HEALTH POLICY FOR CHILDREN
AND ADOLESCENTS, NO. 6

World Health Organization
REGIONAL OFFICE FOR Europe

Social determinants of health and well-being among young people

HEALTH BEHAVIOUR IN SCHOOL-AGED CHILDREN (HBSC) STUDY:
INTERNATIONAL REPORT FROM THE 2009/2010 SURVEY

hbsc

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INTERNATIONAL REPORT FROM THE 2009/2010 SURVEY

Edited by:

Candace Currie
Cara Zanotti
Antony Morgan
Dorothy Currie
Margaretha de Looze
Chris Roberts
Oddrun Samdal
Otto R.F. Smith
Vivian Barnekow

WHO Library Cataloguing in Publication Data

Social determinants of health and well-being among young people : Health Behaviour in School-Aged Children (HBSC) study : international report from the 2009/2010 survey / edited by Candace Currie ... [et al.].

(Health Policy for Children and Adolescents; No. 6)

1. Adolescent 2. Child 3. Health behavior 4. Health surveys 5. Cross-cultural comparison 6. Health policy 7. Europe 8. North America I.Currie, Candace II.Zanotti, Cara III.Morgan, Antony IV.Currie, Dorothy V.de Looze, Margaretha VI.Roberts, Chris VII.Samdal, Oddrun VII.Smith, Otto R.F. IX.Barnekow, Vivian

ISBN 978 92 890 1423 6 NLM Classification: WS 460

ISBN 978 92 890 1423 6

Sample citation: Currie C et al., eds. *Social determinants of health and well-being among young people. Health Behaviour in School-aged Children (HBSC) study: international report from the 2009/2010 survey.* Copenhagen, WHO Regional Office for Europe, 2012 (Health Policy for Children and Adolescents, No. 6).

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Publications
WHO Regional Office for Europe
Scherfigsvej 8
DK-2100 Copenhagen Ø, Denmark

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CONTRIBUTORS

EDITORIAL BOARD

Candace Currie	HBSC International Coordinator, Child and Adolescent Health Research Unit (CAHRU), School of Medicine, University of St Andrews, United Kingdom (Scotland) and Chair, HBSC Scientific Development Group
Cara Zanotti	HBSC Research Communications Officer, HBSC International Coordinating Centre, CAHRU, School of Medicine, University of St Andrews, United Kingdom (Scotland)
Antony Morgan	Honorary Research Fellow, University of Hertfordshire, Hatfield, United Kingdom and Chair, HBSC Policy Development Group
Dorothy Currie	Senior Statistician, HBSC International Coordinating Centre, CAHRU, School of Medicine, University of St Andrews, United Kingdom (Scotland) and Co-chair, HBSC Methodology Development Group
Margaretha de Looze	PhD student, Faculty of Social and Behavioural Sciences, Utrecht University, Netherlands
Chris Roberts	Research Lead, Health, Social Services and Children Analytical Team, Knowledge and Analytical Services, Welsh Government, United Kingdom (Wales) and Co-chair, HBSC Methodology Development Group
Oddrun Samdal	HBSC Databank Manager, HBSC Data Management Centre, Department of Health Promotion and Development, University of Bergen, Norway
Otto R.F. Smith	Assistant HBSC Databank Manager, HBSC Data Management Centre, Department of Health Promotion and Development, University of Bergen, Norway
Vivian Barnekow	Programme Manager (a.i.), Child and Adolescent Health and Development, Noncommunicable Diseases and Health Promotion, WHO Regional Office for Europe

EDITORIAL AND PRODUCTION TEAM

Alex Mathieson	Freelance Writer and Editor, Edinburgh, United Kingdom (Scotland)
Damian Mullan	Designer, So it begins..., Edinburgh, United Kingdom (Scotland)

WRITERS

Part/Chapter	Writers
PART 1. INTRODUCTION	
INTRODUCTION	
Health Behaviour in School-aged Children (HBSC) study	Cara Zanotti (HBSC International Coordinating Centre) Otto R.F. Smith (HBSC Data Management Centre)
Understanding social determinants of young people's health Dimensions of inequalities Overview of previous HBSC findings Social context of young people's health	Margaretha de Looze (Netherlands), Cara Zanotti (HBSC International Coordinating Centre), Antony Morgan (United Kingdom (England)), Vivian Barnekow (WHO Regional Office for Europe)
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Evenings with friends	Emese Zsiros (Hungary), Margarida Gaspar de Matos (Portugal), Michela Lenzi (Italy), Winfried van der Sluijs (Scotland), Margaretha de Looze (Netherlands)
Electronic media contact (EMC)	Winfried van der Sluijs (Scotland), Emese Zsiros (Hungary), Michela Lenzi (Italy), Margarida Gaspar de Matos (Portugal), Gina Tomé (Portugal), Margaretha de Looze (Netherlands)
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Sedentary behaviour	Ronald J Iannotti (United States), Michal Kalman (Czech Republic), Joanna Inchley (Scotland), Jorma Tynjälä (Finland), Jens Bucksch (Germany), the HBSC Physical Activity Focus Group
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Alcohol	Mafalda Ferreira (Portugal), Emmanuel Kuntsche (Switzerland), Margaretha de Looze (Netherlands), Tibor Baska (Slovakia), Bruce Simons-Morton (United States), Tom ter Bogt (Netherlands), Saoirse Nic Gabhainn (Ireland)
Cannabis	Tom ter Bogt (Netherlands), Mafalda Ferreira (Portugal), Margaretha de Looze (Netherlands), Saoirse Nic Gabhainn (Ireland)
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Condom and pill use	Lúcia Ramiro (Portugal), Marta Reis (Portugal), Josephine Magnusson (England), Béat Windlin (Switzerland), Nathalie Moreau (Belgium (French)), Emmanuelle Godeau (France), Margaretha de Looze (Netherlands), the HBSC Risk Behaviour Group
Fighting	Michal Molcho (Ireland)
Bullying	Michal Molcho (Ireland)
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CHAPTER 8. FAMILY AFFLUENCE	Torbjørn Torsheim (Norway), Katrin Aasve (Estonia), Oddrun Samdal (Norway)
CHAPTER 9. CONCLUSION	Oddrun Samdal (Norway)
ANNEX	Otto R.F. Smith (HBSC Data Management Centre), Cara Zanotti (HBSC International Coordinating Centre)

DATA ANALYSTS

Dorothy Currie (Scotland), Chris Roberts (Wales) (principal analysts)

Anne Hublet (Belgium (Flemish)), Ivana Pavic Simeton (Croatia), Nathalie Moreau (Belgium (French)), Paola Dalmasso (Italy), Torbjørn Torsheim (Norway), Virginie Ehlinger (France), Will Pickett (Canada) (analysts)

EDITORIAL ASSISTANCE

Wendy Craig (Canada), John Freeman (Canada), Michal Molcho (Ireland), Emmanuelle Godeau (France)

TECHNICAL ADVICE ON DRAFTS

Bjørn Holstein (Denmark), Birgit Niclasen (Greenland), Matthias Richter (Germany), Zuzana Veselská (Croatia)

WHO REGIONAL OFFICE FOR EUROPE

Vivian Barnekow (Programme Manager (a.i.), Child and Adolescent Health), Joao Joaquim Rodrigues da Silva Breda (Programme Manager, Nutrition, Physical Activity and Obesity), Lars Fodgaard Møller (Programme Manager (a.i.), Alcohol, Illicit Drugs and Prison Health), Gunta Lazdane (Programme Manager, Sexual and Reproductive Health), Kristina Mauer-Stender (Programme Manager (a.i.), Tobacco Control), Dinesh Sethi (Programme Manager (a.i.), Violence and Injury Prevention), Isabel Yordi Aguirre (Technical Officer, Gender)

HBSC PRINCIPAL INVESTIGATORS AND TEAM MEMBERS 2009/2010

HBSC international coordination for the 2009/2010 survey	Candace Currie (International Coordinator) Aixa Alemán-Díaz, Jehane Barbour, Dorothy Currie, Emily Healy, Ashley Theunissen, Cara Zanotti (coordinators)	HBSC International Coordinating Centre, CAHRU, School of Medicine, University of St Andrews, Scotland
HBSC databank management for the 2009/2010 2010 survey	Oddrun Samdal (International Databank Manager) Otto R.F. Smith (Assistant Databank Manager)	HBSC Data Management Centre, Department of Health Promotion and Development, University of Bergen, Norway

Country or region	Principal investigators (bold) and team members	Institutions
Albania	**Elizana Petrela**, Gazmend Bejtja, Astrit Dauti, Zyhdi Dervishi, Lumuturi Merkuri, Engjell Mihali	Faculty of Medicine, University of Tirana
Armenia	**Sergey Sargysan**, Ara Babloyan, Marina Melkumova, Eva Movsesyan	Arabkir Medical Centre, Institute of Child and Adolescent Health, Yerevan
Austria	**Wolfgang Dür**, Rosemarie Felder-Puig, Robert Griebler, Felix Hofmann, Ursula Mager, Markus Hojni, Daniela Ramelow, Katrin Unterweger	Ludwig Boltzmann Institute for Health Promotion Research, University of Vienna
Belgium (Flemish)	**Carine Vereecken**, Bart De Clercq, Anne Hublet, Lea Maes	Department of Public Health, University of Ghent
Belgium (French)	**Danielle Piette,** Pascale Decant, Damien Favresse, Isabelle Godin, Nathalie Moreau, Patrick de Smet	Université Libre de Bruxelles
Bulgaria	**Lidiya Vasileva**, Bogdana Alexandrova, Elitsa Dimitrova, Evelina Bogdanova	Institute for Population and Human Studies, Bulgarian Academy of Sciences, Sofia
	Irina Todorova, Anna Alexandrova-Karamanova	Health Psychology Research Centre, Sofia
	Tatyana Kotzeva	Free University, Bourgas
Canada	**John Freeman**	Faculty of Education, Queen's University, Kingston
	William Pickett	Emergency Medicine Research, Queen's University, Kingston
	Wendy Craig	Department of Psychology, Queen's University, Kingston
	Frank Elgar	Department of Psychology, Carleton University, Ottawa
	Ian Janssen, Matt King, Don Klinger	Faculty of Education, Queen's University, Kingston
	Patricia Walsh	Public Health Agency for Canada

Country or region	Principal investigators (bold) and team members	Institutions
Croatia	**Marina Kuzman**, Mario Hemen, Ivana Pavic Simetin, Martina Markelic, Iva Pejnovic Franelic	Croatian National Institute of Public Health, Zagreb
Czech Republic	**Michal Kalman,** Thomas Brychta, Katerina Ivanova, Zdenek Hamrik, Jan Pavelka, Erik Sigmund, Peter Tavel	Palacky University, Olomouc
	Csémy Ladislav	Prague Psychiatric Centre
	Dana Benesova	Platform for Application, Research and Innovation, Brno
	Jarmila Razova	National Network for Health Promotion, Prague
	Zuzana Tomcikova	Prague College of Psychosocial Studies
Denmark	**Pernille Due**, Anette Andersen, Pernille Bendtsen, Bjørn Holstein, Charlotte Kjær, Rikke Krølner, Trine Pagh Pedersen, Katrine Rich-Madsen, Mette Rasmussen, Signe Rayce, Chalida Svastisalee, Mogens Trab Damsgaard, Pia Elena Wickman Henriksen	National Institute of Public Health, University of Southern Denmark, Odense
England	**Fiona Brooks, Antony Morgan** Cath Fenton, Ellen Klemera, Josefine Magnusson, Neil Spencer	Centre for Research in Primary and Community Care, University of Hertfordshire, Hatfield
Estonia	**Katrin Aasvee**, Mai Maser, Mariliis Tael, Krystiine Liiv, Anastassia Minossenko	The National Institute for Health Development, Tallinn
Finland	**Jorma Tynjälä**, Lasse Kannas, Kristiina Ojala, Ilona Haapasalo, Raili Välimaa, Jari Villberg, Mika Vuori, Eina Honkala, Sisko Honkala	Department of Health Sciences, University of Jyväskylä
France	**Emmanuelle Godeau**, Félix Navarro, Verginie Ehlinger, Mariane Sentenac, Léona Pistre	Service Médical du Rectorat de Toulouse
Germany	**Petra Kolip**, Jens Bucksch, Kerstin Hoffarth, Matthias Richter	WHO collaborating centre for child and adolescent health promotion: School of Public Health, University of Bielefeld
	Veronika Ottova, Ulrike Ravens-Sieberer	University Medical Centre, Hamburg-Eppendorf
	Andreas Klocke	University of Applied Science, Frankfurt

Country or region	Principal investigators (bold) and team members	Institutions
Greece	**Anna Kokkevi**, Anastasios Fotiou, Eleftheria Kanavou, Clive Richardson, Myrto Stavrou, Maria Xanthaki	University Mental Health Research Institute, Athens
Greenland	**Birgit Niclasen**	District Medical Office, Nuuk
	Christina Schnohr	Institute of Public Health, University of Copenhagen, Denmark
	Ina Borup	Nordic School of Public Health, Gothenburg, Sweden
Hungary	**Ágnes Németh,** Gyöngyi Kökönyei, András Költő, Ágota Örkényi, Gabriella Páll, Dora Varnai, Ildikó Zakariás, Emese Zsiros	National Institute of Child Health, Budapest
Iceland	**Thoroddur Bjarnason,** Arsaell Arnarsson, Andrea Hjalmsdottir, Stefan H. Jonsson, Kjartan Olafsson, Sigrun Sveinbjornsdottir, Runar Vilhjalmsson	University of Akureyri
Ireland	**Saoirse Nic Gabhainn,** Natasha Clarke, Aoife Gavin, Colette Kelly, Michal Molcho, Christina Murphy, Larri Walker	Health Promotion Research Centre, National University of Ireland, Galway (WHO Collaborating Centre for Health Promotion Research)
Israel	**Yossi Harel-Fisch,** Shani Avikzer-Naveh, Gabriel Goldman, Renana Hershkovitz, Rinat Mashal, Ravit Meridor, Sophie Walsh, Sandra White	International Research Program on Adolescent Well-being and Health, Bar-Ilan University, Ramat Gan
Italy	**Franco Cavallo,** Alberto Borraccino, Lorena Charrier, Paola Dalmasso, Patrizia Lemma, Alessio Zambon	Department of Public Health and Microbiology, University of Turin
	Michela Lenzi, Massimo Santinello, Alessio Vieno	Department of Developmental Psychology and Socialization, University of Padua
	Mariano Giacchi, Giacomo Lazzeri, Stefania Rossi	Department of Pathophysiology, Experimental Medicine and Public Health, University of Siena
	Daniela Baldassari	Regional Centre for Health Promotion, Veneto Region Department of Health, Verona
Latvia	**Iveta Pudule**, Daiga Grinberga, Biruta Velika	Centre for Health Economics, Riga
	Inese Gobina, Anita Villerusa	Riga Stradins University
Lithuania	**Apolinaras Zaborskis**, Reda Lagūnaitė, Ilona Lenciauskiene, Linas Sumskas, Egle Vaitkaitiene, Nida Zemaitiene	Kaunas University of Medicine

Country or region	Principal investigators (bold) and team members	Institutions
Luxembourg	**Yolande Wagener**, Dritan Brejko, Chantal Brochmann, Sophie Couffignal, Louise Crosby, Serge Krippler, Marie-Lise Lair, Guy Weber	Division de la Médecine Préventive et Sociale, Ministère de la Santé, Luxembourg
Malta	**Marianne Massa**	Health Promotion Directorate, Msida
Netherlands	**Wilma Vollebergh**, **Tom ter Bogt**, Margaretha de Looze, Gonneke Stevens	Faculty of Social and Behavioural Sciences, University of Utrecht
	Saskia van Dorsselaer, Jacqueline Verdurmen	Netherlands Institute of Mental Health and Addiction, Utrecht
	Simone de Roos	Netherlands Institute for Social Research, The Hague
Norway	**Oddrun Samdal**, Åge Røssing Diseth, Anne-Siri Fismen, Ellen Haug, Jørn Hetland, Fredrik Hansen, Ingrid Leversen, Ole Melkevik, Otto R.F. Smith, Marianne Skogbrott Birkeland, Torbjørn Torsheim, Bente Wold	Department of Health Promotion and Development, University of Bergen
Poland	**Joanna Mazur**, Anna Dzielska, Hanna Kololo, Agnieszka Malkowska-Szkutnik, Izabela Tabak	Department of Child and Adolescent Health, Institute of Mother and Child, Warsaw
	Anna Kowalewska, Barbara Woynarowska	Biomedical and Psychological Foundations of Education Centre, Faculty of Education, Warsaw University
Portugal	**Margarida Gaspar de Matos**, José Alves Diniz, Antonio Borges, Luis Calmeiro, Inês Camacho, Mafalda Ferriera, Tania Gaspar, Ana Paula Lebre, Lúcia Ramiro, Marta Reis, Celeste Simões, Gina Tomé	Faculty of Human Kinetics, Technical University of Lisbon
Romania	**Adriana Baban**, Robert Balazsi, Alina Cosma, Catrinel Craciun, Lavina Damian, Eva Kallay, Oana Negru, Ana Maria Popescu, Diana Taut, Gabriel Vonas	Department of Psychology, Babes Bolyai University, Cluj-Napoca
Russian Federation	**Alexander Komkov**, Alexander Malinin	Research Institute of Physical Culture, St Petersburg
Scotland	**Candace Currie**, Dorothy Currie, Joanna Inchley, Joanna Kirby, Kate Anne Levin, Janine Muldoon, Winfried van der Sluijs	CAHRU, School of Medicine, University of St Andrews
Slovakia	**Andrea Geckova**, Tibor Baska, Martina Baskova, Daniela Bobakova, Zuzana Katreniakova, Peter Kolarcik, Jana Kollarova, Jaroslava Kopcakova, Lukas Pitel, Maria Sarkova, Zuzana Veselska	Kosice Institute for Society and Health, Bratislava

Country or region	Principal investigators (bold) and team members	Institutions
Slovenia	**Helena Jericek**, Maja Bajt, Mateja Gorenc, Vesna Pucelj, Nina Scagnetti	Institute of Public Health of the Republic of Slovenia, Ljubljana
Spain	**Carmen Moreno Rodriguez**, Irene García Moya, Antonia Jiménez Iglesias, Pilar Ramos Valverde, Inmaculada Sánchez-Queija	Department of Developmental and Educational Psychology, University of Seville
	Francisco José Rivera de los Santos	Department of Developmental and Educational Psychology, University of Huelva
	Ana María López	Department of Experimental Psychology, University of Seville
	Maria del Carmen Granado Alcón	Department of Methodology and Behavioural Sciences, University of Huelva
Sweden	**Lilly Augustine,** Maria Correll, Petra Löfstedt	Swedish Institute of Public Health
	Jan Lisspers, Ulrika Danielsson	Mid-Sweden University, Ostersund
	Max Petzold	Nordic School of Public Health, Gothenburg
	Namanjeet Ahluwalia	University of Paris, France
Switzerland	**Emmanuel Kuntsche**, Edith Bacher, Marina Delgrande Jordan, Béat Windlin	Addiction Info Switzerland, Research Institute, Lausanne
The former Yugoslav Republic of Macedonia	**Lina Kostrarova Unkovska**, Dejan Atanasov, Emilija Georgievska-Nanevska, Teodora Lazetic	Centre for Psychosocial and Crisis Action, Skopje
	Blasko Kasapinov, Elena Kosevska, Bisera Rahic	Institute of Public Health of the Republic of Macedonia, Skopje
	Sheruze Osmani	State University of Tetova
Turkey	**Oya Ercan**, Manolya Acar, Mujgan Alikasifoglu, Zeynep Alp, Ethem Erginoz, Sibel Lacinel, Ayse Tekin	Cerrahpasa Medical Faculty, Department of Pediatrics, Istanbul University
	Ömer Uysal	Department of Medical Statistics and Informatics, Medical Faculty of Bezem-Alem University, Istanbul
	Deniz Albayrak Kaymak	Department of Education, Bogazici University, Istanbul
Ukraine	**Olga Balakireva**	Institute for Economy and Forecasting, National Academy of Science of Ukraine, Kyiv
	Tetiana Bondar	Yaremenko Ukrainian Institute of Social Research, Kyiv
	Natalia Ryngach	Institute for Demography and Social Studies, Ptukha National Academy of Science of Ukraine, Kyiv

Country or region	Principal investigators (bold) and team members	Institutions
United States of America	Ronald Iannotti, Tilda Farhat, Denise Haynie, Leah Lipsky, Bruce Simons-Morton, Jing Wang	National Institute of Child Health and Human Development, Bethesda
	Charlotte Pratt	National Heart, Lung and Blood Institute, Bethesda
	Vivian Faden, Ralph Hingson, Mary Kaye Kenney	National Institute of Alcohol Abuse and Alcoholism, Bethesda
Wales	Chris Roberts, Julie Lane, Justine Rolfe	Health, Social Services and Children Analytical Team, Knowledge and Analytical Services, Welsh Government, Cardiff
	Simon Murphy	Centre for Development and Evaluation of Complex Interventions for Public Health Improvement (DECIHPer), Cardiff University

ACKNOWLEDGEMENTS

Health Behaviour in School-aged Children (HBSC), a WHO collaborative cross-national study, involves a wide network of researchers from all participating countries and regions.

The data collection in each country or region was funded at national level. The editorial board is grateful for the financial support and guidance offered by government ministries, research foundations and other funding bodies in the participating countries and regions. We particularly thank NHS (National Health Service) Health Scotland (WHO Collaborating Centre for Health Promotion), which contributed funding to the HBSC International Coordinating Centre, and the Norwegian Directorate of Health, which contributed funding to the HBSC Data Management Centre. The report's production was supported by a generous contribution from the Tuscany Region and the University Hospital of Siena, Italy.

We are grateful for support from staff at the Norwegian Social Science Data Services, Bergen, for their work in preparing the international data file.

We would like to thank: Philip de Winter Shaw and Karen Hunter of the University of St Andrews, Scotland, United Kingdom, for their assistance in the editorial process; our valued partners, particularly WHO Regional Office for Europe, for their continuing support; the young people who were willing to share their experiences with us; and schools and education authorities in each participating country and region for making the survey possible.

This report is dedicated to the late Alexander Komkov, principal investigator for the Russian Federation, who managed the HBSC study data collection for the Russian Federation from 1993 to 2010. He was a highly valued member of the HBSC Physical Activity Focus Group, contributing his extensive knowledge and expertise to the scientific work of the group and the wider HBSC study.

Candace Currie, Cara Zanotti, Antony Morgan, Dorothy Currie, Margaretha de Looze, Chris Roberts, Oddrun Samdal, Otto R.F. Smith and Vivian Barnekow

PREFACE

The Health Behaviour of School-aged Children (HBSC) study provides key insights into the health-related behaviours of young people. Its unique methodology has facilitated engagement with hundreds of thousands of young people in many parts of the world since its inception in 1983, building a data base over time that describes patterns and issues relevant to their health and well-being.

HBSC focuses on a wide range of health, education, social and family measures that affect young people's health and well-being. Previous reports from the study have highlighted gender, age, geographic and family affluence factors. This fifth international report from HBSC focuses on social determinants of health and provides a full description of the health and well-being of young people growing up in different countries across Europe and North America through data collected from the 2009/2010 survey.

The importance of social determinants to young people's health, well-being and development is clear. Theirs is a world of great opportunity in relation to health, education, occupation, social engagement, discovery and fulfilment. But it is also a world laden with risks that can affect their ability to achieve full health both now and in the future, reduce their opportunities for education and occupation, and lead to isolation, frustrated ambition and disappointment.

This HBSC report is a crucial resource in deepening the understanding of social determinants that are known to affect young people's health and well-being. Its broad areas of focus – social context, health outcomes, health behaviours and risk behaviours – encapsulate key factors that influence young people's health and well-being, opportunities and life chances. The report provides strong evidence and data that will support countries in formulating their own policies and programmes to meet the challenges that lie ahead.

The worldwide economic downturn poses risks to systems everywhere, but HBSC results enable countries to focus their resources on the most effective interventions. Evidence is emerging on how HBSC data are influencing policy within countries; this is a very encouraging development that we hope to see continuing into the future, with appropriate support provided to ensure HBSC can progress with its vital work.

Support continues to be provided for HBSC through the WHO/HBSC Forum, which was launched in 2008 through the WHO Regional Office for Europe's European Office for Investment for Health and Development. The Forum aims to maximize the effect the HBSC study can have across countries. It has held three meetings to date, the first focusing on healthy eating habits and physical activity levels, the second on social cohesion for mental well-being, and the third on socio-environmentally determined inequities. Forum meetings employ HBSC data to promote discussion among international partners and facilitate the translation of research findings into effective policy-making and practice.

The WHO Regional Office for Europe is proud of its collaboration with the HBSC study. It recognizes and acknowledges the enormous effort of the research teams who collected, analysed and synthesized data from the countries and regions across Europe and North America that took part in the 2009/2010 survey, and the editorial team who produced this report. And it understands that the continuing value and success of the HBSC study are owed to the 200 000 young people across the world who so generously gave of their time to enable such a strong picture of their lives to emerge. We owe it to them to make sure that the data collected by the survey are now put to maximum use within countries to prepare better futures for young people everywhere.

Erio Ziglio
Head, European Office for Investment for Health and Development, WHO Regional Office for Europe

Vivian Barnekow
Programme Manager (a.i.), Child and Adolescent Health and Development, Noncommunicable Diseases and Health Promotion, WHO Regional Office for Europe

FOREWORD

Health and health equity are important to the development of all countries. This is the rationale behind the identification of population health promotion and health inequity reduction as key goals in the upcoming WHO strategy for Europe, Health 2020, which the Regional Office is developing in partnership with the 53 Member States in the European Region.

Addressing the social determinants of health and reducing related health inequities are centre stage in Health 2020. This is why I welcome so strongly the focus of this fifth international HBSC report on social determinants of health.

HBSC recognizes that poor health cannot be explained simply by germs and genes. It involves the circumstances in which young people live; their access to health care, schools and leisure opportunities; and their homes, communities, towns and cities. It also reflects individual and cultural characteristics such as social status, gender, age and ethnicity, values and discrimination. In short, individual and population health is heavily influenced by social determinants.

The study of social determinants looks at factors outside what could traditionally be defined as "health" areas but which nevertheless have an enormous impact on health and well-being. It is about identifying and creating the conditions within which population health can thrive, ensuring that health promotion and health inequalities reduction become whole-of-government responsibilities, increasing capacity for strong governance for health within countries and internationally, and positioning health as a crucial asset for the inclusive and sustainable development of populations throughout the European Region.

Noncommunicable diseases (NCDs) are the greatest cause of preventable mortality and morbidity in the European Region, and there is growing awareness that NCDs such as obesity and mental disorders are significant factors affecting the health and well-being of young people. Exposure to the risk of NCDs accumulates throughout the life-course, starting before birth and continuing through early childhood and adolescence into adulthood. As the action plan for implementing the WHO European strategy on NCDs moves forward, all must remain vigilant to protect young people from the impact of NCDs and promote positive health.

As was the case with previous HBSC reports, this international report shows that, while there is much to celebrate in the health and well-being status of many young people, others continue to experience real and worrying problems in relation to issues such as overweight and obesity, self-esteem, life satisfaction, substance misuse and bullying. The data source for the HBSC survey is young people themselves, and it is vital that policy-makers and practitioners in their countries listen to what they are saying. These voices must drive efforts to address social determinants of health in a way that will have positive effects on young people's health and futures.

The report provides a strong evidence base to support national and international efforts to strengthen initiatives that affect young people's health and well-being. All government departments can use it to reflect health needs in their policie,s to define and achieve primary targets and to promote the precious resource that is young people's health.

Once again, young people have used the opportunity provided by HBSC to speak – it now falls to us who cherish their aspirations, ambitions, health and well-being to act.

Zsuzsanna Jakab
WHO Regional Director for Europe

ABBREVIATIONS

BMI	body mass index
CAHRU	Child and Adolescent Health Research Unit, School of Medicine, University of St Andrews, Scotland, United Kingdom (HBSC International Coordinating Centre)
deft	design factor
EMC	electronic media contact
FAS	(HBSC) Family Affluence Scale
HBSC	Health Behaviour in School-aged Children (study)
IOTF	International Obesity Taskforce
ISO	International Organization for Standardization
MVPA	moderate-to-vigorous physical activity
SES	socioeconomic status
STIs	sexually transmitted infections

PART 1.
INTRODUCTION

INTRODUCTION

HEALTH BEHAVIOUR IN SCHOOL-AGED CHILDREN (HBSC) STUDY

HBSC, a WHO collaborative cross-national study, collects data on 11-, 13- and 15-year-old boys' and girls' health and well-being, social environments and health behaviours every four years. Full contact details can be found on the HBSC web site *(1)*.

HBSC uses findings at national and international levels:

- to gain new insight into young people's health and well-being
- to understand the social determinants of health
- inform policy and practice to improve young people's lives.

The first HBSC survey was conducted in 1983/1984 in five countries. The study has grown to include 43 countries and regions across Europe and North America. The table shows the growth in the international network over the eight survey rounds.

Research approach

HBSC focuses on understanding young people's health in their social context – at home, at school, with family and friends. Researchers in the HBSC network are interested in understanding how these factors, individually and together, influence young people's health as they move into young adulthood. Data are collected in all participating countries and regions through school-based surveys using a standard methodology detailed in the HBSC 2009/2010 international study protocol *(2)*.

Each country uses random sampling to select a proportion of young people aged 11, 13 and 15 years, ensuring that the sample is representative of all living in the country within the age range. Around 1500 students in each HBSC country were selected from each age group in the 2009/2010 survey, totalling approximately 200 000 young people (see the Annex). This report uses the terms "young people" and "adolescents" interchangeably to describe respondents to the survey.

Of the 43 countries and regions that participated in the survey, 39 met the guidelines set for publication of data in this report. Those not included were unable to submit data on time or were unable to secure funding. Fieldwork took place between autumn 2009 and spring 2010. Further information on the survey design is given in the Annex, but a more detailed description of the research approach is set out in the HBSC 2009/2010 international study protocol *(2)*. Roberts et al. *(3)* describe methodological development since the study's inception.

Importance of research on young people's health

Young people aged between 11 and 15 years face many pressures and challenges, including growing academic expectations, changing social relationships with family and peers and the physical and emotional changes associated with maturation. These years mark a period of increased autonomy in which independent decision-making that may influence their health and health-related behaviour develops.

Behaviours established during this transition period can continue into adulthood, affecting issues such as mental health, the development of health complaints, tobacco use, diet, physical activity level and alcohol use. HBSC's findings show how young people's health changes as they move from childhood through adolescence and into adulthood. They can be used to monitor young people's health and determine effective health improvement interventions.

HBSC research network

The number of researchers working on HBSC across the 43 countries and regions now exceeds 300. Information on each national team is available on the HBSC web site *(1)*.

The study is supported by four specialist centres:

- **International Coordinating Centre**, based at the Child and Adolescent Health Research Unit, School of Medicine, University of St Andrews, Scotland, United Kingdom;

HBSC SURVEYS: COUNTRIES AND REGIONS INCLUDED IN THE INTERNATIONAL DATA FILES

1983/1984

1 England
2 Finland
3 Norway
4 Austria
5 Denmark[a]

1985/1986

1 Finland
2 Norway
3 Austria
4 Belgium (French)
5 Hungary
6 Israel
7 Scotland
8 Spain
9 Sweden
10 Switzerland
11 Wales
12 Denmark[a]
13 Netherlands[a]

1989/1990

1 Finland
2 Norway
3 Austria
4 Belgium[b]
5 Hungary
6 Scotland
7 Spain
8 Sweden
9 Switzerland
10 Wales
11 Denmark[a]
12 Netherlands[a]
13 Canada
14 Latvia[a]
15 Northern Ireland[a]
16 Poland

1993/1994

1 Finland
2 Norway
3 Austria
4 Belgium (French)
5 Hungary
6 Israel
7 Scotland
8 Spain
9 Sweden
10 Switzerland
11 Wales
12 Denmark
13 Netherlands
14 Canada
15 Latvia
16 Northern Ireland
17 Poland
18 Belgium (Flemish)
19 Czech Republic
20 Estonia
21 France
22 Germany
23 Greenland
24 Lithuania
25 Russian Federation
26 Slovakia

1997/1998

1 Finland
2 Norway
3 Austria
4 Belgium (French)
5 Hungary
6 Israel
7 Scotland
8 Spain
9 Sweden
10 Switzerland
11 Wales
12 Denmark
13 Canada
14 Latvia
15 Northern Ireland
16 Poland
17 Belgium (Flemish)
18 Czech Republic
19 Estonia
20 France
21 Germany
22 Greenland
23 Lithuania
24 Russian Federation
25 Slovakia
26 England
27 Greece
28 Portugal
29 Ireland
30 United States

2001/2002

1 Finland
2 Norway
3 Austria
4 Belgium (French)
5 Hungary
6 Israel
7 Scotland
8 Spain
9 Sweden
10 Switzerland
11 Wales
12 Denmark
13 Canada
14 Latvia
15 Poland
16 Belgium (Flemish)
17 Czech Republic
18 Estonia
19 France
20 Germany
21 Greenland
22 Lithuania
23 Russian Federation
24 Slovakia
25 England
26 Greece
27 Portugal
28 Ireland
29 United States
30 MKD[c]
31 Netherlands
32 Italy
33 Croatia
34 Malta
35 Slovenia
36 Ukraine

2005/2006

1 Finland
2 Norway
3 Austria
4 Belgium (French)
5 Hungary
6 Israel
7 Scotland
8 Spain
9 Sweden
10 Switzerland
11 Wales
12 Denmark
13 Canada
14 Latvia
15 Poland
16 Belgium (Flemish)
17 Czech Republic
18 Estonia
19 France
20 Germany
21 Greenland
22 Lithuania
23 Russian Federation
24 Slovakia
25 England
26 Greece
27 Portugal
28 Ireland
29 United States
30 MKD[c]
31 Netherlands
32 Italy
33 Croatia
34 Malta
35 Slovenia
36 Ukraine
37 Bulgaria
38 Iceland
39 Luxembourg
40 Romania
41 Turkey

2009/2010

1 Finland
2 Norway
3 Austria
4 Belgium (French)
5 Hungary
6 Israel
7 Scotland
8 Spain
9 Sweden
10 Switzerland
11 Wales
12 Denmark
13 Canada
14 Latvia
15 Poland
16 Belgium (Flemish)
17 Czech Republic
18 Estonia
19 France
20 Germany
21 Greenland
22 Lithuania
23 Russian Federation
24 Slovakia
25 England
26 Greece
27 Portugal
28 Ireland
29 United States
30 MKD[c]
31 Netherlands
32 Italy
33 Croatia
34 Malta
35 Slovenia
36 Ukraine
37 Iceland
38 Luxembourg
39 Romania
40 Turkey
41 Armenia

[a] Carried out survey after scheduled fieldwork dates. [b] National data file. [c] The former Yugoslav Republic of Macedonia (MKD is an abbreviation of the International Organization for Standardization (ISO)).
Note. Although Albania and Bulgaria participated in the 2009/2010 survey, they are not listed because the national data were not submitted to the international data centre by the deadline.

- **Data Management Centre**, based at the Department of Health Promotion and Development, University of Bergen, Norway;
- **Support Centre for Publications**, based at the University of Southern Denmark, Odense; and
- **Study Protocol Production Group**, based at the Ludwig Boltzmann Institute for Health Promotion, University of Vienna, Austria.

It is led by the International Coordinator, Professor Candace Currie, and the Databank Manager is Professor Oddrun Samdal. The study is funded at national level in each of its member countries.

Engaging with policy-makers

The WHO/HBSC Forum series has been developed to increase knowledge and understanding around priority public health conditions from the perspective of social determinants of health *(4),* allowing researchers, policy-makers and practitioners to convene to analyse data, review policies and interventions and formulate lessons learnt.

Beginning with the results of HBSC research, the process compares and contrasts data, experiences and models from throughout Europe. Specific objectives are to document, analyse and increase knowledge and understanding by:

- translating research on young people's health into policies and action within and beyond the health sector;
- scaling up intersectoral policies and interventions to promote young people's health;
- reducing health inequities among young people; and
- involving young people in the design, implementation and evaluation of policies and interventions.

This culminates in the development of a synthesis report and policy statement, capacity-building materials and the integration of outcomes into ongoing support to Member States by WHO and partners. Forum meetings usually coincide with regular WHO ministerial conferences on particular themed areas to ensure that the findings can have the biggest effect during the policy-making cycle.

Further details of the three meetings that took place between 2006 and 2009 can be found on the HBSC and WHO Regional Office for Europe web sites.

SOCIAL DETERMINANTS OF HEALTH AND WELL-BEING AMONG YOUNG PEOPLE

Evidence gathered over the last two decades shows that disadvantaged social circumstances are associated with increased health risks *(5–7).* As a result, health inequalities are now embedded in contemporary international policy development. The WHO Commission on Social Determinants of Health claims that the vast majority of inequalities in health between and within countries are avoidable *(8),* yet they continue to be experienced by young people across Europe and North America.

Young people are often neglected as a population group in health statistics, being either aggregated with younger children or with young adults. Little attention has been paid to inequalities related to socioeconomic status (SES), age and gender among this group. This report seeks to identify and discuss the extent of these inequalities and highlight the need for preventive action to "turn this vulnerable age into an age of opportunity" *(9).*

In general, young people in the WHO European Region enjoy better health and development than ever before, but are failing to achieve their full health potential. This results in significant social, economic and human costs and wide variations in health in every Member State. Health experience during this critical period has short- and long-term implications for individuals and society. Graham & Power's work on life-course approaches to health interventions *(10)* highlights adolescence as critical in determining adult behaviour in relation to issues such as tobacco and alcohol use, dietary behaviour and physical activity. Health inequalities in adult life are partly determined by early-life circumstances.

The findings presented in this report can contribute to WHO's upcoming strategy for Europe, Health 2020, which is being developed through a participatory process involving Member States and other partners, including the European Union and its institutions, public health associations, networks and civil society. The objective is to ensure an evidence-based and coherent policy framework capable of addressing the present and forecasting future challenges to population health. It will provide a clear common vision and roadmap for pursuing health and health equity in the European Region, strengthening the promotion of population health and reducing health inequities by addressing the social determinants of health. Part of the work being taken forward to drive the Health 2020 vision is a major review of the nature and magnitude of health inequalities and social determinants of health within and across European countries.

Attempts to address health inequalities (and consequently meet the strategic objectives of Health 2020) must include examination of differences in health status and their causes. The HBSC study has collected data on the health and health behaviours of young people since 1983, enabling it to describe how health varies across countries and increase understanding of inequalities due to age, gender and SES. HBSC recognizes the importance of the relationships that comprise the immediate social context of young people's lives and shows how family, peers and school can provide supportive environments for healthy development. Importantly, the study has shown that it is not only health outcomes that are differentiated by age, gender and SES, but also the social environments in which young people grow up.

DIMENSIONS OF INEQUALITIES

Social inequalities in health are traditionally measured by examining differences in SES as defined by individuals' (or, in the case of young people, their parents') position in the labour market, education status or income. Gender, ethnicity, age, place of residence and disability are also important dimensions of social difference: these have been under-researched in relation to young people's health outcomes.

It has been argued that these determinants need to be researched in their own right to enable fully developed explanations of health inequalities to emerge *(11)*. This is very important in policy terms, as evidence suggests that segments of the population respond differently to identical public health interventions. Researchers can therefore play an important role in advancing understanding of the individual influences of each of the dimensions of health inequalities and how they interact to affect health. This report contributes to developing a better understanding of the social context of young people's health by presenting data from the 2009/2010 HBSC survey by SES, gender, age and country of residence, but it first describes what is known about the relationship between social determinants and health and well-being.

OVERVIEW OF PREVIOUS HBSC FINDINGS

A review of HBSC evidence presented through academic journals and reports produced key findings on health, as influenced by these dimensions. This work provides a platform for the presentation of the new data in this report.

Age differences

Young people's health choices, including eating habits, physical activity and substance use, change during adolescence. Health inequalities emerge or worsen during this developmental phase and translate into continuing health problems and inequalities in the adult years *(12,13)*. These findings have important implications for the timing of health interventions and reinforce the idea that investment in young people must be sustained to consolidate the achievements of early childhood interventions *(9)*. This is vital for individuals as they grow but is also important as a means of maximizing return on programmes focused on investment in the early years and reducing the economic effects of health problems.

Gender differences

Previous HBSC reports have presented findings for boys and girls separately, providing clear evidence of gender differences in health that have persisted or changed over time. Boys in general engage more in externalizing or expressive forms of health

behaviours, such as drinking or fighting, while girls tend to deal with health issues in a more emotional or internalizing way, often manifesting as psychosomatic symptoms or mental health problems *(14)*.

Gender differences for some health behaviours and indicators, such as current attempts to lose weight *(15)* and psychosomatic complaints *(16–22),* tend to increase over adolescence, indicating that this is a crucial period for the development of health differentials that may track into adulthood. Targeting young people's health from a gender perspective has considerable potential to reduce gender health differentials in adulthood.

The magnitude of gender differences varies considerably cross-nationally. Gender difference in psychological and physical symptoms, for example, is stronger in countries with a low gender development index score *(16).* Similarly, the gender difference in drunkenness is greater in eastern European countries *(22).* These findings underscore the need to incorporate macro-level sociocontextual factors in the study of gender health inequalities among young people *(17).*

Socioeconomic differences

The HBSC study has found family affluence to be an important predictor of young people's health. In general, cost may restrict families' opportunities to adopt healthy behaviours such as eating fruit and vegetables *(23–25)* and participating in fee-based physical activity *(26,27).* Young people living in low-affluence households are less likely to have adequate access to health resources *(28)* and are more likely to be exposed to psychosocial stress, which underpin health inequalities in self-rated health and well-being *(29).* A better understanding of these effects may enable the origins of socioeconomic differences in adult health to be identified and offers opportunities to define possible pathways through which adult health inequalities are produced and reproduced.

The distribution of wealth within countries also significantly affects young people's health. In general, young people in countries with large differences in wealth distribution are more vulnerable to poorer health outcomes, independent of their individual family wealth *(20,30–34).*

Country differences in health

Variations in patterns of health and its social determinants are also seen between countries. Over the 30 years of the HBSC study, it has been possible to monitor how young people's health and lifestyle patterns have developed in the context of political and economic change. Between the 1997/1998 and 2005/2006 HBSC surveys, for instance, the frequency of drunkenness increased by an average of 40% in all participating eastern European countries; at the same time, drunkenness declined by an average of 25% in 13 of 16 western European and North American countries. These trends may be attributed to policies that, respectively, either liberalized or restricted the alcohol industry *(35)* and to changes in social norms and economic factors. These findings underline the importance of the wider societal context and the effect it can have – both positive and negative – on young people's health.

While geographic patterns are not analysed within this report, the maps allow comparison between countries and regions. Future HBSC publications may investigate these cross-national differences.

SOCIAL CONTEXT OF YOUNG PEOPLE'S HEALTH

There is some evidence to suggest that protective mechanisms and assets offered within the immediate social context of young people's lives can offset the effect of some structural determinants of health inequalities, including poverty and deprivation *(36–38).* Understanding how these social environments act as protective and risk factors can therefore support efforts to address health inequalities.

Research confirms that young people can accumulate protective factors, increasing the likelihood of coping with adverse situations even within poorer life circumstances *(39).* The HBSC study highlights a range of factors associated with these broad social environments that can create opportunities to improve young people's health.

Family

Communication with parents is key in establishing the family as a protective factor. Support from family equips young people to deal with stressful situations, buffering them against the adverse consequences of several negative influences *(40).*

Young people who report ease of communication with their parents are also more likely to report a range of positive health outcomes, such as higher self-rated health, higher life satisfaction *(21)* and fewer physical and psychological complaints *(13).* The accumulation of support from parents, siblings and peers leads to an even stronger predictor of positive health: the higher the number of sources of support, the more likely it is that the children will experience positive health *(41).* This suggests that professionals working in young people's health should not only address health problems directly but also consider the family's influence in supporting the development of health-promoting behaviours.

Peer relations

Developing positive peer relationships and friendships is crucial in helping adolescents deal with developmental tasks such as forming identity, developing social skills and self-esteem, and establishing autonomy.

The HBSC study has identified areas across countries in which having high-quality peer relationships serves as a protective factor, with positive effects on adolescent health including fewer psychological complaints *(42).* Adolescents who participate in social networks are found to have better perceived health and sense of well-being and take part in more healthy behaviours *(21).* Peers are therefore valuable social contacts who contribute to young people's health and well-being, but can also be negative influences in relation to risk behaviours such as smoking and drinking: this is a complex area *(43,44).*

School environment

Experiences in school can be crucial to the development of self-esteem, self-perception and health behaviour. HBSC findings show that those who perceive their school as supportive are more likely to engage in positive health behaviours and have better health outcomes, including good self-rated health, high levels of life satisfaction, few health complaints *(45–49)* and low smoking prevalence *(50).* These associations suggest that schools have an important role in supporting young people's well-being and in acting as buffers against negative health behaviours and outcomes.

Neighbourhood

Neighbourhoods that engender high levels of social capital create better mental health, more health-promoting behaviours, fewer risk-taking behaviours, better overall perceptions of health *(39,51)* and greater likelihood of physical activity *(52).* Building neighbourhood social capital is therefore a means of tackling health inequalities.

This review of current research findings stemming from the HBSC study provides an introduction to the latest empirical findings and sets the scene in terms of understanding their importance and relevance to current debates on adolescent health.

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PART 2.
KEY DATA

CHAPTER 1.
UNDERSTANDING THIS REPORT

UNDERSTANDING THIS REPORT

The report presents findings from the 2009/2010 HBSC survey, which focus on demographic and social determinants of young people's health. Statistical analyses identified meaningful differences in the prevalence of health and social indicators by gender, age group and levels of family affluence. 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. The findings are presented in the results section of this chapter. Further details about the analyses performed are provided in the Annex.

AGE AND GENDER

Bar charts present data for boys and girls in each age group, separately for countries and regions and in descending order of prevalence (for boys and girls combined). It is important to avoid overinterpretation of the rankings. Frequently, few percentage points separate adjacent countries and regions, and variation may fall within the expected level of error associated with an estimate from a sample of the population. Percentages in the charts are rounded to the nearest whole number for ease of reading.

The HBSC average presented in the charts is based on equal weighting of each region, regardless of differences in achieved sample size or country population. Countries highlighted in bold are those in which there was a significant gender difference in prevalence.

FAMILY AFFLUENCE

The HBSC Family Affluence Scale (FAS) *(1)* measures young people's SES. It is based on a set of questions on the material conditions of the households in which they live, including car ownership, bedroom occupancy, holidays and home computers.

Family poverty affects a minority (although this varies from country to country), but all can be categorized according to family affluence. Young people are classified according to the summed score of the items, with the overall score being recoded to give values of low, middle and high family affluence. A table in the Annex provides an overview of family affluence according to FAS scores across countries. The HBSC international study protocol gives further information about FAS *(2)*.

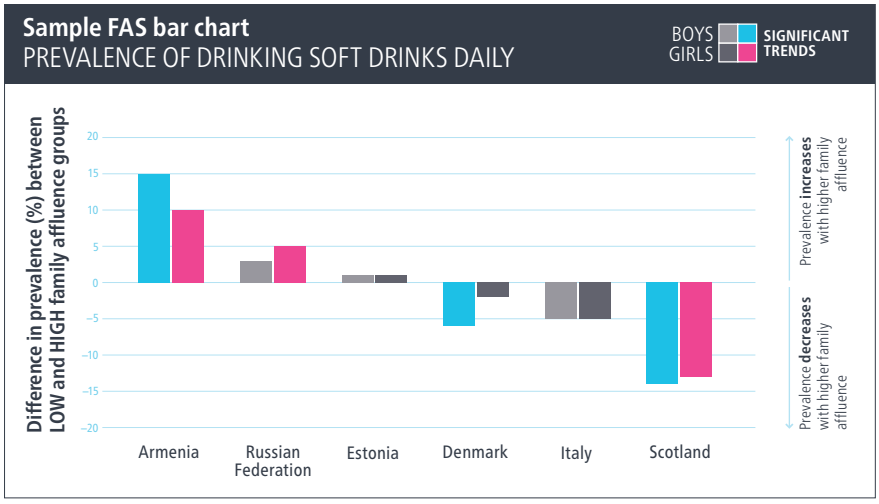
Interpretation of FAS figures

The bar charts in Chapter 3 show the relationship between family affluence and various health and social indicators. They illustrate whether the prevalence of each indicator increases or decreases with higher family affluence, the extent of any difference in prevalence corresponding to high and low family affluence, and whether there is a statistically significant difference. For simplicity, the figure gives an example with only six countries.

The proportion of young people taking soft drinks daily in Armenia is higher among those from families with higher affluence, as denoted by the bars being above the 0% line (that is, being positive). This positive trend is statistically significant in both boys and girls, as shown by the bars being shaded blue for boys and red for girls. The height of the bars shows the extent of the difference between high- and low-affluence groups. In this case, the proportion of boys taking soft drinks daily in high-affluence families is almost 15% higher.

Prevalence in the Russian Federation and Estonia is also higher among those from high-affluence families, but the differences in Estonia are small and are not statistically significant, and the increase with family affluence in the Russian Federation is only statistically significant among girls. Bars shaded grey denote that any differences in prevalence between groups with low and high family affluence are not significant: dark grey for boys and light grey for girls.

The relationship is in the opposite direction in Denmark, Italy and Scotland, where prevalence of taking soft drinks daily is lower among young people from higher-affluence families, denoted by the bars lying below the 0% line (that is, being negative). The extent of the decline in prevalence with higher affluence in Scotland is particularly strong, with a decrease of more than 10% between those from low- and high-affluence families. This difference is statistically significant (the bars are red and blue). Although Denmark and Italy show the same pattern, it is statistically significant only among Danish boys.



GEOGRAPHIC PATTERNS

Geographic maps of prevalence among 15-year-old boys and girls are presented for some health indicators. These show broad patterns of prevalence across Europe and North America and highlight any cross-national differences and patterning between genders. The cut-off points between colour bands are fixed: there may be only a few percentage points between two regions falling within different colour shades.

TYPES OF INDICATORS REPORTED

Four types of indicators are considered:

- social context, specifically relating to family, peers and school, which often serve as protective factors;
- health outcomes, with indicators that describe current levels of health and well-being;
- health behaviours, relating to indicators that are potentially health sustaining; and
- risk behaviours, relating to indicators that are potentially health damaging.

Each section includes:

- a brief overview of literature emphasizing why the topic is important and describing what is known about it;
- a short summary of descriptive data on the cross-national prevalence of the social contextual variable, health/risk behaviour or health outcome;
- bar charts and presentation of country-specific findings by age and gender;
- bar charts showing the relationships between family affluence and each of the variables;
- scientific discussion providing an interpretation of the findings based on the scientific literature;
- policy reflections outlining where and how policy-makers could take actions; and
- maps illustrating cross-national differences among 15-year-olds.

All data are drawn from the mandatory component of the HBSC survey questionnaire used in all countries.

Data from specific countries were not available for some items. For instance, some countries excluded items on sensitive topics. Turkey and the United States did not collect data on sexual health, or Turkey on substance use. Data on sexual health are not presented for some countries (although they were collected) due to differences in question format.

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CHAPTER 2.
SOCIAL CONTEXT

FAMILY
PEERS
SCHOOL

FAMILY: COMMUNICATION WITH MOTHER

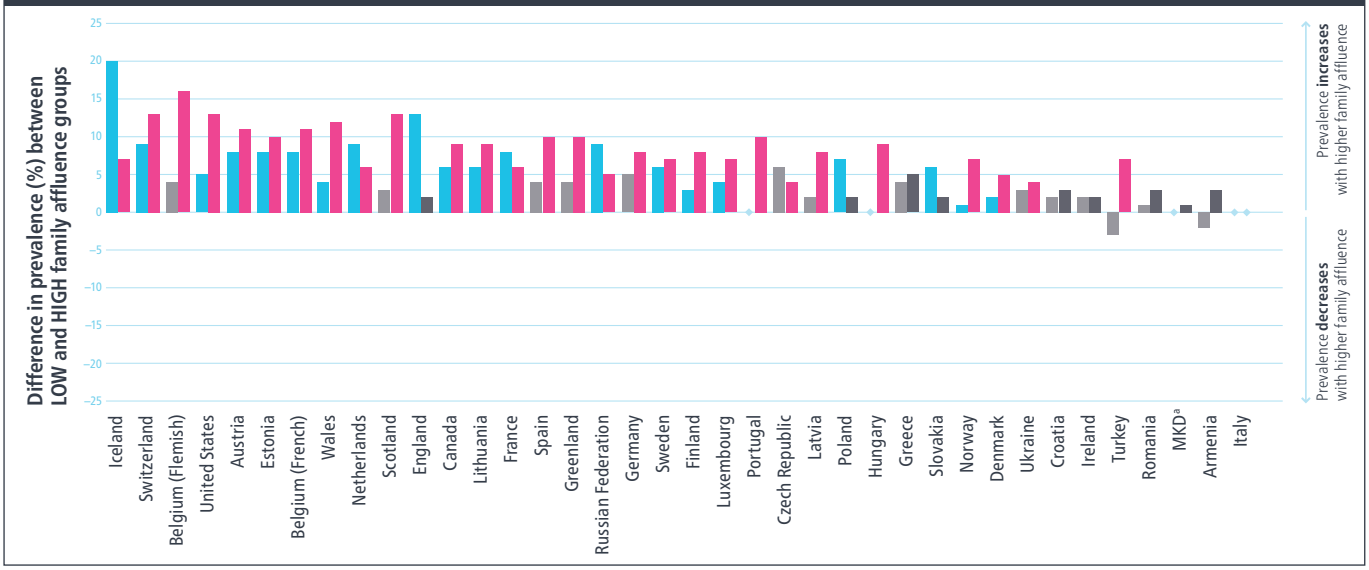
Parental communication is one of the key ways in which the family can act as a protective health asset, promoting pro-social values that equip young people to deal with stressful situations or buffer them against adverse influences. Young people (even those in older groups) who report ease of communication with their parents are more likely to report positive body image *(1)*, higher self-rated health *(2)*, not smoking *(2)*, higher life satisfaction *(3)* and fewer physical and psychological complaints *(4)*. They are also less likely to participate in aggressive behaviours and substance use *(5)*.

Factors that facilitate ease of communication with mothers include a mutually interactive communication style in which the mother and young person feel free to raise issues, effective non-judgemental listening by the mother and the mother being perceived as trustworthy *(6)*.

Communication with mothers is used commonly as a parameter for overall family communication; consequently, it is often not possible to establish the specific influence of each parent.

HBSC survey 2009/2010

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



[a] The former Yugoslav Republic of Macedonia. ◆ Indicates less than +/– 0.5%. *Note.* No data for Slovenia.

MEASURE

Young people were asked how easy it is for them to talk to their mothers 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 "easy" and "very easy".

RESULTS

Age

A significant decline in prevalence of ease of communication with mother was found in almost all countries and regions among boys and girls aged 11 and 15. The decrease was more than 10% in most and over 15% in around a quarter.

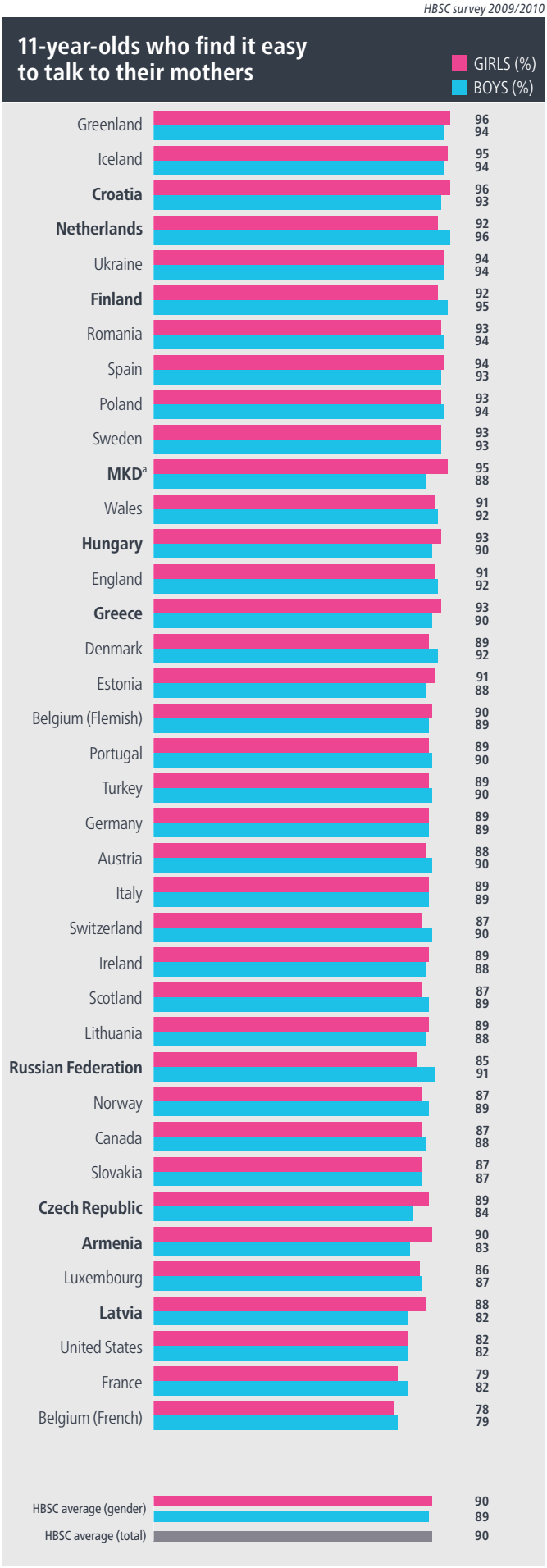
Gender

Differences in prevalence were small and were significant in only a few countries and regions in each age group.

Family affluence

Prevalence was significantly associated with higher family affluence in almost all countries and regions for girls andin most for boys. The difference was more than 10% in around half and more than 15% in a small number for both boys and girls.

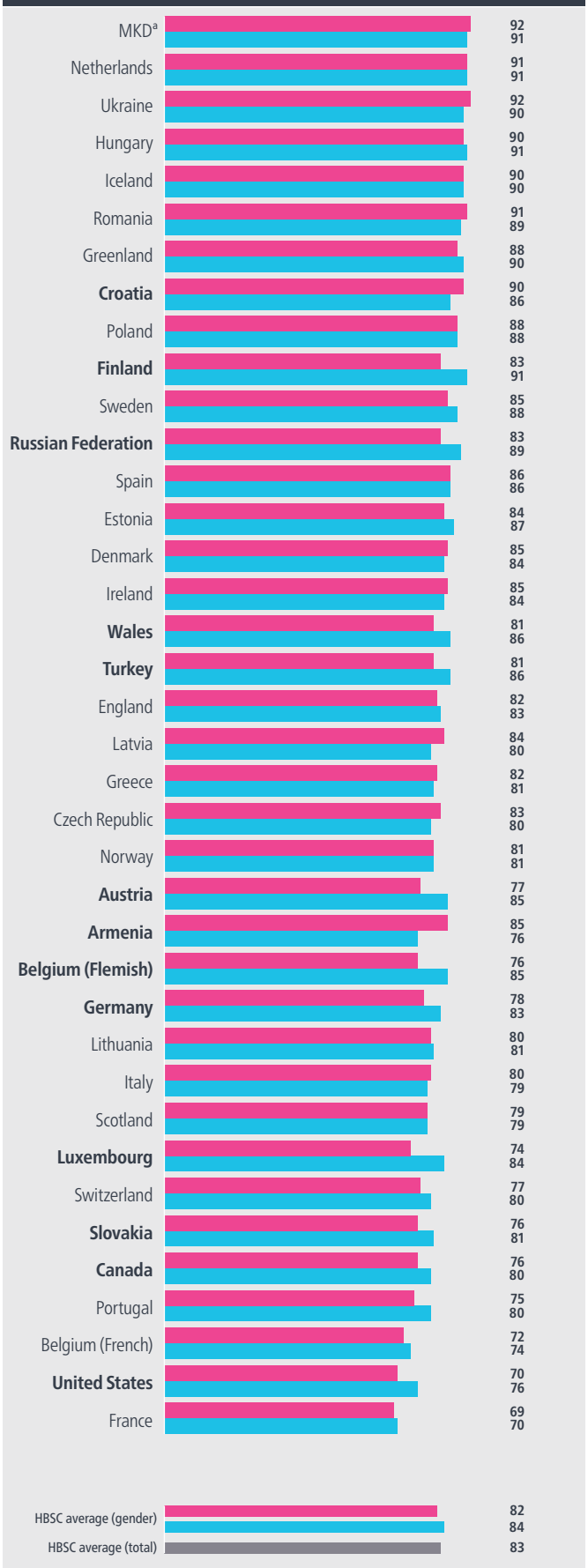
HBSC survey 2009/2010



[a] The former Yugoslav Republic of Macedonia.

