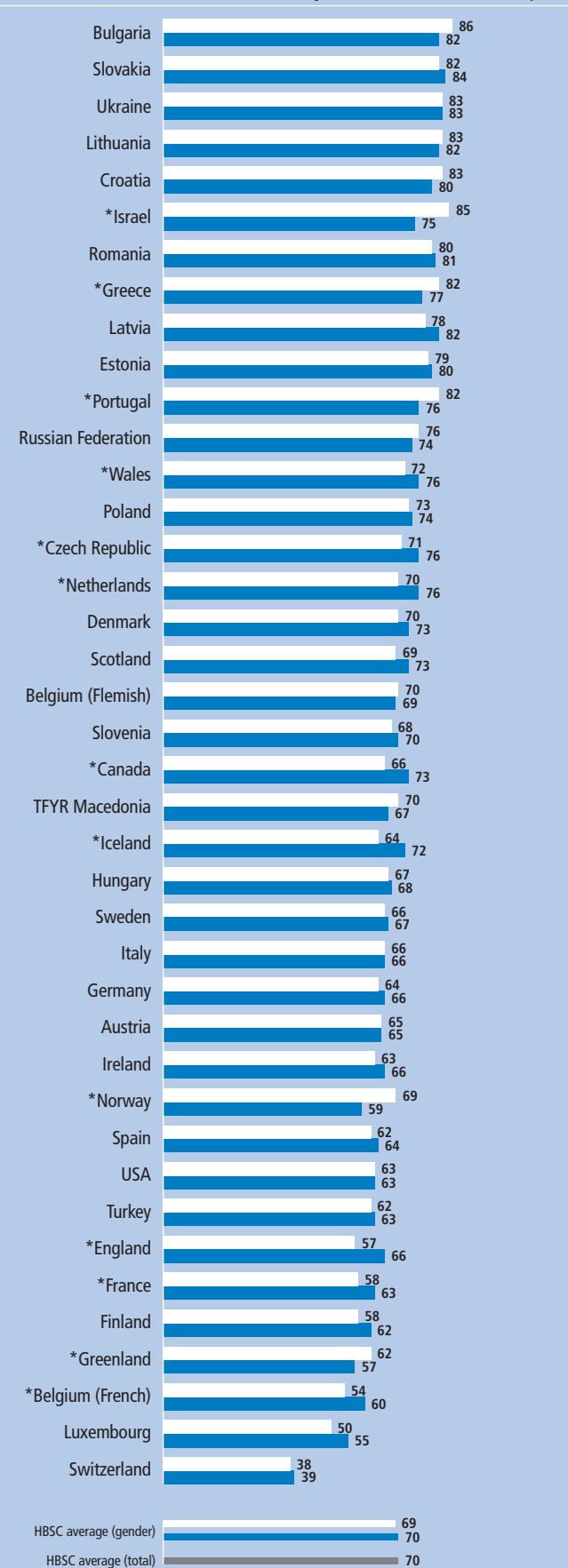
### 11-year-olds who watch television for two or more hours on weekdays

Girl %  
Boy %



### 13-year-olds who watch television for two or more hours on weekdays

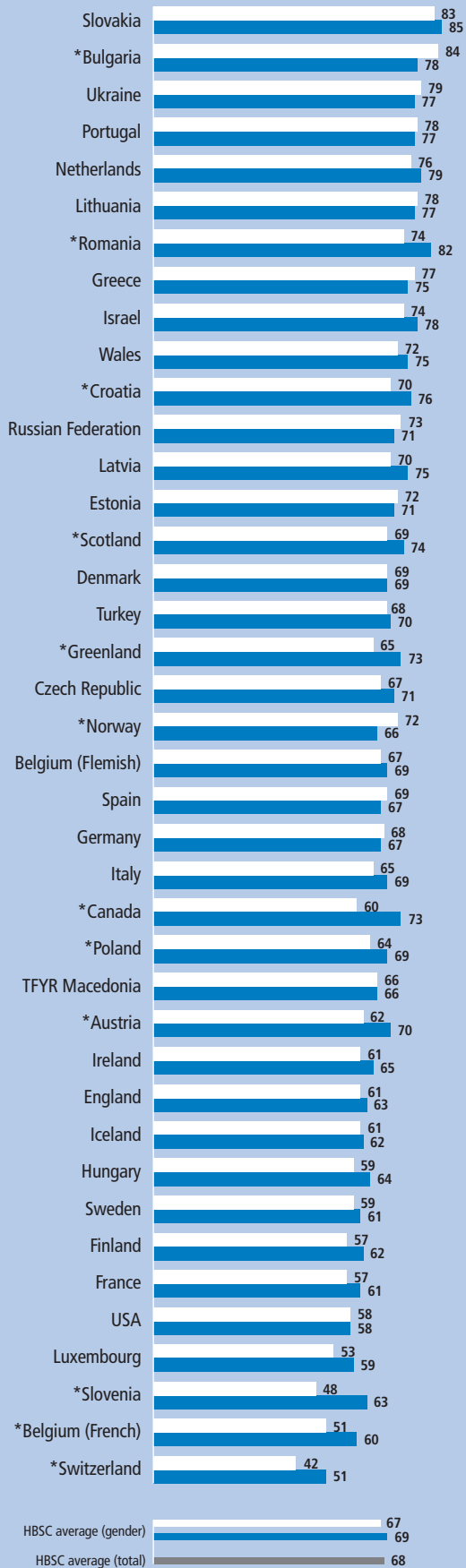
Girl %  
Boy %



\* Indicates a significant gender difference (at  $p < 0.05$ ). No data available for Malta

### 15-year-olds who watch television for two or more hours on weekdays

Girl %  
Boy %



\* indicates a significant gender difference (at  $p < 0.05$ ). No data available for Malta

### SUMMARY FINDINGS

There are some variations across countries in the proportion of young people who report that they **watch television for two or more hours daily** on weekdays, but overall it is a relatively common behaviour.

**11-year-olds: from 30% (Switzerland) to 81% (Bulgaria)**

- Girls: 29% (Switzerland) to 81% (Bulgaria)
- Boys: 31% (Switzerland) to 80% (Bulgaria)

**13-year-olds: from 39% (Switzerland) to 84% (Bulgaria)**

- Girls: 38% (Switzerland) to 86% (Bulgaria)
- Boys: 39% (Switzerland) to 84% (Slovakia)

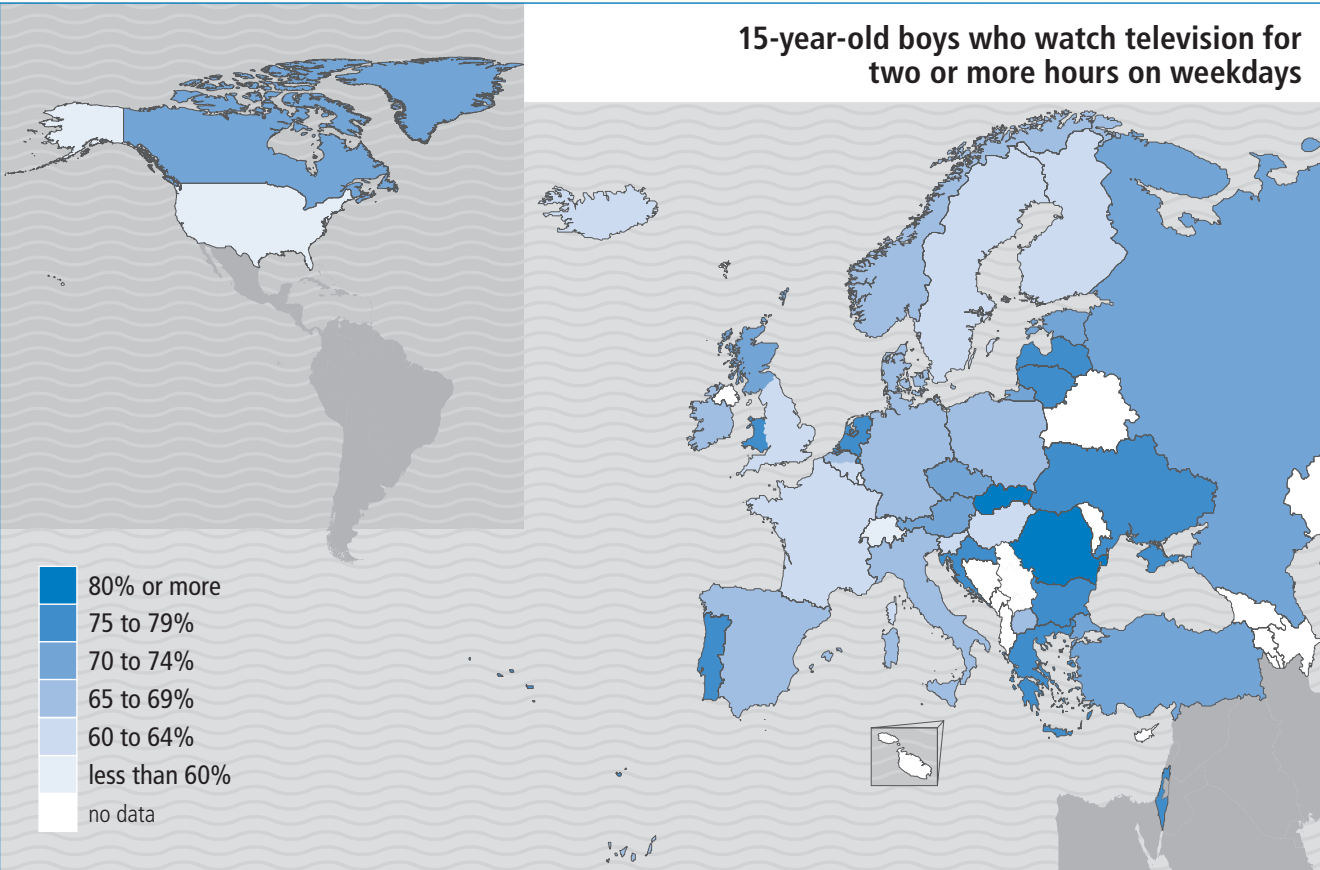
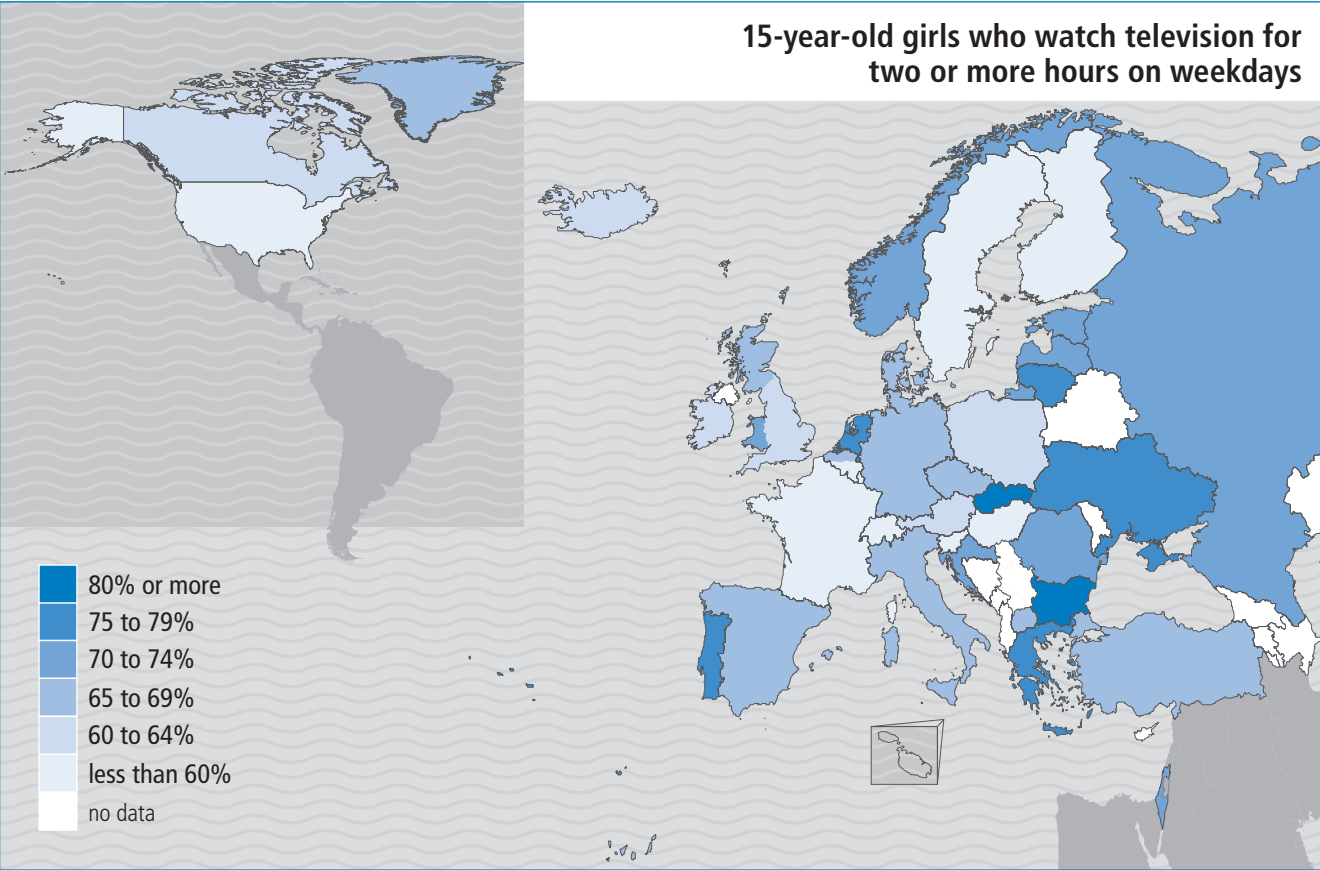
**15-year-olds: from 46% (Switzerland) to 84% (Slovakia)**

- Girls: 42% (Switzerland) to 84% (Bulgaria)
- Boys: 51% (Switzerland) to 85% (Slovakia)

Television watching at levels at or above those recommended is a widespread phenomenon among 11-, 13- and 15-year-old boys and girls. The behaviour is significantly more common among young people in less affluent households and those living in eastern Europe.

### REFERENCES

1. *The challenge of obesity in the WHO European Region. Factsheet EURO/13/05.* Copenhagen, WHO Regional Office for Europe, 2005.
2. Andersen RE et al. Relationship of physical activity and television watching with body weight and level of fatness among children. *Journal of the American Medical Association*, 1998, 279:938–942.
3. Crespo CJ et al. Television watching, energy intake, and obesity in US children. *Archives of Paediatric and Adolescent Medicine*, 2001, 155:360–365.
4. Hancock JR, Poulton R. Watching television is associated with childhood obesity: but is it clinically important? *International Journal of Obesity*, 2006, 30:171–175.
5. Fleming-Moran M, Thiagarajah K. Behavioral interventions and the role of television in the growing epidemic of adolescent obesity. *Methods of Information in Medicine*, 2005, 44:303–309.
6. American Academy of Paediatrics. Children, adolescents, and television. *Paediatrics*, 2001, 107:423–426.
7. Canadian Paediatric Society. Impact of media use on children and youth. *Paediatric and Child Health*, 2003, 8:301–306.
8. Kuntsche E et al. Television viewing and forms of bullying among adolescents from eight countries. *Journal of Adolescent Health*, 2006, 39:908–915.
9. Dietz W. Factors associated with childhood obesity. *Nutrition*, 2002, 7(4):290–291.
10. Vereecken CA et al. Television viewing behavior and associations with food habits in different countries. *Public Health Nutrition*, 2006, 9:244–250.



# RISK BEHAVIOUR

tobacco use  
alcohol use  
cannabis use  
sexual behaviour  
fighting  
bullying



**It is undeniable that smoking behaviour is usually established during adolescence.** Most adult smokers report that they had their first cigarette or became addicted to nicotine during adolescence (1).

Smoking-related health problems are a function of the duration (years of smoking) and the intensity of use (number of cigarettes smoked). Consequently, a key public health objective is to prevent or at least delay the onset of such smoking behaviour. Indeed, the longer the onset of smoking is delayed, the less likely it is that the person will become addicted (2,3).

Early onset of smoking is predictive of alcohol-related problems in late adolescence and young adulthood (4,5) and later illicit drug use (6). Early initiation into tobacco use is important not only because it is a predictor of later substance use, but also because it is potentially preventable (4,5).

### MEASURE

Young people were asked at what age they first smoked a cigarette, defined as "more than a puff". The findings presented here are for 15-year-olds only and show the proportions that reported first smoking a cigarette at age 13 or younger.

### INEQUALITIES

**Age** Data are presented for 15-year-olds only.

**Gender** There is a general tendency for early onset of cigarette smoking to be more prevalent among boys; this is a significant gender difference in about a third of the countries.

**Geography** There are no clear geographic patterns in smoking initiation.

**Family affluence** There is a significant association between early smoking initiation and family affluence in a few countries, all but one showing an association with low family affluence. Countries in northern Europe show the most consistent association, particularly for girls.

### Associations between family affluence and indicators of health, by country/region and gender: FIRST SMOKING AT AGE 13 OR YOUNGER

<b>NORTH</b>		Boys	Girls	<b>SOUTH</b>		Boys	Girls
Canada		–	–	Croatia			
Denmark		–		Greece			
England			–	Israel			
Estonia			–	Italy			
Finland				Portugal			
Greenland		–		Slovenia			
Iceland			–	Spain			–
Ireland				TFYR Macedonia <sup>†</sup>			+
Latvia							
Lithuania							
Norway			–				
Scotland			–				
Sweden							
USA		–	–				
Wales			–				
<b>WEST</b>		Boys	Girls	<b>EAST</b>		Boys	Girls
Austria				Bulgaria			
Belgium (Flemish)				Czech Republic			
Belgium (French)				Hungary			
France				Poland			
Germany				Romania			
Luxembourg				Russian Federation			
Netherlands				Slovakia			
Switzerland		–	–	Ukraine			

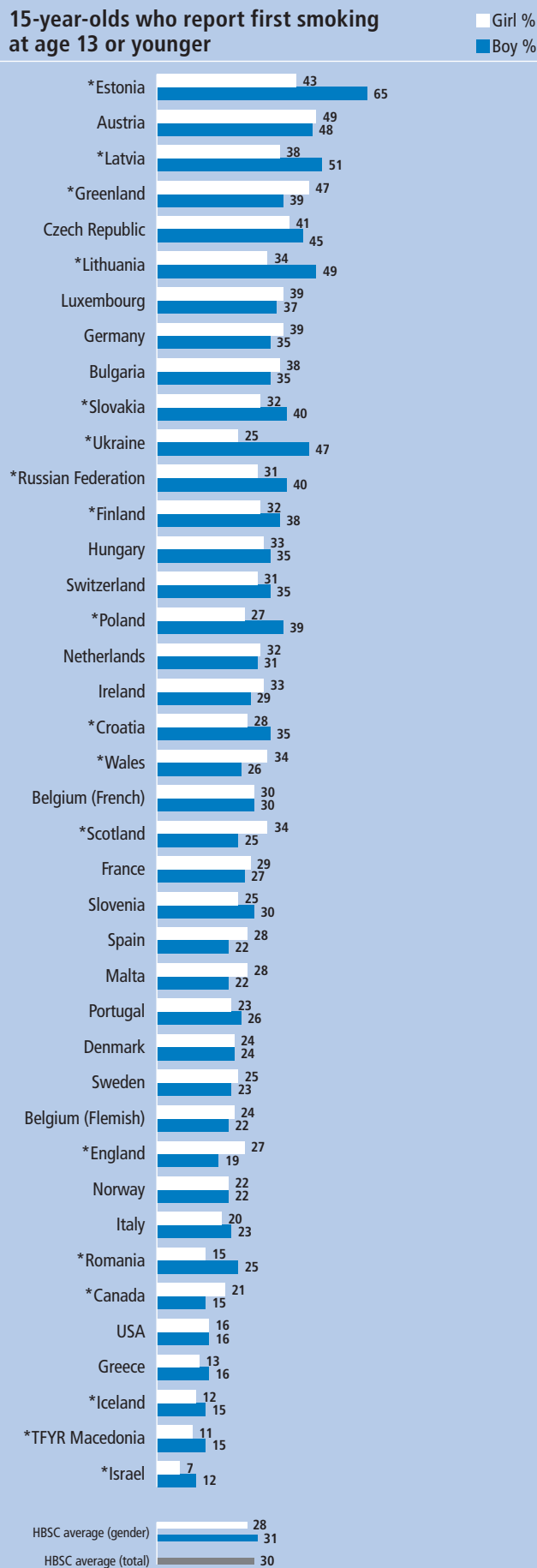
Where family affluence is statistically significant at  $p < 0.05$ , countries are identified with +/–

+ indicates that higher levels of early experience of smoking are significantly associated with higher family affluence;

– indicates that higher levels of early experience of smoking are significantly associated with lower family affluence.

<sup>†</sup>The former Yugoslav Republic of Macedonia

### 15-year-olds who report first smoking at age 13 or younger



\* indicates a significant gender difference (at  $p < 0.05$ ). No data available for Turkey

### SUMMARY FINDINGS

There are considerable variations between countries in the prevalence of **tobacco use at age 13 or younger**.

#### 15-year-olds: from 9% (Israel) to 54% (Estonia)

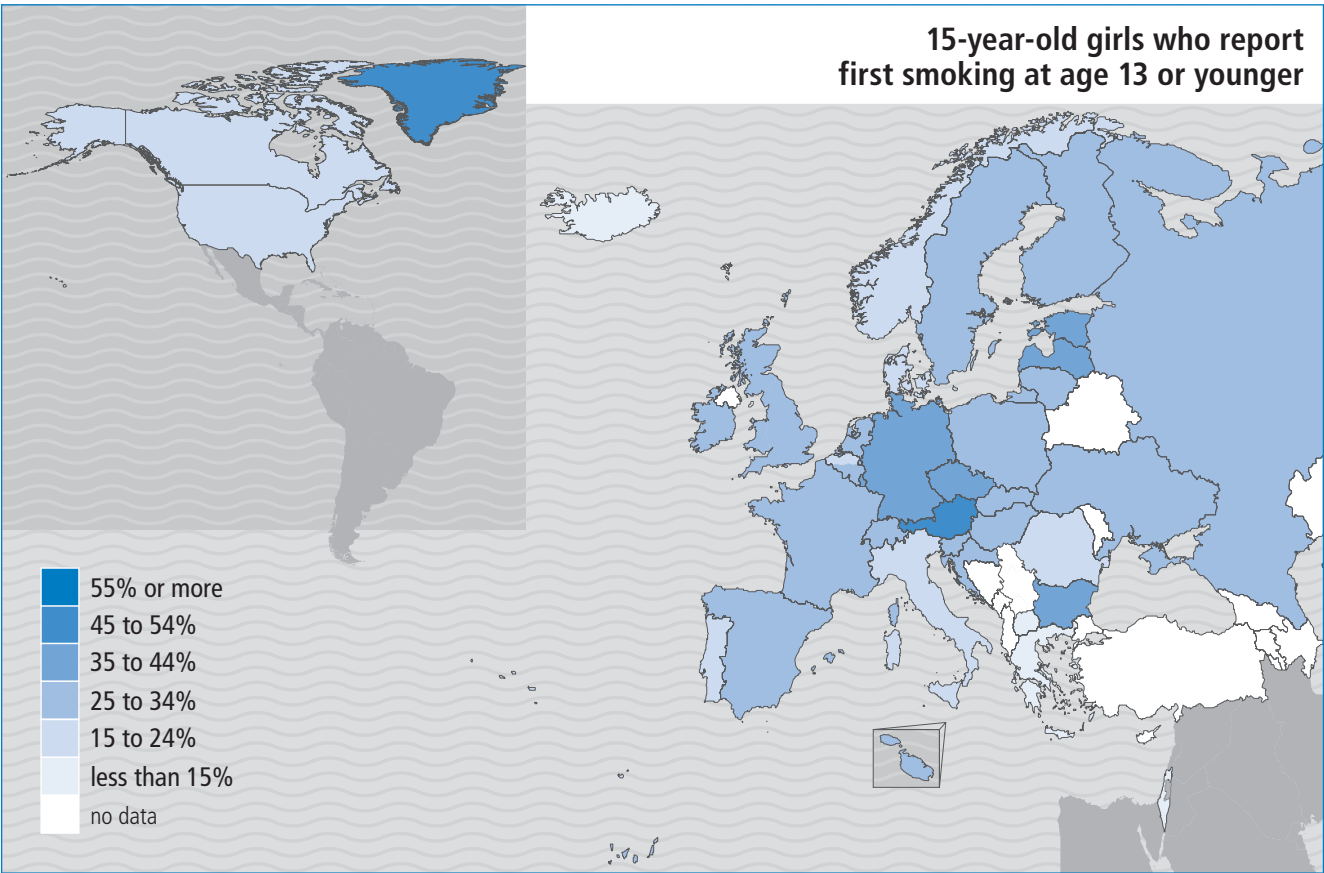
- Girls: 7% (Israel) to 49% (Austria)
- Boys: 12% (Israel) to 65% (Estonia)

There are large differences between countries in reports of initiation of smoking at age 13 or younger among 15-year-olds. In general, it is more likely to be reported by boys (with some exceptions, mainly in North America and the countries of the United Kingdom). Family affluence is not strongly associated with early smoking initiation.

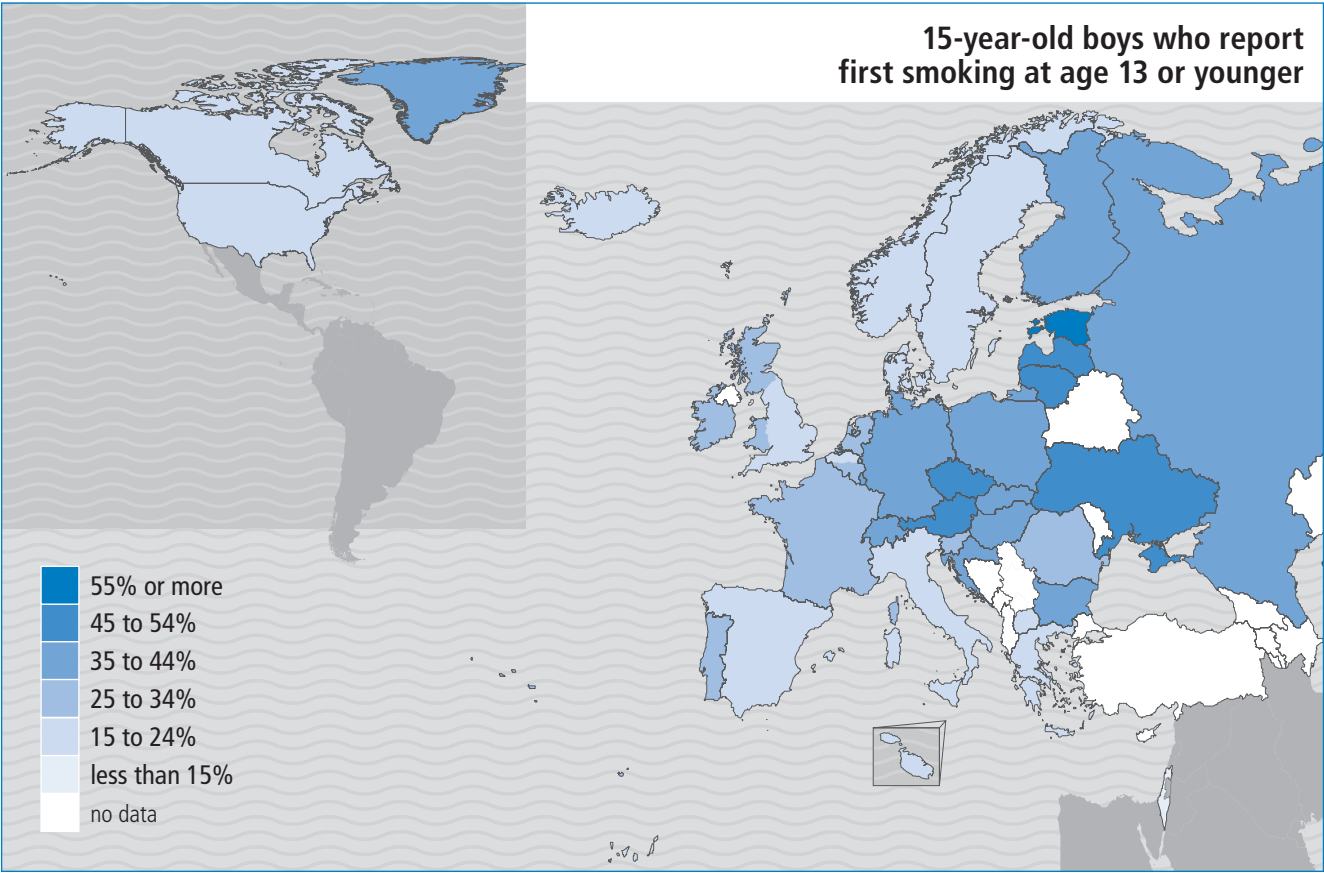
### REFERENCES

1. Lamkin L, Houston TP. Nicotine dependency and adolescents: preventing and treating. *Primary Care*, 1998, 25:123–135.
2. *Preventing tobacco use among young people: a report of the Surgeon General*. Atlanta, GA, US Department of Health and Human Services, Centers for Disease Control, Center for Health Promotion, Office on Smoking and Health, 1994.
3. Escobedo LG et al. Sports participation, age at smoking initiation and the risk of smoking among US high school students. *Journal of the American Medical Association*, 1993, 269:1391–1395.
4. Lando HA et al. Ethnic differences in patterns and correlates of age of initiation in a population of air force recruits. *Nicotine and Tobacco Research*, 2000, 2:337–344.
5. Riala K et al. Teenage smoking and substance use as predictors of severe alcohol problems in late adolescence and in young adulthood. *Journal of Adolescent Health*, 2004, 35:245–254.
6. Vega WA, Chen KW, Williams J. Smoking, drugs, and other behavioural health problems among multiethnic adolescents in the NHSDA. *Addictive Behaviors*, 2006, 32(9):1949–1956.





HBSC teams provided disaggregated data for Belgium and the UK; these data appear in the map above



HBSC teams provided disaggregated data for Belgium and the UK; these data appear in the map above



**Tobacco is still the leading cause of preventable death in the world** (1). In 2000, 4.83 million premature deaths worldwide were attributed to smoking (2).

The main causes of death associated with smoking are cardiovascular diseases, chronic pulmonary diseases and lung cancer. It is estimated that half the people who smoke today will be killed by their tobacco use (3). The financial burden associated with smoking-related illness is overwhelming (4).

Smoking has documented short-term effects on young people's health, including decreased lung function, decreased physical fitness, increased asthmatic problems and increased coughing, wheezing and shortness of breath (5). There is evidence of a positive relationship between cigarette use and the subsequent use of alcohol and cannabis (6). Adolescents also report positive functions of smoking, such as the control of weight or negative moods and the adoption of an image of maturity and self-reliance (7).

### MEASURE

Young people were asked how often they smoke tobacco at present. Response options ranged from "every day" to "I do not smoke". The findings presented here are the proportions that reported smoking at least once a week. Data on ever having smoked and on daily smoking can be found in the annex.

### INEQUALITIES

**Age** Rates of weekly smoking increase greatly between ages 11 and 15. Most of this change in behaviour occurs between 13 and 15 years, where the increase in weekly smoking is significant in all countries among both girls and boys.

**Gender** Rates of weekly smoking are very low at age 11 (5% or less), but the general picture is for smoking to be more common among boys, significantly so in a minority of countries. Rates of weekly smoking are similar among boys and girls at ages 13 and 15. Where significant differences do exist, they favour boys and girls in roughly equal proportions.

**Geography** Boys in Canada and the United States are least likely to smoke and those in eastern Europe most likely to smoke. Canada and the United States also have particularly low rates of weekly smoking among girls.

**Family affluence** Family affluence is significantly associated with weekly smoking among girls in just under half of countries, but in only a few countries among boys. Higher rates of weekly smoking are associated with lower family affluence in almost all cases, with this pattern being strongest for girls in northern Europe. In other regions, particularly in eastern and southern Europe, family affluence is generally not associated with smoking.

### Associations between family affluence and indicators of health, by country/region and gender: WEEKLY SMOKING

<b>NORTH</b>		Boys	Girls	<b>SOUTH</b>		Boys	Girls
Canada			–	Croatia			
Denmark				Greece			
England		–	–	Israel		+	–
Estonia			–	Italy			
Finland			–	Portugal			
Greenland				Slovenia			
Iceland		–	–	Spain			–
Ireland		–	–	TFYR Macedonia <sup>†</sup>			
Latvia							
Lithuania			–				
Norway			–				
Scotland		–	–				
Sweden							
USA		–	–				
Wales			–				
<b>WEST</b>		Boys	Girls	<b>EAST</b>		Boys	Girls
Austria			–	Bulgaria			
Belgium (Flemish)		–	–	Czech Republic			
Belgium (French)				Hungary		–	–
France			–	Poland			
Germany			–	Romania			
Luxembourg			–	Russian Federation			
Netherlands				Slovakia			
Switzerland				Ukraine			

Where family affluence is statistically significant at  $p < 0.05$ , countries are identified with +/–

+ indicates that higher levels of weekly smoking are significantly associated with higher family affluence;

– indicates that higher levels of weekly smoking are significantly associated with lower family affluence.

<sup>†</sup> The former Yugoslav Republic of Macedonia

## 11-year-olds who smoke at least once a week

■ Girl %  
■ Boy %



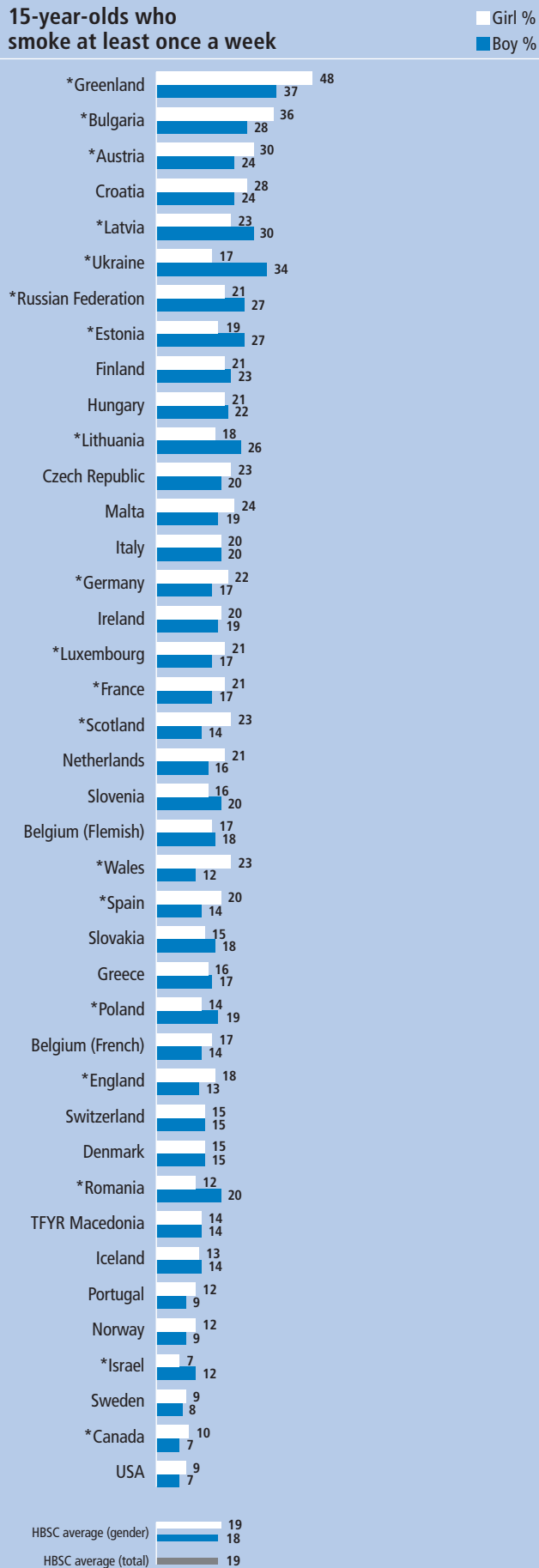
## 13-year-olds who smoke at least once a week

■ Girl %  
■ Boy %



\* indicates a significant gender difference (at  $p < 0.05$ ). No data available for Turkey

### 15-year-olds who smoke at least once a week



\* indicates a significant gender difference (at  $p < 0.05$ ). No data available for Turkey

### SUMMARY FINDINGS

**Weekly smoking rates** are low in all countries at age 11, but by age 15 there are considerable variations between countries in the proportion of young people who say that they smoke at least once a week.

#### 11-year-olds: from <0.5% (Greece) to 5% (Russian Federation)

- Girls: <0.5% (Greece, Belgium (Flemish), Iceland, Denmark, TFYR Macedonia<sup>†</sup>, Sweden, Norway, Slovenia, Spain, Finland, Netherlands, France, Austria, Croatia, Italy, Romania) to 4% (Greenland, Russian Federation)
- Boys: <0.5% (Greece, Belgium (Flemish), Iceland, Denmark, TFYR Macedonia<sup>†</sup>, Sweden, Norway, Switzerland) to 5% (Ukraine, Russian Federation)

#### 13-year-olds: from 2% (Greece) to 16% (Greenland)

- Girls: 1% (Israel) to 22% (Greenland)
- Boys: 1% (Norway, Sweden) to 15% (Russian Federation)

#### 15-year-olds: from 8% (United States) to 43% (Greenland)

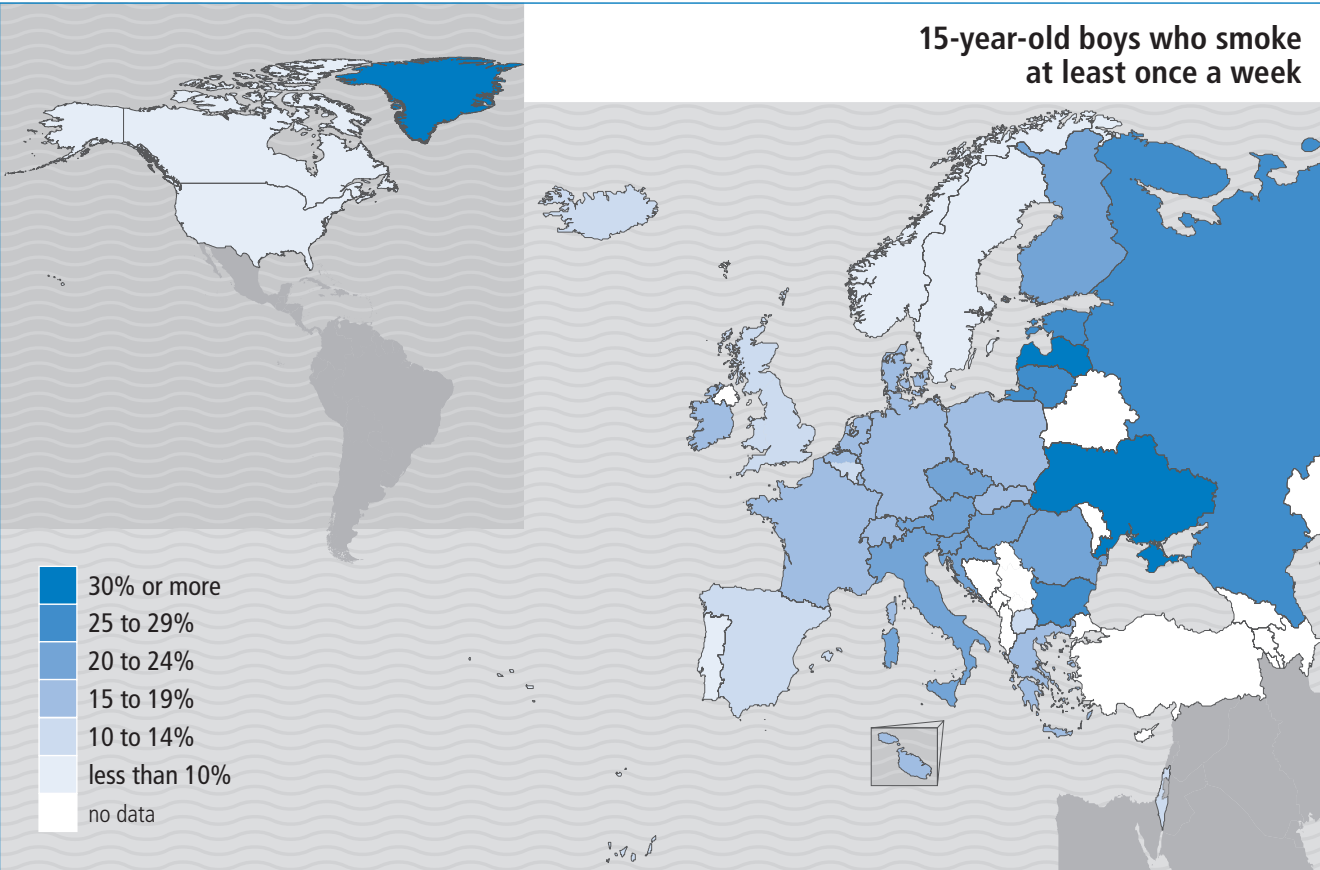
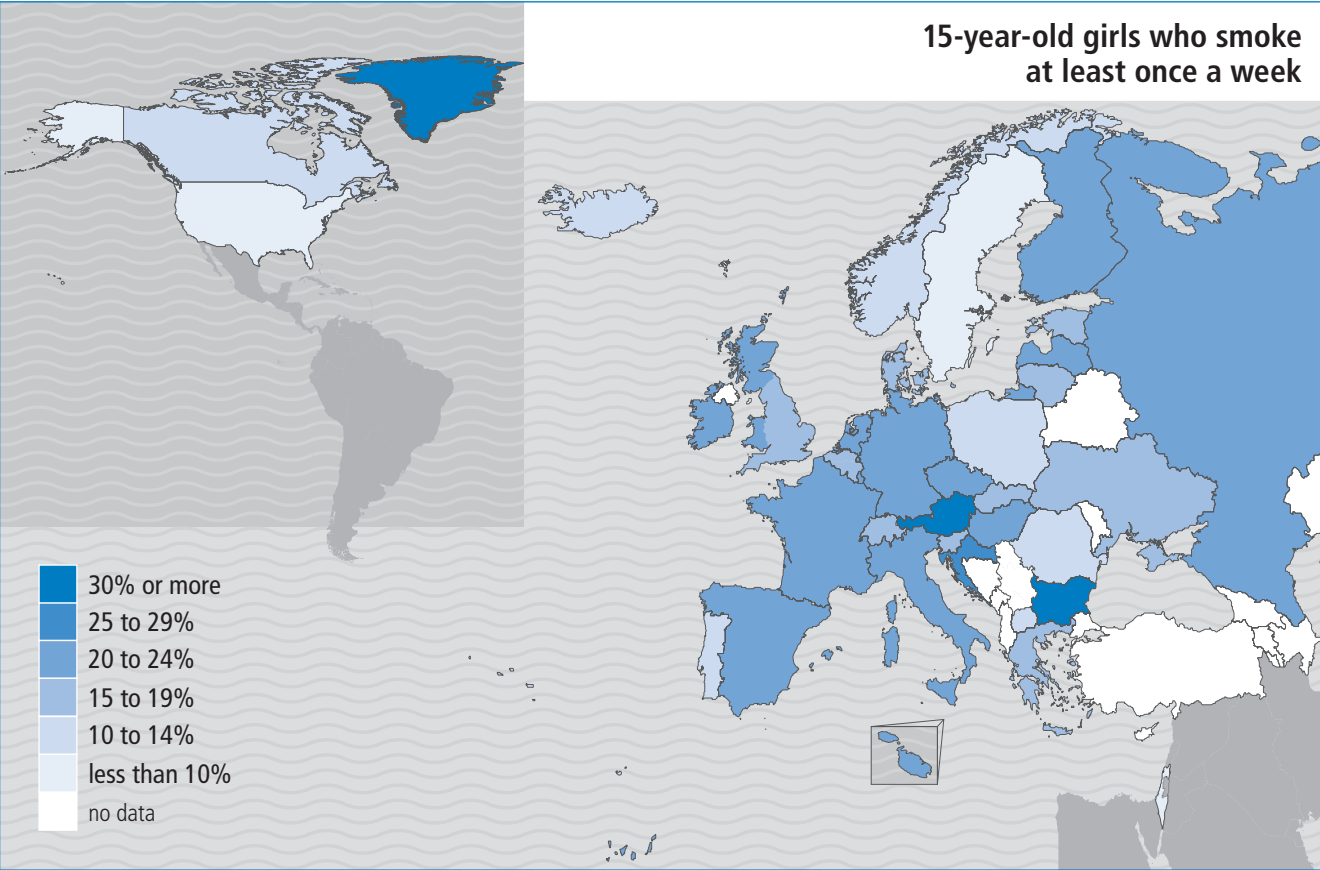
- Girls: 7% (Israel) to 48% (Greenland)
- Boys: 7% (Canada, United States) to 37% (Greenland)

The most striking feature of weekly smoking behaviour is the increase between ages 13 and 15 and the emerging variations in rates across countries. Girls' weekly smoking rates are higher than boys by age 15 in almost half of the countries. Family affluence appears to be a relatively unimportant factor in weekly smoking for boys, but for girls, low affluence is a risk factor in almost half of countries.