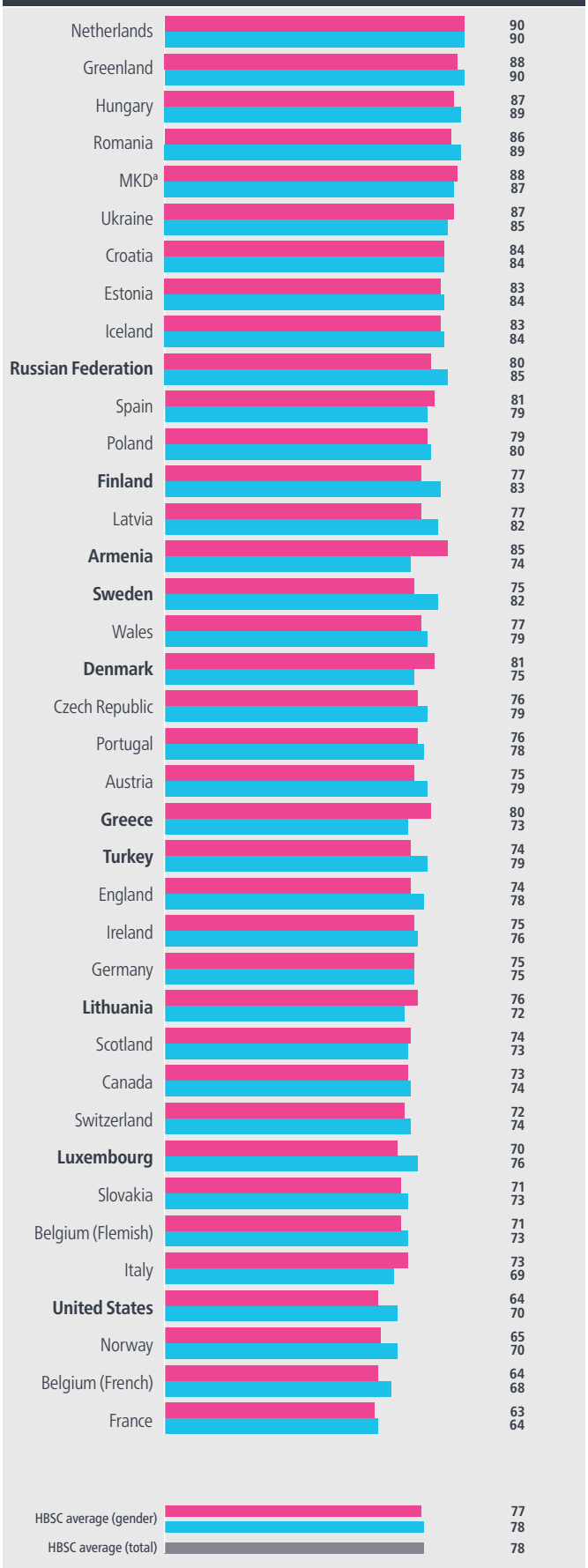
HBSC survey 2009/2010

13-year-olds who find it easy to talk to their mothers



HBSC survey 2009/2010

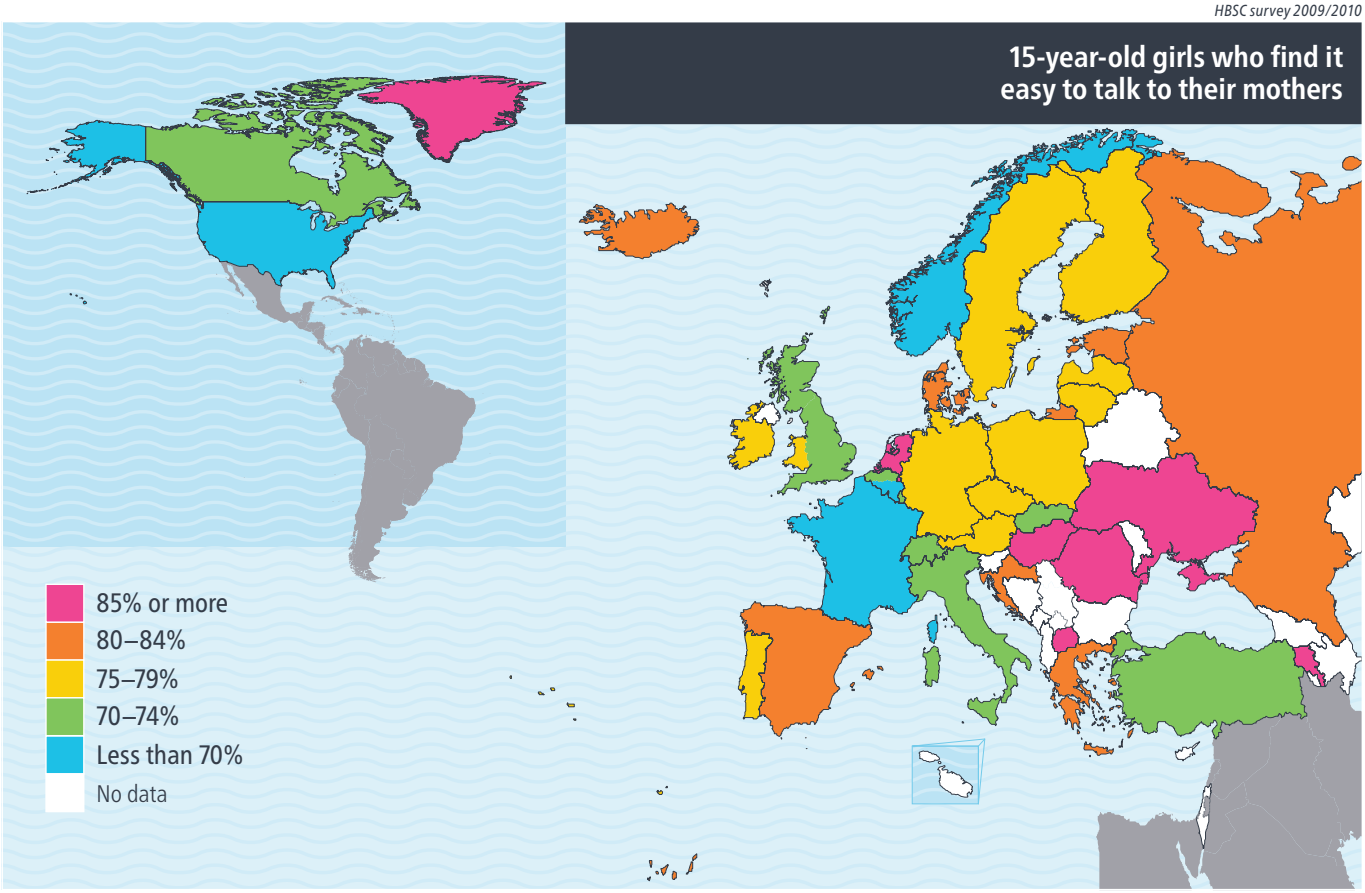
15-year-olds who find it easy to talk to their mothers



Note. **Indicates** significant gender difference (at p<0.05). No data for Slovenia.

HBSC survey 2009/2010

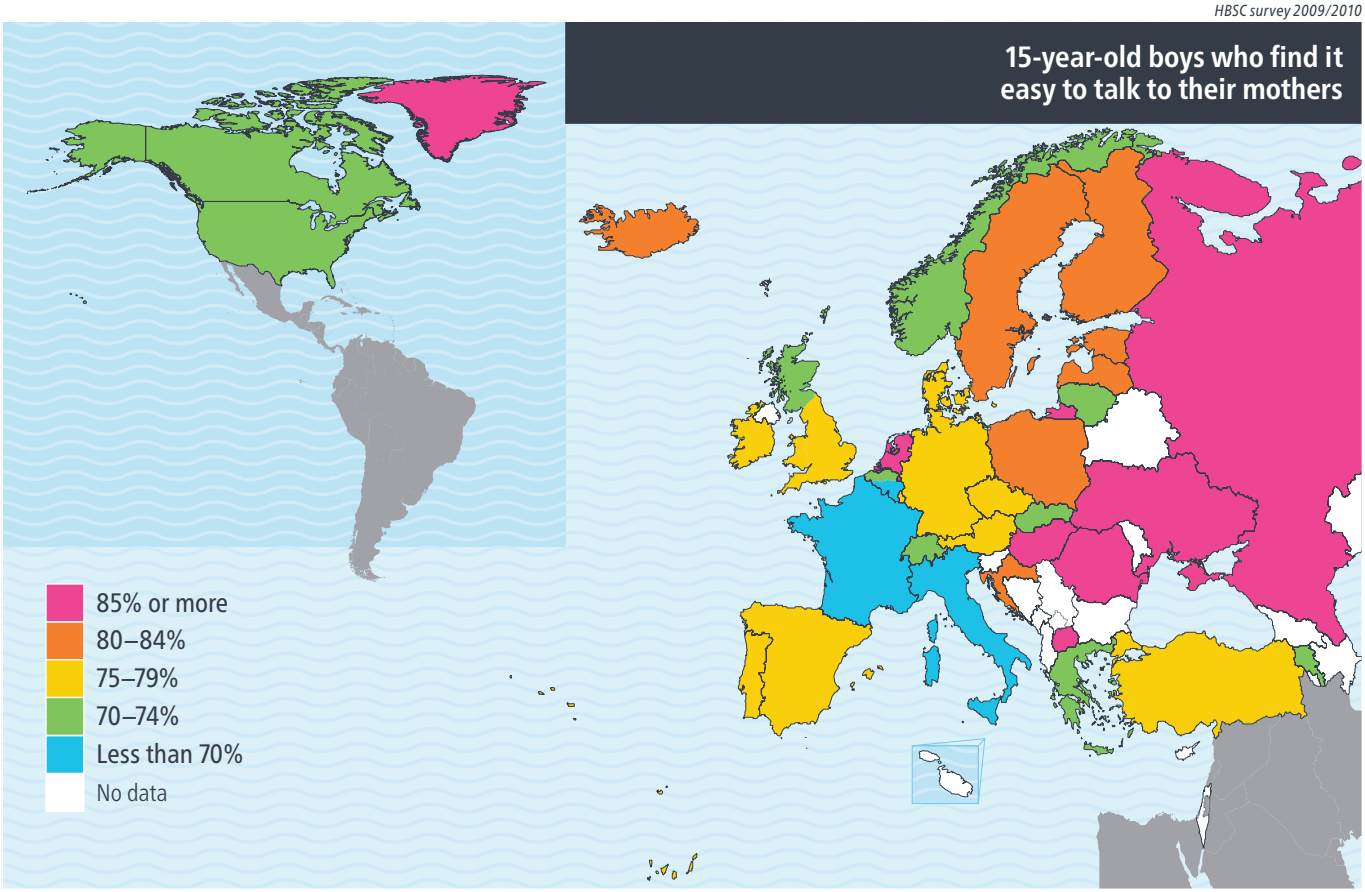
15-year-old girls who find it easy to talk to their mothers



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

HBSC survey 2009/2010

15-year-old boys who find it easy to talk to their mothers



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

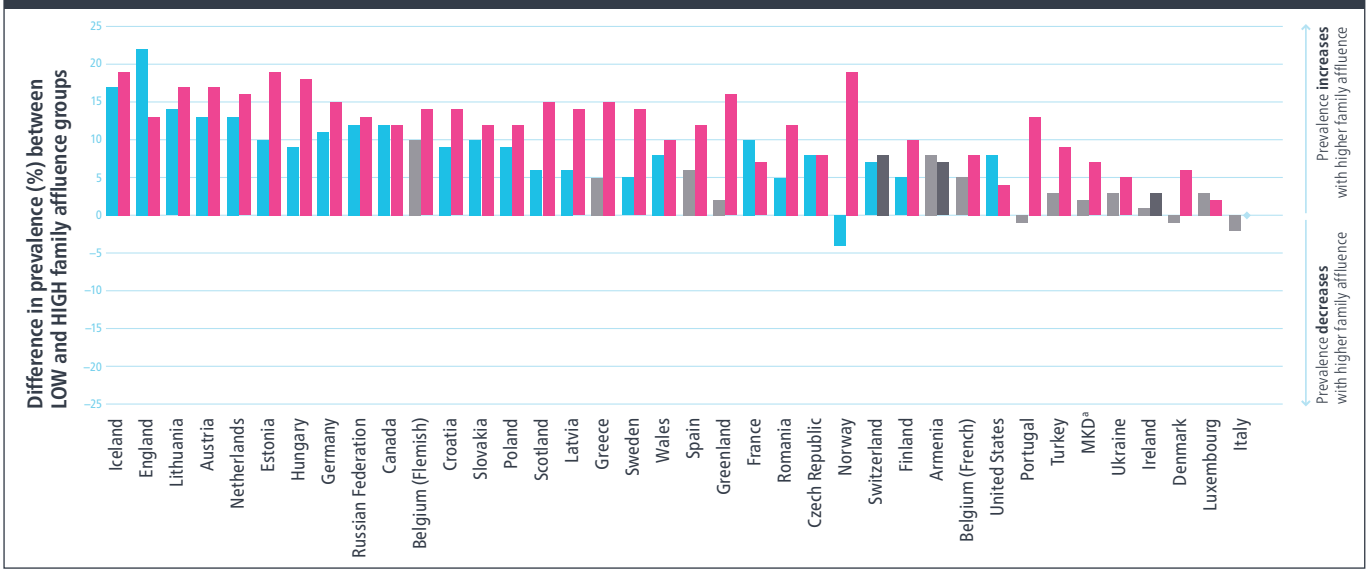
FAMILY: COMMUNICATION WITH FATHER

Fathers are generally less intimate with their children than mothers, and focus more on the development of instrumental objectives or enhancement of skills *(7)*. The quality of the relationship when the father does not reside in the main family home or is leading a single-parent household is found to have significant effects on young people's life satisfaction *(8,9)*.

Ease of communication with fathers has a protective role in maintaining emotional well-being *(8)* and a positive sense of body image, particularly among girls (*1*). A "warm, open" communication style is associated with less aggression and violence among boys *(10)* and with more communicative and supportive relationships with boyfriends among girls *(11)*.

HBSC survey 2009/2010

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



[a] The former Yugoslav Republic of Macedonia. ◆ Indicates less than +/–0.5%. *Note.* No data for Slovenia.

MEASURE

Young people were asked how easy it is for them to talk to their fathers 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 "easy" and "very easy".

RESULTS

Age

There was a significant decline in prevalence between ages 11 and 15 in all countries for girls and almost all for boys. The change with age was more than 15% in almost all countries for boys and in a minority for girls.

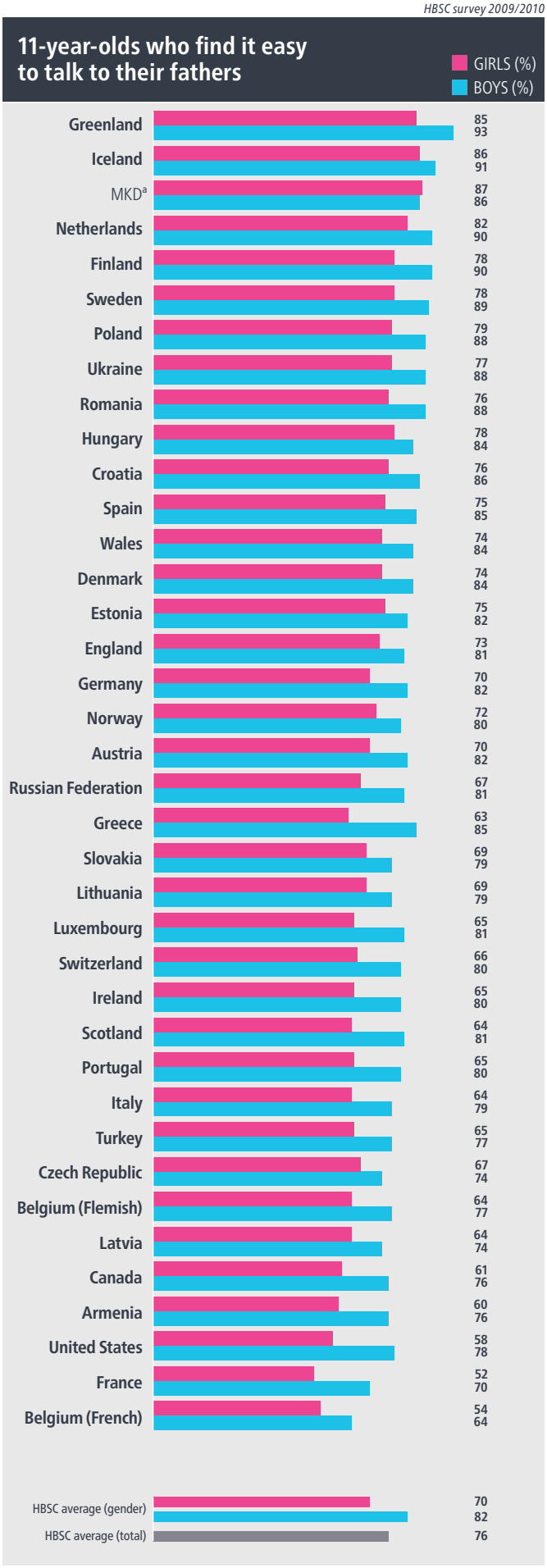
Gender

Boys at all ages in all countries were significantly more likely to report ease of communication with their fathers (except 11-year-old boys in the former Yugoslav Republic of Macedonia). The gender difference was greater than 15% in almost all countries at ages 13 and 15.

Family affluence

Prevalence was significantly associated with higher family affluence in almost all countries and regions for girls and in most for boys. The change in prevalence was more than 10% in almost all for girls and in less than half for boys.

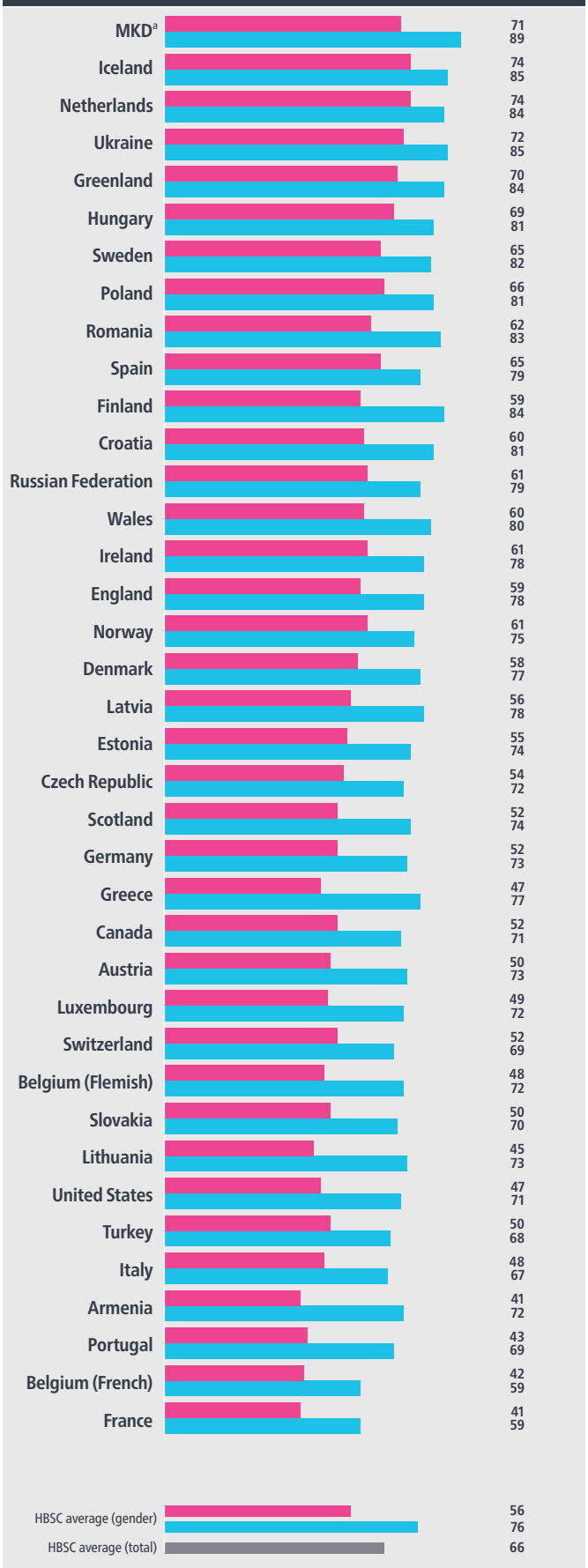
HBSC survey 2009/2010



[a] The former Yugoslav Republic of Macedonia.

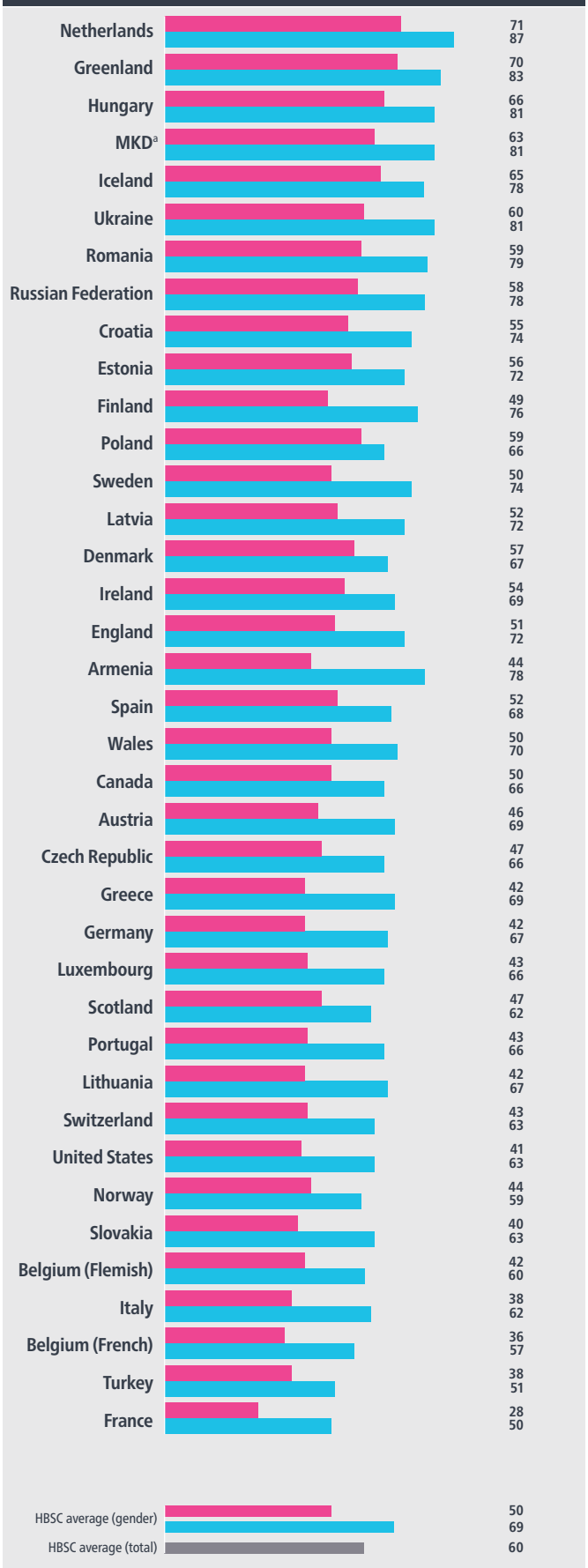
HBSC survey 2009/2010

13-year-olds who find it easy to talk to their fathers



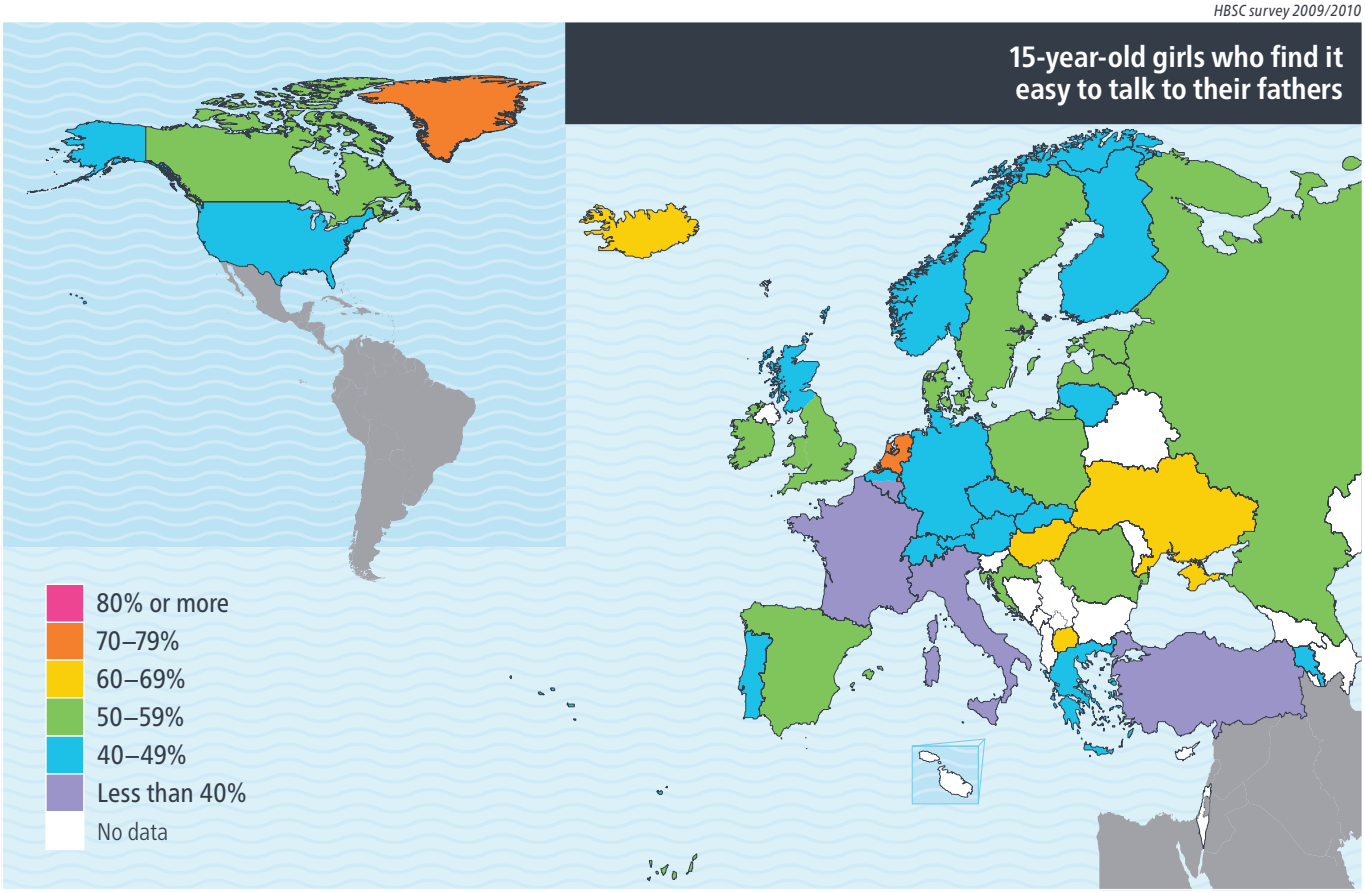
HBSC survey 2009/2010

15-year-olds who find it easy to talk to their fathers



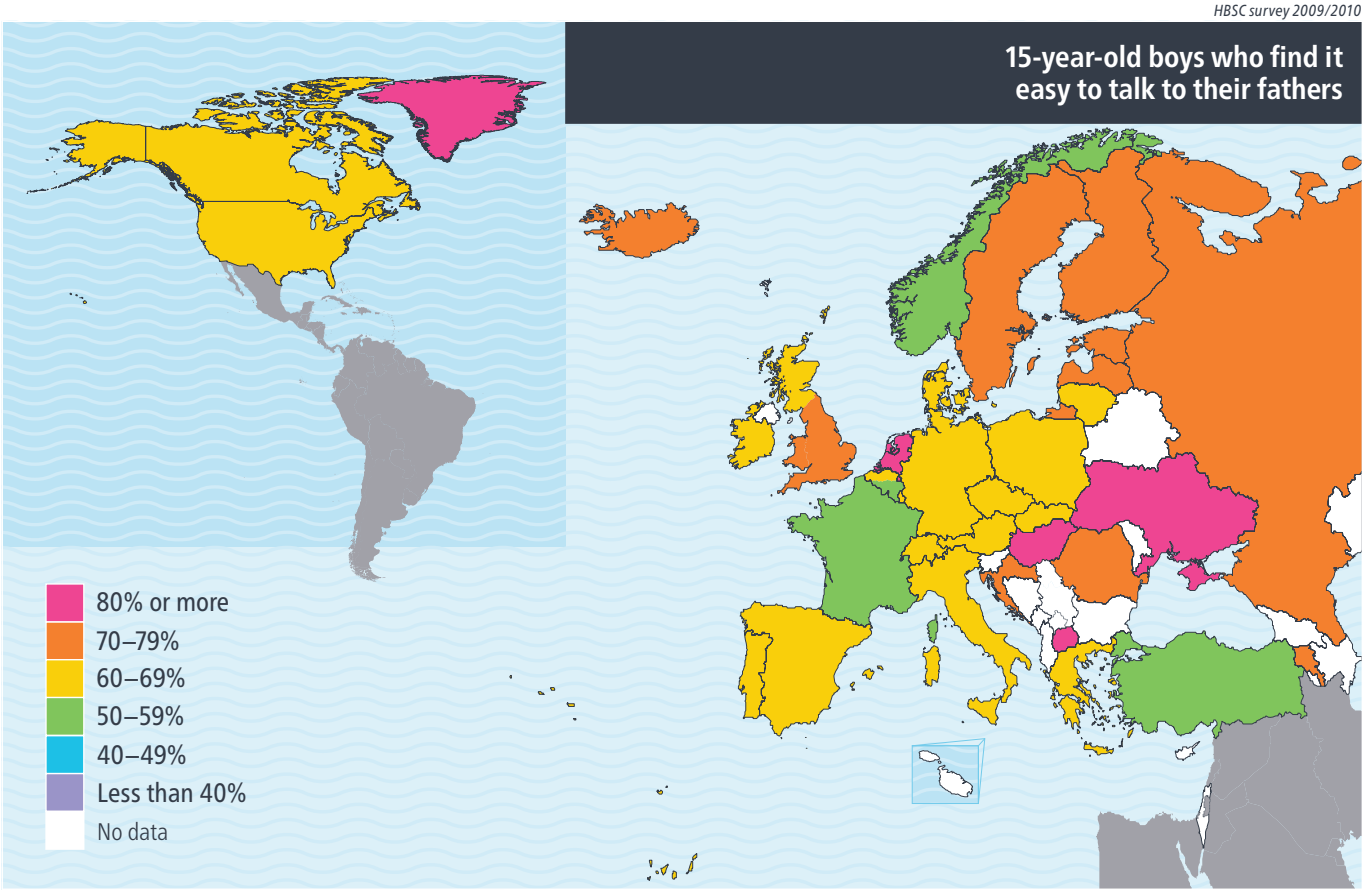
Note. **Indicates** significant gender difference (at p<0.05). No data for Slovenia.

HBSC survey 2009/2010



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

HBSC survey 2009/2010



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

FAMILY: SCIENTIFIC DISCUSSION AND POLICY REFLECTIONS

SCIENTIFIC DISCUSSION

Proportionately more young people find communication with their mothers easier. Gender differences for ease of communication with mothers are small, but communication with fathers reveals some gender patterns, with boys and younger age groups reporting it to be easier than girls, especially older girls.

Young people spend more time with their mothers and consistently perceive them as more accessible for sharing feelings and worries *(12)*. Differences may be due to normative expectations of male and female roles in which mothers are expected to provide greater emotional support *(13)*.

Ease of communication with mothers and fathers decreases significantly with age: this is a normal part of growing up, with parents' influence decreasing as peers' influence increases *(14)*.

Students from more affluent families, particularly girls, report ease of communication more often in most countries. Family affluence is strongly linked to the availability of material resources for children, higher parental education and the possibility of creating an enriched learning environment *(15)*. Girls in low-affluence families who report disengaged relationships with their mothers are among those most at risk of negative health and education outcomes *(16)*.

The family can also act as a health asset. A study in Scotland, for example, found that while infrequent tooth brushing was more common among low-affluence groups, the effect was not significant among those who shared breakfast and meals with their families, suggesting that the family can play an important role in health promotion irrespective of affluence status *(17)*.

Girls in eastern and southern Europe are more likely to report ease of communication with their mothers than those in northern and western Europe and North America. Young people in eastern Europe are also significantly more likely to report it with their fathers.

POLICY REFLECTIONS

The findings highlight gender differences and show that ease of communication declines with age and is less likely to be reported by low-affluence groups. It would therefore be useful if policy-makers and practitioners considered the following issues.

- Parenting skills that may have protected and nurtured children in the early years need to evolve to guide young people through the transition to adulthood.
- Parents who invest in high-quality communication with their children can contribute to their overall health and well-being *(12)*. Public health policy targeting low-affluence families (as it is they report the least ease of communication) can support families to achieve this objective.
- At family level, individual- and group-based parenting programmes that improve psychosocial outcomes for teenage parents and their children may be effective in improving parent responsiveness and parent–child interactions *(18)*.
- The lower levels of ease of communication with father consistently identified in HBSC findings suggest that policy initiatives need to consider how to support fathers to improve the quality of their relationships with their children.
- Relationships between fathers and their children may be strengthened from early childhood by, for example, offering them the opportunity to care for their children and giving them the right to paternity leave, as is common in Scandinavian countries.

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PEERS: CLOSE FRIENDSHIPS

Establishing peer friendships is a critical developmental task for young people and may have a long-term effect on their social adjustment *(1)*. Friends provide a unique social context for the acquisition of essential social competencies *(2)*, afford different kinds of social support and help young people face new situations and stressful life experiences.

Friendship is associated with positive development, promoting higher levels of happiness, self-esteem and school adjustment *(3)*. Perceived peer support also represents a protective factor against feelings of depression and isolation *(4–6)*.

Young people with few friends may lack opportunities to learn social skills, face difficulties relating to others *(7)*, have low perceptions of self-worth and life satisfaction, and experience more frequent depressed mood. They are also more likely to become victims of bullying *(8)*.

Having good relationships with family and a positive experience at school can support the development of close friendships *(9)*, so programmes aiming to promote positive development among young people should involve multiple social contexts.

HBSC survey 2009/2010

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

[a]The former Yugoslav Republic of Macedonia. ◆ Indicates less than +/– 0.5%.

MEASURE

Young people were asked how many close male and female friends they currently have. Response options ranged from "none" to "three or more" and were answered separately for male and female friends. The findings presented here show the proportions who reported having three or more friends of their own gender.

RESULTS

Age

Prevalence of having three or more close friends of the same gender decreased between ages 11 and 15 in most countries and regions. This decline was significant in half for boys and around two thirds for girls.

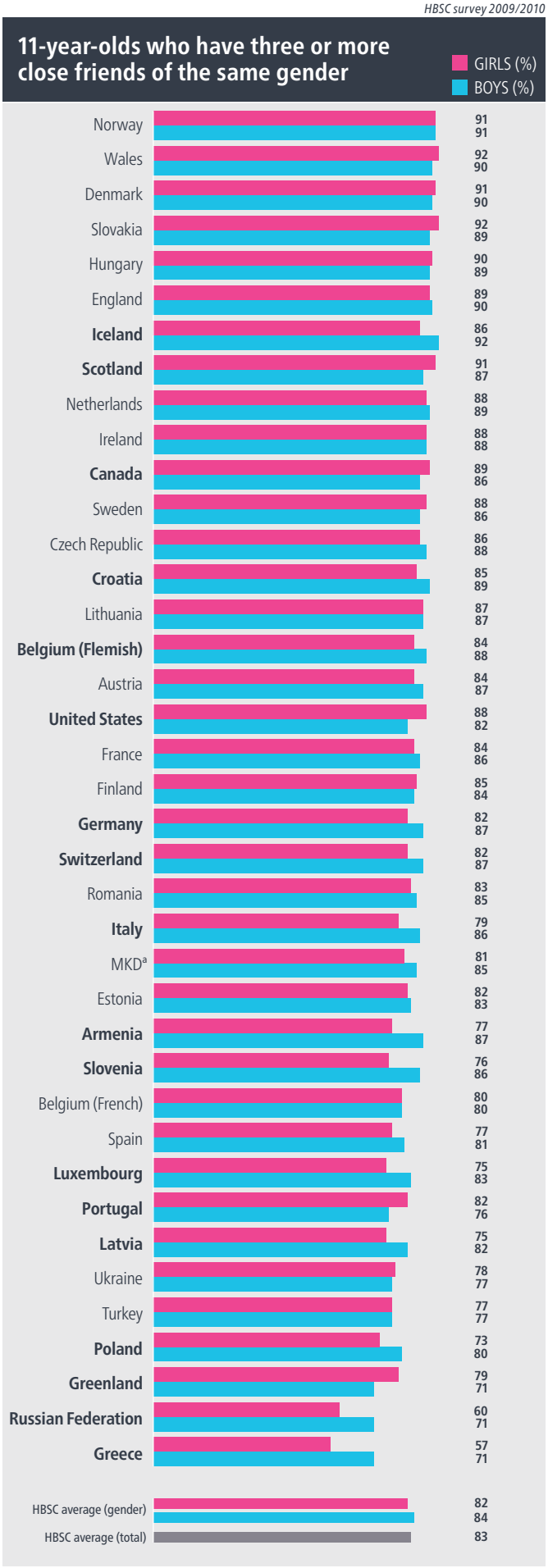
Gender

Boys were significantly more likely to report it in less than half of countries and regions, and girls in only a few. Gender differences tended to be more pronounced in older age groups.

Family affluence

Higher family affluence was significantly positively associated with having three or more close friends of the same gender in most countries for boys and girls.

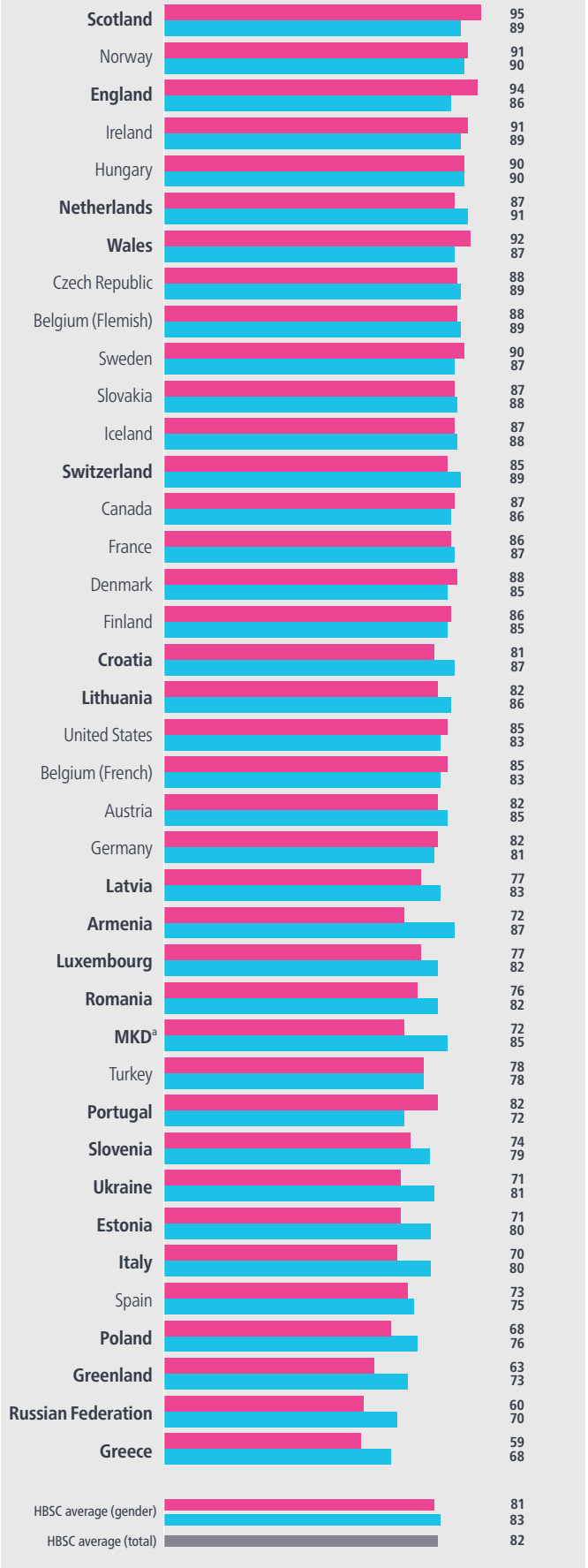
HBSC survey 2009/2010



[a] The former Yugoslav Republic of Macedonia.

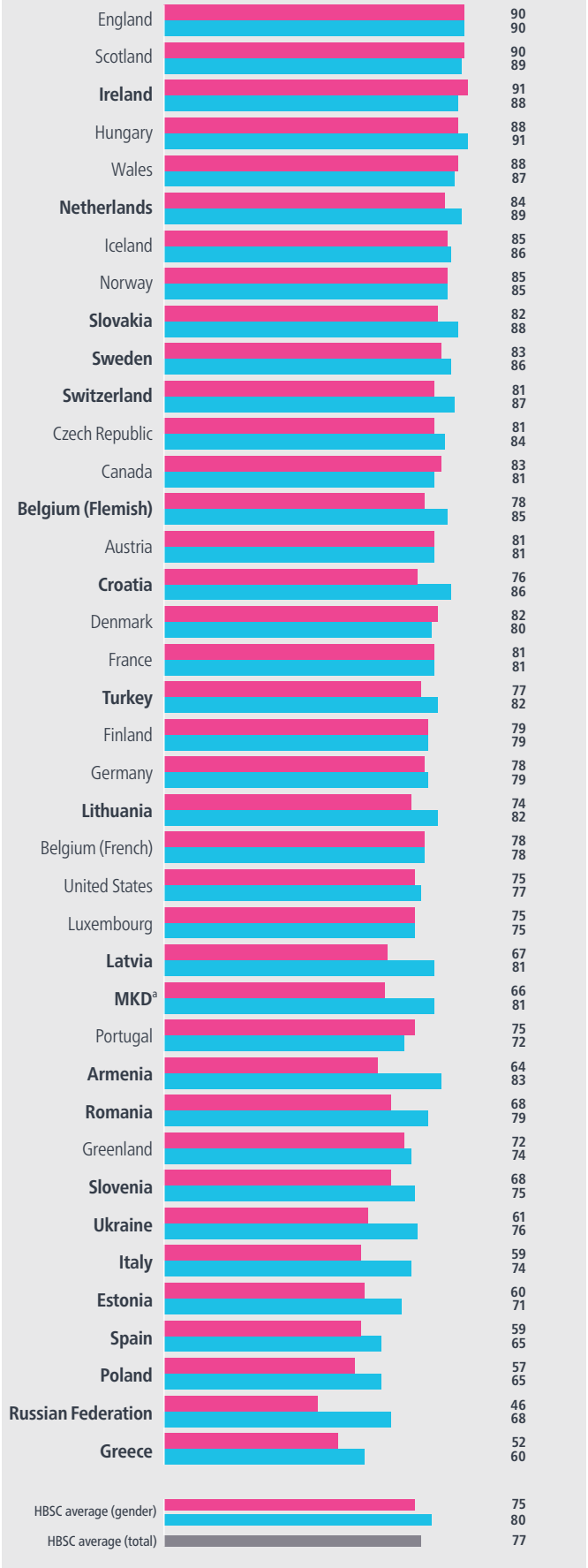
HBSC survey 2009/2010

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



HBSC survey 2009/2010

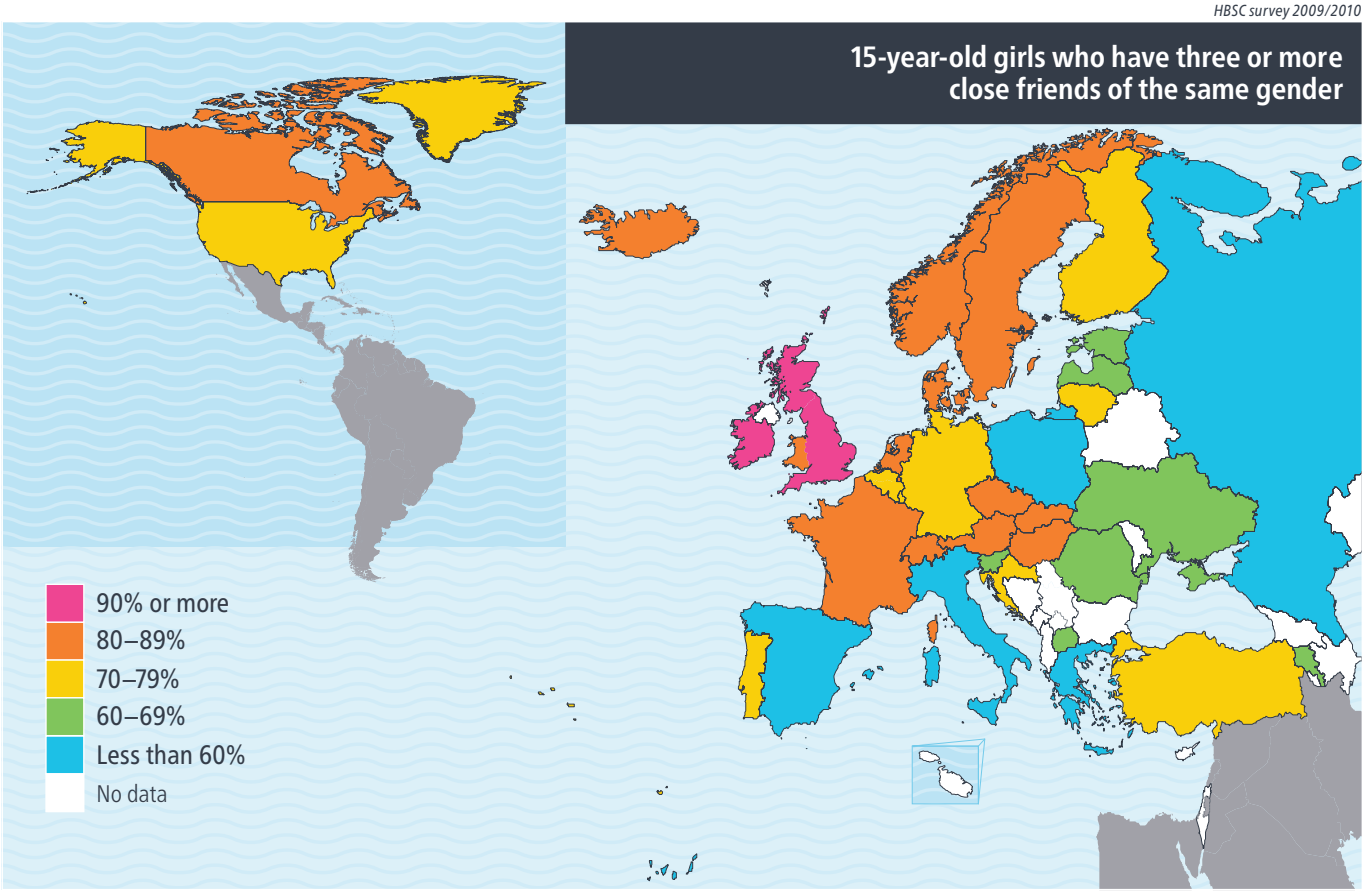
15-year-olds who have three or more close friends of the same gender



Note. **Indicates** significant gender difference (at p<0.05).

HBSC survey 2009/2010

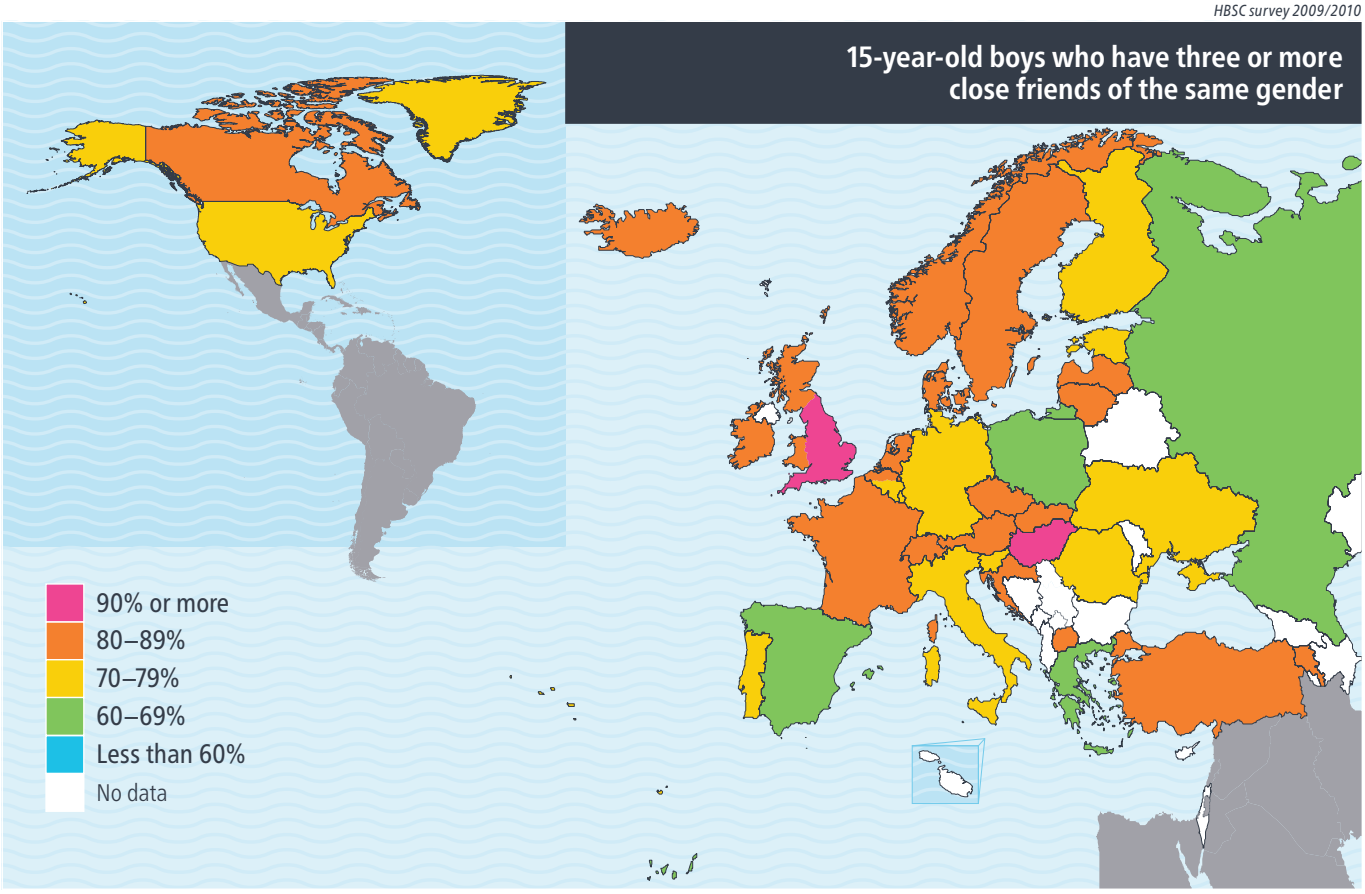
15-year-old girls who have three or more close friends of the same gender



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

HBSC survey 2009/2010

15-year-old boys who have three or more close friends of the same gender



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

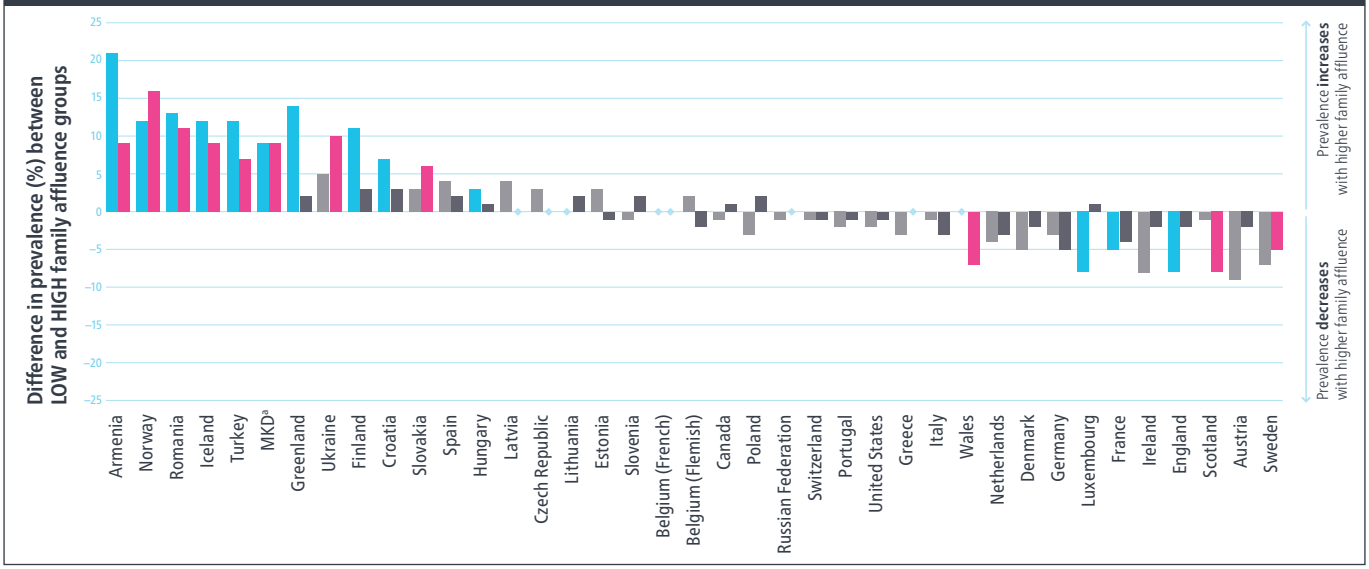
PEERS: EVENINGS WITH FRIENDS

Peers become increasingly important to young people during adolescence and the number of activities with peers outside the home environment increases (*7,8,10).* According to previous HBSC findings *(9)*, the frequency of spending time out with friends increases gradually with age. This is often associated with risk behaviours *(11).*

Peer contact is nevertheless important in the development of protective factors: young people who participate in youth clubs, for example, have been found to have more positive perceptions of their health and well-being and engage in more healthy behaviours *(6).* Contact with peers has an important effect on young people's ability to resist peer pressure and influence peer group behaviour to enable them to have fun and relax without engaging in risk behaviours *(12).*

HBSC survey 2009/2010

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



[a] The former Yugoslav Republic of Macedonia. ◆ Indicates less than +/– 0.5%.

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 who reported spending four or more evenings per week out with friends.

RESULTS

Age

Older students were more likely to have frequent peer contact in the evenings in most countries and regions. The association was significant for boys and girls in more than half.

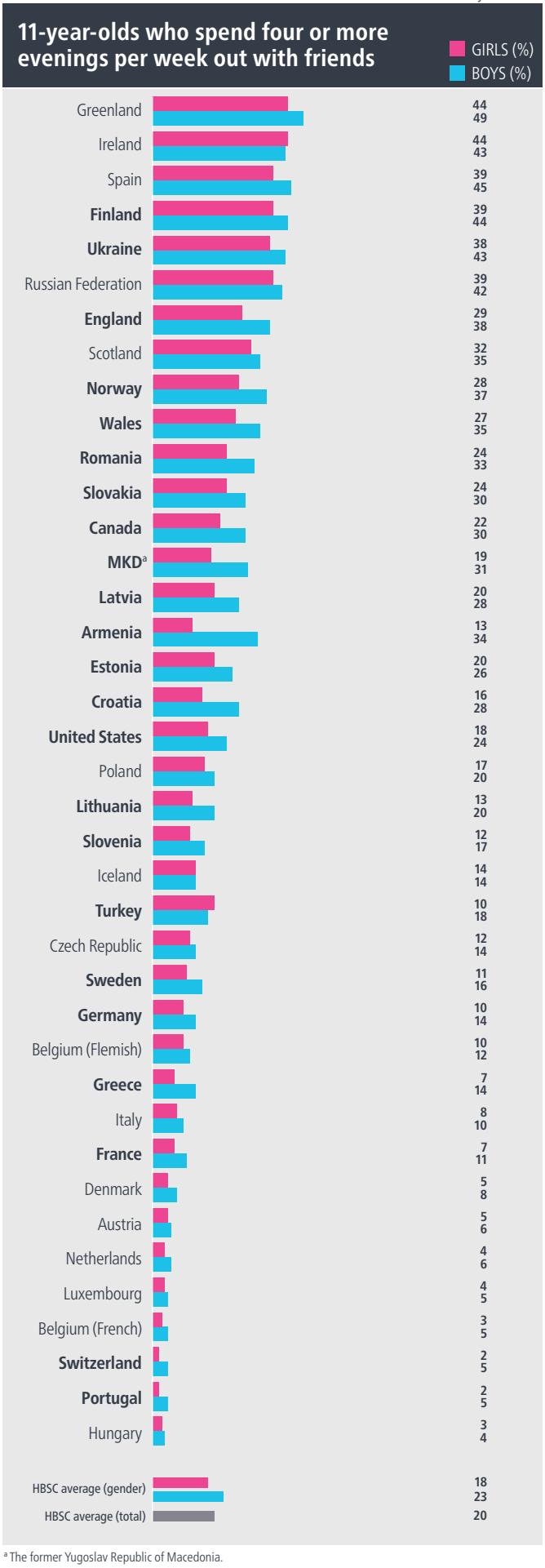
Gender

Boys aged 11 and 15 were more likely to go out with friends in most countries, a pattern that could be observed in only a minority of countries and regions for 13-year-olds.

Family affluence

There was a significant positive association with higher family affluence for boys and girls in a few countries and regions.

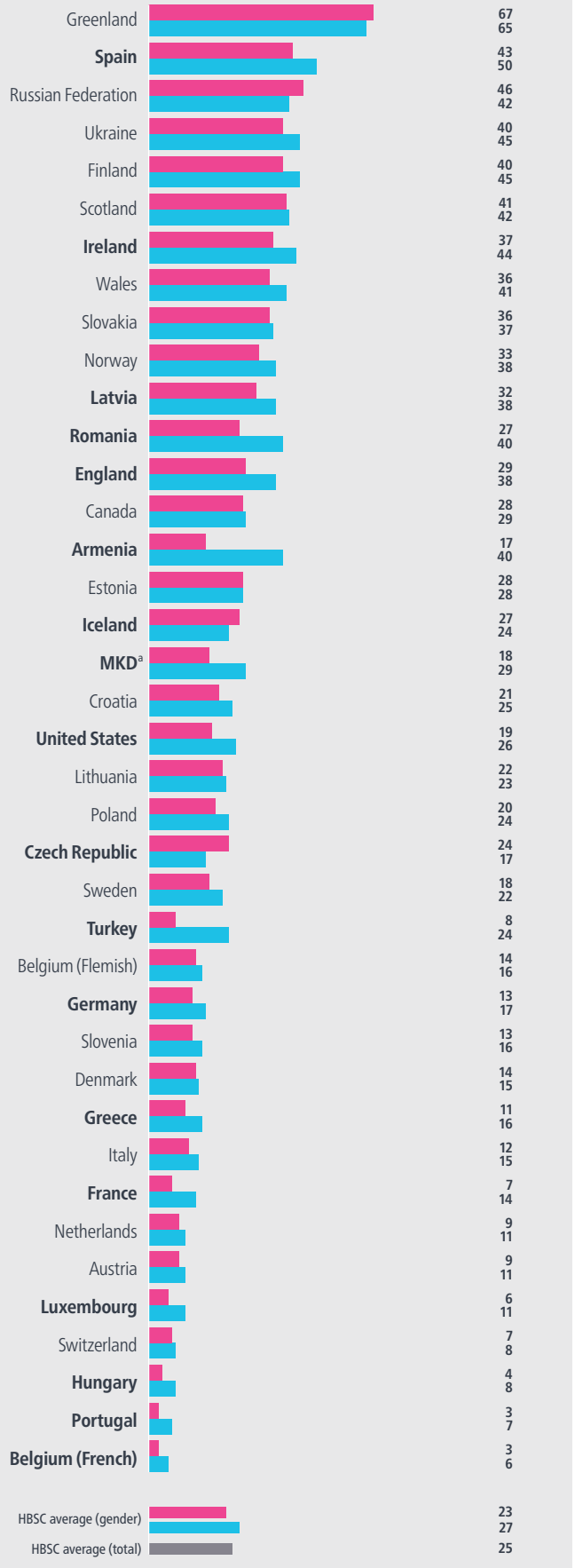
HBSC survey 2009/2010



[a] The former Yugoslav Republic of Macedonia.