<sup>†</sup>The former Yugoslav Republic of Macedonia

### REFERENCES

1. Neglected global epidemics: three growing threats. In: *The world health report, 2003. Shaping the future*. Geneva, World Health Organization, 2003.
2. Ezzati M, Lopez AD. Estimates of global mortality attributable to smoking in 2000. *Lancet*, 2003, 362(9387):847–852.
3. *The health consequences of smoking: a report of the Surgeon General*. Washington, DC, US Department of Health and Human Services, Center for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion and Education, Office on Smoking and Health, 2004.
4. *Development in practice: curbing the epidemic. Governments and the economics of tobacco control*. Washington, DC, World Bank, 1999.
5. *Preventing tobacco use among young people: a report of the Surgeon General*. Atlanta, GA, US Department of Health and Human Services, Centers for Disease Control, Center for Health Promotion, Office on Smoking and Health, 1994.
6. Duncan SC, Duncan TE, Hops H. Progressions of alcohol, cigarette and marijuana use in adolescence. *Journal of Behavioural Medicine*, 1998, 21(4):375–388.
7. Lambert M, Verduyck P, Van den Broucke S. Summary of the literature on young people, gender and smoking. In: Lambert M et al., eds. *Gender differences in smoking and young people*. Brussels, Flemish Institute for Health Promotion, 2002.



**Europe has the highest alcohol consumption rates in the world** and alcohol use is embedded in the cultures of most of the countries and regions that participate in HBSC (1).

Alcohol is one of the major global risk factors for social and physical harm and disease (2). Although alcohol-related mortality peaks between the ages of 45 to 54, deaths also occur relatively early in life (3). Injuries are the main cause of death among young people, many of them related to alcohol (4). Alcohol use has been associated with suicidal and homicidal behaviour among young people (5,6).

Adolescents have reported positive associations with alcohol, such as reduced social inhibition and greater integration, but most research has focused on the negative, including associations with truancy, falling behind in schoolwork, unplanned and unprotected sexual activity, arguments with friends, destructive behaviour and getting into trouble with the police (7,8), as well as a higher risk of alcohol abuse and dependence and cannabis use later in life (9,10).

### MEASURE

Young people were asked how often they drink anything alcoholic and were given a list of drinks: beer, wine, spirits, alcopops, or any other drink that contains alcohol. Response options ranged from “never” to “every day”. The findings presented here are the proportions that reported drinking any alcohol at least every week. Data on weekly consumption of the individual drinks can be found in the annex.

### INEQUALITIES

**Age** Although there are large variations between countries in rates of weekly drinking, rates increase between 11 and 15 for both boys and girls in all but one. The greatest increase in most countries is between ages 13 and 15.

**Gender** There is a general tendency for weekly drinking to be more common among boys than girls. This difference is significant in the majority of countries at all ages.

**Geography** Boys in northern Europe report relatively low rates of weekly drinking, with the exception of boys in the United Kingdom. There is no clear geographic pattern in rates of weekly drinking among girls.

**Family affluence** High family affluence is significantly associated with higher rates of weekly drinking in just over a third of countries for boys, but in fewer for girls. This pattern is generally similar across all regions.

### Associations between family affluence and indicators of health, by country/region and gender: WEEKLY ALCOHOL CONSUMPTION

<b>NORTH</b>		Boys	Girls	<b>SOUTH</b>		Boys	Girls
Canada				Croatia			
Denmark		+		Greece			
England				Israel		+	
Estonia				Italy			
Finland				Malta			+
Greenland		+	+	Portugal		+	
Iceland		-	-	Slovenia			
Ireland				Spain		+	
Latvia				TFYR Macedonia <sup>†</sup>			+
Lithuania		+	+				
Norway							
Scotland		+					
Sweden							
USA							
Wales		+					
<b>WEST</b>		Boys	Girls	<b>EAST</b>		Boys	Girls
Austria				Bulgaria		+	+
Belgium (Flemish)				Czech Republic		+	
Belgium (French)				Hungary			
France		+	+	Poland			
Germany		+		Romania		+	
Luxembourg			+	Russian Federation		+	+
Netherlands		+	+	Slovakia			
Switzerland				Ukraine			

Where family affluence is statistically significant at  $p < 0.05$ , countries are identified with +/–

+ indicates that higher levels of weekly drinking are significantly associated with higher family affluence;

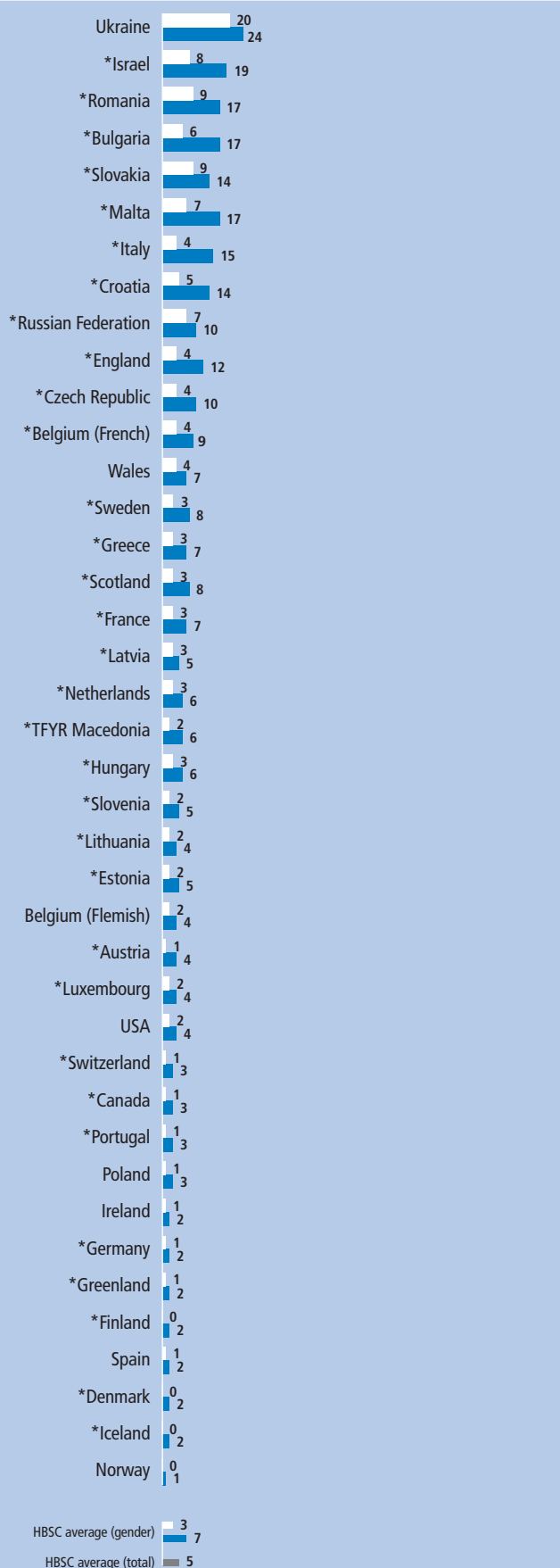
– indicates that higher levels of weekly drinking are significantly associated with lower family affluence

<sup>†</sup>The former Yugoslav Republic of Macedonia



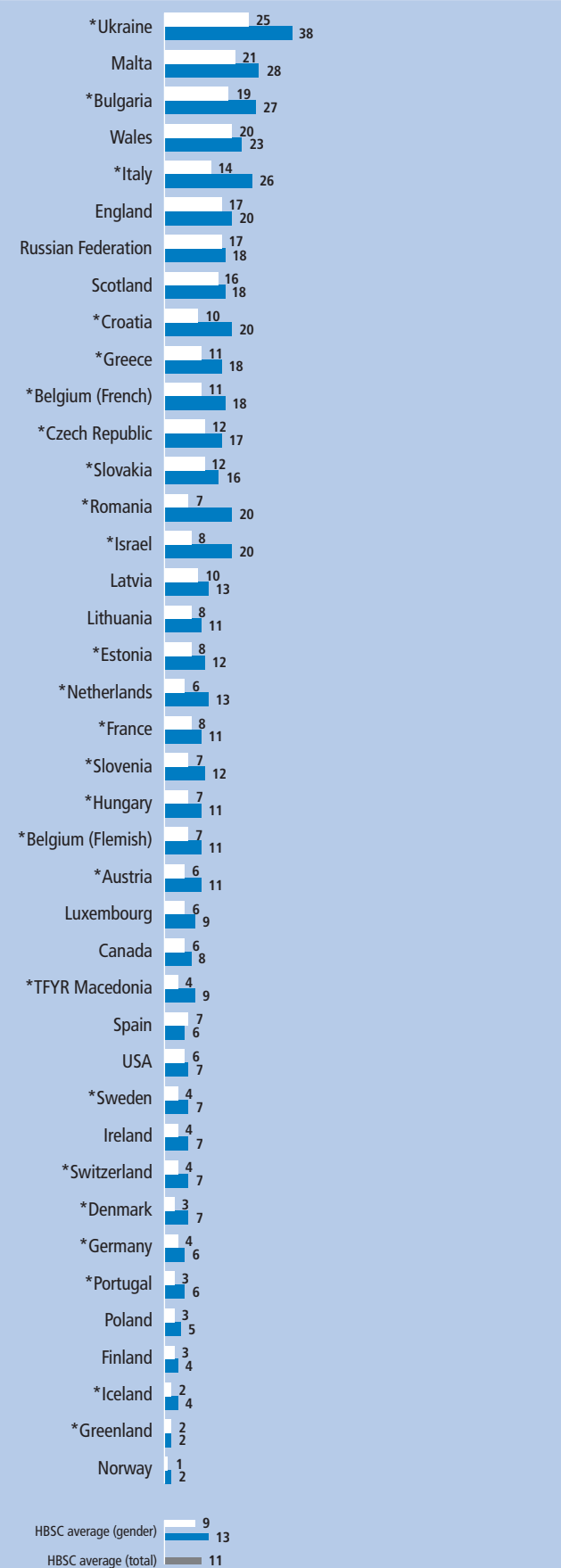
## 11-year-olds who drink alcohol at least once a week

■ Girl %  
■ Boy %



## 13-year-olds who drink alcohol at least once a week

■ Girl %  
■ Boy %

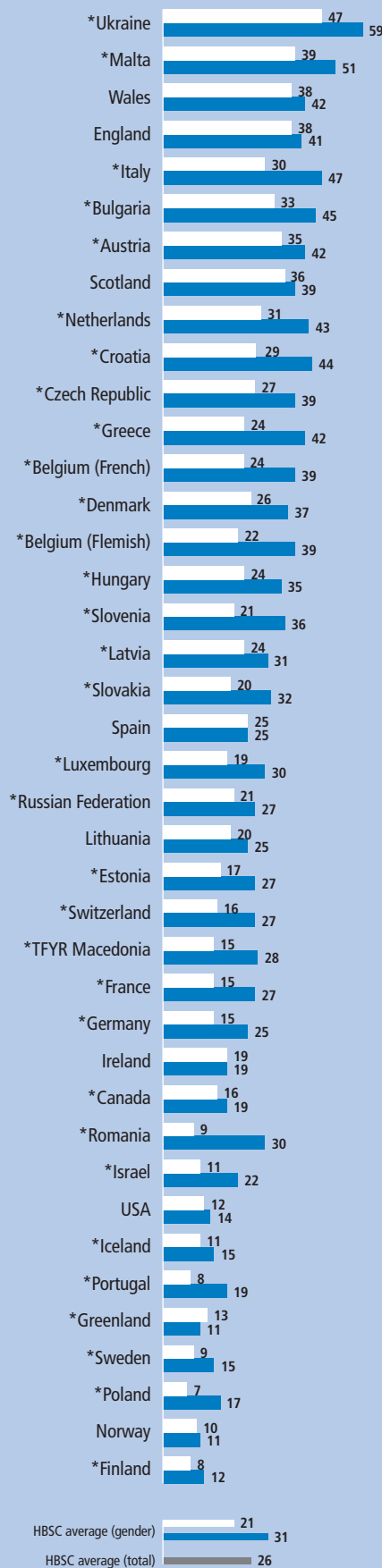


\* indicates a significant gender difference (at  $p < 0.05$ ). No data available for Turkey



### 15-year-olds who drink alcohol at least once a week

■ Girl %  
■ Boy %



\* indicates a significant gender difference (at  $p < 0.05$ ). No data available for Turkey

### SUMMARY FINDINGS

There are large cross-national differences in the prevalence of **weekly alcohol consumption** among all three age groups of young people.

#### 11-year-olds: from 1% (Norway) to 22% (Ukraine)

- Girls: 0% (Norway, Iceland, Denmark, Finland) to 20% (Ukraine)
- Boys: 1% (Norway) to 24% (Ukraine)

#### 13-year-olds: from 2% (Norway) to 32% (Ukraine)

- Girls: 1% (Norway) to 25% (Ukraine)
- Boys: 2% (Norway, Greenland) to 38% (Ukraine)

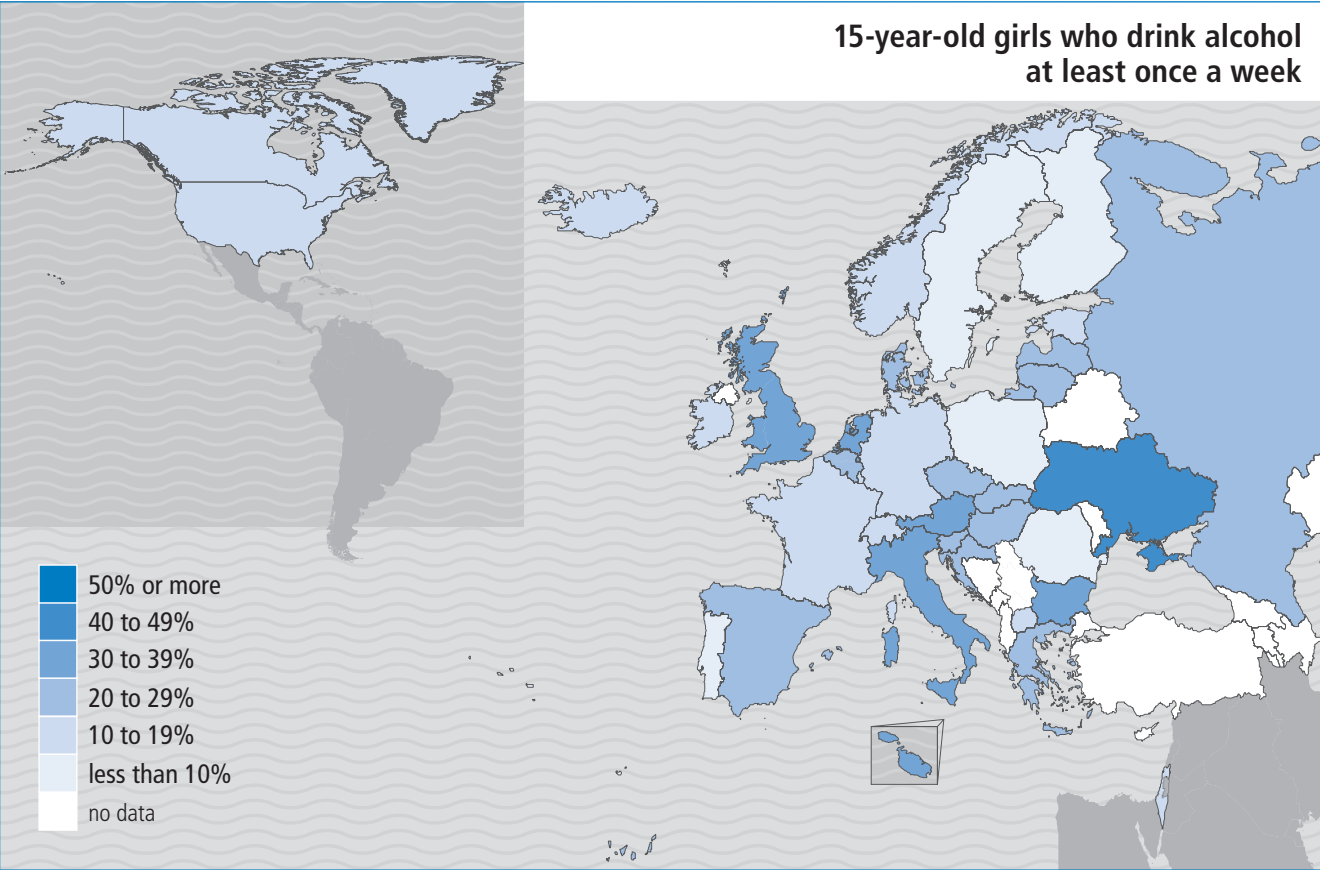
#### 15-year-olds: from 10% (Finland) to 53% (Ukraine)

- Girls: 7% (Poland) to 47% (Ukraine)
- Boys: 11% (Norway, Greenland) to 59% (Ukraine)

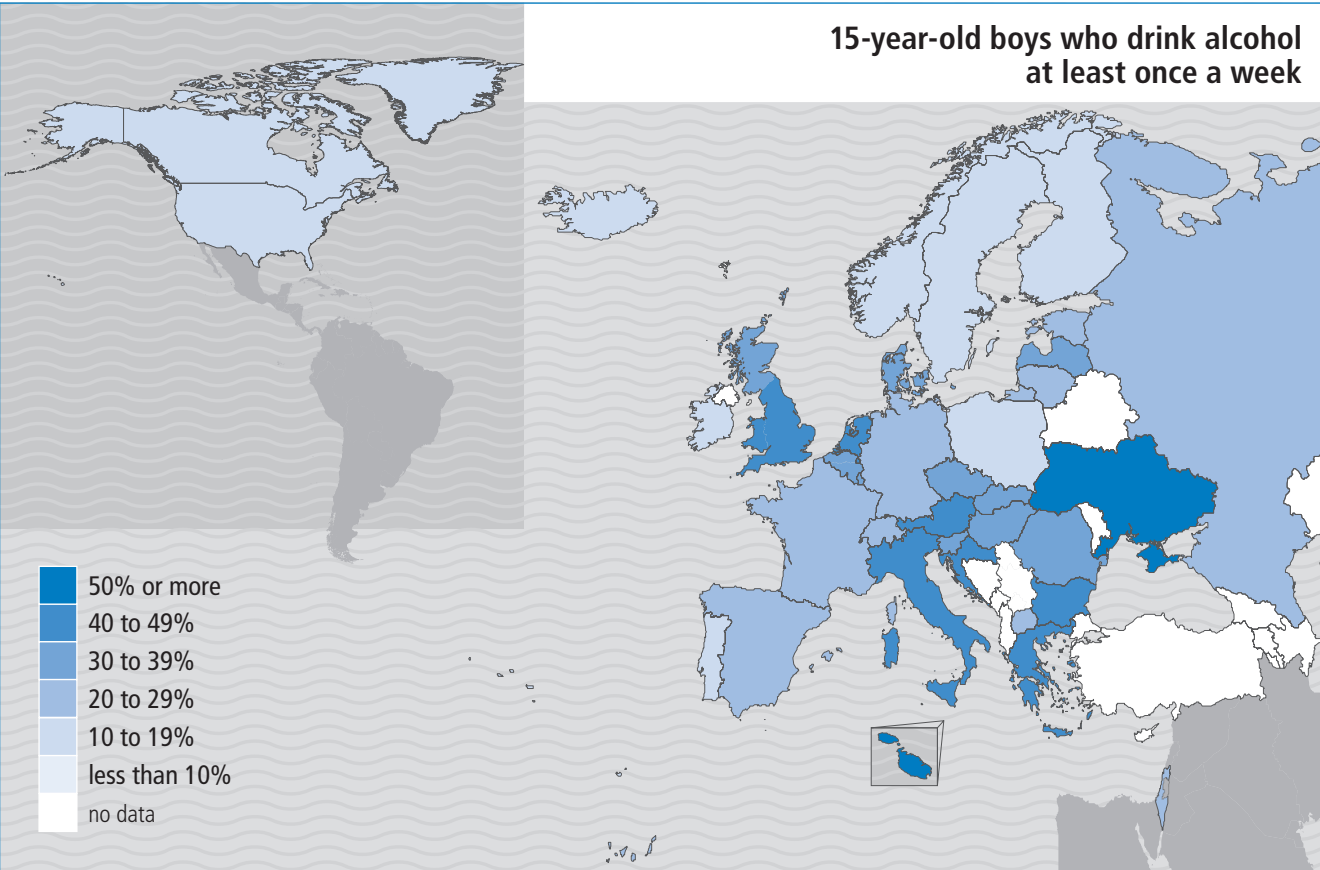
There are large variations in alcohol consumption across countries. In most cases, weekly alcohol consumption is more common among boys. It increases substantially between ages 13 and 15. Family affluence does not appear to be an important predictor of weekly alcohol consumption.

### REFERENCES

1. Anderson P, Baumberg B. *Alcohol in Europe: a public health perspective. A report for the European Commission*. London, Institute of Alcohol Studies, 2006.
2. Rehm J et al. Alcohol use. In: Ezzati M et al., eds. *Comparative quantification of health risks. Global and regional burden of disease attributable to selected major risk factors*. Geneva, World Health Organization, 2004:959–1108.
3. Murray CLJ, Lopez A. Global mortality, disability and the contribution of risk factors: global burden of disease study. *Lancet*, 1997, 349(9064):1436–1442.
4. Facy F. La place de l'alcool dans la morbidité et la mortalité des jeunes. In: Navarro F, Godeau E, Vialas C eds. *Actes du colloque les jeunes et l'alcool en Europe*. Editions Univers du Sud, Toulouse, 2000.
5. Ramstedt M. Alcohol and suicide in 14 European countries. *Addiction*, 2001, 96:59–75.
6. Rossow I. Alcohol and homicide: a cross-cultural comparison of the relationships in 14 European countries. *Addiction*, 2001, 96:77–92.
7. Perkins HW. Surveying the damage: a review of research on consequences of alcohol misuse in college populations. *Journal of Studies on Alcohol*, 2002, 14(Suppl.):91–100.
8. Wechsler H et al. Health and behavioural consequences of binge drinking in college – a national survey of students at 140 campuses. *Journal of the American Medical Association*, 1994, 272:1671–1677.
9. Chassin L, Pitts S, Prost J. Binge drinking trajectories from adolescence to emerging adulthood in a high-risk sample: predictors and substance abuse outcomes. *Journal of Consulting and Clinical Psychology*, 2002, 70(1):67–78.
10. Patton GC et al. Trajectories of adolescent alcohol and cannabis use into young adulthood. *Addiction*, 2007, 102:607–615.



HBSC teams provided disaggregated data for Belgium and the UK; these data appear in the map above



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**Early onset and early initiation into substance use have been highlighted as specifically important (and potentially preventable) precursors of later problems with alcohol.** This has been demonstrated most consistently for adult alcohol problems (1,2), but is also relevant to adolescent alcohol use and misuse (3,4). Indeed, it has been shown that alcohol initiation is a key mediator of the link between parental, school and peer influences and later alcohol misuse (5).

It appears that specific characteristics of the initiation into alcohol (such as drinking at family gatherings and feeling drunk) and early drinking styles (drunkenness-oriented consumption) are particularly predictive of later problems with alcohol (6–8). Concern has been raised over the extent to which early onset of alcohol use operates as a pathway to the use of illicit substances (9).

### MEASURE

Young people were asked at what age they first got drunk. The findings presented here are for 15-year-olds only and show the proportions that reported first getting drunk at age 13 or younger. Data on the age of first drinking can be found in the annex.

### INEQUALITIES

**Age** Data are presented for 15-year-olds only.

**Gender** There is a general tendency for early drunkenness to be more prevalent among boys, and this is significant in more than half of countries.

**Geography** Young people in southern Europe have relatively low prevalence of early drunkenness. The opposite is true for northern Europe; here, girls tend to have rates similar to boys.

**Family affluence** A small minority of countries show a significant association between early drunkenness and family affluence.

### Associations between family affluence and indicators of health, by country/region and gender: FIRST DRUNKENNESS AT AGE 13 OR YOUNGER

<b>NORTH</b>		Boys	Girls	<b>SOUTH</b>		Boys	Girls
Canada			–	Croatia			
Denmark				Greece			
England			–	Israel			
Estonia				Italy			
Finland				Malta			
Greenland				Portugal			+
Iceland	–	–		Slovenia			
Ireland				Spain			
Latvia	+			TFYR Macedonia <sup>†</sup>			
Lithuania							
Norway							
Scotland							
Sweden							
USA							
Wales							
<b>WEST</b>		Boys	Girls	<b>EAST</b>		Boys	Girls
Austria				Bulgaria		+	
Belgium (Flemish)			–	Czech Republic			
Belgium (French)				Hungary			
France				Poland			
Germany			–	Romania			
Luxembourg				Russian Federation		+	
Netherlands				Slovakia			
Switzerland				Ukraine			

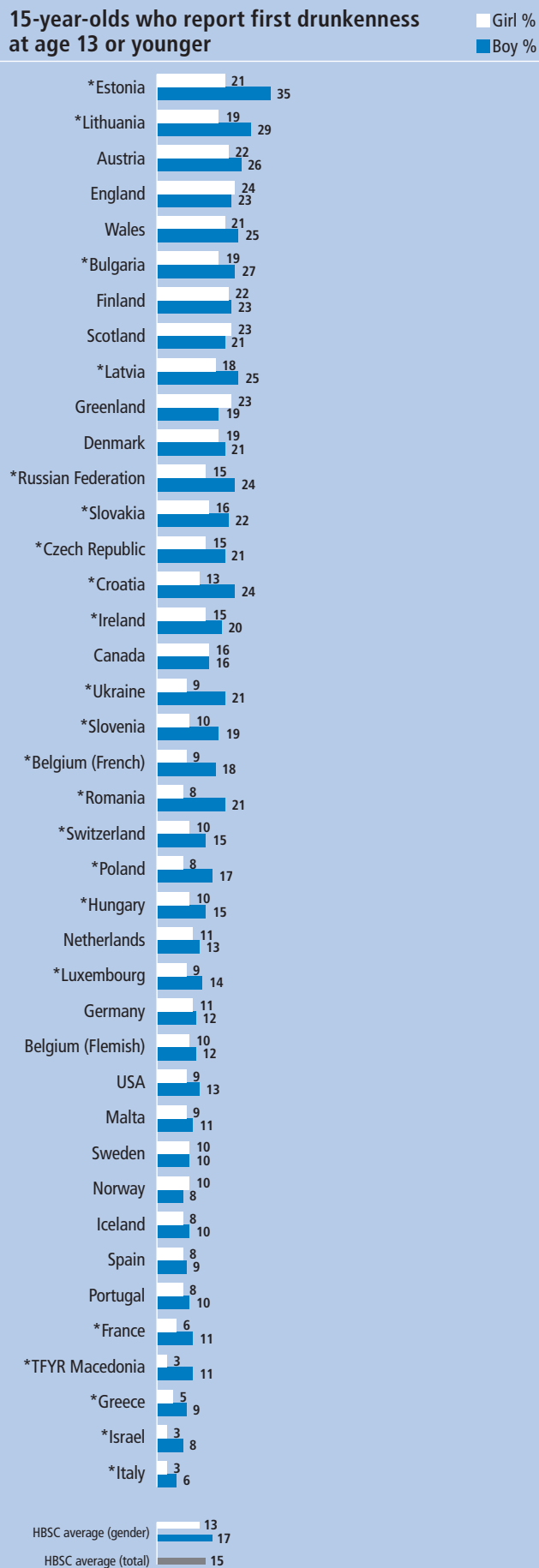
Where family affluence is statistically significant at  $p < 0.05$ , countries are identified with +/–

+ indicates that higher levels of early experience of drunkenness are significantly associated with higher family affluence;

– indicates that higher levels of early experience of drunkenness are significantly associated with lower family affluence.

<sup>†</sup>The former Yugoslav Republic of Macedonia

### 15-year-olds who report first drunkenness at age 13 or younger



\* indicates a significant gender difference (at  $p < 0.05$ ). No data available for Turkey

### SUMMARY FINDINGS

**Early drunkenness** is defined here as having been drunk by the age of 13 or younger. There are considerable variations between countries in the prevalence of this early drunkenness, with a tenfold difference at either end of the range.

#### 15-year-olds: 4% (Italy) to 28% (Estonia)

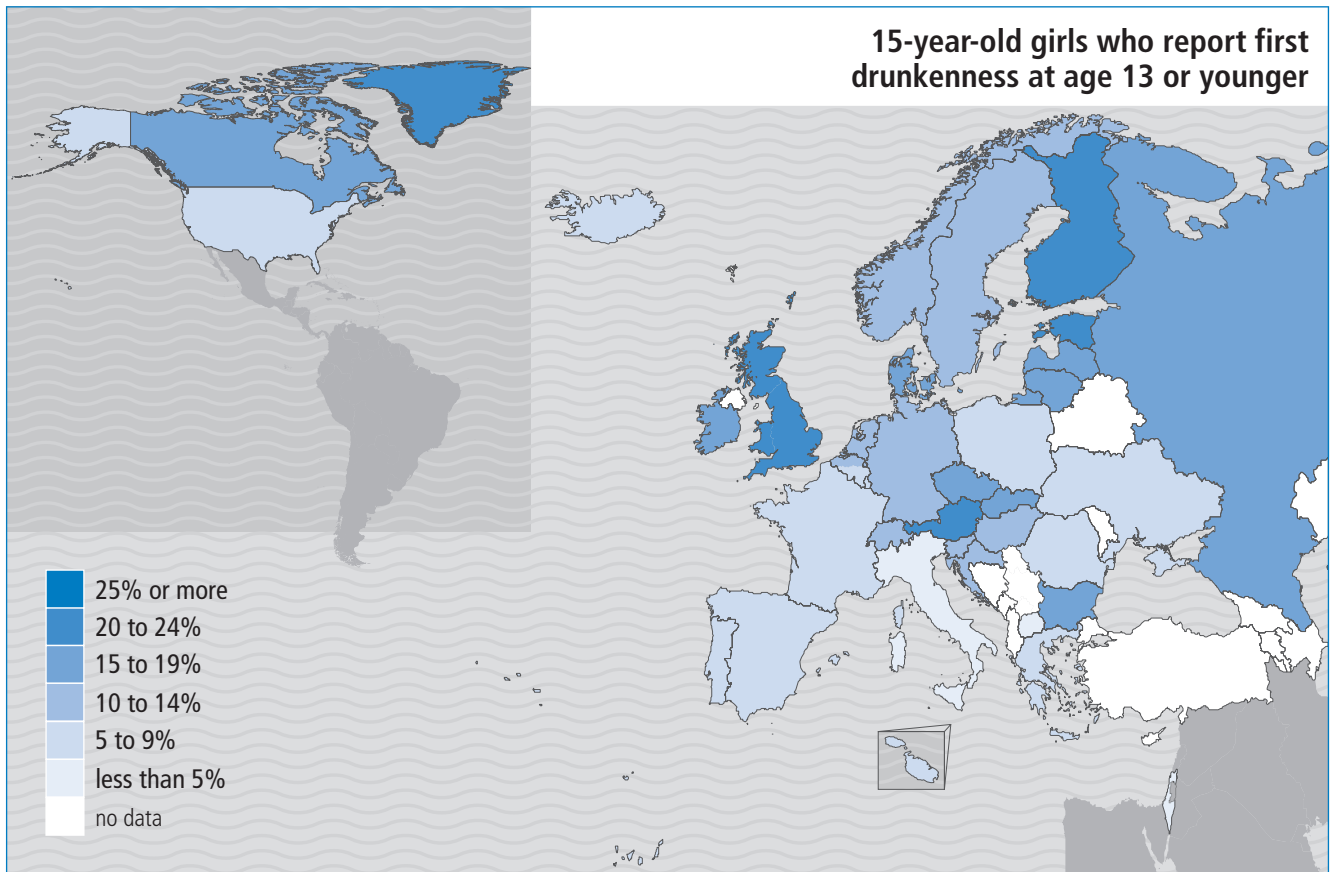
- Girls: 3% (Italy, Israel, TFYR Macedonia<sup>†</sup>) to 24% (England)
- Boys: 6% (Italy) to 35% (Estonia)

There are wide variations between countries in reports of early drunkenness among 15-year-olds. This is relatively more common among northern European countries, where girls are generally as likely as boys to report the behaviour. As with the other alcohol variables, family affluence does not emerge as an important predictor of early drunkenness.

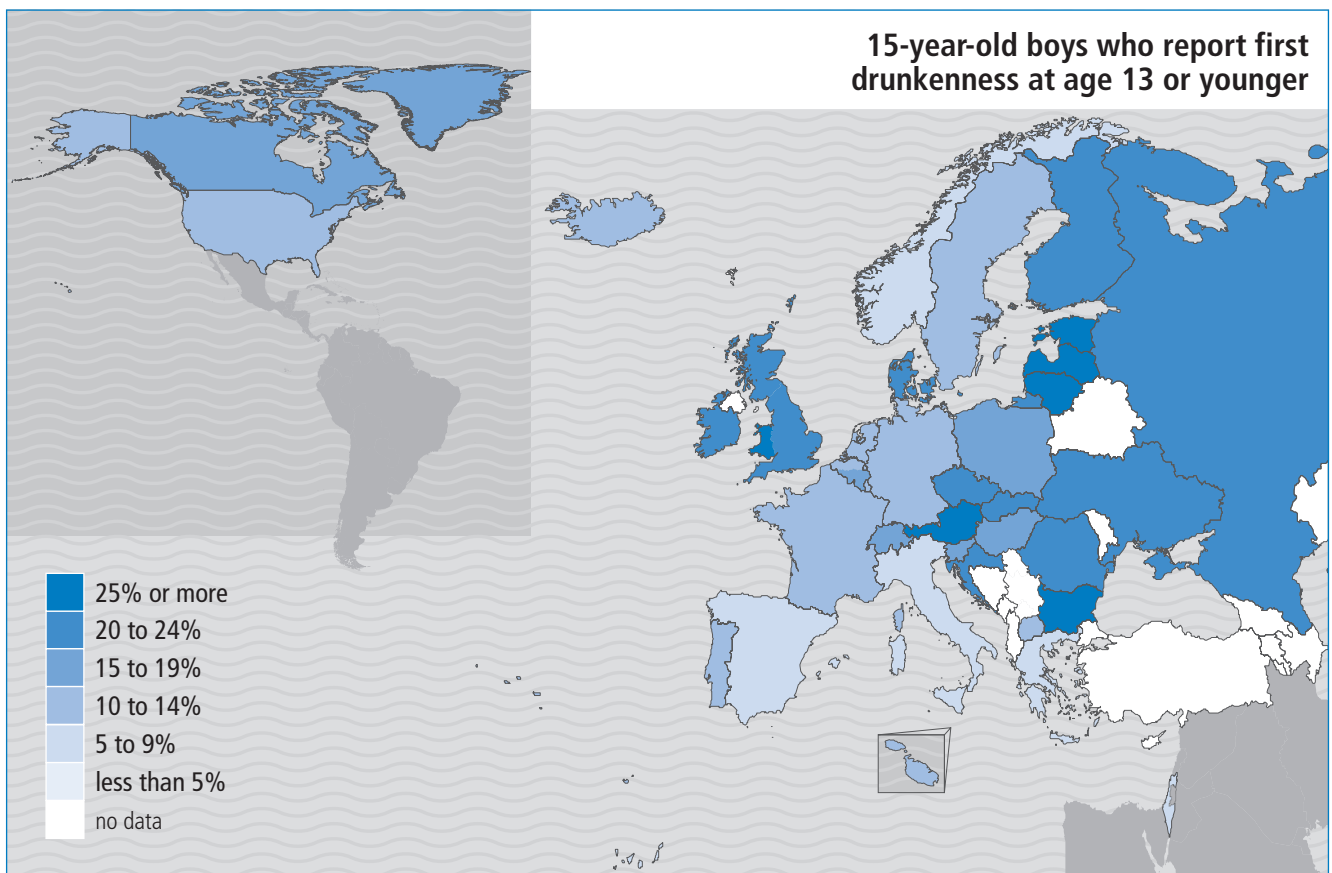
<sup>†</sup> The former Yugoslav Republic of Macedonia

### REFERENCES

1. De Wit DJ et al. Age at first alcohol use: a risk factor for the development of alcohol disorders. *American Journal of Psychiatry*, 2000, 157:745–750.
2. Kraus L et al. Prevalence of alcohol use and the association between onset of use and alcohol-related problems in a general population sample in Germany. *Addiction*, 2000, 95(9):1389–1401.
3. Fergusson DM, Lynskey MT, Horwood LJ. Childhood exposure to alcohol and adolescent drinking patterns. *Addiction*, 1994, 89:1007–1016.
4. Gruber E et al. Early drinking onset and its association with alcohol use and problem behaviour in late adolescence. *Preventive Medicine*, 1996, 25:293–300.
5. Hawkins JD et al. Exploring the effects of age of alcohol use initiation and psychosocial risk factors on subsequent alcohol misuse. *Journal of Studies on Alcohol*, 1997, 58:280–290.
6. Riala K et al. Teenage smoking and substance use as predictors of severe alcohol problems in late adolescence and in young adulthood. *Journal of Adolescent Health*, 2004, 35:245–254.
7. Warner LA, White HR. Longitudinal effects of age at onset and first drinking situations on problem drinking. *Substance Use and Misuse*, 2003, 38(14):1983–2016.
8. Poikolainen K et al. Predictors of alcohol intake and heavy drinking in early adulthood: a 5-year follow-up of 15–19 year old Finnish adolescents. *Alcohol and Alcoholism*, 2001, 36(1):85–88.
9. Kandel DB, Yamaguchi K. From beer to crack: developmental patterns of drug involvement. *American Journal of Public Health*, 1993, 83:851–855.



HBSC teams provided disaggregated data for Belgium and the UK; these data appear in the map above



HBSC teams provided disaggregated data for Belgium and the UK; these data appear in the map above



**Drunkenness is an indicator of alcohol misuse.** Frequent or heavy alcohol users report poorer subjective and overall health and a greater number of overnight hospital stays than infrequent or non-users (1).

There is a strong association between adolescent alcohol misuse and an array of other behaviours or conditions, such as smoking and illegal drug use (2), risky sexual behaviour (2,3), disruptive behaviour, depressive and anxiety disorders (4), eating disorders and obesity (5). There is evidence that these behaviours cluster in young people with high-risk lifestyles (6).

Cross-nationally, drunkenness among adolescents has been linked to the rates of drinking spirits or liquor within countries (7). In addition, a range of negative social consequences such as school truancy, poor school performance and school failure have been associated with high levels of alcohol consumption. Increased rates of bullying, fighting, damaging of property and trouble with the police have also been described (8,9).

### MEASURE

Young people were asked whether they had ever had so much alcohol that they were “really drunk”. Response options ranged from “no, never” to “yes, more than 10 times”. The findings presented here show the proportions that reported having been drunk twice or more.

### INEQUALITIES

**Age** Reported drunkenness increases significantly among both boys and girls in every country between 11 and 15 years, the steepest increase being between 13 and 15 years.

**Gender** Boys are significantly more likely to report drunkenness than girls at all ages and in most countries.

**Geography** Young people in northern Europe have relatively high rates of drunkenness and those in southern Europe relatively low rates. These geographic patterns are stronger in girls than boys.

**Family affluence** A minority of countries show a significant association between family affluence and drunkenness. Among these countries, the majority show an association between high affluence and higher rates of drunkenness.

### Associations between family affluence and indicators of health, by country/region and gender: HAVING BEEN DRUNK ON TWO OR MORE OCCASIONS

<b>NORTH</b>		Boys	Girls	<b>SOUTH</b>		Boys	Girls
Canada				Croatia			
Denmark		+		Greece			
England			–	Israel		+	
Estonia		+		Italy			
Finland			–	Malta			+
Greenland		+	+	Portugal			+
Iceland		–	–	Slovenia			
Ireland				Spain			
Latvia		+		TFYR Macedonia <sup>†</sup>			
Lithuania							
Norway							
Scotland							
Sweden							
USA							
Wales							
<b>WEST</b>		Boys	Girls	<b>EAST</b>		Boys	Girls
Austria		+		Bulgaria			+
Belgium (Flemish)				Czech Republic			
Belgium (French)				Hungary			
France				Poland			+
Germany		+		Romania			+
Luxembourg		+		Russian Federation		+	
Netherlands				Slovakia			
Switzerland				Ukraine		+	

Where family affluence is statistically significant at  $p < 0.05$ , countries are identified with +/–

+ indicates that higher levels of drunkenness are significantly associated with higher family affluence;

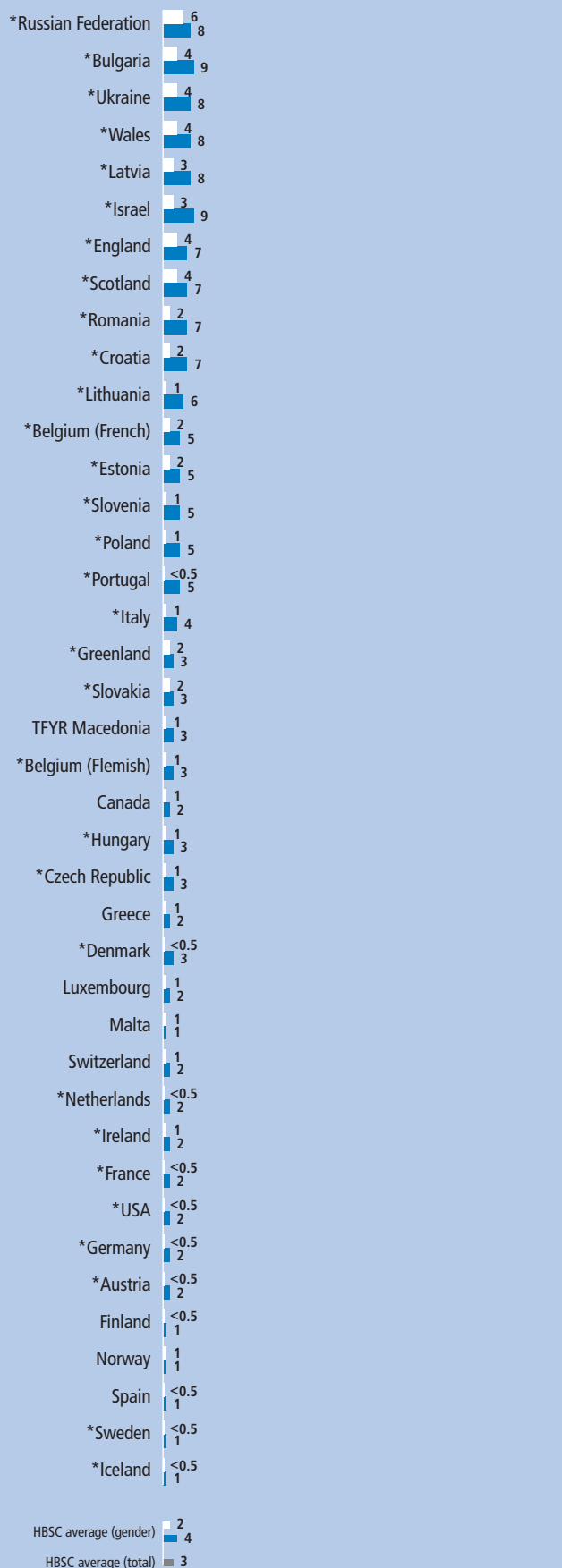
– indicates that higher levels of drunkenness are significantly associated with lower family affluence.

<sup>†</sup> The former Yugoslav Republic of Macedonia



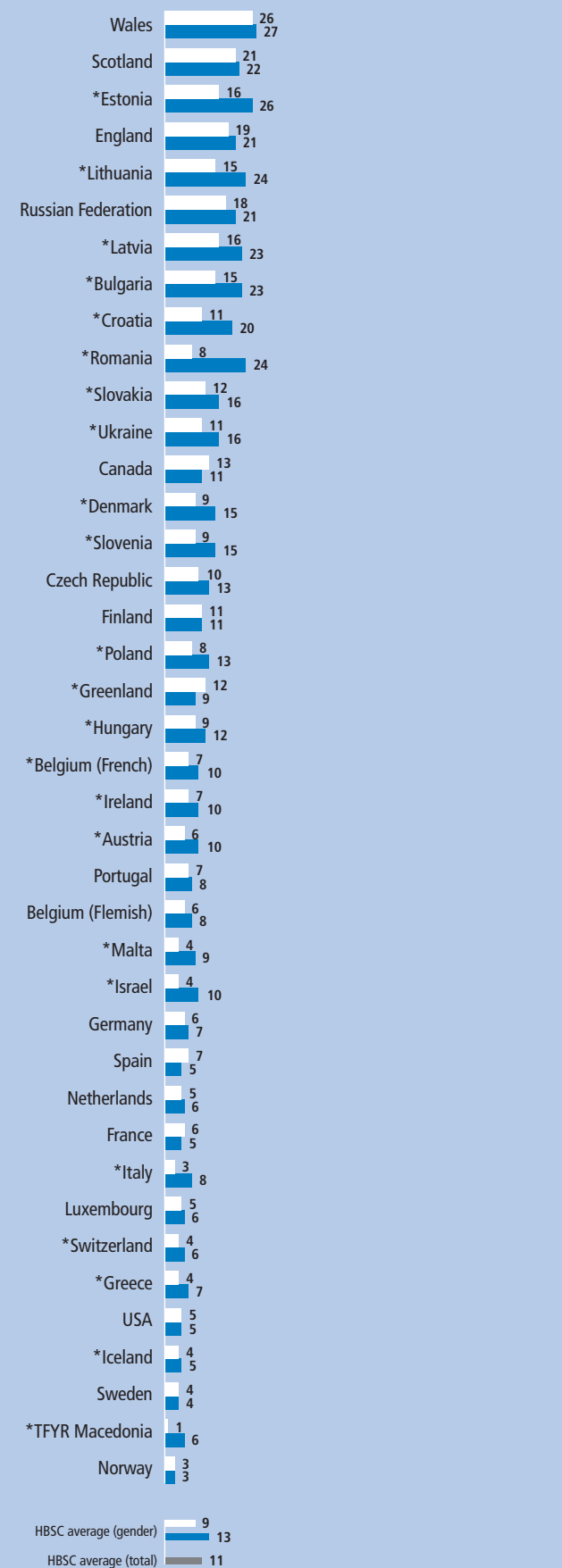
## 11-year-olds who have been drunk at least twice

■ Girl %  
■ Boy %



## 13-year-olds who have been drunk at least twice

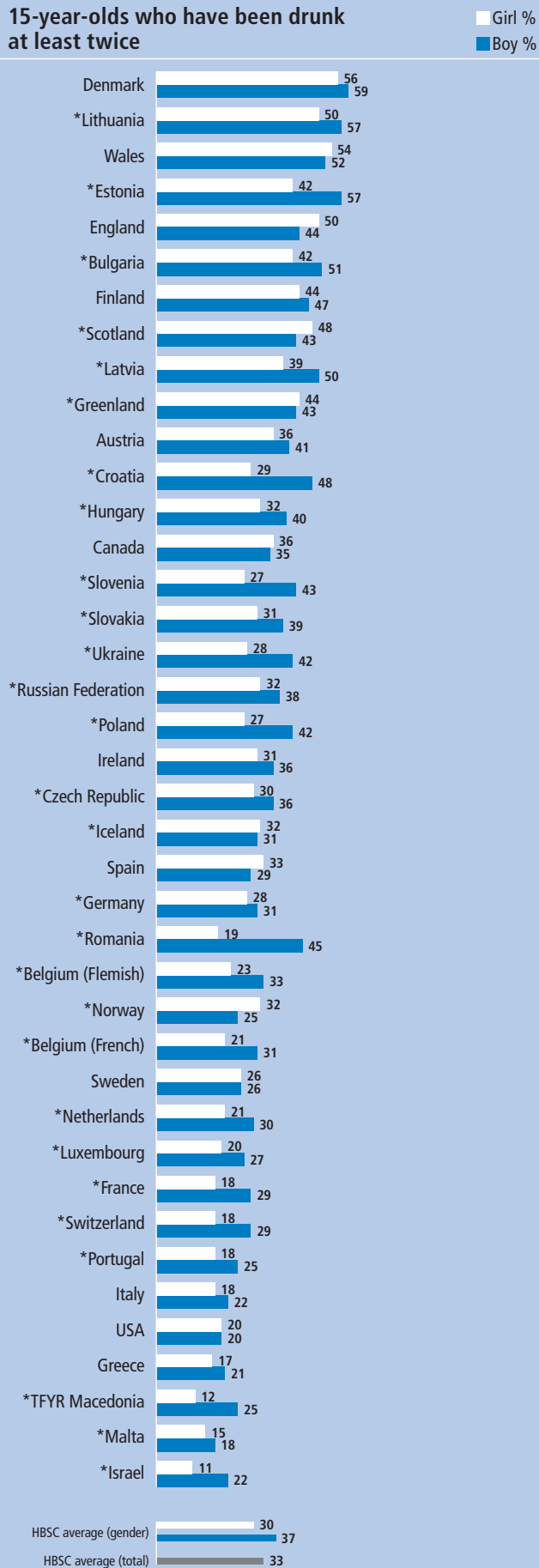
■ Girl %  
■ Boy %



\* indicates a significant gender difference (at  $p < 0.05$ ). No data available for Turkey



### 15-year-olds who have been drunk at least twice



\* indicates a significant gender difference (at  $p < 0.05$ ). No data available for Turkey

### SUMMARY FINDINGS

There are very large differences between countries in the prevalence of **having been drunk on two or more occasions**.

**11-year-olds: from <0.5% (Iceland) to 7% (Russian Federation)**

- Girls: <0.5% (Iceland, Sweden, Spain, Finland, Austria, Germany, United States, France, Netherlands, Denmark, Portugal) to 6% (Russian Federation)
- Boys: 1% (Iceland, Sweden, Spain, Norway, Finland, Malta) to 9% (Bulgaria, Israel)

**13-year-olds: from 3% (Norway) to 27% (Wales)**

- Girls: 1% (TFYR Macedonia<sup>†</sup>) to 26% (Wales)
- Boys: 3% (Norway) to 27% (Wales)

**15-year-olds: from 15% (Israel) to 57% (Denmark)**

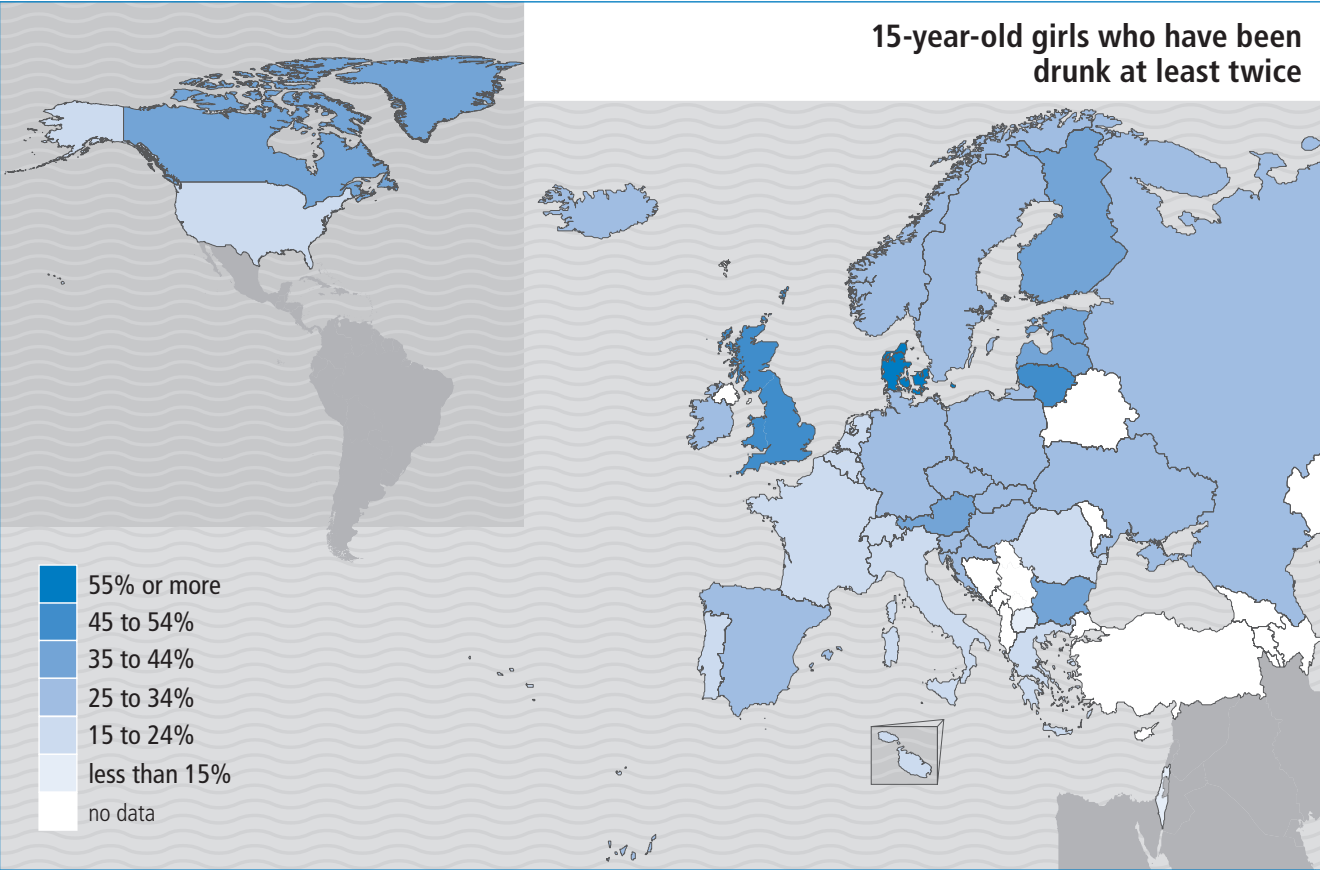
- Girls: 11% (Israel) to 56% (Denmark)
- Boys: 18% (Malta) to 59% (Denmark)

The most striking feature of these patterns for having been drunk on two or more occasions are the large cross-country differences and higher rates among 15-year-olds. As with weekly drinking, family affluence is found to be a relatively unimportant factor in risk for having been drunk on two or more occasions.

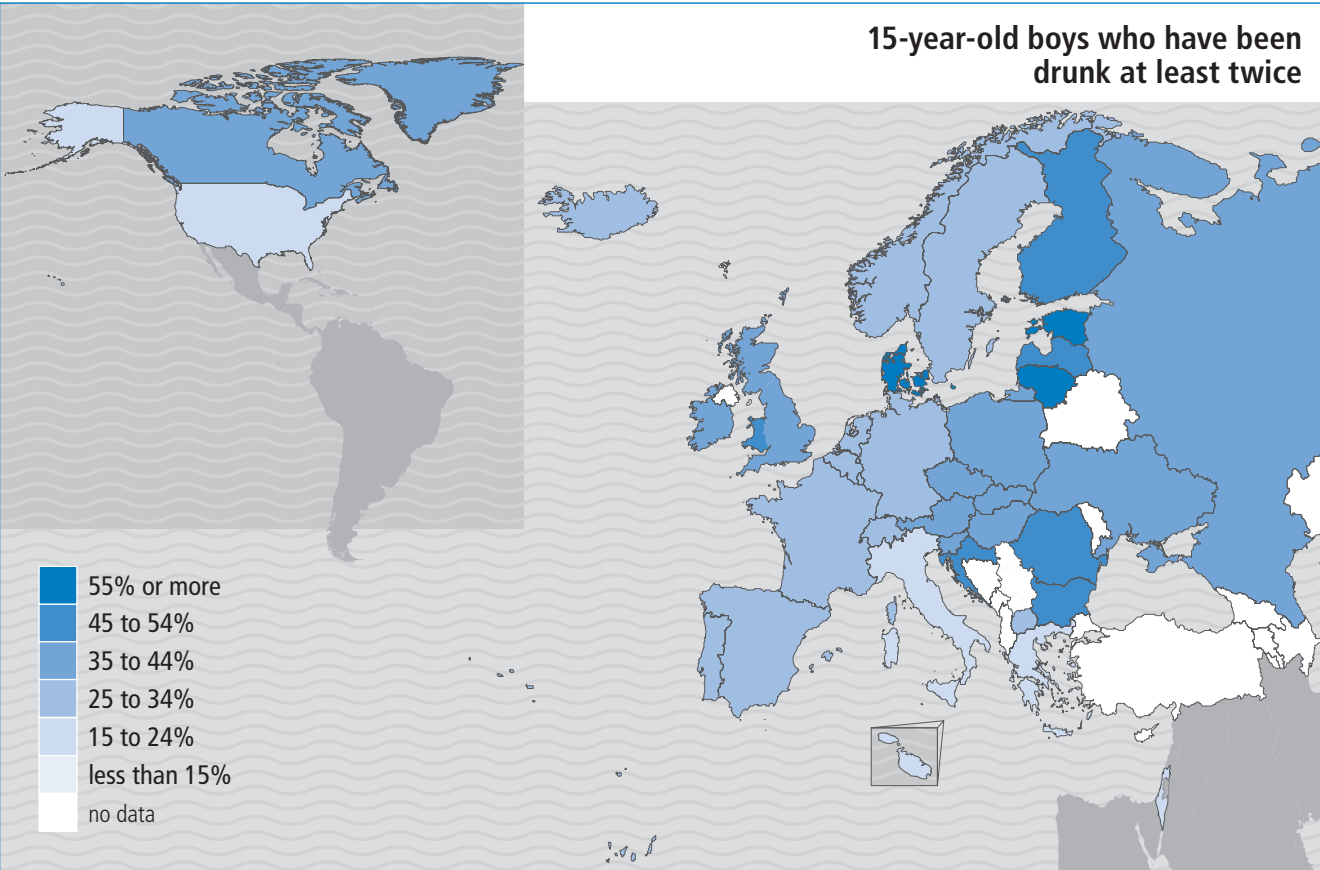
<sup>†</sup> The former Yugoslav Republic of Macedonia

### REFERENCES

- Johnson PB, Richter L. The relationship between smoking, drinking, and adolescents' self-perceived health and frequency of hospitalization: analyses from the 1997 National Household Survey on drug abuse. *Journal of Adolescent Health*, 2002, 30:175–183.
- Johnston LD, O'Malley PM, Bachman JG. *Monitoring the future: national survey results on drug use, 1975–2001. Volume 1: secondary school students*. Bethesda, MD, National Institute on Drug Abuse, National Institutes of Health, 2002.
- Cooper ML. Alcohol use and risky sexual behaviour among college students and youth: evaluating the evidence. *Journal of Studies on Alcohol*, 2002, 14(Suppl.):101–117.
- Rohde P, Lewinsohn PM, Seeley JR. Psychiatric comorbidity with problematic alcohol use in high school students. *Journal of the American Academy of Child and Adolescent Psychiatry*, 1995, 35:101–109.
- Breslow RA, Smothers BA. Drinking patterns and body mass index in never smokers. National Health Interview Survey, 1997–2001. *American Journal of Epidemiology*, 2005, 161(4):368–376.
- Pickett W et al. Multiple risk behaviours and injury: an international study of youth in 12 countries. *Archives of Pediatric and Adolescent Medicine*, 2002, 156(8):886–893.
- Schmid H et al. Drunkenness among young people: a cross-national comparison. *Journal of Studies on Alcohol*, 2003, 64(5):650–661.
- Perkins HW. Surveying the damage: a review of research on consequences of alcohol misuse in college populations. *Journal of Studies on Alcohol*, 2002, 14(Suppl.):91–100.
- Wechsler H et al. Health and behavioural consequences of binge drinking in college – a national survey of students at 140 campuses. *Journal of the American Medical Association*, 1994, 272(21):1671–1677.



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Since the 1960s, an increasing number of young people have been experimenting with drugs, to the point where illicit drug use has become a serious problem in many countries (1).

Cannabis is the primary illicit drug consumed in the European Union, with a significant rise in use since the 1990s. Cannabis use appears to be a normative behaviour among adolescents in North America and in several European countries.

Cannabis use during adolescence is of concern for a variety of reasons. Negative health and legal consequences for users have been documented (2,3) and the relationships between cannabis use and increased risk of psychosocial difficulties have also been widely reported (4–6). While it has been argued that for most people cannabis use is an adolescent phenomenon that is unrelated to adult substance use (7), others have reported that early cannabis use is predictive of later problematic psychosocial adjustment (8) and an increased risk of cannabis dependence in adulthood (9).

### MEASURE

Young people (15-year-olds only) were asked whether they had ever taken cannabis in their life. Response options ranged from “never” to “40 times or more”. The findings presented here show the proportions that reported using cannabis at least once in their life. Data on cannabis use in the last 12 months and a comparison of user groups can be found in the annex.

### INEQUALITIES

**Age** Data are presented for 15-year-olds only.

**Gender** There is a general tendency for cannabis use to be more prevalent among boys than girls, with a significant gender difference in around half of countries. However, girls are as likely as boys to have used cannabis in many of the countries with the highest rates.

**Geography** Young people in the United States and Canada and in several northern and western European countries have the highest rates of lifetime use of cannabis.

**Family affluence** There is a significant association between having tried cannabis and family affluence in a third of countries for girls and in fewer countries for boys. In some of these countries, particularly those in eastern Europe, it is associated with high family affluence and in others with low affluence.

### Associations between family affluence and indicators of health, by country/region and gender: LIFETIME CANNABIS USE

<b>NORTH</b>		Boys	Girls	<b>SOUTH</b>		Boys	Girls
Canada				Croatia		+	
Denmark				Greece		+	
England			–	Israel			
Estonia			+	Italy			
Finland				Malta			+
Greenland				Portugal			+
Iceland		–	–	Slovenia			
Ireland				Spain			–
Latvia		+		TFYR Macedonia <sup>†</sup>			
Lithuania			+				
Scotland		–					
Sweden			–				
USA		–	–				
Wales							
<b>WEST</b>		Boys	Girls	<b>EAST</b>		Boys	Girls
Austria				Bulgaria		+	+
Belgium (Flemish)			–	Czech Republic			
Belgium (French)				Hungary			
France				Poland			+
Germany				Romania			
Luxembourg				Russian Federation		+	+
Netherlands				Slovakia		+	
Switzerland				Ukraine			

Where family affluence is statistically significant at  $p < 0.05$ , countries are identified with +/–

+

 indicates that higher levels of lifetime cannabis use are significantly associated with higher family affluence;

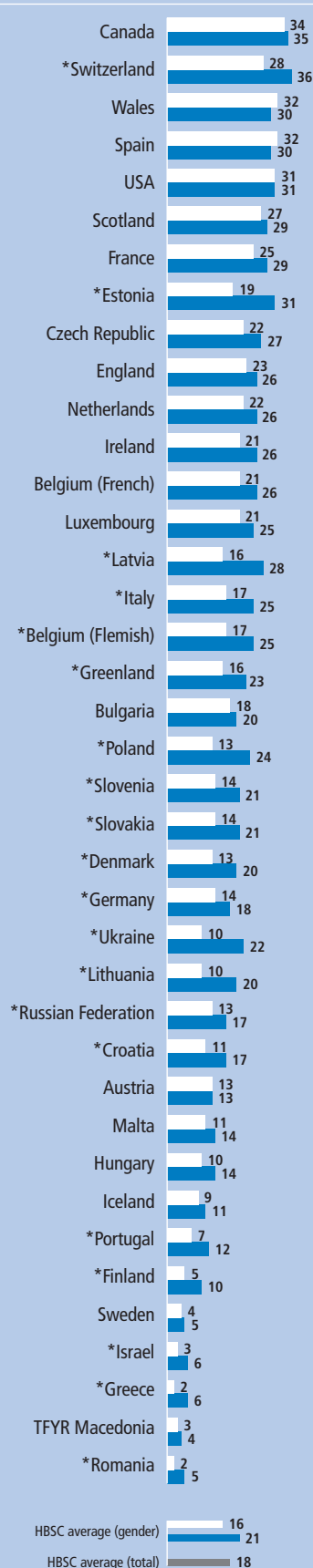
–

 indicates that higher levels of lifetime cannabis use are significantly associated with lower family affluence.

<sup>†</sup> The former Yugoslav Republic of Macedonia

## 15-year-olds who have ever used cannabis in their lifetime

Girl %  
Boy %



\* indicates a significant gender difference (at  $p < 0.05$ ). No data available for Norway and Turkey

## SUMMARY FINDINGS

There are very large cross-country differences in the experience of **lifetime cannabis use** among 15-year-olds.

## 15-year-olds: from 3% (Romania) to 34% (Canada)

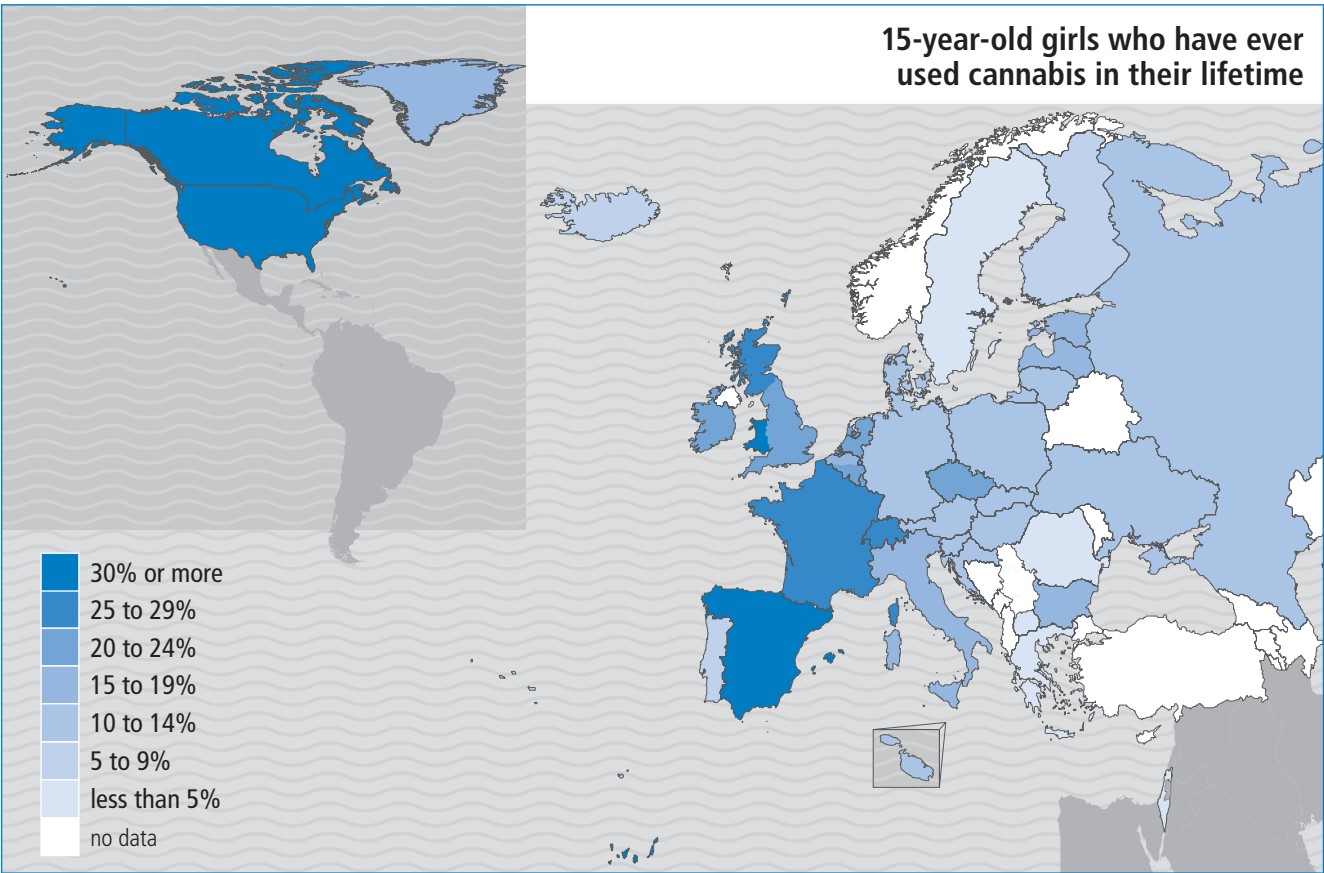
- Girls: 2% (Romania, Greece) to 34% (Canada)
- Boys: 4% (TFYR Macedonia<sup>†</sup>) to 36% (Switzerland)

There are large differences between countries on lifetime cannabis use among young people. Rates are very low in a small group of about five countries, the majority have a range between 10% and 20%, and a group of around 14 countries have rates between 20% and 30%. Family affluence does not appear to be strongly associated with lifetime cannabis use in most countries.

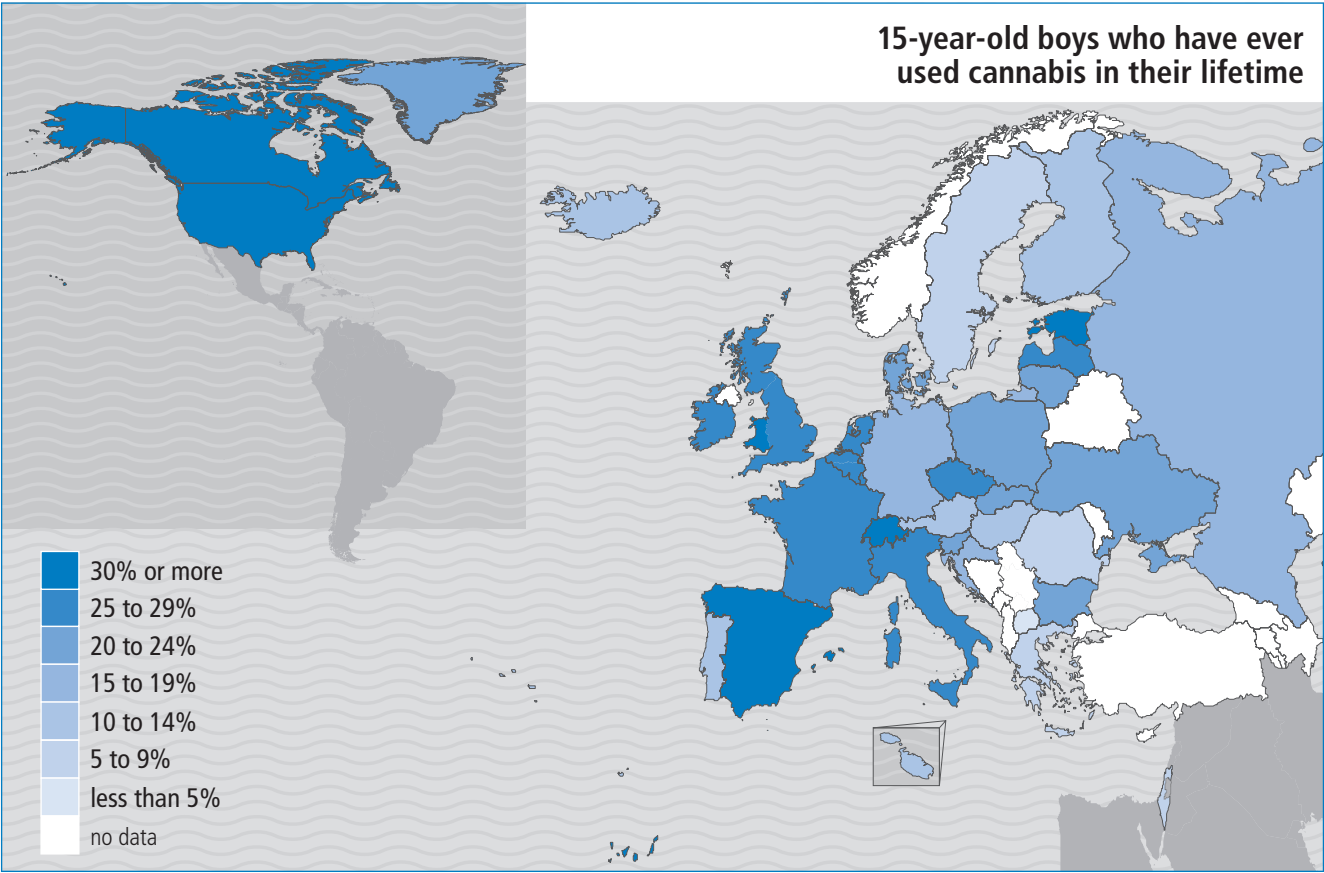
<sup>†</sup> The former Yugoslav Republic of Macedonia

## REFERENCES

1. ter Bogt T et al. Economic and cultural correlates of cannabis use among mid adolescents in 31 countries. *Addiction*, 2006, 101(2):241–251.
2. American Academy of Pediatrics. Marijuana: a continuing concern for pediatricians. *Pediatrics*, 1991, 88:1070–1072.
3. MacCoun RJ. Drugs and the law: a psychological analysis of drug prohibition. *Psychological Bulletin*, 1993, 113:497–512.
4. Donovan JE, Jessor R. Structure of problem behaviour in adolescence and young adulthood. *Journal of Consulting and Clinical Psychology*, 1985, 53:890–904.
5. Farrell AD, Danish SJ, Howard CW. Relationship between drug use and other problem behaviours in urban adolescents. *Journal of Consulting and Clinical Psychology*, 1992, 60:705–712.
6. Kandel DB et al. The consequences in young adulthood of adolescent drug involvement: an overview. *Archives of General Psychiatry*, 1986, 43:746–754.
7. Labouvie E, Bates ME, Pandina RJ. Age of first use: its reliability and predictive utility. *Journal of Studies on Alcohol*, 1997, 58:638–643.
8. Fergusson DM, Horwood LJ. Early onset cannabis use and psychosocial adjustment in young adults. *Addiction*, 1997, 92(3):279–296.
9. Grant BF, Dawson DA. Age of onset of drug use and its association with DSM–IV abuse and dependence: results from the National Longitudinal Alcohol Epidemiologic Survey. *Journal of Substance Abuse*, 1998, 10:163–173.



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**Recent cannabis use is indicative of regular rather than experimental use.** As a risk behaviour, cannabis use is damaging to both long- and short-term health and is an indicator of well-being and social relations (1).

Although occasional cannabis use may be normative, and there is evidence to suggest that young people who use cannabis in modest doses are better adjusted and have better social skills than non-users or heavy users (2,3), frequent use of cannabis is associated with more negative outcomes. Population studies among cannabis users have identified increased rates of externalizing disorders such as juvenile offending and conduct problems (4,5) and, to a lesser extent, internalizing problems such as psychosis (6) and depression (7). These problems may both predate and be exacerbated by cannabis use (2). Along with other substance use (such as tobacco and alcohol), cannabis use has been listed as among the risk factors for psychiatric morbidity (8–10).

### MEASURE

Young people (15-year-olds only) were asked whether they had taken cannabis in the last 30 days. Response options ranged from “never” to “40 times or more”. The findings presented here show the proportions that reported using cannabis at least once in the last 30 days.

### INEQUALITIES

**Age** Data are presented for 15-year-olds only.

**Gender** There is a general tendency for last 30 days cannabis use to be more prevalent among boys, and there is a significant gender difference in around half of countries. Girls are as likely as boys to have used cannabis in the last 30 days in some countries where rates are higher.

**Geography** Young people in the United States, Canada and Spain have the highest rates of cannabis use.

**Family affluence** There is a significant association between cannabis use and family affluence in a few countries, but in general, no strong pattern is observed.

### Associations between family affluence and indicators of health, by country/region and gender: CANNABIS USE IN THE LAST 30 DAYS

<b>NORTH</b>		Boys	Girls	<b>SOUTH</b>		Boys	Girls
Canada				Croatia			
Denmark				Greece			
England			–	Israel			–
Estonia				Italy			
Finland				Malta			+
Greenland				Portugal			
Iceland		–	–	Slovenia			
Ireland				Spain			–
Latvia				TFYR Macedonia <sup>†</sup>			
Lithuania							
Scotland							
Sweden		–					
USA			–				
Wales							
<b>WEST</b>		Boys	Girls	<b>EAST</b>		Boys	Girls
Austria				Bulgaria		+	+
Belgium (Flemish)				Czech Republic			
Belgium (French)				Hungary			
France				Poland			
Germany				Romania			
Luxembourg				Russian Federation		+	+
Netherlands				Slovakia			
Switzerland				Ukraine		+	

Where family affluence is statistically significant at  $p < 0.05$ , countries are identified with +/–

+ indicates that higher levels of cannabis use in the last 30 days are significantly associated with higher family affluence;

– indicates that higher levels of cannabis use in the last 30 days are significantly associated with lower family affluence.

<sup>†</sup>The former Yugoslav Republic of Macedonia



## 15-year-olds who have used cannabis in the last 30 days

■ Girl %  
■ Boy %



\* indicates a significant gender difference (at  $p < 0.05$ ). No data available for Norway and Turkey

## SUMMARY FINDINGS

As with lifetime experience of cannabis, there are very wide variations between countries in the prevalence of cannabis use in the last 30 days.

**15-year-olds: from <0.5% (Romania) to 16% (Canada)**

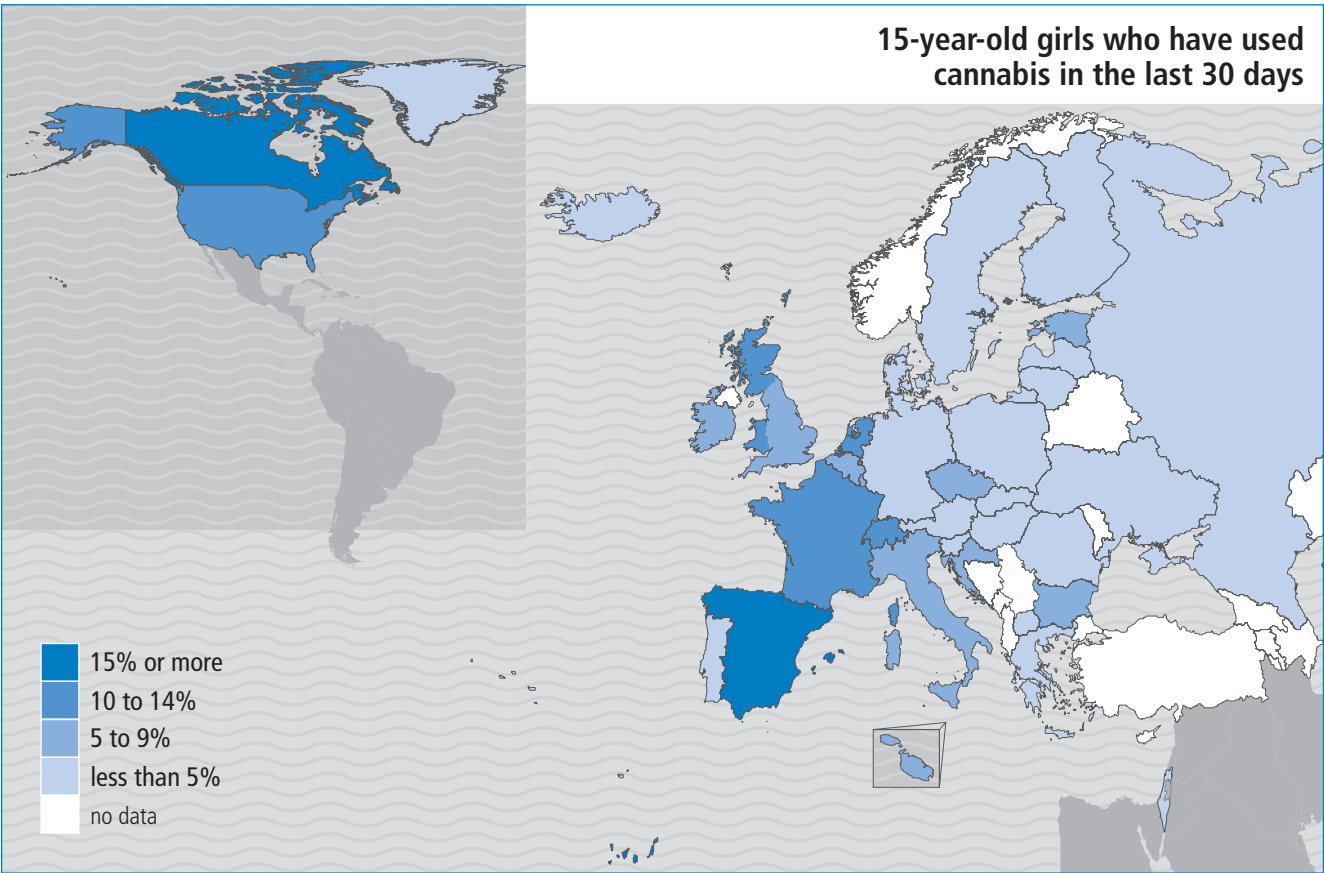
- Girls: <0.5% (Romania) to 15% (Canada)
- Boys: 1% (Romania) to 17% (Canada, Spain)

There are wide differences between countries in use of cannabis in the last 30 days among young people. It is virtually unreported in some countries, whereas around 15% report having used cannabis in the last 30 days at the high end of the range. Family affluence is not a strong factor in cannabis use in the last 30 days.

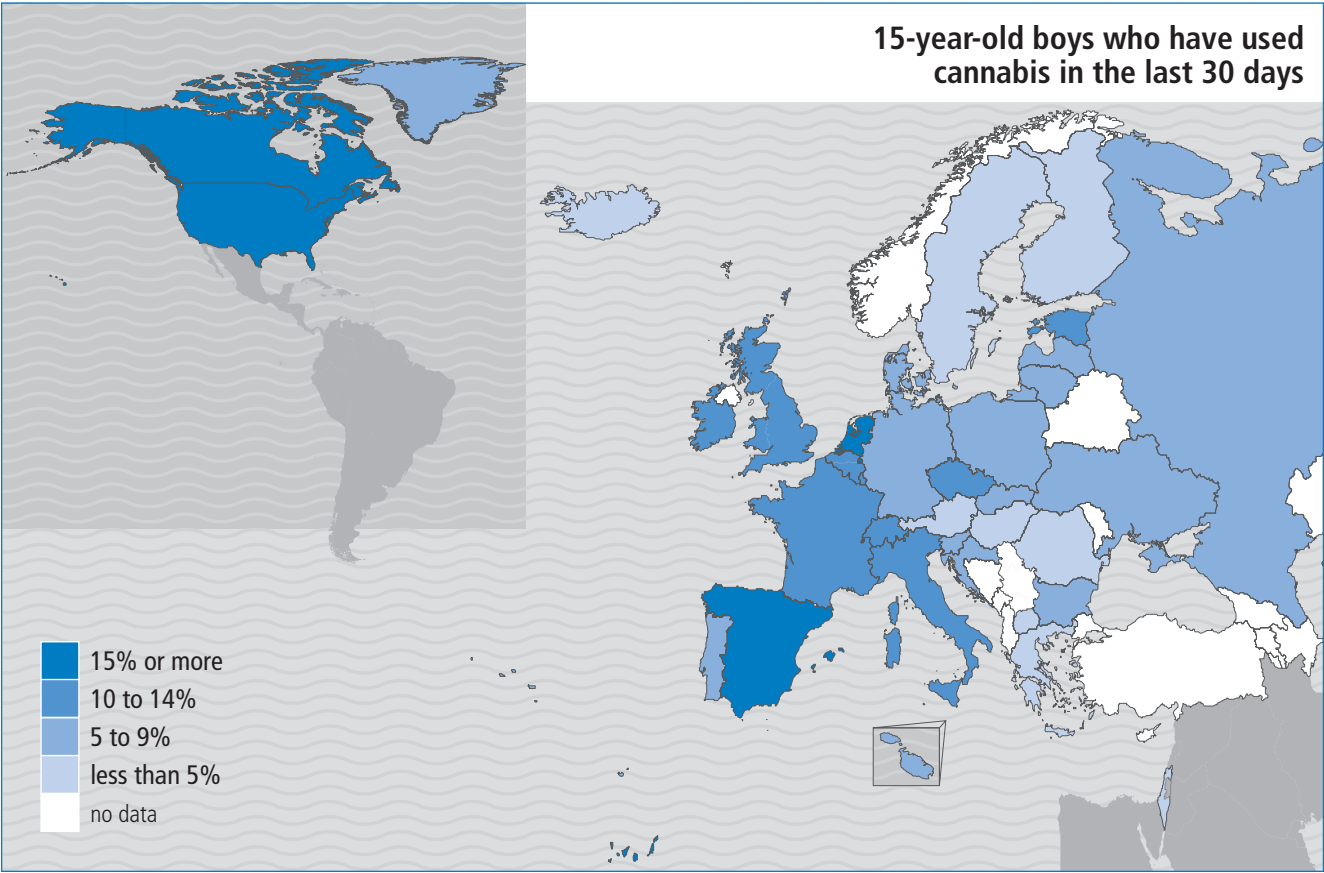
## REFERENCES

1. Di Clemente RJ, Hansen WB, Ponton PE. *Handbook of adolescent health risk behaviour: issues in clinical child psychology*. New York, NY, Plenum, 1996.
2. Shedler J, Block J. Adolescent drug use and psychological health: a longitudinal enquiry. *American Psychologist*, 1990, 45:612–630.
3. Engels RCME, ter Bogt T. Influences of risk behaviours on the quality of peer relations in adolescence. *Journal of Youth and Adolescence*, 2001, 60:99–107.
4. Fergusson DM, Horwood LJ, Swain-Campbell N. Cannabis use and psychosocial adjustment in adolescence and young adulthood. *Addiction*, 2002, 97(9):1123–1135.
5. Arseneault L et al. Cannabis use in adolescence and risk for adult psychosis: longitudinal prospective study. *British Medical Journal*, 2002, 325(7374):1212–1213.
6. Kokkevi A et al. Psychosocial correlates of substance use in adolescence: a cross-national study in six European countries. *Drug and Alcohol Dependence*, 2007, 86:67–74.
7. Degenhardt L, Hall W, Lynskey M. Exploring the association between cannabis use and depression. *Addiction*, 2003, 98(11):1493–1504.
8. Croome I, Bloor R. Substance misuse and psychiatric comorbidity in adolescents. *Current Opinion in Psychiatry*, 2005, 18(4):435–439.
9. Verdurmen J et al. Alcohol use and mental health: is there an association in secondary school children? Findings from the Dutch 2001 school survey on Health Behaviour in School-aged Children (HBSC). *Journal of Studies on Alcohol*, 2005, 66:605–609.
10. Monshouwer K et al. Cannabis use and mental health in secondary school children. Findings from the Dutch 2001 school survey on Health Behaviour in School-aged Children (HBSC). *British Journal of Psychiatry*, 2006, 188:148–153.





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**Sexual health can be described as the positive integration of the physical, emotional, intellectual and social aspects of sexuality (1).**

The development of sexuality in adolescence involves the physical changes associated with puberty, psychological changes and interpersonal events. Adolescent sexuality is consequently characterized as “emergent” during a time of both opportunity and vulnerability.