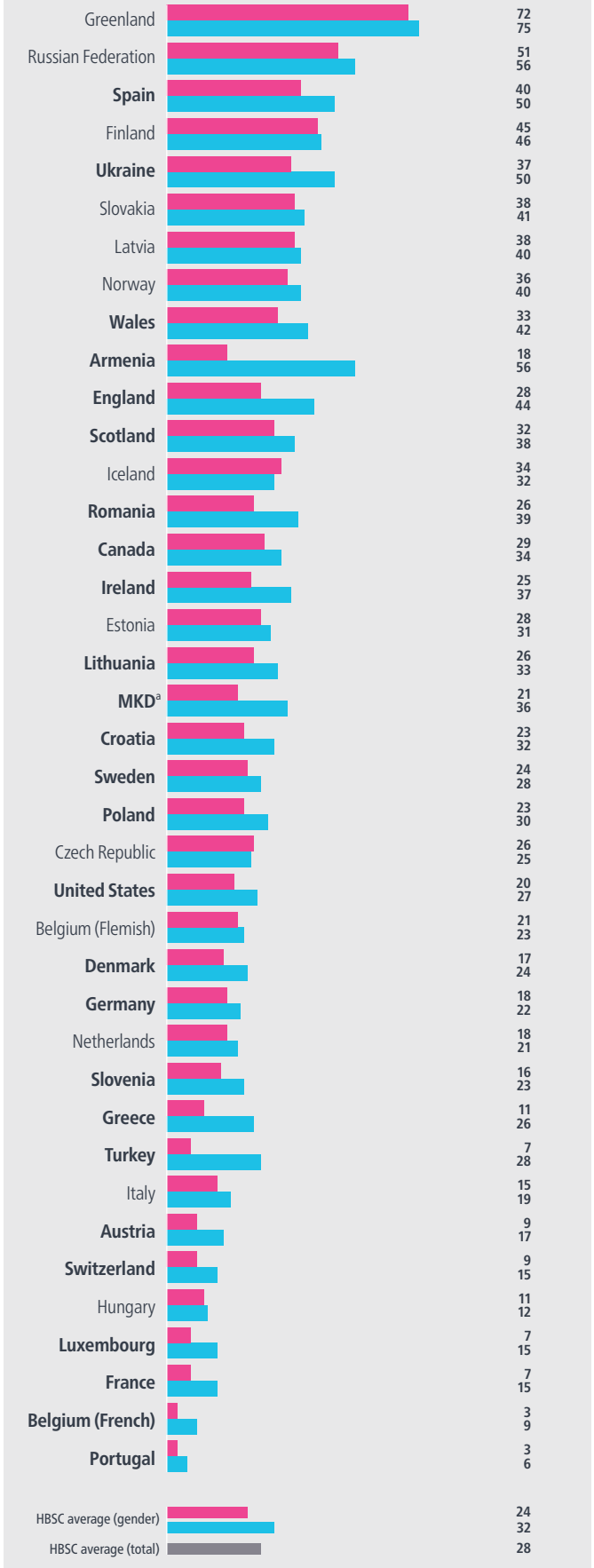
HBSC survey 2009/2010

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



HBSC survey 2009/2010

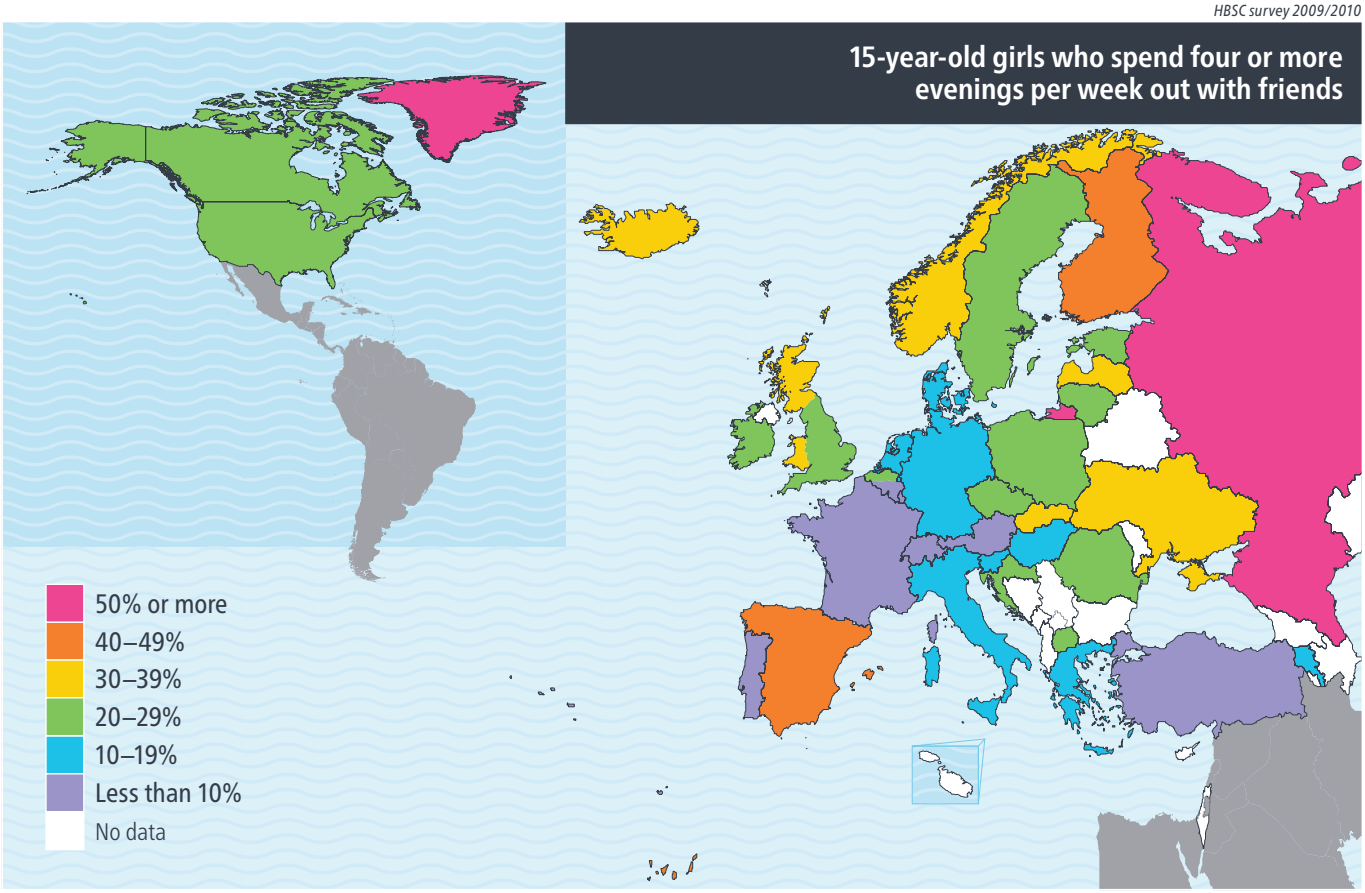
15-year-olds who spend four or more evenings per week out with friends



Note. **Indicates** significant gender difference (at p<0.05).

HBSC survey 2009/2010

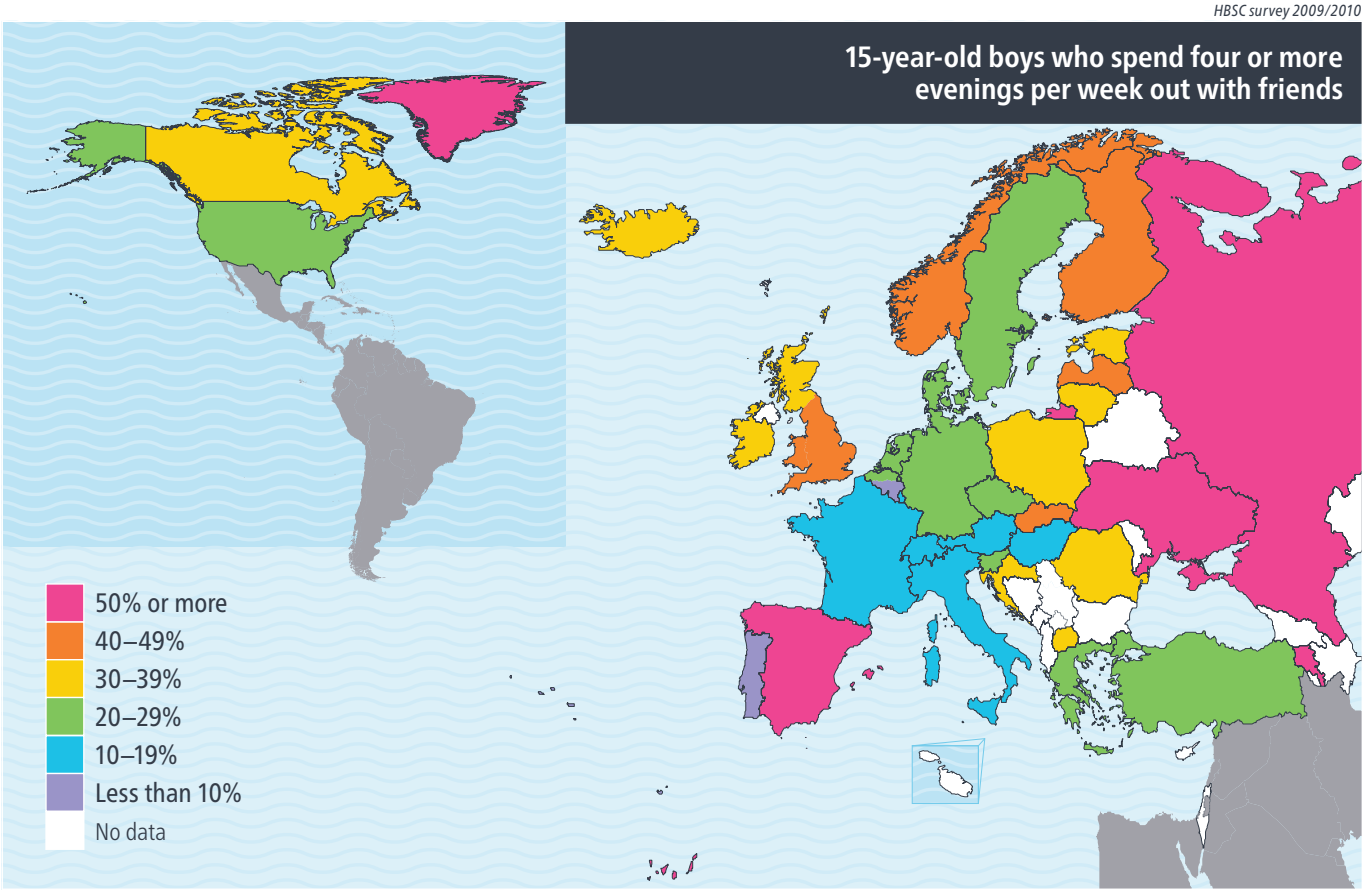
15-year-old girls who spend four or more evenings per week out with friends



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

HBSC survey 2009/2010

15-year-old boys who spend four or more evenings per week out with friends



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

PEERS: ELECTRONIC MEDIA CONTACT (EMC)

Use of EMC through the Internet and mobile-telephone technology has increased faster among young people than the rest of the population *(13).* EMC has become an integral part of their lives, enabling them to contact social networks irrespective of time and place.

EMC has been associated with potential benefits and risks. Cyberbullying is seen as a public health problem *(14)* that may threaten young people's social and emotional development *(15)*. Although Internet use has been related to loneliness *(16),* recent evidence suggests that greater use of EMC is associated with more face-to-face contact with friends *(13)*.

Intensive use of EMC has been associated with poorer perceptions of health, poorer sleeping habits *(17)* and engagement in risk behaviours *(18)*.

HBSC survey 2009/2010

Associations between family affluence and indicators of health, by country/region and gender:
DAILY EMC WITH FRIENDS

[a] The former Yugoslav Republic of Macedonia. ◆ Indicates less than +/– 0.5%. *Note.* No data for Norway.

MEASURE

Young people were asked how often they talk to friend(s) on the telephone, 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 who reported EMC with their friends every day.

RESULTS

Age

Prevalence of EMC showed a significant increase between ages 11 and 15 in all countries and regions. The increase was larger than 15% in almost all.

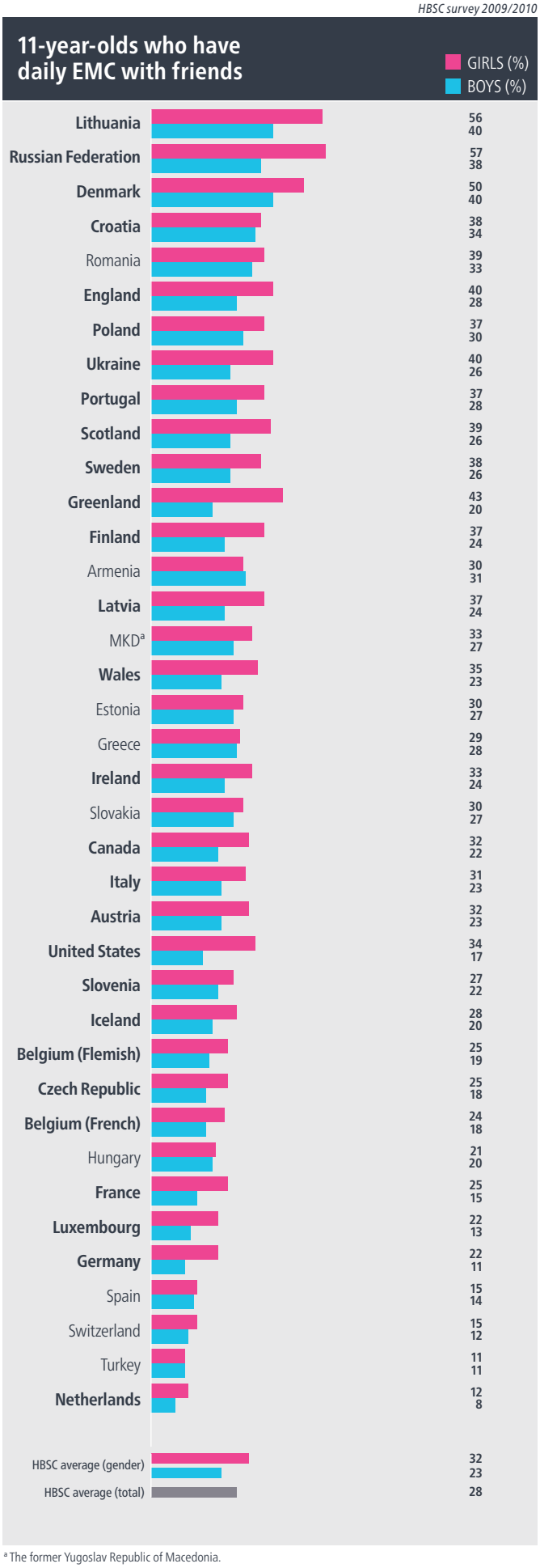
Gender

Girls were more likely to report it. The gender difference was significant for most countries and regions for 11-year-olds and almost all for those aged 13 and 15.

Family affluence

Daily EMC was significantly associated with higher family affluence in almost all countries and regions. The difference in prevalence between young people from low- and high-affluence families was over 10% in most and over 15% in around a third.

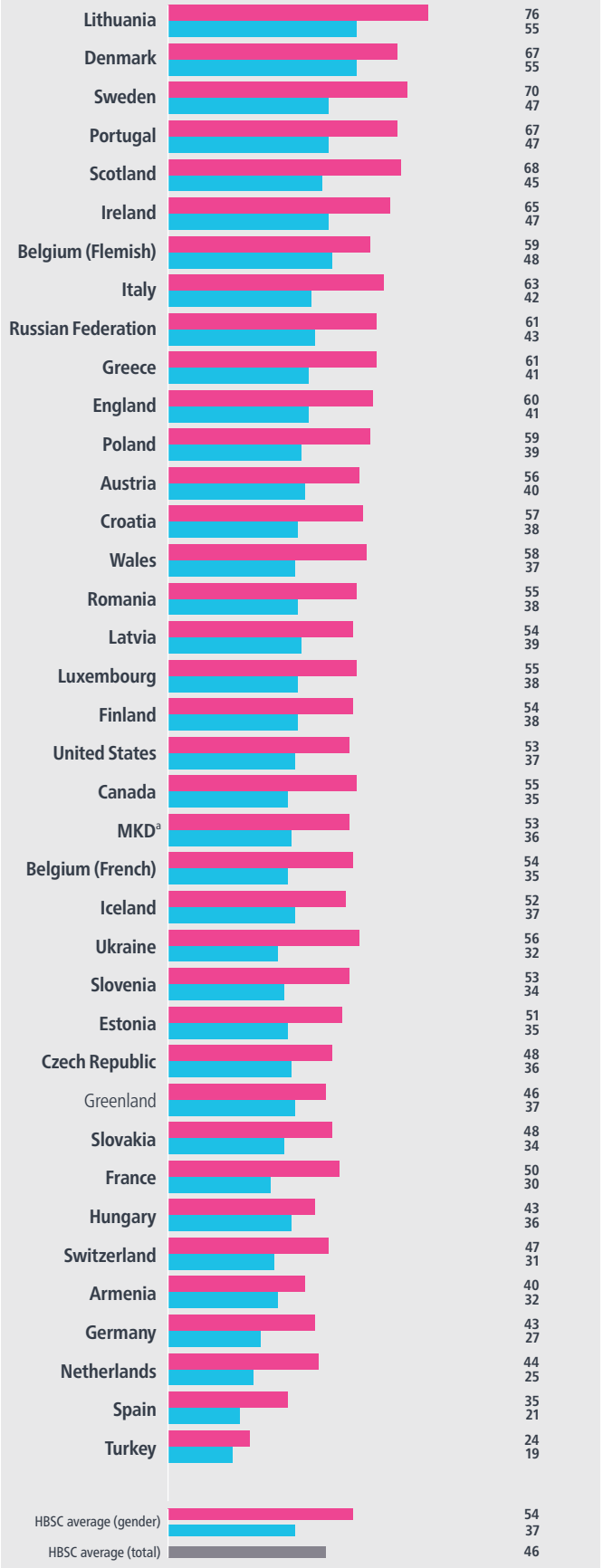
HBSC survey 2009/2010



[a] The former Yugoslav Republic of Macedonia.

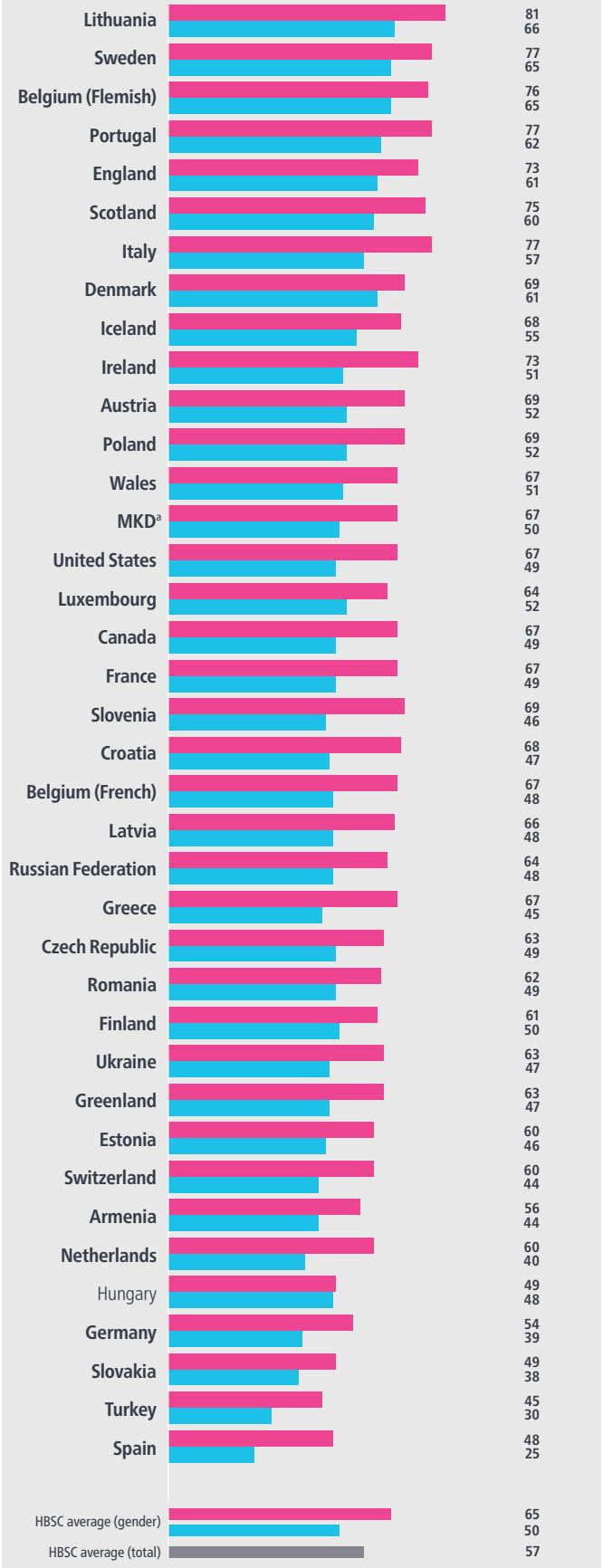
HBSC survey 2009/2010

13-year-olds who have daily EMC with friends



HBSC survey 2009/2010

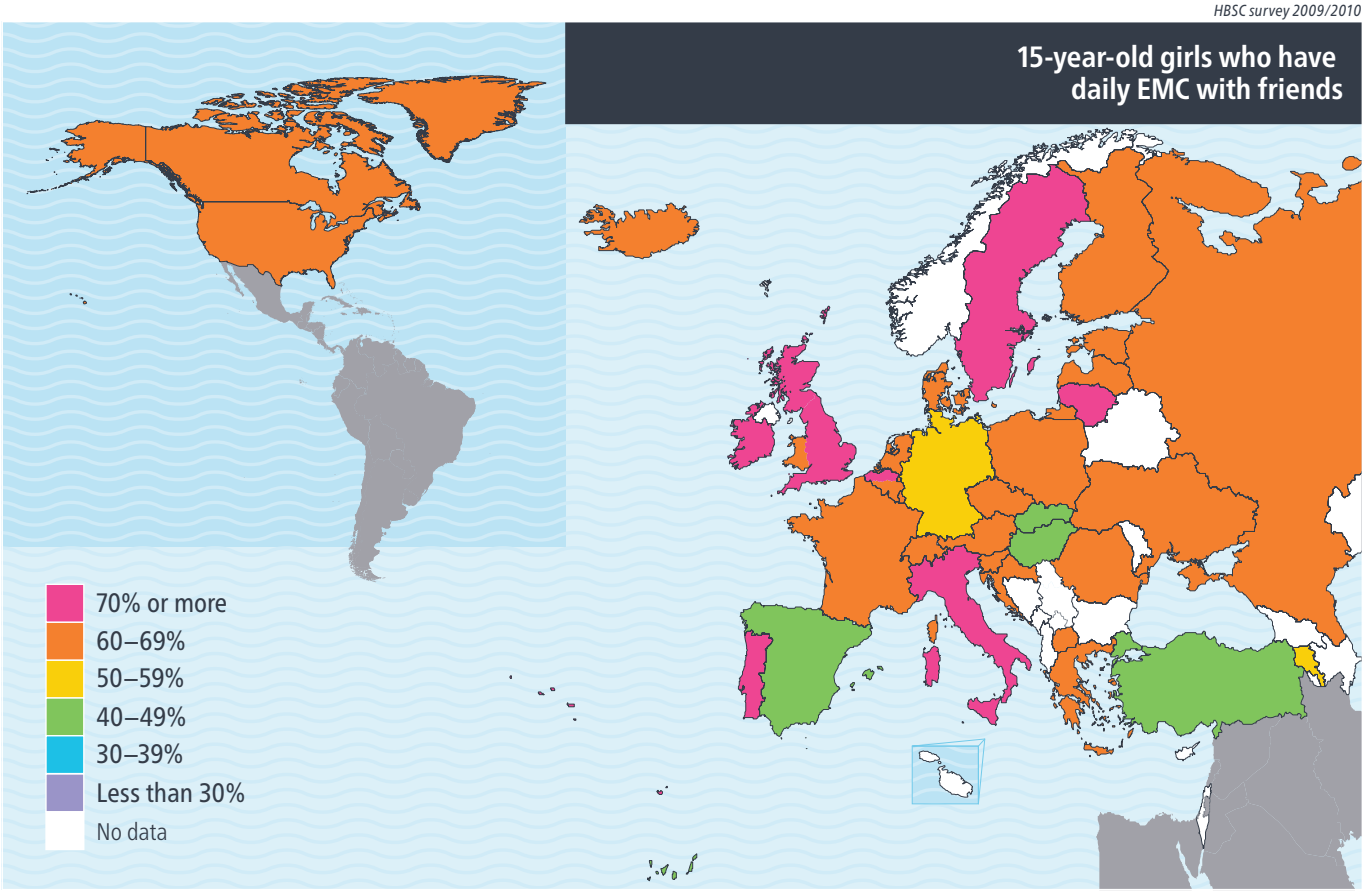
15-year-olds who have daily EMC with friends



Note. **Indicates** significant gender difference (at p<0.05). No data for Norway.

HBSC survey 2009/2010

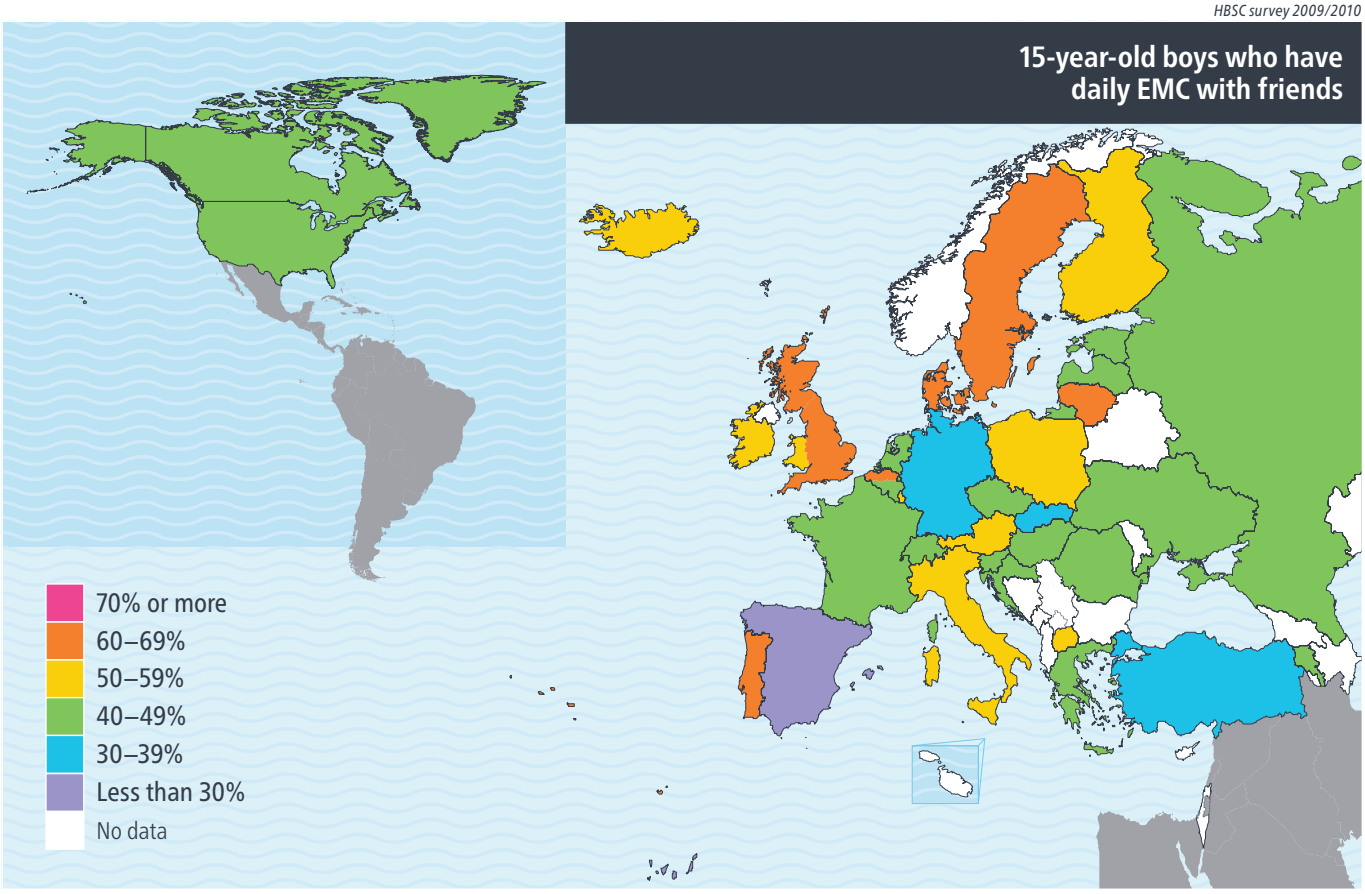
15-year-old girls who have daily EMC with friends



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

HBSC survey 2009/2010

15-year-old boys who have daily EMC with friends



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

PEERS: SCIENTIFIC DISCUSSION AND POLICY REFLECTIONS

SCIENTIFIC DISCUSSION

Close friendships

The results show that the likelihood of having three or more close friends decreases as young people grow older, which may be attributed to an increase in friendship intimacy in later years at the expense of having a large number of friends.

Girls tend to be more relationship oriented, forming closer relationships with a small select group of friends, while boys are in general more group-oriented and are therefore more likely to report greater numbers of friends *(19)*.

Young people in affluent families are more likely to have three or more close friends. Greater financial resources may enable them to participate in more activities with opportunities to establish friendships *(20)*.

Variation between countries and regions may be explained by cultural norms and expectations that may or may not encourage non-familial peer relationships. Lower national income and higher levels of socioeconomic inequalities in southern and eastern Europe may mean there are fewer opportunities for young people to engage in activities that support the creation of social ties *(21)*.

Evenings out with friends

Boys and girls have more evenings out with friends as they grow older, adult supervision declines and their social mobility increases.

Gender differences may be related to gender-specific socialization patterns and parental monitoring. Parents are more likely to ask their daughters questions *(22,23)* and therefore more likely to be aware of their daughters' whereabouts and how they spend their free time *(24)*.

Family affluence may influence how young people can spend their time, with those from more affluent families finding it easier to absorb the costs involved in frequent evenings out. Financial considerations cannot be the primary driver for time spent in the evenings with friends, however, as no such relationship is seen in many countries.

This indicator shows no clear geographic patterning.

EMC

The significant increase in use of EMC with age could be explained by the need for more contact with friends, reduced parental supervision and easier access to EMC for older age groups.

EMC use by boys and girls reveals differences. Boys are more frequent users of the Internet and online games, while girls tend to use mobile telephones more *(17)*. This parallels gender differences in communication, with girls more likely to spend time in social conversations and seeking emotional support *(25)*.

Differences in this measure by family affluence could be explained by the affordability of EMC devices.

This indicator shows no clear geographic patterning.

POLICY REFLECTIONS

Close friendships and evenings out with friends

The findings show that low affluence, increasing age and gender are associated with having fewer close friends.

Further research is required to identify the precise configuration of peer friendship that is most likely to have health benefits, in terms of both quantity and quality of relationships, but providing young people with the skills and competencies to enable

positive socialization processes can benefit health. Policy therefore has a role in facilitating better access to organized activities that enable young people to build health-promoting social networks. Particular attention should be given to networks that encourage those in lower-affluence and older groups and girls.

The findings highlight gender differences, with boys more likely to spend evenings out with friends. Being out with friends can provide young people with social-development experience that can build resilience, promote autonomy and encourage responsible and committed behaviour *(26)*. It is also, however, associated with risk behaviours such as substance use and early sexual activity.

Identifying effective ways of supporting young people's time spent with peers, encouraging positive behaviour and reducing risk-taking activity requires consideration of the provision of risk-reduced leisure activities, particularly for those from lower-affluence families *(27)*.

EMC

EMC allows young people to establish and maintain personal relationships that create real and virtual interactions. The prevalence of EMC among adolescents has increased over the last decade, mirroring what has happened throughout societies.

EMC helps young people to establish new contacts with peers that can later develop into friendships *(28)* and to maintain friendships through arranging appointments and coordinating and managing face-to-face contacts *(29)*. It can be an important means of social support through, for example, enabling discussion of problems with friends.

EMC can also be detrimental to physical and mental health, particularly in relation to reduced levels of physical activity and through cyberbullying, but it represents an important new environment whose role in promoting health should be taken seriously. Finding the right balance between protecting young people against Internet harassment and excessive EMC and efforts to use it to improve access to information and services is an important policy goal.

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SCHOOL: LIKING SCHOOL

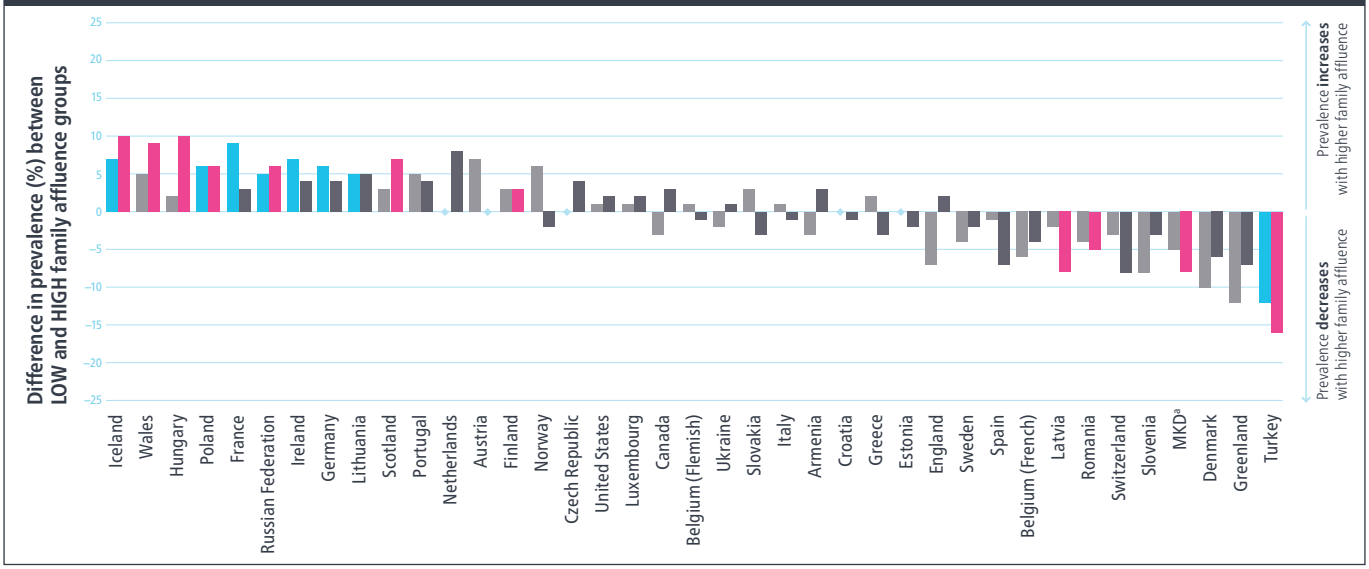
School experiences occur during crucial developmental periods in young people's lives and influence the development of their self-esteem, self-perceptions and health behaviours, with consequent effects on future health and life satisfaction *(1)*.

A positive school experience is considered a resource for health and well-being, while a negative experience may constitute a risk factor, affecting students' mental and physical health. "Liking school" has consequently been identified as a protective factor against health-compromising behaviours including bullying *(2)*, sexual risk-taking *(3)* and tobacco, alcohol and drug use *(4,5)*. Students who dislike school or do not feel connected to it are more likely to fail academically, drop out *(6)* and have mental health problems *(7)*.

Schools can positively affect children's health and well-being through the creation of positive developmental experiences, enhancing their enjoyment *(8)*. This may be particularly important for marginalized children *(9)*. National education and school-level policies and practices need to reflect schools' influence on young people's lives, especially as students get older and their connections with school typically decrease.

HBSC survey 2009/2010

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



[a] The former Yugoslav Republic of Macedonia. ◆ Indicates less than +/– 0.5%.

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 proportion reporting that they like school a lot.

RESULTS

Age

Fewer students reported liking school a lot at age 15 than age 11. This change was significant in most countries and relatively large, with differences of over 15% reported.

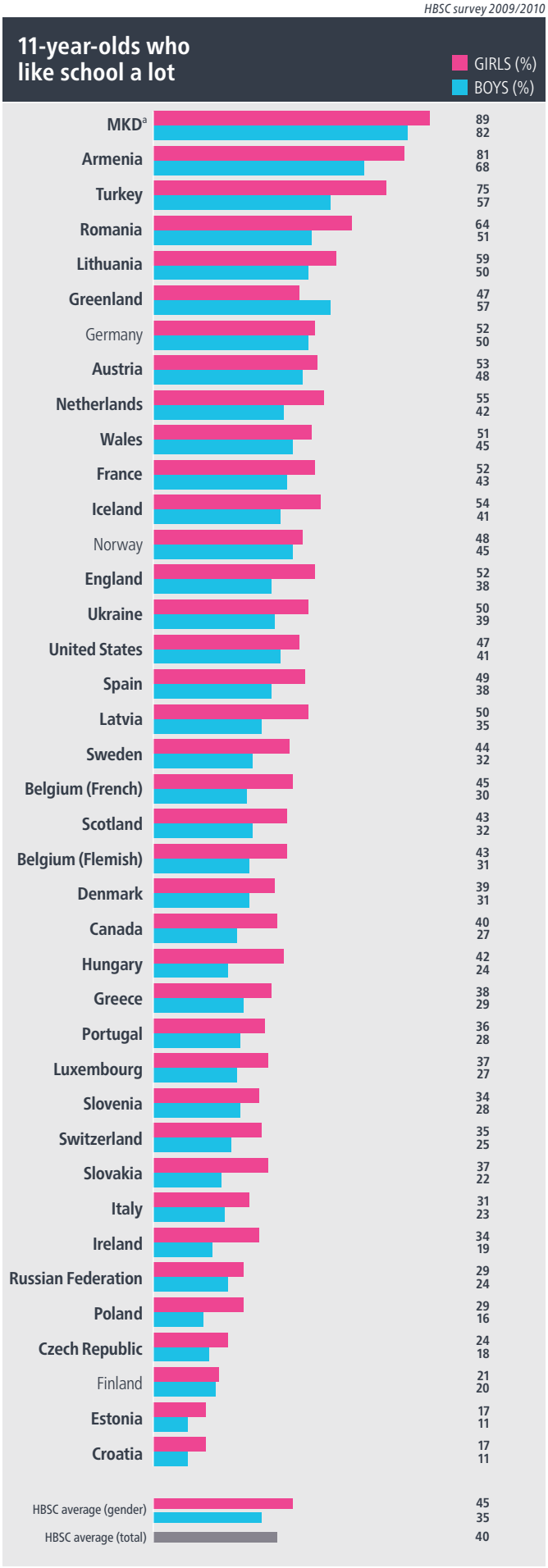
Gender

Girls were more likely to report it at all three ages. The gender difference was significant in almost all countries and regions at age 11, but in only around half at age 15. Differences were moderate, in generally around 5–10%.

Family affluence

There was no strong or consistent association between liking school and family affluence.

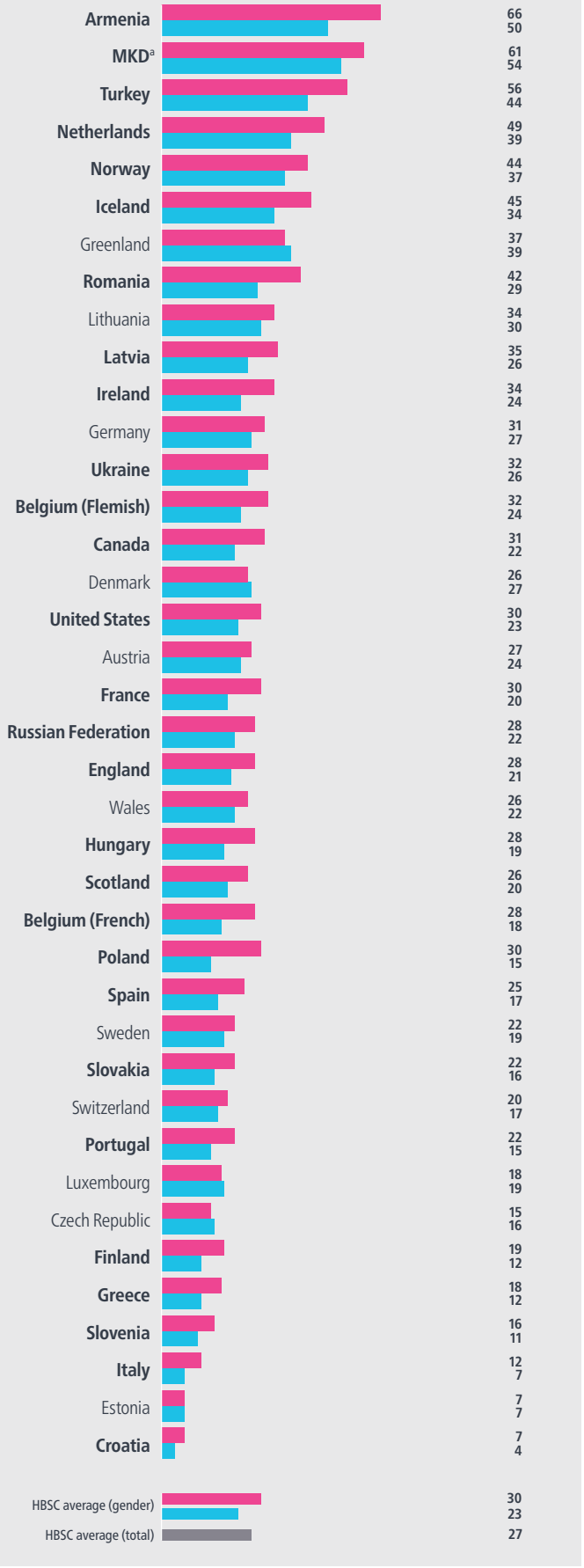
HBSC survey 2009/2010



[a] The former Yugoslav Republic of Macedonia.

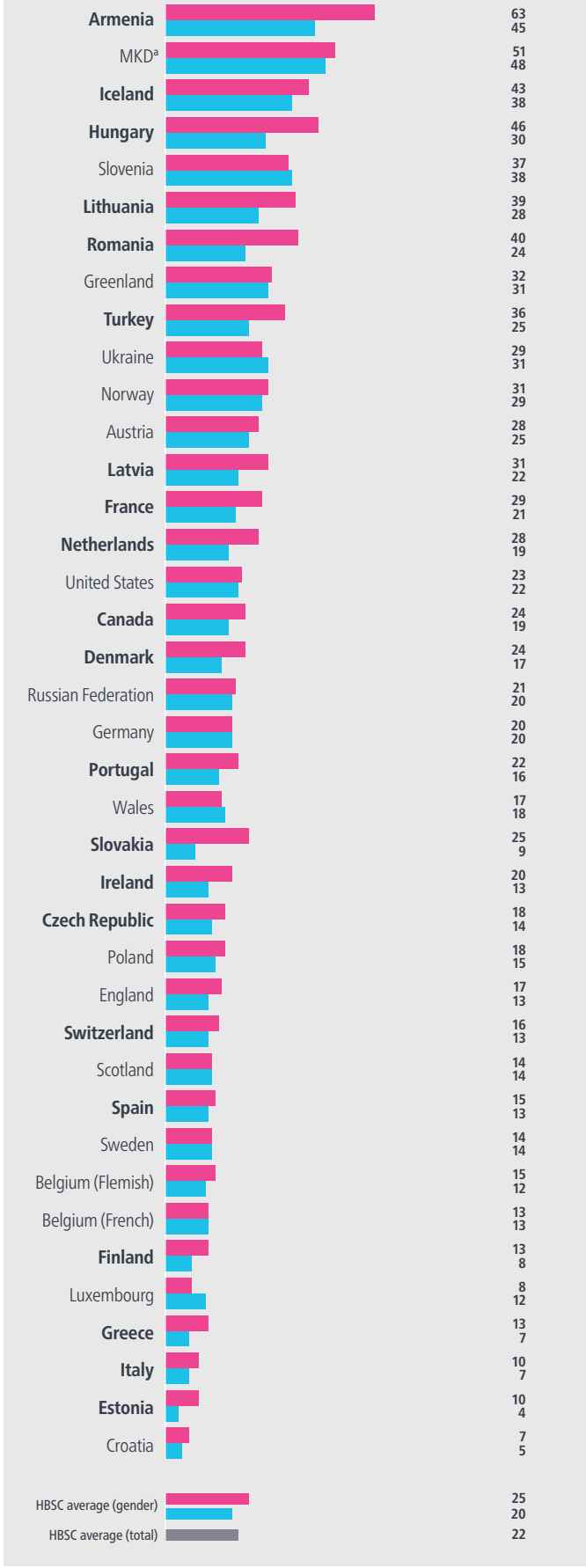
HBSC survey 2009/2010

13-year-olds who like school a lot



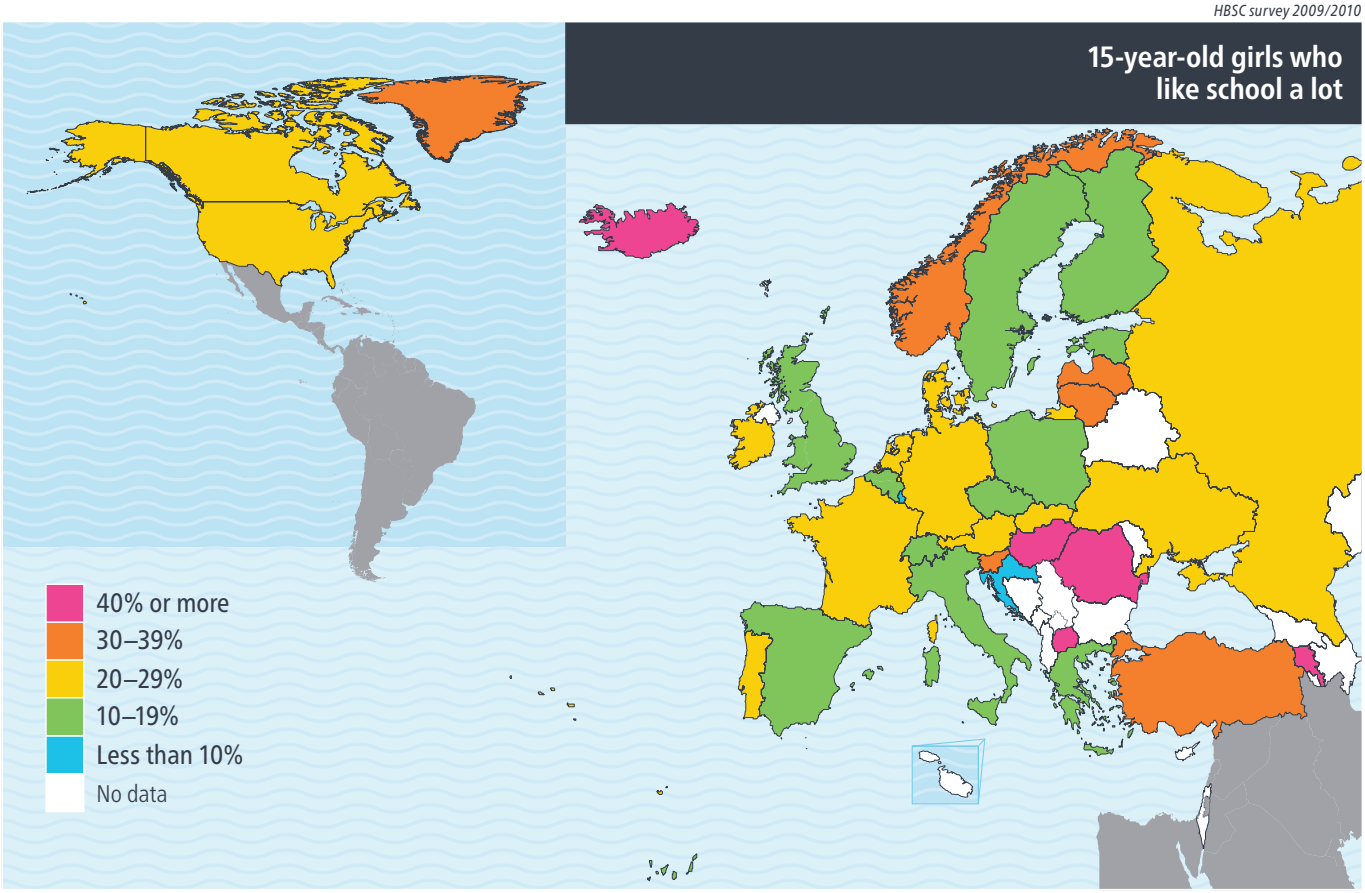
HBSC survey 2009/2010

15-year-olds who like school a lot



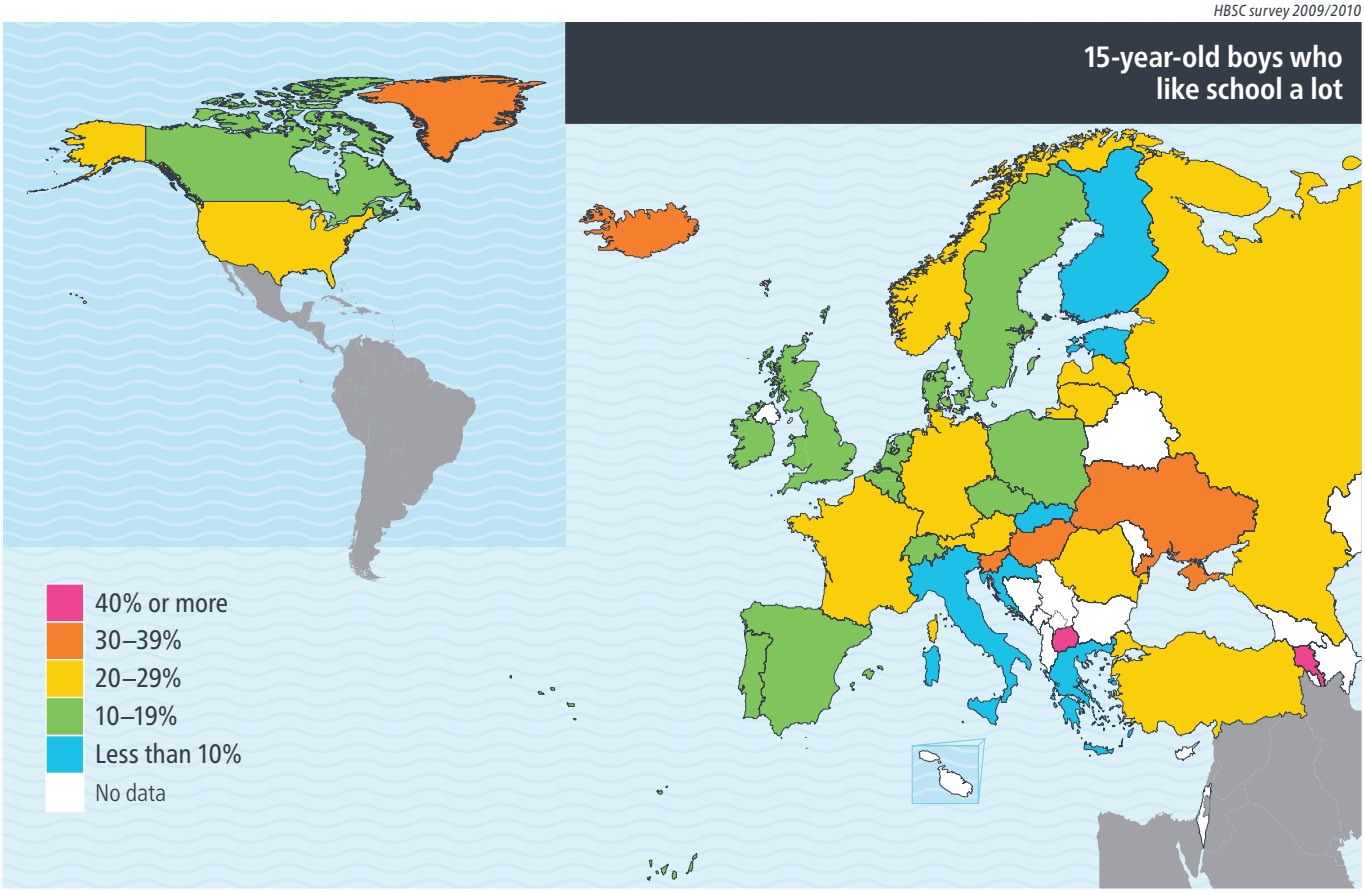
Note. **Indicates** significant gender difference (at p<0.05).

HBSC survey 2009/2010



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

HBSC survey 2009/2010



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

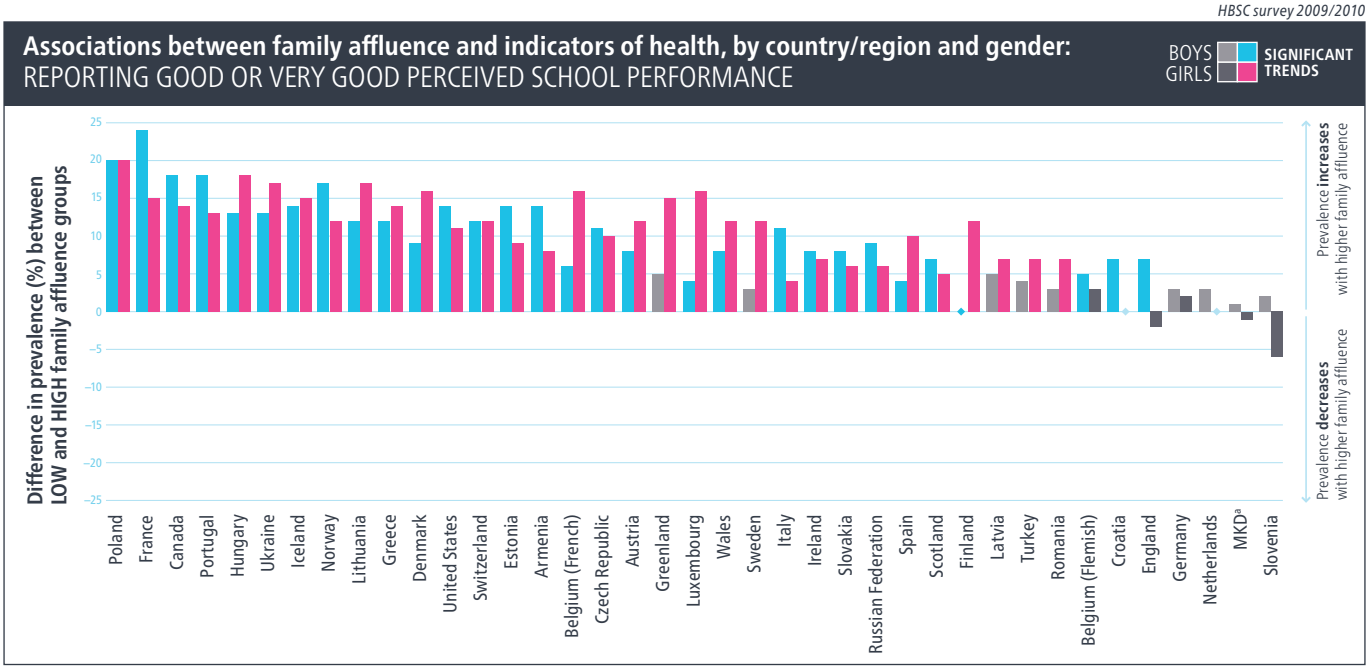
SCHOOL: PERCEIVED SCHOOL PERFORMANCE

Young people's perceived school performance is a consistent and strong predictor of health and well-being *(10)*. Students who report higher levels of achievement also report higher levels of life satisfaction *(11)*, lower rates of bullying *(12)*, fewer subjective health complaints and lower levels of health-compromising behaviours and health risks *(13)*.

Peer relationships, school structures and teacher behaviours appear to affect students' academic achievement potential *(14)*. On the positive side, they support achievement and promote resistance to health-compromising activities and reduced emotional health and mental well-being *(14)*. As students enter later grades and are at greatest risk of engaging in behaviours that compromise their physical and emotional health *(15)*, they typically report lower levels of achievement.

HBSC survey 2009/2010

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



[a] The former Yugoslav Republic of Macedonia. ◆ Indicates less than +/– 0.5%.

MEASURE

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

RESULTS

Age

Perceived good academic achievement was significantly less prevalent with increasing age in almost all countries and regions for boys and girls. The decline was relatively large: over 15% between ages 11 and 15 in most countries and regions.

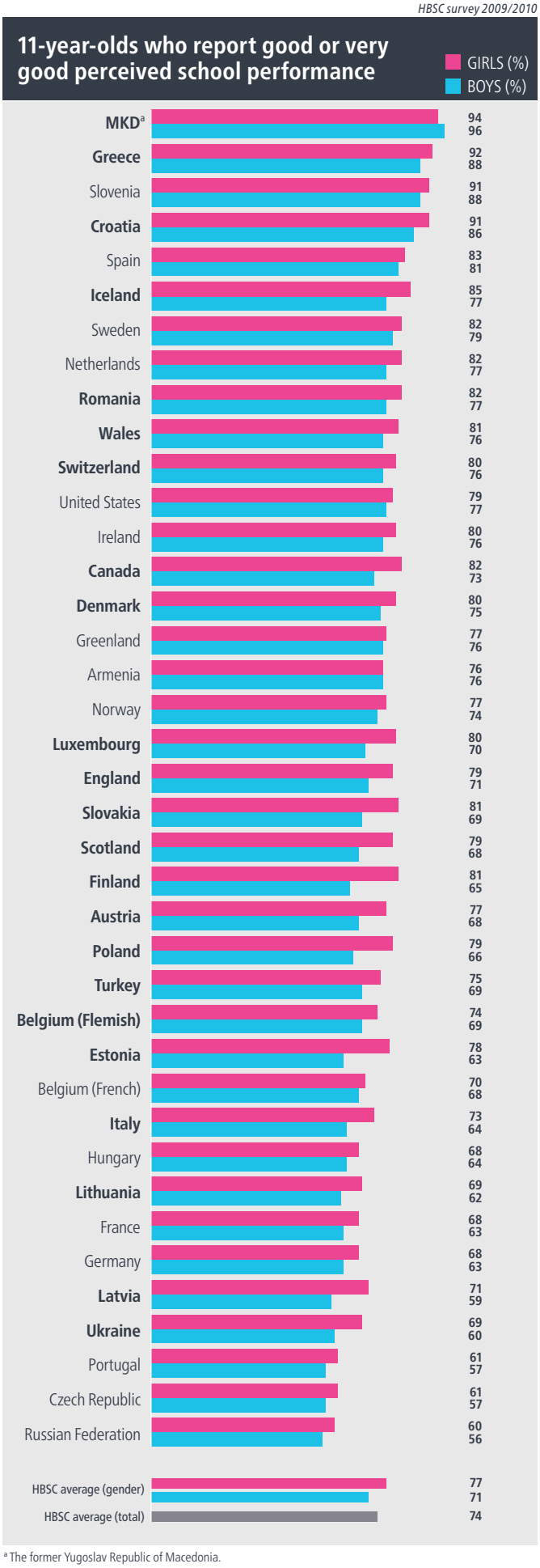
Gender

Girls were more likely to report good academic achievement. Gender differences were significant in around half of countries and regions, and across all three age groups. Differences in prevalence were around 5–10% in most countries, but they increased to over 10% by age 15 in around a quarter.

Family affluence

There was a significant positive association between prevalence and family affluence among boys and girls in most countries. The difference was more than 10% in almost half.

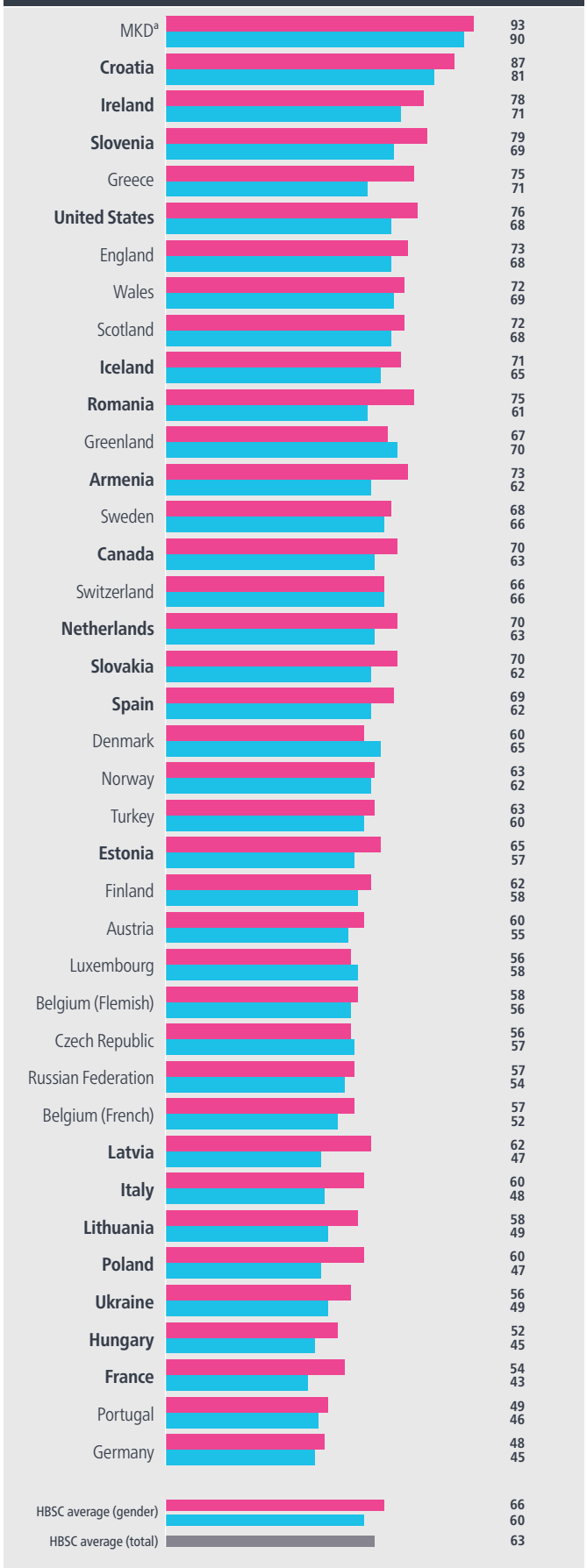
HBSC survey 2009/2010



[a] The former Yugoslav Republic of Macedonia.