International comparisons of age of initiation of sexual activities show that, at least in industrialized countries, the decline in age of first having sex is slowing down, but that the gender gap is narrowing, with girls initiating earlier than before (2,3). However, early sexual activity, particularly when associated with inconsistent or non-use of contraception, has serious short- and long-term health-compromising consequences, as it happens before young people are developmentally equipped to handle the consequences.

Early sexual initiation has been associated with other risk behaviours such as smoking tobacco (mainly for girls), higher levels of drunkenness and cannabis use and frequent evenings out with friends (4–6). In addition, early sexual intercourse has been associated with more frequent psychosomatic complaints among boys and lower health-related quality of life among girls (7).

### MEASURE

Young people (15-year-olds only) were asked whether they had ever had sexual intercourse. The question was qualified by colloquial terminology (for instance, “having sex” or “going all the way”) to ensure that respondents understood the question asked about full penetrative sex. The findings presented here show the proportions that reported that they had had sexual intercourse.

### INEQUALITIES

**Age** Data are presented for 15-year-olds only.

**Gender** In more than half of countries, boys are more likely to report having had sexual intercourse; this is significant in a minority of countries. Girls have significantly higher rates in a small number of countries.

**Geography** No strong geographical patterns are found among boys. The highest rates of sexual intercourse for girls are in northern Europe. Girls in southern and western Europe have relatively low rates of reported sexual intercourse.

**Family affluence** About a third of countries show a significant association between having had sexual intercourse and family affluence for boys; this applies to fewer countries for girls. In general, the association is with low family affluence for girls and high family affluence for boys, the latter being true particularly in eastern Europe.

### Associations between family affluence and indicators of health, by country/region and gender: EXPERIENCE OF SEXUAL INTERCOURSE

<b>NORTH</b>		Boys	Girls	<b>SOUTH</b>		Boys	Girls
Canada			–	Croatia		+	
Denmark				Greece			–
England				Israel			–
Estonia				Italy			
Finland				Malta			
Greenland				Portugal			
Iceland		–	–	Slovenia			
Latvia				Spain		+	–
Lithuania		+	–	TFYR Macedonia <sup>†</sup>		+	
Scotland							
Sweden							
Wales							
<b>WEST</b>		Boys	Girls	<b>EAST</b>		Boys	Girls
Austria		+		Bulgaria		+	+
Belgium (Flemish)				Czech Republic		+	
Belgium (French)				Hungary		+	
France				Romania			
Germany				Russian Federation		+	
Luxembourg			–	Slovakia			
Netherlands				Ukraine		+	
Switzerland		–					

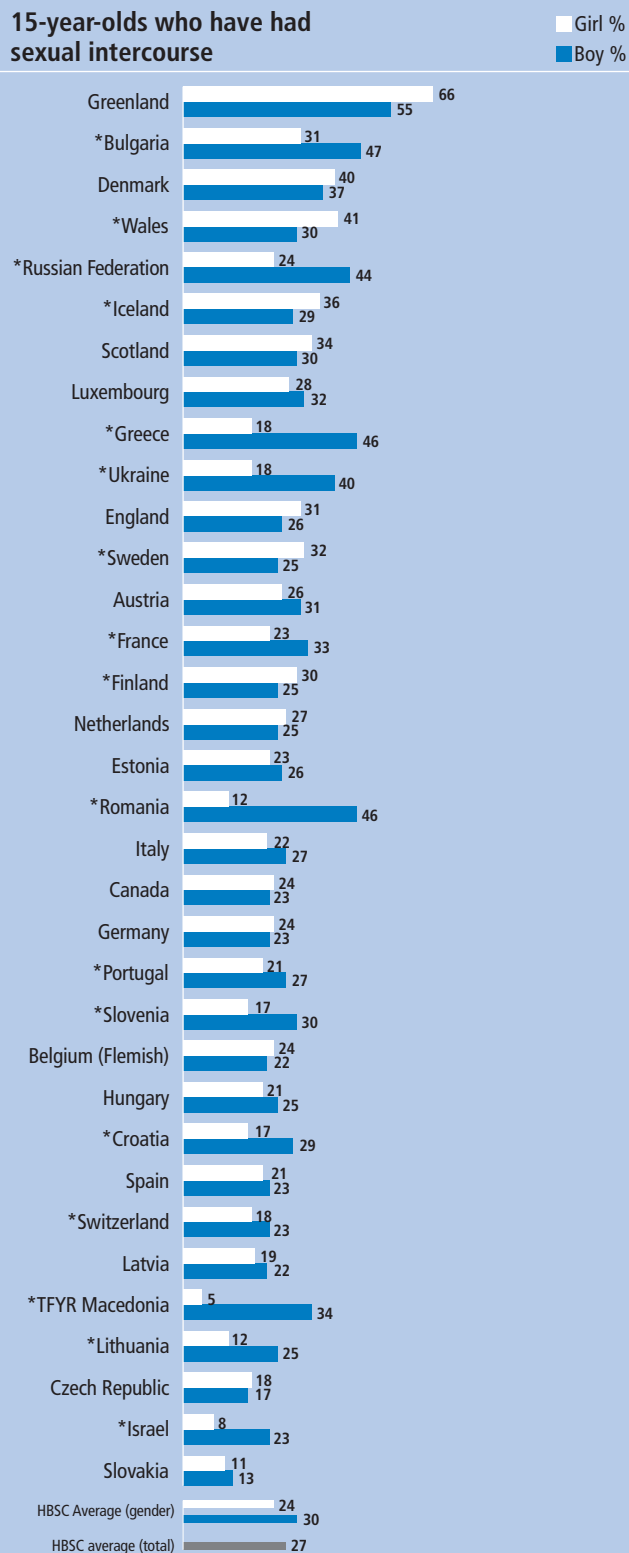
Where family affluence is statistically significant at  $p < 0.05$ , countries are identified with +/–

+ indicates that higher levels of having had sex are significantly associated with higher family affluence;

– indicates that higher levels of having had sex are significantly associated with lower family affluence.

<sup>†</sup>The former Yugoslav Republic of Macedonia

## 15-year-olds who have had sexual intercourse



\* indicates a significant gender difference (at  $p < 0.05$ ). No data available for Belgium (French), Ireland, Malta, Norway, Poland, Turkey and USA

## SUMMARY FINDINGS

Experience of sexual intercourse as reported by 15-year-olds varies considerably across countries.

## 15-year-olds: 12% (Slovakia) to 61% (Greenland)

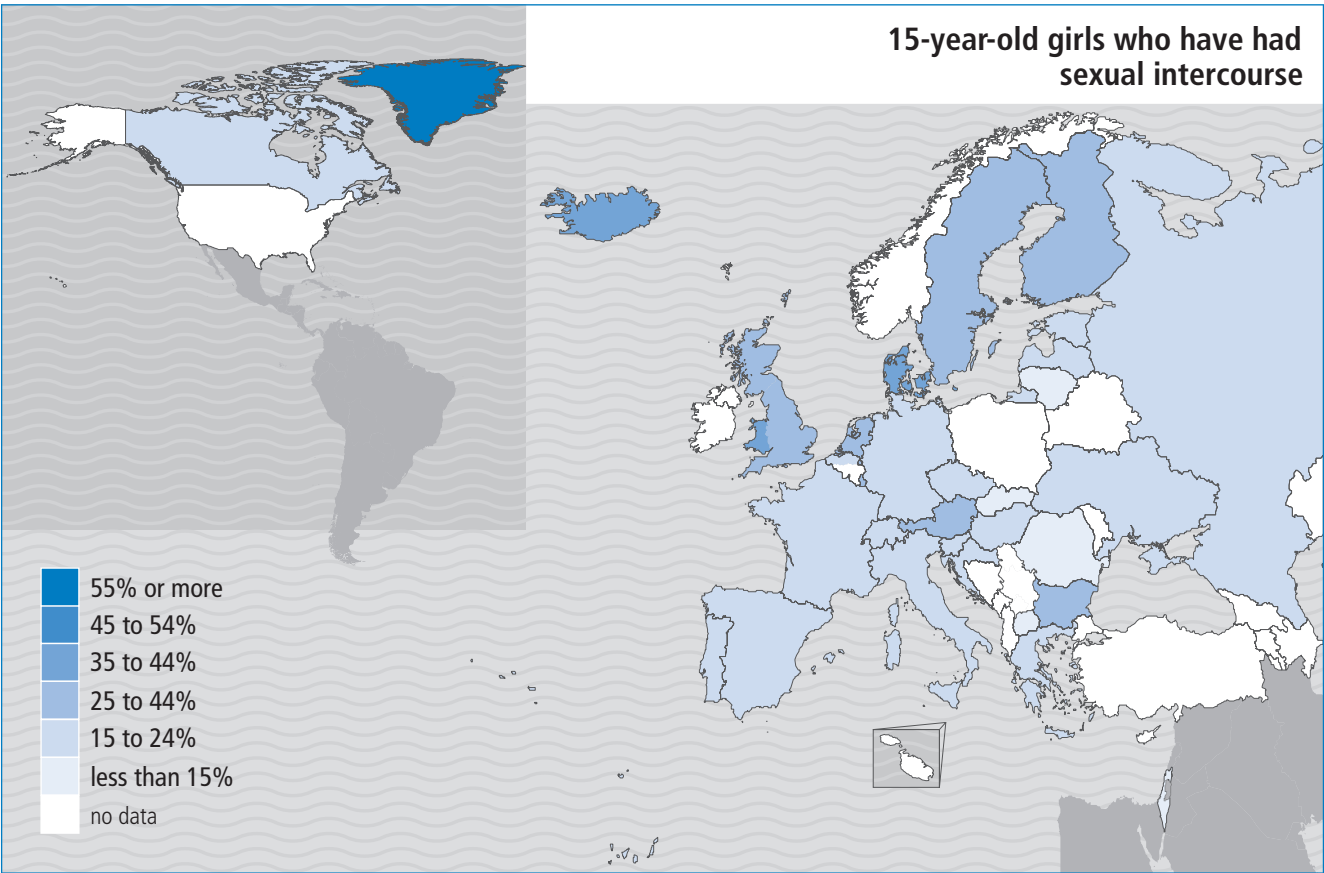
- Girls: 5% (TFYR Macedonia\*) to 66% (Greenland)
- Boys: 13% (Slovakia) to 55% (Greenland)

There are wide variations between countries in reports of experiencing sexual intercourse, with some evidence of geographical patterns, particularly among girls. Although in general boys are more likely to report sexual intercourse, in a few countries this pattern is reversed. Family affluence is generally not a strong predictive factor, except for boys in eastern Europe.

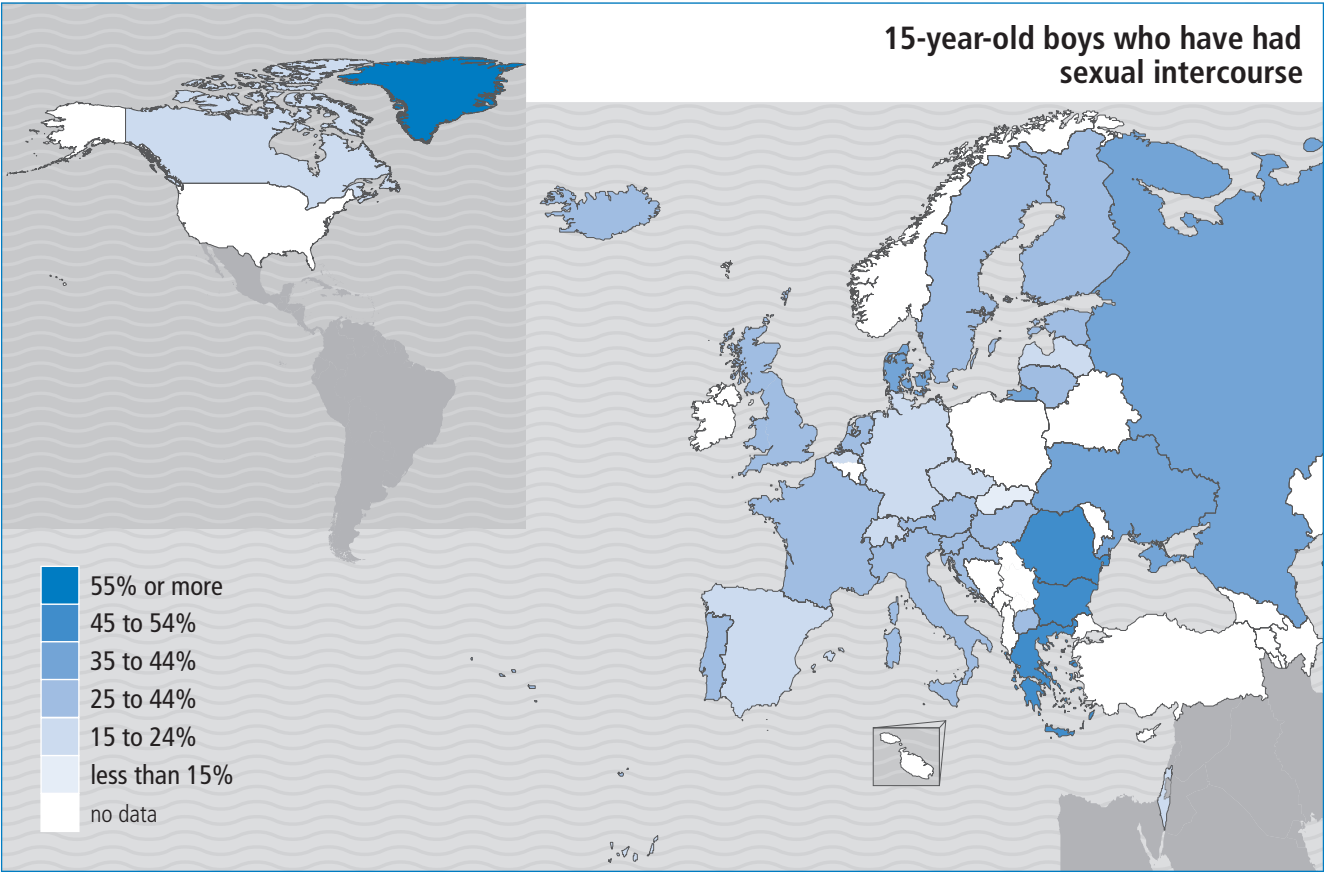
\* The former Yugoslav Republic of Macedonia

## REFERENCES

1. Raphael D. Determinants of health of North American adolescents: evolving definitions, recent findings and proposed research agendas. *Journal of Adolescent Health*, 1996, 19:6–16.
2. Teitler JO. Trends in youth sexual initiation and fertility in developed countries: 1960–1995. *The Annals of the American Academy of Political and Social Science*, 2002, 580:134–152.
3. Wellings K. Sexual behaviour in context: a global perspective. *Lancet*, 2006, 368:1706–1728.
4. Robertson JA, Plant MA. Alcohol, sex and risks of HIV infection. *Drug and Alcohol Dependence*, 1988, 22(1):75–78.
5. Traeen B, Lundin Kvaalem I. Sex under the influence of alcohol among Norwegian adolescents. *Addiction*, 1996, 9(7):995–1006.
6. Pickett W et al. Multiple risk behaviours and injury: an international study of youth in 12 countries. *Archives of Pediatric and Adolescent Medicine*, 2002, 156(8):886–893.
7. Godeau E et al. Facteurs associés à une initiation sexuelle précoce chez les filles: données Françaises de l'enquête internationale Health Behaviour in School-aged Children (HBSC)/OMS. *Gynécologie Obstétrique & Fertilité*, 2008, 36(2):176–182.



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**Adolescent fertility regulation is among the major health care challenges of the 21st century** (1). Unintended pregnancy is one of the biggest negative consequences of adolescent sexual risk behaviour. In the case of pregnancy leading to birth, adverse consequences can be expected for both mother and child (1–3).

Oral contraceptives are the most popular method of pregnancy prevention in the developed world. They are safe and of proven efficacy for this purpose (4). Although the medical contraindications in adolescence are the same as for other age groups, the progestogen-only pill is less suitable for adolescents than the combined pill, because it is generally less effective and requires greater diligence in compliance (5).

Wide variations have been found in the reports of contraception use among adolescents (6). Of considerable importance for the interpretation of these findings is the extent to which they can be explained by patterns of accessibility and affordability of reproductive services (2,7), especially for those as young as 15 years.

#### MEASURE

Young people (15-year-olds only) were asked what method(s) had been used at their last sexual intercourse to prevent pregnancy. A list of contraceptive methods was provided: birth control pill, condom, withdrawal, or some other method. Some countries included additional nationally relevant items in the list (such as “morning-after pill” and “natural rhythm method”). The findings presented here show the proportions that reported that the contraceptive pill was used by them or their partner at their last sexual intercourse.

#### INEQUALITIES

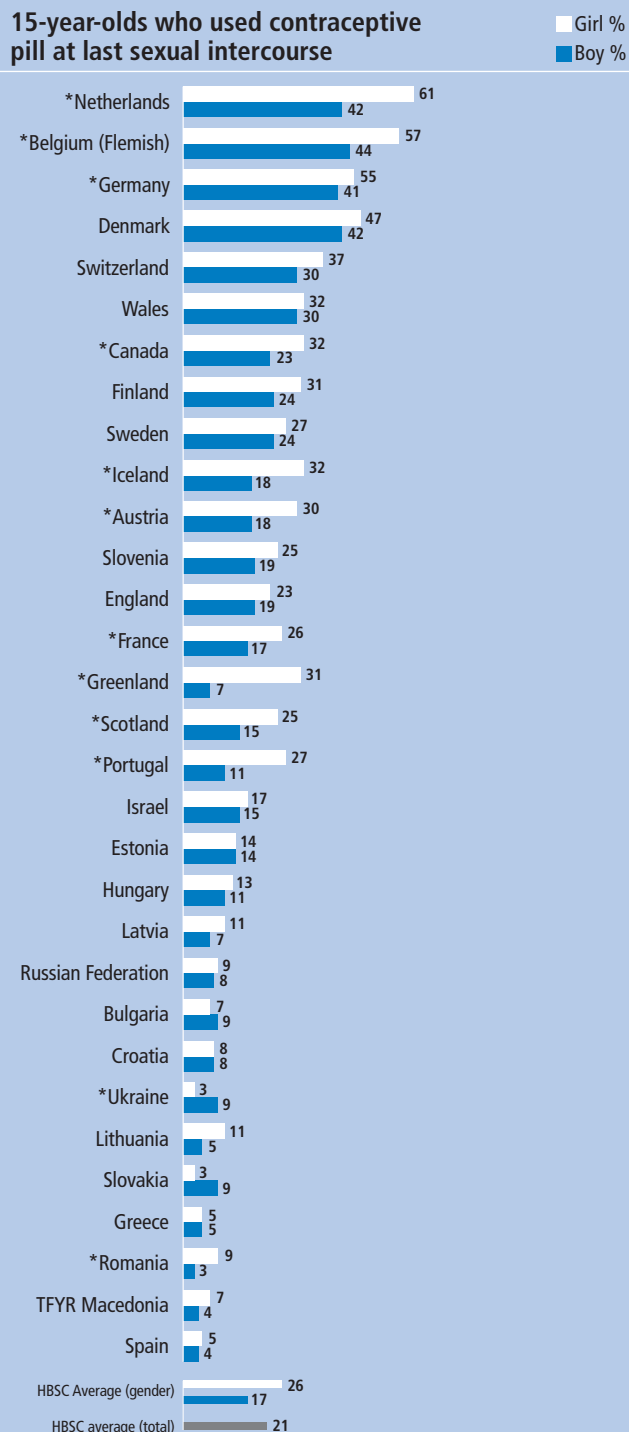
**Age** Data are presented for 15-year-olds only.

**Gender** Of the methods offered, girls are more likely than boys to report having opted for the contraceptive pill at last intercourse, and this difference is significant in a minority of countries.

**Geography** Use of contraceptive pill at last intercourse is least likely among boys and girls in eastern and southern Europe, and most likely among those in western Europe.

**Family affluence** No associations with family affluence are presented as the numbers are too small within this subsample of one age group to detect meaningful differences.

### 15-year-olds who used contraceptive pill at last sexual intercourse



\* indicates a significant gender difference (at  $p < 0.05$ ). No data available for Belgium (French), Czech Republic, Ireland, Italy, Luxembourg, Malta, Norway, Poland, Turkey and USA

### SUMMARY FINDINGS

There are very wide variations between countries in reports of **contraceptive pill use** at last sexual intercourse.

#### 15-year-olds: from 4% (Spain) to 52% (Netherlands)

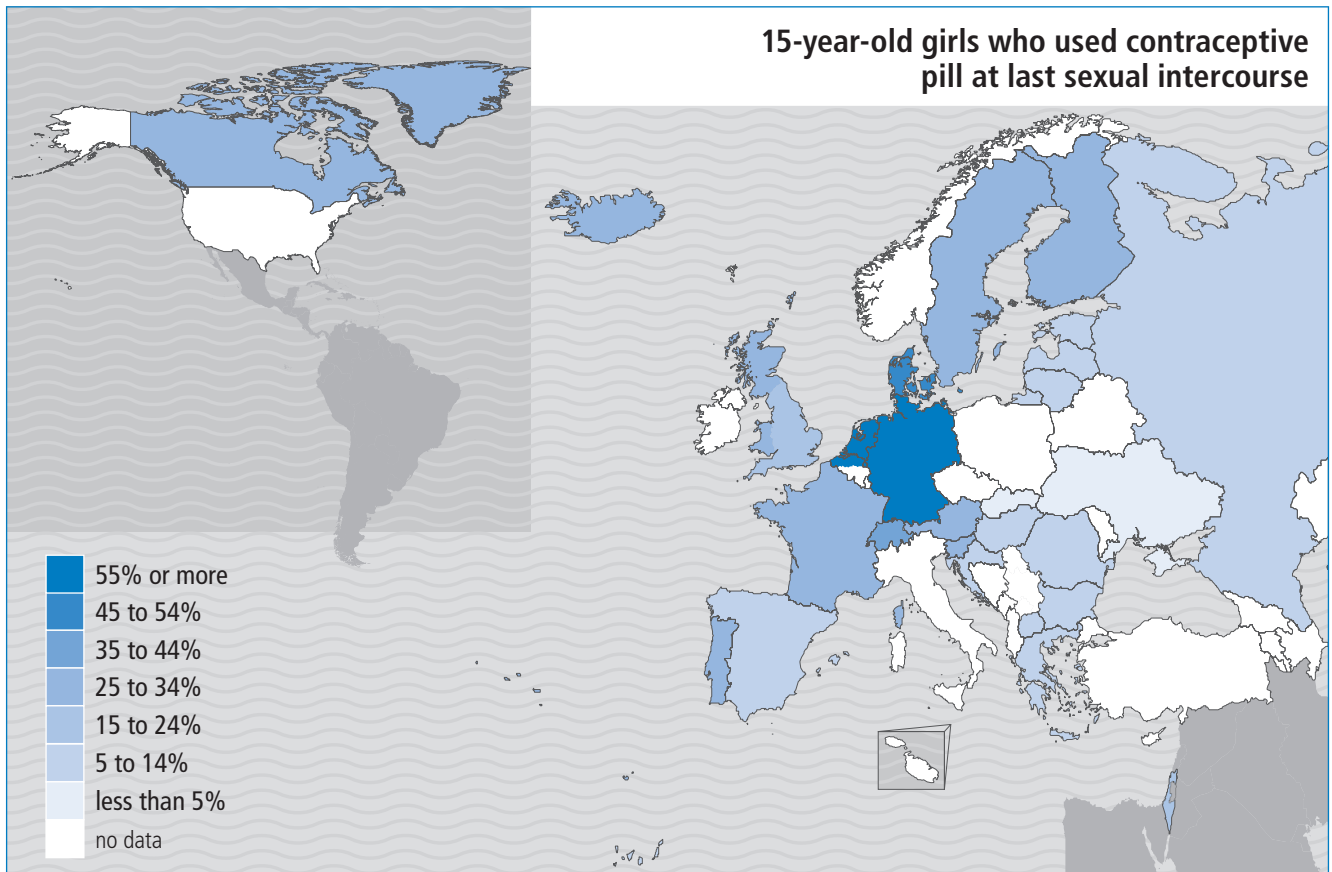
- Girls: 3% (Slovakia, Ukraine) to 61% (Netherlands)
- Boys: 3% (Romania) to 44% (Belgium (Flemish))

Girls are more likely to report contraceptive pill use at last sexual intercourse and there are strong geographical patterns, with those from western Europe being most likely to report such use.

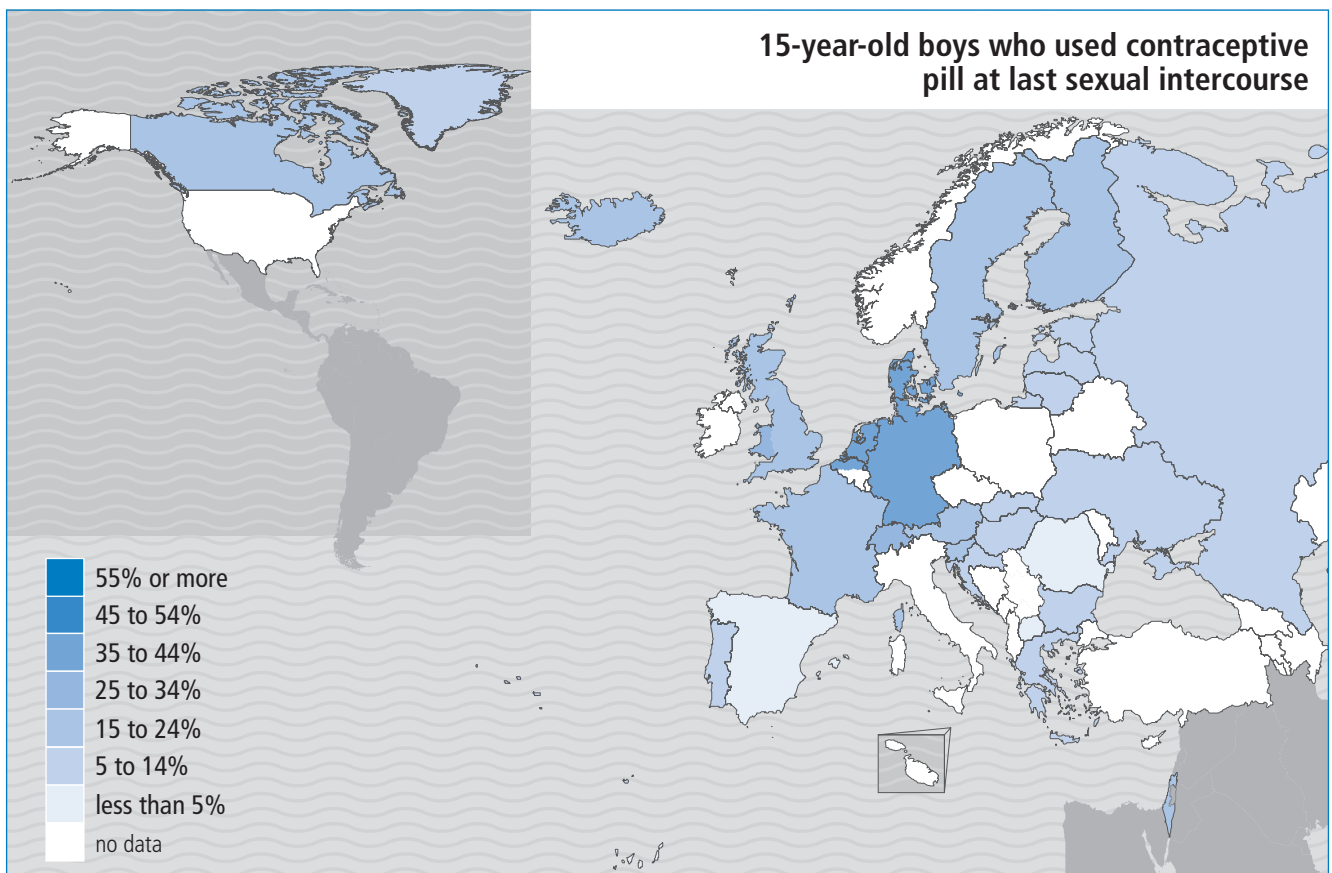
### REFERENCES

1. *A league table of teenage birth in rich nations. Innocenti Report Card N°3*. Florence, UNICEF Innocenti Research Centre, 2001.
2. Darroch JE et al. *Teenage sexual and reproductive behavior in developed countries: can more progress be made? Occasional report N°3*. New York, NY, and Washington, DC, The Alan Guttmacher Institute, 2001.
3. Garriguet D. Early sexual intercourse. *Health Reports: Statistics Canada*, 2005, 16(3):11–21.
4. Tyrer L. Introduction of the pill and its impact. *Contraception*, 1999, 59(Suppl.1):11–16.
5. Penney G. Contraception in adolescence and the perimenopause. *Medicine*, 2006, 34:20–22.
6. Godeau E et al. Contraceptive use by 15 year-old students at their last sexual intercourse – results from 24 countries. *Archives of Pediatrics and Adolescent Medicine*, 2008, 162(1):66–73.
7. Ingham R. Variations across countries – the international perspective. In: Baker P et al, eds. *Teenage pregnancy and reproductive health*. London, Royal College of Obstetricians and Gynaecologists, 2007.





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**The incidence and prevalence of sexually transmitted infections are increasing**, including among adolescent populations (1,2). Adolescents comprise a vulnerable population for HIV infection, with approximately 25% of all new HIV infections identified being among those aged 21 years or younger (3).

The use of condoms during intercourse is widely advocated for protection against sexually transmitted infections (STIs), including HIV (4), although the inconsistent use of condoms presents challenges for both STI and pregnancy prevention. Condoms are the most commonly used form of contraception among young people (5).

Condom use has been associated with a range of attributes such as self-efficacy, perceived attitudes of peers, desire for intimacy and assertiveness (6–8). Condom use has also been linked with having a satisfying sexual relationship during adolescence (9), and it has been argued that condom non-use can be employed as a marker for other sexual risk taking related to early initiation of sex, having multiple sexual partners and alcohol or drug use before sex (10).

### MEASURE

Young people (15-year-olds only) were asked whether they or their partner used a condom at their last sexual intercourse. The findings presented here show the proportions that reported “yes” to this question.

### INEQUALITIES

**Age** Data are presented for 15-year-olds only.

**Gender** Boys report more frequent condom use at last intercourse, significantly so in about half of the countries.

**Geography** There are no consistent geographical patterns in reported condom use at last intercourse for either boys or girls.

**Family affluence** Only a few countries show a significant association between condom use and high family affluence.

### Associations between family affluence and indicators of health, by country/region and gender: CONDOM USE AT LAST SEXUAL INTERCOURSE

NORTH		Boys	Girls	SOUTH		Boys	Girls
Canada				Croatia			
Denmark				Greece			
England				Israel			
Estonia				Italy			+
Finland		+	+	Malta			
Greenland				Portugal			
Latvia				Slovenia			
Lithuania				Spain			
Scotland		+		TFYR Macedonia <sup>†</sup>			
Sweden							
Wales							
WEST		Boys	Girls	EAST		Boys	Girls
Austria				Bulgaria			
Belgium (Flemish)				Hungary			
Belgium (French)			+	Romania			+
France				Russian Federation			
Germany				Slovakia			
Luxembourg				Ukraine			+
Netherlands							
Switzerland							

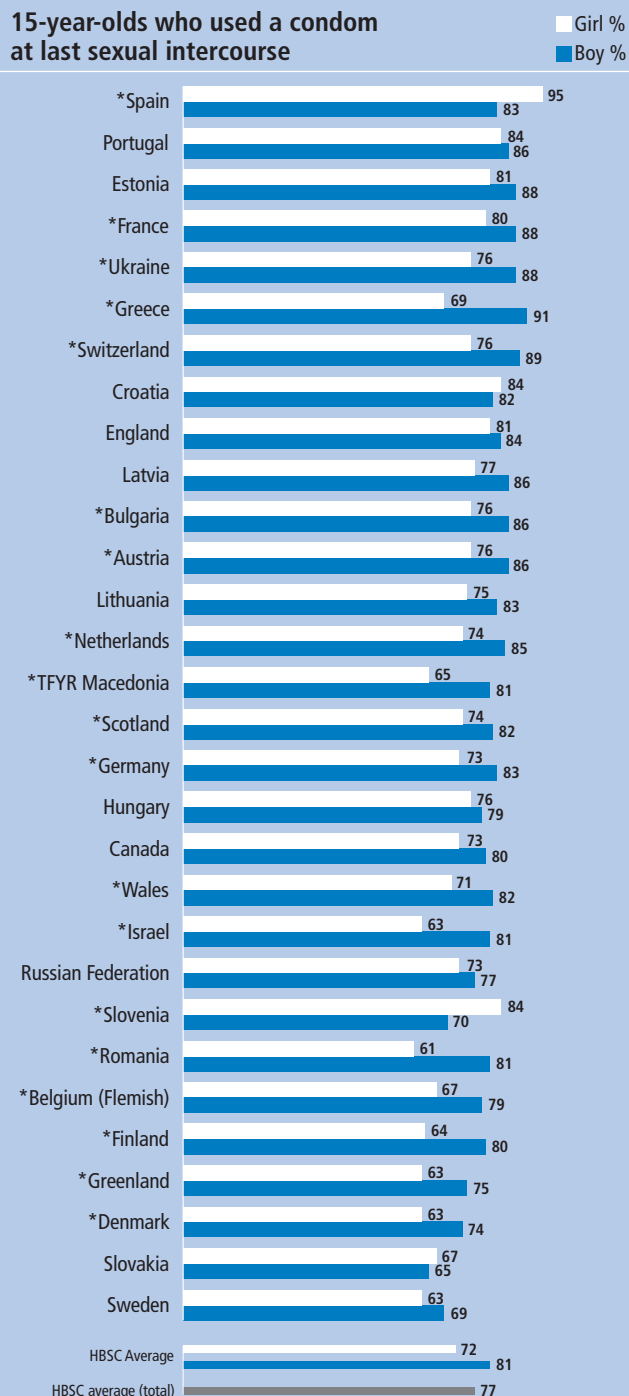
Where family affluence is statistically significant at  $p < 0.05$ , countries are identified with +/–

+ indicates that higher levels of condom use are significantly associated with higher family affluence;

– indicates that higher levels of condom use are significantly associated with lower family affluence.

<sup>†</sup>The former Yugoslav Republic of Macedonia

### 15-year-olds who used a condom at last sexual intercourse



\* indicates a significant gender difference (at  $p < 0.05$ ). No data available for Belgium (French), Czech Republic, Iceland, Ireland, Italy, Luxembourg, Malta, Norway, Poland, Turkey and USA

### SUMMARY FINDINGS

There are wide variations between countries in reported condom use at last sexual intercourse.

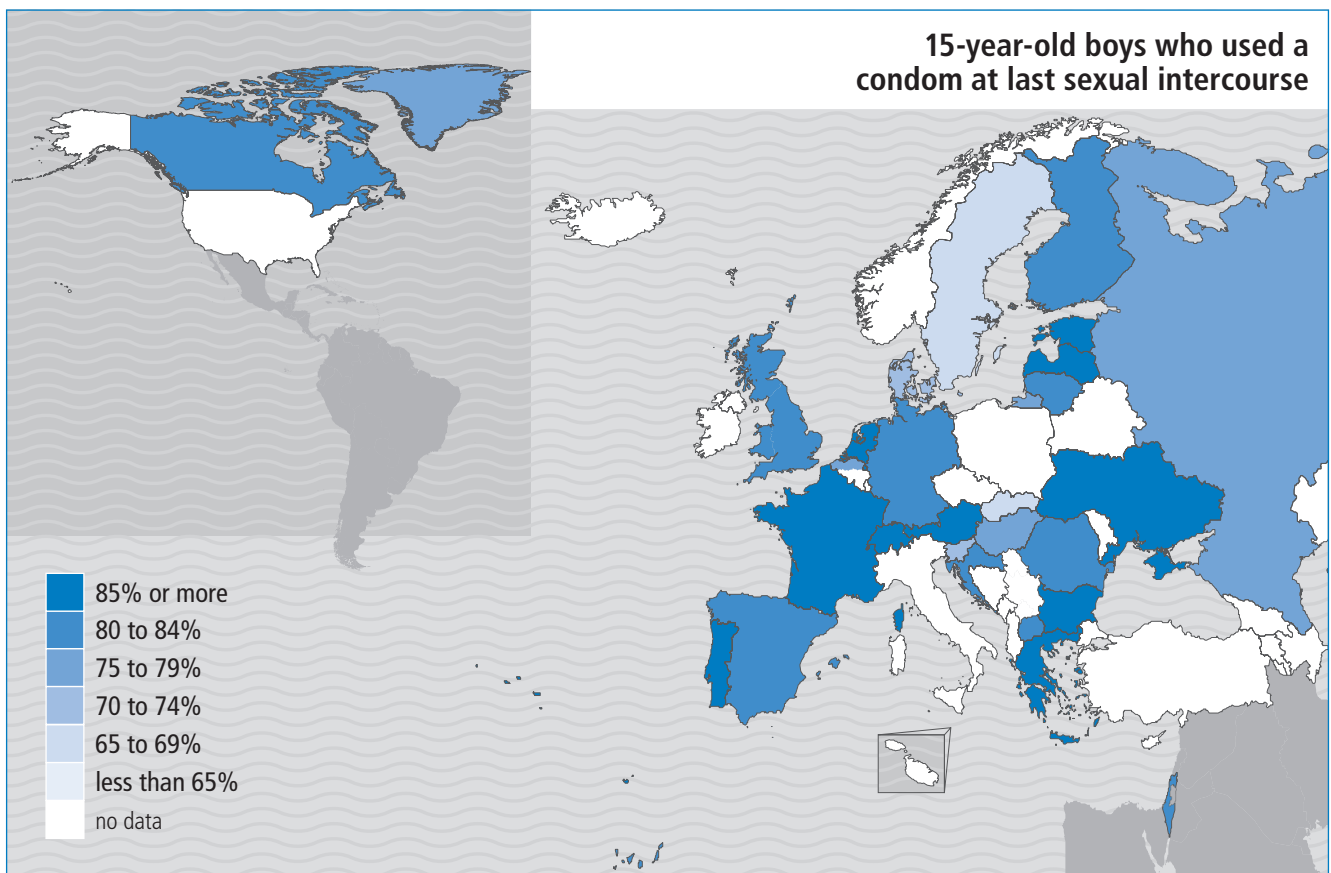
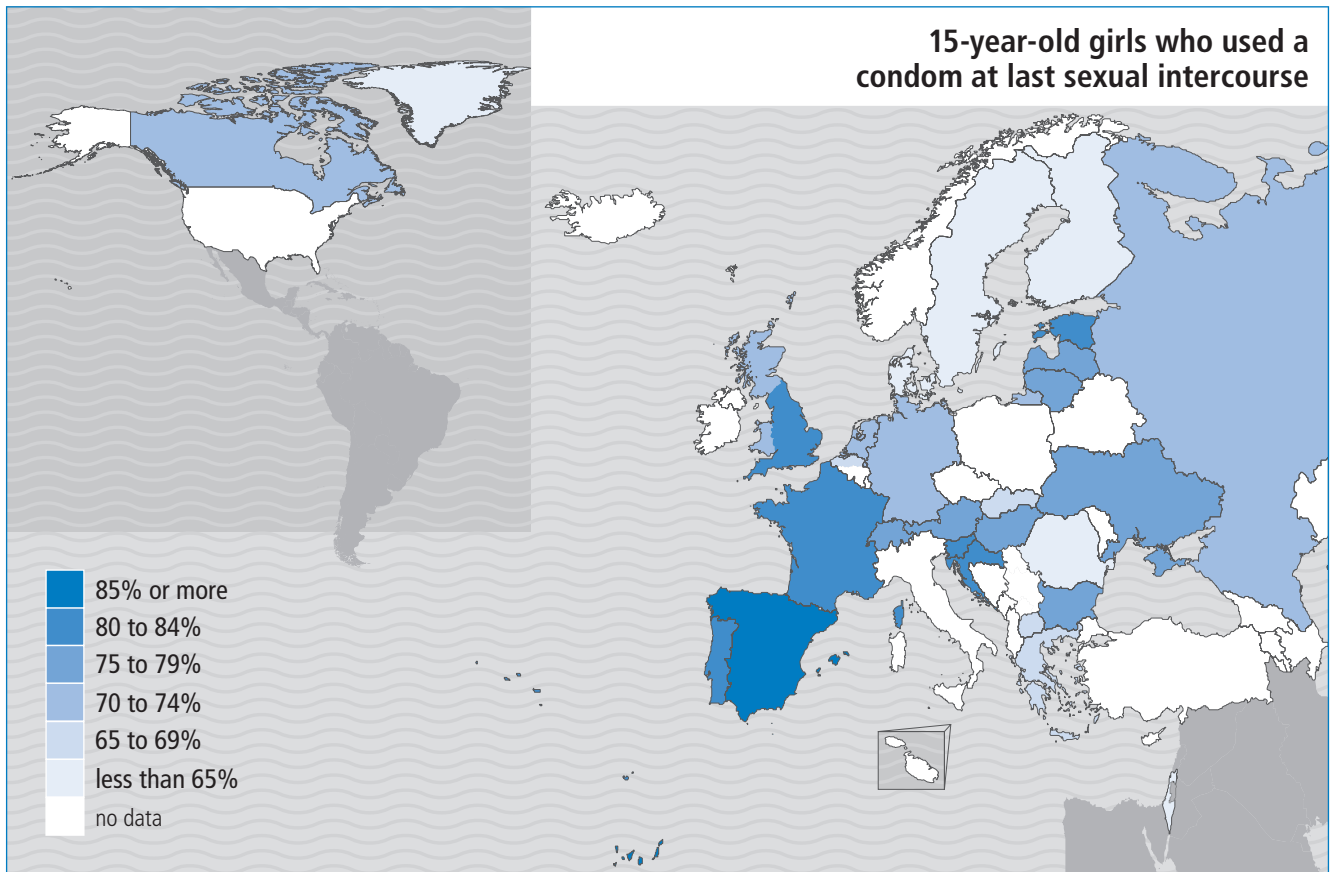
**15-year-olds: from 65% (Sweden) to 89% (Spain)**

- Girls: 61% (Romania) to 95% (Spain)
- Boys: 65% (Slovakia) to 91% (Greece)

Boys are more likely to report condom use at last intercourse, but there no clear geographical patterns. Family affluence is not a major factor in condom use at last intercourse.

### REFERENCES

1. Cates JR et al. *Our voice, our lives, our futures: youth and sexually transmitted diseases*. Chapel Hill, NC, School of Journalism and Mass Communication, University of North Carolina, 2004.
2. Centers for Disease Control and Prevention. Youth risk behavior surveillance – United States, 2003. *Morbidity and Mortality Weekly Report*, 2004, 53(SS-2):1–96.
3. *Young people at risk: HIV/AIDS among America's youth*. Atlanta, GA, Centers for Disease Control and Prevention, 2002.
4. Centers for Disease Control and Prevention. Update: barrier protection against HIV infection and other sexually transmitted diseases. *Morbidity and Mortality Weekly Report*, 1993, 42:589–591.
5. Godeau E et al. Contraceptive use by 15 year-old students at their last sexual intercourse – results from 24 countries. *Archives of Pediatrics and Adolescent Medicine*, 2008, 162(1):66–73.
6. Robin L et al. Behavioural interventions to reduce incidence of HIV, STD and pregnancy among adolescents: a decade in review. *Journal of Adolescent Health*, 2005, 34:3–26.
7. Diiorio C et al. Social cognitive correlates of sexual experience and condom use among 13- through 15-year-old adolescents. *Journal of Adolescent Health*, 2001, 29:208–216.
8. Baele J, Dusseldorp E, Maes S. Condom use self-efficacy: effect on intended and actual condom use in adolescents. *Journal of Adolescent Health*, 2001, 28:421–431.
9. Auslander BA et al. Predictors of sexual satisfaction in an adolescent and college population. *Journal of Pediatric and Adolescent Gynecology*, 2007, 20:25–28.
10. Takakura M, Wake N, Kobayashi M. Relationship of condom use with other sexual risk behaviors among selected Japanese adolescents. *Journal of Adolescent Health*, 2007, 40:85–88.