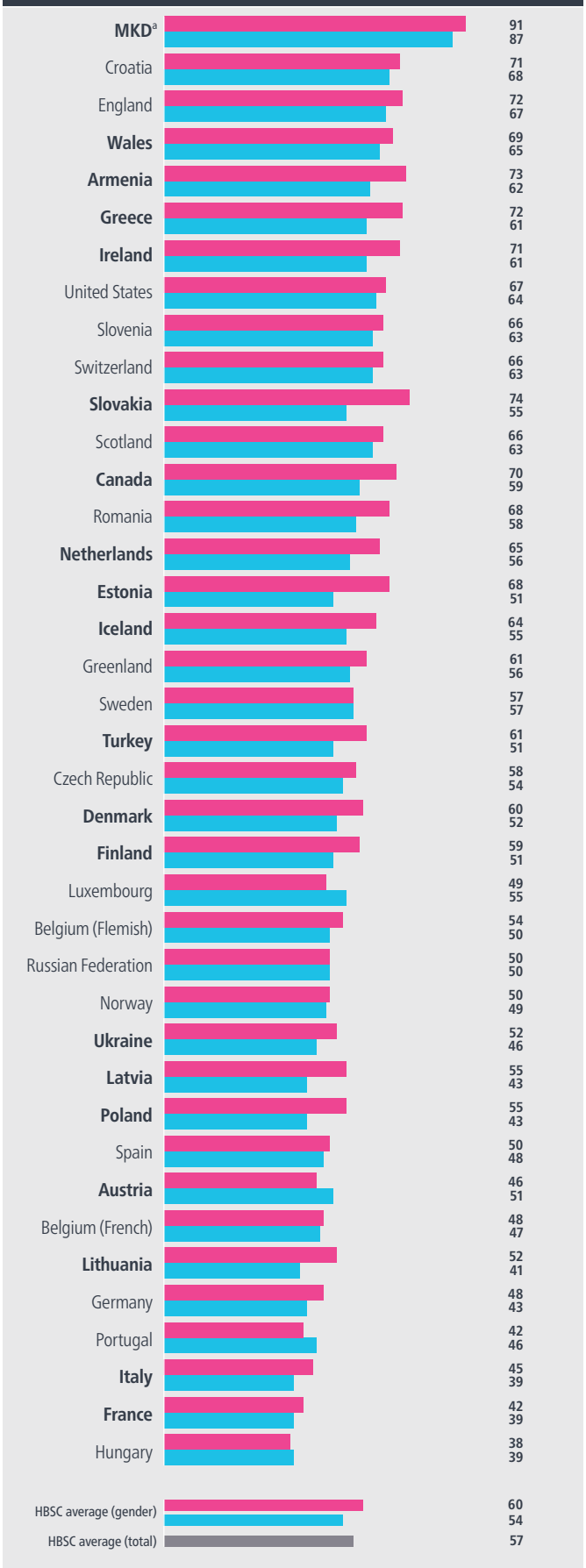
HBSC survey 2009/2010

13-year-olds who report good or very good perceived school performance



HBSC survey 2009/2010

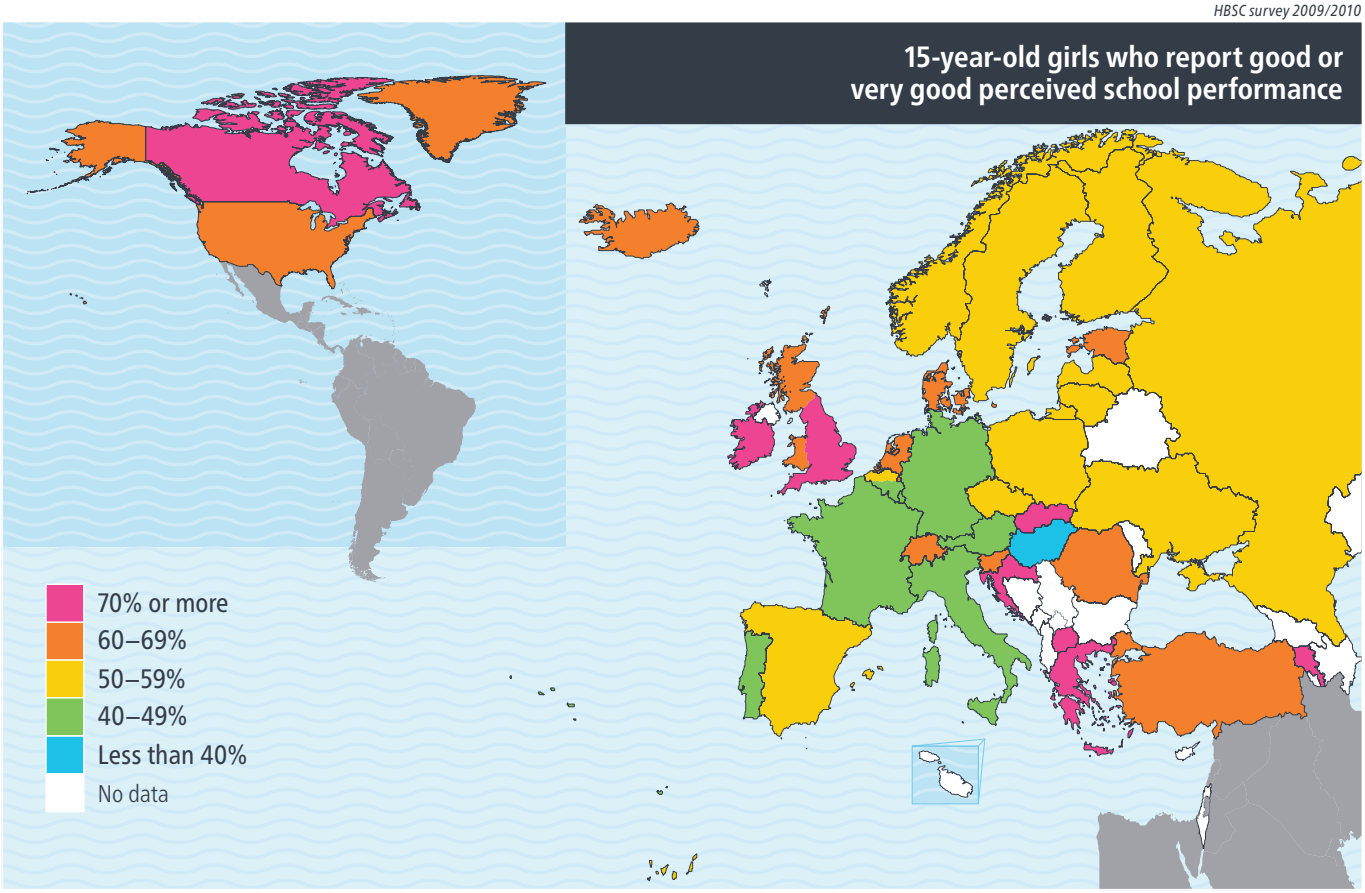
15-year-olds who report good or very good perceived school performance



Note. **Indicates** significant gender difference (at p<0.05).

HBSC survey 2009/2010

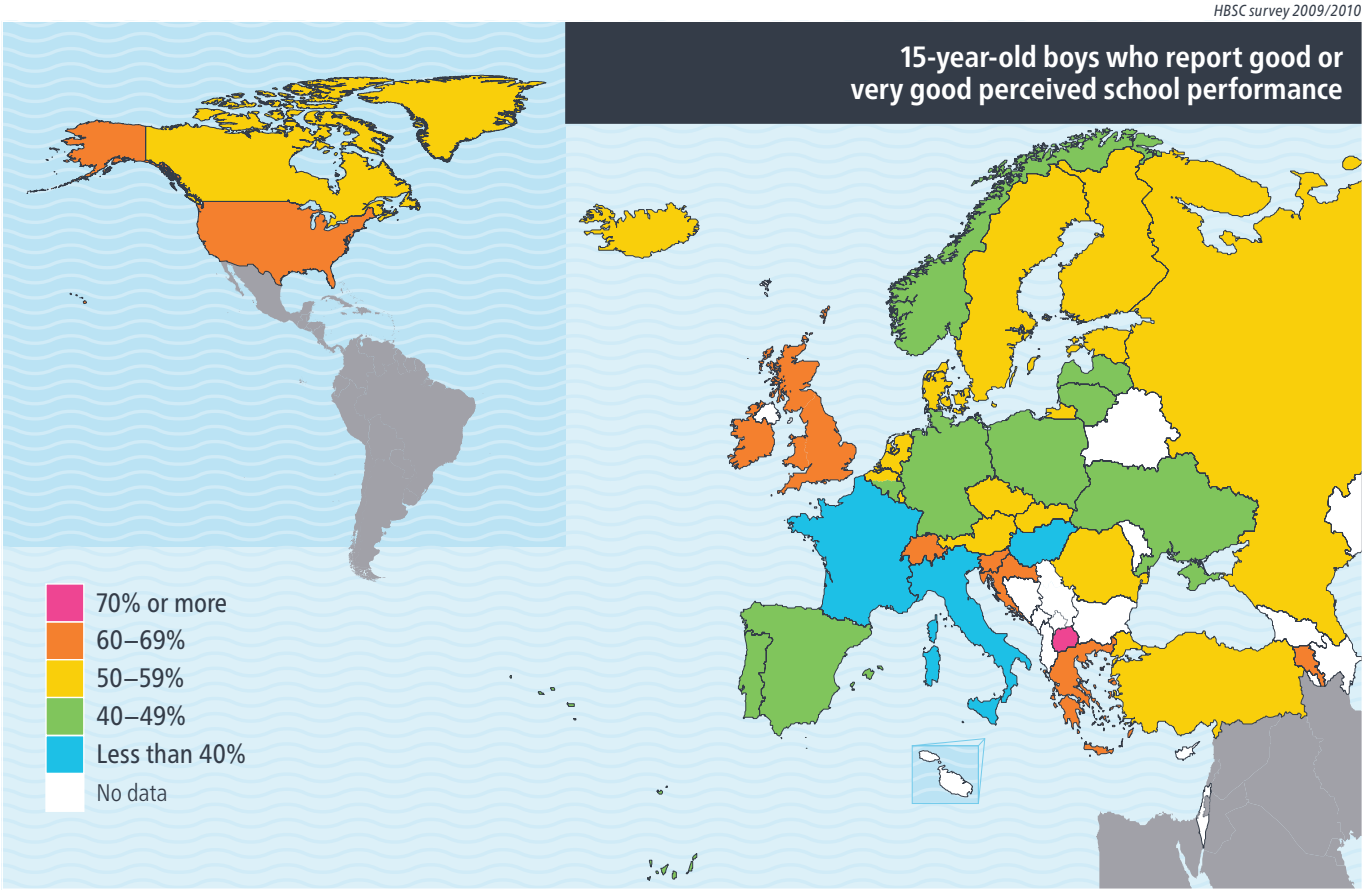
15-year-old girls who report good or very good perceived school performance



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

HBSC survey 2009/2010

15-year-old boys who report good or very good perceived school performance



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

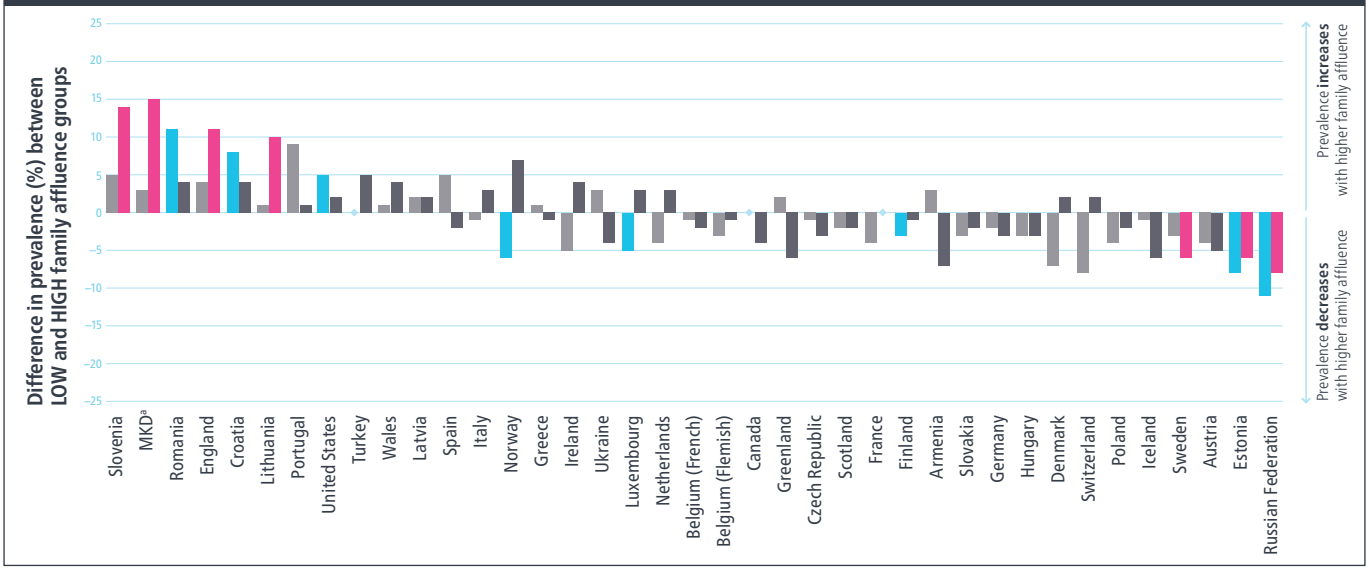
SCHOOL: PRESSURED BY SCHOOLWORK

Feeling pressured or stressed by schoolwork may not only negatively affect students' learning, but can also influence a wide range of non-academic outcomes such as health, health behaviour and well-being. Affected students characteristically engage in more health-compromising behaviours (such as smoking, drinking alcohol and drunkenness), have more frequent health complaints (such as headache, abdominal pain and backache) and experience psychological problems (such as feeling sad, tense and nervous) *(16,17)*. Associations with lower self-reported health and lower life satisfaction are also reported *(13)*

Protective factors can play an important role in decreasing the pressure students experience. A supportive school class climate, for example, can buffer the effect of school-related stress on health complaints *(16)* and teacher, classmate and family support may directly or indirectly influence students' experiences of demands at school *(18)*.

HBSC survey 2009/2010

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



[a] The former Yugoslav Republic of Macedonia. ◆ Indicates less than +/– 0.5%.

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 proportion who reported feeling pressured by schoolwork either "a lot" or "some".

RESULTS

Age

Perceived school pressure was significantly more prevalent with age in almost all countries and regions. The greatest increase was found among girls, where prevalence increased by over 15% between ages 11 and 15 in most countries and regions.

Gender

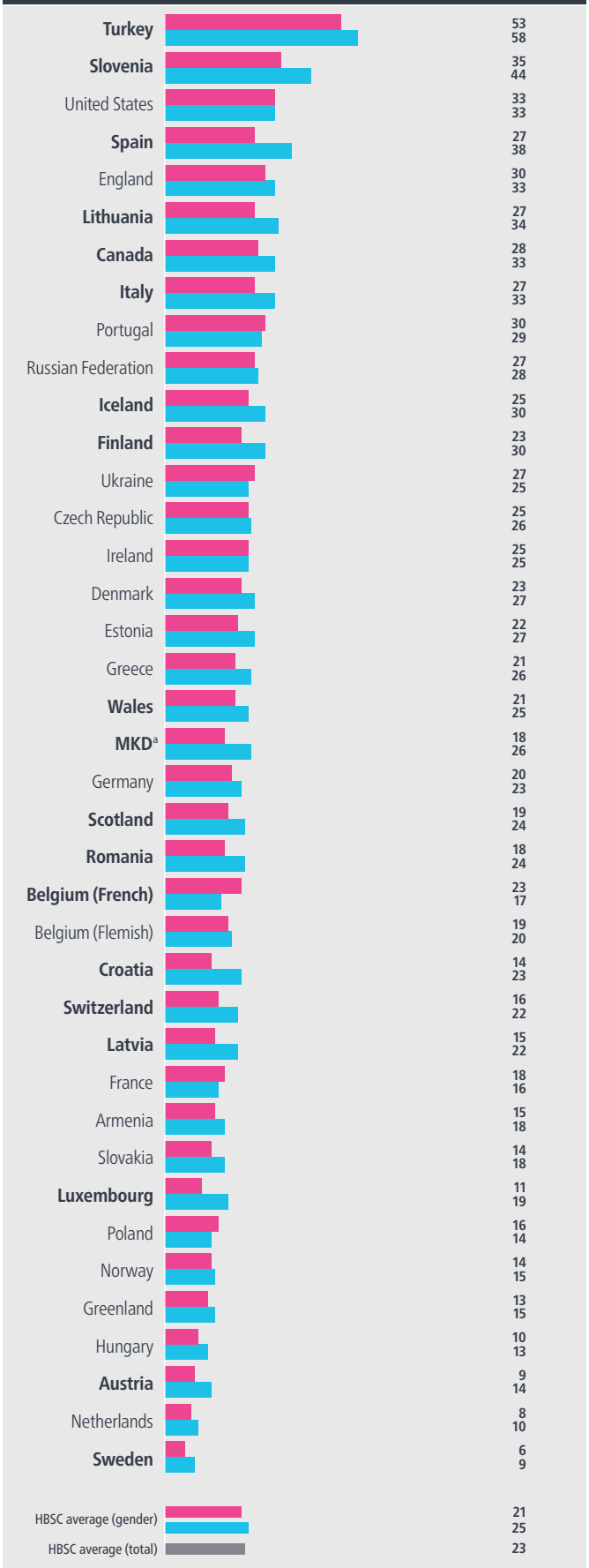
Gender differences changed with age. Boys were more likely to report it at age 11 (a significant difference in around half of countries) but, by age 15, girls were more likely to do so, with a significant difference in almost all countries and regions. The gender difference was bigger at age 15.

Family affluence

There was little evidence of an association with family affluence.

HBSC survey 2009/2010

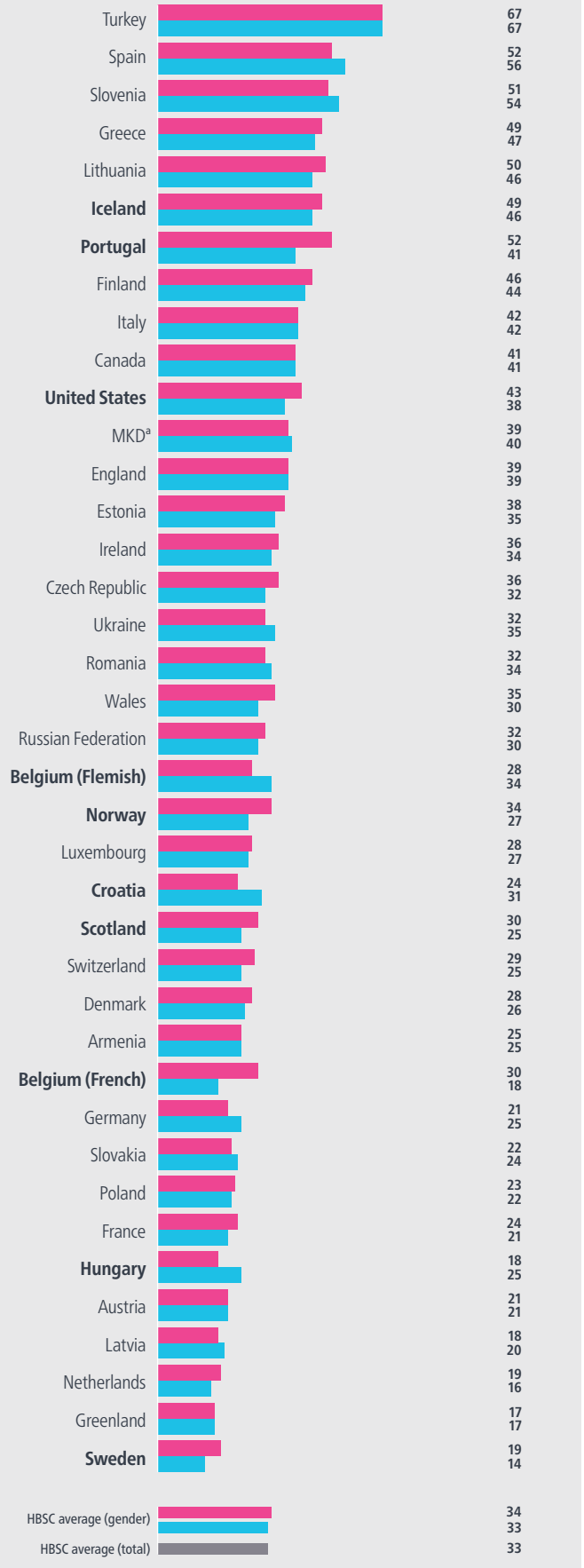
11-year-olds who feel pressured by schoolwork



[a] The former Yugoslav Republic of Macedonia.

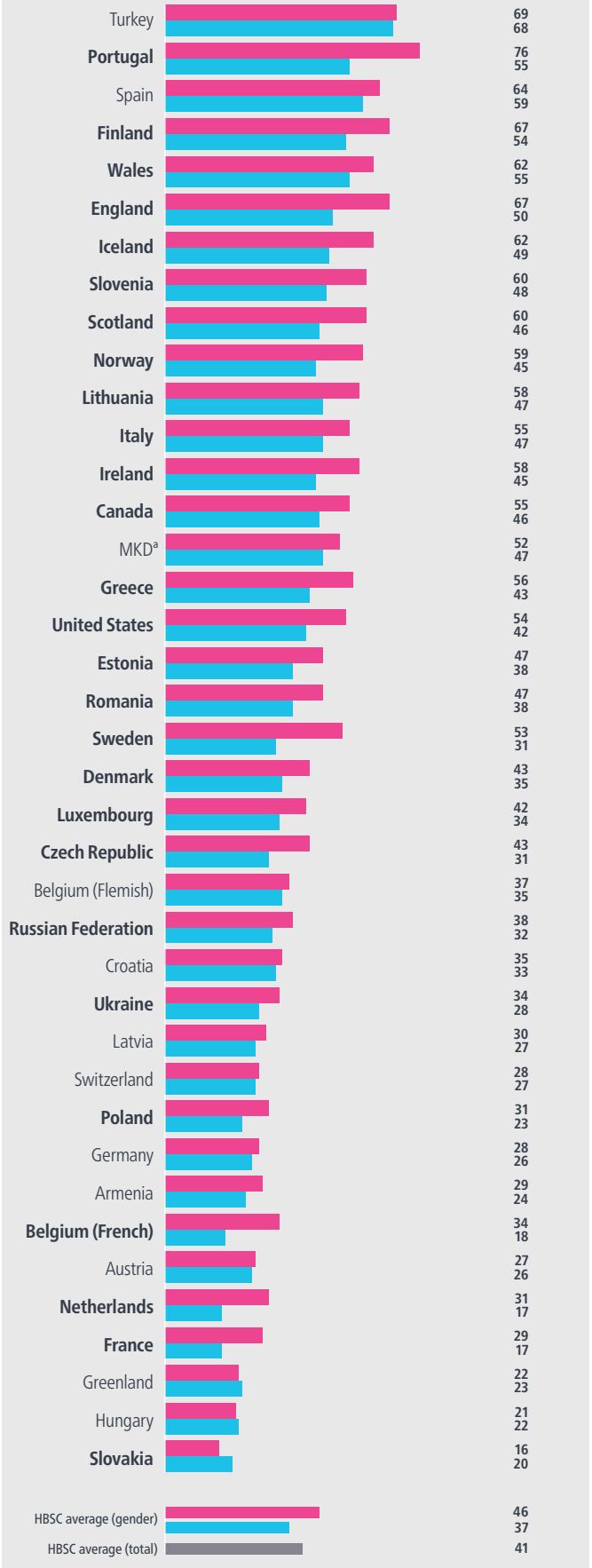
HBSC survey 2009/2010

13-year-olds who feel pressured by schoolwork



HBSC survey 2009/2010

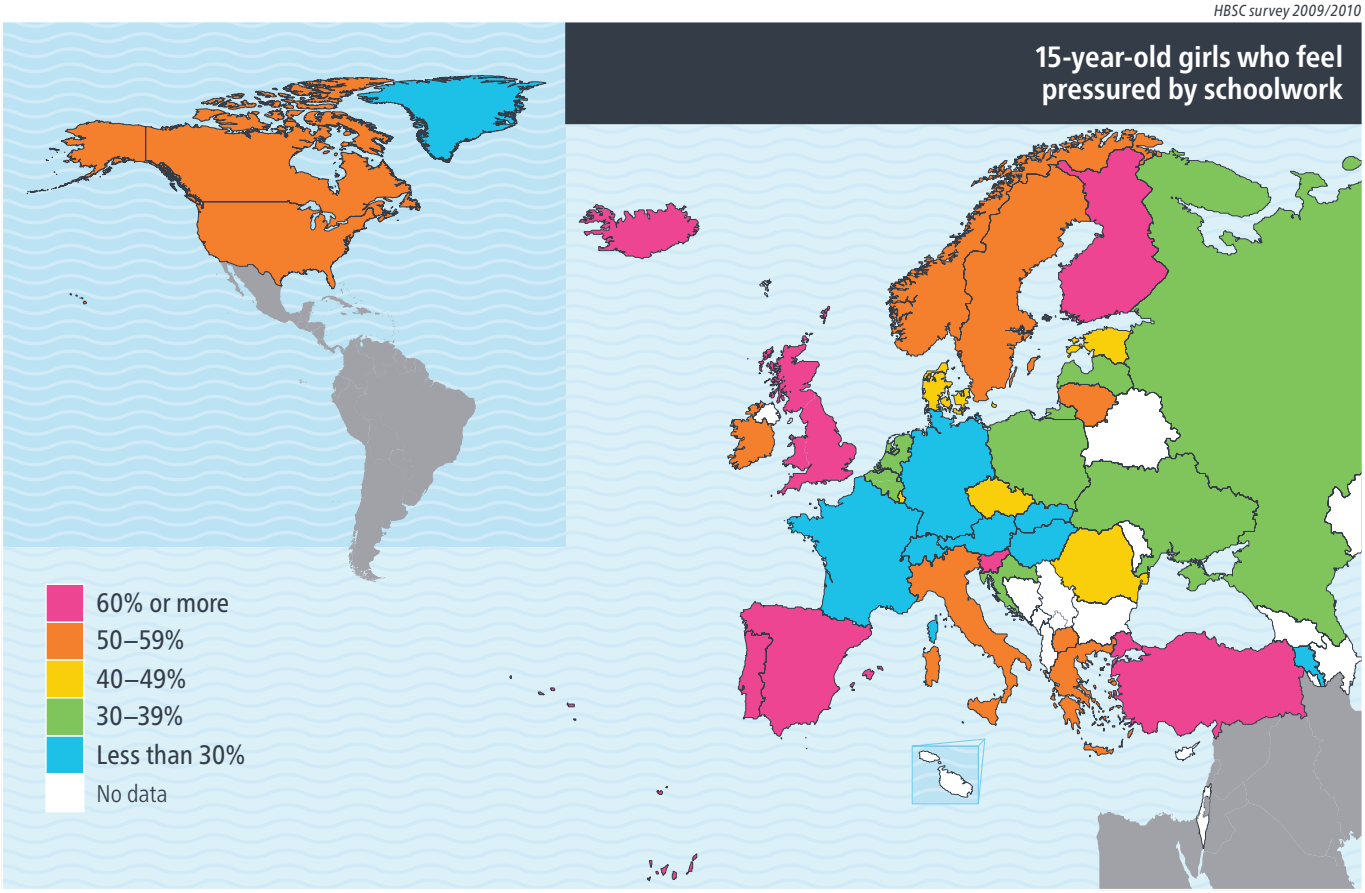
15-year-olds who feel pressured by schoolwork



Note. **Indicates** significant gender difference (at p<0.05).

HBSC survey 2009/2010

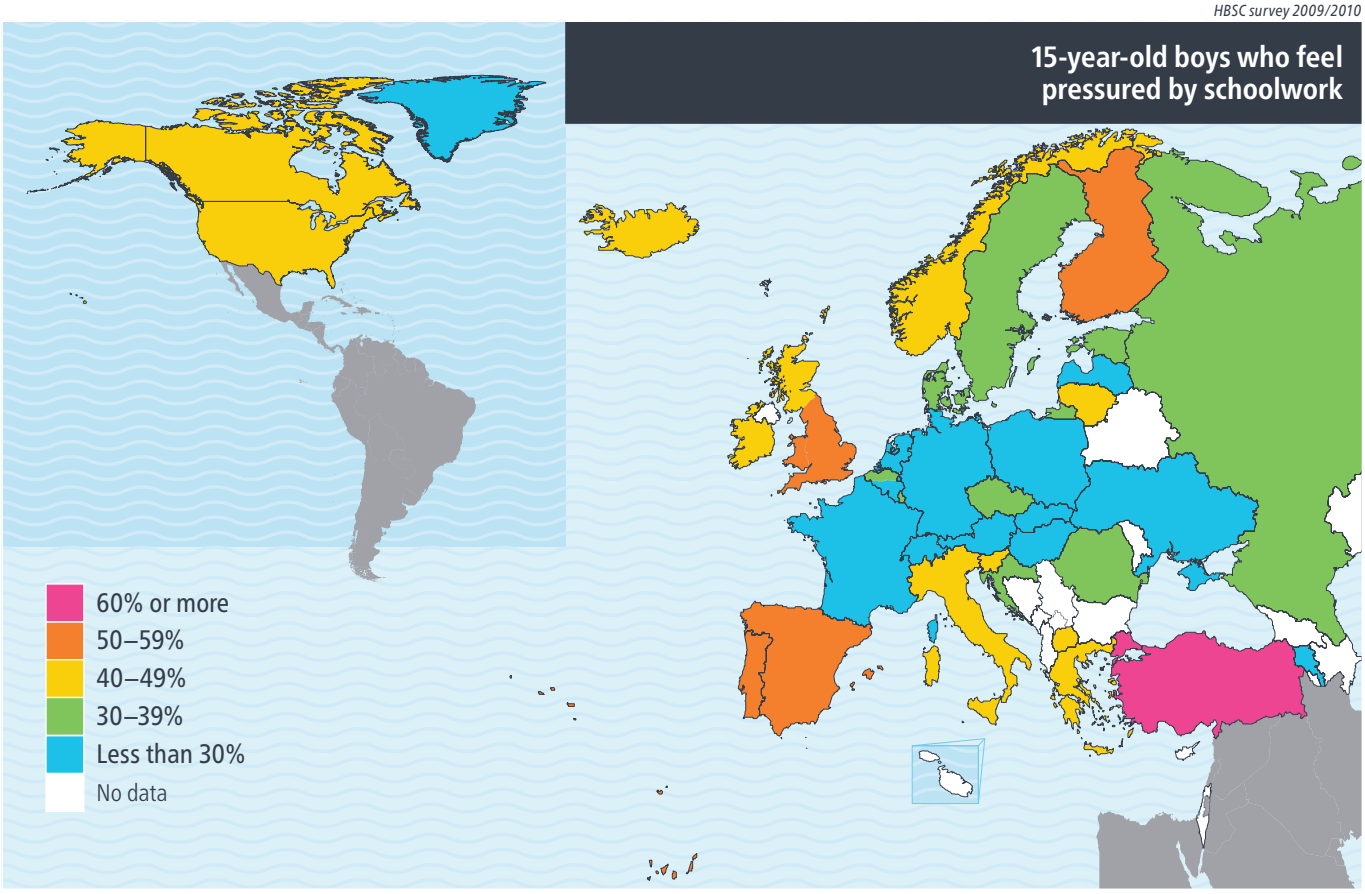
15-year-old girls who feel pressured by schoolwork



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

HBSC survey 2009/2010

15-year-old boys who feel pressured by schoolwork



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

SCHOOL: CLASSMATE SUPPORT

The peer group, particularly classmates, is of key importance to young people's social networks *(19)*. Support from classmates fosters feelings of "belonging" to a social group or setting *(20)*, while being deprived of such support may constitute a major strain.

The level of perceived support from classmates is linked to aspects of school experiences including school satisfaction *(21)* and motivation *(22)*, school-related stress *(23)* and bullying *(24)*. Classmate support may mediate the association between experiences of being bullied and academic adjustment *(25)*.

Low perceived classmate support is related to somatic and psychological health complaints, such as headache, abdominal pain and depressed mood *(22,26)*, and greater prevalence of smoking and drinking *(27)*. High support is associated with high life satisfaction *(28),* increased self-efficacy *(29)* and increased levels of physical activity *(30)*.

Schools should strive to create supportive classrooms in which all students feel integrated by initiating school- and class-level practices for behavioural norms and pedagogical methods that promote cooperative learning strategies *(28,31)*.

HBSC survey 2009/2010

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

[a] The former Yugoslav Republic of Macedonia. ◆ Indicates less than +/– 0.5%.

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 proportion who agreed or strongly agreed.

RESULTS

Age

Perceived classmate support was significantly less prevalent with increasing age in most countries and regions for boys and girls. The age-related decline was less than 15% in almost all countries.

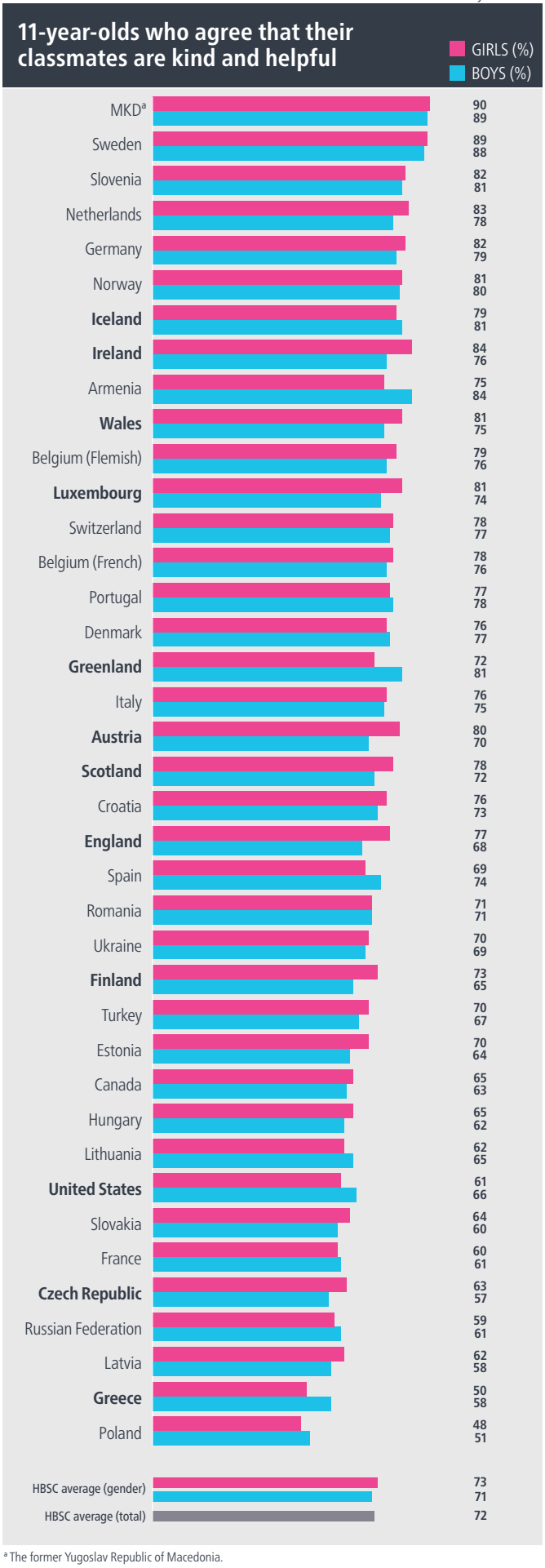
Gender

No clear gender patterns were found.

Family affluence

Increased prevalence of classmate support was significantly associated with high family affluence for boys and girls in around half of countries and regions. The differences in prevalence between young people in low- and high-affluence families were usually less than 15%, with larger differences more frequently observed for girls.

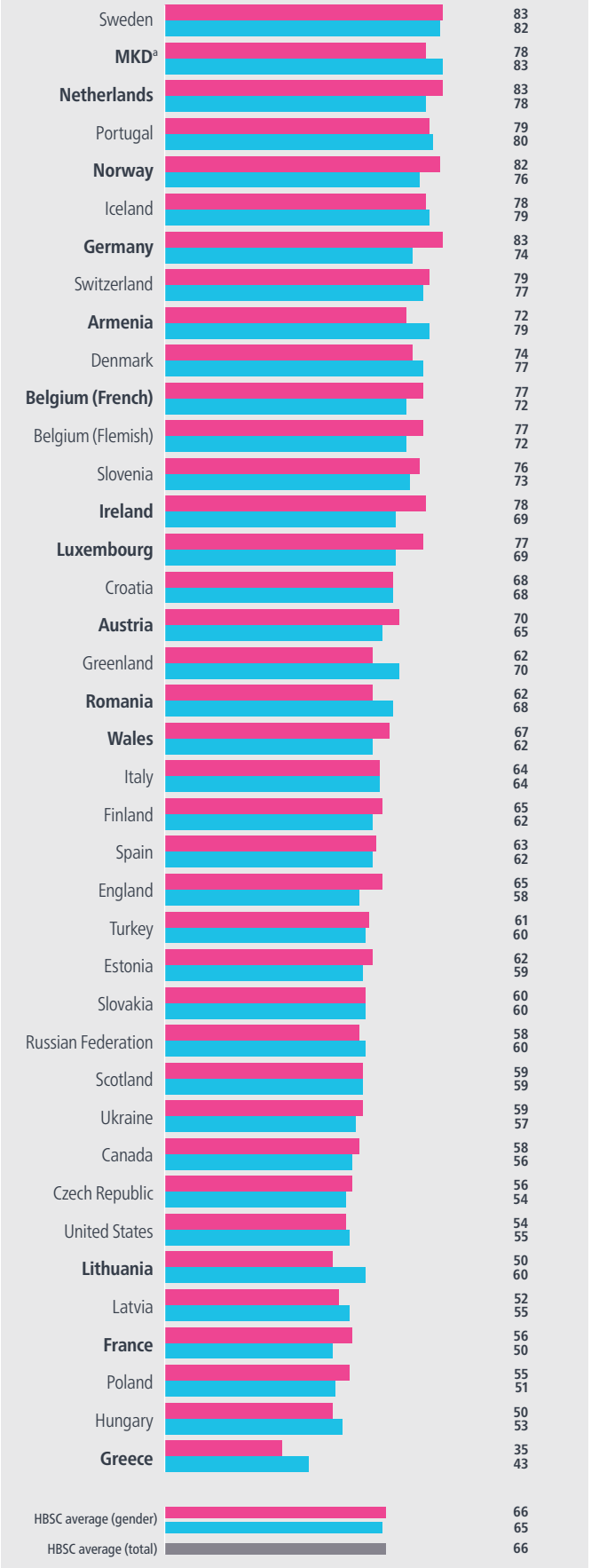
HBSC survey 2009/2010



[a] The former Yugoslav Republic of Macedonia.

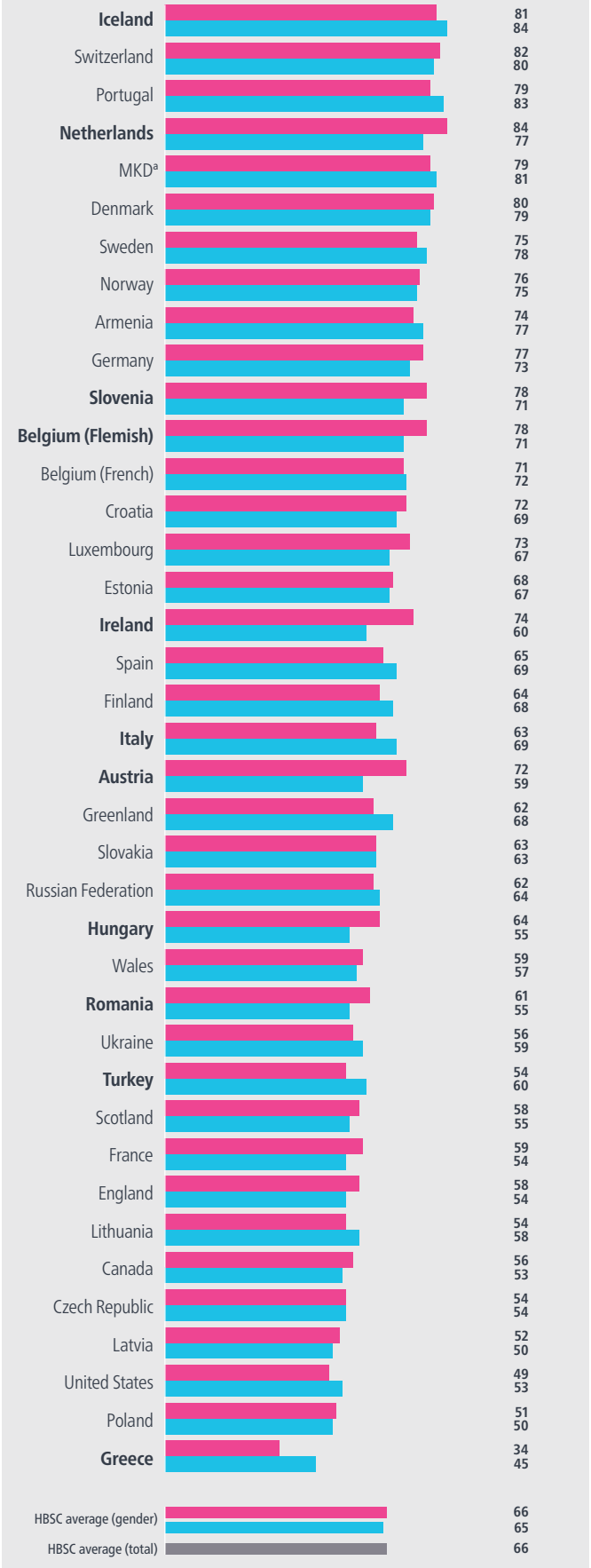
HBSC survey 2009/2010

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



HBSC survey 2009/2010

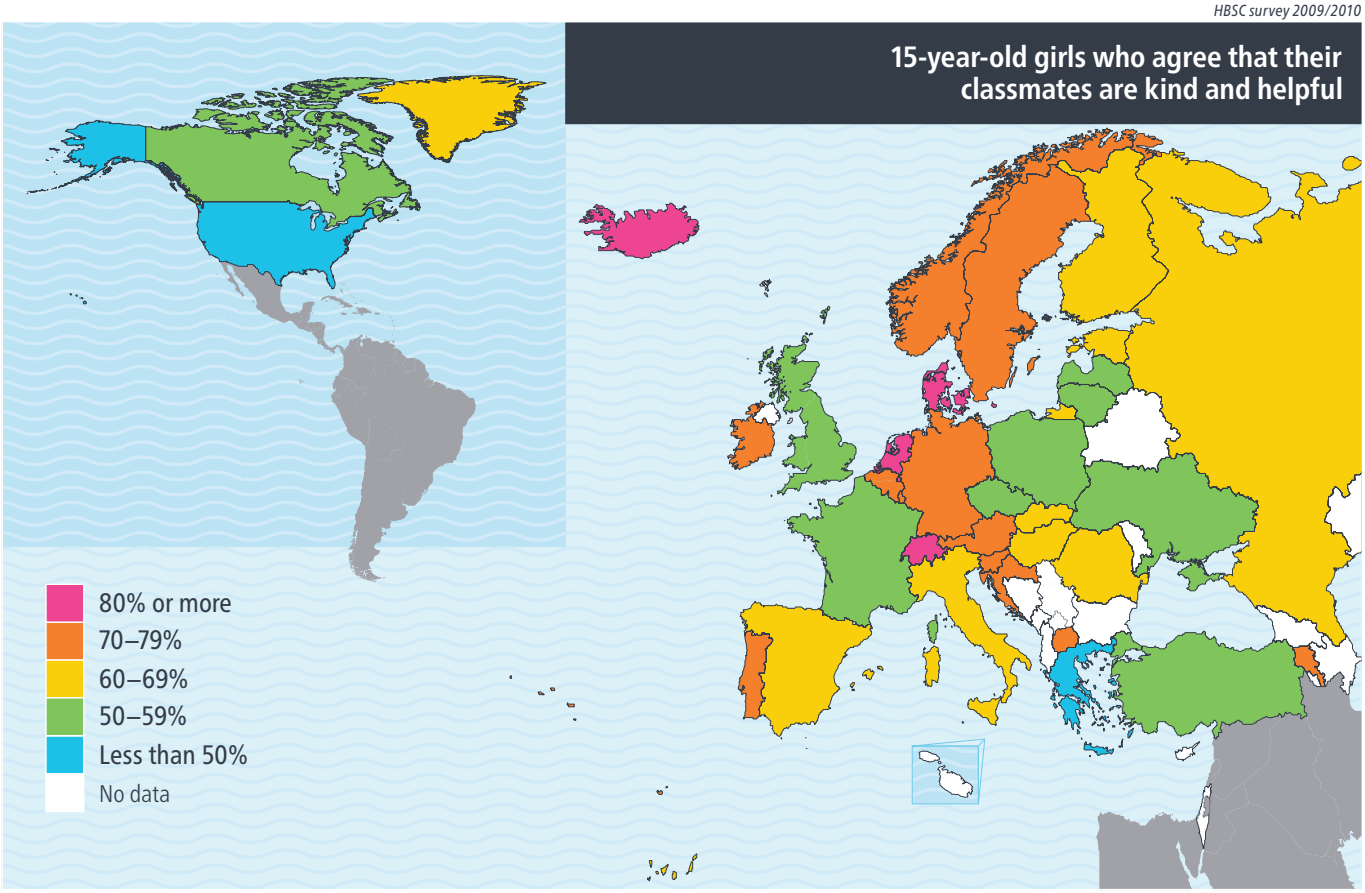
15-year-olds who agree that their classmates are kind and helpful



Note. **Indicates** significant gender difference (at p<0.05).

HBSC survey 2009/2010

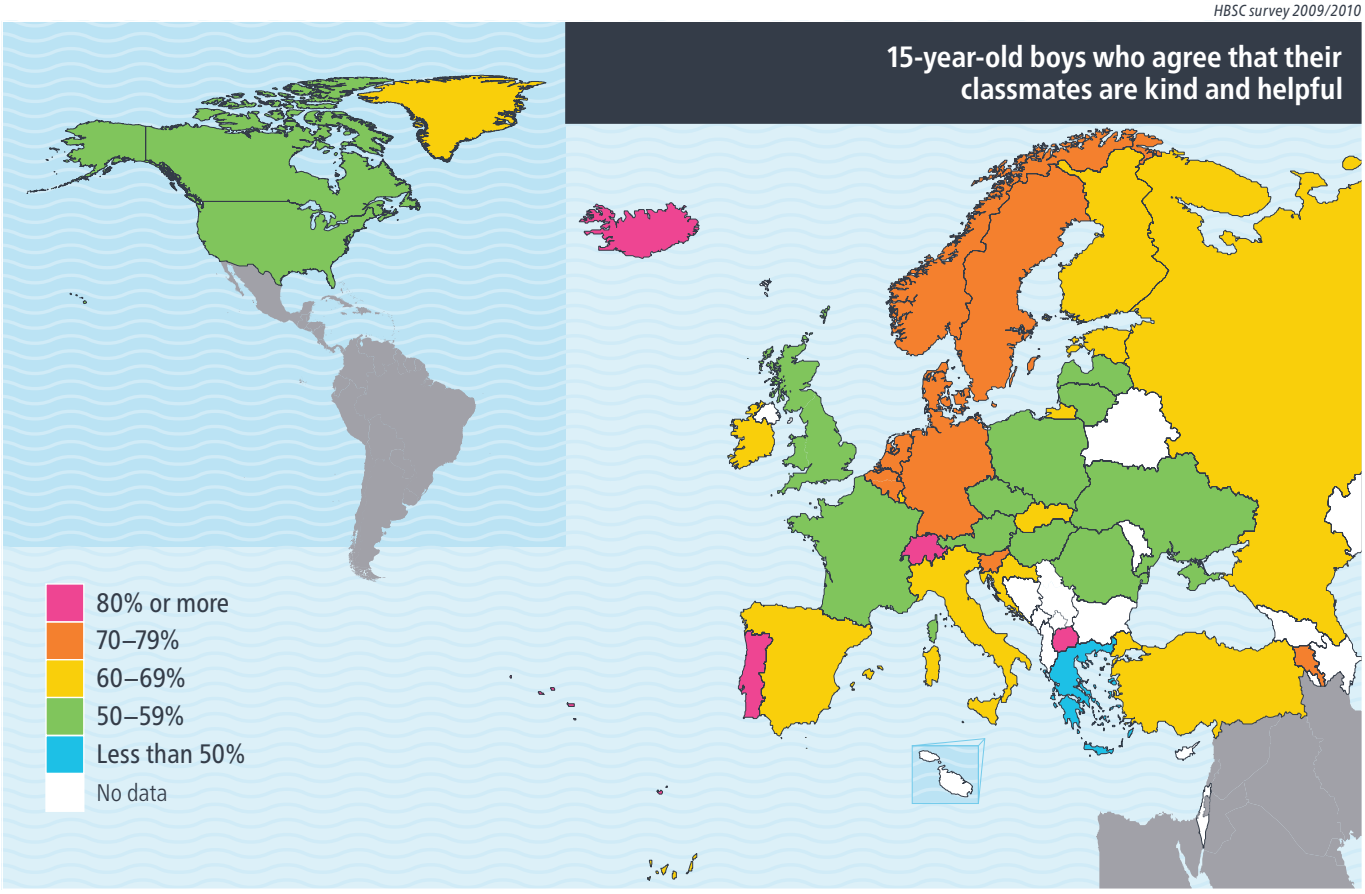
15-year-old girls who agree that their classmates are kind and helpful



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

HBSC survey 2009/2010

15-year-old boys who agree that their classmates are kind and helpful



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

SCHOOL: SCIENTIFIC DISCUSSION AND POLICY REFLECTIONS

SCIENTIFIC DISCUSSION

The school items represent different aspects of young people's school experiences, but share some important characteristics.

First, they provide a perspective on self-determination theory *(20)*, which can support understanding of positive health behaviours such as tobacco abstinence *(32)* and physical activity *(33)*. This theory posits the existence of three basic psychological needs – competence, autonomy and relatedness – that must be met to provide optimal well-being. Competence is represented in the HBSC school items by perceived academic achievement, autonomy by perceived school pressure (in that autonomy acts as a buffer against perceptions of a high workload *(34)*) and relatedness by perceived classmate support, with liking school acting as a proxy for optimal well-being.

Second, perhaps because of their theoretical connections, the school concepts share similar patterns, particularly with respect to age. School perceptions worsen with increasing age across countries and regions, with liking school, perceived academic achievement and, to a lesser extent, classmate support decreasing and perceived school pressure increasing. There is therefore a systematic pattern of school increasingly not meeting students' basic psychological needs from ages 11 to 15.

These findings align with those of Eccles & Roeser *(35)*, among others *(36)*, who suggest that the pattern reflects the mismatch between the environment in middle and secondary schools and young people's needs. At an age when they would benefit from greater connectedness with their teachers and a more supportive school climate, the opposite occurs. School organization tends to become more depersonalized from primary and middle to secondary school, with different teachers for different subjects and, in many countries, different student groups for each subject, stratified by academic level and school.

This increasing lack of environmental fit with student age may be ameliorated through specific school strategies targeting teachers, classroom environments, school structures and education policies *(35)*. The HBSC data, in combination with complex analyses of education systems across countries, may yield insights into how certain systems are providing a more developmentally appropriate school environment.

The gender pattern is less clear. Academia has increasingly focused in recent years on understanding how and why the school environment is gender biased in favour of girls *(37)*. The findings support this view, to an extent: girls tend to like school better and report higher school performance, although there is virtually no difference in gender perceptions of classmate support. Nevertheless, girls' liking of school decreases more drastically across ages, with little difference found by age 15. Boys and girls report increasing school pressure with age, but girls experience more pressure by age 15.

The findings reinforce those of other studies *(38,39)* by showing that higher family affluence is consistently associated with higher perceived academic achievement. Family affluence is suggested to have a direct influence on school performance by enabling parents to reflect the relative importance they ascribe to education through providing more educational resources at home and possibly spending more time helping their children *(40)*.

A low-affluence background does not, however, automatically mean a poor school experience. Young people with high self-efficacy are more willing to invest in learning to overcome difficulties *(41)*, and strengthening relationships between young people and their classmates and teachers can develop self-efficacy *(29,41,42)*. The school environment can therefore be used to bolster young people's resources and, in turn, develop positive health and education outcomes irrespective of family affluence.

POLICY REFLECTIONS

Schools have roles beyond nurturing academic achievement, including promoting students' health and well-being *(40)*. The importance of studying school climate, sometimes called school culture or school environment *(41)*, has consequently gained

prominence. A positive school climate, including supportive, caring teachers, is associated not only with higher academic achievement but also with better self-reporting of students' health, well-being and health behaviours *(43)*.

A positive school climate can be created at classroom and school levels. In the classroom, teachers must be adequately prepared and motivated to meet students' needs through sensitive and responsive pedagogical interactions (*42*). Modifications that appear to have merit include:

- establishing a caring atmosphere that promotes autonomy;
- providing positive feedback;
- not publicly humiliating students who perform poorly; and
- identifying and promoting young people's special interests and skills to acknowledge that schools value the diversity they bring *(44)*.

Strategies and approaches to achieve a positive developmental atmosphere in schools are therefore recommended for pre- and in-service teacher training *(40)*.

At school level, implementation of the concept of the health-promoting school, which not only addresses lifestyle factors such as dieting and physical activity but also social factors, has shown promise in:

- creating a positive school climate;
- developing and maintaining a democratic and participatory school community; and
- implementing a diversity of learning and teaching strategies to better promote student engagement *(45)*.

Health-promoting school outcomes may be largely influenced by teachers' work, organization of the school and relationships with parents and the wider community *(46)*. They can also be influenced by the particular historical, political and cultural context of a school system. Achieving desired health-promoting school outcomes is more complicated and challenging in countries that, for example, have an unstable or highly competitive school system or maintain a more traditional focus on theoretical knowledge, to the detriment of practical competencies, group work and student interaction with teachers and other students.

Comparison of school systems and corresponding HBSC findings on students' school experience may aid identification of facets of school systems that seem to promote a positive school environment and experience for young people.

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CHAPTER 3.
HEALTH OUTCOMES

POSITIVE HEALTH
MEDICALLY ATTENDED INJURIES
BODY WEIGHT

POSITIVE HEALTH: SELF-RATED HEALTH

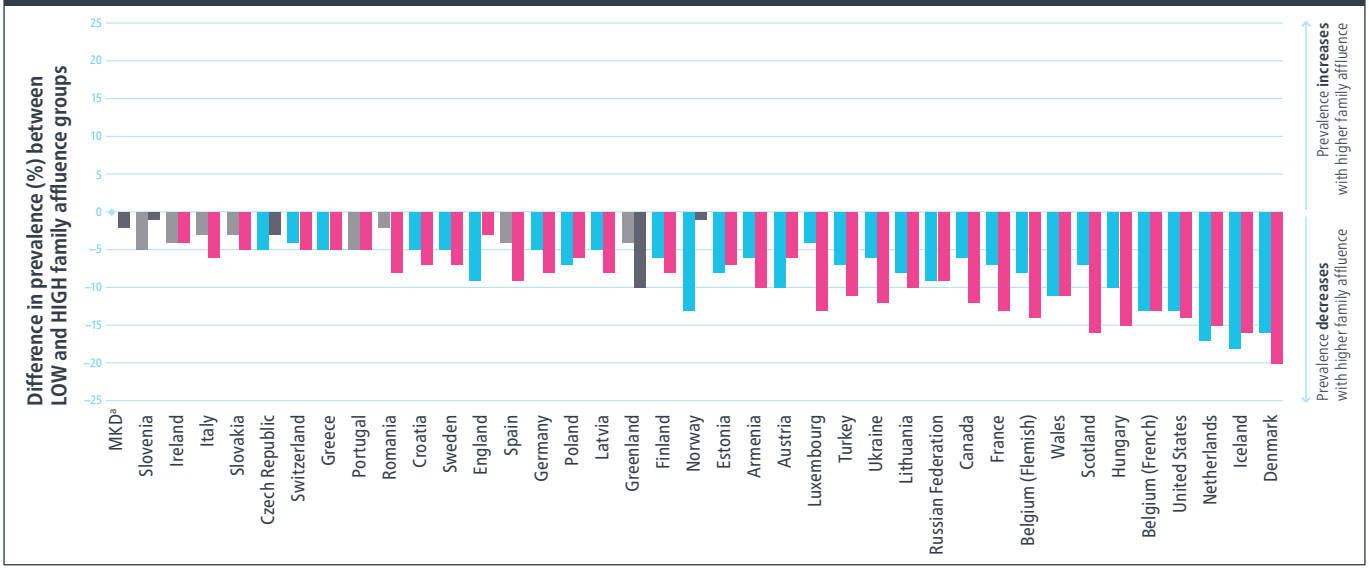
Being in good physical and emotional health enables young people to deal with the challenges of growing and eases their transition to adulthood *(1)*.

Self-rated health is a subjective indicator of general health. Young people's appraisal of their health is thought to be shaped by their overall sense of functioning, including physical and non-physical health dimensions *(2)*, and is associated with a broad range of health indicators: medical, psychological, social and health behaviours *(3)*. Subjective health indicators within adult populations are strongly related to use of health-care services, mortality and morbidity *(4)*.

Background characteristics that predict poor self-rated health include a non-intact family structure, poor communication with parents *(5–7)* and low family affluence. Cultural status is also significant: migrant status, level of education and access to education, health and social services *(8)*.

HBSC survey 2009/2010

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



[a] The former Yugoslav Republic of Macedonia. ◆ Indicates less than +/– 0.5%.

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 who reported their health as either "fair" or "poor."

RESULTS

Age

Older children were more likely to report fair or poor health, with the increase in prevalence being significant in most countries and regions for girls and around half for boys. The change for girls across all age groups was more than 10% in most countries and regions, with smaller changes for boys.

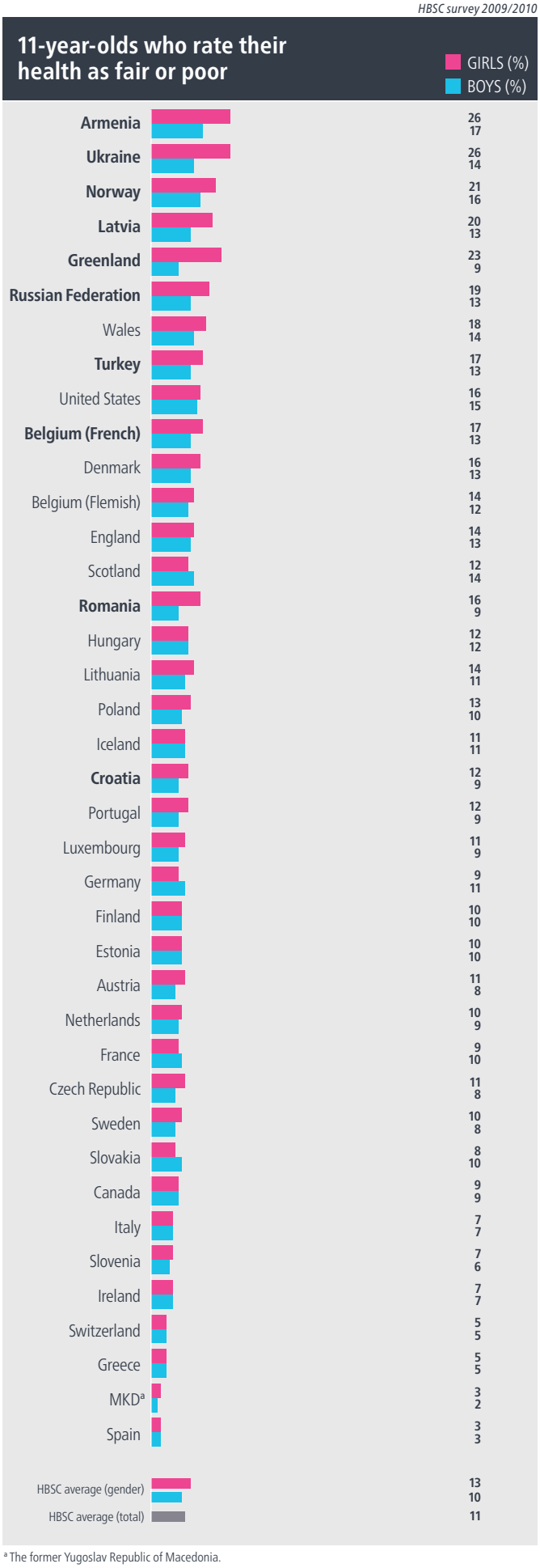
Gender

Girls reported it more frequently. Gender differences at age 11 were significant only in a minority of countries and regions, but in most for 13-year-olds and in almost all for 15-year-olds. The size of gender differences increased with age and was greater than 10% in around half of countries and regions at age 15.

Family affluence

Low family affluence was significantly associated with poorer health in most countries and regions for both genders. The difference between low- and high-affluence families was more than 5% for girls in almost all countries and regions, and more than 10% in just under half. Differences were present in fewer countries and regions for boys.

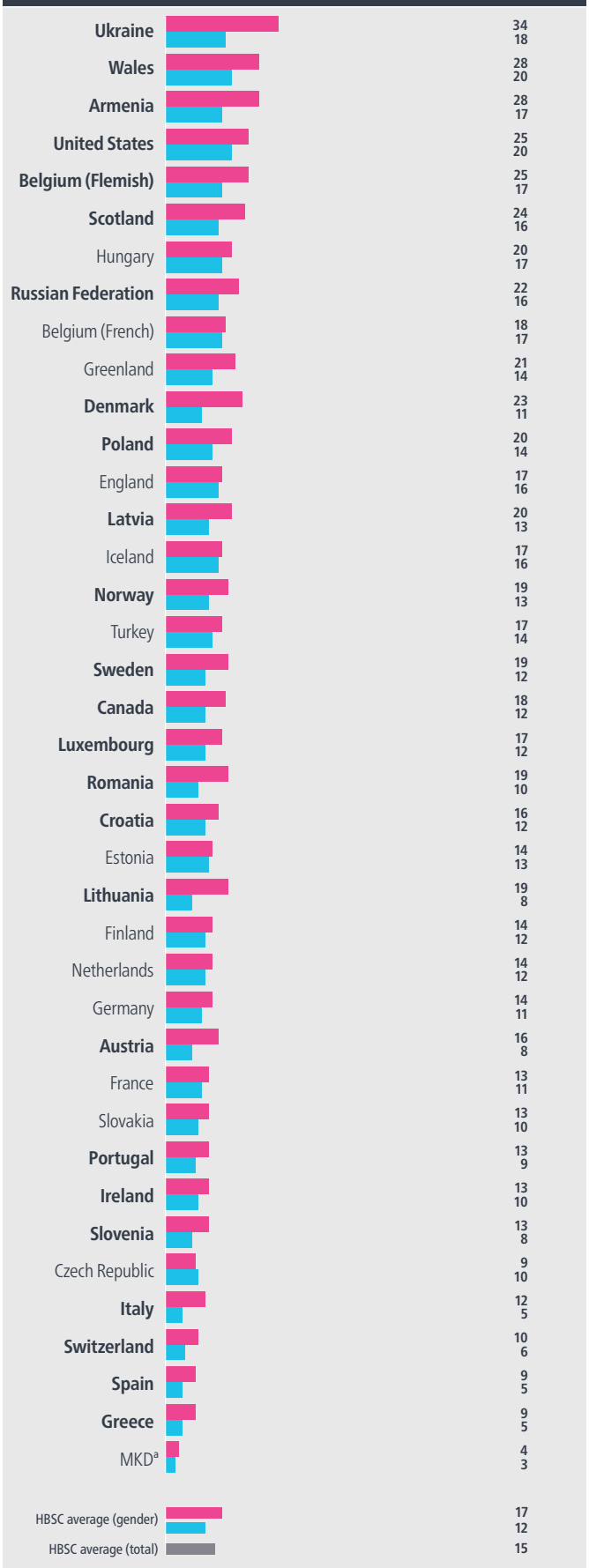
HBSC survey 2009/2010



[a] The former Yugoslav Republic of Macedonia.

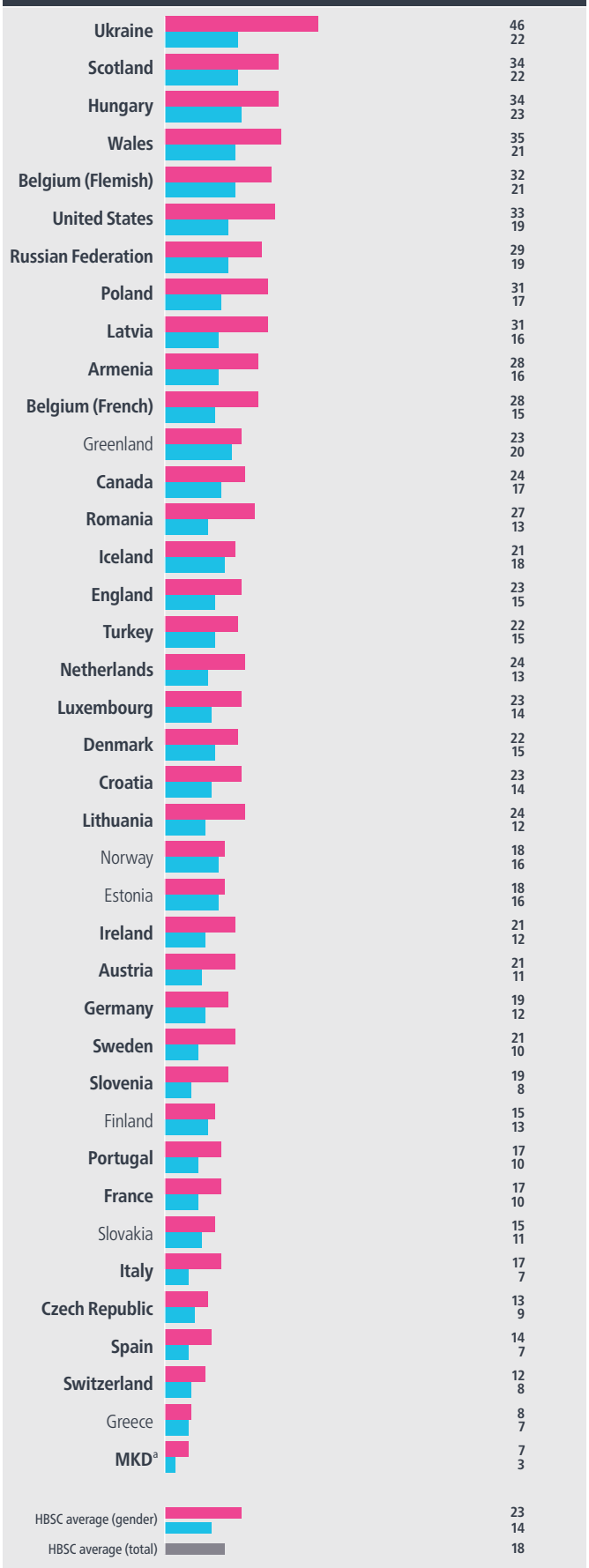
HBSC survey 2009/2010

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



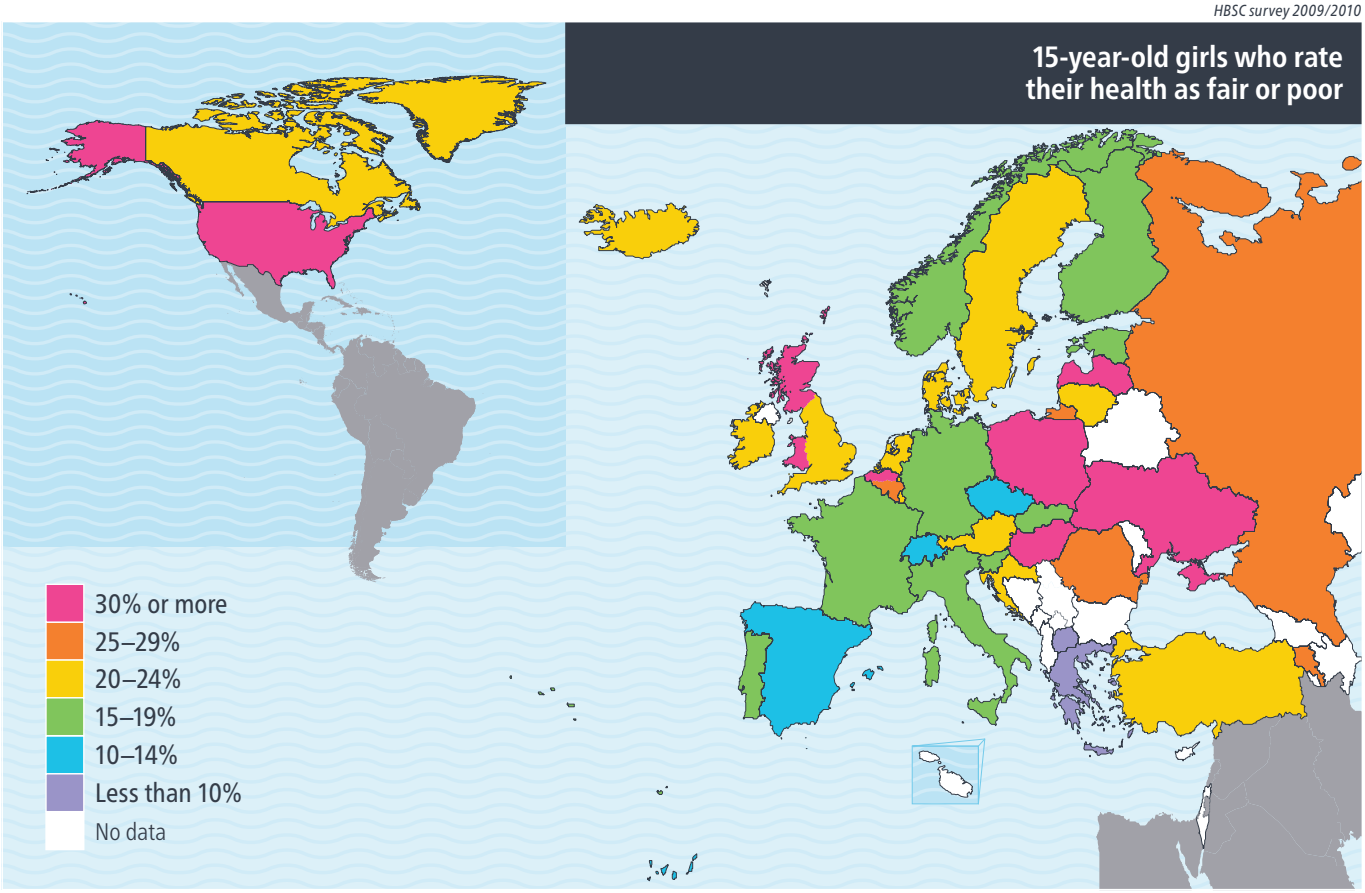
HBSC survey 2009/2010

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



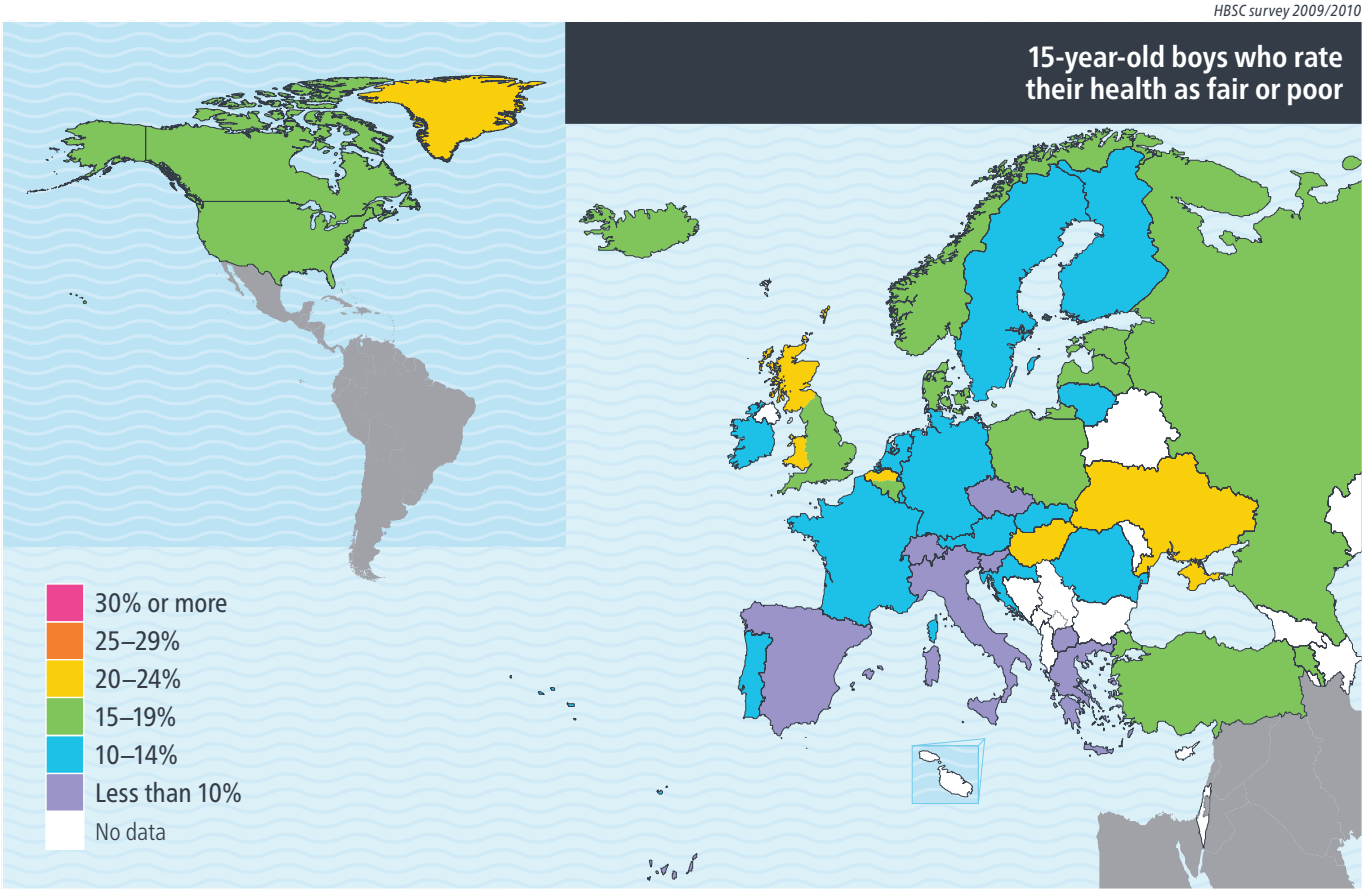
Note. **Indicates** significant gender difference (at p<0.05).

HBSC survey 2009/2010



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

HBSC survey 2009/2010



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

POSITIVE HEALTH: LIFE SATISFACTION

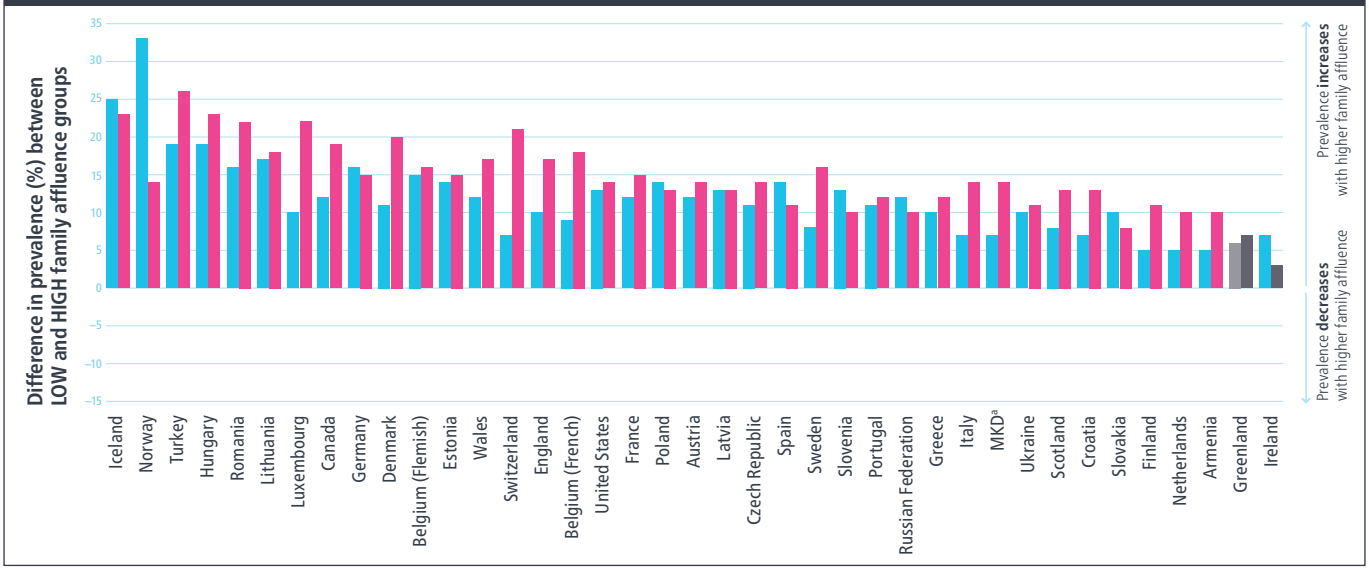
Life satisfaction, an evaluation of an individual's quality of life, is an important aspect of well-being *(9)* that is closely linked to subjective health *(10)*. Happiness in childhood is associated with social competence and good coping skills that lead to more positive outcomes in adulthood *(11)*.

Life satisfaction in young people is strongly influenced by experiences and relationships. Key protective factors include a sense of parent/family connectedness, with social support being supplied by at least one caring adult; good family communication *(12)*; and supportive peers who can help them to adjust to new situations and face stressful life events *(13)*. It is also linked with family structure: children and young people who live with both parents express higher life satisfaction than those living with other relatives, non-relatives and/or guardians *(14)*.

The school environment plays an important role. Acquiring academic competence is a developmental goal *(15)*, with academic success having a strong positive effect on life satisfaction *(16)*. Factors associated with low life satisfaction and low subjective health include bullying *(17)* and psychosocial issues *(18)*.

HBSC survey 2009/2010

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



[a] The former Yugoslav Republic of Macedonia.

MEASURE

Young people were asked to rate their life satisfaction using a visual analogue scale. The "Cantril ladder" has 11 steps: the top of the ladder indicates the best possible life and the bottom, the worst. Respondents were asked to indicate the step of the ladder at which they would place their lives at present (from "0" to "10"). High life satisfaction was defined as reporting a score of "6" or more.

RESULTS

Age

Prevalence of positive life satisfaction significantly declined between ages 11 and 15 in almost all countries and regions for girls and in some for boys. Prevalence in girls decreased with age by more than 10% in almost half of countries and regions, with a smaller decrease for boys.

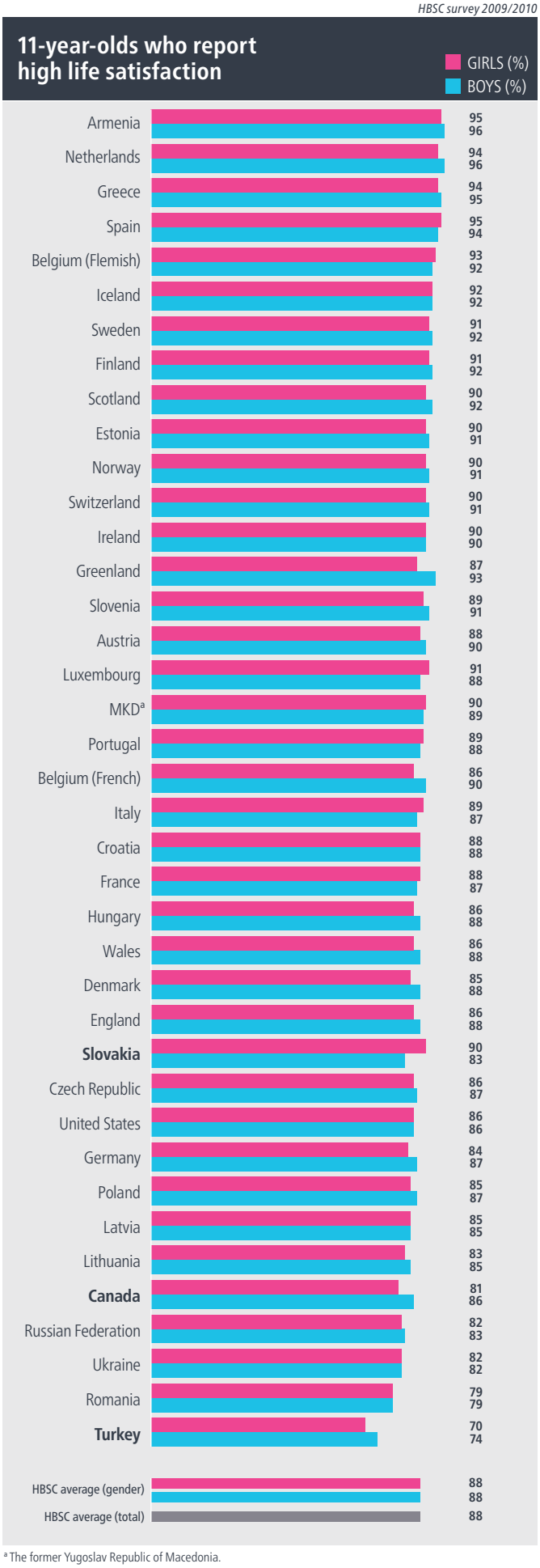
Gender

Boys reported a significantly higher prevalence in most countries and regions at age 15 but in fewer than half at 13. There was less evidence of a significant gender difference at age 11. Gender differences were not large at any age and only exceeded 10% in a few countries and regions at age 15.

Family affluence

Affluence was significantly positively associated with high life satisfaction in nearly all countries and regions for boys and girls. Difference in prevalence between low- and high-affluence groups tended to be greater among girls, exceeding 15% in just under half of countries and regions.

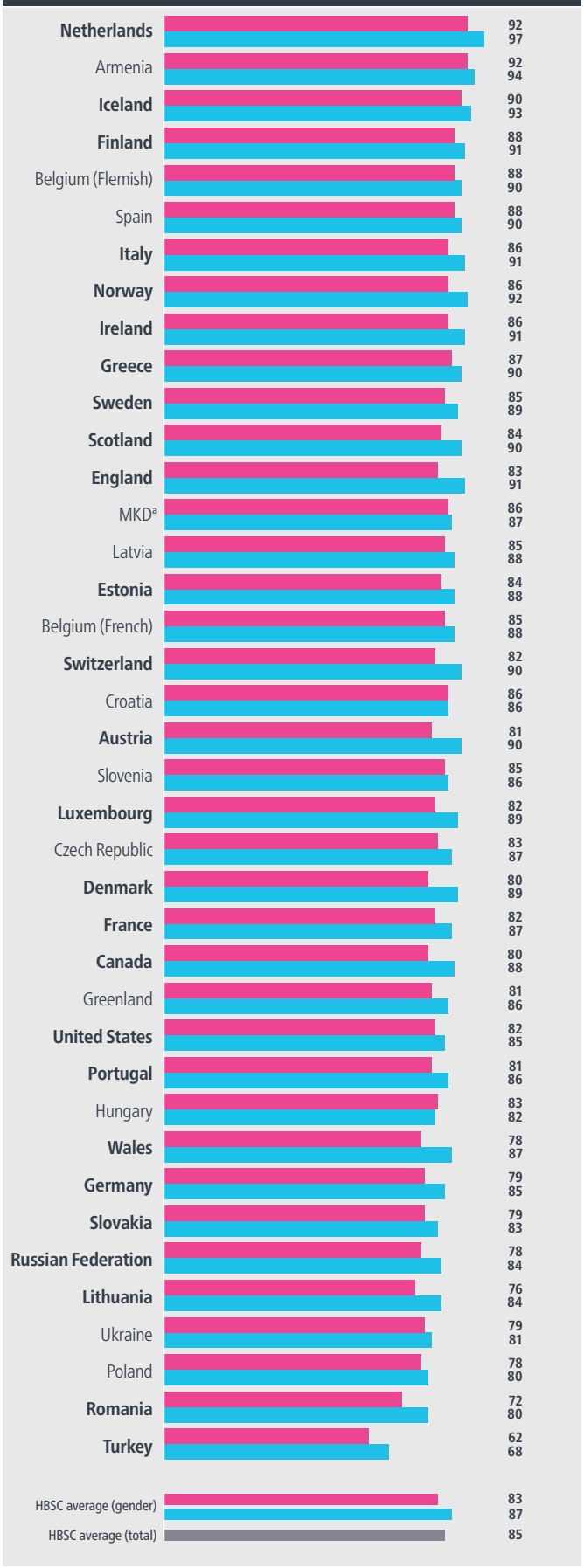
HBSC survey 2009/2010



[a] The former Yugoslav Republic of Macedonia.

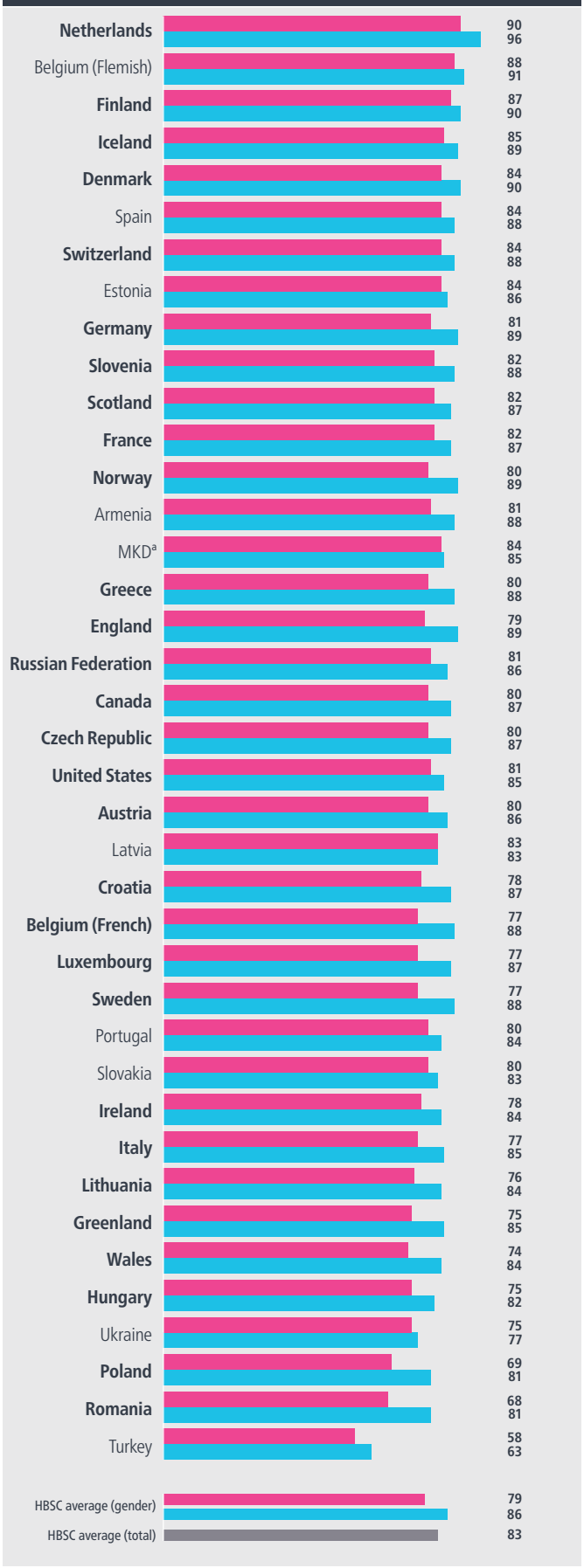
HBSC survey 2009/2010

13-year-olds who report high life satisfaction



HBSC survey 2009/2010

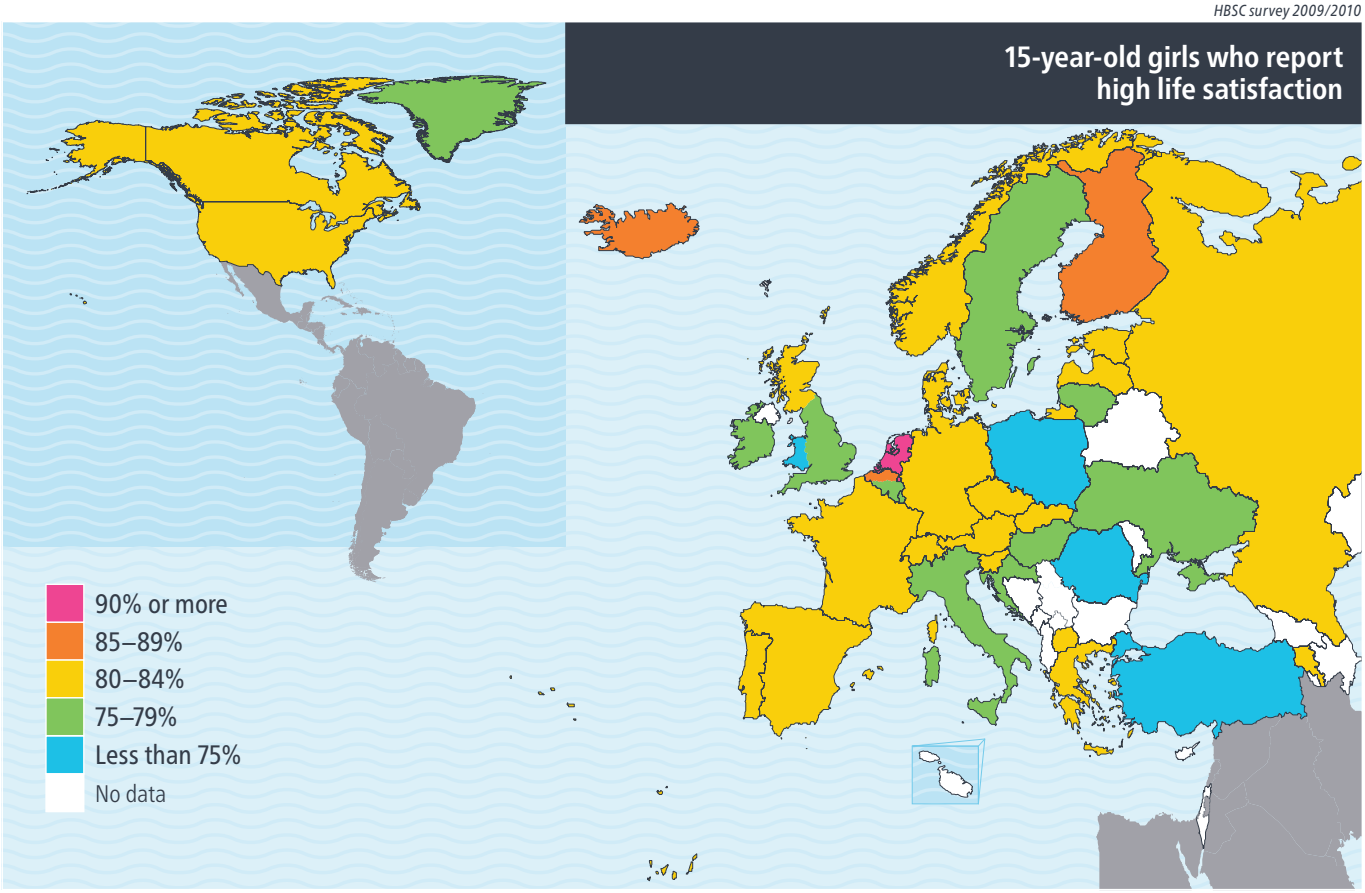
15-year-olds who report high life satisfaction



Note. **Indicates** significant gender difference (at p<0.05).

HBSC survey 2009/2010

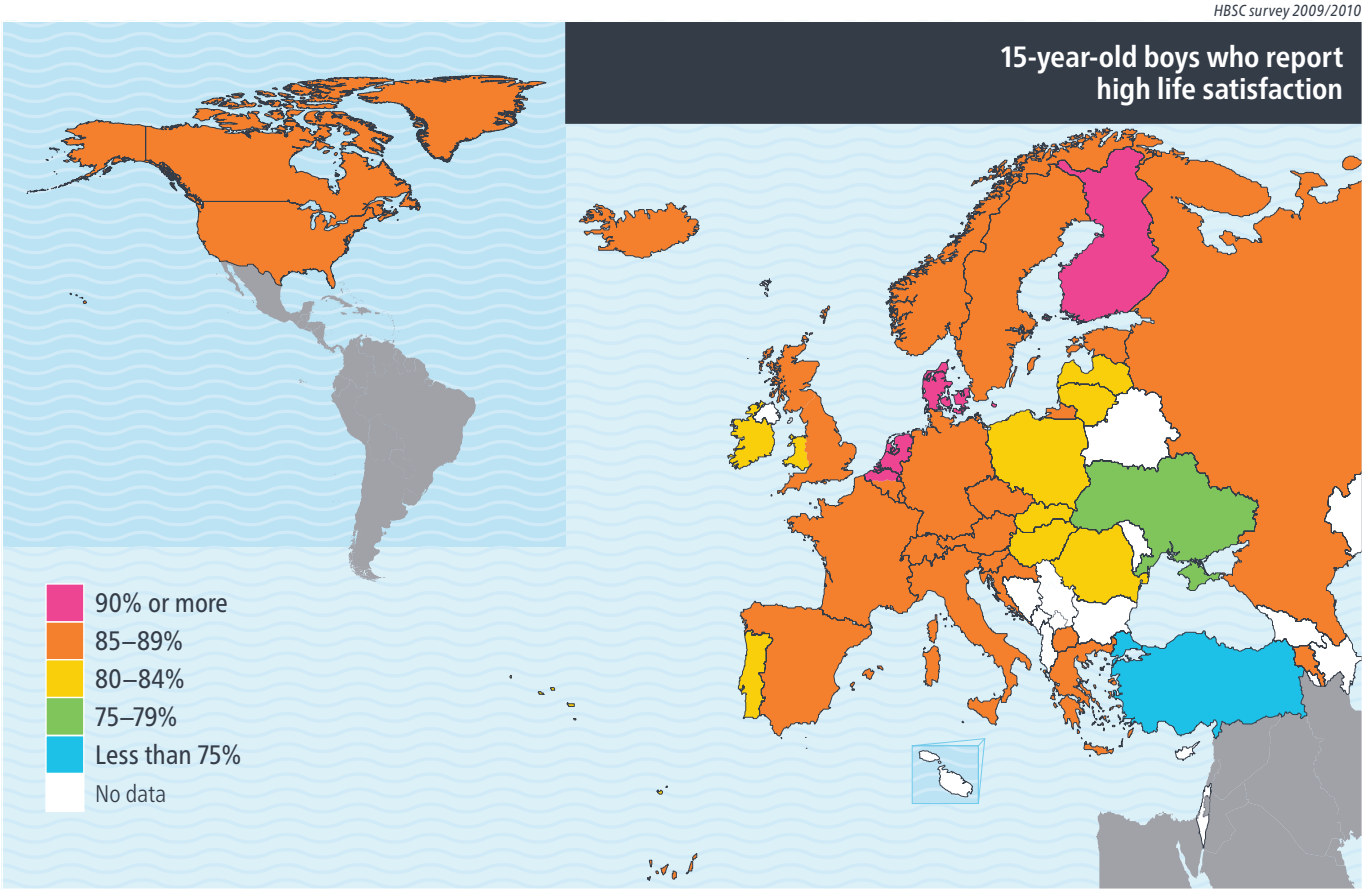
15-year-old girls who report high life satisfaction



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

HBSC survey 2009/2010

15-year-old boys who report high life satisfaction



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

POSITIVE HEALTH: MULTIPLE HEALTH COMPLAINTS

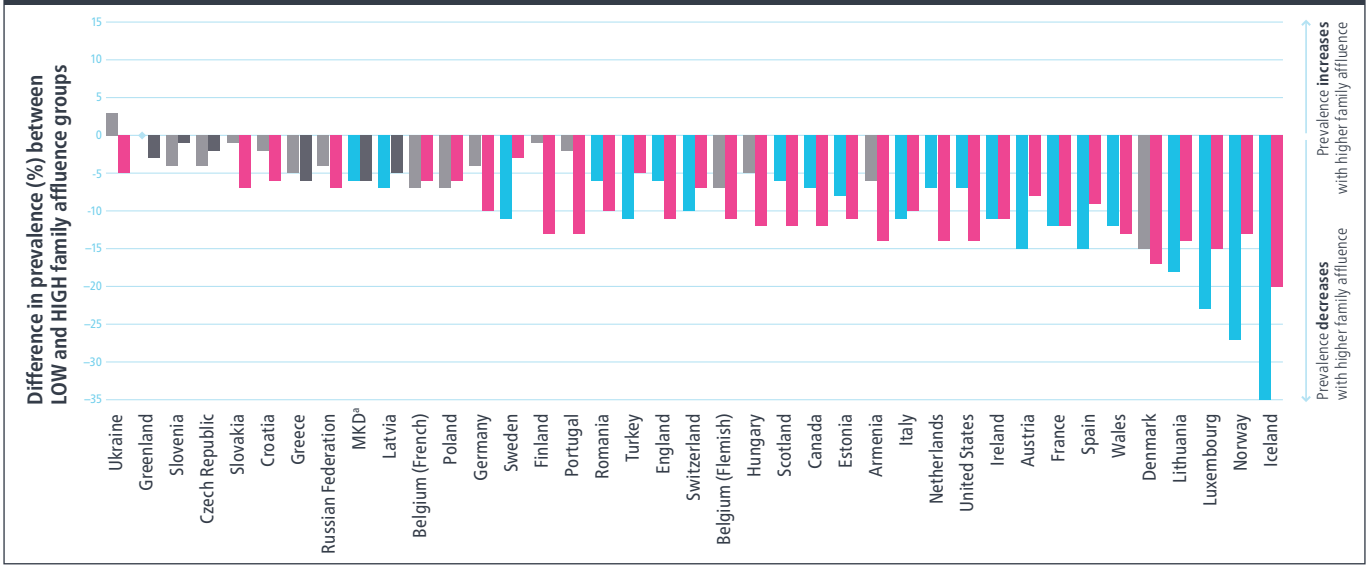
Health complaints, which include somatic (headaches, backaches) and psychological (nervousness or irritability) symptoms, are important indicators of well-being. They tend to occur together *(1,19,20)*, so can place an immense burden on not only the individual but also the health-care system.

Frequent or sustained stress leads to emotional and physiological stress, which in turn affects the development of frequent complaints *(20)*. Psychosomatic complaints are associated with family conflicts, bullying, lack of acceptance by peers and lack of support from parents and teachers *(21)*.

Positive family relationships are strongly associated with better health for young people *(22)* and family stress is related to greater health problems *(23,24)*. School has been identified as a protective factor against multiple health complaints *(25)*.

HBSC survey 2009/2010

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



[a] The former Yugoslav Republic of Macedonia. ◆ Indicates less than +/- 0.5%.

MEASURE

Young people were asked how often they had experienced the following symptoms in the last six months: 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 show the proportions who reported multiple (two or more) health complaints more than once a week in the past six months.

The HBSC symptom checklist presents a non-clinical measure of mental health reflecting two facets of health, one psychological and one somatic *(1,2,26,27)*. All items on the checklist can be used together to measure psychosomatic complaints *(28)*.

RESULTS

Age

Prevalence of multiple health complaints increased with age among girls, with the difference exceeding 10% in most countries and regions. Only a few had a significant increase in prevalence for boys between ages 11 and 15.

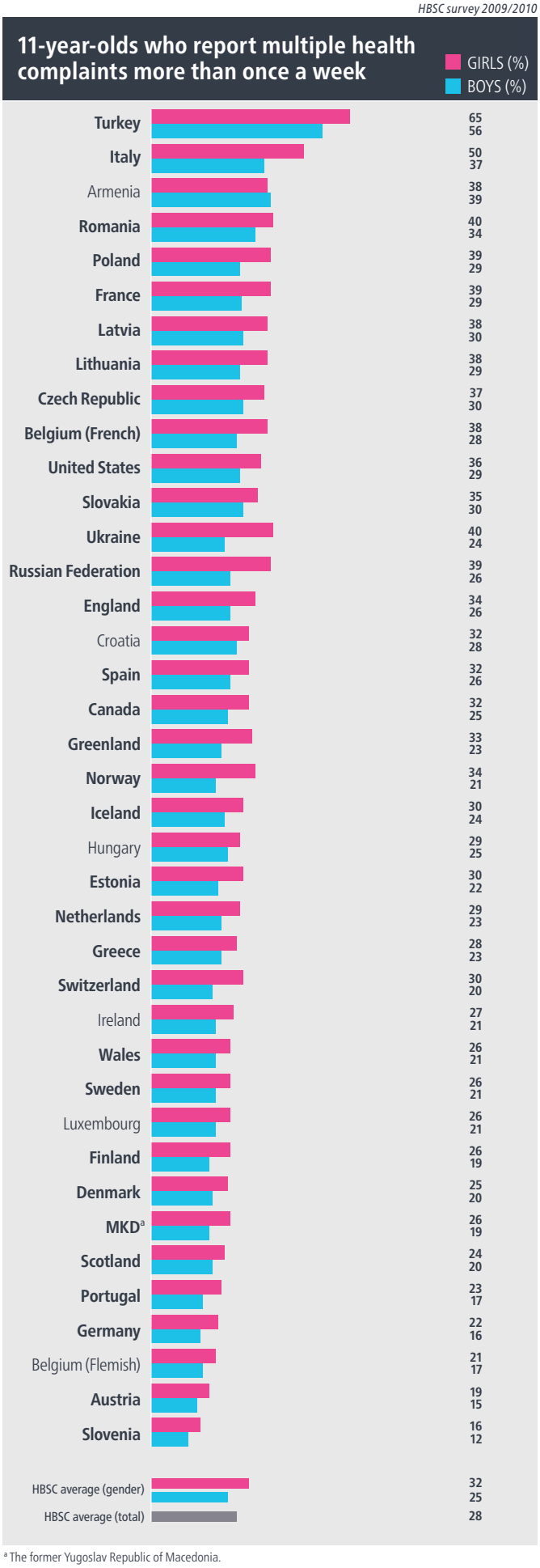
Gender

Girls in almost all countries and regions were significantly more likely to report multiple health complaints. Gender differences in prevalence increased with age: a minority of countries and regions showed more than 10% difference at age 11, but most did so at 15.

Family affluence

Higher prevalence was significantly associated with lower family affluence in almost all countries and regions for girls and in most for boys. The difference between low- and high-affluence groups was more than 10% for girls in half of countries and regions, with smaller differences for boys.

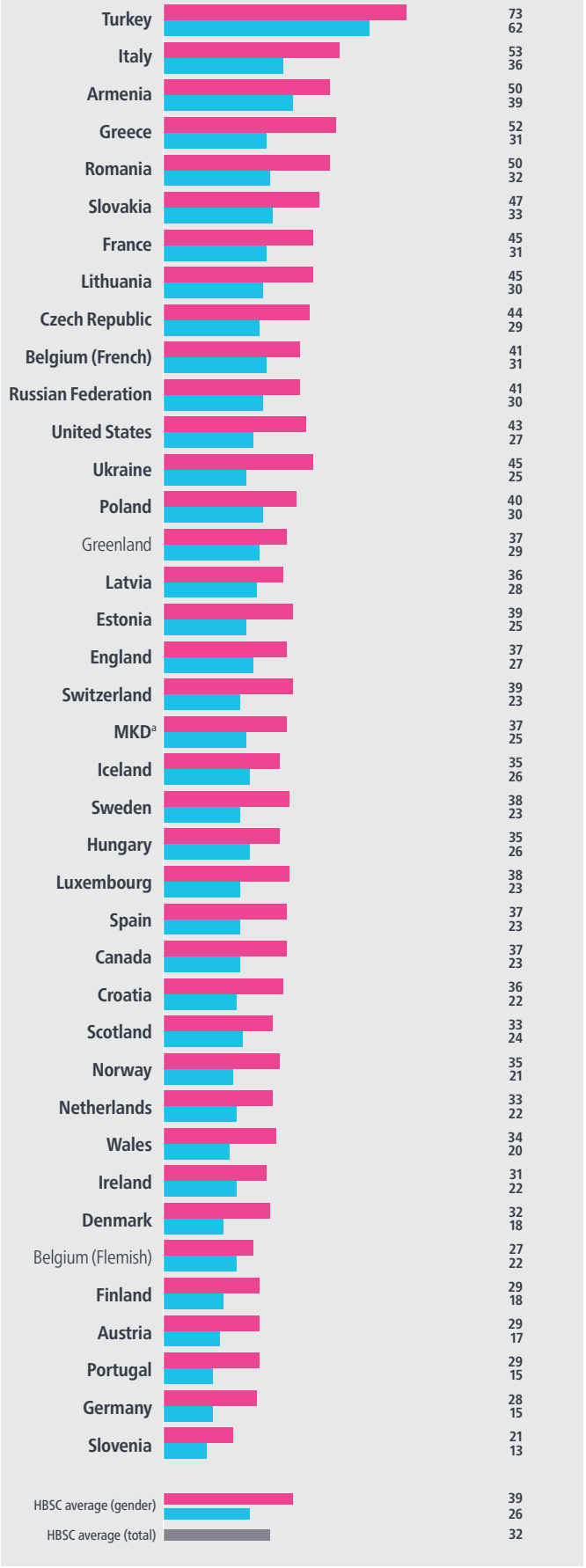
HBSC survey 2009/2010



[a] The former Yugoslav Republic of Macedonia.

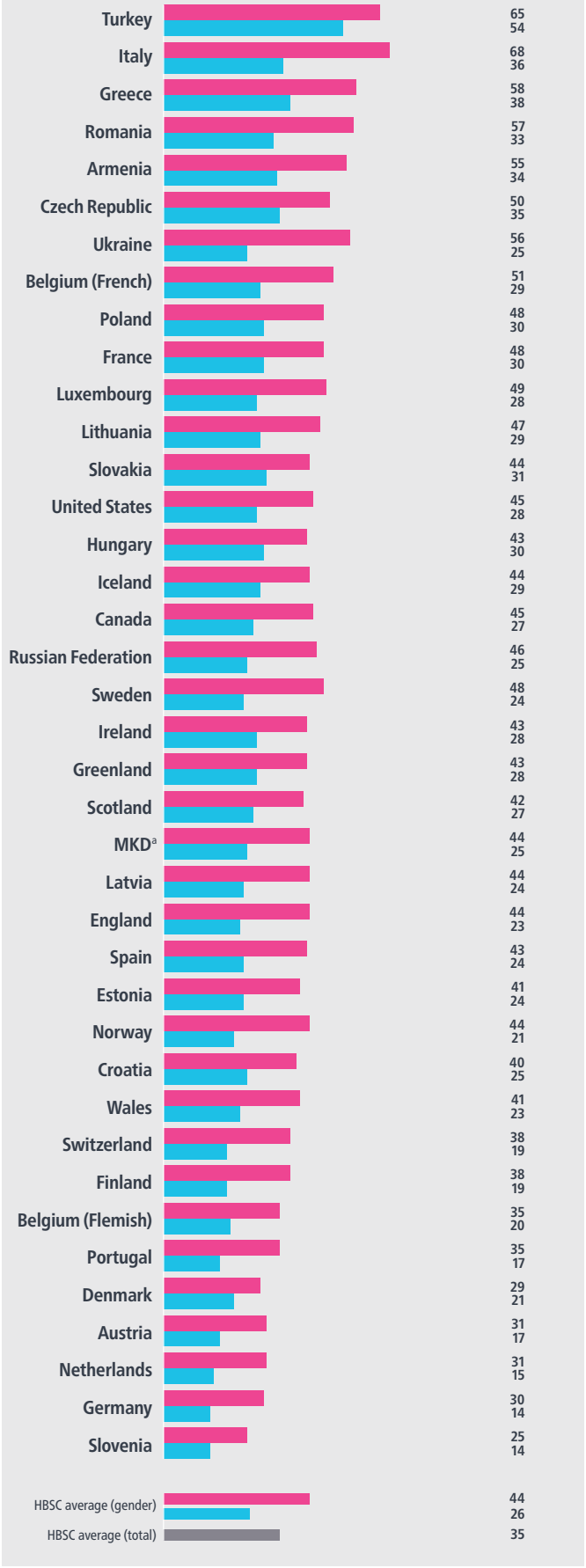
HBSC survey 2009/2010

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



HBSC survey 2009/2010

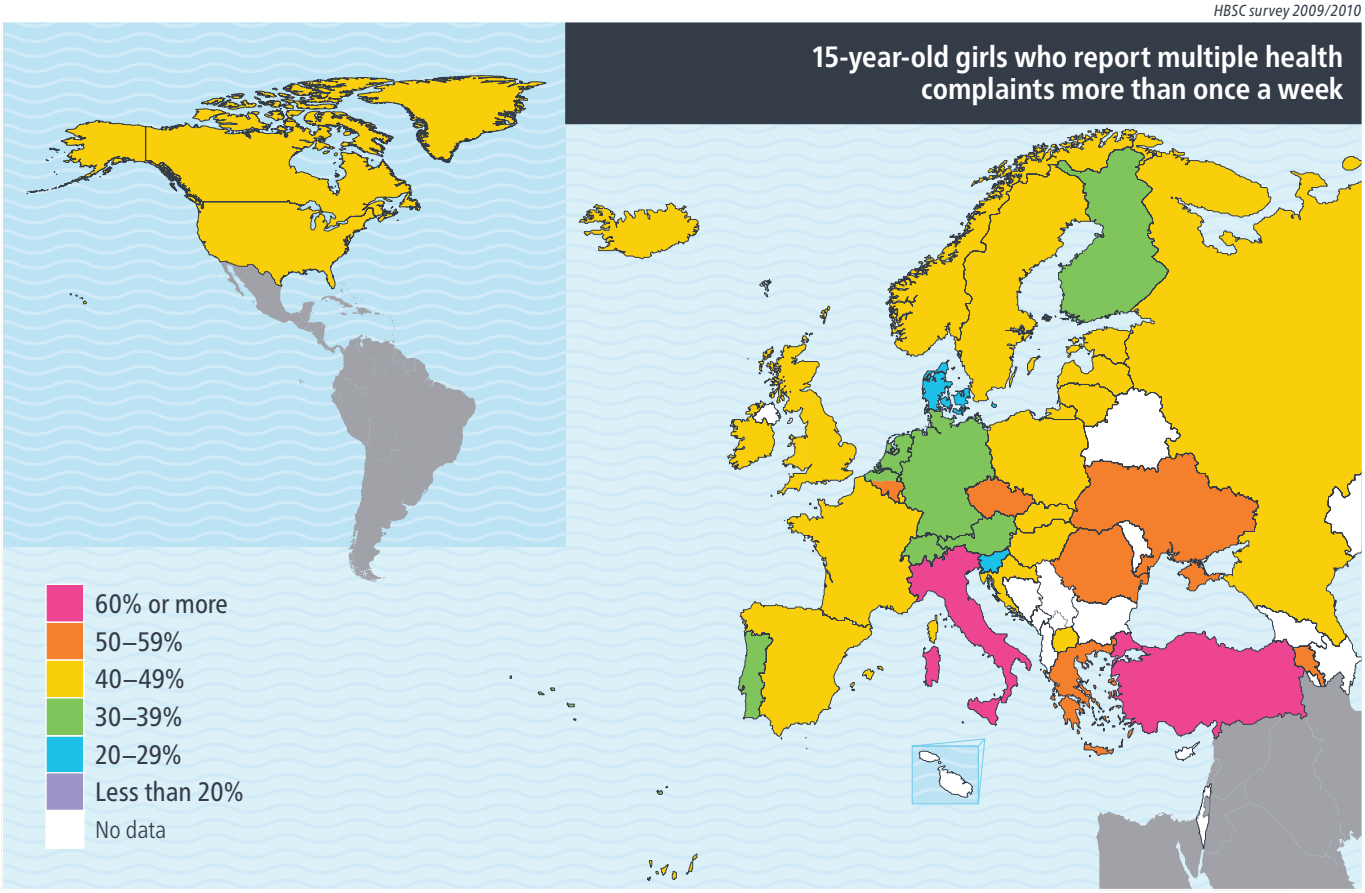
15-year-olds who report multiple health complaints more than once a week



Note. **Indicates** significant gender difference (at p<0.05).

HBSC survey 2009/2010

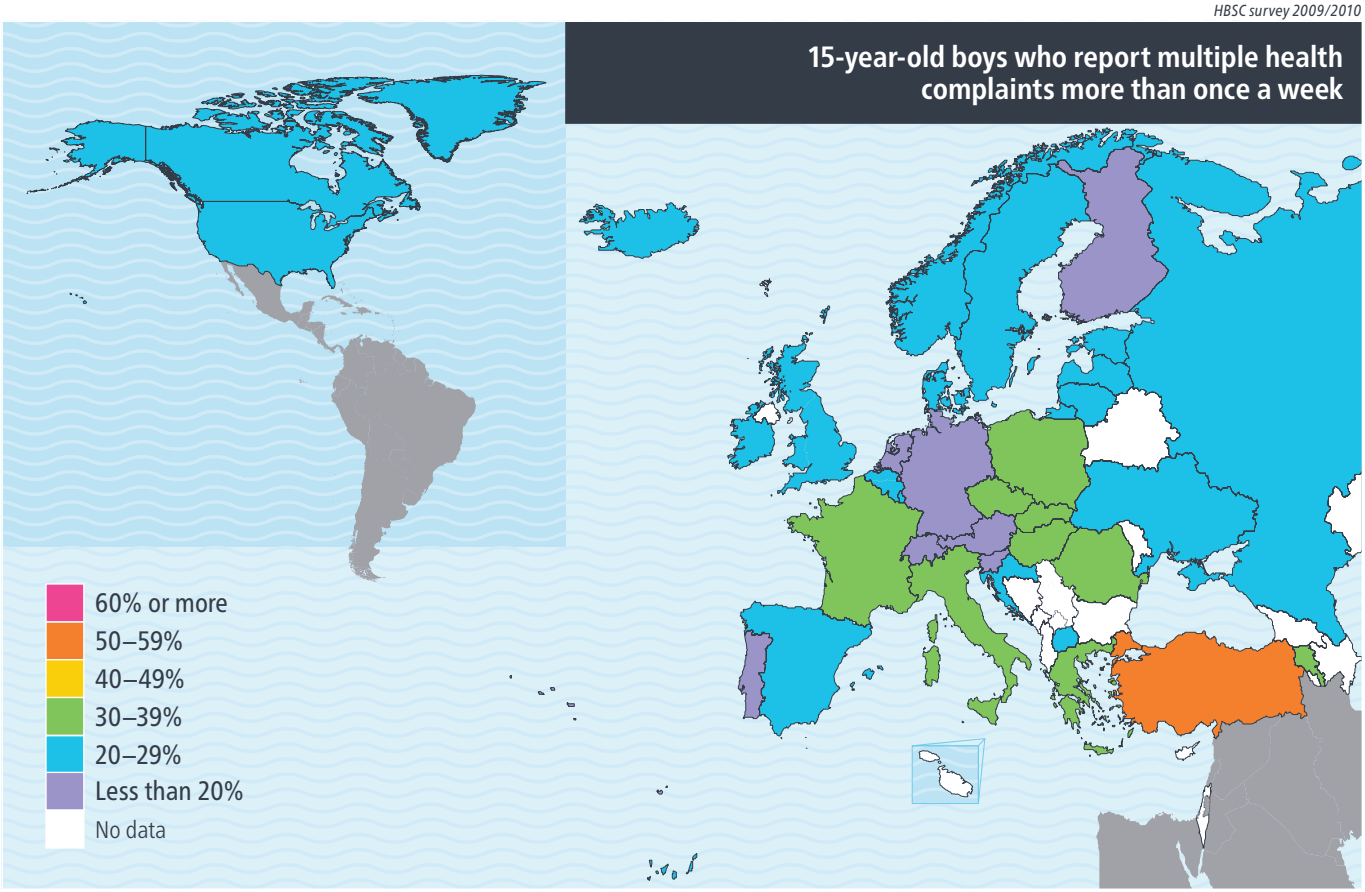
15-year-old girls who report multiple health complaints more than once a week



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

HBSC survey 2009/2010

15-year-old boys who report multiple health complaints more than once a week



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

POSITIVE HEALTH: SCIENTIFIC DISCUSSION AND POLICY REFLECTIONS

SCIENTIFIC DISCUSSION

Young people in general experience good health, but large differences exist *(29)*. Consistent with previous research *(30,31)*, girls report poorer health outcomes and are at greater risk of poor self-rated health, low life satisfaction and multiple health complaints. This may be explained by different internalization and externalization patterns, but gender-specific experiences of puberty may also play a role *(31)*.

Girls face more hormonal changes between ages 11 and 15 *(32)*, tend to be more willing to express their feelings and emotions *(33)* and are more prone to worry about their health *(34)*. Gender differences in almost all countries and regions become more pronounced with age, with older girls systematically being worst off *(18)*. Increased reporting of symptoms with age may be related to stress at school *(23)*, a negative home environment *(35)* and poor social relationships *(29,36)*.

Friendships and the quality of relationships are important factors affecting subjective health outcomes such as life satisfaction *(37)*. Lower life satisfaction in girls may reflect changing interpersonal relationships as they grow older, which may be mainly related to family relationships rather than those with friends *(18)*. The greater effect on girls may be due to their ability to understand and internalize the dynamics of interpersonal relationships *(38)*. Girls also show greater dissatisfaction with their body image, which specifically affects their self-esteem, life satisfaction and mental health *(39)*.

Cross-cultural data suggest that life satisfaction is associated with financial satisfaction *(40)*. High family affluence is associated with better health, higher life satisfaction and fewer health complaints in most countries. Research on family affluence suggests that children from families with lower SES rate their health lower *(6,41)* and countries with lower SES tend to have a higher prevalence of subjective health problems. Individuals' SES may influence their health status and self-perceived health directly through material conditions and indirectly through psychosocial factors mediated by socioeconomic position in society *(42)*.

The three aspects of health and well-being show no common geographic patterns.

POLICY REFLECTIONS

The findings suggest that the balance between programmes aiming to improve young people's physical and psychosocial health needs to be redressed (*43*). The coexistence of physical and psychological symptoms suggests that implementing general programmes in school that aim to build young people's skills and competencies in coping during this difficult life stage are likely to be more effective. Further work is required to ensure that polices are supported by implementation plans informed by detailed knowledge of maturation processes.

Resilience theory emphasizes the significance of personal assets in protecting against adverse living conditions *(44)*. HBSC data highlight important differences in inequalities in self-rated health, life satisfaction and multiple health complaints among boys and girls, countries and regions, and social groups within them *(45)*. Given what is already known about the effect of health inequalities in childhood on future health, it is important to ensure that programmes aimed at young people are evaluated to understand their relative effectiveness across all dimensions of inequalities.

Education is a fundamental determinant of health from a life-course perspective, so it would be appropriate to merge programmes promoting mental health with those providing equal education opportunities to students from different social backgrounds *(46)*.

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MEDICALLY ATTENDED INJURIES

Injury is the greatest single cause of death and serious illness in young people in most developed countries, accounting for 36% of deaths in those under 15 years *(1)*. Injury risk increases across childhood *(1)*. Non-fatal injuries carry medical, psychological and social consequences that impose a significant health, social and economic burden on societies.

Injuries during adolescence can be seen as a marker for a high-risk lifestyle that includes multiple risk-taking behaviours and associated health-related consequences *(2)*. Studies have reported how injury is linked with other risk behaviours such as substance use *(3,4)* and truancy *(5)* and is related to frequent engagement in physical activity *(4,6)*. Understanding the factors that contribute to the occurrence of injury among young people is fundamental to developing interventions to control and prevent serious injuries and death *(7,8)*.

HBSC survey 2009/2010

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

[a] The former Yugoslav Republic of Macedonia. ◆ Indicates less than +/– 0.5%.

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 depict the proportions who reported having a medically attended injury at least once.

RESULTS

Age

No significant difference in prevalence of injury was found between ages 11 and 15 in most countries and regions for boys and girls. An increase was observed between ages 11 and 13 in some countries, with a subsequent decrease at age 15.