**Violence among adolescents has emerged as a major concern in most countries** (1). Physical fighting is the most common manifestation of interpersonal violence in adolescence and has been chosen by expert consensus as one of the highest-priority behaviours associated with youth violence and intentional injury (2).

Strong associations have been reported between physical fighting, injuries requiring medical attention and hospitalization (3), while links have also been reported between fighting, weapon-carrying and injuries (4). Fighting has been associated with substance use (5), impaired life satisfaction, poor family and peer relationships (6) and poor school perceptions (6,7). Because it is highly visible and often results in contact with health professionals, fighting behaviour has been proposed as one of the most reliable markers of multiple risk behaviours and other problem behaviours (8).

## MEASURE

Young people were asked how many times during the last 12 months they had been involved in a physical fight. Response options ranged from “I have not been in a physical fight in the past 12 months” to “four times or more”. The findings presented here show the proportions that reported fighting three times or more in the past 12 months. Data on ever fighting can be found in the annex.

## INEQUALITIES

**Age** Fighting declines with age, with significant decreases in prevalence between ages 11 and 15 among boys in most countries. While girls’ rates of fighting are much lower, there is also a significant decrease seen in a minority of countries.

**Gender** Girls in all countries and at all three ages are significantly less likely than boys to report fighting three or more times in the last 12 months

**Geography** Fighting is more prevalent among boys in eastern Europe and less so among boys in northern Europe.

**Family affluence** A significant association is found between family affluence and fighting in a third of countries for boys and in a few countries for girls. Higher levels of fighting are associated with higher family affluence for boys in eastern Europe.

### Associations between family affluence and indicators of health, by country/region and gender: FIGHTING THREE OR MORE TIMES IN THE LAST 12 MONTHS

<b>NORTH</b>		Boys	Girls	<b>SOUTH</b>		Boys	Girls
Canada				Croatia		+	
Denmark			–	Greece		+	
England				Israel			
Estonia			–	Italy			
Finland				Malta			+
Greenland				Portugal			
Iceland			–	Slovenia			
Ireland				Spain			
Latvia		+		TFYR Macedonia <sup>†</sup>		+	+
Lithuania				Turkey			
Norway							
Scotland							
Sweden							
USA							
Wales		+					
<b>WEST</b>		Boys	Girls	<b>EAST</b>		Boys	Girls
Austria				Bulgaria		+	
Belgium (Flemish)				Czech Republic			
Belgium (French)				Hungary			
France		–	–	Poland		+	
Germany		–	–	Romania		+	
Luxembourg				Russian Federation		+	+
Netherlands				Slovakia		+	
Switzerland				Ukraine		+	

Where family affluence is statistically significant at  $p < 0.05$ , countries are identified with +/–

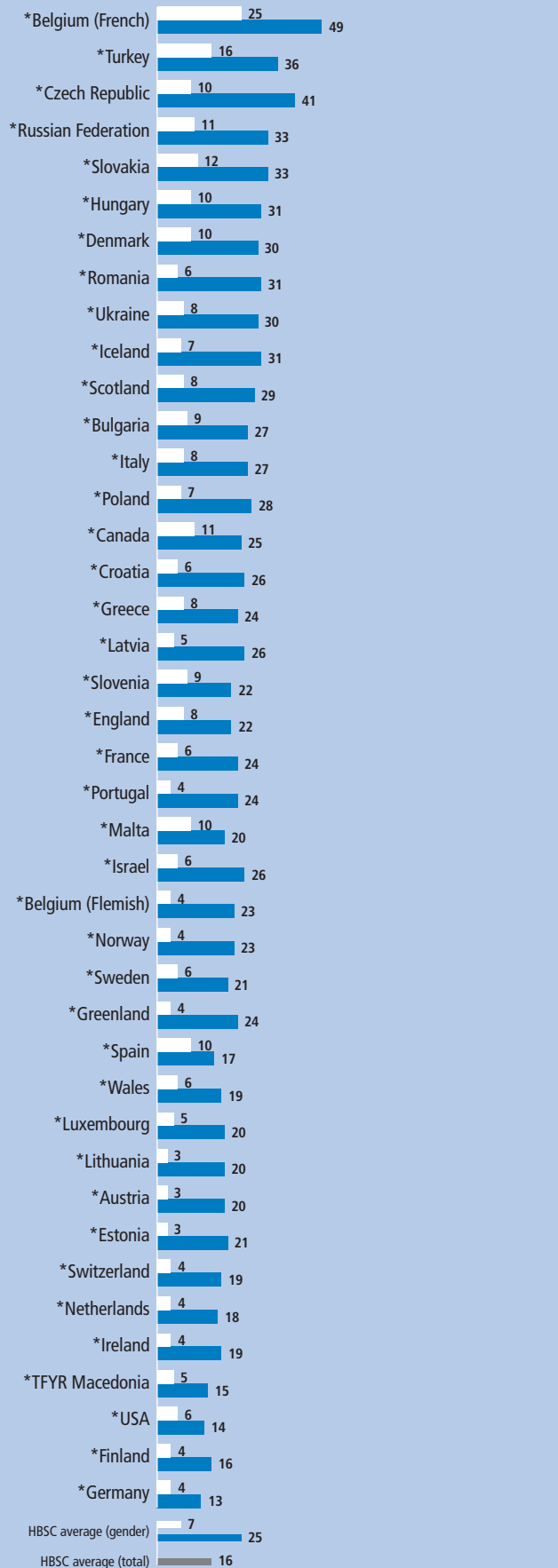
+ indicates that higher levels of cannabis use in the last 30 days are significantly associated with higher family affluence;

– indicates that higher levels of cannabis use in the last 30 days are significantly associated with lower family affluence.

<sup>†</sup>The former Yugoslav Republic of Macedonia

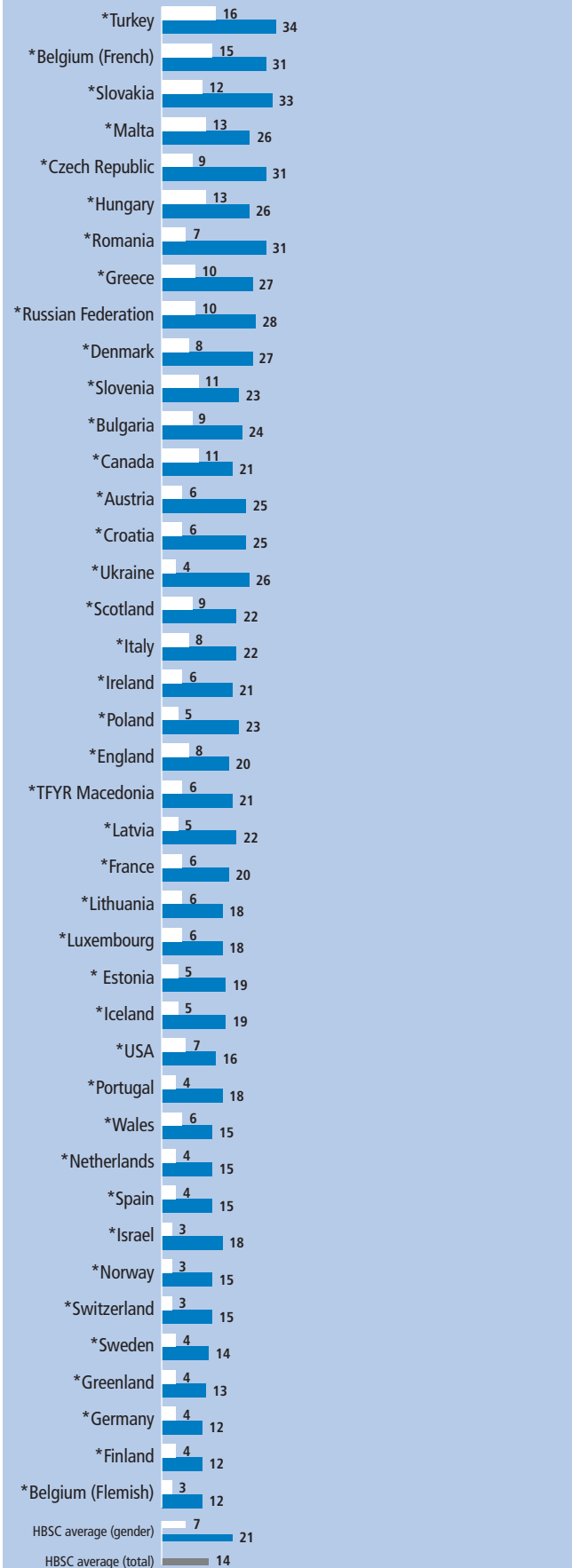
### 11-year-olds who have been involved in a physical fight at least three times in the last 12 months

Girl %  
Boy %



### 13-year-olds who have been involved in a physical fight at least three times in the last 12 months

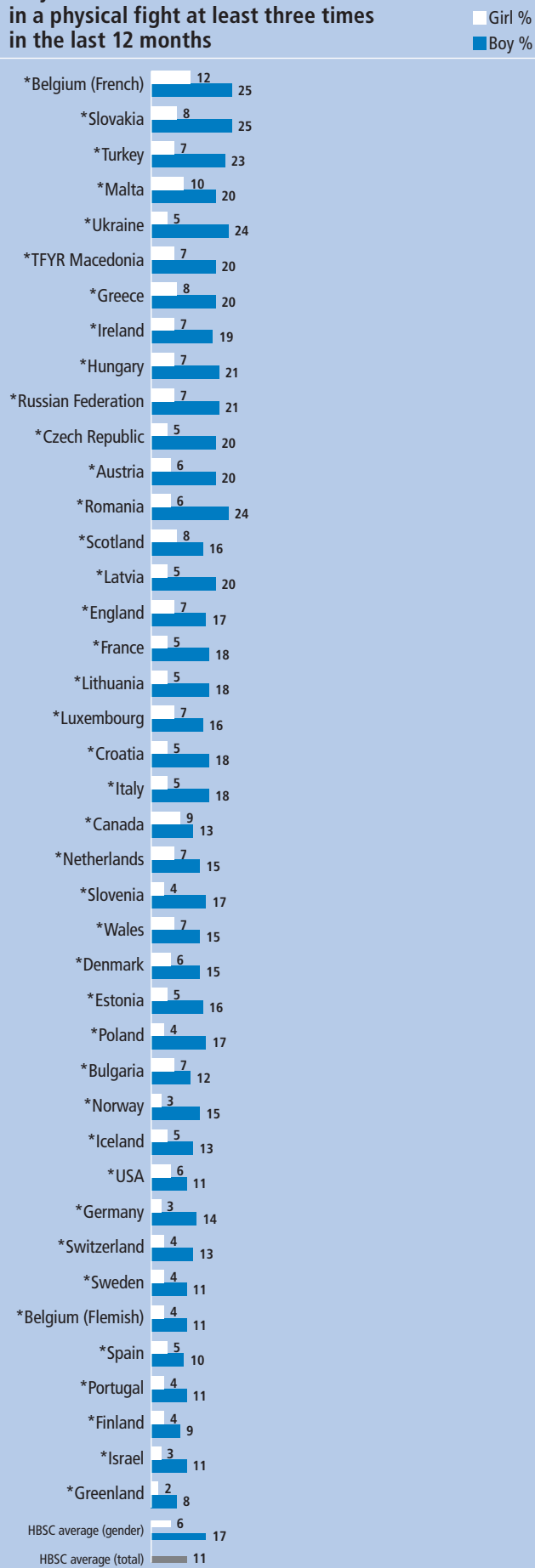
Girl %  
Boy %



\* indicates a significant gender difference (at  $p < 0.05$ ).



### 15-year-olds who have been involved in a physical fight at least three times in the last 12 months



\* indicates a significant gender difference (at  $p < 0.05$ ).

### SUMMARY FINDINGS

There are large cross-national differences in the prevalence of reported **fighting in the last 12 months on at least three occasions** among boys; the same is true for girls, although their overall rates are much lower.

**11-year-olds: from 9% (Germany) to 37% (Belgium (French))**

- Girls: 3% (Estonia, Austria, Lithuania) to 25% (Belgium (French))
- Boys: 13% (Germany) to 49% (Belgium (French))

**13-year-olds: from 7% (Belgium (Flemish)) to 25% (Turkey)**

- Girls: 3% (Belgium (Flemish), Switzerland, Norway, Israel) to 16% (Turkey)
- Boys: 12% (Belgium (Flemish), Finland, Germany) to 34% (Turkey)

**15-year-olds: from 5% (Greenland) to 19% (Belgium (French))**

- Girls: 2% (Greenland) to 12% (Belgium (French))
- Boys: 8% (Greenland) to 25% (Belgium (French), Slovakia)

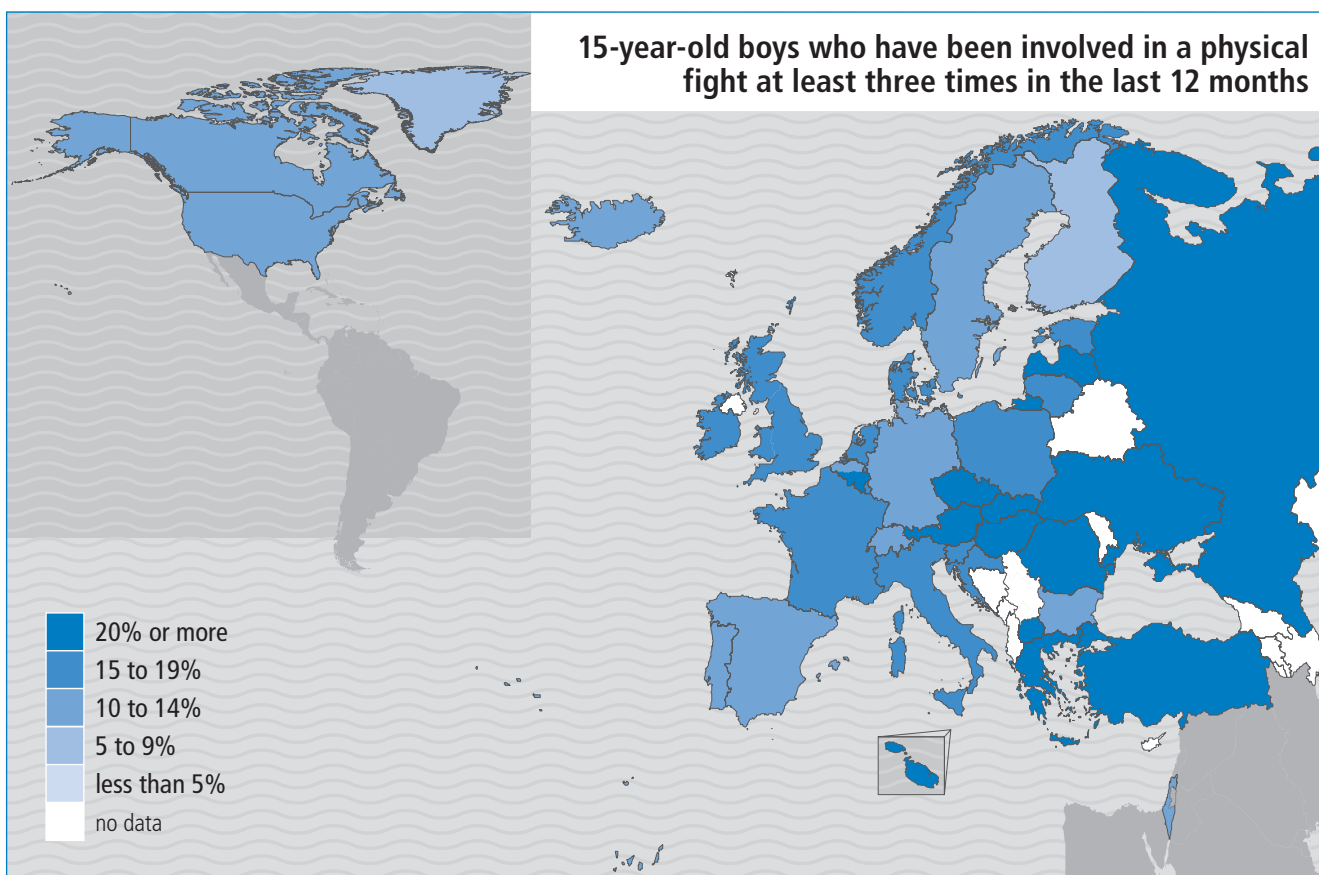
The most consistent observations cross-nationally are for much higher rates of reported fighting in the last 12 months among boys than girls and for fighting to decline with age. Countries vary considerably, but no strong influence of family affluence is observed.

### REFERENCES

1. Krug EG et al., eds. *World report on violence and health*. Geneva, World Health Organization, 2002.
2. Nansel TR et al. Relationships between bullying and violence among US youth. *Archives of Pediatrics and Adolescent Medicine*, 2003, 157:348–353.
3. Molcho M, Harel Y, Lash D. The co-morbidity of substance use and youth violence among Israeli school children. *International Journal of Adolescent Medicine and Health*, 2004, 16(3):223–251.
4. Pickett W et al. Cross-national study of fighting and weapon carrying as determinants of adolescent injury. *Pediatrics*, 116(6):855–863.
5. Kuntsche EN, Gmel G. Emotional wellbeing and violence among social and solitary risky single occasion drinkers in adolescence. *Addiction*, 2004, 98:331–339.
6. Laufer A, Harel Y. The role of family, peers and school perceptions in predicting involvement in youth violence. *International Journal of Adolescent Medicine and Health*, 2003, 15(3):235–244.
7. Harel Y. A cross-national study of youth violence in Europe. *International Journal of Adolescent Medicine and Health*, 1999, 11:121–134.
8. Sosin DM et al. Fighting as a marker for multiple problem behaviours in adolescence. *Journal of Adolescent Health*, 16:209–215.



HBSC teams provided disaggregated data for Belgium and the UK; these data appear in the map above



HBSC teams provided disaggregated data for Belgium and the UK; these data appear in the map above

**Bullying is the assertion of interpersonal power through aggression** (1). It is defined as negative physical or verbal actions that have hostile intent, cause distress to victims, are repeated and involve a power differential between bullies and their victims (2,3). With repeated bullying, the power relationships between bullies and victims become consolidated; bullies increase their power, and victims lose their power.

Young people who are being bullied become increasingly less able to defend themselves. Victims of bullying experience a range of problems such as depression and anxiety and, in extreme cases, suicide (2,4). Those who have experienced being bullied are more likely to report poor self-concepts, become underachievers and leave home (5). Being bullied is also associated with poor friendship-making and loneliness (6), as well as psychosomatic symptoms (7) and higher levels of substance use (8,9).

## MEASURE

The questions on bullying used in the survey were those developed by Olweus (10). Young people were asked how often they had been bullied at school in the past couple of months. The question was preceded by a definition of bullying:

We say a student is being bullied when another student, or a group of students, say or do nasty and unpleasant things to him or her. It is also bullying when a student is teased repeatedly in a way he or she does not like or when he or she is deliberately left out of things. But it is **not** bullying when two students of about the same strength or power argue or fight. It is also **not** bullying when a student is teased in a friendly and playful way.

Response options ranged from “I was not bullied at school in the past couple of months” to “several times a week”. The findings presented here show the proportions that reported being bullied at least two or three times at school in the past couple of months. Data on being bullied at least once in the past couple of months can be found in the annex.

## INEQUALITIES

**Age** Being a victim of bullying declines between ages 11 and 15. There is a significant decrease in the majority of countries among both boys and girls.

**Gender** In general, boys are more likely to report having been bullied – there is a significant gender difference in less than half of countries for all age groups.

**Geography** No clear geographical patterns in the rates of being bullied are observed.

**Family affluence** A significant association is found between lower affluence and increased rates of being bullied in over a third of countries for girls and in fewer countries for boys. In these cases, the pattern is strongest for girls in northern and western Europe.

### Associations between family affluence and indicators of health, by country/region and gender: BEING A VICTIM OF BULLYING AT LEAST TWICE IN THE LAST COUPLE OF MONTHS

NORTH			SOUTH		
	Boys	Girls		Boys	Girls
Canada			Croatia		
Denmark	–	–	Greece		
England			Italy		
Estonia	–		Malta		
Finland			Portugal	–	–
Greenland			Slovenia		–
Iceland	–	–	Spain		
Ireland			TFYR Macedonia <sup>†</sup>		
Latvia			Turkey	–	–
Lithuania	–	–			
Norway	–	–			
Scotland		–			
Sweden		–			
USA		–			
Wales	–	–			
WEST			EAST		
	Boys	Girls		Boys	Girls
Austria			Bulgaria		
Belgium (Flemish)		–	Czech Republic		
Belgium (French)			Hungary		
France			Poland		
Germany	–	–	Romania		–
Luxembourg		–	Russian Federation		
Netherlands		–	Ukraine		–
Switzerland					

Where family affluence is statistically significant at  $p < 0.05$ , countries are identified with +/–

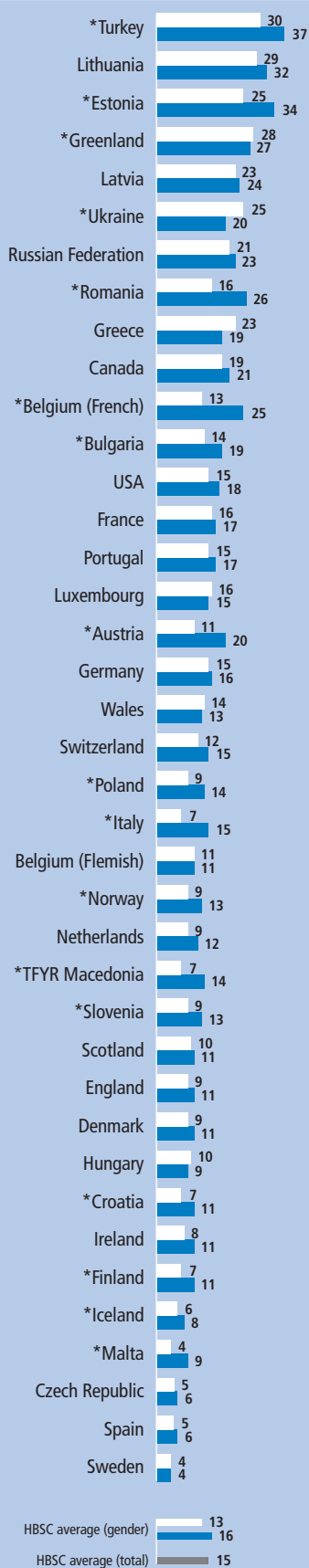
+ indicates that higher levels of being bullied are significantly associated with higher family affluence;

– indicates that higher levels of being bullied are significantly associated with lower family affluence.

<sup>†</sup>The former Yugoslav Republic of Macedonia

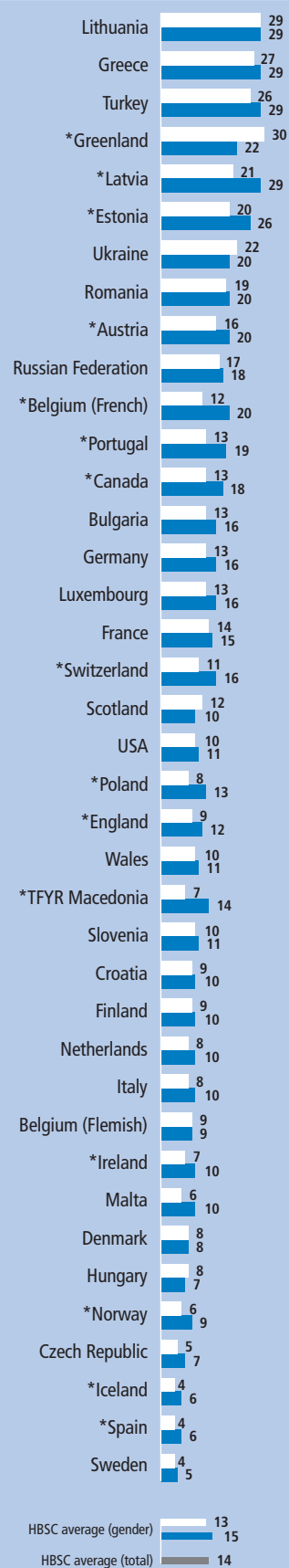
### 11-year-olds who have been bullied at school at least twice in the past couple of months

Girl %  
Boy %



### 13-year-olds who have been bullied at school at least twice in the past couple of months

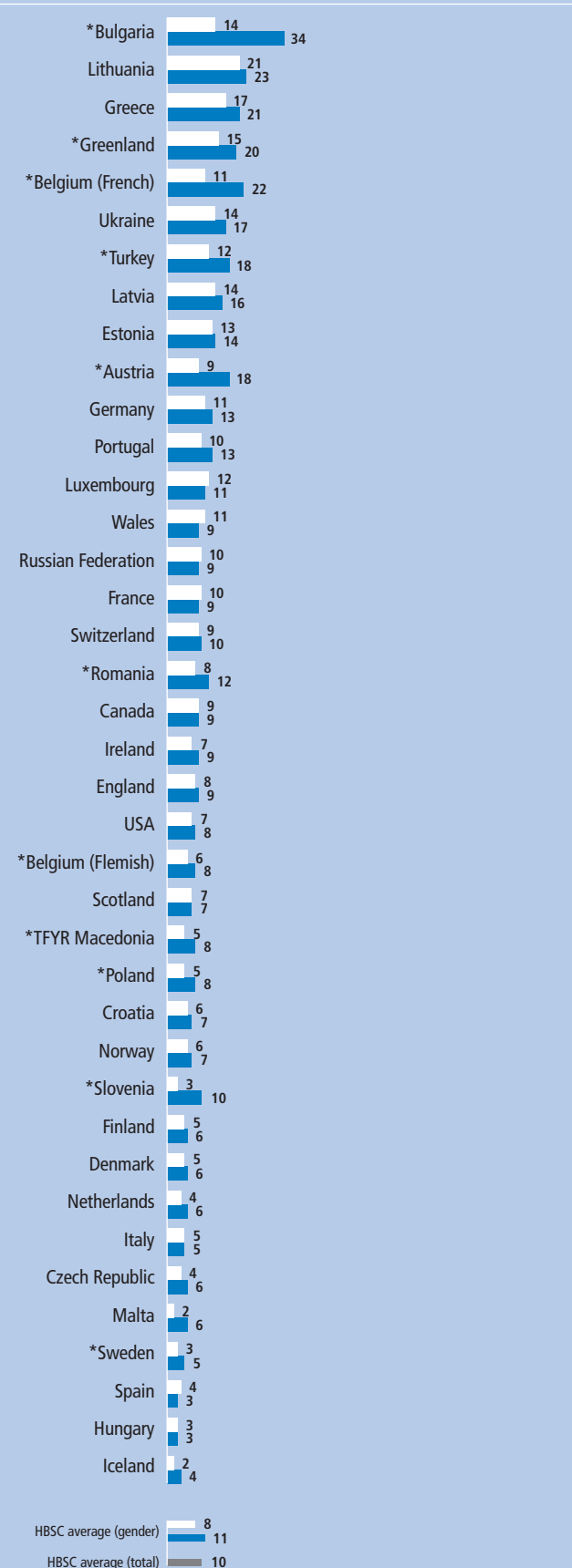
Girl %  
Boy %



\* indicates a significant gender difference (at  $p < 0.05$ ). No data available for Israel and Slovakia

### 15-year-olds who have been bullied at school at least twice in the past couple of months

Girl %  
Boy %



\* indicates a significant gender difference (at  $p < 0.05$ ). No data available for Israel and Slovakia

### SUMMARY FINDINGS

There are large cross-national variations in the frequency that young people report having been a **victim of bullying** at school at least two or three times in the past couple of months.

#### 11-year-olds: from 4% (Sweden) to 33% (Turkey)

- Girls: 4% (Sweden, Malta) to 30% (Turkey)
- Boys: 4% (Sweden) to 37% (Turkey)

#### 13-year-olds: from 4% (Sweden) to 29% (Lithuania)

- Girls: 4% (Sweden, Spain, Iceland) to 30% (Greenland)
- Boys: 5% (Sweden) to 29% (Lithuania, Greece, Turkey, Latvia)

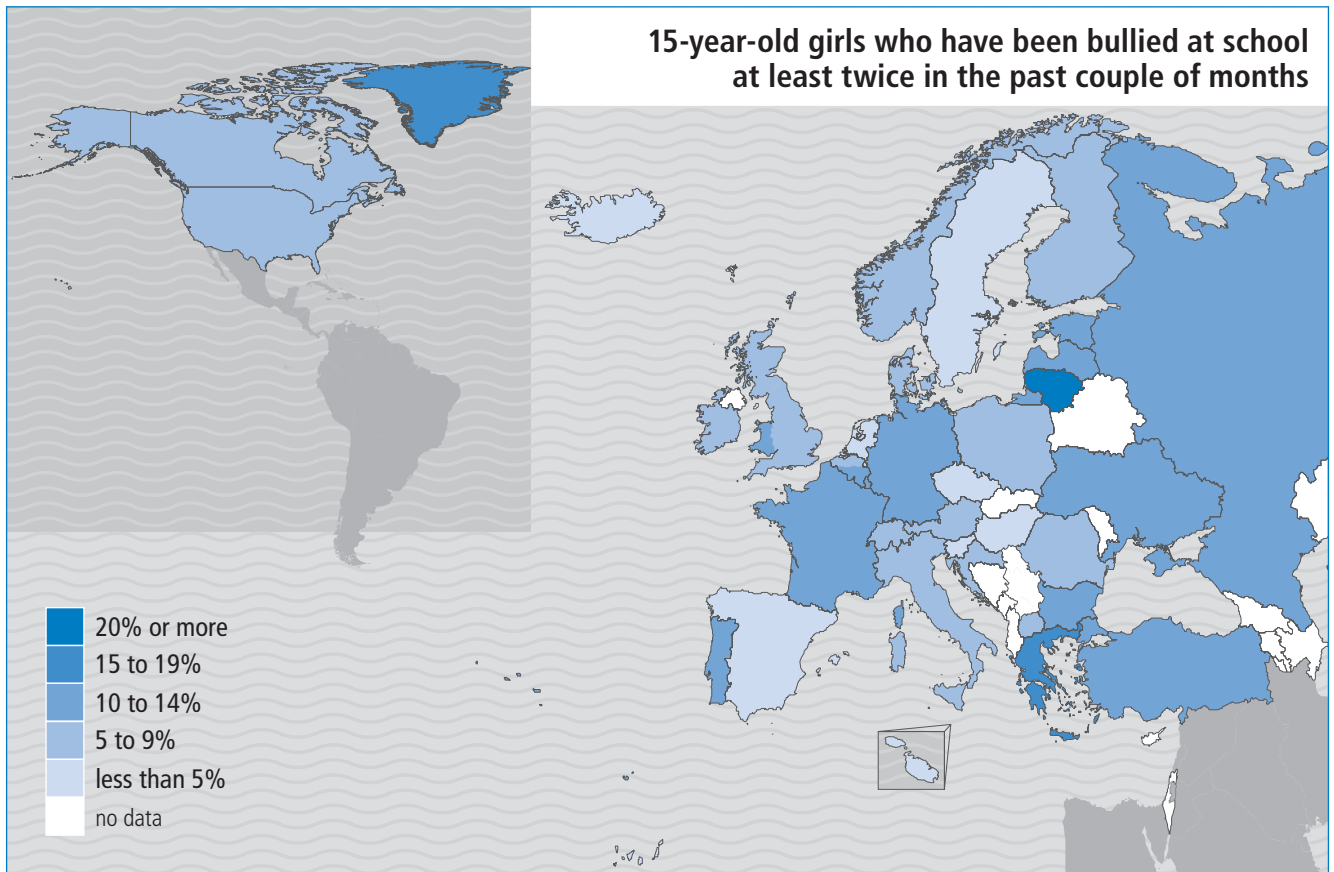
#### 15-year-olds: from 3% (Iceland, Hungary) to 23% (Bulgaria)

- Girls: 2% (Iceland, Malta) to 21% (Lithuania)
- Boys: 3% (Hungary, Spain) to 34% (Bulgaria)

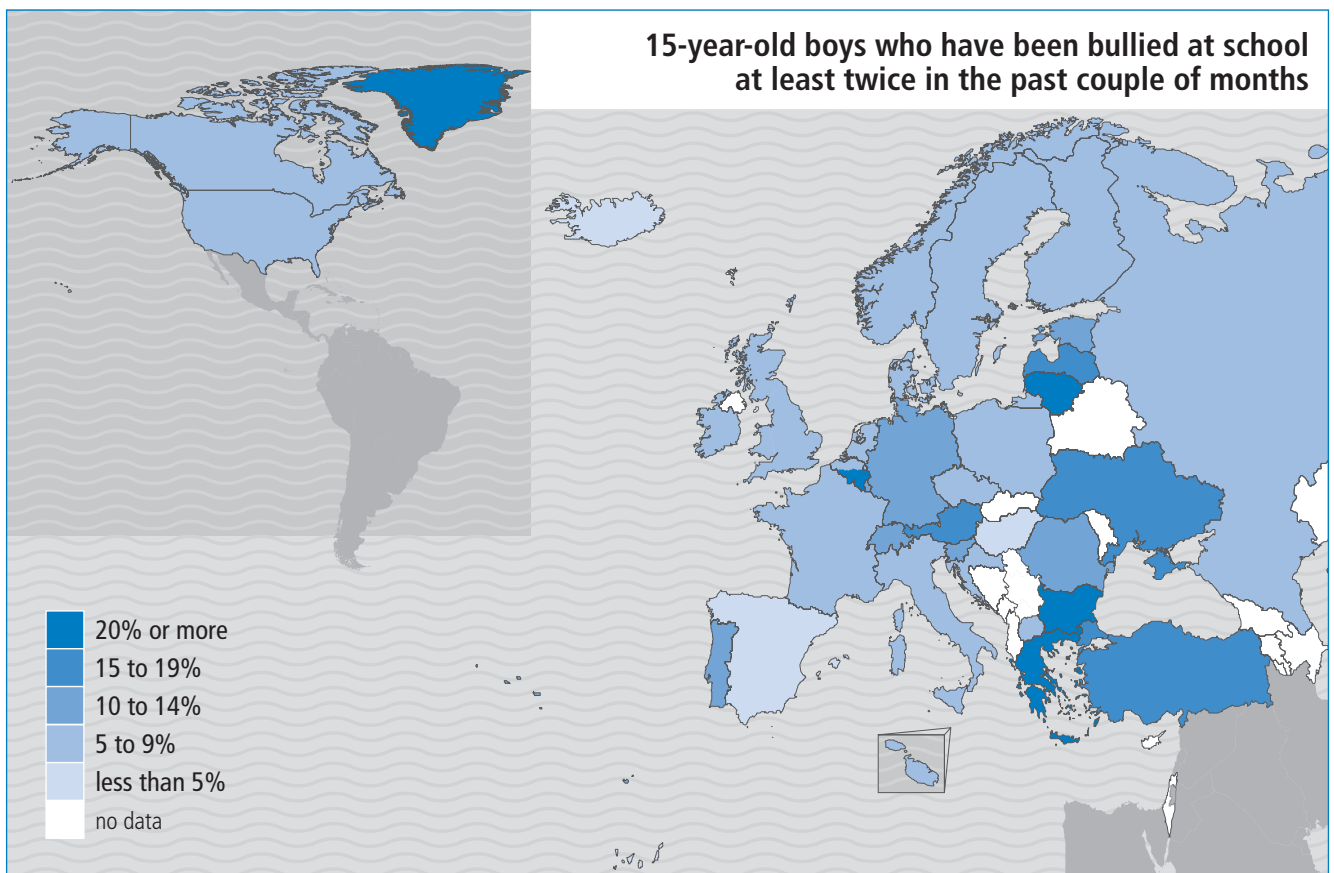
Boys more often report being victims of bullying and the experience is less frequently reported with increasing age. Family affluence is not a strong factor in the likelihood of being a victim of bullying in most countries.

### REFERENCES

1. Pepler D, Craig W. *Making a difference in bullying*. Toronto, LaMarsh Centre for Research on Violence and Conflict Resolution, York University, 2000.
2. Olweus D. Bully/victim problems among school children: some basic facts and effects of a school-based intervention program. In: Pepler D, Rubin K eds. *The development and treatment of childhood aggression*. Hillsdale, NJ, Erlbaum. 1991:411–448.
3. Pepler DJ, Craig WM. A peek behind the fence: naturalistic observations of aggressive children with remote audiovisual recording. *Developmental Psychology*, 1995, 31(4):548–553.
4. Craig W. The relationship among bullying, victimization, depression, anxiety, and aggression in elementary school children. *Personality and Individual Differences*, 1998, 24:123–130.
5. Olweus D. Bullying at school: basic facts and effects of a school based intervention program. *Journal of Child Psychology and Psychiatry*, 1994, 35(7):1171–1190.
6. Nansel TR et al. Bullying behaviors among US youth: prevalence and association with psychosocial adjustment. *Journal of American Medical Association*, 2001, 285(16):2094–2100.
7. Due P et al. Bullying and symptoms among school-aged children: international comparative cross-sectional study in 28 countries. *European Journal of Public Health*, 2005, 15(2):128–132.
8. Mazur J, Malkowska A. Bullies and victims among Polish school-aged children. *Medycyna Wieku Rozwojowego (Developmental Period Medicine)*, 2003, 7:121–134.
9. Molcho M, Harel Y, Lash D. The co-morbidity of substance use and youth violence among Israeli school children. *International Journal of Adolescent Medicine and Health*, 2004, 16(3):223–251.
10. Olweus D. *The revised Olweus Bully/Victim Questionnaire*. Mimeo. Bergen, HEMIL, University of Bergen, 1996.



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**Bullying is characterized by an increasing power imbalance between the person being bullied and the person perpetrating the bullying behaviour.** From a developmental perspective, bullying others underlines problems related to interpersonal violence (1). Children who bully others have been found to report elevated rates of weapon-carrying, fighting and being injured through fighting (2). It has been argued that the use of power and aggression found in “playground” bullying is an indicator of future sexual harassment, marital aggression, child abuse and elder abuse (3).

Students who engage in bullying others may report more health-risk behaviours, such as smoking and excessive drinking (4,5). Reports of disconnectedness with parents and negative school perceptions have been associated with bullying other students (6). The physical and mental health correlates of bullying and victimization are to a large degree similar, at least in the case of physical, verbal and social bullying (7).

### MEASURE

Young people were asked how often they had taken part in bullying another student(s) at school in the past couple of months. The question was preceded by the Olweus definition of bullying (see preceding section on being bullied). Response options ranged from “I have not bullied another student at school in the past couple of months” to “several times a week”. The findings presented here show the proportions that reported bullying others at least two or three times in the past couple of months. Data on bullying others at least once in the past couple of months can be found in the annex.

### INEQUALITIES

**Age** There is a significant decrease in bullying between the ages of 11 and 15 in around half the countries among boys and in just under half among girls.

**Gender** Boys are significantly more likely to report having bullied others. Almost all countries show a significant gender difference at all ages.

**Geography** With the exception of the Baltic states of Lithuania, Latvia and Estonia, where rates of bullying are consistently among the highest, the northern European countries have among the lowest rates.

**Family affluence** A significant association is found between family affluence and bullying in a few countries. In these cases, higher rates are more likely to be associated with higher affluence in eastern Europe and lower affluence in other regions.

### Associations between family affluence and indicators of health, by country/region and gender: BULLYING OTHERS AT SCHOOL AT LEAST TWICE IN THE PAST COUPLE OF MONTHS

NORTH			SOUTH		
	Boys	Girls		Boys	Girls
Canada			Croatia		
Denmark			Greece		–
England		–	Italy		
Estonia			Malta		
Finland			Portugal		
Greenland			Slovenia		
Iceland	–		Spain		
Ireland			TFYR Macedonia <sup>†</sup>	+	
Latvia		+	Turkey		
Lithuania					
Norway					
Scotland	–				
Sweden					
USA					
Wales		–			
WEST			EAST		
	Boys	Girls		Boys	Girls
Austria	+		Bulgaria	+	+
Belgium (Flemish)			Czech Republic		
Belgium (French)			Hungary		
France			Poland		
Germany		–	Romania	+	
Luxembourg		–	Russian Federation	+	+
Netherlands			Ukraine	+	
Switzerland					

Where family affluence is statistically significant at  $p < 0.05$ , countries are identified with +/–

+

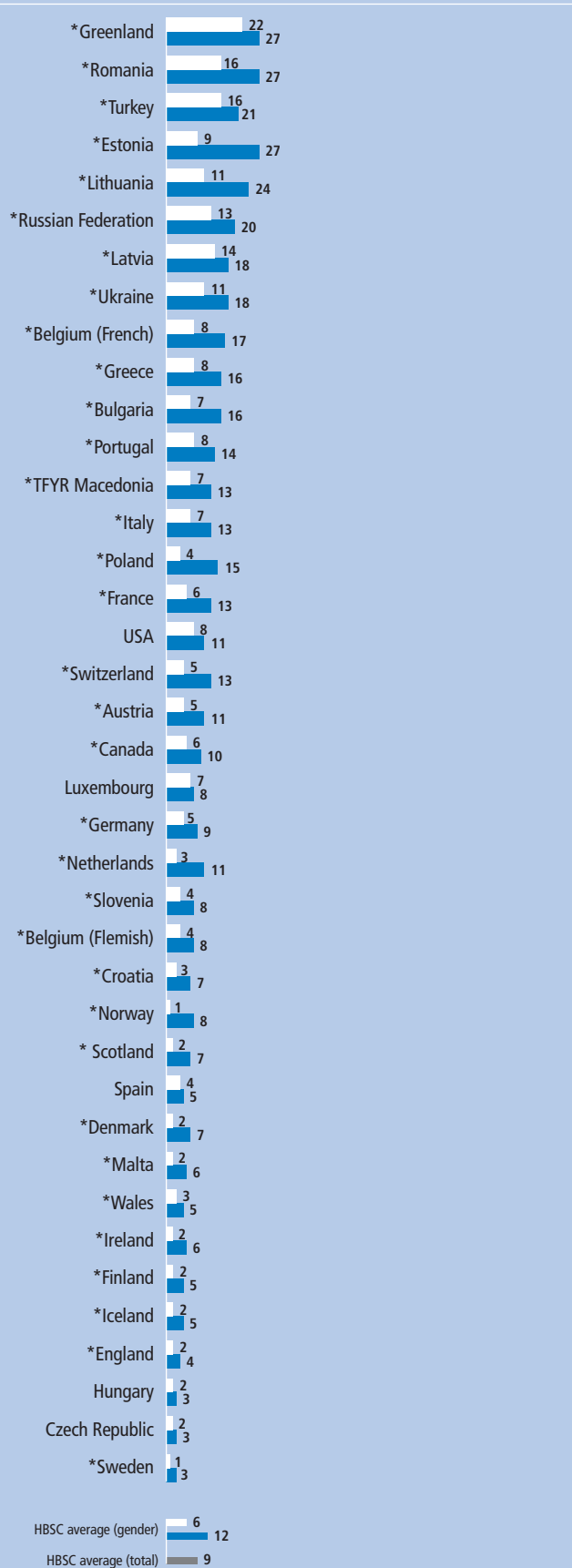
indicates that higher levels of bullying others are significantly associated with higher family affluence;

–

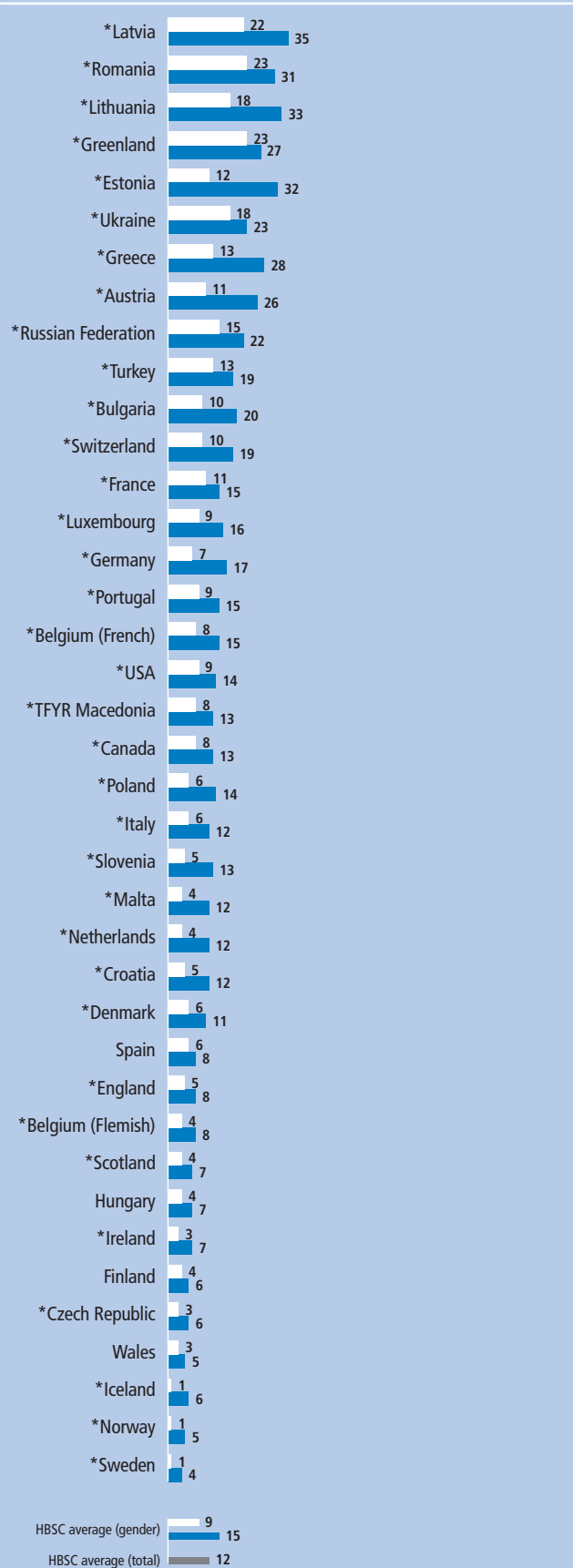
indicates that higher levels of bullying others are significantly associated with lower family affluence.