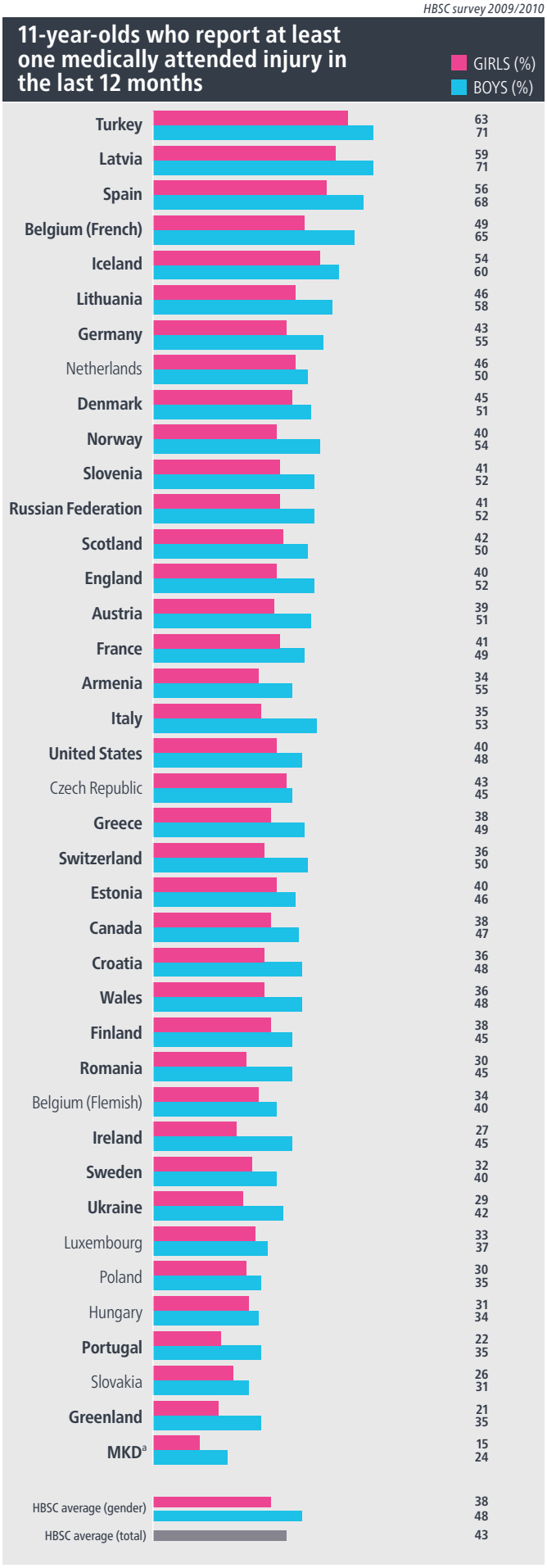
Gender

Boys were significantly more likely to report injury in almost all countries and regions, and across all age groups, with gender differences in prevalence of more than 10% in around half of countries and regions.

Family affluence

Prevalence was significantly higher among young people from more affluent families in most countries and regions, but the difference between low- and high-affluence groups was more than 10% in only a few.

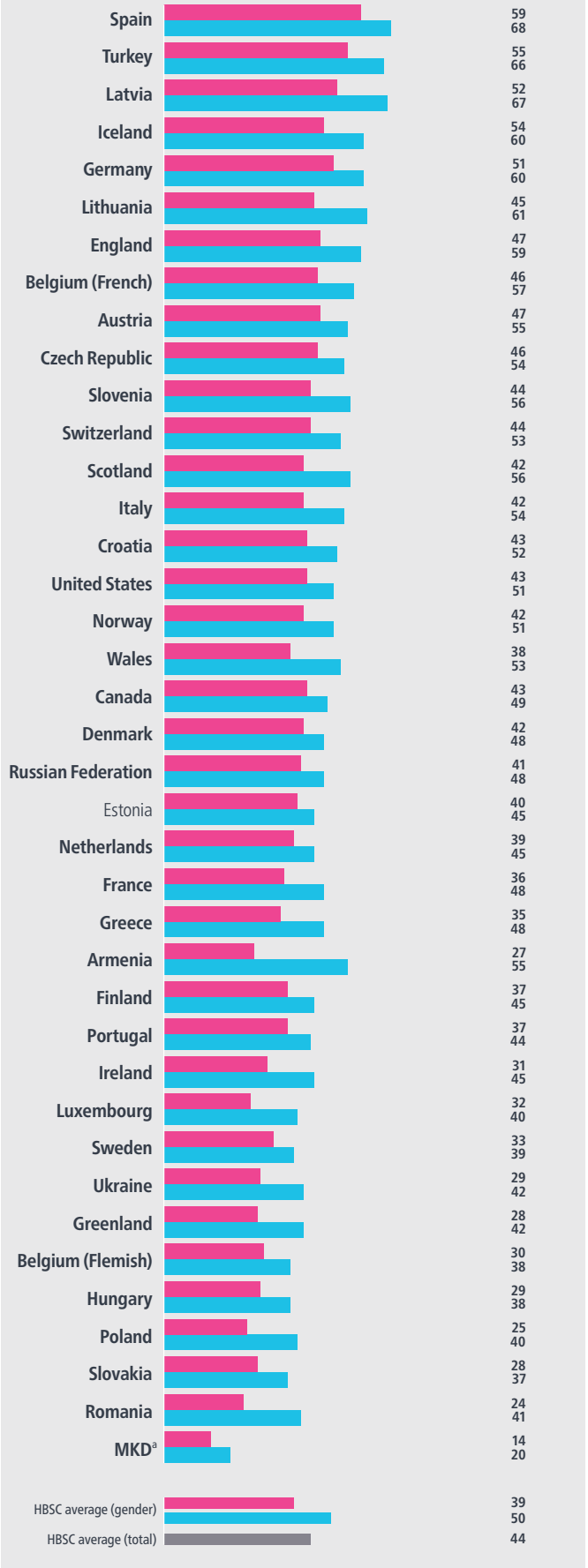
HBSC survey 2009/2010



[a] The former Yugoslav Republic of Macedonia.

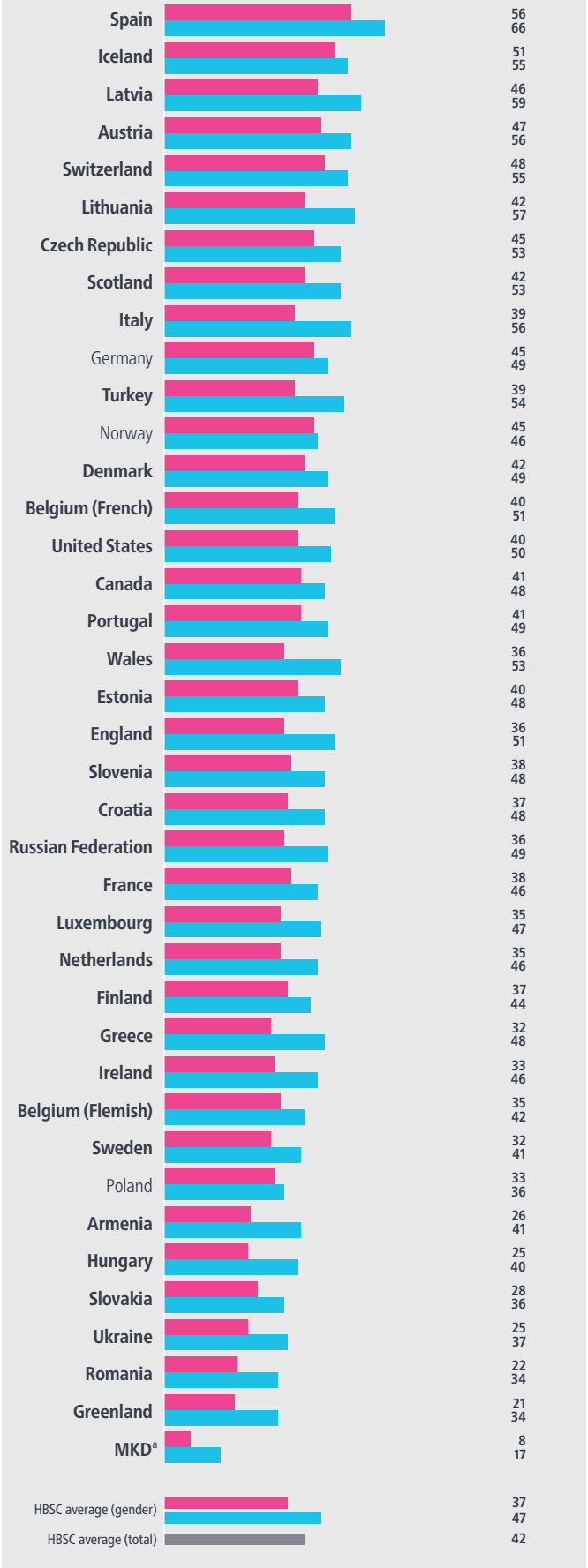
HBSC survey 2009/2010

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



HBSC survey 2009/2010

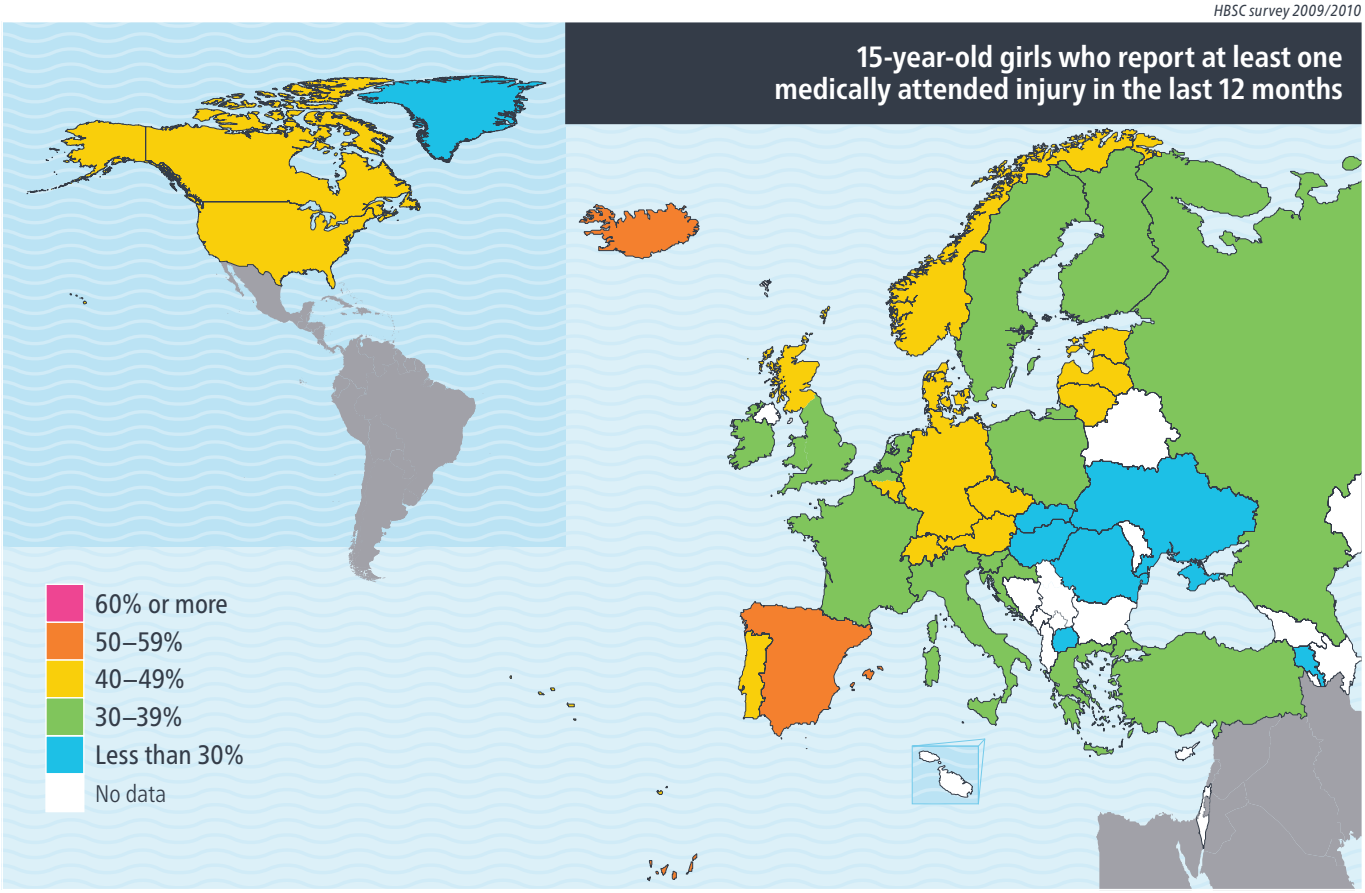
15-year-olds who report at least one medically attended injury in the last 12 months



Note. **Indicates** significant gender difference (at p<0.05).

HBSC survey 2009/2010

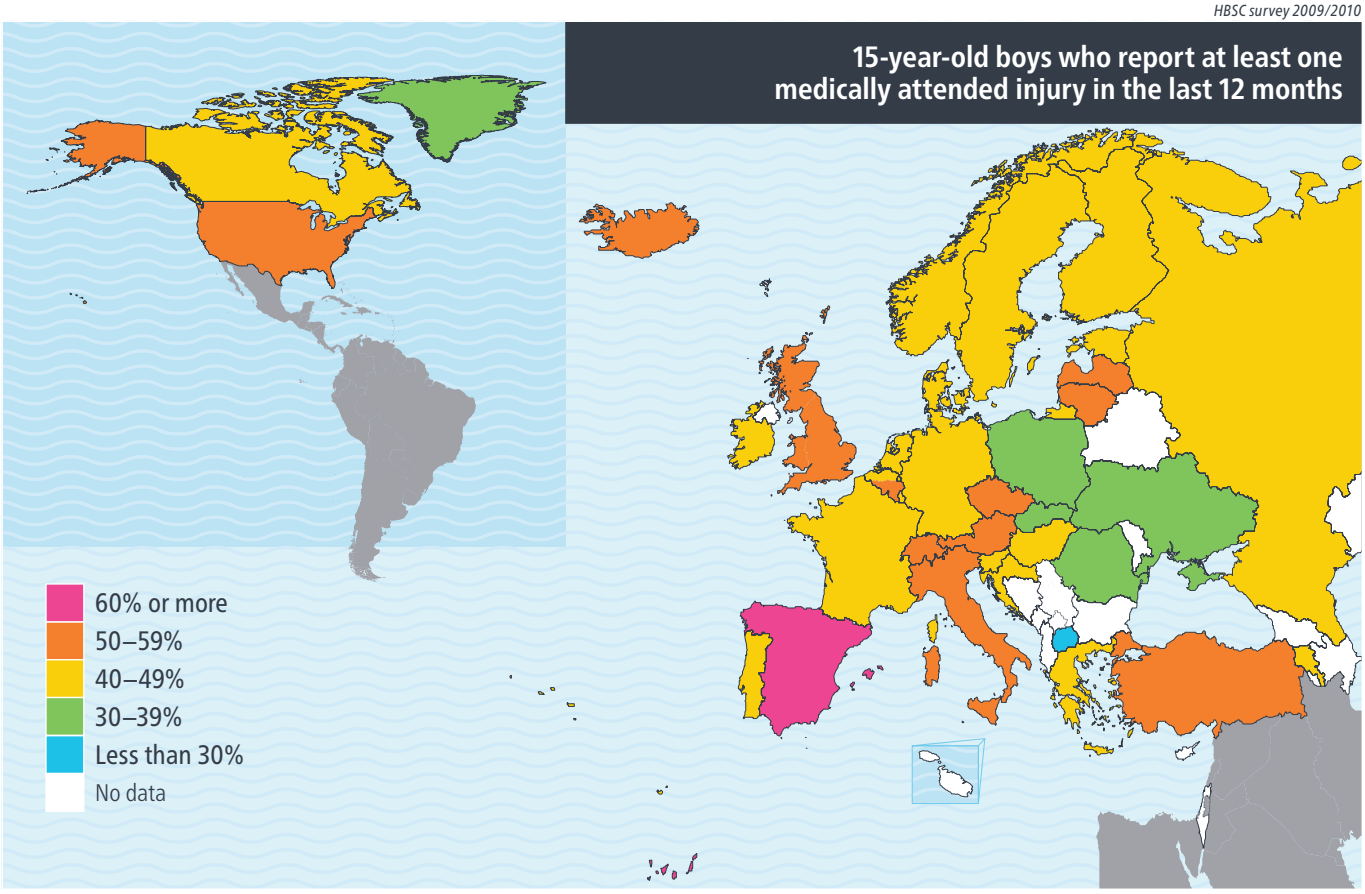
15-year-old girls who report at least one medically attended injury in the last 12 months



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

HBSC survey 2009/2010

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



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

MEDICALLY ATTENDED INJURIES: SCIENTIFIC DISCUSSION AND POLICY REFLECTIONS

SCIENTIFIC DISCUSSION

Around half of boys in all age groups and a third of girls report at least 1 medically attended injury in the last 12 months, suggesting that injuries are a common element in the lives of young people.

Prevalence varies substantially across countries and regions. This may reflect differing societal responses to ensuring adequate safety levels, promoting prevention initiatives and providing access to and ensuring the quality of medical care.

Boys across all countries and regions and age groups are more likely to experience injury. The same trend can be observed for injury mortality, especially among young populations *(9)*, perhaps due to boys' increased involvement in risk behaviours *(10,11)*, sport and physical activity *(12)*.

The finding that those from higher-affluence families are more likely to report injuries may be explained by their greater engagement in physical activity and easier access to medical care *(4)*.

POLICY REFLECTIONS

Unintentional injury is an important health priority in almost all countries. A clear link can be made between identification of risk factors, remediation of environmental conditions and settings, and improvement of health outcomes.

Most identified socioenvironmental risk factors are modifiable. Effective action is necessary to reduce injury incidence, particularly among boys and young people with low family affluence *(13)*.

HBSC findings do not provide information on the severity and type of injuries adolescents experience, but previous research suggests most reported injuries involve accidents on the road, at home and in a sports facility *(12)*. Intervention strategies to reduce injuries among young people include: using car seat-belts and bicycle and motorcycle helmets, reducing misuse of alcohol, installing smoke alarms in the home, and promoting pre-season conditioning, functional training, education, balance and sport-specific skills with those at high risk of sports-related injuries *(14)*.

The frequency, severity, potential for death and disability, and costs of injuries make injury prevention a key public health goal for improving young people's health. Researchers in this field, however, stress that it is important to find a balance between intervening and acknowledging that some injuries may be natural consequences of growth and development; if the cost of preventing these injuries is reduced physical activity, the deficits may outweigh the benefits *(15)*.

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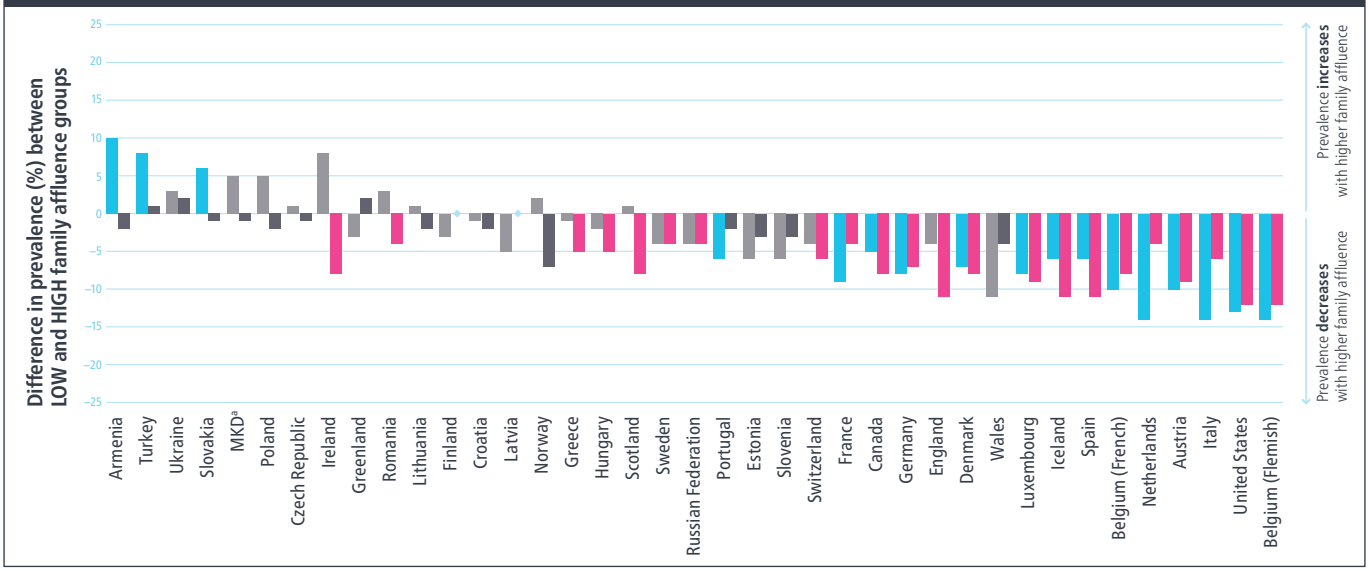
BODY WEIGHT: OVERWEIGHT AND OBESITY

Overweight and obesity remain public health problems among young people *(1–3)*. Associated health-related problems include sleep apnoea and orthopaedic problems *(1,4)*, psychosocial repercussions, such as poor self-image, stigmatization and depression *(5,6)*, and impaired quality of life *(7)*. Overweight and obesity carry serious health consequences that can last into adulthood *(8)*, including metabolic disturbances that increase the risk of cardiovascular diseases and diabetes *(1,4,9)*.

The causes are complex, involving the interplay of genetics and environmental factors that contribute to excess energy intake and/or inadequate energy expenditure. HBSC findings indicate that young people who are overweight are more likely to skip breakfast, are less physically active *(2,10)* and watch television more *(2)*.

HBSC survey 2009/2010

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



[a] The former Yugoslav Republic of Macedonia. ◆ Indicates less than +/– 0.5%.

MEASURE

Young people were asked how much they weigh without clothes and how tall they are without shoes, and to record these in country appropriate units (centimetres versus inches, pounds versus kilograms). These data were (re)coded in centimetres and kilograms, respectively, to compute the body mass index (BMI) as weight (kg) divided by height $(m)^2$.

The analysis presented here uses the international BMI standards for young people *(11)* adopted by the International Obesity Taskforce (IOTF), called the IOTF BMI cut-off points. Data using the WHO child growth curve standards are presented in the Annex.

RESULTS

Age

Girls aged 15 in a minority of countries and regions were significantly more likely than 11-year-olds to report being overweight. No clear patterns between age and overweight prevalence were seen among boys.

Gender

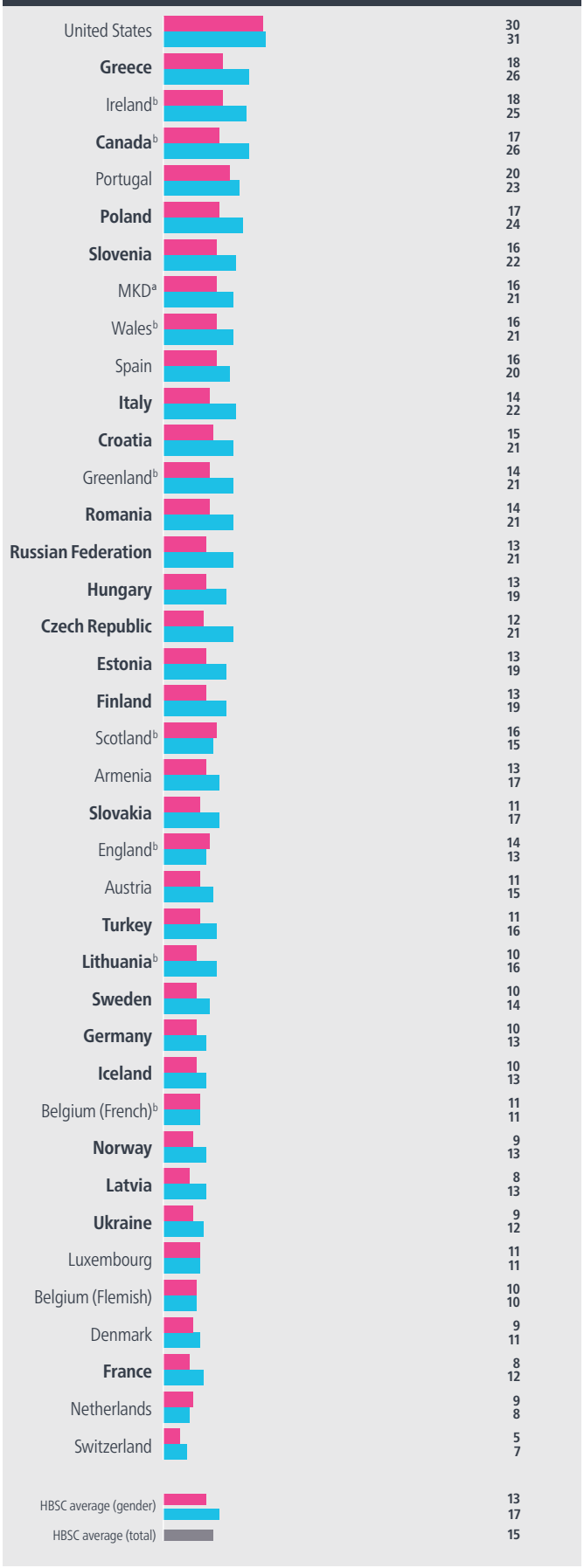
Boys tended to have significantly higher prevalence in almost all countries and regions at ages 13 and 15 and in over half at 11. The gender difference, however, exceeded 10% in only a few.

Family affluence

Increased prevalence was significantly associated with low family affluence for girls and boys in around half of countries and regions, but with higher family affluence (among boys only) in Armenia, Slovakia and Turkey.

HBSC survey 2009/2010

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

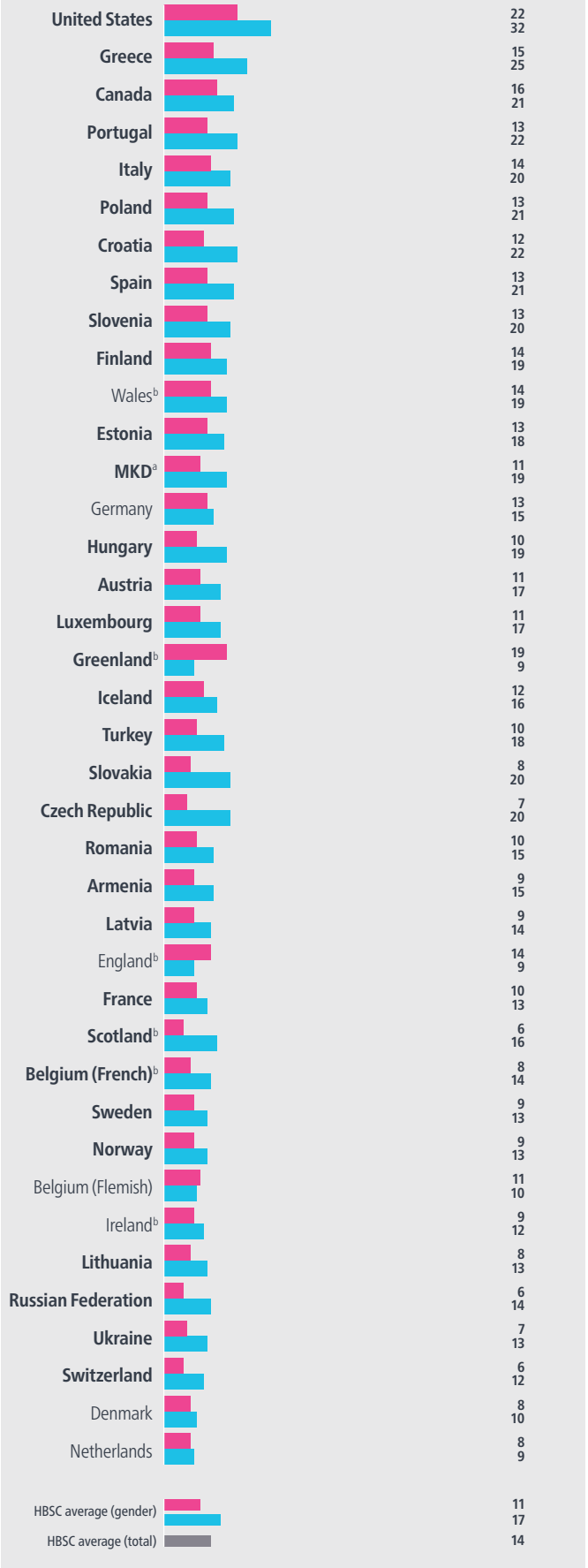


[a] The former Yugoslav Republic of Macedonia.

[b] Indicates 30% or more missing data.

HBSC survey 2009/2010

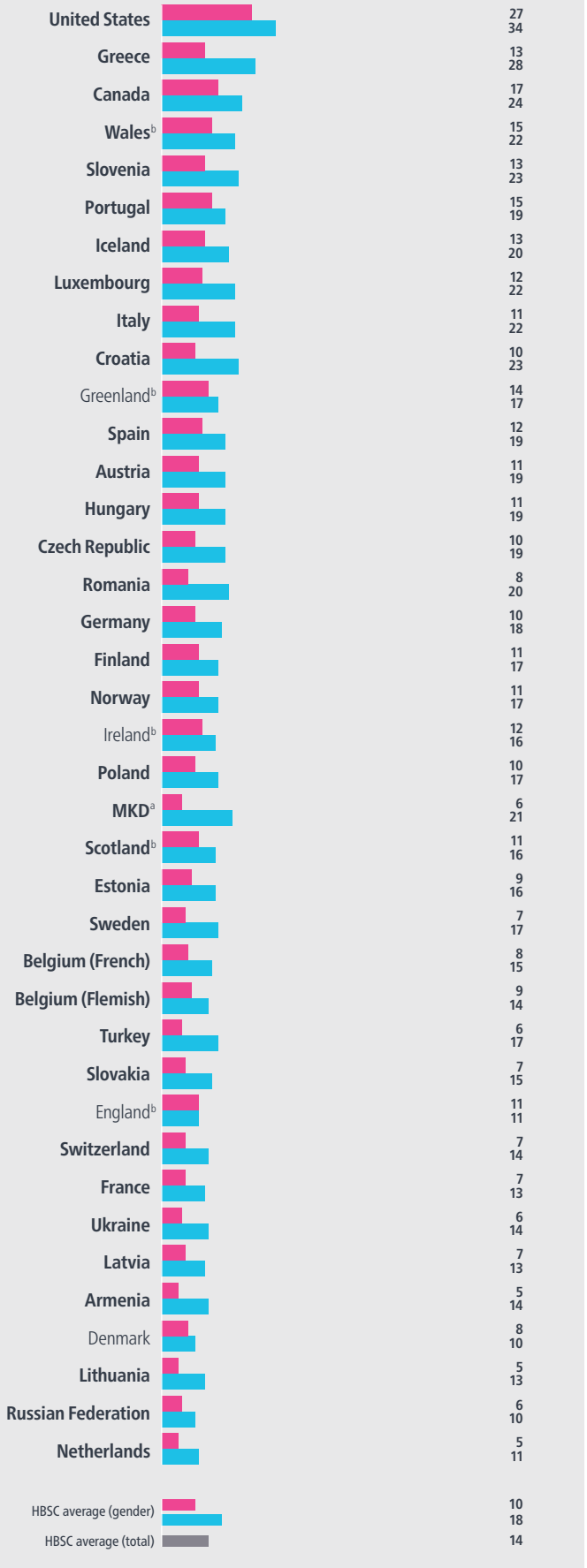
13-year-olds who report that they are overweight or obese according to BMI



[b] Indicates 30% or more missing data.

HBSC survey 2009/2010

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

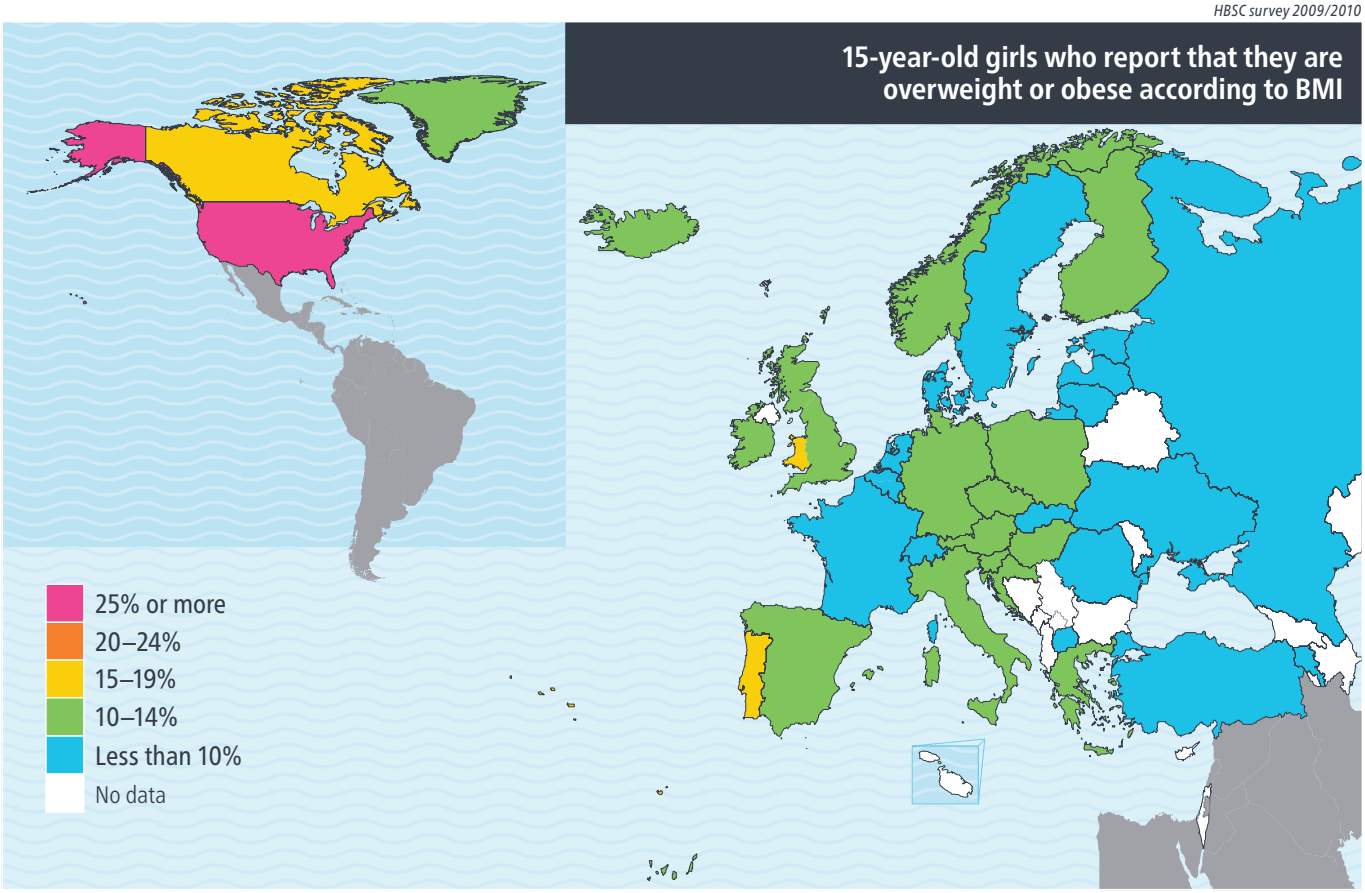


[b] Indicates 30% or more missing data.

Note. **Indicates** significant gender difference (at p<0.05).

HBSC survey 2009/2010

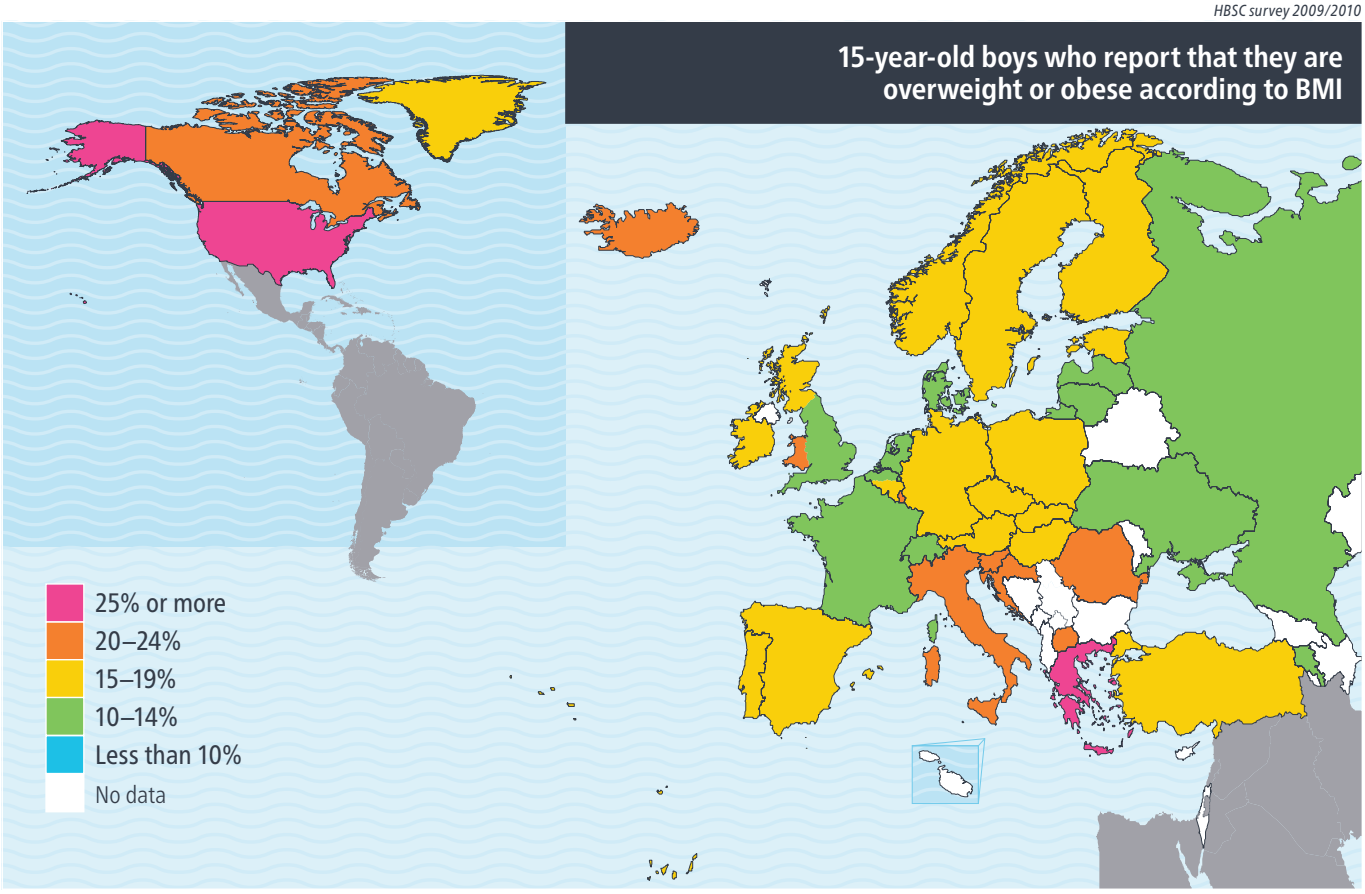
15-year-old girls who report that they are overweight or obese according to BMI



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

HBSC survey 2009/2010

15-year-old boys who report that they are overweight or obese according to BMI



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

BODY WEIGHT: BODY IMAGE

Body image is a psychological construct that is part of self-image. Its importance increases as young people become more body-conscious with the physical changes associated with puberty. Body satisfaction generally decreases with increasing age *(12)*.

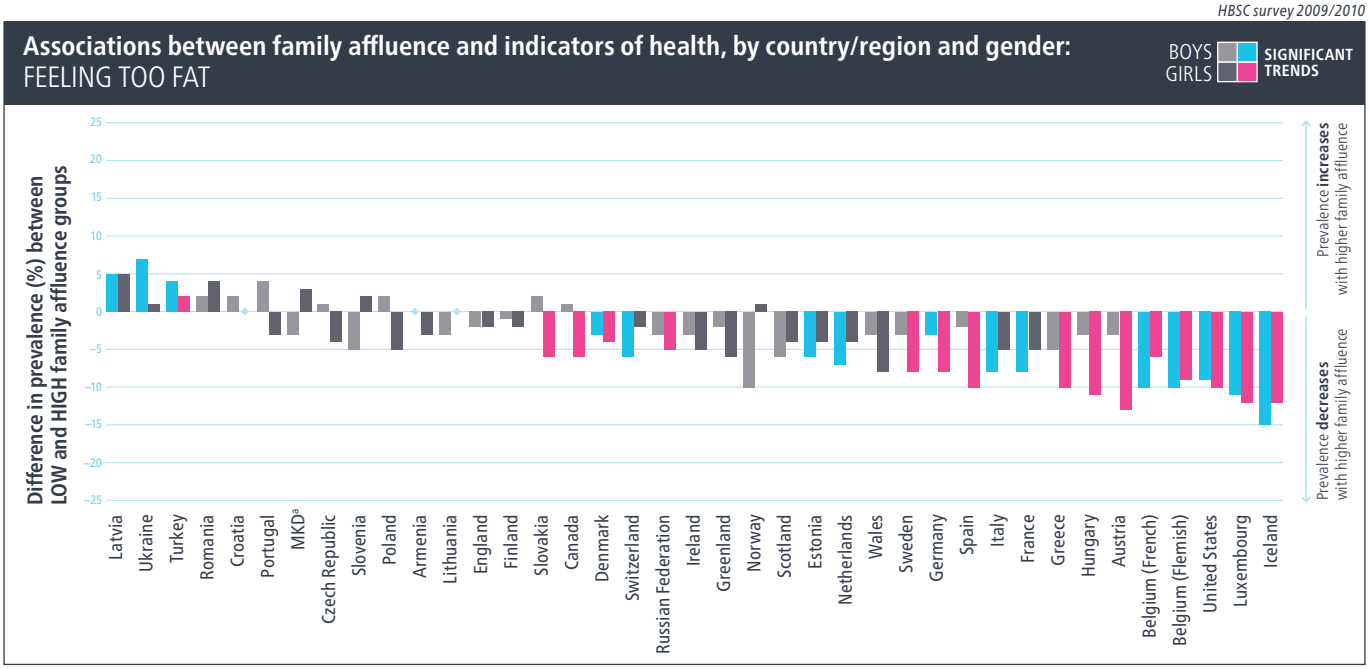
Overweight and obesity have become more prevalent in industrialized countries *(13)*, and body-weight concerns and dissatisfaction have increased *(14)*. Girls are particularly conscious of their bodies.

Weight-control behaviours resulting from body-image dissatisfaction include unhealthy practices *(15)*, such as skipping breakfast and an overemphasis on caloric reduction. Body-weight dissatisfaction is related to increased substance use *(16)*, risky sexual behaviour *(17)* and poor mental health *(18)*.

Protective factors against excessive body-image concerns are regular physical activity *(19)*, acceptance by peers and the family, and good social relationships *(20)*.

HBSC survey 2009/2010

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



[a] The former Yugoslav Republic of Macedonia. ◆ Indicates less than +/– 0.5%.

MEASURE

Young people were asked about how they perceive their bodies. Response options ranged from "much too thin" to "much too fat". The findings presented here are the proportions who reported perceiving their body to be "too fat", defined as being "a bit too fat" or "much too fat".

RESULTS

Age

Girls aged 15 were significantly more likely than 11-year-olds in almost all countries to report that they were too fat. The difference in prevalence between ages 11 and 15 was more than 10% in most countries and regions, and 15% in a few. There was no significant prevalence difference among boys in most countries and regions, but increases and decreases in the percentages reporting themselves as "too fat" with increasing age were seen in a small number.

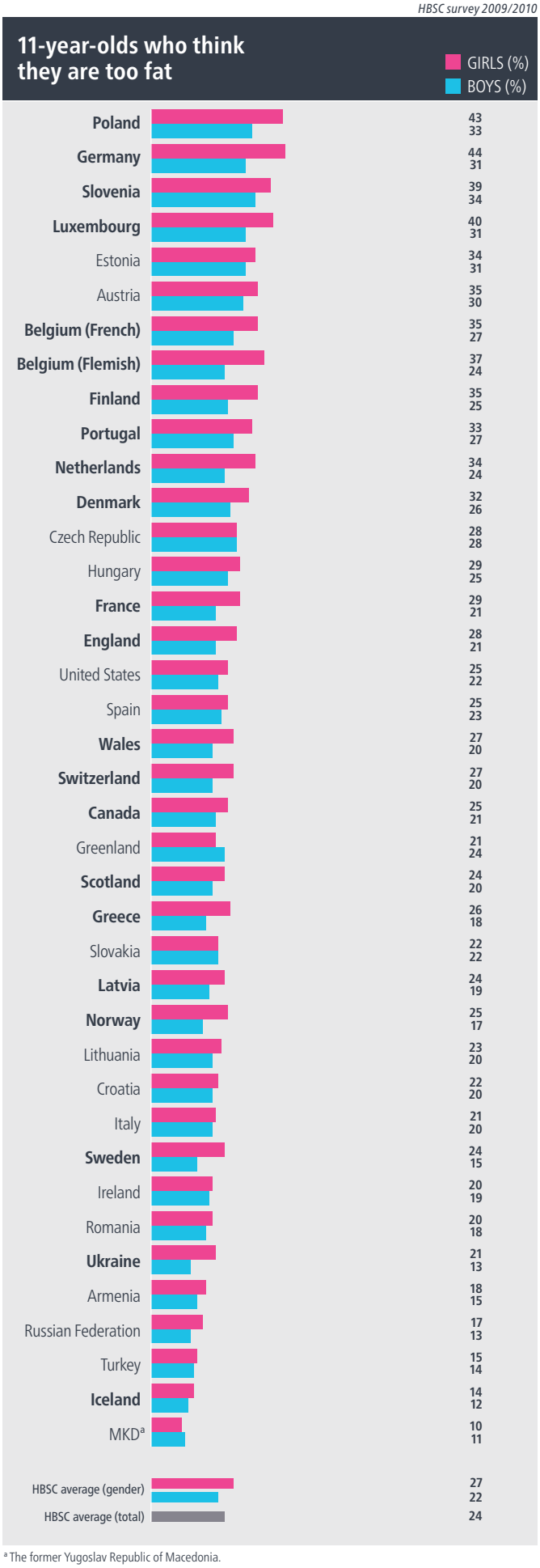
Gender

Girls aged 15 had significantly higher prevalence in all countries and regions: this was also seen in almost all for 13-year-olds and in most for 11-year-olds. The size of gender difference tended to increase with age, exceeding 15% in over half of countries and regions for 15-year-olds.

Family affluence

Most countries showed and regions no significant relationship with family affluence, but perception of being too fat was significantly associated with low family affluence in a few countries and regions, particularly in western Europe and North America.

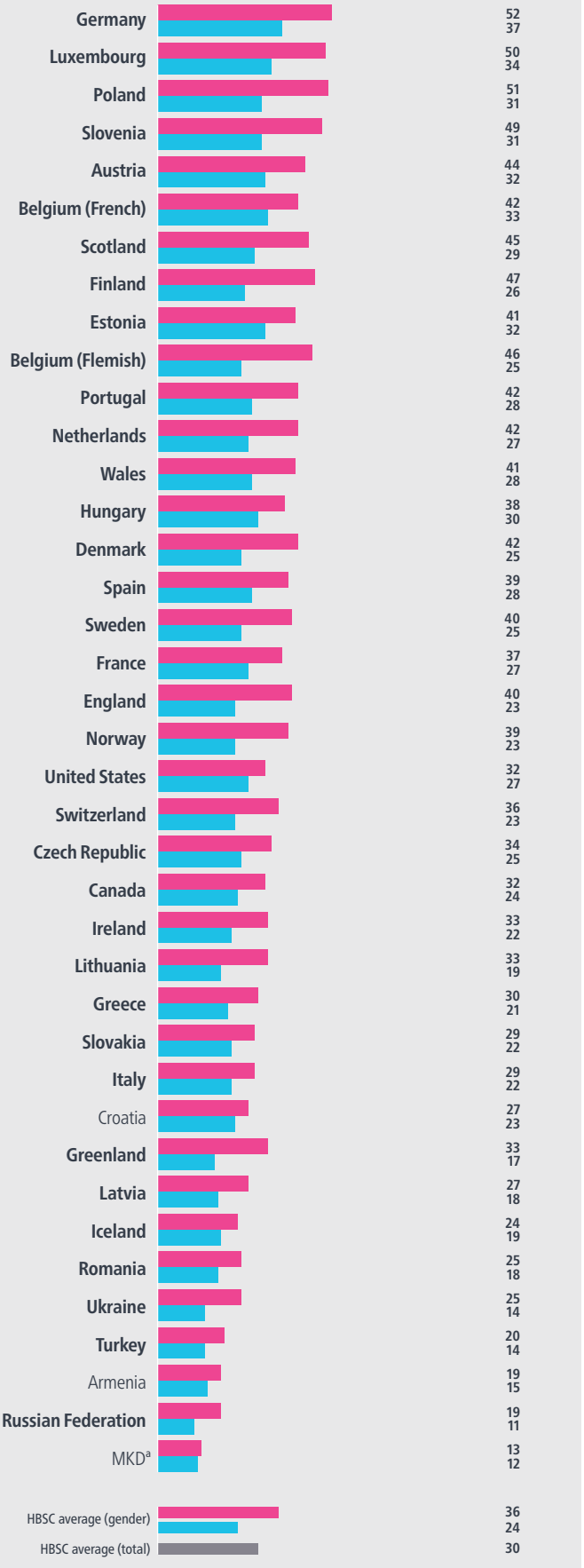
HBSC survey 2009/2010



[a] The former Yugoslav Republic of Macedonia.

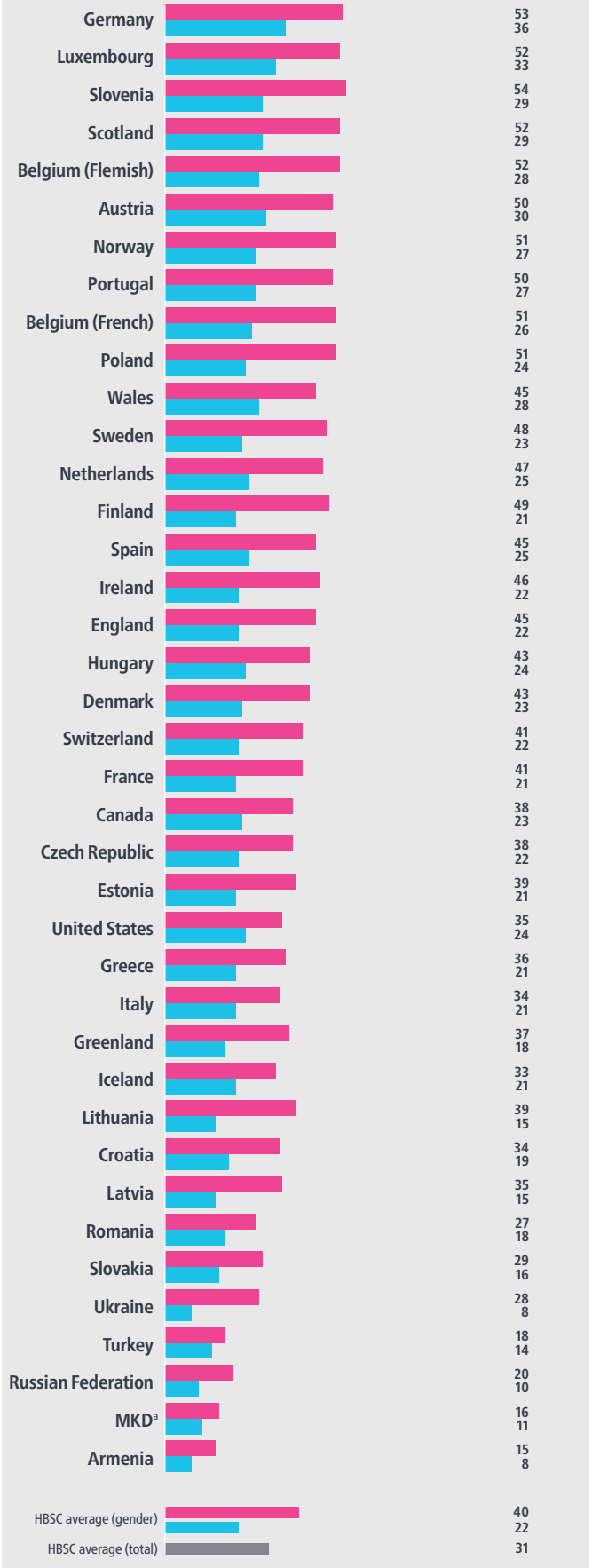
HBSC survey 2009/2010

13-year-olds who think they are too fat



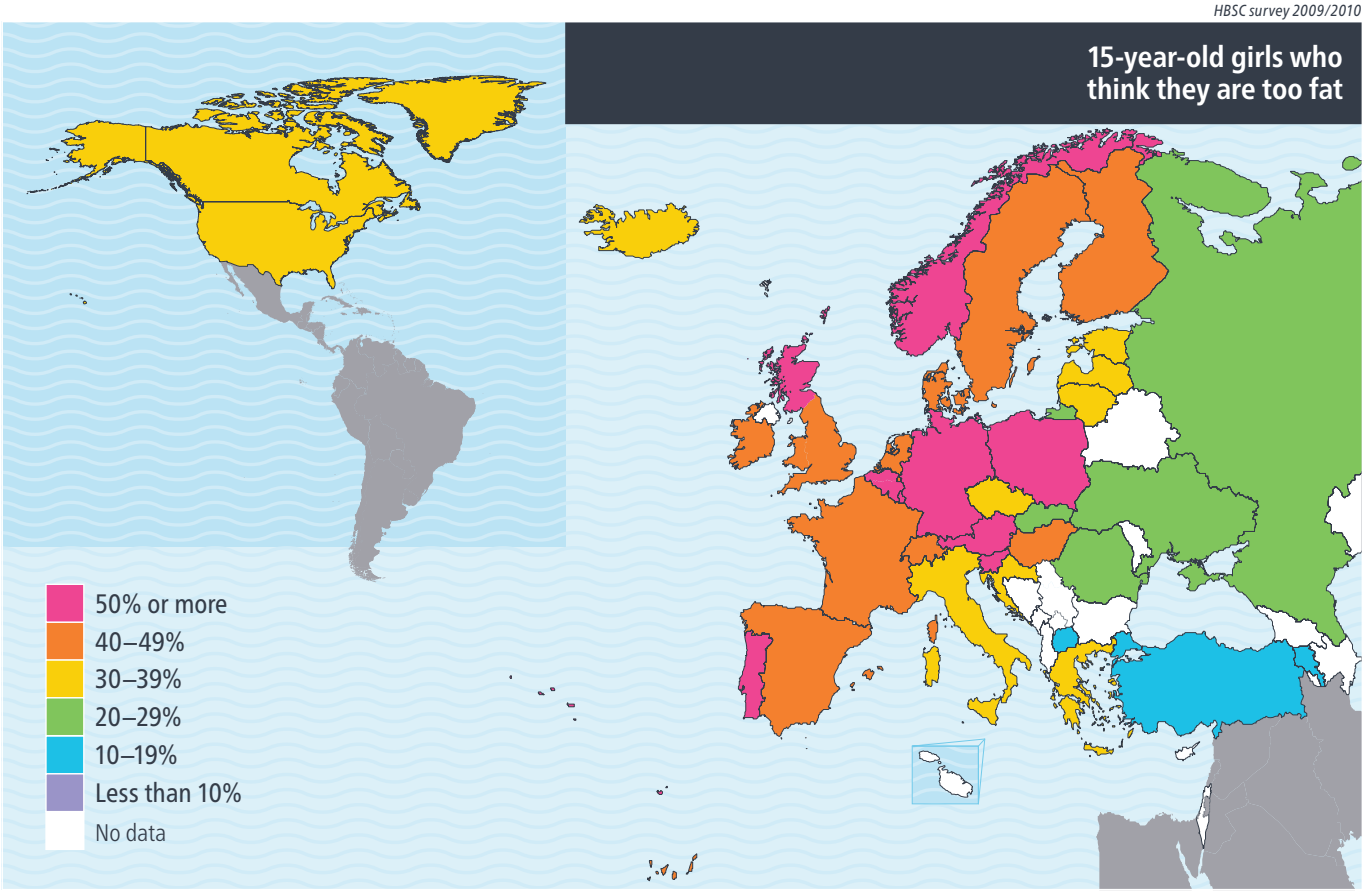
HBSC survey 2009/2010

15-year-olds who think they are too fat



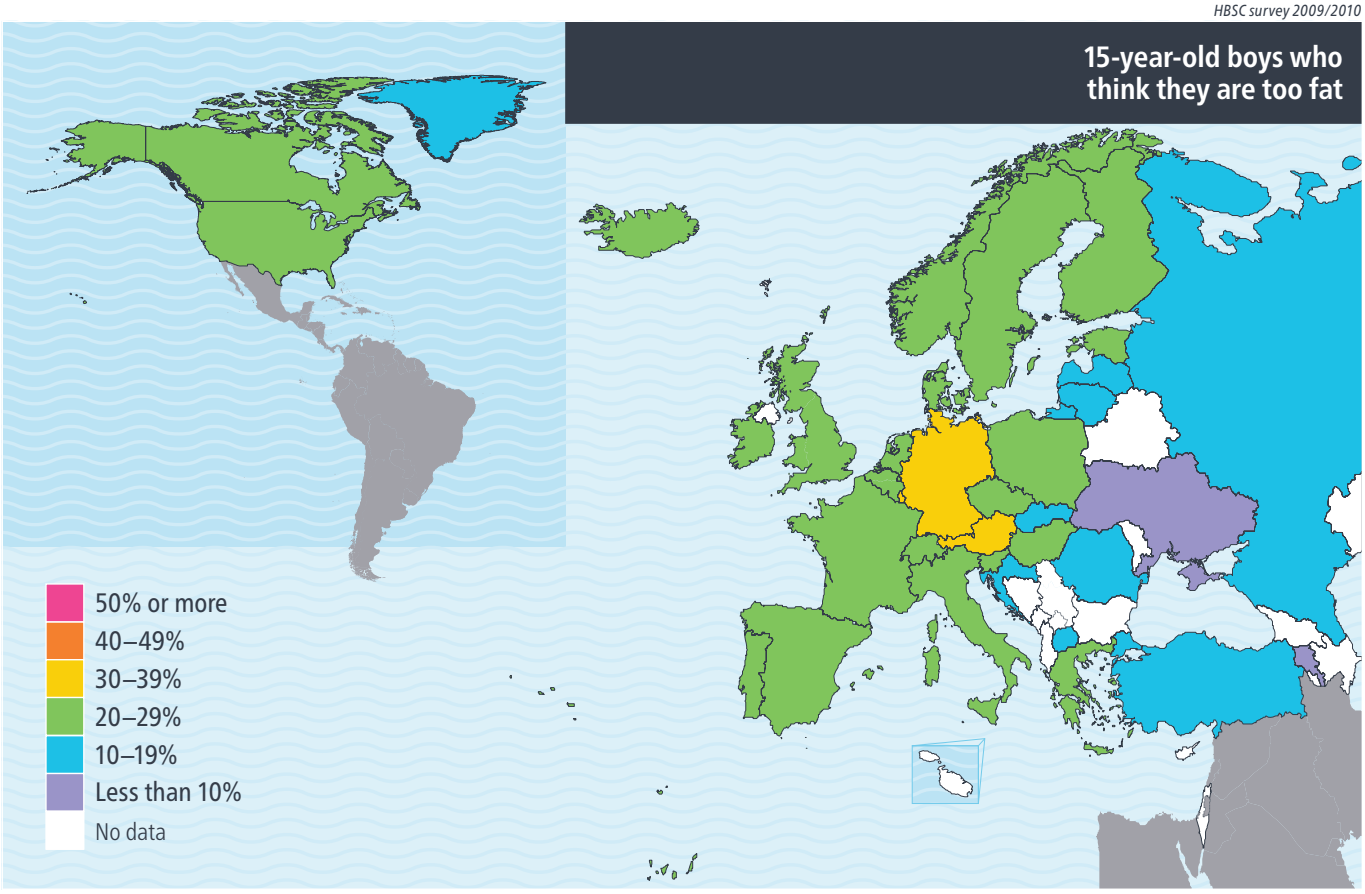
Note. **Indicates** significant gender difference (at p<0.05).