<sup>†</sup>The former Yugoslav Republic of Macedonia

**11-year-olds who have bullied others at school at least twice in the past couple of months** ■ Girl % ■ Boy %



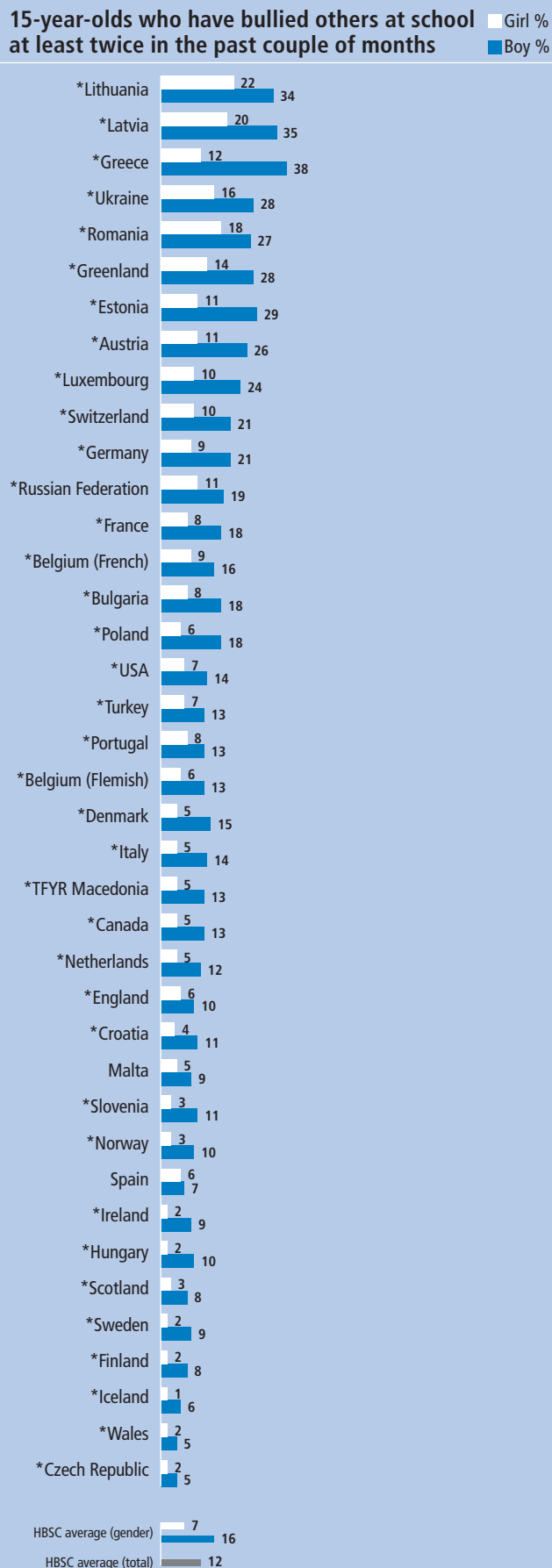
**13-year-olds who have bullied others at school at least twice in the past couple of months** ■ Girl % ■ Boy %



\* indicates a significant gender difference (at  $p < 0.05$ ). No data available for Israel and Slovakia



### 15-year-olds who have bullied others at school at least twice in the past couple of months



\* indicates a significant gender difference (at  $p < 0.05$ ). No data available for Israel and Slovakia

### SUMMARY FINDINGS

There are large cross-national differences at all ages in the extent of reports of **bullying others** at school at least two or three times in the past couple of months. While in some countries this behaviour is almost nonexistent, it is reported by up to a third of young people in others.

**11-year-olds: from 2% (Sweden) to 24% (Greenland)**

- Girls: 1% (Norway, Sweden) to 22% (Greenland)
- Boys: 3% (Sweden, Czech Republic, Hungary) to 27% (Greenland, Romania, Estonia)

**13-year-olds: from 2% (Sweden) to 28% (Latvia)**

- Girls: 1% (Sweden, Norway, Iceland) to 23% (Romania, Greenland)
- Boys: 4% (Sweden) to 35% (Latvia)

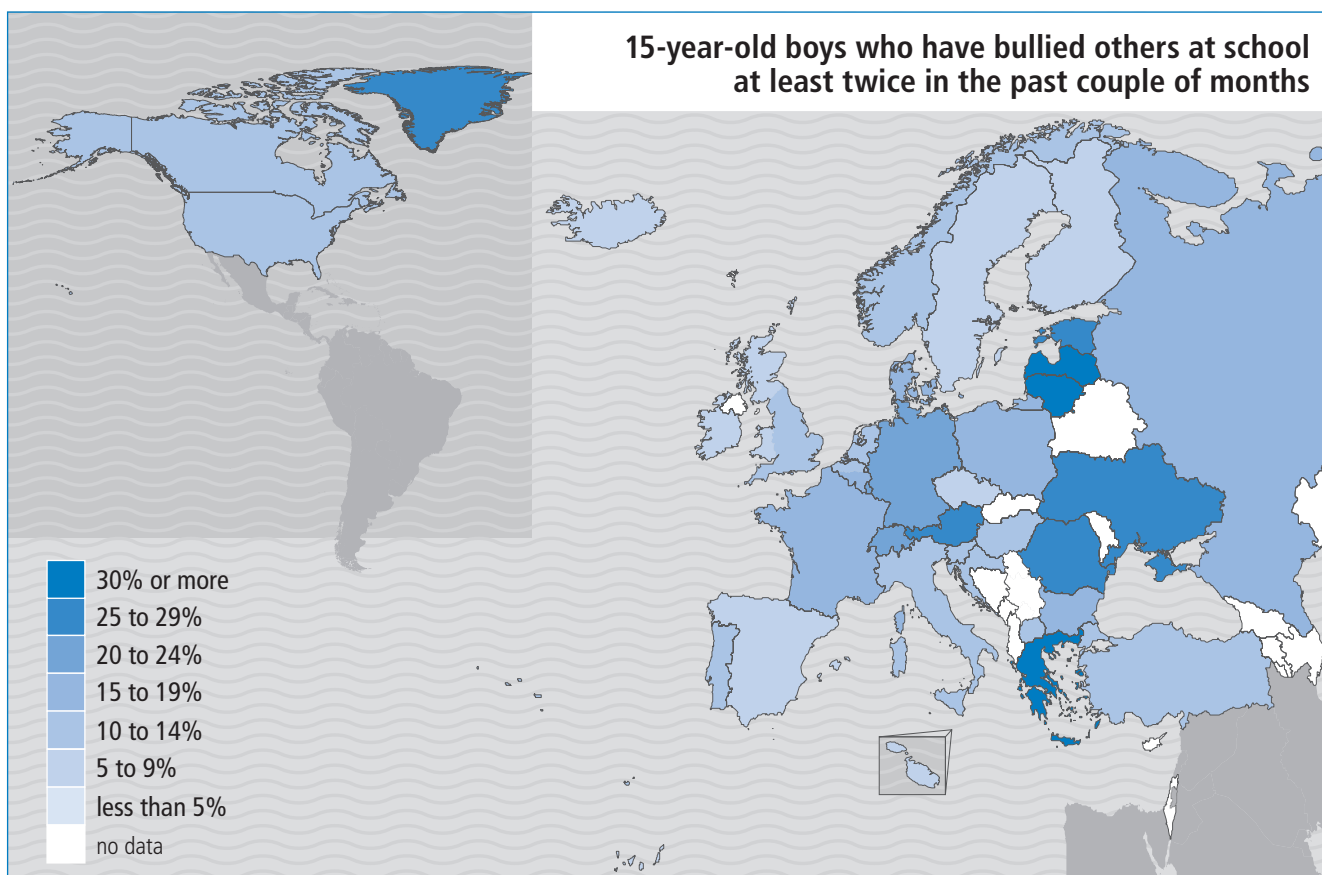
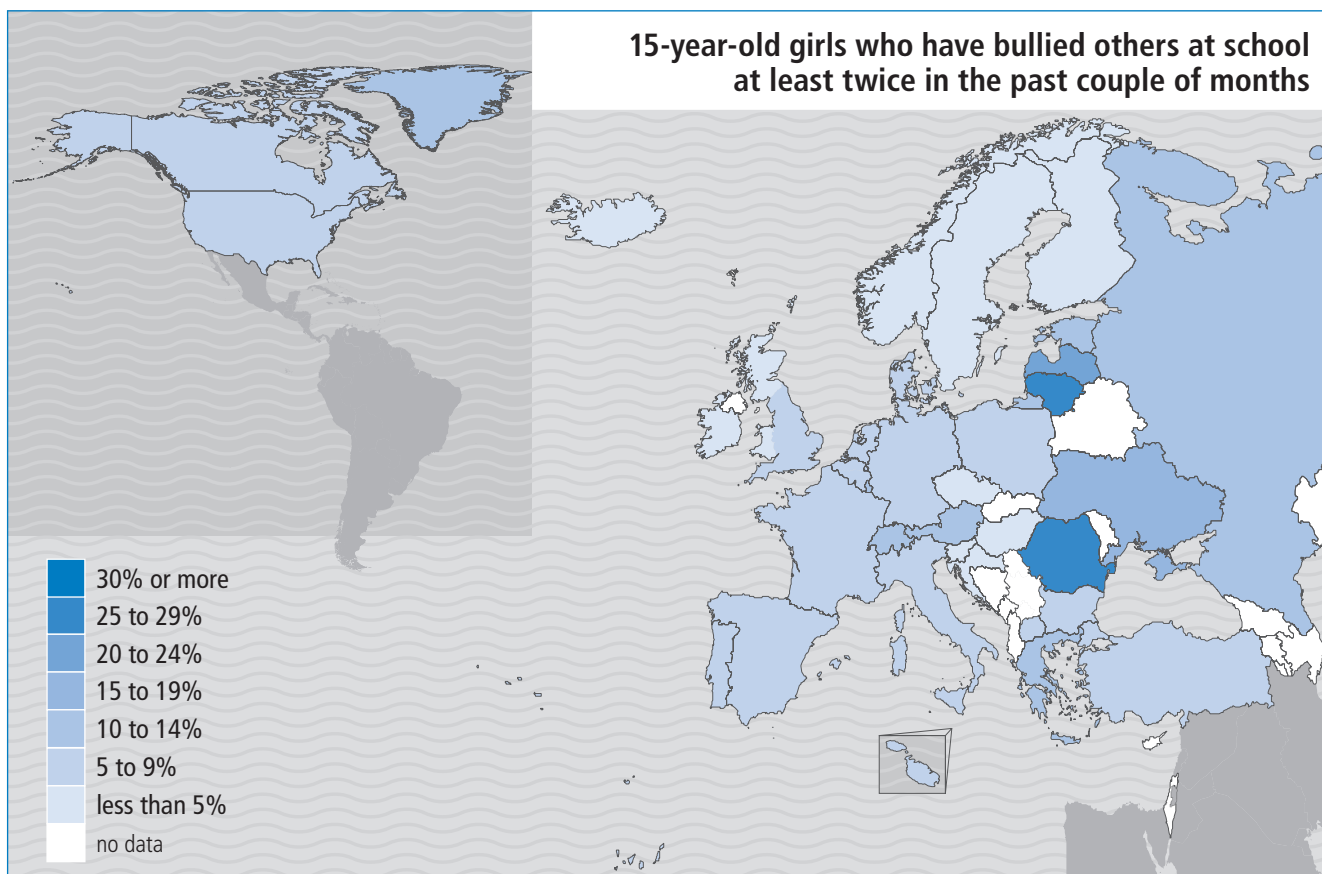
**15-year-olds: from 3% (Czech Republic) to 28% (Lithuania)**

- Girls: 1% (Iceland) to 22% (Lithuania)
- Boys: 5% (Czech Republic, Wales) to 38% (Greece)

Bullying others is consistently more common among boys and declines with age in most countries. Family affluence is not a strong factor in bullying others.

### REFERENCES

1. Pepler D, Craig W. *Making a difference in bullying*. Toronto, LaMarsh Centre for Research on Violence and Conflict Resolution, York University, 2000.
2. Nansel TR et al. Relationships between bullying and violence among US youth. *Archives of Pediatric and Adolescent Medicine*, 2003, 157:348–353.
3. Pepler DJ, Craig WM, Connolly J. *Bullying and victimization: the problems and solutions for school-aged children*. Factsheet prepared for the National Crime Prevention Council of Canada, 1997.
4. Nansel TR et al. Bullying behaviours among US youth: prevalence and association with psychosocial adjustment. *Journal of the American Medical Association*, 2001, 285(16):2094–2100.
5. Nansel TR et al. Cross-national consistency in the relationship between bullying behaviours and psychosocial adjustment. *Archives of Pediatric and Adolescent Medicine*, 2004, 158:730–736.
6. Harel Y. A cross-national study of youth violence in Europe. *International Journal of Adolescent Medicine and Health*, 1999, 11:121–134.
7. Volk A et al. Adolescent risk correlates of bullying and different types of victimization. *International Journal of Adolescent Medicine and Health*, 2006, 18(4):575–86.



# CHAPTER 3

## DISCUSSION



## HEALTH INEQUALITIES BY GENDER

### Introduction

There are many gender differences in health and related factors within the adult populations of Europe and North America, some of which begin in childhood or adolescence. Previous HBSC reports (1–3) have consistently reported findings for boys and girls separately and have consequently provided clear evidence of the existence of such differences over time. However, this is the first time we have drawn these findings together to provide an overview of gender differences in adolescent health across Europe and North America for our international report.

### Social contexts

Health behaviours and health outcomes do not exist in a vacuum, nor can they be explained by individual-level factors alone. HBSC is therefore concerned with the contexts in which health behaviours are performed and in which young people live their lives.

Clear gender differences are found with respect to these contextual measures, particularly those relating to school. Girls are more likely to report a positive school experience, as assessed by perceived academic achievement, classmate support and school satisfaction. School-related stress shows an interesting pattern: it is more prevalent among boys in younger age groups and among girls in older age groups.

As regards peer relationships, boys are more likely to report having multiple friendships and have more face-to-face contact with their friends. On the other hand, girls are more likely than boys to engage in social interactions with their friends via electronic media. There are also gender-related patterns in terms of reported ease of communication with parents. Boys are more likely to report that they find it easy to talk to their parents, especially their fathers, about things that really bother them. This is particularly the case among older age groups.

### Health outcomes

Interest in the health of children and adolescents is not restricted to behaviours that may lead to future ill-health and disease burden. There are a variety of important age-appropriate health outcomes included in HBSC. As described in Chapter 3, four separate measures of perceived health status are included: self-rated health; life satisfaction; experienced physical and emotional symptoms; and the occurrence of medically attended injury. For the first three indicators, girls are more likely than boys to report negatively; that is, they have lower self-rated health and life satisfaction and more frequent symptoms. Boys are consistently more likely to report having had a medically attended injury.

A key health outcome of concern across participating countries is adiposity status (overweight and obesity). There are clear and consistent gender differences in which boys are more likely to be overweight and obese. This gender pattern is found at all ages, but is strongest in the older age groups. Despite this, girls are more likely to report that they are unsatisfied with their bodies and report that they need to lose weight, and are more likely to be trying to lose weight.

### Health behaviours

In the 2005/2006 HBSC survey, girls are more likely to report that they frequently consume healthy food and are less likely to consume unhealthy food. They are more likely to skip breakfast and more likely to be on a diet to control their weight.

The findings reported in Chapter 3 show that boys are more likely to engage in physical activity, and this gender difference tends to increase as children get older. In contrast, boys are also more likely to exceed the international guidelines for time spent watching television (4,5).

### Risk behaviours

HBSC 2005/2006 included questions on health-related behaviours considered to place the child or adolescent at risk of a range of negative outcomes. These risk behaviours include substance use, early sexual behaviour, bullying and fighting.

The most substantial and consistent gender differences are found for these behaviours, and in almost all countries and age groups boys are more likely than girls to report that they engage in risk behaviours on an experimental or regular

basis. In the majority of countries, this is the case for alcohol and cannabis consumption and for early sexual behaviour, bullying and fighting. In addition, boys are more likely to report that they initiated substance use at or before the age of 13.

Patterns of tobacco use are more complex. Gender differences in smoking behaviour are generally lower than for other substance use behaviours. Although there is a clear pattern among the youngest age group indicating that boys are more likely to be weekly smokers, this pattern is not seen among older age groups. In some countries, older girls report higher rates of smoking than boys.

## Discussion

It is clear that boys and girls differ in terms of reported health behaviours, health outcomes and settings for health. These findings do not suggest that one gender is healthier or less healthy than the other; instead, they illustrate that there are different issues of concern for males and females, and that these tend to cluster (3). Since there is a responsibility to achieve equality between genders in the health sector (6), these issues are vital to our understanding of young people's health and provide guidance in relation to appropriate policy and practice responses.

The greater involvement of boys in physical activity may partly explain the higher rates of medically attended injury they report. Involvement in sport, however, also brings health and social benefits during the adolescent years (7). Boys are more likely to engage in risk behaviours, a finding that is consistent with previous findings (8–10), although the patterns for smoking support the argument that some equalization may be taking place (11). Risk behaviours have been characterized as externalizing behaviours, which are more common among males (12), which would help to explain the strength of gender differences found.

Girls report more frequent consumption of healthier foodstuffs and lower levels of overweight and obesity. However, they are more likely to be on weight-reducing diets, skip meals and be dissatisfied with their bodies, these patterns being related to various social and cultural factors (13–15).

The striking gender differences in symptoms and life satisfaction are consistent with earlier findings (16,17). Further research is required to develop a better understanding of these differences, particularly with regards to the links between health perceptions, body image and weight concerns (14).

## REFERENCES

- Currie C et al., eds. *Young people's health in context: international report from the HBSC 2001/2002 survey. WHO policy series: health policy for children and adolescents. Issue 4.* Copenhagen, WHO Regional Office for Europe, 2004.
- Currie C et al., eds. *Health and health behaviour among young people. WHO policy series: health policy for children and adolescents. Issue 1.* Copenhagen, WHO Regional Office for Europe, 2000.
- Kolip P, Schmidt B. *Gender and health in adolescence. WHO policy series: health policy for children and adolescents series.* Copenhagen, WHO Regional Office for Europe, 1999.
- American Academy of Pediatrics. Children, adolescents, and television. *Paediatrics*, 2001, 107:423–426.
- Canadian Paediatric Society. Impact of media use on children and youth. *Paediatric and Child Health*, 2003, 8:301–306.
- Women and health. Mainstreaming the gender perspective into the health sector: report of the expert group meeting, 1998, Tunis.* New York, NY, United Nations, 1999.
- Vilhjalmsson R, Thorlindsson T. Factors related to physical activity: a study of adolescents. *Social Science and Medicine*, 1998, 47(5):665–675.
- ter Bogt T et al. Economic and cultural correlates of cannabis use among mid-adolescents in 31 countries. *Addiction*, 2006, 101:241–251.
- Sumskaš L, Zaborskis A. Alcohol consumption in Lithuanian school-aged children during 1994–2002. *Medicina*, 2004, 40(11):1117–1123.
- Kuntsche EN, Klingemann HK-H. Weapon-carrying at Swiss Schools? A gender-specific typology in context of victim and offender related violence. *Journal of Adolescence*, 2004, 27(4):381–393.
- Hublet A et al. Smoking trends among adolescents from 1990 to 2002 in ten European countries and Canada. *BMC Public Health*, 2006, 6:280.
- Lipman EL. Expected levels of behaviour problems in a population sample of children between four and eighteen years. *Evidence Based Mental Health*, 2003, 6(4):107.
- Meland E, Haugland S, Bredablik HJ. Body image and perceived health in adolescence. *Health Education Research*, 2007, 22(3):342–350.
- Sujoldzi A, De Lucia A. A cross-cultural study of adolescents - BMI, body image and psychological well-being. *Collegium Antropologicum*, 2007, 31(1):123–130.
- Gough B. "Real men don't diet": an analysis of contemporary newspaper representations of men, food and health. *Social Science and Medicine*, 2007, 64(2):326–337.
- Torsheim T et al. Cross-national variation of gender differences in adolescent subjective health in Europe and North America. *Social Science and Medicine*, 2006, 62(4):815–827.
- Goodman E et al. Influences of gender and social class on adolescents' perceptions of health. *Archives of Paediatrics & Adolescent Medicine*, 1997, 151(9):899–904.

## HEALTH INEQUALITIES BY AGE

### Introduction

Health is not always stable over the course of childhood. As children grow and develop, important changes are observed in terms of the health and risk behaviours in which they engage, the social influences that surround them, and the health outcomes they experience. It is important to understand these patterns and transitions, as many of the inequalities that emerge during childhood translate into ongoing health problems during the adult years (1,2). Although it is the stage in life in which mortality and morbidity is lowest, as compared to childhood and adulthood (3), adolescence is a key period for the development of health inequalities.

### Social contexts

HBSC measures available to describe contextual influences on the health of young people included items describing perceptions of home, school and peer-group environments. In general, children report poorer communication with both parents as they get older.

Similar age-related trends can be observed in relation to school, where young children have much more positive perceptions about their school experiences than older children. This is true in almost all countries, as indicated by self-reported levels of stress, indications of classmate support, perceived academic achievement and school satisfaction.

With the introduction of new modes of electronic communication, children are redefining what is “normal” in terms of how they communicate with each other. This is very likely to have an impact upon peer relationships. As children age, they are less likely to report close friendships. While this may be due to changing perceptions about what a close friendship is, it is also interesting to observe that older children are more likely to spend time with friends in face-to-face and electronic interactions.

### Health outcomes

HBSC 2005/2006 included questions on a number of health outcomes that can be used to help profile the health of children of different ages.

It is very clear that children's perceived ratings of their health decline with increasing age. The proportions of children reporting good or excellent self-ratings of general health and overall life satisfaction are lower among 15-year-olds of both genders in almost all countries.

Physical and emotional symptoms are reported more often in the older age groups. Rates of overweight and obesity are also reported more frequently by older students, and this is likely to be attributable to lower levels of physical activity, higher rates of sedentary behaviours and increased consumption of less-healthy foods among older age groups.

Consistent with this, concerns about body image are reported more frequently among older girls, accompanied by higher levels of weight-control behaviours. Together, this suggests that declines in health are more typical than improvements as children get older. An important exception to this is the case of reported medically attended injuries, where rates remain relatively stable.

### Health behaviours

This report describes a rich assortment of age-related patterns in terms of health behaviours, yet there is a remarkable consistency in these patterns.

Younger children are more likely to report a wide variety of positive health behaviours, but engagement in these health behaviours declines as children progress through the adolescent years. Such age-related trends were confirmed in almost all HBSC countries and are the same for a variety of different types of behaviour.

To illustrate, 15-year-old adolescents are more likely than younger children to have a diet that includes soft drinks and lower consumption of fruits and vegetables. They are also less likely to engage in physical activity and more likely to spend time in sedentary activities such as television viewing. Fifteen-year-olds are more likely to skip breakfast, perhaps as a means of weight control (4).

While some of these behaviours are normative, their persistence into adulthood can be associated with long-term health consequences, including chronic disease (1). There are some exceptions to this age-related trend that, it can be speculated, may be driven by social pressures. One clear example is dental care, with older children being more likely to practice oral hygiene through regular toothbrushing. Such behaviours are exceptions, however; in general, positive health behaviours decline as children age.

### **Risk behaviours**

The age-related trends observed for health behaviours are also seen for many types of overt risk taking, in particular for substance use.

Drinking and drunkenness, smoking and experimental and regular use of cannabis are all more common among older adolescents. This is not surprising, as experimentation with so-called “adult” behaviours is considered normal for adolescents in most countries and cultures (5).

Although not measured across all age groups, trends in experimentation with sexual behaviour may mirror those for substance use, but age-related trends in the occurrence of violence differ. Students aged 15 are less likely to report engagement in a physical fight, being bullied and being perpetrators of bullying than those aged 11 or 13. Although these findings could be attributable to different perceptions of what constitutes a physical fight in the different age groups (6), they may also be caused by increased levels of socialization and improved conflict management skills that develop with children’s transition through their adolescent years (7–9).

### **Discussion**

It is clear that as young people grow and develop through the adolescence years, their reported profiles of health behaviours, health outcomes and contexts for health change. These shifts appear to be common to boys and girls in many countries and they may represent normative behaviour for adolescents as they begin the transition towards adulthood. There is remarkable consistency in many of these reported patterns and they point to the power of the 41-country/region HBSC to identify such general developmental trends.

It is perhaps unsettling that many of the observed age-related trends in health behaviours and outcomes are negative. This is reflected in the observed declines in positive health behaviours, such as eating a healthy diet and taking part in adequate physical activity, and in reported increases in adolescent substance use and other overt risk-taking behaviours. As young people age, they also report less ease of communication and increased experiences of psychosomatic symptoms. It appears to be normal that the health experiences of young people get worse during the adolescent years. It is incumbent upon educators, health professionals and others to develop better understanding of these lifestyle patterns so that they do not become engrained during transition to adult life.

The reported age-related findings demonstrate just how common it is for young people to engage in experimental behaviours. Yet not all of these risk-taking tendencies should be interpreted as negative. Rather, they could be viewed as steps along a social path that can lead to a range of possible health outcomes. If these steps go unchecked, the health of the growing child could deteriorate. This may be a mechanism by which social gradients in risks for disease start to develop (1,2), but if effective education and environmental strategies are put in place to assist young people in making positive choices, many of the acute health effects of risk taking can be minimized.

The findings reported here provide fundamental information to assist in the development of such strategies. These could include programmes and policies that promote and reinforce positive behavioural choices, as well as strategies that create positive social and physical environments in homes, schools and neighbourhoods.



## REFERENCES

1. Brener ND et al. Youth risk behavior surveillance – selected steps communities, 2005. *Morbidity and Mortality Weekly Report*, 2007, 56(2):1–16.
2. Woodward M et al. Contribution of contemporaneous risk factors to social inequality in coronary heart disease and all causes mortality. *Preventive Medicine*, 2003, 36(5):561–568.
3. Miniño AM et al. for the Centers for Disease Control and Prevention National Center for Health Statistics National Vital Statistics System. Deaths: final data for 2004. *National Vital Statistics Reports*, 2004, 55(19):1–119.
4. Malinauskas BM et al. Dieting practices, weight perceptions, and body composition: a comparison of normal weight, overweight, and obese college females. *Nutrition Journal*, 2006, 13(5):5–11.
5. King A et al. *The health of youth: a cross-national survey*. WHO Regional Publications, European Series no. 69. Copenhagen, WHO Regional Office for Europe, 1996.
6. Pellegrini AD. Perceptions and functions of play and real fighting in early adolescence. *Child Development*, 2003, 74(5):1522–1533.
7. Nansel TR et al. for the Health Behaviour in School-aged Children Bullying Analysis Working Group. Cross-national consistency in the relationship between bullying behaviors and psychosocial adjustment. *Archives of Pediatrics and Adolescent Medicine*, 2004, 158(8):831–832.
8. Smith PK et al. Definitions of bullying: a comparison of terms used, and age and gender differences, in a fourteen-country international comparison. *Child Development*, 2002, 73(4):1119–1133.
9. Smith-Khuri E et al. A cross-national study of violence-related behaviors in adolescents. *Archives of Pediatrics and Adolescent Medicine*, 2004, 158(6):539–44.

## HEALTH INEQUALITIES BY GEOGRAPHY

### Introduction

The countries and regions of HBSC cover a wide geographical area, as described in Chapter 1.

The range of countries and regions involves a variety of cultures, climates and topographies, with differences in economic, historic and policy contexts. We would therefore expect to find differences in the health and health behaviour of young people across participating countries and regions.

### Social contexts

Relationships with parents are key components of social relationships as a context for health (1,2). Relatively clear geographical patterns emerge for these particular variables. Girls in eastern Europe are more likely than girls elsewhere to report that they find communication with their mothers to be easy. The same pattern holds for both genders with respect to communication with fathers. In contrast, both boys and girls in western Europe and boys in northern Europe are less likely to report ease of communication with their mothers.

Interactions with peers also vary considerably across the 41 HBSC countries and regions, and once again there are clear geographic patterns. Boys and girls from northern Europe are most likely to report having more close friends and that they have frequent electronic media communication with friends. In relation to same-gender friends, boys and girls from southern Europe and girls from eastern Europe are less likely to report having three or more close friends.

Geographical patterns are less clear with respect to school factors, although some significant differences nevertheless emerge. Students in western Europe are less likely to report that they feel pressured by schoolwork. Students in eastern Europe are least likely to report good relationships with their classmates.

### Health outcomes

Clear and consistent patterns were reported along a north–west to south–east geographic axis with respect to some key health outcomes. Most notably, both boys and girls in southern and eastern Europe are more likely to report multiple health complaints. Poor levels of self-rated health and life satisfaction are more common among boys in southern Europe. Girls in eastern Europe are less likely to report high life satisfaction than those elsewhere. Students in northern and western Europe are less likely to report health complaints. High levels of life satisfaction are also more frequently reported by boys in western Europe.

The geographic patterns are somewhat different, and less clear, for other health outcomes. For example, medically attended injury is reported more frequently among boys and girls in northern Europe and less frequently among girls in western Europe and both genders in eastern Europe. The highest rates for overweight and obesity for both boys and girls are found in North America, while among girls, those in eastern Europe are least likely to be overweight or obese. In southern Europe, boys are more likely to report that they are overweight, while girls report the most positive body image. Boys and girls in western Europe have more negative body image, as do boys in northern Europe.

### Health behaviours

Boys and girls in northern Europe are less likely to drink soft drinks on a daily basis, but boys in parts of northern Europe are also less likely to report frequent fruit consumption.

Girls in eastern Europe are more likely to report frequent soft drinks consumption, while television watching is highest there for both genders. Television viewing is lowest for both boys and girls in western Europe.

### Risk behaviours

Girls and boys in North America report relatively low levels of weekly smoking. However, boys in North America are most likely to report that they have used cannabis, and boys and girls in North America are most likely to report that they have used cannabis in the last month.

Boys in northern Europe report relatively low rates of weekly drinking (with the exception of the United Kingdom), but girls and boys in northern Europe are most likely to report having been drunk at least twice. Girls are most likely to report that they were first drunk at or before the age of 13. In southern Europe, boys and girls are less likely to

report early first drunkenness. Similarly, they are less likely than those from other regions to report that they have been drunk twice or more frequently.

It is notable that in addition to North America, reports of having used cannabis are relatively high in the United Kingdom, France, Spain and Italy, especially among boys. With respect to reported sexual health behaviour, there is no strong geographical pattern for boys, but girls in northern Europe are most likely to report, at age 15, that they have already had sexual intercourse. There is also a geographical distribution in relation to contraceptive use as reported by both boys and girls, with use of the contraceptive pill being most common in western Europe and lowest in southern and eastern Europe.

Boys in eastern Europe are most likely to report that they have been involved in frequent physical fighting, and boys in northern Europe are less likely than those in other regions to report that they have been involved in fighting. Boys and girls in northern Europe are also less likely to report that they have bullied other students.

### Discussion

This report brings together for the first time a comprehensive and cross-national picture of the health of young people in HBSC data from 41 countries and regions. The geographical patterns revealed and the consistency they show provide support for the analytic approach adopted. This also reveals how gender interacts with geography in the development of health-related lifestyles.

Geographical patterns are strongest for positive health outcomes and relationships with families and peers. Broadly, boys and girls from northern and western Europe report more positive health, poorer relationships with families and more peer involvement than young people in either eastern or southern Europe. The high prevalence of reported physical and emotional symptoms in southern Europe has been noted before (3). In terms of risk behaviours, North America stands out as having the lowest rates of smoking but the highest rates of cannabis use; this complex picture requires further exploration.

Geographical patterns are weakest for school-related factors, which is remarkable given the range of school systems and achievement of students (4–7) and the previously documented importance of school factors for young people's health (8).

Some of the patterns identified may be associated with availability of foodstuffs: for example, the finding that fruit consumption is highest in southern and lowest in northern Europe. Others may be related to access to services: the low levels of reported medically attended injury in the east and the corresponding high levels in the north, or the higher levels of contraceptive pill use in northern as compared to eastern Europe, for instance. Further, some may be related to wealth and poverty, such as the high levels of obesity in North America and low levels in eastern Europe. These remain open questions deserving of further attention, as in most cases there will be complex interactions between determinants.

This analysis of geographical patterns demonstrates the need for further work in this area and underscores the potential for further collaborations with researchers in the fields of health and social geography. A further step will be to explore the links between our findings on geographical patterning of health behaviours measured during adolescence and existing worldwide databases or mapping of health and health determinants (see, for example, 9,10).

## REFERENCES

1. Zambon A et al. Socio-economic position and adolescents' health in Italy: the role of the quality of social relations. *European Journal of Public Health*, 2006, 16(6):627–632.
2. Youniss J, Yates M, Su Y. Social integration, community service and marijuana use in high school seniors. *Journal of Adolescent Research*, 1997, 12(2):245–262.
3. Torsheim T et al. Cross-national variation of gender differences in adolescent subjective health in Europe and North America. *Social Science and Medicine*, 2006, 62(4):815–827.
4. *Education at a glance 2007*. Paris, Organisation for Economic Co-operation and Development, 2007.
5. *Learning for tomorrow's world: first results from PISA 2003*. Paris, Organisation for Economic Co-operation and Development, 2004.
6. *PISA 2006: science competencies for tomorrow's world. Volume 1: analysis*. Paris, Organisation for Economic Co-operation and Development, 2007.
7. Mullis IVS et al. *International report. IEA's progress in international reading literacy study in primary schools in 40 countries*. Chestnut Hill, MA, TIMSS & PIRLS International Study Center, Boston College, 2007.
8. Ravens-Sieberger U, Kokonyei G, Thomas C. School and health. In: Currie C et al., eds. *Young people's health in context: international report from the HBSC 2001/2002 survey. WHO policy series: health policy for children and adolescents. Issue 4*. Copenhagen, WHO Regional Office for Europe, 2004.
9. Barfod A, Dorking D. The shape of the global causes of death. *International Journal of Health Geographics*, 2007, 6:48.
10. Lopez A et al. *Life tables for 191 countries for 2000: data, methods and results. Global programme on evidence for health policy. Discussion paper series no.40*. Geneva, World Health Organization, 2001.

## SOCIOECONOMIC INEQUALITIES IN HEALTH

### Introduction

Socioeconomic inequalities in health among adults and young children have been studied extensively for the past 30 years (1–4). Individuals with lower education, lower occupational status and lower income suffer more often from poor health and have higher mortality than those who are wealthier, have higher social status or are more educated (5). More recently, an interest in the effects of socioeconomic status (SES) on the health of adolescents has emerged, and it now represents an active and important area of research (6–11).

Relationships between socioeconomic inequalities and adolescent health are complex. Results differ across studies, with strong gradients in health outcomes according to SES in some cases and a lack of such inequalities in others. Variation in study findings has been attributed to the use of different measures of SES, health outcomes and health behaviours, and to the age group, gender and country of the population under study. It has also been suggested that peer, school and media influences have an equalizing effect on adolescent health outcomes (4).

The development of health inequalities during adolescence underlines the potential of this life phase to provide a better understanding of the origins of socioeconomic differences in adult health and to identify possible pathways by which adult health inequalities are produced and reproduced (6, 12). This issue is also important in its own right, since initiatives developed to improve the health of young people need to address the potential importance of socioeconomic determinants (13).

### Social contexts

It has been argued that the influence of socioeconomic status on health is mediated through social contexts (14). It is therefore important to analyse socioeconomic patterns in different social environments.

While family affluence does not have a strong association with school-related stress, good academic achievement is significantly more prevalent among boys and girls from more affluent families. In addition, high levels of classmate support are also associated with higher family affluence. Students from more affluent families are more likely to report that they like school a lot in many countries, but the opposite is true in a few countries.

Ease of communication with mothers is reported more often among students from more affluent families. For both boys and girls, finding it easy to talk to father is also significantly associated with higher family affluence in all countries. This finding is remarkable and consistent and may underlie other factors related to poor health outcomes in students from lower affluence families.

Peer relationships are also associated with family affluence. Having three or more friends of the same gender and daily electronic communication with friends are both significantly more prevalent among boys and girls from higher affluence families. Spending four or more evenings out with friends is more common among young people from more affluent families in many countries, but in a few countries the opposite is true.

### Health outcomes

The health outcomes included in HBSC are often socially patterned in adulthood and it appears that these disparities are already found during adolescence.

Most notably, students from less affluent families are consistently more likely to report fair or poor health, which also applies to reporting of multiple health complaints, especially among girls. Most striking is the consistency of the association between family affluence and life satisfaction. In all but one country, those from more affluent families are significantly more likely to report high levels of life satisfaction.

Overweight or obesity is significantly associated with family affluence. Students from less affluent families are more likely to be overweight or obese. Feeling too fat is also more commonly reported among those from less affluent families. In contrast, medically attended injuries are more commonly reported among boys and girls from families with higher affluence.

### Health behaviours

Health behaviours in almost all countries are associated with family affluence, but the patterns emerging for some behaviours vary by region.

Higher rates of daily soft drink consumption are associated with lower family affluence among girls and boys in the majority of western and northern countries. By contrast, the consumption of soft drinks is associated with high family affluence in eastern Europe and the Baltic states. Eating breakfast and fruit are both significantly more prevalent among boys and girls from more affluent families, as is brushing teeth more than once daily.

Lower levels of physical activity tend to be reported among boys and girls from less affluent families. Analogously, there is a significant trend for more television viewing among those from less affluent families. This pattern is strongest in western and northern countries.

Weight-control behaviours are more commonly reported among girls from more affluent families, but no clear pattern between family affluence and weight-control behaviour is observed among boys.

### Risk behaviours

It is interesting to note that significant associations are identified between family affluence and smoking initiation or early drinking in very few countries. In most of these cases, early initiation is associated with low family affluence.

Students from less affluent families are more likely to smoke weekly. Weekly drinking and experiences of drunkenness tend to be more commonly reported among boys and girls from more affluent families. In most cases, however, family affluence is associated with smoking and drinking in fewer than half the countries.

Overall, no clear socioeconomic pattern is observed across countries in relation to cannabis use and, interestingly, cannabis use is associated with low as well as high family affluence.

Sexual intercourse is more commonly reported among more affluent boys (particularly in eastern Europe) and less affluent girls in the minority of countries where an association is found.

Having been bullied is more common among students from less affluent families. Bullying others is less strongly associated with family affluence; where there are significant patterns, it is linked to higher affluence in eastern countries and lower affluence in other regions. In the few cases where fighting is associated with family affluence, higher rates of fighting are associated with higher affluence for boys, particularly in eastern Europe.

### Discussion

Higher levels of socioeconomic status, as measured by family affluence, were associated with positive health outcomes in both genders in almost all countries. One exception is that medically attended injuries show higher rates among more affluent students. By contrast, risk behaviours are far-less strongly associated with family affluence. In general, smoking appears to be associated with lower affluence, while alcohol use is associated with higher levels of affluence.

There is a consistent pattern across countries of high academic achievement being associated with higher affluence, but other school variables are less consistently related to family affluence. The number of friends, the time spent with friends in the evening and electronic communication with friends are all associated with high family affluence among both genders in almost all countries. Ease of communication with parents is also significantly more common among high affluence girls in most countries, although the pattern is less clear for boys.

The relationship between adolescent health and socioeconomic status is very complex. Our findings confirm the main observation from existing studies, that social inequalities in health among young people vary according to the health outcomes measured, gender and country. In general, the results suggest that some health and behavioural measures are more sensitive to family affluence than others. The clear association between family affluence, positive health and health-promoting behaviours confirm previous HBSC analyses on self-rated health (15–17), daily fruit eating, consumption of soft drinks (18, 19), toothbrushing (20) and physical activity (15, 21, 22). Previous HBSC surveys identified weak relationships between socioeconomic status and both tobacco use and alcohol consumption in

adolescence (19,23,24,25). The results from the 2005/2006 survey indicate an interesting pattern for health behaviours, which are significantly associated with family affluence in almost all countries and for almost all outcomes, while risk behaviours show inconsistent associations with family affluence. Inequalities according to family affluence do exist for some risk behaviours and in some countries and regions, but direction of association varies and in some countries and regions, there is no association at all.

An important difference between health and risk behaviours is that health behaviours, unlike most risk behaviours, mainly develop in early childhood, when parental influence may be much stronger than in adolescence. Where family affluence is not a significant influence on risk behaviour, it may be that other social influences arising from the family, peers and school have a greater impact during adolescence (26,27).