HBSC survey 2009/2010



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

HBSC survey 2009/2010



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

BODY WEIGHT: WEIGHT-REDUCTION BEHAVIOUR

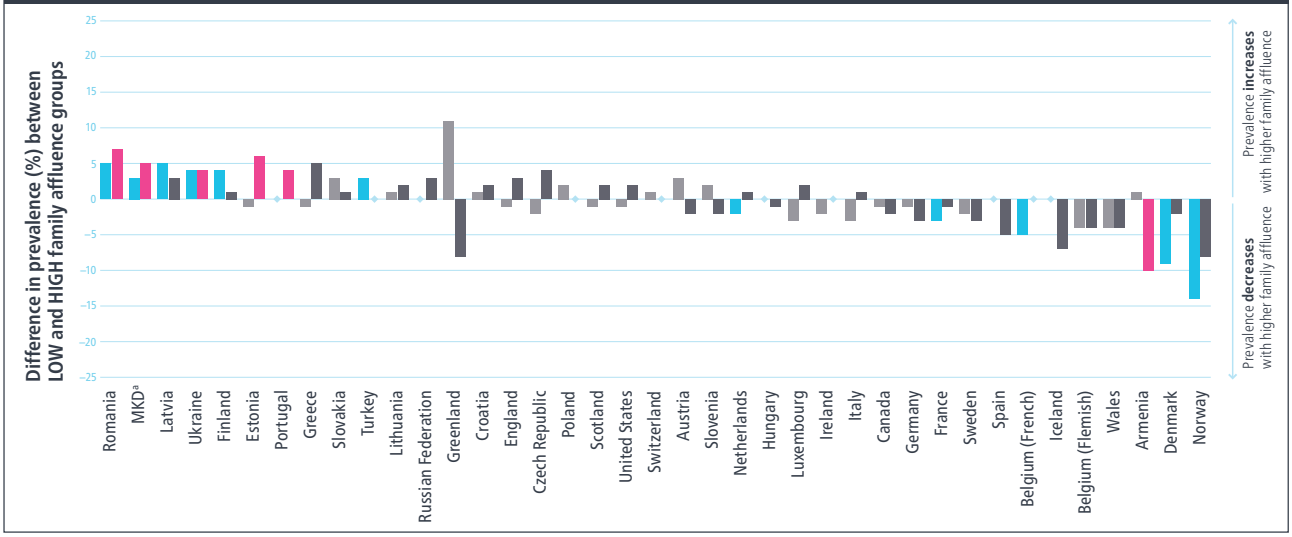
Weight management, when pursued in a healthy way, is an important element of maintaining health. Many adolescents adopt healthy eating and physical activity behaviours to control their weight, but unhealthy methods are also reported *(21)*. Paradoxically, repeated dieting may lead to weight gain through the long-term adoption of binge eating and fasting, followed by overeating or decreased breakfast consumption *(22)*. Extreme dieting is associated with eating disorders *(22)* and other negative psychological outcomes, such as lower self-esteem *(23)*.

Young people commonly use weight-reduction behaviour a means to obtain a so-called perfect body *(24)*. The high number of girls perceiving themselves as too fat may be a consequence of intense cultural pressure to be thin, leading to relatively high percentages of girls who are not overweight engaging in weight-reduction behaviour *(21)*.

Factors that protect susceptible young people include positive body image and healthy attitudes and behaviours towards food and physical activity *(23)*. Parental encouragement and positive role modelling are essential for positive weight-related behaviours *(25)*.

HBSC survey 2009/2010

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



[a] The former Yugoslav Republic of Macedonia. ◆ Indicates less than +/−0.5%.

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 who were currently engaged in weight-reduction behaviour: that is, they were on a diet or doing something else to lose weight.

RESULTS

Age

Girls aged 15 in almost all countries and regions were significantly more likely than those aged 11 to report weight-reduction behaviour. This prevalence increase was mostly 5% to 15%. Although there was no significant association between prevalence and age for boys in most countries and regions, prevalence significantly declined between ages 11 and 15 among boys in a few. This was the opposite of the pattern seen in girls.

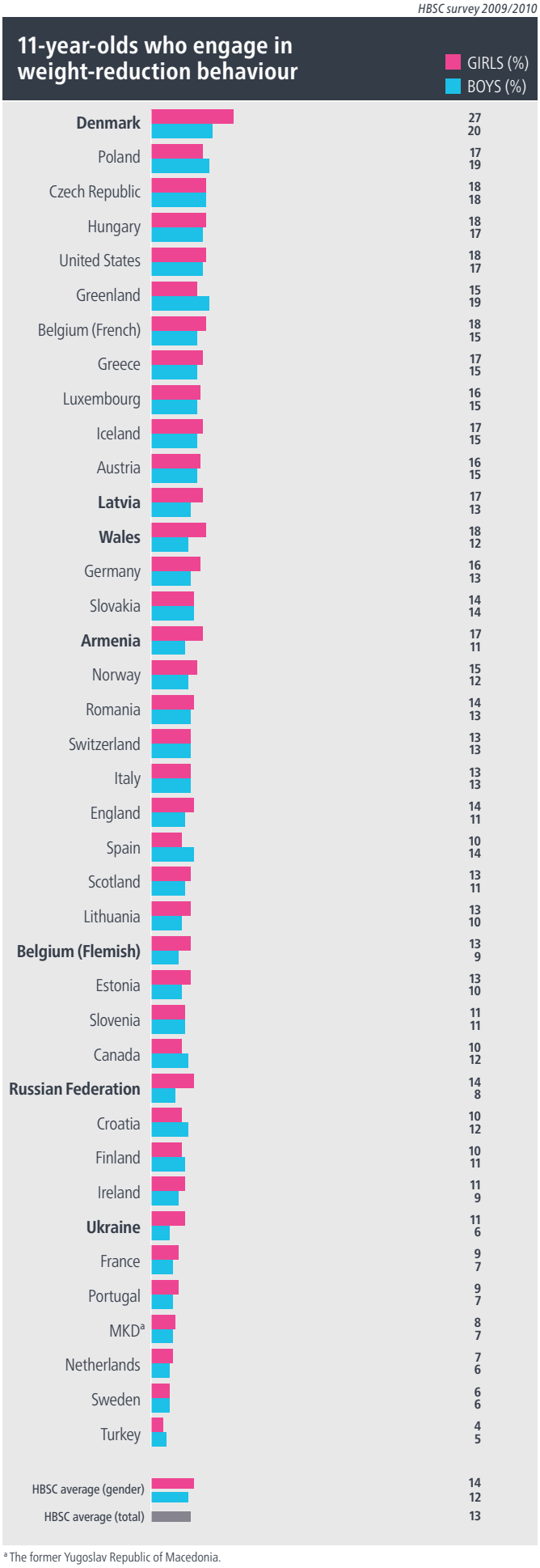
Gender

Girls aged 13 and 15 were more likely to report it in almost all countries and regions. The size of the gender difference tended to increase with age.

Family affluence

There was no clear association between prevalence and family affluence in most countries.

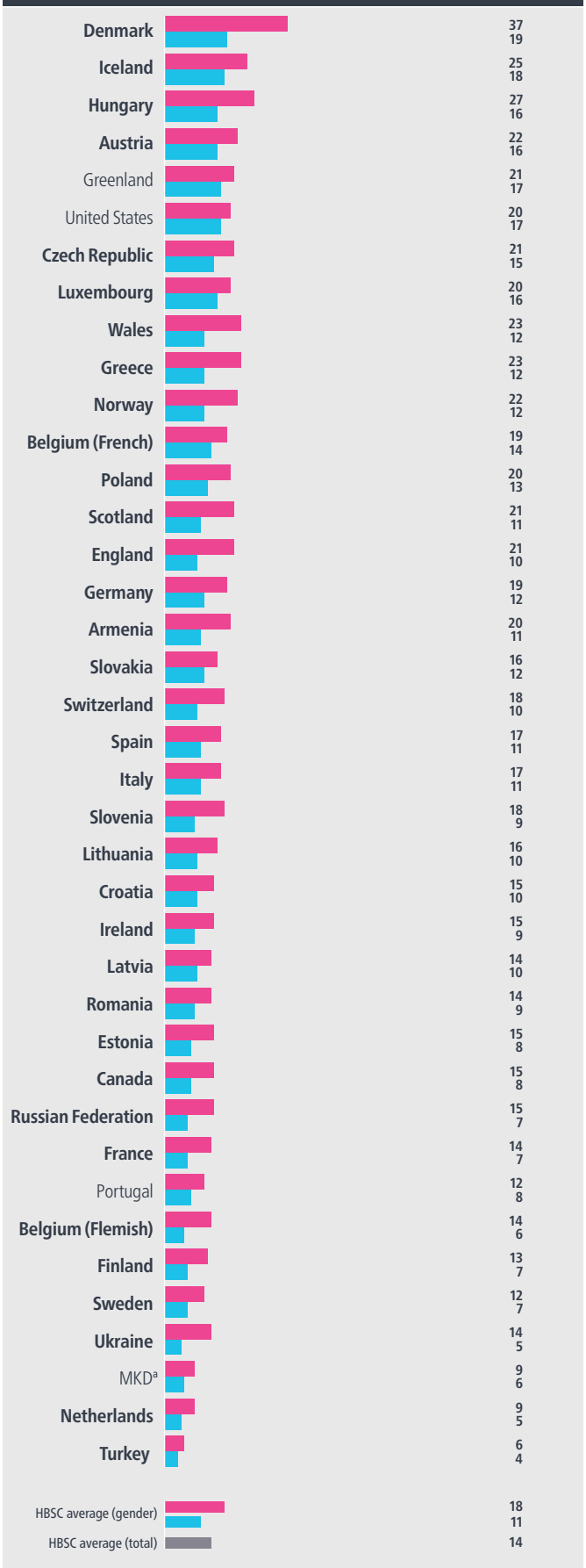
HBSC survey 2009/2010



[a] The former Yugoslav Republic of Macedonia.

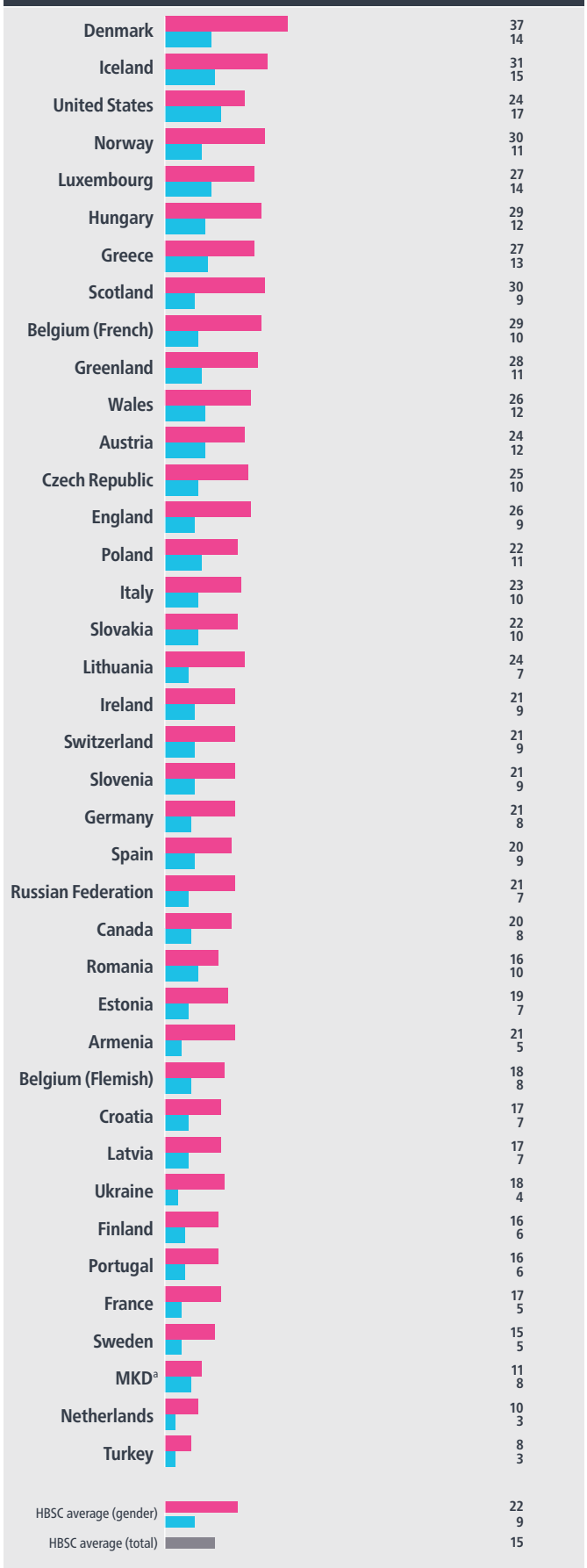
HBSC survey 2009/2010

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



HBSC survey 2009/2010

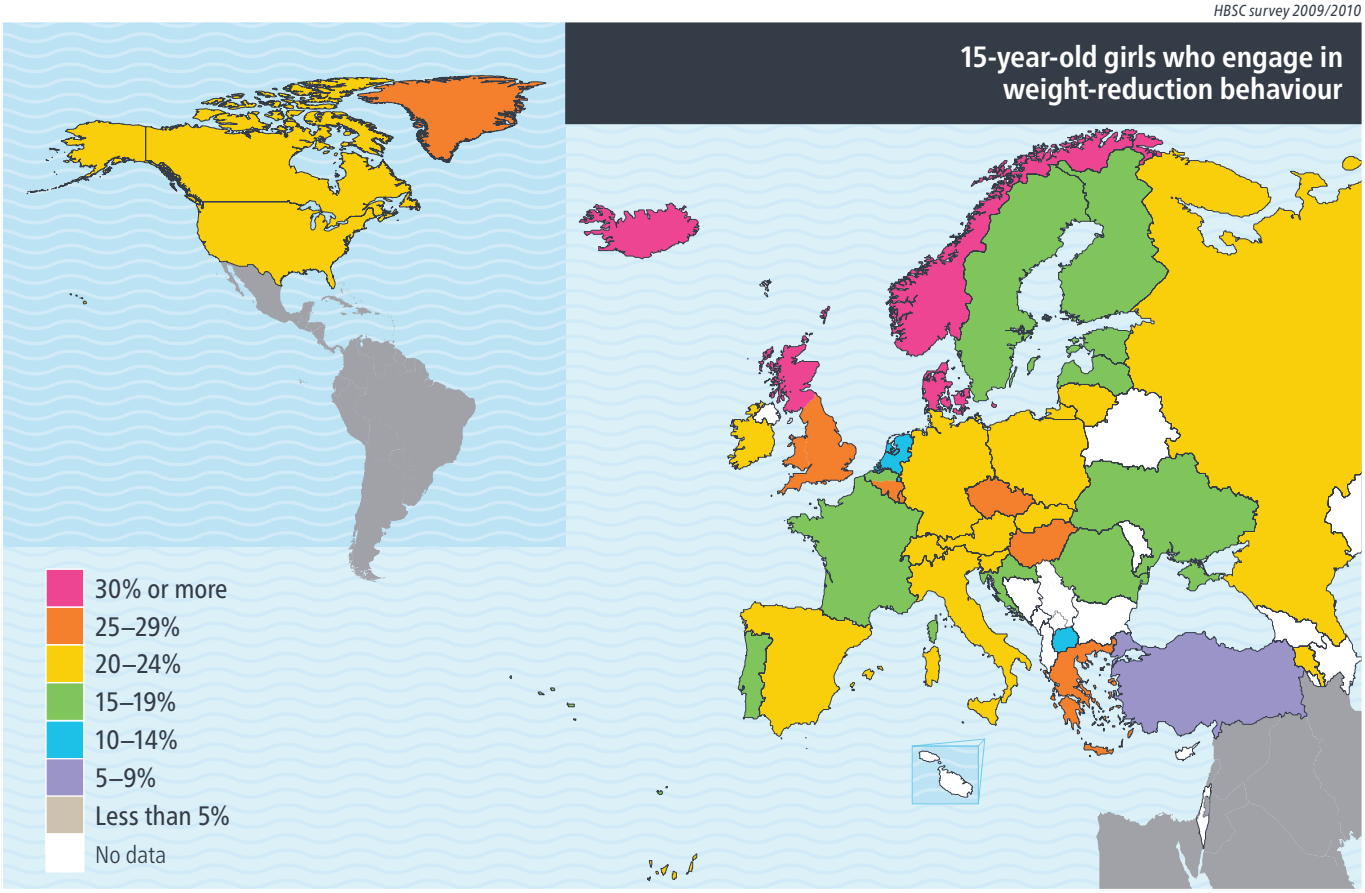
15-year-olds who engage in weight-reduction behaviour



Note. **Indicates** significant gender difference (at p<0.05).

HBSC survey 2009/2010

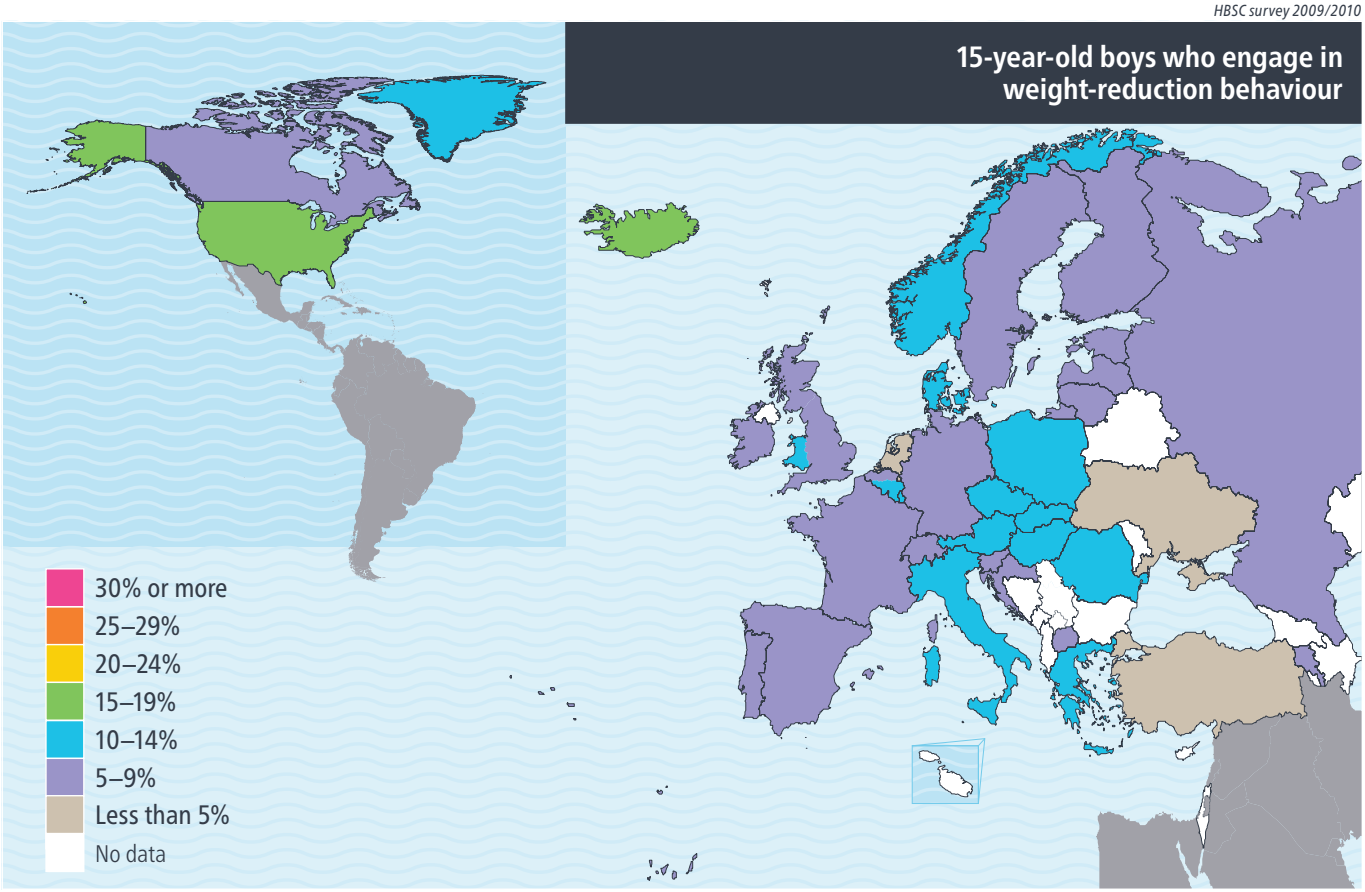
15-year-old girls who engage in weight-reduction behaviour



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

HBSC survey 2009/2010

15-year-old boys who engage in weight-reduction behaviour



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

BODY WEIGHT: SCIENTIFIC DISCUSSION AND POLICY REFLECTIONS

SCIENTIFIC DISCUSSION

Overweight and obesity

Consistent with previous findings, the prevalence of overweight and obesity varies across regions. No clear age pattern is identified, but gender differences are apparent.

Boys tend to be more overweight than girls in most countries. Reasons for this may include girls eating more healthily, boys eating more fast foods *(26)* and parents being less likely to encourage boys to control their weight. Gender patterns may indicate that environmental influences are more detrimental for boys or that preventative interventions are less effective *(2)*. Girls tend to gain body fat during puberty, which may initiate dieting practices.

Higher overweight prevalence is associated with lower SES in some countries *(27)*, which may be related to a more obesogenic environment (with limited access to healthy foods and fewer opportunities to engage in physical activity) in lower-affluence settings *(28)*. Low-affluence families may also put less emphasis on healthy eating and physical activity as important factors for current and future health.

The highest rates of overweight for boys and girls are seen in North America, but prevalence is also high in southern and some eastern European countries.

These findings must be interpreted with caution owing to the self-report nature of height and weight data used to categorize BMI status. Reporting bias may be larger in girls, as they may be more appearance conscious, particularly at older ages *(29)*.

Body image

Gender and age patterns in relation to body image seem to be common across Europe and North America, consistent with previous HBSC and other findings *(30–33)*.

The increased body fat for girls that comes with puberty contrasts with media stereotypes of the ideal female body shape. Girls may consequently develop a negative body image *(34)*. Boys going through puberty, however, become more muscular and develop broader shoulders, which correspond positively to notions of an ideal male body shape. Boys may therefore develop a more positive self-concept *(35)*.

Higher overweight prevalence is associated with lower SES in developed countries *(28)*. Social differences may stem partly from overweight prevalence, as it is one of the strongest predictors for body dissatisfaction *(36)*.

Boys and girls in eastern Europe are less likely to report being "too fat"; the opposite pattern is found in western and central Europe.

Weight-reduction behaviour

Attempting to lose weight is a common feature of girls' lifestyles by age 13, with consistently higher rates of weight-reduction behaviours being seen regardless of country or region. Frequency increases with age among girls, but not boys. Gender differences can partly be explained by pubertal changes, with girls seeing increases in weight and body fat as an obstacle to attaining their ideal body shape *(37)*.

Being female is a much stronger predictor for weight-reduction behaviour than the level of family affluence, for which there is no clear association. Family background, however, does play a role, with higher parental and grandparental education being linked to higher demands around appearance and weight among females *(25)*.

There are no evident geographic patterns in the prevalence of weight-reduction behaviour.

POLICY REFLECTIONS

Identification and awareness of shared risk and protective factors for negative body image, obesity, unhealthy weight-reduction behaviours and disordered eating can support the development of relevant interventions for a broad spectrum of weight-related problems *(22,28)*. Necessary prevention components include sound nutrition, an active lifestyle, reduction of teasing and stigmatization around weight and shape, media literacy and effective stress management *(38)*.

Successful prevention programmes may need to integrate biological, psychological and sociocultural approaches that consider individuals and their environments *(17,39–41)*. Gender-specific strategies may also be useful *(42)*, as body image and weight-related problems are strongly gender dependent because of pubertal development patterns in boys and girls and different sociocultural expectations.

Young people often find it difficult to make appropriate judgements and draw the right conclusions about their own weight. Perception of overweight – rather than actual overweight – has emerged as a potent force behind weight-reduction behaviour. The fact that self-perceived fatness is the most important factor leading to weight-reduction activities highlights the importance of promoting positive body image for young people across the weight spectrum *(21)*. The reactions of significant others – such as parents, teachers, health care professionals and peers – to appearance and weight are important: young people who receive affirming reactions to their bodies tend to develop body satisfaction, but parents' critical comments and encouragement to lose weight are associated with increased dieting behaviours *(43)*.

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CHAPTER 4.
HEALTH BEHAVIOURS

EATING BEHAVIOUR
ORAL HEALTH
ENERGY EXPENDITURE

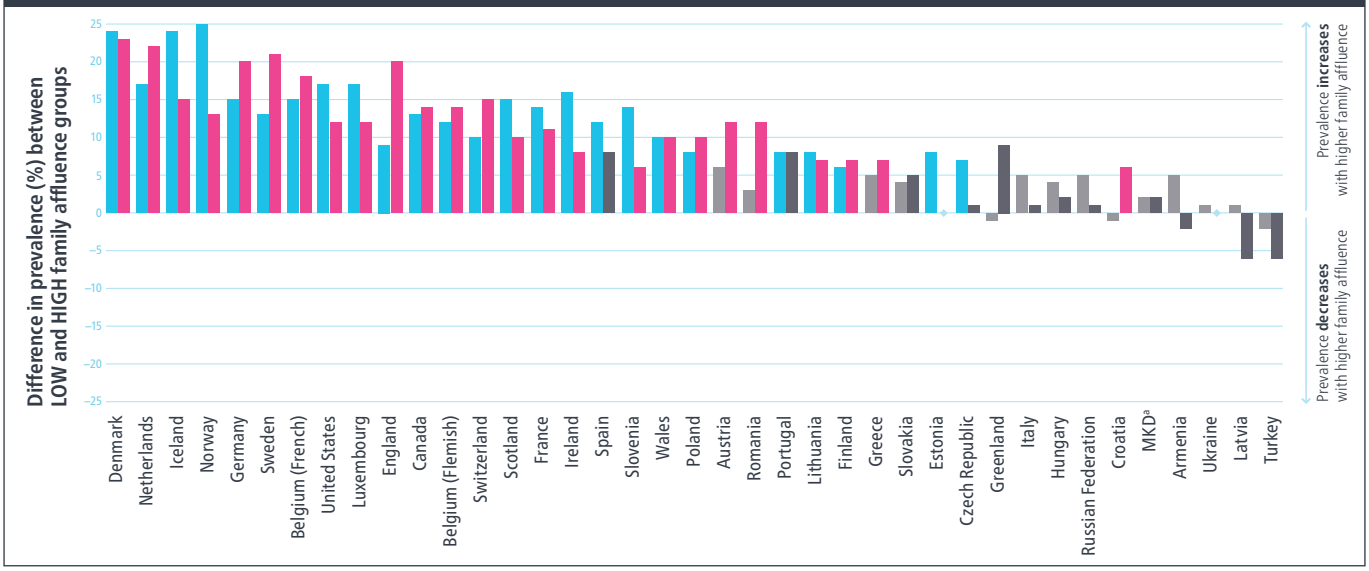
EATING BEHAVIOUR: BREAKFAST CONSUMPTION

Regular breakfast consumption is associated with higher intakes of micronutrients, a better diet that includes fruit and vegetables and less frequent use of soft drinks *(1–4)*. BMI and the prevalence of overweight are in general lower in young people who eat breakfast *(2–5)*, which is also advocated as a means of improving cognitive function and academic performance *(6)*.

Skipping breakfast is nevertheless very common among young people in Europe, Canada and the United States *(4)* and is associated with risk behaviours such as smoking, alcohol consumption and sedentary behaviours *(2,3,7)*. Daily breakfast consumption is less common among girls and in families with lower SES, and decreases with age *(2–4,7)*. Establishing the most effective programmes and policies to promote it across countries with different cultural practices and socioeconomic factors is a public health challenge.

HBSC survey 2009/2010

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



[a] The former Yugoslav Republic of Macedonia. ◆ Indicates less than +/– 0.5%.

MEASURE

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

RESULTS

Age

Prevalence of daily breakfast consumption declined significantly among boys and girls in almost all countries and regions. The change exceeded 15% in around a third of countries and regions for boys and three quarters for girls.

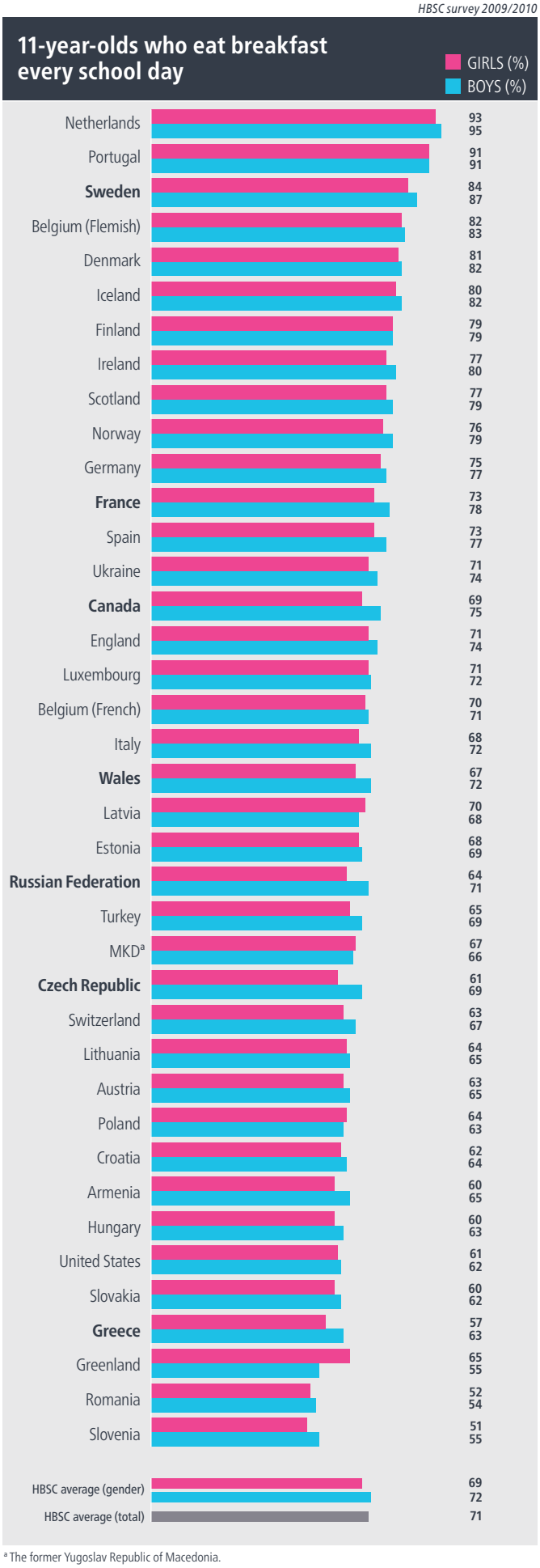
Gender

Boys were more likely to report it in almost all countries. The gender difference was greater among ages 13 and 15, for whom prevalence differed by more than 10% in some countries and regions.

Family affluence

Adolescents from high-affluence families in most countries and regions were significantly more likely to report eating breakfast, with the differences exceeding 15% in a few.

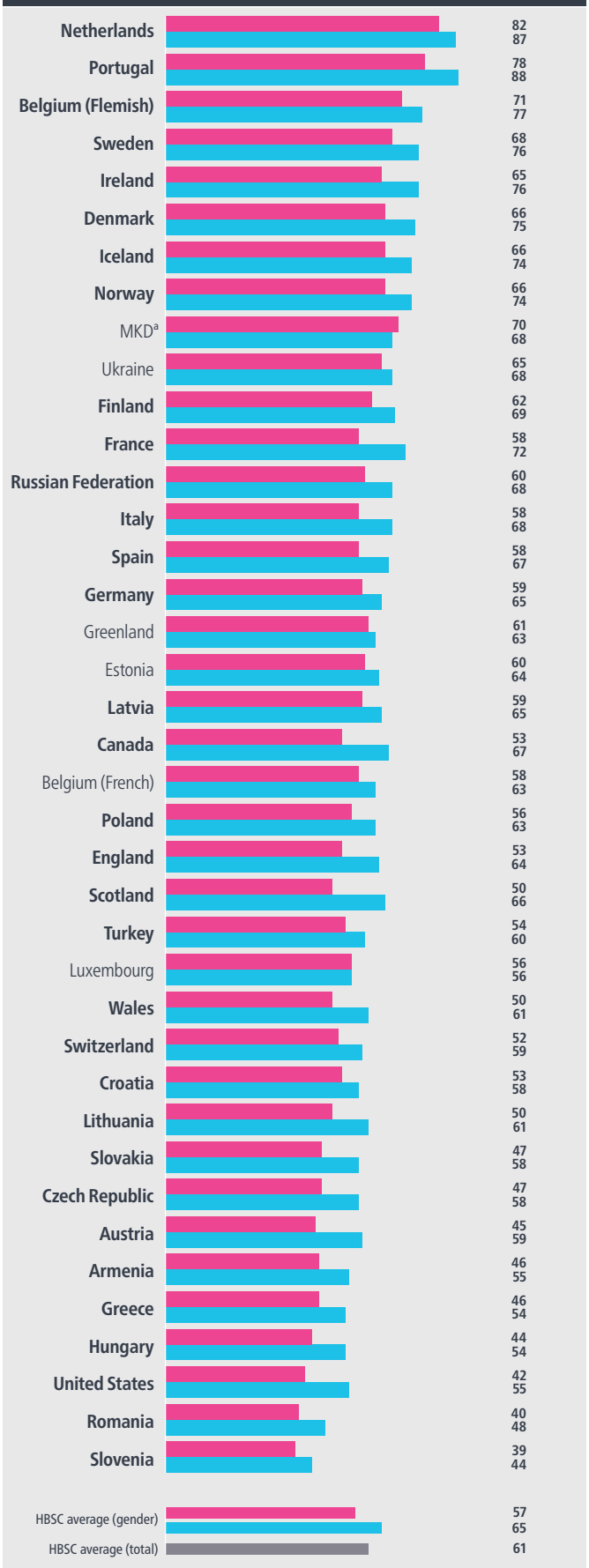
HBSC survey 2009/2010



[a] The former Yugoslav Republic of Macedonia.

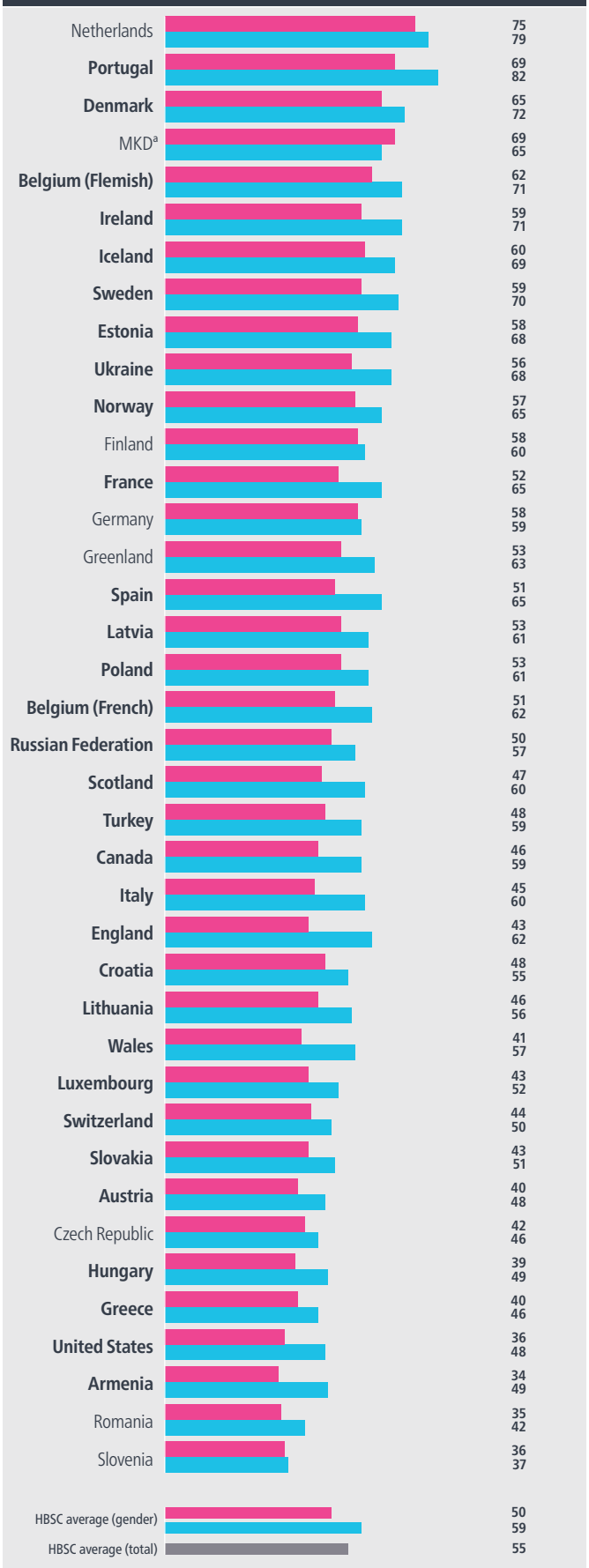
HBSC survey 2009/2010

13-year-olds who eat breakfast every school day



HBSC survey 2009/2010

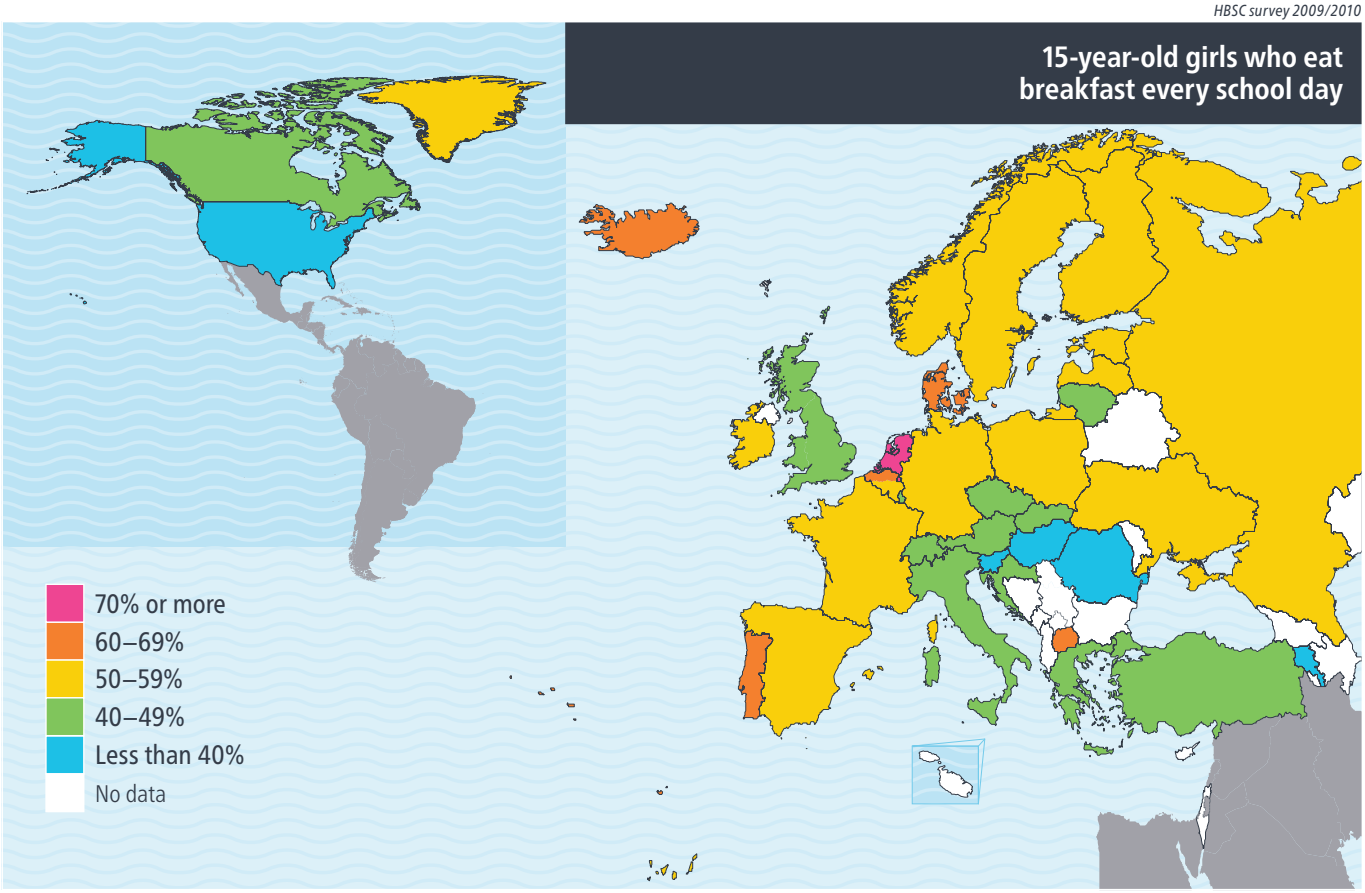
15-year-olds who eat breakfast every school day



Note. **Indicates** significant gender difference (at p<0.05).

HBSC survey 2009/2010

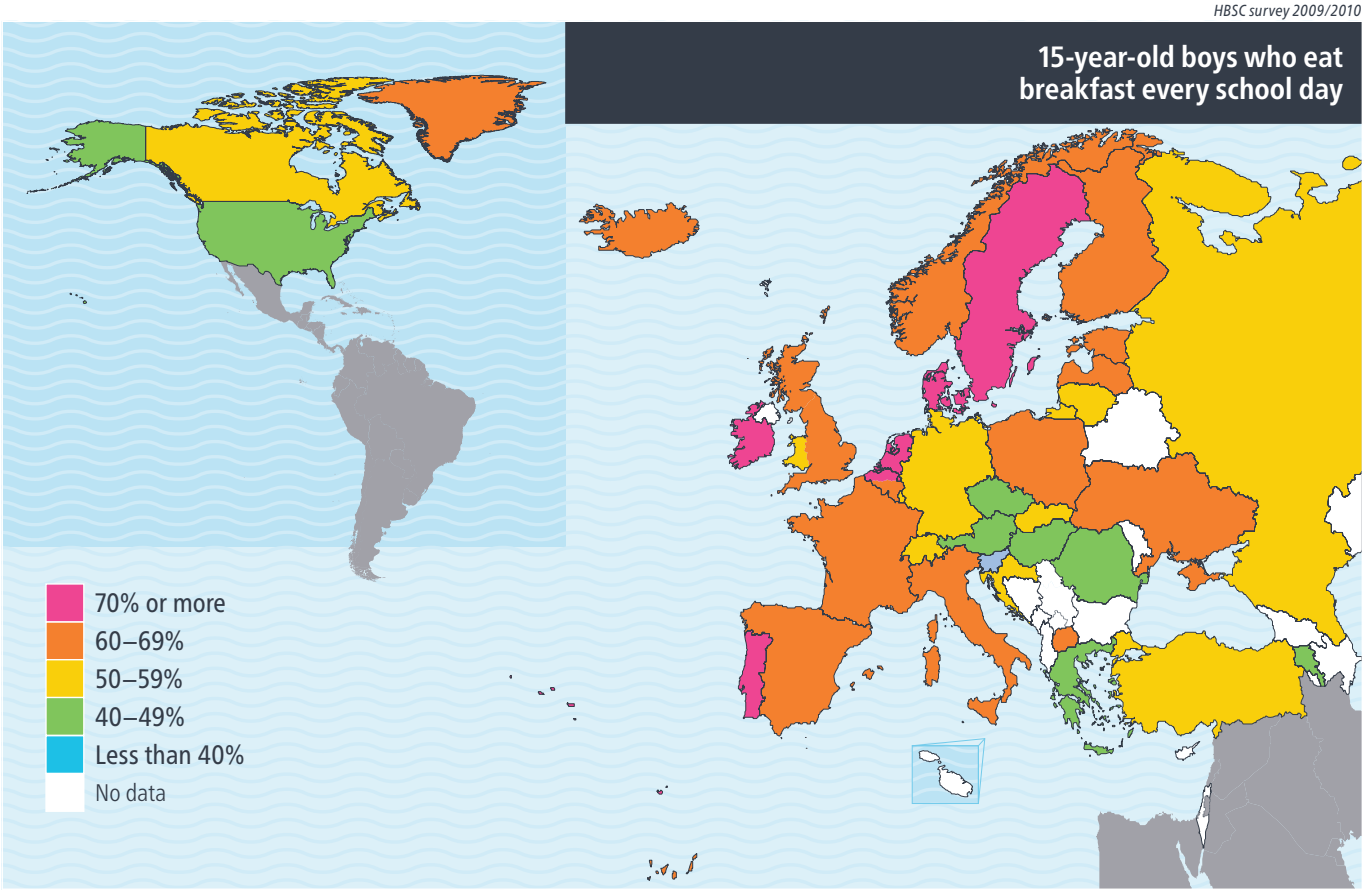
15-year-old girls who eat breakfast every school day



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

HBSC survey 2009/2010

15-year-old boys who eat breakfast every school day



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

EATING BEHAVIOUR: FRUIT CONSUMPTION

Fruit consumption when young is linked to many positive health outcomes. It promotes optimal health in childhood, growth and intellectual development, lower levels of body fat and, in combination with vegetables, better bone density for boys *(8)*. Eating fruit at younger ages appears to translate to adult patterns *(9)*, with adult outcomes including decreased risks for coronary heart disease *(10)*, stroke *(11)* and cancer *(12)*.

Factors that may motivate young people to consume more fruit include changing the environment by, for example, increasing availability of fruit at home and promoting parental consumption *(13)*, providing fruit in schools *(14)* and implementing a schoolyard garden with appropriate educational activities *(15)*. Teachers and health professionals can also help through targeted school interventions, which have consistently been shown to increase intake *(13)*.

HBSC survey 2009/2010

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

[a] The former Yugoslav Republic of Macedonia. ◆ Indicates less than +/– 0.5%.

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 who reported eating fruit at least every day or more than once a day.

RESULTS

Age

Prevalence of fruit consumption decreased for boys and girls between ages 11 and 15. The difference was significant in almost all countries and regions among boys and in most for girls, being more than 15% in around a quarter.

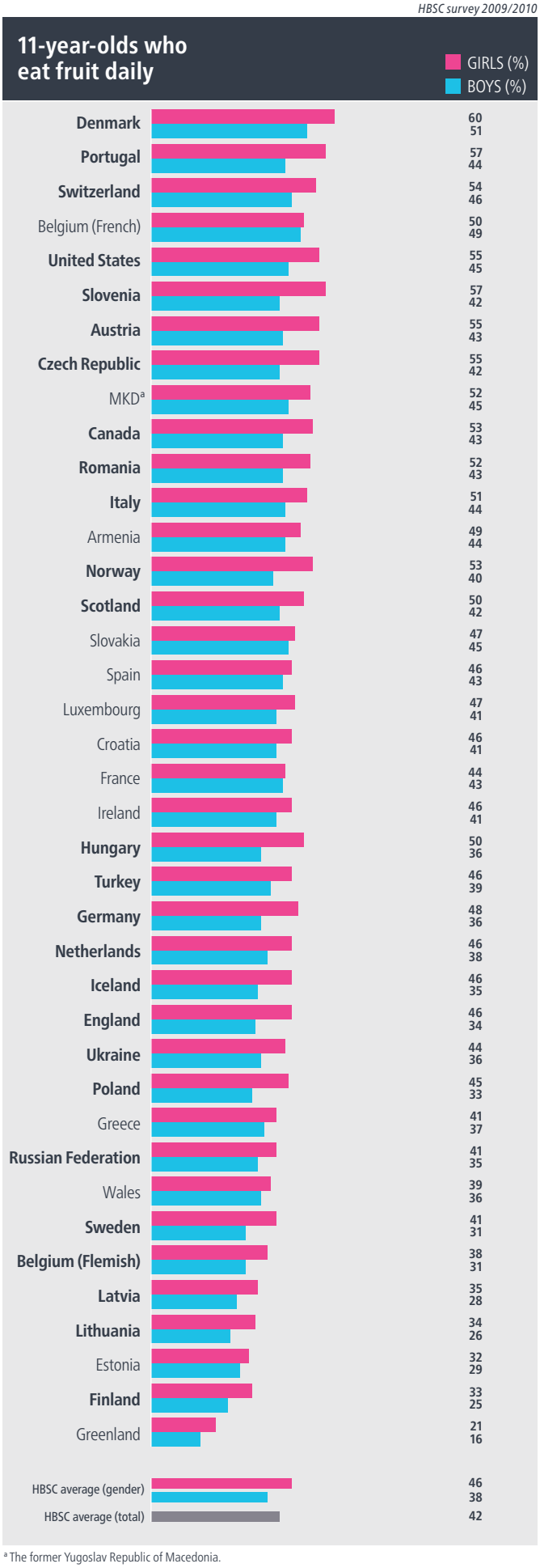
Gender

Girls had a significantly higher prevalence in around three quarters of countries and regions, with the gender difference being more than 10% in about a third.

Family affluence

Girls and boys from high-affluence families in most countries and regions were more likely to eat fruit daily. The differences were more than 10% in a minority of countries for boys and in most for girls, for whom the differences were more than 15% in around a quarter.

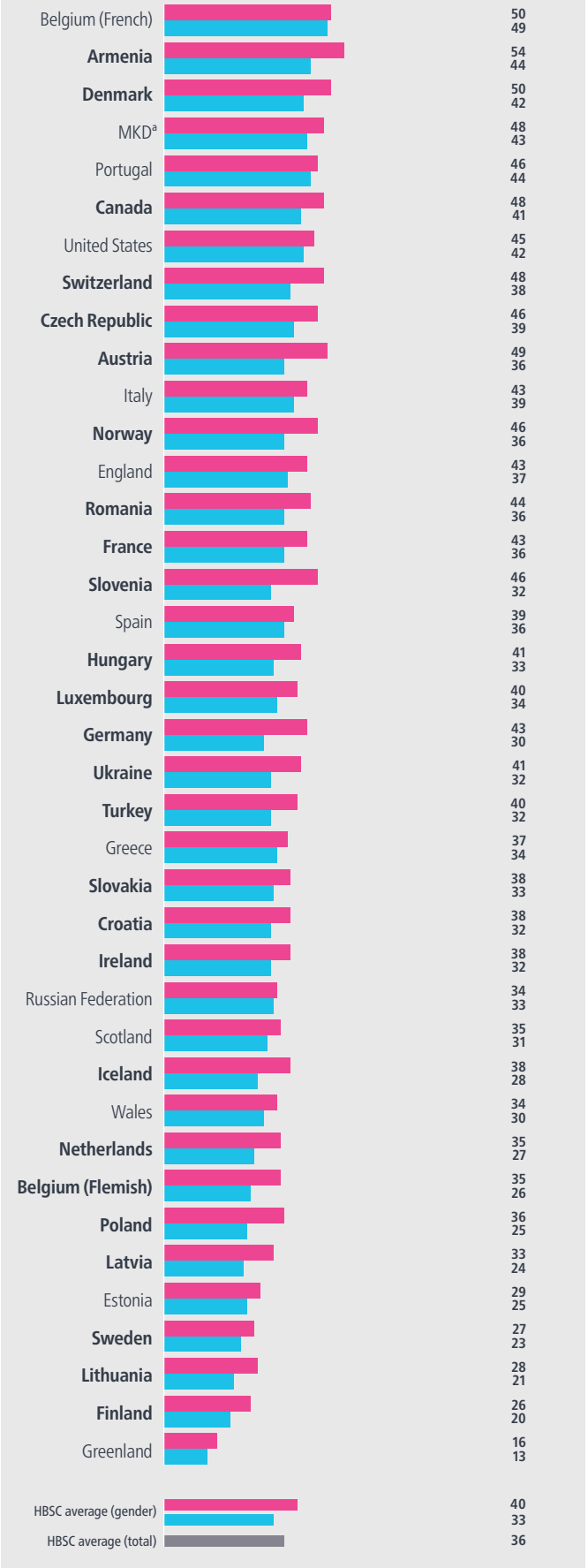
HBSC survey 2009/2010



[a] The former Yugoslav Republic of Macedonia.

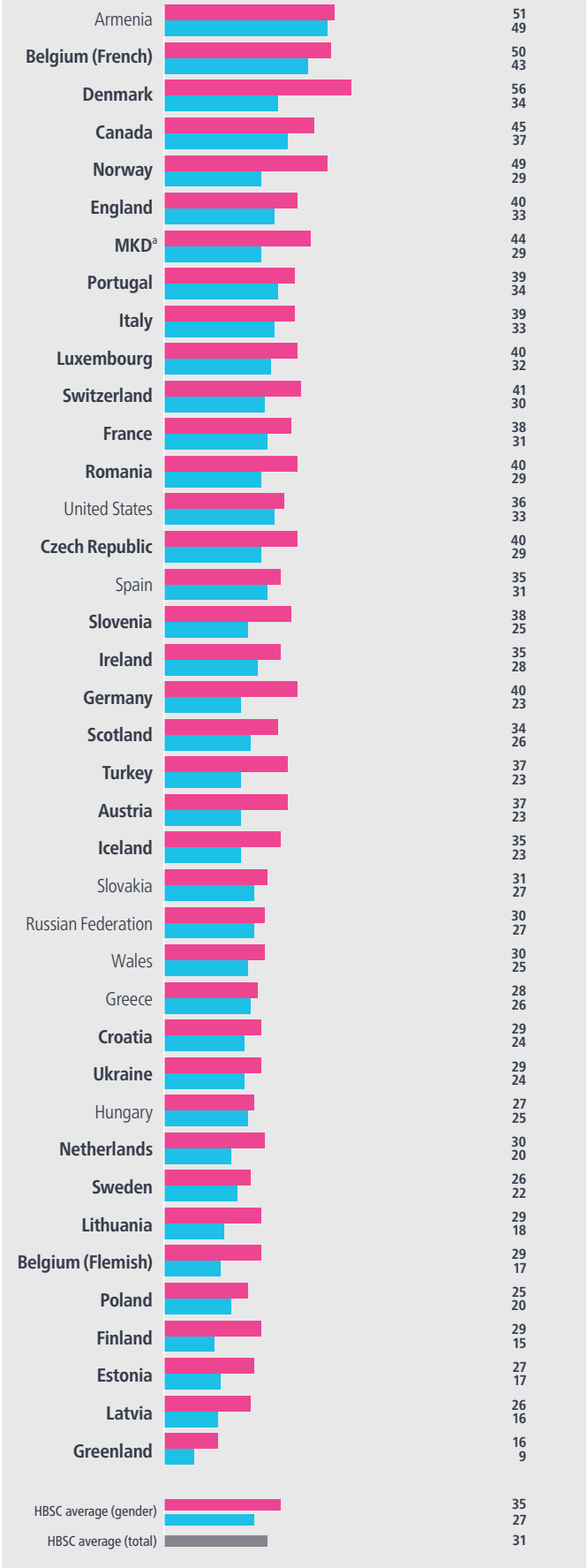
HBSC survey 2009/2010

13-year-olds who eat fruit daily



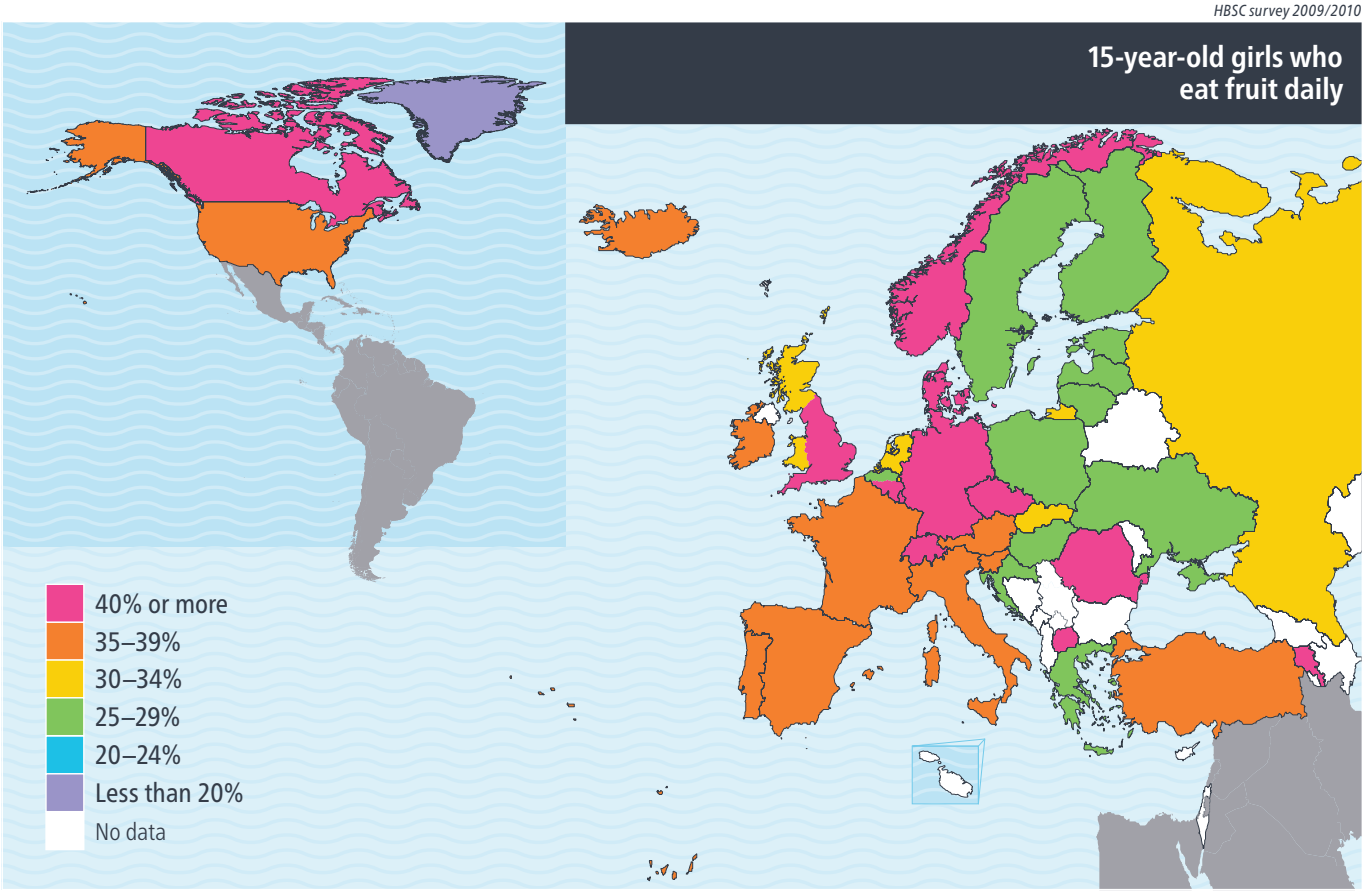
HBSC survey 2009/2010

15-year-olds who eat fruit daily



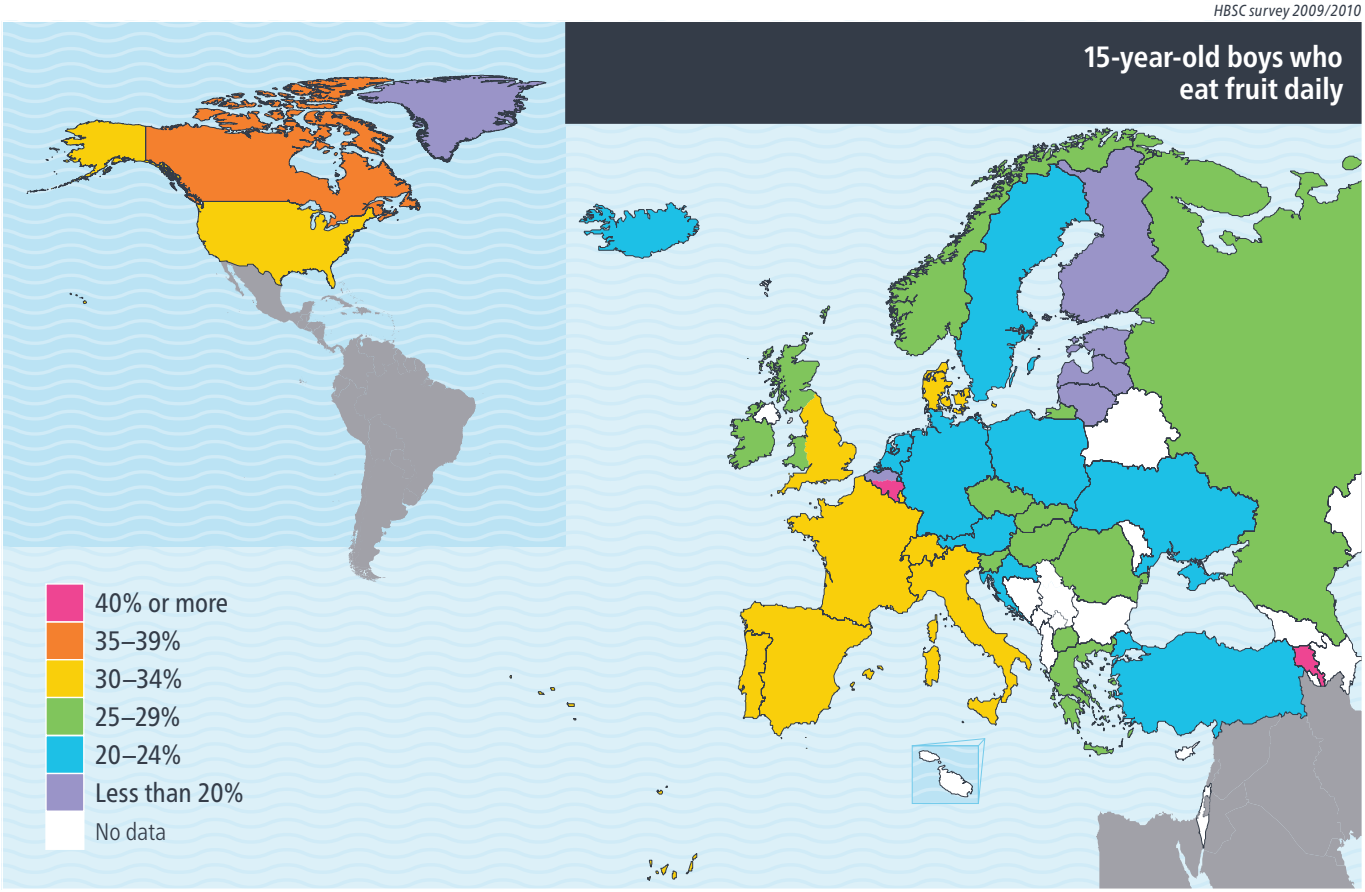
Note. **Indicates** significant gender difference (at p<0.05).