## REFERENCES

1. Marmot MG, Wilkinson RG. *Social determinants of health*. Oxford, Oxford University Press, 2006.
2. DiLiberti JH. The relationship between social stratification and all cause mortality among children in the United States. *Pediatrics*, 2000, 105(1):1968–1992.
3. Macintyre S, West P. Lack of class variation in health in adolescence: an artifact of an occupational measure of social class? *Social Science and Medicine*, 1991, 32(4):395–402.
4. West P. Health inequalities in the early years: is there equalisation in youth? *Social Science and Medicine*, 1997, 44(6):833–858.
5. Mackenbach JP. *Health inequalities: Europe in profile. An independent expert report commissioned by the UK presidency of the EU*. London, Department of Health, 2006.
6. Starfield B et al. Social class gradients in health during adolescence. *Journal of Epidemiology and Community Health*, 2002, 56:354–361.
7. West P, Sweeting H. Evidence on equalisation in health in youth from the West of Scotland. *Social Science and Medicine*, 2004, 59(1):13–27.
8. Spencer NJ. Social equalisation in youth: evidence from a cross-sectional British survey. *European Journal of Public Health*, 2006, 16(4):368–375.
9. Hagquist CE. Health inequalities among adolescents – the impact of academic orientation and parents' education. *European Journal of Public Health*, 2006, 17(1):21–26.
10. Friestad C, Klepp KI. Socioeconomic status and health behaviour patterns through adolescence: results from a prospective cohort study in Norway. *European Journal of Public Health*, 2006, 16(1):41–47.
11. Currie C et al. Researching health inequalities in adolescents: the development of the Health Behaviour in School-aged Children (HBSC) Family Affluence Scale. *Social Science and Medicine*, 2008, 66(6):1429–1436.
12. Case A, Paxson C, Vogl T. Socioeconomic status and health in childhood: a comment on Chen, Martin and Matthews, "Socioeconomic status and health: do gradients differ within childhood and adolescence?". *Social Science and Medicine*, 2007, 64:757–761.
13. *Addressing the socioeconomic determinants of healthy eating habits and physical activity levels among adolescents*. Copenhagen, WHO Regional Office for Europe, 2006.
14. Due P et al. Socioeconomic health inequalities among a nationally representative sample of Danish adolescents: the role of different types of social relations. *Journal of Epidemiology and Community Health*, 2003, 67:692–698.
15. Holstein B et al. Socioeconomic inequalities and health. In: Currie C et al., eds. *Young people's health in context: international report from the HBSC 2001/2002 survey. WHO policy series: health policy for children and adolescents. Issue 4*. Copenhagen, WHO Regional Office for Europe, 2004.
16. Torsheim T et al. Material deprivation and self-rated health: a multilevel study of adolescents from 22 European and North American countries. *Social Science and Medicine*, 2004, 59(1):1–12.
17. Torsheim T et al. Country material distribution and adolescents' perceived health: multilevel study of adolescents in 27 countries. *Journal of Epidemiology and Community Health*, 2006, 60:156–161.
18. Vereecken CA et al. The relative influence of individual and contextual socio-economic status on consumption of fruit and soft drinks among adolescents in Europe. *European Journal of Public Health*, 2005, 15(3):224–232.
19. Zambon A et al. Do welfare regimes mediate the effect of SES on health in adolescence? A cross-national comparison in Europe, North America and Israel. *International Journal of Health Services*, 2006, 36(2):309–329.
20. Maes L et al. Tooth brushing and social characteristics of families in 32 countries. *International Dental Journal*, 2006, 56:159–167.
21. Mullan E, Currie C. Socioeconomic inequalities in adolescent health. In: Currie C et al., eds. *Health and health behaviour among young people. WHO policy series: health policy for children and adolescents. Issue 1*. Copenhagen, WHO Regional Office for Europe, 2000.
22. Inchley JC et al. Persistent socio-demographic differences in physical activity among Scottish schoolchildren 1990–2002. *European Journal of Public Health*, 2005, 15(4):386–388.
23. Griesbach D, Amos A, Currie C. Adolescent smoking and family structure in Europe. *Social Science and Medicine*, 2003, 56:42–52.
24. Richter M, Leppin A. Trends in socio-economic differences in tobacco smoking among German schoolchildren, 1994–2002. *European Journal of Public Health*, 2007, 17:565–571.
25. Richter M, Leppin A, Nic Gabhainn S. The relationship between parental socio-economic status and episodes of drunkenness among adolescents: findings from a cross-national survey. *BMC Public Health*, 2006, 6:289.
26. Ravens-Sieberer U, Kokonyei G, Thomas C. School and health. In: Currie C et al., eds. *Young people's health in context: international report from the HBSC 2001/2002 survey. WHO policy series: health policy for children and adolescents. Issue 4*. Copenhagen, WHO Regional Office for Europe, 2004.
27. Settertobulte W, de Matos M. Peers and health. In: Currie C et al., eds. *Young people's health in context: international report from the HBSC 2001/2002 survey. WHO policy series: health policy for children and adolescents. Issue 4*. Copenhagen, WHO Regional Office for Europe, 2004.

## CONCLUSION

The results presented here show that disparities in health are widespread and concern every country and region in the HBSC study. While the research on health inequalities has gradually shifted from description to explanation and, in some countries, to tackling health inequalities, more descriptive and analytical research of adolescence is still required. HBSC provides a unique opportunity for such analyses.

Despite increasing academic and political interest in inequalities in health, we are still far away from a clear explanation for the association between socioeconomic or demographic status and health. This is especially true for adolescents. The general persistence of inequalities in health shows that inequalities are deeply rooted in modern societies, and warns us that it is probably unrealistic to expect short-term reductions in health inequalities using conventional intervention strategies.

Adolescence represents an important stage in the life course for preventive efforts. The evidence presented here shows that strategies need to take account of social influences and inequalities in health that already exist and are emerging for this age group. The design, implementation and evaluation of preventive approaches all need to be informed by the growing body of research in the area of young people's health.







# ANNEX

## SUPPLEMENTARY DATA TABLES

## INTRODUCTION

THIS ANNEX PRESENTS SUPPLEMENTARY DATA TABLES THAT ARE REFERRED TO IN CHAPTER 2.

The tables include:

- alternative presentations of the same data, where this is considered of particular interest (for example, the prevalence of daily smoking where weekly smoking is presented in Chapter 2); and
- additional variables that are closely related to those presented in Chapter 2, such as the prevalence of computer use where watching television is the measure for sedentary behaviour presented in Chapter 2.

In addition, a table showing the prevalence of family types across HBSC countries and regions is presented, as is a table showing the proportion of missing data, by country and region, for the derived Body Mass Index used to report prevalence of overweight and obesity in Chapter 2.

## CONTENTS

### Supplementary tables to Chapter 2, Section 1: Social Context

Family: family structure

Peers: spending time with friends after school

### Supplementary tables to Chapter 2, Section 2: Health Outcomes

Multiple health complaints: reporting a headache more than once a week

Multiple health complaints: reporting feeling low more than once a week

Overweight and obesity: rates of missing data

### Supplementary tables to Chapter 2, Section 3: Health Behaviours

Eating behaviour: vegetable consumption

Physical activity: vigorous physical activity

Sedentary behaviour: computer use (non-gaming)

Sedentary behaviour: computer and games console use

### Supplementary tables to Chapter 2, Section 4: Risk Behaviours

Tobacco use: ever smoked tobacco

Tobacco use: daily smoking

Alcohol use: weekly beer consumption

Alcohol use: weekly wine consumption

Alcohol use: weekly spirits consumption

Alcohol use: weekly alcopops consumption

Alcohol use: drinking initiation

Cannabis: use in the last 12 months

Cannabis: user groups

Fighting: involved in a physical fight at least once in the past 12 months

Bullying: being bullied at least once in the past couple of months

Bullying: bullying others at least once in the past couple of months

**FAMILY STRUCTURE: YOUNG PEOPLE LIVING IN DIFFERENT FAMILY TYPES****SUPPLEMENTARY TABLE TO: CHAPTER 2 SECTION 1: SOCIAL CONTEXT, FAMILY**

	Both parents %	Single parent %	Step family %	Other %
Greenland	53	28	8	11
USA	57	24	14	4
Romania	58	37	2	3
Latvia	64	23	10	3
Estonia	65	18	15	2
Wales	66	19	13	3
Denmark	66	19	12	3
Russian Federation	66	22	11	2
Belgium (French)	67	17	14	2
Scotland	68	19	12	1
Canada	69	18	11	3
Iceland	70	15	12	2
Czech Republic	70	16	12	2
England	70	16	12	1
Finland	71	16	13	1
Lithuania	71	19	8	3
Ukraine	72	18	8	2
Norway	73	16	10	2
Sweden	73	14	12	1
France	73	14	11	1
Hungary	74	16	9	2
Germany	74	15	9	1
Belgium (Flemish)	74	14	10	1
Luxembourg	76	14	8	2
Austria	76	14	8	1
Switzerland	79	12	8	1
Netherlands	80	12	7	1
Ireland	81	13	5	2
Bulgaria	81	13	4	2
Portugal	82	10	6	2
Poland	83	12	3	1
Slovakia	84	11	5	0
Spain	84	11	4	1
Slovenia	84	10	4	1
Turkey	85	11	1	3
Greece	86	11	2	1
Israel	87	9	2	2
Italy	87	9	3	1
Croatia	88	8	3	1
TFYR Macedonia <sup>†</sup>	91	6	1	1

No data available for Malta

**MEASURE** Young people were asked about their family living arrangements and whether they had two homes and two families and who they lived with most of the time. The data presented here show the proportions that reported living primarily with both parents, within a step-family, within a single-parent family or within some other arrangement (for instance, within a foster home or cared for by non-parental family members).

†The former Yugoslav Republic of Macedonia

## SPENDING TIME WITH FRIENDS AFTER SCHOOL ON FOUR OR MORE DAYS PER WEEK

## SUPPLEMENTARY TABLE TO: CHAPTER 2 SECTION 1: SOCIAL CONTEXT, PEERS: EVENINGS WITH FRIENDS

	11-YEAR-OLDS				13-YEAR-OLDS				15-YEAR-OLDS		
	Boy %	Girl %	Total %		Boy %	Girl %	Total %		Boy %	Girl %	Total %
Slovakia	70	65	68	Slovakia	73	69	71	Slovakia	75	73	74
Ukraine	66	65	65	TFYR Macedonia†	71	64	67	TFYR Macedonia†	68	67	67
TFYR Macedonia†	68	61	64	Ukraine	68	60	64	Greenland	69	61	64
Greenland	67	59	63	Greenland	56	66	61	Ukraine	67	53	60
Latvia	58	56	57	Latvia	62	58	60	Bulgaria	63	55	59
Russian Federation	55	58	57	Russian Federation	61	57	59	Russian Federation	59	55	57
Italy	59	48	54	Italy	59	48	54	Latvia	61	49	55
Bulgaria	55	47	51	Bulgaria	53	49	51	Italy	62	45	53
Norway	48	46	47	Czech Republic	50	50	50	Croatia	52	46	49
Poland	45	46	46	Poland	45	46	46	Austria	51	45	48
Ireland	46	42	44	Norway	46	44	45	Czech Republic	49	45	47
Scotland	47	40	43	Wales	48	41	45	Hungary	48	42	45
Czech Republic	42	44	43	Austria	47	41	44	Poland	48	38	43
Romania	46	38	42	Scotland	48	40	43	Malta	46	40	43
Portugal	44	40	42	Croatia	46	40	43	Romania	50	38	43
Croatia	48	35	41	Portugal	41	41	41	Portugal	45	40	42
Israel	44	39	41	Ireland	44	38	41	Norway	42	41	42
Austria	41	39	40	Romania	47	36	41	Luxembourg	49	34	41
Wales	41	39	40	Lithuania	44	37	40	Slovenia	42	39	41
Iceland	40	37	39	Malta	49	29	40	Lithuania	43	37	40
Canada	42	34	38	Iceland	41	39	40	Germany	42	36	39
USA	37	36	37	Luxembourg	46	34	40	Iceland	37	40	39
Slovenia	38	34	36	Canada	42	37	39	Ireland	43	34	39
Lithuania	38	33	36	Estonia	40	37	39	USA	43	33	38
Estonia	38	33	35	USA	42	33	37	Estonia	44	31	38
Hungary	39	31	35	England	40	31	36	Scotland	42	30	36
Germany	35	35	35	Hungary	38	33	36	Belgium (Flemish)	39	33	36
Sweden	36	32	34	Slovenia	39	32	35	Greece	42	28	35
Denmark	33	34	34	Spain	37	33	35	France	40	29	34
Spain	40	29	34	Germany	38	31	35	Israel	39	31	34
Luxembourg	35	31	33	Belgium (Flemish)	36	33	34	Spain	37	29	33
England	37	27	32	Israel	38	29	33	Wales	38	27	33
Finland	36	28	32	France	38	28	32	England	37	27	31
Greece	33	26	30	Greece	36	28	32	Switzerland	33	29	31
Netherlands	29	29	29	Sweden	29	27	28	Canada	33	25	29
France	30	23	27	Denmark	26	28	27	Netherlands	30	26	28
Malta	31	20	25	Switzerland	30	24	27	Belgium (French)	27	23	25
Belgium (Flemish)	28	19	24	Belgium (French)	29	21	25	Finland	31	17	23
Switzerland	26	20	23	Netherlands	25	23	24	Denmark	22	21	22
Belgium (French)	27	18	23	Finland	26	20	23	Sweden	25	17	21
Turkey	25	13	19	Turkey	23	13	18	Turkey	23	10	17
<b>HBSC Average</b>	<b>42</b>	<b>37</b>	<b>40</b>	<b>HBSC Average</b>	<b>44</b>	<b>38</b>	<b>41</b>	<b>HBSC Average</b>	<b>45</b>	<b>37</b>	<b>41</b>

**MEASURE** Young people were asked how many days per week they usually spend time with friends right after school. Response options were "0" to "5" days. The findings presented here show the proportions that reported spending time with friends after school on four or more days per week.

†The former Yugoslav Republic of Macedonia

## REPORTING A HEADACHE MORE THAN ONCE A WEEK

## SUPPLEMENTARY TABLE TO: CHAPTER 2 SECTION 2: HEALTH OUTCOMES, MULTIPLE HEALTH COMPLAINTS

	11-YEAR-OLDS				13-YEAR-OLDS				15-YEAR-OLDS		
	Boy %	Girl %	Total %		Boy %	Girl %	Total %		Boy %	Girl %	Total %
Israel	30	31	30	Israel	25	33	30	Israel	22	38	32
Turkey	25	32	28	Turkey	21	36	29	Malta	22	35	28
Malta	23	27	25	Romania	20	31	26	Turkey	21	35	28
Russian Federation	23	28	25	Malta	19	30	24	Lithuania	17	38	27
Ukraine	19	32	25	Russian Federation	20	27	24	Romania	14	34	27
Italy	19	25	22	Italy	16	28	22	Italy	15	38	26
Romania	17	25	21	Ukraine	14	29	21	Russian Federation	19	28	24
Hungary	16	24	20	Lithuania	16	27	21	Ukraine	15	32	23
Lithuania	16	23	19	Hungary	15	27	21	Iceland	16	30	23
Belgium (French)	13	25	19	USA	13	26	20	Sweden	14	30	22
Estonia	15	20	17	Canada	13	24	19	Hungary	12	31	22
Slovakia	14	20	17	Iceland	15	22	19	USA	13	30	22
Poland	13	21	17	Bulgaria	14	23	18	Bulgaria	14	28	21
Greenland	13	20	17	Spain	13	23	18	Greece	10	30	21
Spain	14	18	16	Greenland	13	22	18	Poland	14	27	21
Czech Republic	13	20	16	Belgium (French)	15	20	18	Finland	12	27	20
Iceland	14	18	16	Luxembourg	13	22	17	Canada	12	26	19
France	13	19	16	Czech Republic	13	22	17	Latvia	11	27	19
Wales	14	17	16	Latvia	13	21	17	Slovakia	14	24	19
USA	11	18	15	Estonia	13	21	17	Luxembourg	11	27	19
Latvia	13	16	15	Slovakia	13	20	17	Belgium (French)	12	26	19
Bulgaria	13	15	14	Poland	12	21	17	Spain	12	25	19
Portugal	9	18	14	Wales	12	20	16	England	9	27	19
Switzerland	10	16	13	Greece	7	23	16	Estonia	11	24	18
Canada	10	13	12	Finland	10	20	16	Wales	9	26	18
Luxembourg	8	15	12	Netherlands	12	19	16	Portugal	7	26	17
Greece	9	14	11	Sweden	11	18	15	Netherlands	9	25	17
Finland	8	14	11	Scotland	12	17	14	TFYR Macedonia†	10	23	17
TFYR Macedonia†	10	12	11	England	10	18	14	Greenland	8	24	16
England	10	12	11	Switzerland	10	17	14	Czech Republic	10	22	16
Germany	9	12	11	France	9	19	14	France	9	23	16
Croatia	9	12	11	Belgium (Flemish)	10	17	14	Ireland	11	20	15
Belgium (Flemish)	10	12	11	Germany	10	17	14	Switzerland	9	20	15
Scotland	8	13	10	Portugal	8	18	13	Croatia	8	20	14
Ireland	9	11	10	Austria	10	16	13	Germany	8	20	14
Norway	7	12	10	Norway	9	14	12	Scotland	8	20	14
Netherlands	6	13	10	Ireland	9	15	11	Belgium (Flemish)	10	17	14
Denmark	8	11	9	TFYR Macedonia†	9	13	11	Norway	9	16	12
Sweden	7	11	9	Slovenia	8	14	11	Austria	5	19	12
Austria	8	11	9	Croatia	8	14	11	Denmark	4	18	11
Slovenia	8	9	9	Denmark	8	14	11	Slovenia	10	13	11
<b>HBSC Average</b>	<b>13</b>	<b>18</b>	<b>15</b>	<b>HBSC Average</b>	<b>13</b>	<b>21</b>	<b>17</b>	<b>HBSC Average</b>	<b>12</b>	<b>26</b>	<b>19</b>

**MEASURE** Young people were asked how often in the last six months they had experienced a number of symptoms: headache; stomach ache; feeling low, irritable or bad tempered; feeling nervous; difficulties in getting to sleep; and feeling dizzy. Response options for each symptom ranged from "about every day" to "rarely or never". The findings presented here show the proportions that reported experiencing a headache more than once a week.

†The former Yugoslav Republic of Macedonia

**FEELING LOW MORE THAN ONCE A WEEK****SUPPLEMENTARY TABLE TO: CHAPTER 2 SECTION 2: HEALTH OUTCOMES, MULTIPLE HEALTH COMPLAINTS**

	11-YEAR-OLDS				13-YEAR-OLDS				15-YEAR-OLDS		
	Boy %	Girl %	Total %		Boy %	Girl %	Total %		Boy %	Girl %	Total %
Turkey	35	45	40	Turkey	40	59	50	Romania	28	52	43
Slovakia	32	35	34	Romania	31	41	36	Turkey	34	49	41
Romania	28	35	32	Slovakia	31	37	34	Slovakia	35	41	38
Israel	25	26	25	Italy	23	44	34	Italy	25	50	37
Italy	21	28	25	Ukraine	17	36	26	Ukraine	23	41	32
Ukraine	18	29	23	Greece	17	30	24	Greece	21	41	32
Greenland	20	22	21	Israel	18	27	23	Israel	25	31	29
Estonia	13	21	17	Lithuania	13	32	22	Lithuania	18	39	28
Latvia	14	20	17	TFYR Macedonia <sup>†</sup>	19	24	21	Hungary	21	31	27
Lithuania	13	20	17	Hungary	17	24	21	Sweden	15	37	26
Hungary	15	16	16	Latvia	12	25	19	Greenland	13	37	25
TFYR Macedonia <sup>†</sup>	15	17	16	Estonia	12	26	19	Malta	17	32	24
Greece	14	16	15	Luxembourg	10	26	18	Latvia	14	31	23
Iceland	11	16	14	Malta	11	25	17	Luxembourg	12	32	22
Canada	14	13	13	Greenland	12	22	17	Bulgaria	9	33	21
USA	11	15	13	England	13	20	17	TFYR Macedonia <sup>†</sup>	14	29	21
Poland	12	14	13	Poland	13	20	16	Iceland	13	28	20
Norway	12	14	13	Canada	12	19	16	Estonia	13	27	20
Switzerland	11	15	13	Spain	10	21	16	Poland	13	26	20
England	12	14	13	Iceland	10	21	16	England	13	25	19
Russian Federation	11	14	13	Bulgaria	9	21	15	Belgium (Flemish)	18	19	18
Malta	11	13	12	Russian Federation	12	17	15	Russian Federation	12	23	18
Spain	10	14	12	USA	10	18	15	Croatia	10	25	18
Wales	12	12	12	Sweden	9	20	14	Spain	10	25	18
Luxembourg	9	15	12	France	9	18	14	France	11	25	18
Belgium (French)	10	13	12	Norway	9	18	13	Belgium (French)	12	23	17
Denmark	8	15	11	Switzerland	8	18	13	Ireland	12	22	16
Croatia	9	13	11	Belgium (French)	10	17	13	Canada	10	22	16
Portugal	8	14	11	Wales	8	17	13	Switzerland	9	22	16
Czech Republic	9	12	10	Croatia	10	16	13	USA	9	23	16
France	9	12	10	Czech Republic	8	17	13	Wales	9	22	16
Bulgaria	8	10	9	Belgium (Flemish)	10	15	12	Norway	8	24	15
Sweden	6	11	9	Portugal	7	16	12	Portugal	9	19	15
Scotland	6	10	9	Ireland	9	12	11	Czech Republic	8	20	14
Belgium (Flemish)	8	8	8	Scotland	7	14	11	Scotland	7	19	13
Ireland	6	8	7	Denmark	5	15	10	Netherlands	5	18	12
Netherlands	5	8	7	Slovenia	6	13	10	Denmark	4	19	12
Germany	6	7	7	Netherlands	7	12	9	Slovenia	7	15	11
Slovenia	5	7	6	Germany	7	11	9	Germany	7	15	11
Finland	4	6	5	Finland	5	10	8	Finland	5	14	10
Austria	3	4	4	Austria	5	6	6	Austria	4	10	8
<b>HBSC Average</b>	<b>14</b>	<b>16</b>	<b>14</b>	<b>HBSC Average</b>	<b>12</b>	<b>22</b>	<b>17</b>	<b>HBSC Average</b>	<b>14</b>	<b>28</b>	<b>21</b>

**MEASURE** Young people were asked how often in the last six months they had experienced a number of symptoms: headache; stomach ache; feeling low, irritable or bad tempered; feeling nervous; difficulties in getting to sleep; and feeling dizzy. Response options for each symptom ranged from "about every day" to "rarely or never". The findings presented here show the proportions that reported experiencing feeling low more than once a week.

<sup>†</sup>The former Yugoslav Republic of Macedonia



**OVERWEIGHT AND OBESITY: RATES OF MISSING DATA FOR BMI****SUPPLEMENTARY TABLE TO: CHAPTER 2 SECTION 2: HEALTH OUTCOMES, OVERWEIGHT AND OBESITY**

	11-YEAR-OLDS	13-YEAR-OLDS	15-YEAR-OLDS	
Ireland	82	69	54	
England	68	61	49	
Scotland	66	60	50	
Wales	48	34	17	
Lithuania	42	33	21	
Norway	33	20	14	
Canada	33	18	8	
Greenland	31	32	29	
Israel	30	26	20	
Belgium (French)	28	30	24	
Russian Federation	23	17	12	
Malta	22	31	20	
Iceland	22	13	9	
Denmark	21	16	12	
Spain	20	19	14	
Turkey	19	16	12	
USA	16	11	4	
Ukraine	15	8	6	
Latvia	14	11	5	
Sweden	13	10	6	
Italy	12	10	7	
Luxembourg	12	9	6	
Germany	12	8	7	
Portugal	11	11	6	
Hungary	11	8	6	
France	11	7	4	
Estonia	10	6	3	
Switzerland	9	8	6	
TFYR Macedonia <sup>†</sup>	9	6	6	
Bulgaria	8	6	4	
Netherlands	8	11	7	
Slovenia	8	5	4	
Belgium (Flemish)	7	11	7	
Austria	7	5	5	
Croatia	7	5	4	
Romania	6	6	3	
Greece	5	3	3	
Slovakia	5	4	5	
Finland	5	6	4	
Poland	5	2	3	
Czech Republic	1	1	2	
<b>HBSC average</b>	<b>20</b>	<b>17</b>	<b>12</b>	

**MEASURE** Young people were asked to give their height (without shoes) and weight (without clothes). BMI was calculated from this information and cut-offs for overweight and obesity allocated (these prevalence rates are presented in Chapter 2). Countries with missing data of 30% or more are indicated on the charts in Chapter 2. This table shows the levels of missing data across all countries and regions.

## DAILY VEGETABLE CONSUMPTION

## SUPPLEMENTARY TABLE TO: CHAPTER 2 SECTION 3: HEALTH BEHAVIOURS, EATING BEHAVIOUR

	11-YEAR-OLDS				13-YEAR-OLDS				15-YEAR-OLDS		
	Boy %	Girl %	Total %		Boy %	Girl %	Total %		Boy %	Girl %	Total %
Belgium (Flemish)	51	68	59	Belgium (Flemish)	53	61	57	Belgium (Flemish)	50	65	57
Ukraine	45	51	48	Belgium (French)	44	53	48	Belgium (French)	42	56	49
France	45	50	48	Ukraine	44	49	47	Ukraine	39	48	44
Belgium (French)	40	54	47	England	42	47	45	Israel	36	46	42
Israel	42	47	45	Netherlands	38	48	43	Ireland	36	46	41
Netherlands	39	50	45	France	39	45	42	England	35	45	40
Canada	40	46	44	Ireland	38	45	42	Canada	37	44	40
Sweden	39	47	43	Israel	36	46	42	Greenland	36	43	40
Bulgaria	38	47	43	Switzerland	38	45	42	Switzerland	33	46	39
England	39	45	42	Canada	36	45	41	Netherlands	34	42	38
Ireland	36	47	42	Greenland	37	43	40	Scotland	32	41	36
Greenland	36	45	41	Scotland	33	46	40	France	33	40	36
Denmark	35	43	39	USA	38	41	40	Denmark	29	41	35
Scotland	35	43	39	TFYR Macedonia <sup>†</sup>	31	42	37	Sweden	27	41	34
Switzerland	35	43	39	Bulgaria	36	37	37	USA	32	35	34
TFYR Macedonia <sup>†</sup>	35	42	39	Denmark	33	39	36	TFYR Macedonia <sup>†</sup>	29	39	34
Greece	30	41	36	Greece	28	34	31	Wales	31	35	33
Norway	31	40	35	Sweden	29	34	31	Russian Federation	32	30	31
USA	34	37	35	Wales	28	32	30	Italy	24	36	30
Iceland	31	37	34	Czech Republic	26	33	29	Greece	25	33	29
Poland	29	36	33	Norway	27	31	29	Bulgaria	25	32	29
Luxembourg	29	36	33	Poland	25	32	29	Luxembourg	24	31	27
Croatia	29	36	32	Romania	26	31	28	Poland	25	29	27
Romania	29	36	32	Turkey	24	32	28	Norway	23	30	26
Wales	27	33	30	Russian Federation	25	29	28	Finland	18	31	25
Czech Republic	26	34	30	Luxembourg	23	32	27	Czech Republic	20	29	24
Russian Federation	27	32	30	Latvia	22	29	26	Croatia	23	25	24
Portugal	26	32	29	Portugal	23	28	25	Romania	20	26	24
Turkey	26	32	29	Germany	20	30	25	Latvia	17	28	23
Lithuania	26	31	28	Italy	23	26	25	Slovakia	20	26	23
Slovenia	25	30	28	Croatia	22	27	24	Portugal	19	26	23
Finland	25	29	27	Finland	19	30	24	Turkey	19	25	22
Slovakia	25	27	26	Lithuania	22	26	24	Lithuania	20	24	22
Germany	20	32	26	Iceland	20	26	23	Germany	15	27	21
Estonia	24	27	25	Slovakia	22	22	22	Slovenia	17	24	21
Italy	23	26	24	Slovenia	19	25	22	Iceland	15	26	21
Hungary	21	28	24	Hungary	19	25	22	Hungary	16	19	18
Spain	19	27	23	Estonia	19	23	21	Spain	14	21	18
Latvia	17	25	21	Spain	17	21	19	Estonia	15	20	17
Austria	16	21	19	Austria	14	19	17	Austria	10	17	13
Malta	12	19	16	Malta	7	14	10	Malta	8	14	11
<b>HBSC Average</b>	<b>31</b>	<b>38</b>	<b>34</b>	<b>HBSC Average</b>	<b>28</b>	<b>35</b>	<b>32</b>	<b>HBSC Average</b>	<b>26</b>	<b>34</b>	<b>30</b>

**MEASURE** Young people were asked how often they eat vegetables. Response options ranged from “never” to “more than once a day”. The findings presented here are the proportions that reported eating vegetables at least every day or more than once a day.

<sup>†</sup>The former Yugoslav Republic of Macedonia

**PARTICIPATING IN VIGOROUS PHYSICAL ACTIVITY FOR TWO OR MORE HOURS PER WEEK****SUPPLEMENTARY TABLE TO: CHAPTER 2 SECTION 3: HEALTH BEHAVIOURS, PHYSICAL ACTIVITY**

	11-YEAR-OLDS				13-YEAR-OLDS				15-YEAR-OLDS		
	Boy %	Girl %	Total %		Boy %	Girl %	Total %		Boy %	Girl %	Total %
Netherlands	86	80	83	Netherlands	84	73	79	Denmark	78	71	75
Denmark	81	73	77	Denmark	82	75	79	Netherlands	77	64	70
Finland	78	72	75	Norway	77	72	75	Norway	72	67	70
Switzerland	78	59	68	Switzerland	82	62	72	Switzerland	79	59	69
Belgium (Flemish)	70	61	66	Finland	73	66	69	Canada	72	60	65
Norway	67	62	64	Slovakia	78	56	66	Finland	63	67	65
Luxembourg	70	56	63	Luxembourg	74	56	65	Luxembourg	74	55	65
Canada	64	59	61	Germany	72	57	64	Slovakia	76	52	63
Germany	65	55	60	Canada	69	59	64	Germany	71	55	63
Slovakia	68	53	60	Belgium (French)	71	52	62	Iceland	63	57	60
Belgium (French)	67	51	59	Sweden	67	58	62	Belgium (French)	69	48	59
Greece	62	51	57	Iceland	63	60	61	Belgium (Flemish)	69	48	59
Ireland	63	49	55	Greece	73	50	61	Sweden	61	54	58
Sweden	57	53	55	Belgium (Flemish)	71	48	60	Scotland	63	47	55
England	59	50	54	England	66	51	58	Greenland	63	46	54
Iceland	55	52	53	Ireland	62	53	58	Ireland	62	45	54
Italy	61	45	53	France	68	46	56	Estonia	60	47	54
Scotland	55	49	52	Scotland	61	47	54	Wales	60	46	53
France	63	41	52	Hungary	62	47	54	England	63	43	53
Wales	56	44	50	Wales	62	44	53	France	66	39	52
USA	58	41	49	Italy	64	42	53	Greece	64	43	52
Austria	54	42	48	Austria	58	46	52	Italy	61	41	51
Israel	59	38	47	Israel	60	40	48	Slovenia	59	43	51
Bulgaria	53	37	45	Estonia	50	47	48	USA	62	38	50
Slovenia	50	41	45	Slovenia	56	40	48	Austria	59	38	48
Hungary	51	38	44	Greenland	55	39	47	Hungary	57	39	47
Greenland	47	40	44	Croatia	55	36	46	Spain	61	32	46
Russian Federation	47	35	41	USA	52	39	45	Israel	60	37	46
Estonia	45	36	40	Spain	55	30	42	Lithuania	59	32	45
Romania	48	31	40	Russian Federation	49	37	42	Latvia	56	32	43
Croatia	46	32	39	Latvia	52	33	42	Russian Federation	50	33	41
Latvia	45	32	38	Ukraine	49	34	42	Bulgaria	51	32	41
Turkey	47	28	38	Bulgaria	52	31	42	Ukraine	49	31	40
Ukraine	45	29	37	Lithuania	50	31	41	Poland	52	29	40
Lithuania	43	30	36	Poland	49	31	40	Croatia	55	24	39
Czech Republic	42	30	36	TFYR Macedonia†	44	31	38	TFYR Macedonia†	47	24	36
Spain	46	28	36	Romania	45	26	35	Turkey	45	22	34
Poland	43	29	36	Czech Republic	46	21	34	Malta	40	26	33
TFYR Macedonia†	39	24	31	Turkey	44	23	33	Czech Republic	42	21	32
Malta	35	24	28	Malta	41	22	33	Romania	39	21	28
<b>HBSC Average</b>	<b>57</b>	<b>45</b>	<b>51</b>	<b>HBSC Average</b>	<b>61</b>	<b>45</b>	<b>53</b>	<b>HBSC Average</b>	<b>61</b>	<b>43</b>	<b>52</b>

No data available for Portugal

**MEASURE** Young people were asked to report the number of hours per week that they were usually physically active in their free time (outside school hours), so much that they got out of breath or sweated. The findings presented here show the proportions that participated in such vigorous physical activity for two or more hours per week.

†The former Yugoslav Republic of Macedonia

**USING A COMPUTER FOR E-MAILS, INTERNET, HOMEWORK FOR TWO OR MORE HOURS ON WEEKDAYS**  
**SUPPLEMENTARY TABLE TO: CHAPTER 2 SECTION 3: HEALTH BEHAVIOURS, SEDENTARY ACTIVITY**

	11-YEAR-OLDS				13-YEAR-OLDS				15-YEAR-OLDS		
	Boy %	Girl %	Total %		Boy %	Girl %	Total %		Boy %	Girl %	Total %
Israel	48	51	50	Netherlands	54	58	56	Netherlands	69	66	68
Estonia	42	37	39	Israel	48	59	54	Iceland	60	59	60
Netherlands	36	39	37	Iceland	50	52	51	Estonia	57	57	57
Wales	33	38	36	Estonia	49	52	51	England	55	59	57
Latvia	32	31	32	England	45	49	47	Israel	54	58	57
Scotland	31	31	31	Canada	40	53	47	Norway	51	59	55
Bulgaria	36	26	31	Scotland	43	49	46	Sweden	53	56	55
Poland	36	25	30	Wales	44	47	46	Canada	52	56	54
Iceland	32	27	29	Belgium (Flemish)	42	46	44	Wales	55	53	54
England	29	30	29	Sweden	42	45	44	Belgium (Flemish)	51	53	52
Canada	25	32	29	Norway	37	49	43	Scotland	51	51	51
Turkey	29	25	27	Bulgaria	48	35	41	Poland	58	44	51
Belgium (Flemish)	27	25	26	Poland	45	38	41	Finland	47	47	47
Portugal	27	24	26	Denmark	40	42	41	Portugal	47	46	47
Sweden	27	23	25	Latvia	37	44	40	Luxembourg	48	44	46
TFYR Macedonia†	27	20	24	Portugal	37	35	36	Denmark	46	45	45
Denmark	26	21	24	Finland	33	38	36	Germany	47	43	45
Romania	29	17	23	Slovenia	32	35	33	Bulgaria	45	43	44
Finland	24	23	23	Austria	34	33	33	Latvia	40	47	44
Austria	27	18	23	Germany	33	33	33	Belgium (French)	41	37	39
Norway	20	25	22	Romania	38	26	32	Slovakia	40	37	39
Slovenia	23	19	21	Belgium (French)	32	31	32	Austria	41	36	38
France	19	19	19	Luxembourg	31	32	31	Turkey	40	35	38
USA	18	20	19	Hungary	35	26	31	USA	36	40	38
Hungary	24	14	19	France	30	31	30	Slovenia	36	37	36
Slovakia	22	15	18	Slovakia	30	27	29	Romania	43	32	36
Belgium (French)	19	16	17	USA	26	32	29	France	35	37	36
Czech Republic	18	16	17	Czech Republic	26	28	27	Czech Republic	35	37	36
Greenland	15	18	17	TFYR Macedonia†	27	26	27	Greenland	34	37	36
Croatia	19	14	17	Turkey	27	24	25	Switzerland	38	32	35
Germany	18	15	16	Croatia	24	26	25	Hungary	39	30	34
Ukraine	21	9	15	Spain	24	22	23	Spain	31	34	33
Russian Federation	17	13	15	Greenland	20	26	23	Lithuania	30	26	28
Luxembourg	14	15	14	Switzerland	24	19	22	TFYR Macedonia†	27	25	26
Lithuania	18	11	14	Italy	20	21	21	Russian Federation	27	23	25
Spain	16	12	14	Lithuania	21	19	20	Croatia	23	24	24
Italy	12	12	12	Russian Federation	21	18	20	Italy	23	22	22
Greece	14	6	10	Greece	21	11	15	Ukraine	26	12	19
Switzerland	9	9	9	Ukraine	20	9	15	Ireland	19	17	18
Ireland	9	8	9	Ireland	15	12	14	Greece	22	11	16
<b>HBSC average</b>	<b>24</b>	<b>22</b>	<b>23</b>	<b>HBSC average</b>	<b>34</b>	<b>35</b>	<b>34</b>	<b>HBSC average</b>	<b>42</b>	<b>41</b>	<b>42</b>

No data available for Malta

**MEASURE** Young people were asked how many hours per day they used a computer for e-mails, Internet or homework in their spare time on weekdays and at weekends. The findings presented here are the proportions reporting using a computer in these ways for two or more hours every weekday.

†The former Yugoslav Republic of Macedonia

**PLAYING COMPUTER GAMES OR GAMES CONSOLE FOR TWO OR MORE HOURS ON WEEKDAYS****SUPPLEMENTARY TABLE TO: CHAPTER 2 SECTION 3: HEALTH BEHAVIOURS, SEDENTARY ACTIVITY**

	11-YEAR-OLDS				13-YEAR-OLDS				15-YEAR-OLDS		
	Boy %	Girl %	Total %		Boy %	Girl %	Total %		Boy %	Girl %	Total %
Israel	64	49	55	Israel	69	44	55	Romania	67	39	50
Bulgaria	62	36	49	Romania	66	45	55	Israel	61	35	45
Estonia	62	36	48	Estonia	66	30	48	Slovakia	61	24	41
Romania	58	38	48	Bulgaria	65	30	47	Germany	57	24	40
Scotland	58	28	42	Netherlands	61	23	43	Belgium (French)	47	32	40
Portugal	51	27	39	Portugal	55	29	41	Bulgaria	56	24	40
Slovakia	53	26	38	Scotland	56	24	40	Estonia	59	16	38
Russian Federation	46	29	38	Latvia	59	22	39	Netherlands	58	16	36
Latvia	52	22	37	Poland	58	21	39	Russian Federation	50	24	36
Poland	51	23	37	Slovakia	58	23	39	Portugal	54	21	36
Wales	45	27	36	Russian Federation	51	29	39	Lithuania	53	17	35
Netherlands	45	25	35	Lithuania	54	20	38	Turkey	47	17	33
Lithuania	49	20	35	Belgium (French)	42	33	38	Poland	55	11	32
Denmark	49	19	33	Czech Republic	54	20	37	Norway	51	9	32
Canada	43	25	33	Denmark	58	18	37	Canada	46	19	32
Czech Republic	48	18	33	Austria	46	28	37	Czech Republic	52	10	32
TFYR Macedonia†	40	24	32	Wales	51	22	36	TFYR Macedonia†	41	21	31
Ukraine	41	21	31	Sweden	56	17	36	Sweden	52	10	31
Greece	45	17	31	Canada	49	24	36	Luxembourg	42	19	31
Slovenia	44	16	30	TFYR Macedonia†	46	25	35	Denmark	51	12	31
Sweden	43	15	30	Germany	46	22	34	Austria	44	19	30
Austria	38	20	29	Hungary	45	24	34	Scotland	47	14	30
France	38	17	28	Belgium (Flemish)	43	23	33	Ukraine	46	15	30
Belgium (Flemish)	35	18	27	Finland	51	15	32	Hungary	48	14	30
England	39	16	27	England	48	16	31	Latvia	52	9	29
Hungary	37	16	26	Norway	43	17	31	Belgium (Flemish)	39	15	27
Croatia	39	13	26	Slovenia	47	14	30	Wales	40	14	27
Finland	41	13	26	Greece	50	14	30	Croatia	43	11	26
Iceland	41	11	26	Croatia	45	15	30	Slovenia	44	7	25
Belgium (French)	33	19	26	Ukraine	43	17	30	Spain	34	17	25
Greenland	31	19	25	Luxembourg	39	21	30	Greece	45	8	25
USA	36	16	25	Iceland	48	9	29	Finland	45	7	24
Germany	33	15	24	France	43	16	28	England	39	10	24
Turkey	30	16	23	Italy	38	14	26	Iceland	42	6	24
Norway	32	14	23	Spain	36	15	25	Greenland	30	12	21
Italy	35	11	23	USA	35	15	25	Italy	33	8	21
Ireland	36	11	22	Greenland	35	11	22	Switzerland	29	7	18
Luxembourg	28	14	21	Turkey	32	11	21	Ireland	26	8	17
Spain	30	12	20	Ireland	30	11	21	USA	26	8	17
Switzerland	16	6	11	Switzerland	24	10	17	France	26	6	16
<b>HBSC average</b>	<b>43</b>	<b>20</b>	<b>31</b>	<b>HBSC average</b>	<b>49</b>	<b>21</b>	<b>35</b>	<b>HBSC average</b>	<b>46</b>	<b>16</b>	<b>31</b>

No data available for Malta

**MEASURE** Young people were asked how many hours per day they played games on a computer or a games console in their spare time on weekdays and at weekends. The findings presented here are the proportions reporting computer/games console use for two or more hours every weekday.

†The former Yugoslav Republic of Macedonia

**TOBACCO USE: EVER SMOKED TOBACCO****SUPPLEMENTARY TABLE TO: CHAPTER 2 SECTION 4: RISK BEHAVIOURS, TOBACCO USE**

	11-YEAR-OLDS				13-YEAR-OLDS				15-YEAR-OLDS		
	Boy %	Girl %	Total %		Boy %	Girl %	Total %		Boy %	Girl %	Total %
Greenland	36	34	35	Latvia	66	58	61	Lithuania	83	72	77
Latvia	44	24	34	Estonia	67	50	59	Latvia	82	73	77
Ukraine	40	18	29	Lithuania	64	43	54	Estonia	79	69	74
Estonia	37	18	28	Greenland	45	62	54	Ukraine	80	65	72
Czech Republic	31	19	25	Czech Republic	56	51	53	Greenland	60	81	71
Russian Federation	28	21	25	Ukraine	62	40	51	Czech Republic	71	67	69
Lithuania	31	15	23	Russian Federation	49	45	47	Bulgaria	61	72	67
Croatia	21	11	16	Hungary	45	42	44	Austria	63	68	66
Hungary	18	12	15	Slovakia	46	34	39	Hungary	64	66	65
Slovakia	20	9	14	Croatia	41	37	39	Russian Federation	65	62	63
Switzerland	17	9	13	Bulgaria	35	40	38	Croatia	59	63	61
Bulgaria	14	10	12	Austria	36	38	37	Finland	61	58	59
Poland	16	7	12	Wales	27	41	34	Poland	63	55	59
Belgium (French)	14	8	11	Finland	35	32	33	Switzerland	61	56	59
Portugal	16	5	11	Slovenia	34	29	32	Luxembourg	57	60	59
Luxembourg	13	8	10	Luxembourg	34	29	31	Germany	54	60	57
Israel	16	5	10	Germany	30	33	31	Slovakia	60	52	56
Germany	12	8	10	Poland	34	28	31	Slovenia	55	53	54
Finland	14	6	9	Switzerland	35	26	30	France	51	55	53
Austria	11	8	9	Belgium (French)	32	26	29	Wales	46	59	53
Romania	14	4	9	France	29	28	28	Italy	51	53	52
Slovenia	10	8	9	Scotland	25	28	27	Denmark	51	52	51
Wales	8	8	8	Portugal	27	26	26	Belgium (French)	49	52	51
Ireland	10	7	8	Ireland	29	24	26	Scotland	44	57	50
Netherlands	11	4	8	Italy	25	27	26	Ireland	47	53	50
Norway	9	6	8	Denmark	27	24	25	Netherlands	47	51	49
Scotland	9	6	7	Romania	29	21	24	Spain	43	53	49
France	9	4	7	England	22	27	24	Romania	54	45	48
Malta	10	4	6	Malta	24	23	24	England	40	53	47
Denmark	8	5	6	Sweden	22	24	23	Belgium (Flemish)	47	46	46
Canada	7	6	6	Spain	21	23	22	Portugal	46	46	46
Italy	9	4	6	Norway	21	22	21	Malta	42	49	46
USA	7	6	6	Netherlands	23	19	21	Sweden	43	46	44
England	6	5	6	Canada	19	23	21	Norway	41	47	44
Belgium (Flemish)	6	4	5	Belgium (Flemish)	20	20	20	Greece	43	44	43
Spain	6	5	5	Israel	28	11	18	Iceland	39	37	38
Sweden	8	3	5	USA	16	18	17	Canada	34	39	37
Iceland	5	2	4	Greece	16	15	15	TFYR Macedonia†	36	36	36
Greece	4	2	3	Iceland	15	13	14	Israel	43	30	35
TFYR Macedonia†	3	1	2	TFYR Macedonia†	11	8	9	USA	32	33	33
<b>HBSC average</b>	<b>15</b>	<b>9</b>	<b>12</b>	<b>HBSC average</b>	<b>33</b>	<b>30</b>	<b>32</b>	<b>HBSC average</b>	<b>54</b>	<b>55</b>	<b>54</b>

No data available for Turkey

**MEASURE** Young people were asked if they had ever smoked tobacco (at least one cigarette, cigar or pipe). Response options were "Yes" and "No". The findings presented here are the proportions that answered "Yes".

†The former Yugoslav Republic of Macedonia

**DAILY SMOKING****SUPPLEMENTARY TABLE TO: CHAPTER 2 SECTION 4: RISK BEHAVIOURS, TOBACCO USE**

	11-YEAR-OLDS				13-YEAR-OLDS				15-YEAR-OLDS		
	Boy %	Girl %	Total %		Boy %	Girl %	Total %		Boy %	Girl %	Total %
Russian Federation	4	2	3	Russian Federation	11	11	11	Greenland	30	38	34
USA	3	1	2	Greenland	7	12	10	Bulgaria	23	29	26
Israel	3	0	1	Wales	5	9	7	Croatia	19	21	20
Portugal	2	1	1	Latvia	7	6	6	Austria	17	22	19
Malta	1	1	1	Estonia	6	4	5	Ukraine	27	12	19
Greenland	2	0	1	Bulgaria	4	6	5	Latvia	23	15	19
Ukraine	1	0	1	Lithuania	7	3	5	Russian Federation	22	15	18
Latvia	1	1	1	Malta	4	6	5	Hungary	18	17	18
Luxembourg	1	0	1	Ukraine	7	2	5	Finland	19	15	17
Poland	1	0	1	Czech Republic	4	5	4	Lithuania	21	12	16
Hungary	1	0	1	England	3	5	4	Estonia	21	12	16
Wales	1	1	1	Austria	4	4	4	Czech Republic	15	18	16
Scotland	1	0	1	Luxembourg	4	5	4	Scotland	12	18	15
Ireland	1	0	1	Scotland	3	5	4	Germany	13	16	15
England	1	1	1	Germany	3	4	4	Ireland	14	15	15
Bulgaria	0	1	1	Finland	3	5	4	Luxembourg	13	16	14
Slovakia	1	0	1	Hungary	4	3	3	France	13	16	14
Lithuania	1	0	1	Belgium (French)	4	3	3	Netherlands	11	17	14
Czech Republic	1	0	1	Ireland	3	3	3	Italy	14	14	14
Romania	1	0	0	Poland	4	2	3	Slovenia	14	12	13
Belgium (French)	1	0	0	Slovakia	4	2	3	Wales	8	18	13
Canada	1	0	0	Italy	2	2	2	Greece	14	11	12
Italy	0	0	0	Netherlands	2	2	2	Poland	15	10	12
Croatia	0	0	0	Denmark	3	2	2	Slovakia	15	10	12
Germany	0	0	0	Croatia	3	2	2	Malta	10	14	12
Norway	0	0	0	France	3	2	2	Romania	16	9	12
Slovenia	0	0	0	Belgium (Flemish)	2	2	2	Belgium (Flemish)	12	12	12
Estonia	0	0	0	Canada	2	2	2	Spain	10	13	11
France	0	0	0	Romania	3	1	2	England	9	13	11
Sweden	0	0	0	Portugal	2	2	2	Belgium (French)	11	11	11
Austria	0	0	0	Spain	2	2	2	Switzerland	11	10	11
Belgium (Flemish)	0	0	0	Israel	3	1	2	Denmark	10	10	10
Netherlands	0	0	0	USA	2	2	2	Iceland	11	10	10
Greece	0	0	0	Iceland	2	1	1	TFYR Macedonia†	10	9	9
Denmark	0	0	0	Switzerland	2	1	1	Norway	7	9	8
Iceland	0	0	0	Sweden	1	2	1	Portugal	5	8	7
TFYR Macedonia†	0	0	0	Greece	1	1	1	Canada	4	7	6
Finland	0	0	0	Slovenia	1	1	1	Israel	6	5	5
Switzerland	0	0	0	Norway	0	1	1	Sweden	4	6	5
Spain	0	0	0	TFYR Macedonia†	1	0	1	USA	3	4	4
<b>HBSC average</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>HBSC average</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>HBSC average</b>	<b>14</b>	<b>14</b>	<b>14</b>

No data available for Malta

**MEASURE** Young people were asked how often they smoke tobacco at present. Response options ranged from "every day" to "I do not smoke". The findings presented here are the proportions that reported smoking every day.

†The former Yugoslav Republic of Macedonia

## DRINKING BEER AT LEAST ONCE A WEEK

## SUPPLEMENTARY TABLE TO: CHAPTER 2 SECTION 4: RISK BEHAVIOURS, ALCOHOL USE

	11-YEAR-OLDS				13-YEAR-OLDS				15-YEAR-OLDS		
	Boy %	Girl %	Total %		Boy %	Girl %	Total %		Boy %	Girl %	Total %
Ukraine	17	12	14	Ukraine	30	16	23	Ukraine	54	33	44
Israel	9	5	7	Bulgaria	18	12	15	Czech Republic	36	20	28
Slovakia	9	5	7	Czech Republic	15	10	12	Bulgaria	37	18	27
Czech Republic	9	4	6	Italy	16	6	11	Italy	33	16	24
Bulgaria	9	3	6	Malta	12	8	10	Netherlands	36	13	24
Malta	9	2	5	Russian Federation	10	8	9	Denmark	31	16	24
Italy	8	2	5	Wales	14	4	9	England	33	14	23
Romania	6	3	5	England	12	5	9	Croatia	34	13	23
Croatia	6	1	4	Slovakia	9	7	8	Belgium (Flemish)	32	12	22
Russian Federation	5	2	4	Croatia	12	3	7	Wales	32	10	21
England	5	1	3	Israel	10	3	6	Malta	27	11	19
Latvia	3	1	2	Latvia	8	4	6	Slovenia	27	12	19
Belgium (French)	3	1	2	Romania	10	2	6	Austria	30	8	18
TFYR Macedonia <sup>†</sup>	3	1	2	Scotland	9	1	5	Belgium (French)	24	10	17
Wales	3	1	2	Belgium (French)	7	3	5	Slovakia	24	9	16
Hungary	2	1	2	Slovenia	6	3	4	Russian Federation	20	13	16
Scotland	3	0	2	Estonia	7	2	4	Scotland	27	4	16
Netherlands	3	0	1	Netherlands	7	1	4	Luxembourg	22	8	15
Canada	2	1	1	TFYR Macedonia <sup>†</sup>	6	2	4	Latvia	21	9	15
France	1	1	1	Belgium (Flemish)	5	2	4	Switzerland	20	9	15
Lithuania	2	0	1	Canada	5	2	4	Hungary	22	8	14
Belgium (Flemish)	2	0	1	Hungary	5	2	4	Germany	19	9	14
Estonia	2	0	1	Lithuania	5	2	3	Greece	21	7	14
Austria	2	0	1	Greece	5	2	3	TFYR Macedonia <sup>†</sup>	20	5	13
Slovenia	2	0	1	Austria	5	2	3	Romania	24	5	12
Poland	1	1	1	Poland	4	2	3	Estonia	20	4	12
USA	1	1	1	Denmark	4	1	3	Lithuania	17	6	11
Portugal	1	0	1	Portugal	4	1	3	Canada	14	7	11
Greece	1	0	1	Luxembourg	4	2	3	Poland	15	5	10
Germany	1	0	1	Germany	3	2	2	Iceland	13	7	10
Switzerland	1	0	1	France	3	2	2	France	13	5	9
Ireland	1	0	1	Switzerland	3	1	2	Spain	13	5	9
Luxembourg	1	0	0	Ireland	3	1	2	Ireland	11	4	8
Denmark	1	0	0	USA	2	2	2	Israel	13	4	8
Sweden	1	0	0	Spain	3	1	2	Portugal	13	4	8
Spain	1	0	0	Iceland	3	1	2	Finland	10	5	8
Finland	1	0	0	Finland	2	1	2	Norway	8	6	7
Iceland	0	0	0	Sweden	2	0	1	Sweden	9	3	6
Norway	0	0	0	Norway	1	0	1	USA	7	4	6
Greenland	0	0	0	Greenland	0	0	0	Greenland	3	3	3
<b>HBSC average</b>	<b>3</b>	<b>1</b>	<b>2</b>	<b>HBSC average</b>	<b>7</b>	<b>3</b>	<b>5</b>	<b>HBSC average</b>	<b>22</b>	<b>9</b>	<b>16</b>

No data available for Turkey

**MEASURE** Young people were asked how often they drink anything alcoholic and were given a list of drinks: beer, wine, spirits, alcopops, or any other drink that contains alcohol. Response options ranged from "never" to "every day". The findings presented here are the proportions that reported drinking beer at least every week.

†The former Yugoslav Republic of Macedonia



**DRINKING WINE AT LEAST ONCE A WEEK****SUPPLEMENTARY TABLE TO: CHAPTER 2 SECTION 4: RISK BEHAVIOURS, ALCOHOL USE**

	11-YEAR-OLDS				13-YEAR-OLDS				15-YEAR-OLDS		
	Boy %	Girl %	Total %		Boy %	Girl %	Total %		Boy %	Girl %	Total %
Malta	12	4	8	Malta	16	11	14	Malta	28	18	23
Israel	9	3	6	Italy	13	6	9	Croatia	24	13	18
Italy	8	2	5	Croatia	10	4	7	Italy	20	9	15
Ukraine	6	4	5	Bulgaria	10	4	7	Hungary	17	10	13
Croatia	7	1	4	Ukraine	9	3	6	Slovenia	18	7	13
Bulgaria	6	1	4	Israel	6	4	5	Austria	14	11	12
Romania	5	2	3	England	4	6	5	Ukraine	12	9	10
Greece	3	1	2	Czech Republic	5	4	5	England	7	12	10
Belgium (French)	3	1	2	Hungary	6	3	4	Czech Republic	10	10	10
Slovakia	3	1	2	Greece	7	2	4	Bulgaria	12	7	9
Hungary	3	1	2	Russian Federation	5	4	4	Belgium (French)	12	3	8
Russian Federation	3	1	2	Wales	5	3	4	Greece	12	4	8
England	3	1	2	Romania	7	1	4	Belgium (Flemish)	9	6	7
TFYR Macedonia <sup>†</sup>	2	1	2	Belgium (French)	5	3	4	Slovakia	9	6	7
Belgium (Flemish)	2	1	1	Slovakia	4	3	3	Wales	4	8	6
Czech Republic	2	0	1	Scotland	4	2	3	Israel	8	5	6
Slovenia	2	1	1	Slovenia	4	2	3	TFYR Macedonia <sup>†</sup>	8	3	6
France	1	1	1	Belgium (Flemish)	4	2	3	France	7	4	5
Wales	1	1	1	France	3	2	2	Scotland	6	5	5
USA	1	1	1	Estonia	3	1	2	Romania	10	2	5
Canada	2	0	1	USA	2	2	2	Russian Federation	6	4	5
Scotland	1	1	1	TFYR Macedonia <sup>†</sup>	3	1	2	Luxembourg	7	3	5
Latvia	1	1	1	Luxembourg	2	1	2	Netherlands	3	6	4
Luxembourg	1	0	1	Portugal	3	1	2	Spain	4	4	4
Switzerland	1	0	1	Austria	2	1	2	Denmark	4	3	4
Portugal	1	0	1	Canada	2	1	2	Switzerland	4	3	3
Ireland	1	0	1	Spain	1	1	1	Latvia	3	4	3
Spain	1	0	0	Switzerland	2	1	1	USA	5	2	3
Netherlands	0	0	0	Netherlands	1	1	1	Canada	4	2	3
Germany	1	0	0	Germany	1	1	1	Estonia	3	2	3
Estonia	1	0	0	Latvia	2	1	1	Germany	2	3	2
Lithuania	0	0	0	Lithuania	1	0	1	Ireland	2	3	2
Poland	1	0	0	Denmark	1	0	1	Poland	3	1	2
Sweden	0	0	0	Iceland	1	0	1	Norway	2	1	2
Austria	0	0	0	Poland	1	0	1	Portugal	2	1	1
Denmark	0	0	0	Ireland	1	0	1	Sweden	1	1	1
Finland	0	0	0	Greenland	1	0	0	Iceland	2	1	1
Iceland	0	0	0	Norway	1	0	0	Lithuania	2	0	1
Norway	0	0	0	Sweden	0	0	0	Finland	1	0	1
Greenland	0	0	0	Finland	0	0	0	Greenland	0	0	0
<b>HBSC average</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>HBSC average</b>	<b>4</b>	<b>2</b>	<b>3</b>	<b>HBSC average</b>	<b>8</b>	<b>5</b>	<b>6</b>

No data available for Turkey

**MEASURE** Young people were asked how often they drink anything alcoholic and were given a list of drinks: beer, wine, spirits, alcopops, or any other drink that contains alcohol. Response options ranged from "never" to "every day". The findings presented here are the proportions that reported drinking wine at least every week.

†The former Yugoslav Republic of Macedonia

**DRINKING SPIRITS AT LEAST ONCE A WEEK****SUPPLEMENTARY TABLE TO: CHAPTER 2 SECTION 4: RISK BEHAVIOURS, ALCOHOL USE**

	11-YEAR-OLDS				13-YEAR-OLDS				15-YEAR-OLDS		
	Boy %	Girl %	Total %		Boy %	Girl %	Total %		Boy %	Girl %	Total %
Malta	5	2	3	Malta	10	11	11	Malta	27	24	26
Israel	4	1	2	Scotland	7	8	7	Austria	23	18	20
Slovakia	3	1	2	Wales	5	8	6	Scotland	15	20	17
Croatia	3	1	2	Bulgaria	8	5	6	Denmark	19	15	17
Ukraine	2	1	2	England	4	5	5	Spain	16	17	17
Russian Federation	2	1	2	Croatia	6	2	4	Greece	20	11	15
Bulgaria	3	0	2	Estonia	4	3	4	England	11	16	14
Wales	1	1	1	Israel	6	1	3	Bulgaria	16	12	14
Scotland	2	1	1	Italy	5	2	3	Italy	17	10	14
Canada	2	0	1	Greece	5	2	3	Wales	11	16	14
Hungary	2	0	1	Ukraine	5	2	3	Hungary	16	11	13
Luxembourg	1	1	1	Russian Federation	4	3	3	Croatia	12	9	11
France	1	1	1	Canada	4	3	3	Ireland	9	12	10
Greece	1	1	1	Hungary	3	3	3	Ukraine	13	6	9
Italy	1	1	1	Czech Republic	4	2	3	Belgium (Flemish)	10	8	9
TFYR Macedonia <sup>†</sup>	1	0	1	USA	2	4	3	Slovenia	10	7	9
Romania	1	1	1	Spain	2	4	3	Czech Republic	10	6	8
USA	1	1	1	Slovakia	3	2	3	Canada	9	7	8
England	1	0	1	Ireland	2	2	2	Estonia	11	6	8
Czech Republic	1	0	1	Austria	3	2	2	TFYR Macedonia <sup>†</sup>	9	6	8
Slovenia	1	0	1	Portugal	3	2	2	Israel	9	5	6
Ireland	1	0	1	Denmark	3	1	2	Portugal	7	5	6
Germany	1	0	1	Latvia	3	1	2	France	8	4	6
Latvia	0	1	1	Belgium (French)	2	1	2	Germany	7	5	6
Belgium (French)	1	0	1	Luxembourg	3	1	2	USA	6	5	6
Switzerland	1	0	0	Belgium (Flemish)	2	1	2	Latvia	7	3	5
Lithuania	1	0	0	Lithuania	2	1	2	Iceland	6	3	5
Portugal	1	0	0	Slovenia	2	1	2	Belgium (French)	8	1	5
Belgium (Flemish)	0	0	0	Germany	2	1	1	Switzerland	6	3	4
Denmark	1	0	0	Romania	2	0	1	Luxembourg	6	3	4
Austria	1	0	0	Iceland	2	1	1	Greenland	3	6	4
Estonia	1	0	0	Greenland	1	1	1	Russian Federation	6	2	4
Poland	0	0	0	Finland	1	1	1	Lithuania	6	2	4
Greenland	1	0	0	TFYR Macedonia <sup>†</sup>	1	1	1	Sweden	4	3	4
Finland	0	0	0	France	1	1	1	Norway	4	3	3
Sweden	0	0	0	Sweden	1	0	1	Slovakia	4	3	3
Spain	0	0	0	Poland	1	0	1	Poland	4	1	2
Netherlands	0	0	0	Switzerland	1	0	0	Romania	4	1	2
Iceland	0	0	0	Netherlands	1	0	0	Finland	2	1	2
Norway	0	0	0	Norway	0	0	0	Netherlands	2	1	2
<b>HBSC average</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>HBSC average</b>	<b>3</b>	<b>2</b>	<b>3</b>	<b>HBSC average</b>	<b>10</b>	<b>7</b>	<b>9</b>

No data available for Turkey

**MEASURE** Young people were asked how often they drink anything alcoholic and were given a list of drinks: beer, wine, spirits, alcopops, or any other drink that contains alcohol. Response options ranged from "never" to "every day". The findings presented here are the proportions that reported drinking spirits at least every week.

†The former Yugoslav Republic of Macedonia

**DRINKING ALCOPOPS AT LEAST ONCE A WEEK****SUPPLEMENTARY TABLE TO: CHAPTER 2 SECTION 4: RISK BEHAVIOURS, ALCOHOL USE**

	11-YEAR-OLDS				13-YEAR-OLDS				15-YEAR-OLDS		
	Boy %	Girl %	Total %		Boy %	Girl %	Total %		Boy %	Girl %	Total %
Ukraine	12	7	10	Ukraine	19	15	17	Ukraine	18	26	22
Russian Federation	6	3	4	Wales	11	14	13	Austria	21	21	21
Malta	5	3	4	Scotland	10	10	10	England	14	25	19
Bulgaria	5	2	4	Malta	10	9	10	Wales	12	25	19
Croatia	4	1	3	England	9	10	10	Netherlands	16	20	18
Slovakia	2	3	3	Russian Federation	10	9	9	Malta	19	17	18
Latvia	3	2	2	Lithuania	9	7	8	Scotland	13	21	17
Wales	3	2	2	Belgium (French)	9	6	8	Belgium (French)	20	13	17
Scotland	4	1	2	Greece	8	7	7	Lithuania	15	17	16
Italy	4	0	2	Latvia	7	7	7	Denmark	17	16	16
Lithuania	3	2	2	Italy	8	4	6	Latvia	14	16	15
England	3	2	2	Bulgaria	8	5	6	Italy	17	11	14
Israel	4	1	2	Croatia	7	3	5	Greece	16	11	13
Belgium (French)	3	1	2	Estonia	6	4	5	Slovenia	16	10	13
Greece	2	1	2	Hungary	5	5	5	Croatia	13	12	13
France	2	1	2	Netherlands	5	4	5	Hungary	12	11	12
USA	2	2	2	Canada	4	4	4	Belgium (Flemish)	13	10	12
Hungary	2	1	1	Belgium (Flemish)	5	3	4	Russian Federation	11	11	11
Slovenia	2	1	1	Slovenia	5	3	4	Estonia	10	11	10
Romania	2	1	1	USA	4	4	4	Luxembourg	11	8	10
Canada	2	1	1	Austria	4	3	4	France	12	6	9
Netherlands	1	1	1	France	4	3	4	Switzerland	10	9	9
Estonia	2	0	1	Israel	6	1	3	Greenland	8	9	9
Greenland	1	1	1	Slovakia	3	3	3	Spain	9	8	8
TFYR Macedonia <sup>†</sup>	1	0	1	Denmark	4	2	3	Ireland	7	10	8
Ireland	1	1	1	Spain	2	3	3	Bulgaria	9	7	8
Germany	1	0	1	Ireland	3	2	3	Germany	10	6	8
Sweden	1	0	1	Germany	3	2	2	Canada	6	8	7
Belgium (Flemish)	0	1	1	Luxembourg	3	2	2	USA	7	7	7
Spain	0	0	0	Portugal	3	1	2	Slovakia	7	5	6
Poland	1	0	0	Iceland	2	1	2	Portugal	7	4	6
Iceland	1	0	0	Switzerland	2	1	2	Israel	7	4	5
Portugal	1	0	0	Romania	3	0	1	Iceland	3	6	5
Luxembourg	1	0	0	Sweden	1	1	1	Norway	5	5	5
Switzerland	1	0	0	TFYR Macedonia <sup>†</sup>	2	1	1	Sweden	4	3	3
Denmark	1	0	0	Greenland	1	1	1	TFYR Macedonia <sup>†</sup>	4	2	3
Austria	1	0	0	Norway	1	1	1	Finland	2	2	2
Finland	1	0	0	Finland	1	1	1	Romania	3	1	2
Norway	0	0	0	Poland	0	0	0	Poland	2	1	1
<b>HBSC average</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>HBSC average</b>	<b>5</b>	<b>4</b>	<b>5</b>	<b>HBSC average</b>	<b>11</b>	<b>11</b>	<b>11</b>

No data available for Turkey, Czech Republic

**MEASURE** Young people were asked how often they drink anything alcoholic and were given a list of drinks: beer, wine, spirits, alcopops, or any other drink that contains alcohol. Response options ranged from "never" to "every day". The findings presented here are the proportions that reported drinking alcopops at least every week.

†The former Yugoslav Republic of Macedonia

**FIRST DRINKING ALCOHOL AT AGE 13 OR YOUNGER****SUPPLEMENTARY TABLE TO: CHAPTER 2 SECTION 4: RISK BEHAVIOURS, ALCOHOL USE**

	15-YEAR-OLDS			
	BOY %	GIRL %	TOTAL %	
Czech Republic	72	65	69	
Netherlands	63	61	62	
Austria	60	61	60	
Belgium (French)	62	55	59	
Estonia	64	52	58	
Lithuania	56	53	54	
Poland	58	49	54	
Belgium (Flemish)	56	50	53	
Hungary	52	52	52	
Slovakia	53	51	52	
England	51	48	50	
Latvia	51	48	49	
Scotland	48	49	48	
Denmark	51	45	48	
Germany	47	49	48	
Luxembourg	48	47	48	
Croatia	56	39	47	
Greece	55	40	47	
Portugal	49	42	45	
Switzerland	51	39	45	
Wales	48	40	44	
Bulgaria	47	41	44	
Russian Federation	46	40	43	
Ukraine	48	36	42	
Slovenia	48	34	41	
Malta	45	34	40	
Ireland	39	37	38	
Canada	36	35	36	
Spain	32	36	34	
Romania	47	25	34	
Finland	32	32	32	
Greenland	29	34	32	
France	35	27	31	
TFYR Macedonia <sup>†</sup>	38	22	30	
Italy	35	20	27	
Sweden	26	23	24	
Norway	23	23	23	
USA	23	23	23	
Israel	23	11	16	
Iceland	15	13	14	
<b>HBSC average</b>	<b>47</b>	<b>41</b>	<b>44</b>	

Data not available for Turkey

**MEASURE** Young people were asked at what age they had their first alcoholic drink. The findings presented here are for 15-year-olds only and show the proportions that reported first drinking alcohol at age thirteen or younger.

†The former Yugoslav Republic of Macedonia

**CANNABIS USE IN THE LAST 12 MONTHS****SUPPLEMENTARY TABLE TO: CHAPTER 2 SECTION 4: RISK BEHAVIOURS, CANNABIS USE**

	15-YEAR-OLDS			
	BOY %	GIRL %	TOTAL %	
Canada	28	26	27	
Spain	22	23	23	
Switzerland	24	21	23	
Wales	22	23	22	
USA	22	21	22	
France	22	20	21	
Scotland	21	20	21	
Netherlands	21	17	19	
Estonia	23	14	19	
Luxembourg	21	16	18	
Czech Republic	19	17	18	
England	20	17	18	
Belgium (French)	20	15	17	
Ireland	19	14	17	
Italy	19	14	17	
Belgium (Flemish)	19	13	16	
Poland	18	9	13	
Bulgaria	13	11	12	
Latvia	17	9	12	
Slovenia	14	10	12	
Slovakia	14	9	11	
Germany	12	10	11	
Croatia	12	9	10	
Malta	10	11	10	
Greenland	10	10	10	
Denmark	12	8	10	
Austria	9	8	9	
Hungary	10	8	9	
Russian Federation	10	7	8	
Lithuania	10	6	8	
Ukraine	11	5	8	
Iceland	8	6	7	
Portugal	8	5	7	
Finland	6	4	5	
Israel	4	23	3	
Sweden	4	2	3	
Greece	4	2	3	
TFYR Macedonia <sup>†</sup>	3	2	3	
Romania	3	1	2	
<b>HBSC Average</b>	<b>14</b>	<b>16</b>	<b>12</b>	

Data not available for Norway, Turkey

**MEASURE** Young people (15-year-olds only) were asked whether they had used cannabis in the last 12 months. Response options ranged from "never" to "40 times or more". The findings presented here show the proportions that reported using cannabis at least once in the last twelve months.

†The former Yugoslav Republic of Macedonia

**CANNABIS USER GROUPS****SUPPLEMENTARY TABLE TO: CHAPTER 2 SECTION 4: RISK BEHAVIOURS, CANNABIS USE**

	DISCONTINUED USER				EXPERIMENTER		
	15-YEAR-OLDS				15-YEAR-OLDS		
	Boy %	Girl %	Total %		Boy %	Girl %	Total %
Switzerland	9	5	7	Estonia	12	9	10
Spain	7	6	7	Switzerland	9	9	9
Wales	7	7	7	France	9	9	9
Ukraine	9	5	7	Canada	8	9	8
Latvia	7	5	6	Wales	7	9	8
USA	6	6	6	Scotland	6	9	8
France	7	5	6	Spain	7	9	8
Belgium (French)	5	6	6	Czech Republic	8	8	8
Bulgaria	6	6	6	Italy	8	7	8
Czech Republic	7	4	6	England	9	6	7
Lithuania	7	4	6	Luxembourg	8	7	7
Slovakia	6	5	6	Netherlands	7	7	7
Canada	5	6	5	Latvia	8	6	7
Poland	6	5	5	Poland	9	5	7
Estonia	6	4	5	USA	6	8	7
Belgium (Flemish)	6	4	5	Belgium (French)	7	6	7
Greenland	5	4	5	Slovakia	7	6	7
Scotland	4	5	5	Belgium (Flemish)	6	6	6
England	4	5	5	Bulgaria	6	6	6
Luxembourg	4	5	4	Greenland	5	6	6
Slovenia	6	3	4	Ireland	5	6	5
Ireland	4	4	4	Slovenia	6	4	5
Netherlands	4	4	4	Croatia	6	4	5
Germany	4	3	4	Germany	5	5	5
Denmark	4	3	4	Lithuania	6	4	5
Austria	3	4	3	Denmark	5	4	5
Italy	4	2	3	Austria	5	4	4
Hungary	3	3	3	Ukraine	6	3	4
Israel	3	3	3	Russian Federation	4	4	4
Croatia	3	2	3	Hungary	4	4	4
Malta	4	1	2	Malta	3	5	4
Portugal	2	2	2	Israel	4	2	3
Finland	2	1	2	Finland	4	2	3
Romania	2	1	1	Portugal	3	2	3
Russian Federation	4	4	1	Iceland	2	2	2
TFYR Macedonia†	1	1	1	TFYR Macedonia†	2	1	2
Greece	2	0	1	Greece	1	1	1
Iceland	1	0	1	Romania	2	1	1
HBSC average	4	3	4	HBSC average	5	5	5

Data not available for Norway, Sweden, Turkey

**MEASURE** Young people (15-year-olds only) were asked how often they had used cannabis in their life; in the last 12 months; and in the last 30 days. Response options ranged from "never" to "40 times or more". Based on the frequency of use, four user groups were defined as follows (see next page).

		REGULAR USER					HEAVY USER		
		15-YEAR-OLDS					15-YEAR-OLDS		
		Boy %	Girl %	Total %			Boy %	Girl %	Total %
Canada		14	14	14	Canada		6	3	5
USA		14	10	12	Spain		5	3	4
Wales		11	11	11	Switzerland		5	3	4
Spain		11	11	11	Belgium (French)		5	2	3
Switzerland		11	10	10	Wales		4	3	3
Scotland		10	9	9	USA		3	3	3
Netherlands		9	9	9	Ireland		4	2	3
France		9	9	9	France		5	1	3
Czech Republic		8	9	8	Scotland		4	2	3
Luxembourg		9	7	8	Netherlands		4	1	3
Belgium (Flemish)		10	6	8	Luxembourg		4	2	3
England		8	8	8	England		3	2	2
Italy		9	7	8	Czech Republic		3	1	2
Ireland		9	6	8	Greenland		1	0	2
Belgium (French)		8	6	7	Croatia		2	1	2
Estonia		10	5	7	Belgium (Flemish)		2	0	1
Slovenia		7	5	6	Bulgaria		2	1	1
Poland		7	4	5	Germany		2	1	1
Bulgaria		5	4	5	Italy		2	1	1
Malta		5	5	5	Slovenia		2	1	1
Germany		5	4	4	Latvia		2	0	1
Denmark		5	4	4	Estonia		2	0	1
Slovakia		5	3	4	Portugal		1	1	1
Latvia		6	3	4	Malta		1	1	1
Hungary		5	3	4	Poland		2	0	1
Greenland		4	4	4	Russian Federation		1	0	1
Croatia		5	3	4	Austria		1	0	1
Austria		3	3	3	Denmark		1	0	1
Israel		3	3	3	Israel		1	0	1
Russian Federation		4	3	3	Slovakia		1	0	1
Lithuania		4	2	3	Finland		1	0	1
Ukraine		4	1	3	Hungary		1	0	1
Portugal		3	2	2	Lithuania		1	0	1
Finland		2	1	1	Ukraine		1	0	1
Greece		2	0	1	Iceland		1	0	0
Iceland		2	1	1	Greece		0	0	0
TFYR Macedonia†		1	1	1	Romania		0	0	0
Romania		1	0	0	TFYR Macedonia†		0	0	0
HBSC average		6	5	5	HBSC average		2	1	1

**Discontinued user:** those who have used cannabis at least once in their lifetime but not within the past 30 days or within the past 12 months

**Experimenter:** those who have used cannabis 1–2 times within the past 12 months

**Regular user:** those who have used cannabis 3–39 times within the past 12 months

**Heavy user:** those who have used cannabis 40 times or more within the past 12 months

The findings presented here show the proportions in each user group.

## INVOLVED IN A PHYSICAL FIGHT AT LEAST ONCE IN THE PAST 12 MONTHS

## SUPPLEMENTARY TABLE TO: CHAPTER 2 SECTION 4: RISK BEHAVIOURS, FIGHTING

	11-YEAR-OLDS				13-YEAR-OLDS				15-YEAR-OLDS		
	Boy %	Girl %	Total %		Boy %	Girl %	Total %		Boy %	Girl %	Total %
Belgium (French)	82	52	67	Malta	70	44	59	Malta	60	37	49
Turkey	71	45	59	Turkey	72	41	56	Belgium (French)	60	31	46
Czech Republic	75	36	56	Belgium (French)	68	39	55	Greece	59	32	44
Slovakia	72	38	54	Greece	71	40	54	Turkey	57	28	44
Hungary	71	36	53	Hungary	67	38	52	Slovakia	59	28	43
Slovenia	68	33	50	Czech Republic	73	31	52	Czech Republic	56	26	41
Ukraine	71	25	49	Slovenia	68	34	51	Ireland	52	27	41
Russian Federation	66	31	49	Slovakia	71	35	51	Austria	56	26	40
Greece	65	32	49	Romania	68	30	48	TFYR Macedonia <sup>†</sup>	54	25	40
Scotland	65	32	48	Russian Federation	64	31	46	Lithuania	53	24	39
Romania	69	25	48	Croatia	66	24	45	Ukraine	60	18	39
Canada	64	34	48	Austria	65	24	44	Netherlands	49	28	38
Iceland	68	27	48	Lithuania	59	26	44	Romania	59	24	37
Spain	59	38	47	Ukraine	64	22	43	Scotland	46	28	37
Croatia	66	27	47	Canada	55	32	43	England	51	25	37
Poland	67	26	46	Latvia	64	25	43	Russian Federation	51	25	37
Latvia	69	23	46	Poland	62	23	42	Croatia	53	22	36
Portugal	64	26	46	Scotland	54	30	42	Wales	46	26	36
Italy	64	26	45	Bulgaria	56	28	42	France	48	23	36
Denmark	62	29	44	Ireland	58	23	41	Italy	49	22	36
Bulgaria	60	26	44	Italy	58	25	41	Bulgaria	43	29	36
Belgium (Flemish)	60	25	43	TFYR Macedonia <sup>†</sup>	54	28	41	Hungary	50	24	36
Israel	66	26	43	England	57	27	41	Canada	45	27	36
Lithuania	64	21	43	Spain	55	26	40	Latvia	50	23	35
England	61	26	43	Wales	52	27	39	Luxembourg	46	24	35
France	59	23	41	Denmark	56	24	39	USA	43	27	35
Norway	63	19	41	Portugal	59	21	39	Poland	54	17	34
Malta	50	33	41	Estonia	57	21	39	Spain	43	25	34
Wales	57	25	40	France	54	24	38	Slovenia	48	19	33
Luxembourg	55	25	40	USA	48	28	38	Estonia	44	17	31
Netherlands	57	21	39	Netherlands	49	26	37	Belgium (Flemish)	40	20	30
Switzerland	59	17	37	Iceland	54	19	37	Switzerland	44	15	29
Austria	56	17	37	Luxembourg	49	19	34	Denmark	43	16	29
Estonia	58	15	36	Norway	49	17	34	Iceland	39	17	28
Sweden	54	17	36	Belgium (Flemish)	49	17	33	Germany	39	17	28
USA	47	24	35	Switzerland	49	16	32	Norway	40	13	28
Greenland	50	18	33	Israel	53	16	32	Sweden	36	16	26
Ireland	49	21	33	Germany	45	17	31	Portugal	37	16	25
TFYR Macedonia <sup>†</sup>	45	20	33	Sweden	43	16	29	Greenland	34	16	25
Germany	44	17	31	Finland	40	14	26	Finland	32	15	23
Finland	46	12	28	Greenland	36	16	26	Israel	41	10	22
<b>HBSC average</b>	<b>61</b>	<b>27</b>	<b>44</b>	<b>HBSC average</b>	<b>58</b>	<b>26</b>	<b>42</b>	<b>HBSC average</b>	<b>48</b>	<b>23</b>	<b>35</b>

**MEASURE** Young people were asked how many times during the last 12 months they had been involved in a physical fight. Response options ranged from "I have not been in a physical fight in the past 12 months" to "four times or more". The findings presented here show the proportions that reported fighting at least once in the past 12 months.



**BEING BULLIED AT SCHOOL AT LEAST ONCE IN THE PAST COUPLE OF MONTHS****SUPPLEMENTARY TABLE TO: CHAPTER 2 SECTION 4: RISK BEHAVIOURS, BULLYING**

	11-YEAR-OLDS				13-YEAR-OLDS				15-YEAR-OLDS		
	Boy %	Girl %	Total %		Boy %	Girl %	Total %		Boy %	Girl %	Total %
Turkey	63	65	64	Greece	60	60	60	Lithuania	52	51	52
Lithuania	58	59	59	Lithuania	58	59	59	Greece	51	46	48
Greenland	54	60	57	Turkey	59	57	58	Belgium (French)	56	37	47
Ukraine	54	57	56	Ukraine	51	56	54	Ukraine	44	40	42
Latvia	56	55	55	Greenland	50	56	53	Greenland	43	41	42
Estonia	59	52	55	Latvia	55	51	52	Turkey	46	36	41
Belgium (French)	61	41	51	Romania	57	46	52	Austria	49	34	41
Romania	54	41	48	Estonia	53	45	49	Bulgaria	51	25	37
Greece	44	48	46	Belgium (French)	52	39	46	Portugal	42	33	37
Russian Federation	46	44	45	Austria	48	43	45	Latvia	40	33	37
Canada	44	45	44	Portugal	49	41	45	Luxembourg	35	34	35
Portugal	47	39	43	Switzerland	45	37	41	Romania	42	30	35
Switzerland	46	37	41	Luxembourg	41	35	38	Estonia	35	32	33
Luxembourg	39	38	39	Canada	39	35	37	Switzerland	34	29	31
France	39	37	38	Germany	38	35	36	Germany	31	28	29
Germany	38	37	38	Russian Federation	34	38	36	France	26	30	28
Austria	41	31	36	France	34	37	36	Canada	28	27	28
Wales	35	36	36	Bulgaria	38	31	35	Wales	22	26	24
Netherlands	38	33	35	Wales	33	33	33	Russian Federation	24	23	23
Bulgaria	40	30	35	Poland	37	26	31	Ireland	24	22	23
USA	35	34	34	England	33	26	30	Norway	25	20	23
England	35	32	33	Hungary	26	32	29	Scotland	22	21	22
Norway	35	29	32	TFYR Macedonia <sup>†</sup>	35	24	29	England	22	21	22
Denmark	31	30	31	Scotland	29	29	29	TFYR Macedonia <sup>†</sup>	26	16	21
Belgium (Flemish)	30	31	30	USA	31	27	29	USA	21	21	21
Poland	37	24	30	Slovenia	29	28	29	Poland	23	16	19
Hungary	30	29	30	Finland	31	25	28	Belgium (Flemish)	21	15	18
Italy	37	21	29	Netherlands	28	26	27	Netherlands	18	16	17
Scotland	30	29	29	Ireland	28	25	27	Finland	19	15	17
Slovenia	31	27	29	Denmark	23	26	25	Hungary	16	17	17
Ireland	28	29	28	Norway	28	20	24	Denmark	17	15	16
Finland	32	25	28	Belgium (Flemish)	26	23	24	Slovenia	22	10	16
TFYR Macedonia <sup>†</sup>	32	23	28	Croatia	24	24	24	Italy	18	14	16
Iceland	29	23	26	Malta	25	21	24	Czech Republic	13	15	14
Croatia	24	20	22	Italy	24	20	22	Croatia	15	12	14
Malta	23	20	21	Iceland	21	16	18	Malta	14	11	12
Czech Republic	20	14	17	Czech Republic	18	18	18	Sweden	14	11	12
Spain	18	14	16	Sweden	19	14	16	Spain	13	11	12
Sweden	15	16	15	Spain	17	9	13	Iceland	12	11	12
<b>HBSC average</b>	<b>39</b>	<b>35</b>	<b>37</b>	<b>HBSC average</b>	<b>37</b>	<b>33</b>	<b>35</b>	<b>HBSC average</b>	<b>29</b>	<b>24</b>	<b>27</b>

Data not available for Israel, Slovakia

**MEASURE** Young people were asked how often they had been bullied at school in the past couple of months. Response options ranged from "I was not bullied at school in the past couple of months" to "several times a week". The findings presented here show the proportions that reported being bullied at least once at school in the past couple of months.

†The former Yugoslav Republic of Macedonia

**BULLYING OTHERS AT SCHOOL AT LEAST ONCE IN THE PAST COUPLE OF MONTHS****SUPPLEMENTARY TABLE TO: CHAPTER 2 SECTION 4: RISK BEHAVIOURS, BULLYING**

	11-YEAR-OLDS				13-YEAR-OLDS				15-YEAR-OLDS		
	Boy %	Girl %	Total %		Boy %	Girl %	Total %		Boy %	Girl %	Total %
Latvia	57	51	54	Latvia	74	60	67	Latvia	68	57	62
Greenland	57	49	53	Romania	67	57	61	Romania	62	58	60
Ukraine	57	45	51	Lithuania	64	50	58	Lithuania	65	53	59
Romania	57	44	51	Greenland	61	54	57	Ukraine	67	48	57
Estonia	63	38	50	Ukraine	59	55	57	Greece	69	40	53
Lithuania	56	40	48	Greece	65	48	56	Greenland	57	46	51
Turkey	47	41	44	Estonia	65	42	54	Estonia	61	38	49
Switzerland	52	30	40	Switzerland	57	40	48	Austria	60	37	48
Belgium (French)	47	31	39	Austria	55	36	45	Luxembourg	54	36	45
Greece	41	32	37	Turkey	46	39	43	Switzerland	55	32	43
Netherlands	45	29	37	Germany	49	33	41	Germany	54	31	42
Portugal	44	28	36	Portugal	46	36	41	France	46	35	40
Russian Federation	39	32	36	Canada	45	36	40	Canada	42	32	37
Canada	36	32	34	France	42	37	39	Poland	48	23	35
France	36	29	33	USA	41	38	39	USA	42	28	35
Belgium (Flemish)	35	27	31	Russian Federation	43	35	38	Belgium (French)	39	28	34
Luxembourg	34	28	31	Bulgaria	44	32	38	Netherlands	43	25	34
USA	34	25	29	Luxembourg	45	31	38	Belgium (Flemish)	41	26	34
Poland	40	18	28	Netherlands	41	29	35	Portugal	37	29	33
Germany	33	22	28	Belgium (French)	40	29	35	Denmark	44	20	32
Italy	35	20	27	Slovenia	41	28	34	Turkey	37	25	32
Bulgaria	36	18	27	Denmark	41	27	33	Russian Federation	36	26	31
TFYR Macedonia <sup>†</sup>	35	19	27	Poland	43	22	32	Norway	41	18	30
Austria	34	19	27	TFYR Macedonia <sup>†</sup>	38	27	32	TFYR Macedonia <sup>†</sup>	37	22	30
Slovenia	31	21	26	Italy	37	26	31	Bulgaria	37	22	29
Denmark	32	18	25	Belgium (Flemish)	34	26	30	England	35	21	28
Hungary	29	16	23	Hungary	37	22	29	Italy	35	19	27
Norway	32	13	22	Croatia	36	18	27	Ireland	34	15	25
Finland	31	14	22	England	31	23	27	Scotland	33	17	25
Wales	24	17	20	Scotland	30	21	26	Hungary	32	18	25
Iceland	28	11	20	Finland	33	19	25	Malta	31	15	23
Scotland	25	15	20	Wales	29	21	25	Finland	34	13	23
England	23	14	18	Norway	32	16	24	Spain	26	20	23
Spain	20	16	17	Ireland	29	16	23	Slovenia	30	15	22
Ireland	23	13	17	Iceland	31	13	22	Croatia	30	15	22
Croatia	22	11	17	Malta	31	12	22	Wales	25	16	20
Malta	16	6	10	Spain	27	16	21	Iceland	28	11	19
Sweden	14	6	10	Sweden	22	12	17	Sweden	26	12	19
Czech Republic	12	8	10	Czech Republic	20	13	16	Czech Republic	22	15	19
<b>HBSC average</b>	<b>36</b>	<b>24</b>	<b>30</b>	<b>HBSC average</b>	<b>43</b>	<b>31</b>	<b>37</b>	<b>HBSC average</b>	<b>43</b>	<b>27</b>	<b>35</b>

Data not available for Israel, Slovakia

**MEASURE** Young people were asked how often they had taken part in bullying another student(s) at school in the past couple of months. Response options ranged from “I have not bullied another student at school in the past couple of months” to “several times a week”. The findings presented here show the proportions that reported bullying others at least once in the past couple of months.

†The former Yugoslav Republic of Macedonia



## The WHO Regional Office for Europe

The World Health Organization (WHO) is a specialized agency of the United Nations created in 1948 with the primary responsibility for international health matters and public health. The WHO Regional Office for Europe is one of six regional offices throughout the world, each with its own programme geared to the particular health conditions of the countries it serves.

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## INEQUALITIES IN YOUNG PEOPLE'S HEALTH.

HBSC INTERNATIONAL REPORT FROM THE 2005/2006 SURVEY.

This international report is the fourth from the Health Behaviour in School-aged Children (HBSC) study, a WHO collaborative cross-national study, and the most comprehensive to date. It presents the key findings on patterns of health among young people aged 11, 13 and 15 years in 41 countries and regions across the WHO European Region and North America in 2005/2006. The report's theme is health inequalities, quantifying the gender, age, geographic and socioeconomic dimensions of health differentials. It aims to highlight where these inequalities exist, to inform and influence policy and practice and to help improve health for all young people. The report clearly shows that while the health and well-being of many young people give cause for celebration, sizeable minorities are experiencing real and worrying problems related to overweight and obesity, body image, life satisfaction, substance misuse and bullying. It provides reliable data that health systems in Member States can use to support and encourage sectors such as education, social inclusion and housing to achieve their primary goals and, in so doing, benefit young people's health. Policy-makers and professionals in the participating countries and regions now have an opportunity to use the data, which arise from the voices of young people, to drive their efforts to put in place the circumstances – social, economic, health and educational – within which young people can thrive and prosper.

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