HBSC survey 2009/2010



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

HBSC survey 2009/2010



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

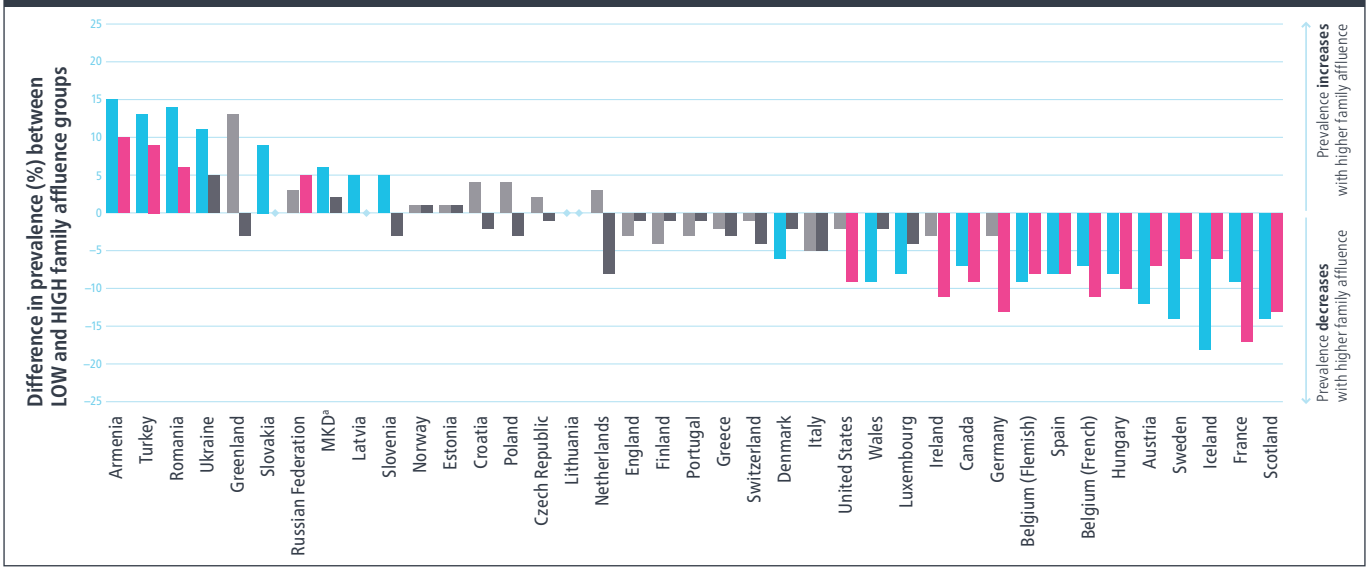
EATING BEHAVIOUR: SOFT-DRINK CONSUMPTION

The consumption of sugar-sweetened beverages, including soft drinks, has risen across the globe, accompanied by an increase in the prevalence of overweight and obesity. Regular consumption has been associated with increased energy intake, weight gain, risk of overweight and obesity, and the development of obesity-related chronic metabolic diseases such as metabolic syndrome and type 2 diabetes *(16,17)*. Not all studies, however, have shown an association between soft-drink consumption and raised BMI *(4)*.

Consumption has been associated with lower intakes of milk, calcium and other nutrients *(17)*. Previous HBSC findings have indicated negative associations with breakfast consumption *(5)* and family rules *(18)* and positive associations with frequent meal consumption in fast-food restaurants and high television viewing with associated snacking and meal consumption.

HBSC survey 2009/2010

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



[a] The former Yugoslav Republic of Macedonia. ◆ Indicates less than +/– 0.5%.

MEASURE

Young people were asked how often they drink sugared soft drinks. Responses ranged from "never" to "more than once a day". The findings presented here are the proportions who reported that they drank soft drinks on at least a daily basis.

RESULTS

Age

Prevalence of daily soft-drink consumption tended to increase between ages 11 and 15, especially in boys, with a significant difference in most countries and regions. The difference in prevalence across age groups exceeded 10% in just under half of countries and regions for boys and in a few for girls.

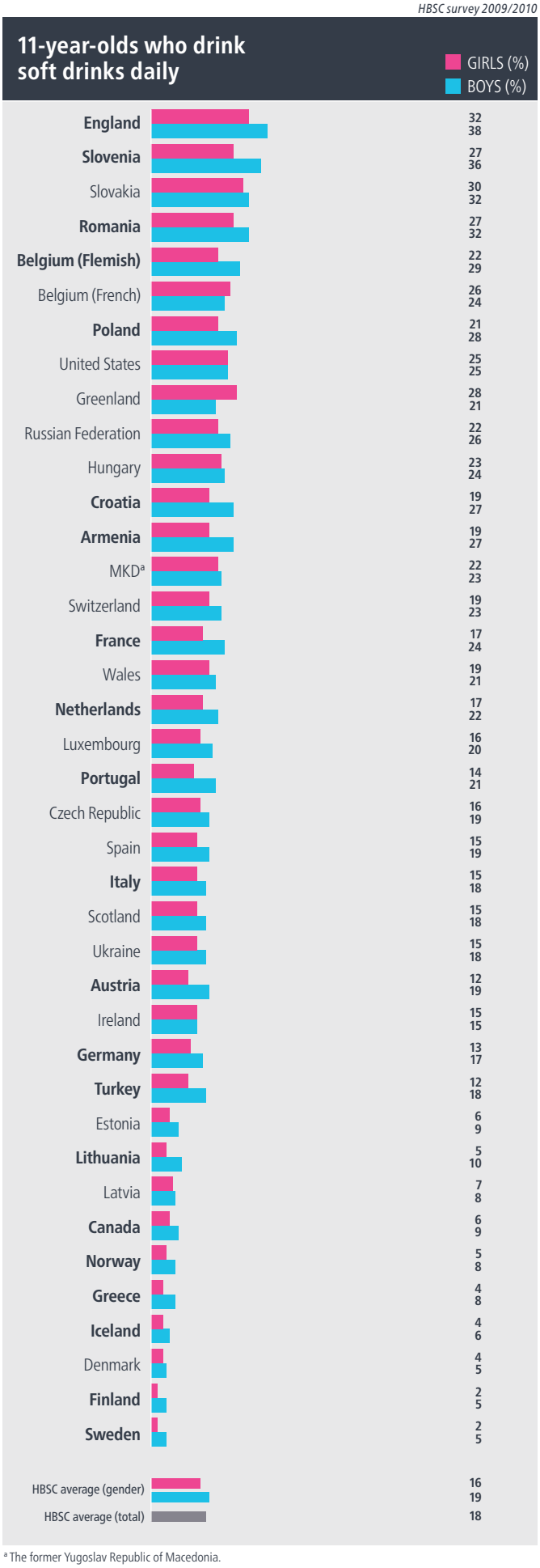
Gender

Prevalence was higher among boys in most countries and regions across all age groups. The difference was more than 10% among 15-year-olds in a few.

Family affluence

Young people from low-affluence families in around a third of countries and regions were significantly more likely to report daily soft drink consumption, but it was more prevalent among those from high-affluence families, particularly boys, in a few.

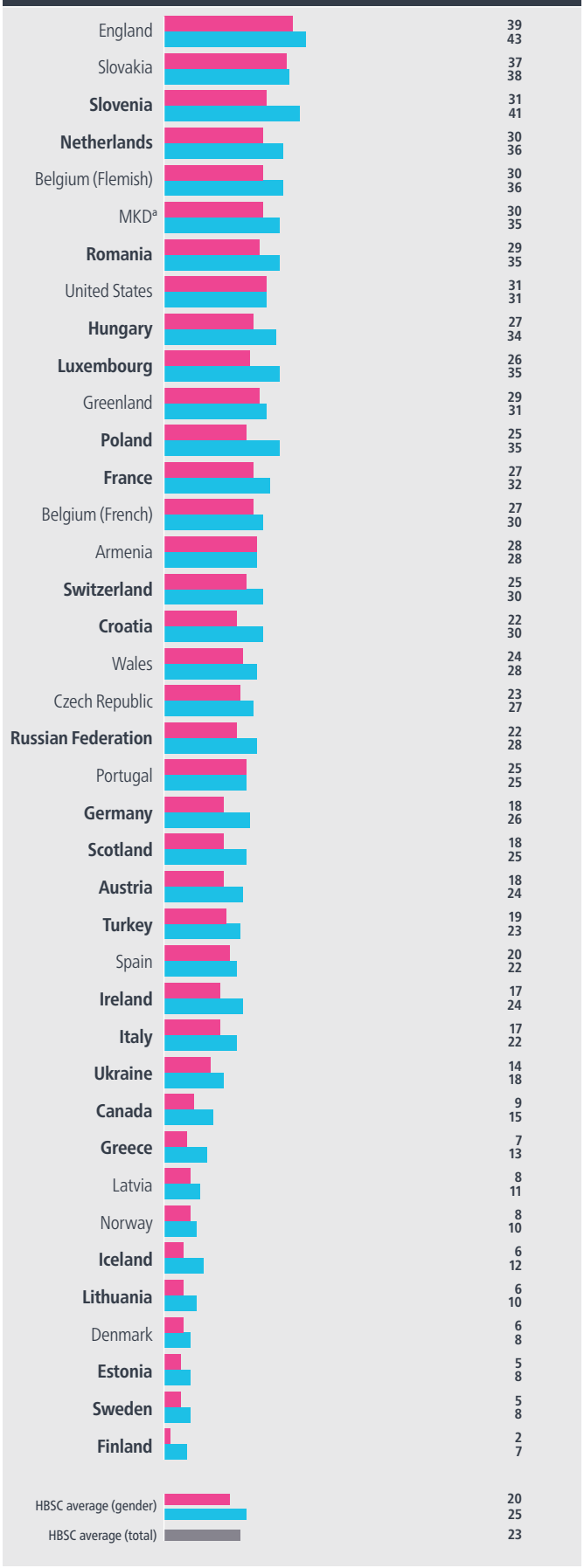
HBSC survey 2009/2010



[a] The former Yugoslav Republic of Macedonia.

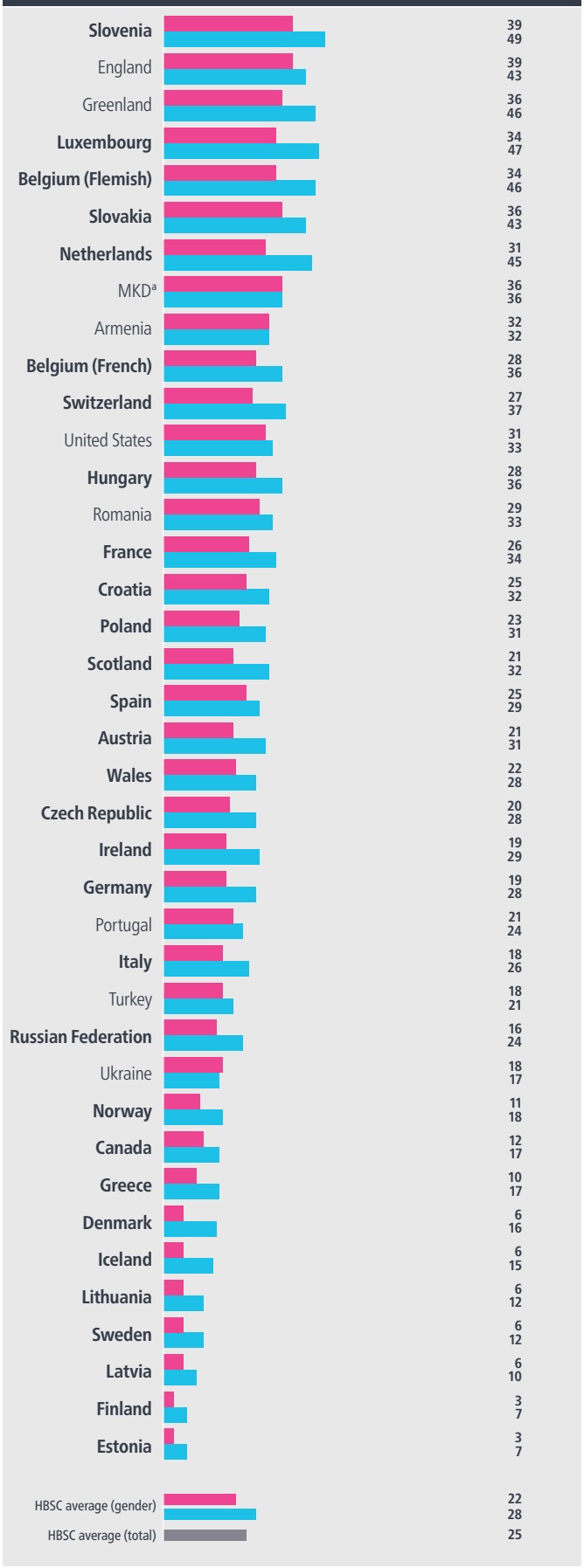
HBSC survey 2009/2010

13-year-olds who drink soft drinks daily



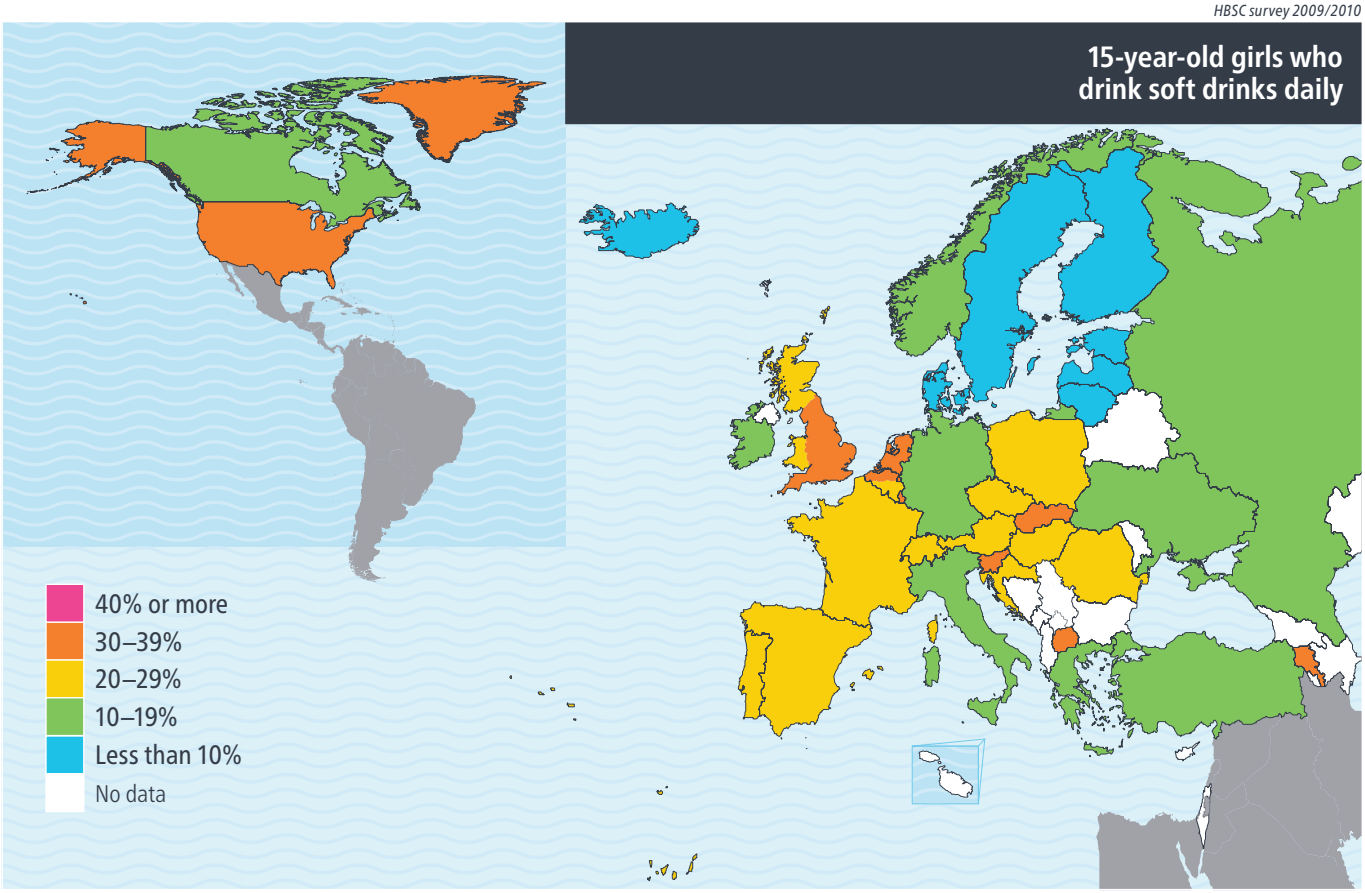
HBSC survey 2009/2010

15-year-olds who drink soft drinks daily



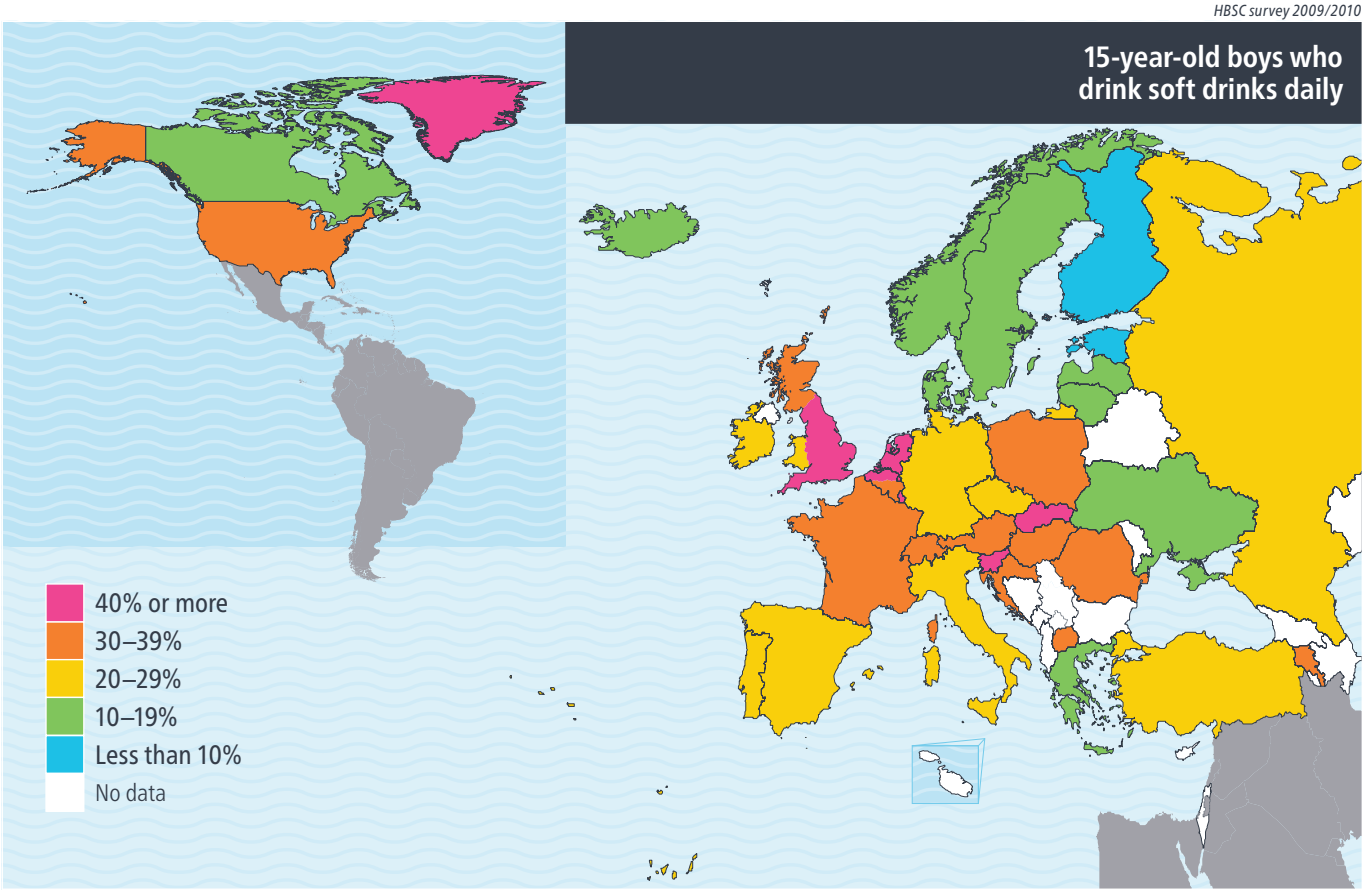
Note. **Indicates** significant gender difference (at p<0.05).

HBSC survey 2009/2010



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

HBSC survey 2009/2010



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

EATING BEHAVIOUR: SCIENTIFIC DISCUSSION AND POLICY REFLECTIONS

SCIENTIFIC DISCUSSION

Breakfast consumption

Not eating breakfast is common among young people, particularly in the teenage years, which is consistent with previous findings *(5)*. Contributing factors include increased autonomy over food choice among those in older age groups *(19)*, reduced influence of the family environment *(20)* and increased prevalence of dieting among older girls.

Boys are more likely to eat breakfast, which may be attributed to gendered views of body weight *(21)*. Girls tend to be more weight conscious, with skipping breakfast employed as a common weight-control strategy *(22)*.

Family circumstances that allow the purchase of nutritious breakfast foods and provide a supportive home environment *(20)* may partially explain the positive association between breakfast consumption and family affluence. Variation across countries may be attributable to cultural practices around food and meal patterns that either encourage or discourage breakfast consumption and to socioeconomic factors *(3)*.

Fruit consumption

Consistent with previous findings *(6,23)*, age, gender and family affluence are related to fruit consumption. Age differences tend to be less consistently reported than those for gender or family affluence *(6,23)* and may reflect young people's assertion of independence from their parents, specifically around food choices *(24)*. In relation to gender differences, it has been suggested that girls eat fruit more often because they are in general more health conscious *(25)*.

The relationship with family affluence may partly result from the pricing structure of fruits in comparison with higher-energy, less healthy alternatives. Fruits provide less energy per monetary unit and may therefore not be considered affordable by families on lower incomes *(26)*. In addition, health promotion initiatives tend to be more readily adopted by people with higher SES *(27)*.

There is no clear geographic patterning, but different diets across regions could contribute to cross-national variation.

Soft-drink consumption

Soft-drink consumption is higher among boys. Gender differences may be attributable to girls' greater focus on weight control and commitment to healthy eating *(25)*. Females are also more likely to be responsible for buying and preparing food, even at a young age, and may therefore use their knowledge to make healthier choices *(25)*. Boys have a higher energy requirement, which may direct them towards more energy-dense foods *(28)*.

The increasing prevalence of soft-drink consumption with age might be due to teenagers' greater opportunities to select and purchase their own food and drinks outside the home *(29)*.

Lower family affluence tends to be associated with higher soft-drink consumption, but the pattern is reversed in eastern European countries and the Baltic states *(30)*. Consumption in these countries may be considered an indicator of wealth.

The lowest levels of consumption are found in northern Europe and the Baltic states.

POLICY REFLECTIONS

Early and continued interventions are important, as eating habits developed in youth are likely to continue into adulthood *(31)*. The findings highlight the need to recognize that positive health behaviours decline as young people grow older and that gender differences and low affluence are predictive of negative health behaviours (although this pattern is reversed in some countries). Policy-makers and practitioners should therefore consider the following.

- Young people's eating profiles change between ages 11 and 15, which suggests this is a key stage for interventions and that efforts need to be sustained.
- Gender differences highlight that boys and girls have different needs and tend to respond to interventions differently; for instance, boys are more likely to have daily breakfast when encouraged by parents while girls tend to do so if their peers eat healthily *(32)*.
- Young people from low-affluence families typically have fewer opportunities to develop and maintain healthy eating habits.
- Notably, the family-affluence pattern is reversed in the Baltic states and eastern European countries. Strategies need to consider why unhealthy foods may be a symbol of wealth in these countries.

The family has a strong influence on young people's eating habits, suggesting that parents and caregivers need to be involved in interventions. Such interventions may consider how:

- parents who choose, prepare and present food for their children can be encouraged to consider healthy options *(33)*; and
- public health policies can support family-friendly employment policies that facilitate family mealtimes as a means of developing positive eating behaviours *(31)*.

In addition, school-based interventions are effective in promoting healthy eating habits by increasing fruit and vegetable intake through developing food preparation skills, introducing foods with taste-testing sessions and using peer education. Programmes actively involve students, teachers, parents, food-service staff, youth and service organizations, and local industry (fruit and vegetable producers and shops) in the design and development of school nutrition policies *(34)*.

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ORAL HEALTH

Oral health is essential to general health and well-being *(1)*. Improvements in young people's oral health were observed in the latter half of the 20th century across most developed countries, although they have levelled off, leaving stable but low rates of dental caries *(2)*. Social disparities in oral health have nevertheless widened across low-, middle- and high-income countries *(3)*. Oral diseases, dental caries and periodontal diseases are the most common of all chronic infections, causing pain and discomfort, reducing quality of life and being expensive to treat *(3–5)*.

Those who brush their teeth more than once a day by 12 years of age are more likely to continue to do so throughout their teenage years and into adulthood *(6)*. Family factors such as parental modelling, routines and relationships have been associated with tooth-brushing frequency *(7)*, as have school health-promotion initiatives *(8)*.

HBSC survey 2009/2010

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

[a] The former Yugoslav Republic of Macedonia.

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 who reported brushing their teeth more than once a day.

RESULTS

Age

Prevalence of tooth brushing more than once a day was significantly greater for 15-year-old girls than among those aged 11 in most countries and regions, and significantly lower among 15-year-old boys than 11-year-olds. Differences between these age groups were in the region of 5–15%.

Gender

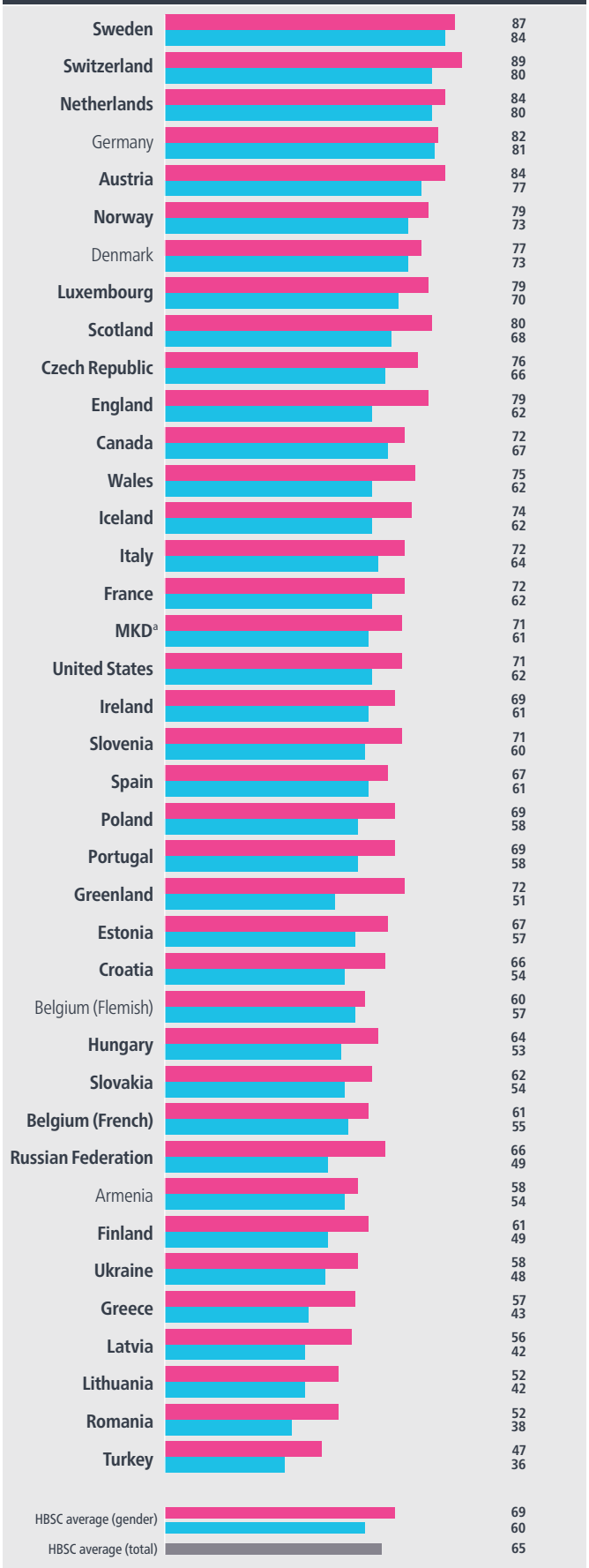
More girls brushed their teeth more than once a day across all three age groups. The gender difference was significant in almost all countries and regions across all age groups, and increased with age, being over 15% for 15-year-olds.

Family affluence

There was a significant and positive association with family affluence in almost all countries and regions. The difference in prevalence between high- and low-affluence families exceeded 10% in three quarters of countries and regions for boys and in most for girls.

HBSC survey 2009/2010

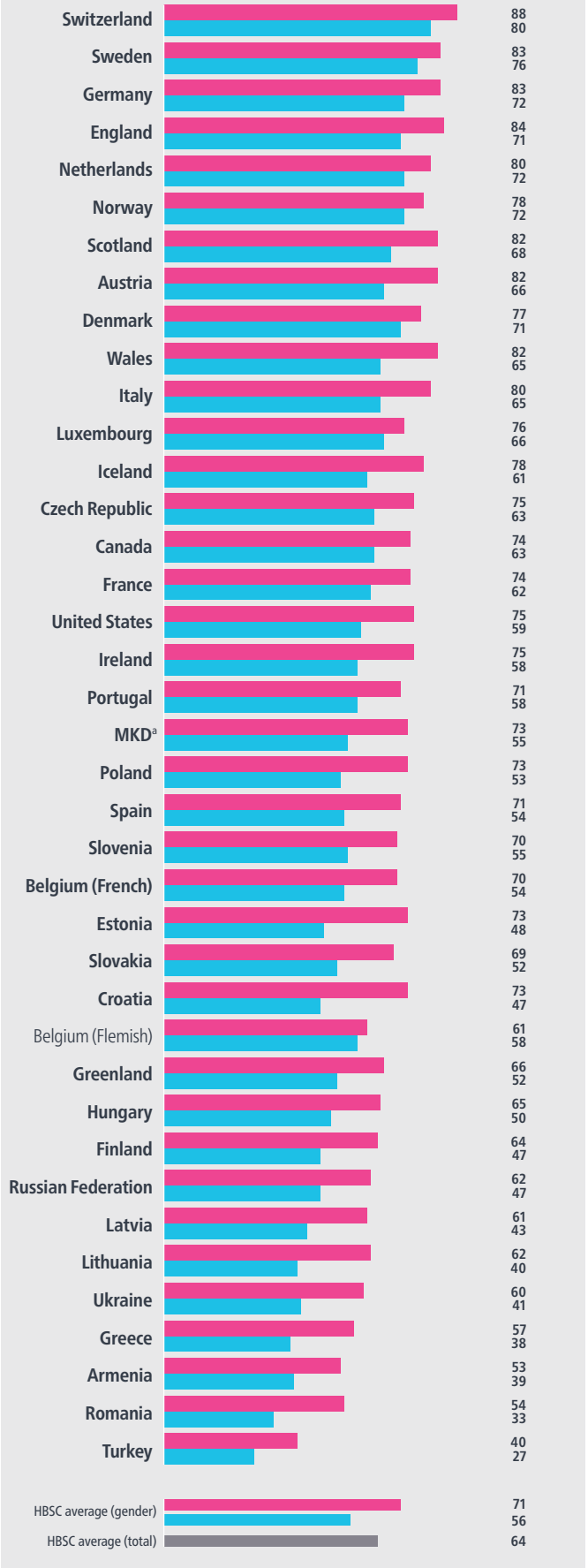
11-year-olds who brush their teeth more than once a day



[a] The former Yugoslav Republic of Macedonia.

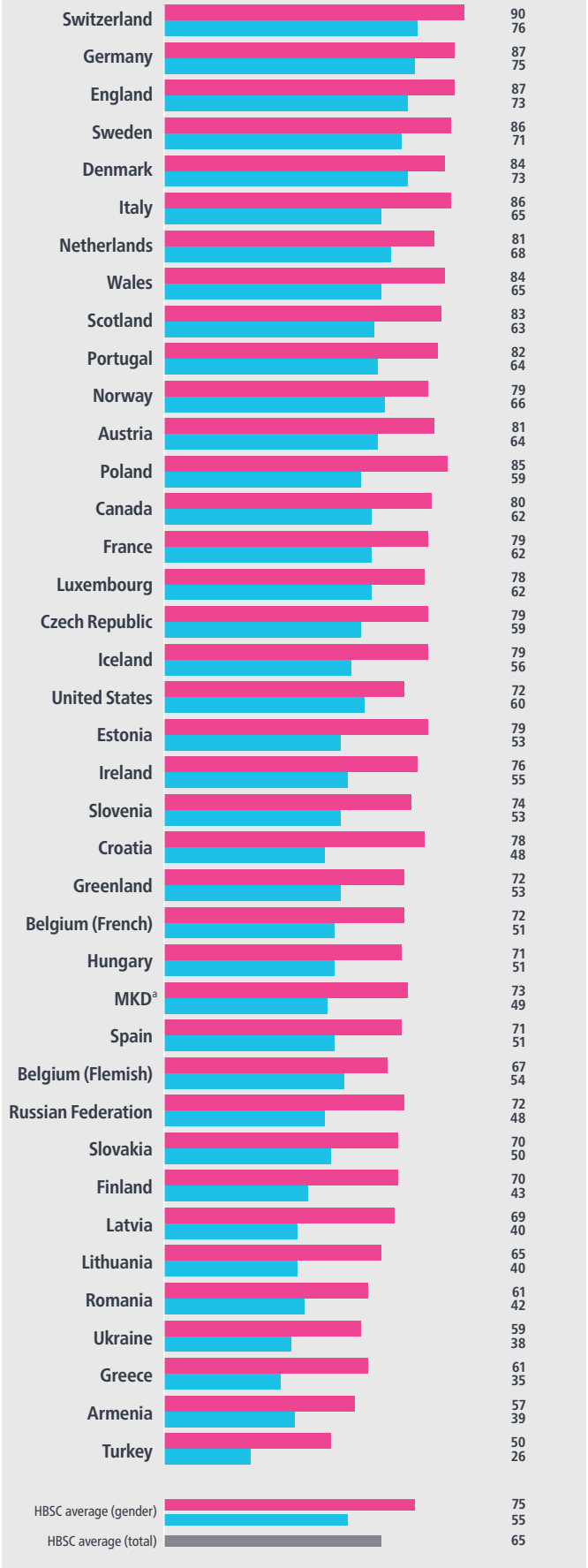
HBSC survey 2009/2010

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



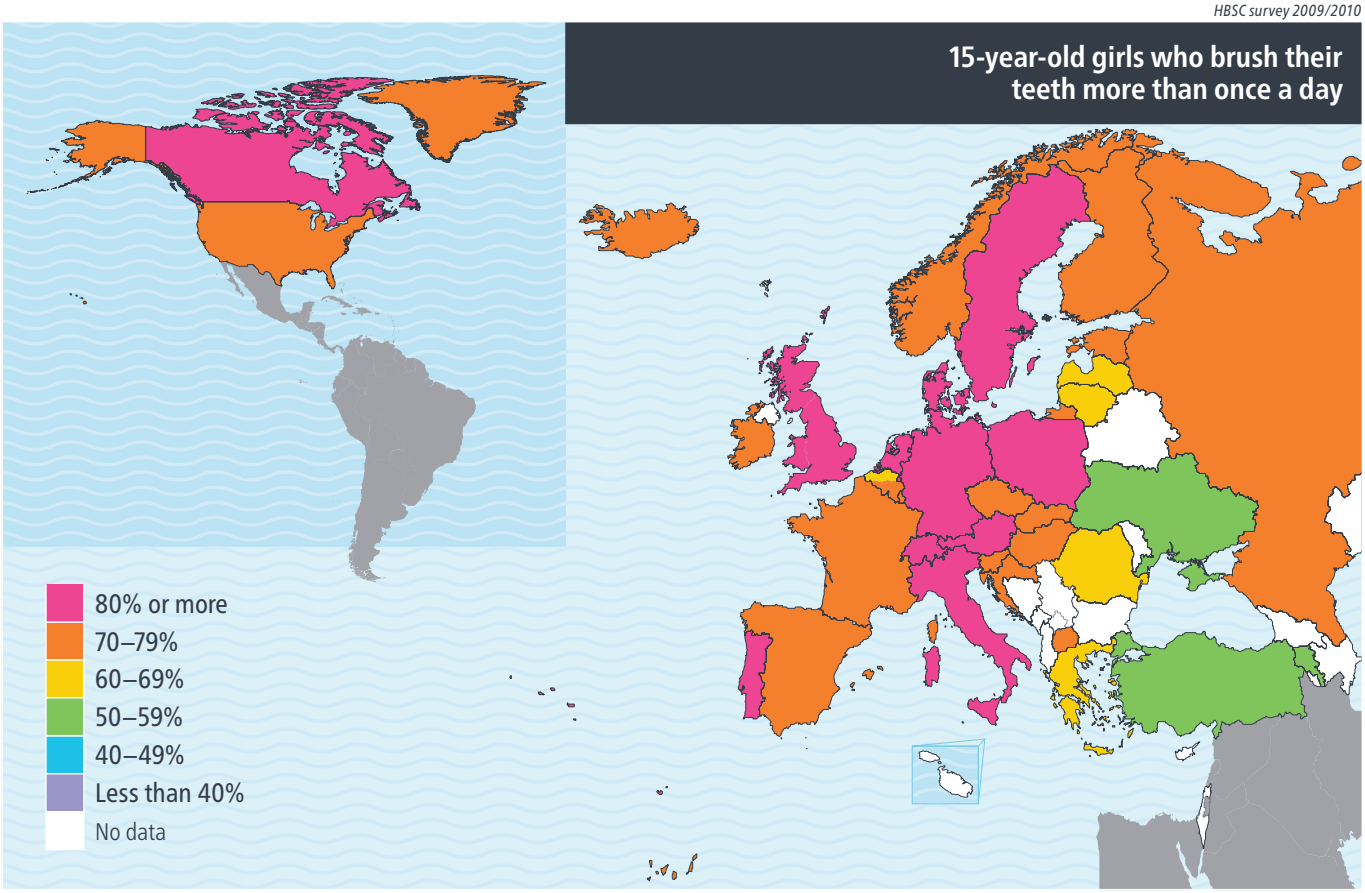
HBSC survey 2009/2010

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



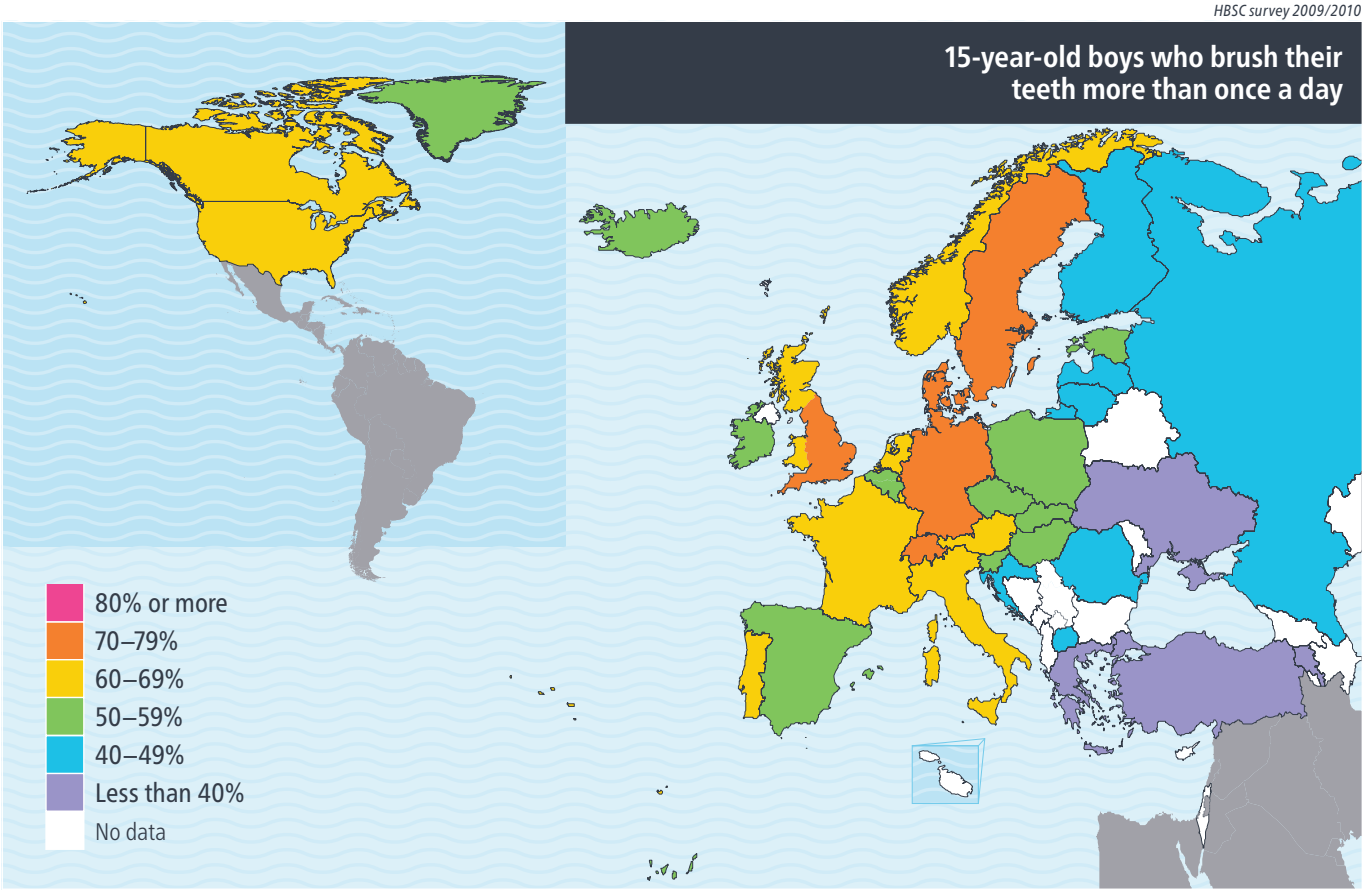
Note. **Indicates** significant gender difference (at p<0.05).

HBSC survey 2009/2010



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

HBSC survey 2009/2010



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

ORAL HEALTH: SCIENTIFIC DISCUSSION AND POLICY REFLECTIONS

SCIENTIFIC DISCUSSION

The results confirm earlier findings that girls brush their teeth more frequently, perhaps due to higher concerns about their health and appearance. The gender difference in association with age, with greater prevalence among older girls and younger boys, is interesting and unexpected. The age difference in boys may reflect more recent implementation of school and community oral-health initiatives directed at the early years, but further research on this finding is required.

Brushing more regularly is associated with higher family affluence. This reflects previous research showing that caries experience is highest among children of low-income families *(1,9)* and those living in low-SES areas *(8)*.

Recommended tooth brushing seems to be more common in higher-affluence north-western countries than in eastern and southern Europe. These effects could be linked to national health policies.

A recent study in Scotland showed that home routines and good parent–child communication are associated with more regular tooth brushing among adolescents, suggesting that familial factors may have a protective effect on oral health behaviours *(7)*.

POLICY REFLECTIONS

Oral diseases can be prevented by brushing teeth twice a day with fluoride toothpaste *(10)* and by limiting the frequency of sugar consumption *(11)*. HBSC findings highlight oral health inequalities, indicating that policy-making should focus on initiatives that target boys and low-affluence groups. Specific action on inequalities may include:

- using a gender perspective when promoting access to oral and dental health services *(12)*;
- ensuring health promotion campaigns reflect how boys may respond differently to oral health care messages and aim to identify what motivates boys to brush their teeth *(12)*; and
- recognizing how protective factors, such as the family, may help to offset socioeconomic inequalities.

Low-frequency tooth brushing tends to be accompanied by smoking, unhealthy eating patterns and low levels of physical activity *(13)*, so it may be useful to integrate oral-disease prevention into general health-promotion programmes *(3)*. The "common risk- factor approach" *(14)* is an effective basis for designing such programmes, with the health-promoting schools initiative *(15)* providing a useful platform for interventions.

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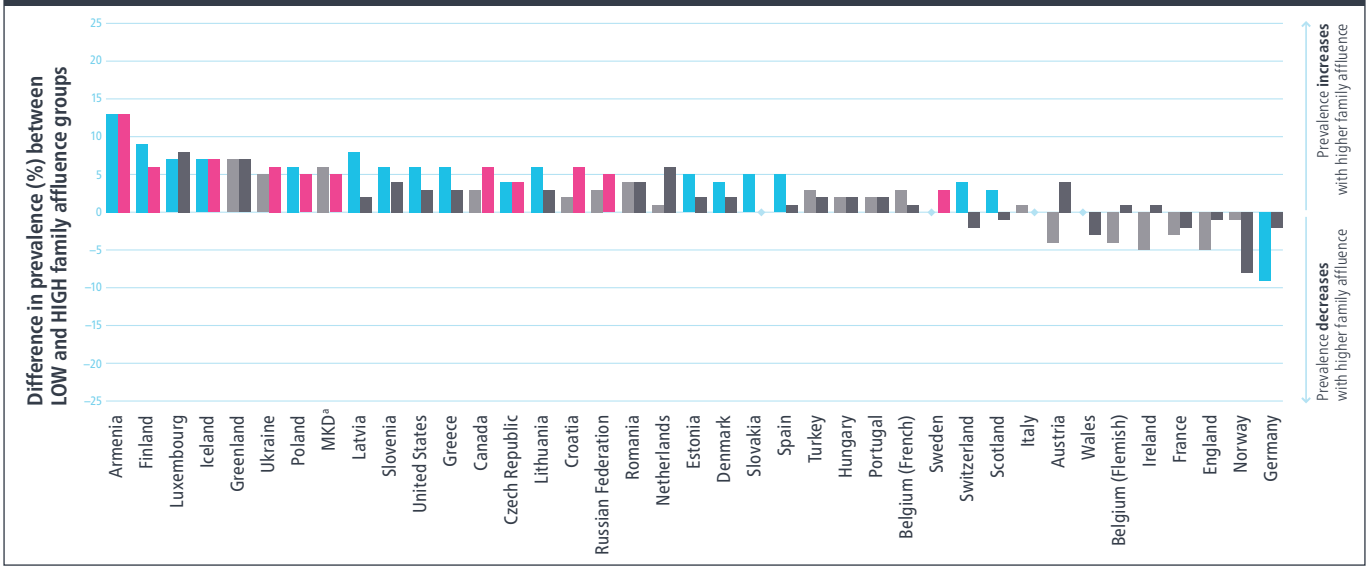
ENERGY EXPENDITURE: MODERATE-TO-VIGOROUS PHYSICAL ACTIVITY

Physical activity is essential for long- and short-term physical and mental health outcomes *(1–4)* and may improve academic and cognitive performance *(4–6)*. It is associated with increased musculoskeletal and cardiovascular health and reduced anxiety and depression among young people *(5)*. Good physical-activity habits established in youth are likely to be carried through into adulthood *(1,3)*, while lower physical-activity levels and excess sedentary behaviour are associated with obesity, a serious public health issue in North America and Europe *(7)*.

Based on their extensive review of the literature, Strong et al. *(5)* recommended that children participate in at least 60 minutes of moderate-to-vigorous physical activity (MVPA) daily. This minimum standard has been included in guidelines issued by some government and professional organizations, but evidence suggests that a significant proportion of young people do not meet it *(8)*.

HBSC survey 2009/2010

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



[a] The former Yugoslav Republic of Macedonia. ◆ Indicates less than +/– 0.5%.

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", offering country-specific examples of such activities.

RESULTS

Age

A significantly higher frequency of daily MVPA was found among boys aged 11 than those aged 15 in most countries and regions. This was also the case in all but three for girls, with a more pronounced decline by age 15. Age differences in prevalence were greater than 10% in more than a quarter of countries and regions.

Gender

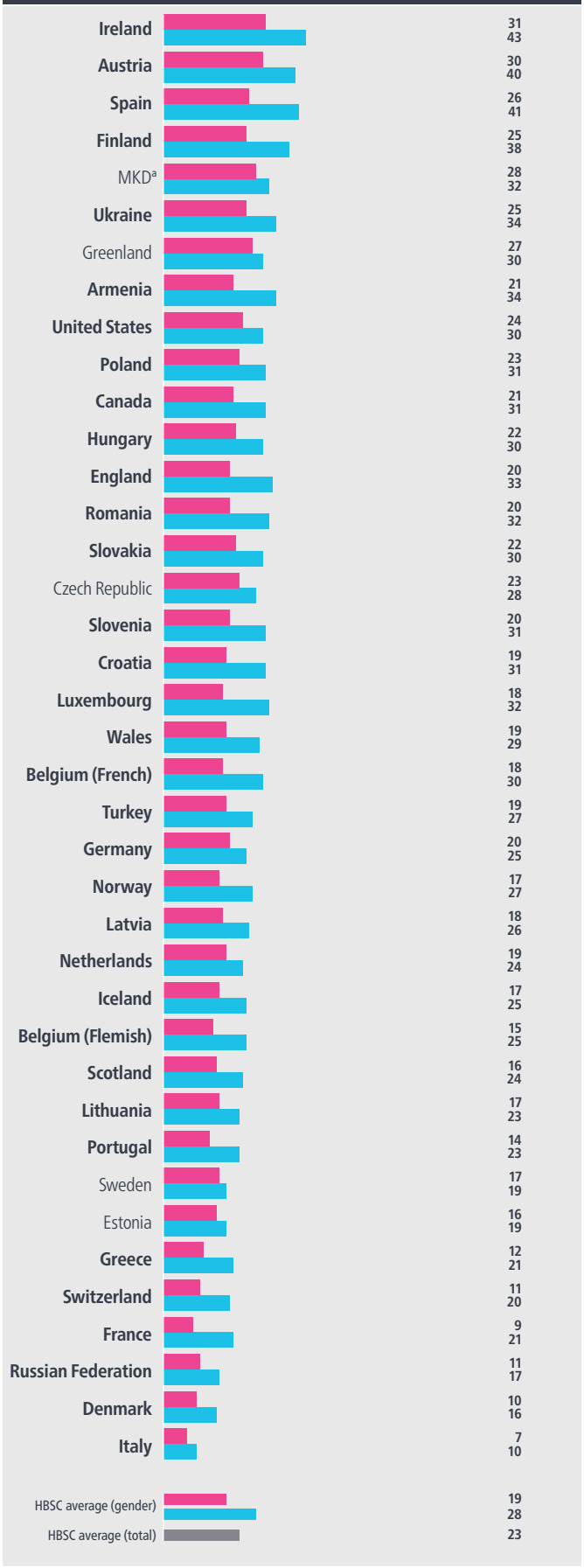
Boys were more likely to report getting at least 60 minutes of MVPA daily. Gender differences were significant in most countries and regions across all age groups.

Family affluence

Low affluence was significantly associated with lower prevalence in fewer than half of countries and regions, with the difference between those in low- and high-affluence households generally less than 10%.

HBSC survey 2009/2010

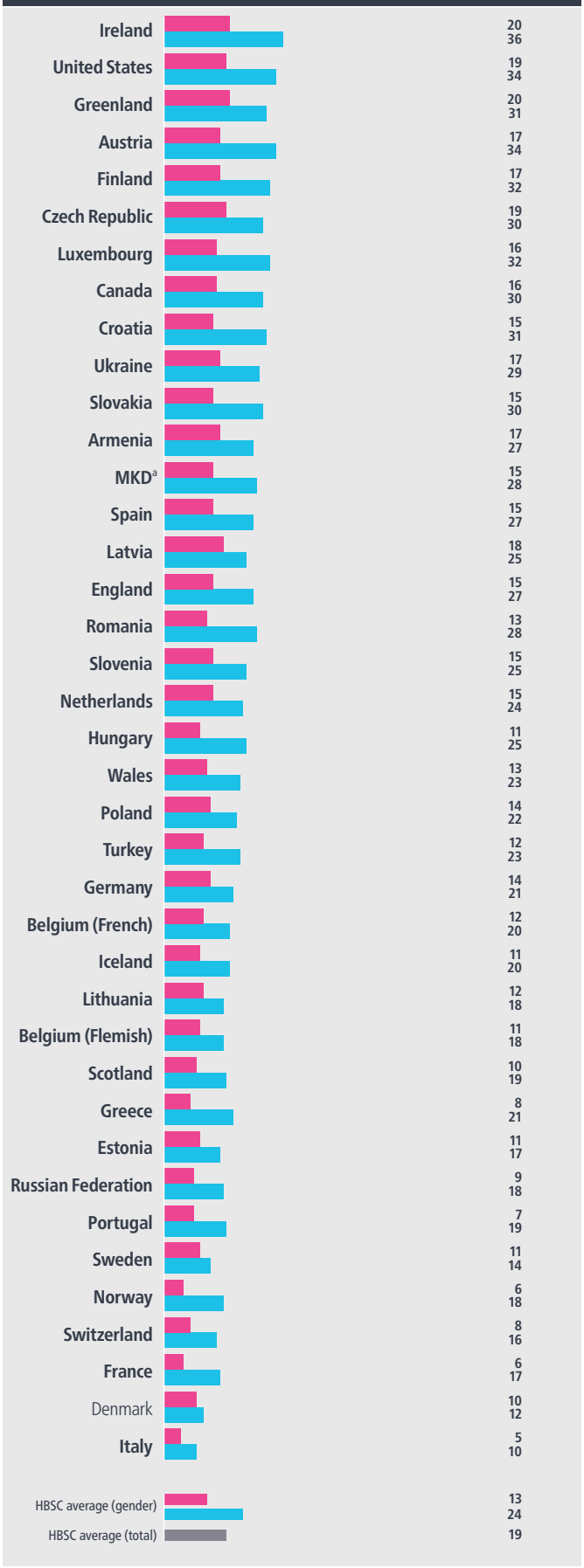
11-year-olds who report at least one hour of MVPA daily



[a] The former Yugoslav Republic of Macedonia.

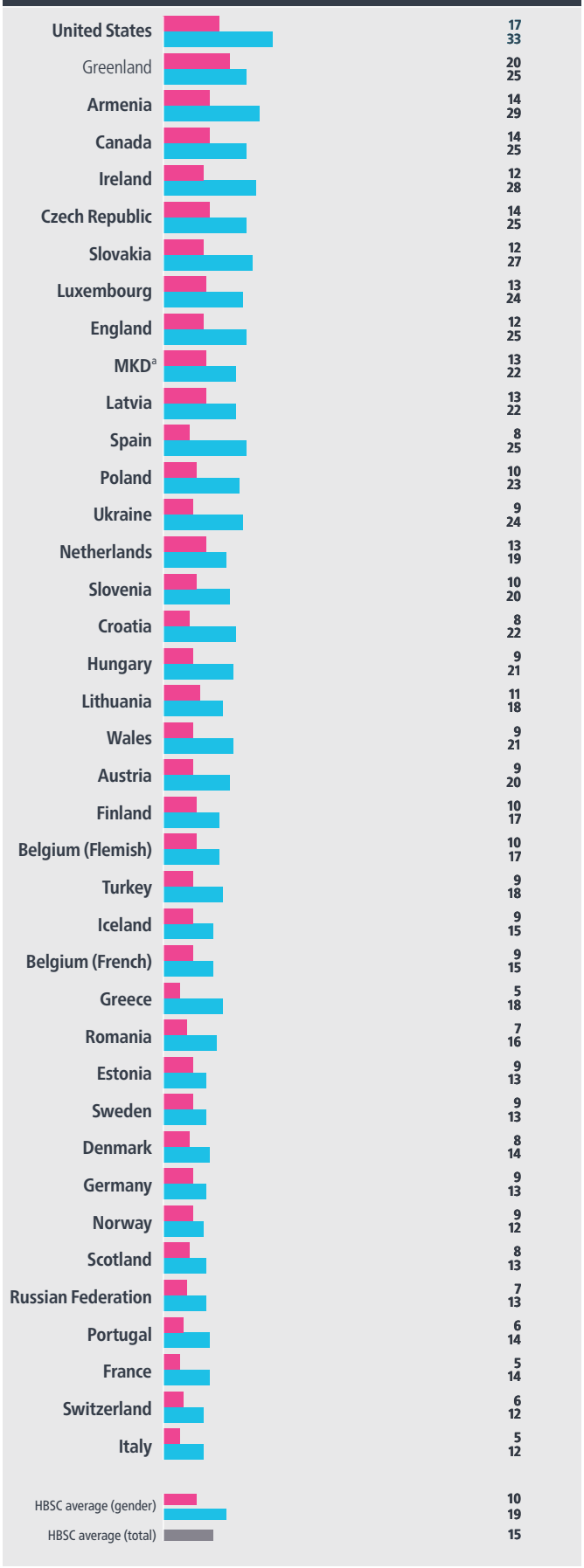
HBSC survey 2009/2010

13-year-olds who report at least one hour of MVPA daily



HBSC survey 2009/2010

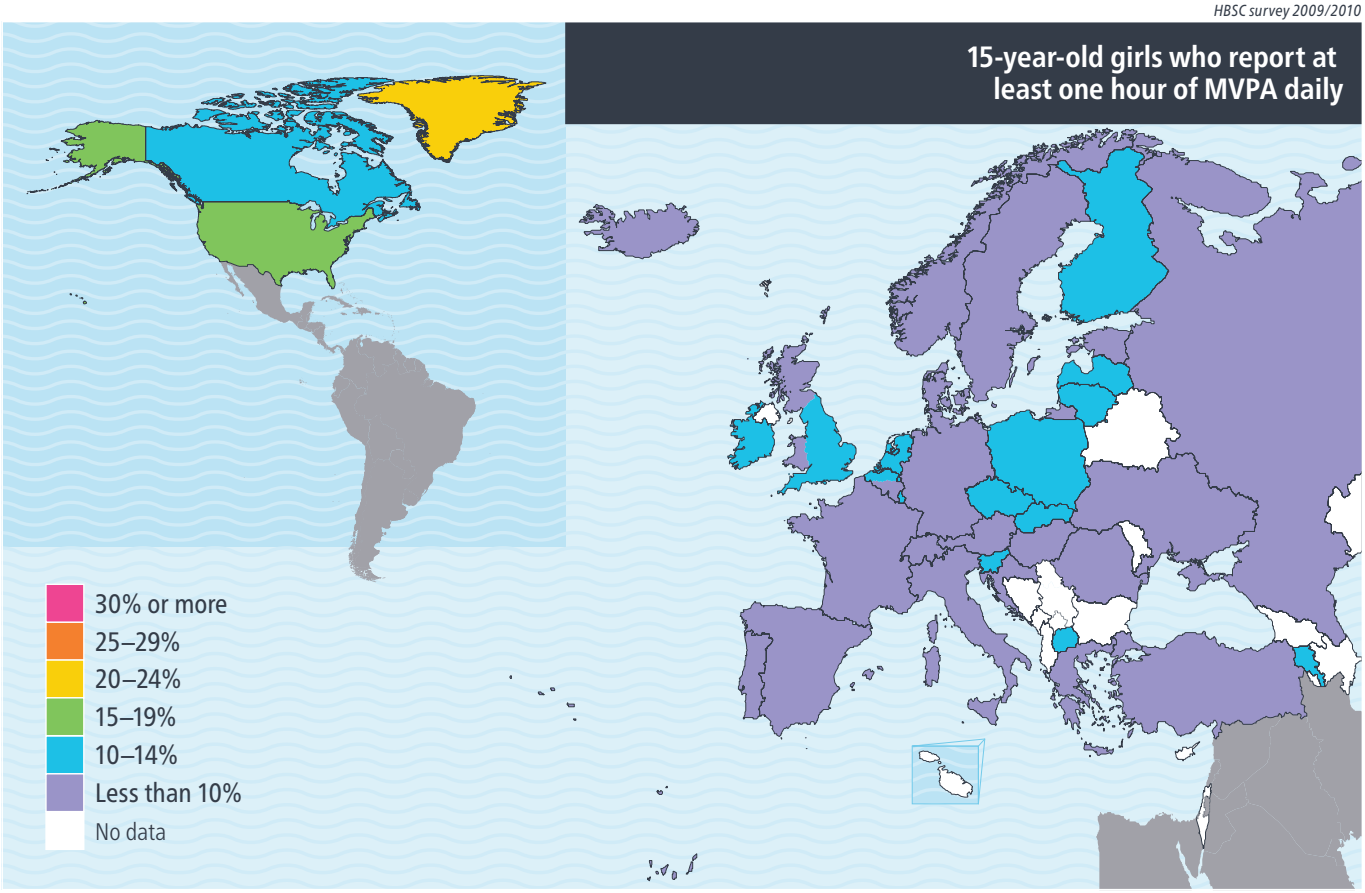
15-year-olds who report at least one hour of MVPA daily



Note. **Indicates** significant gender difference (at p<0.05).

HBSC survey 2009/2010

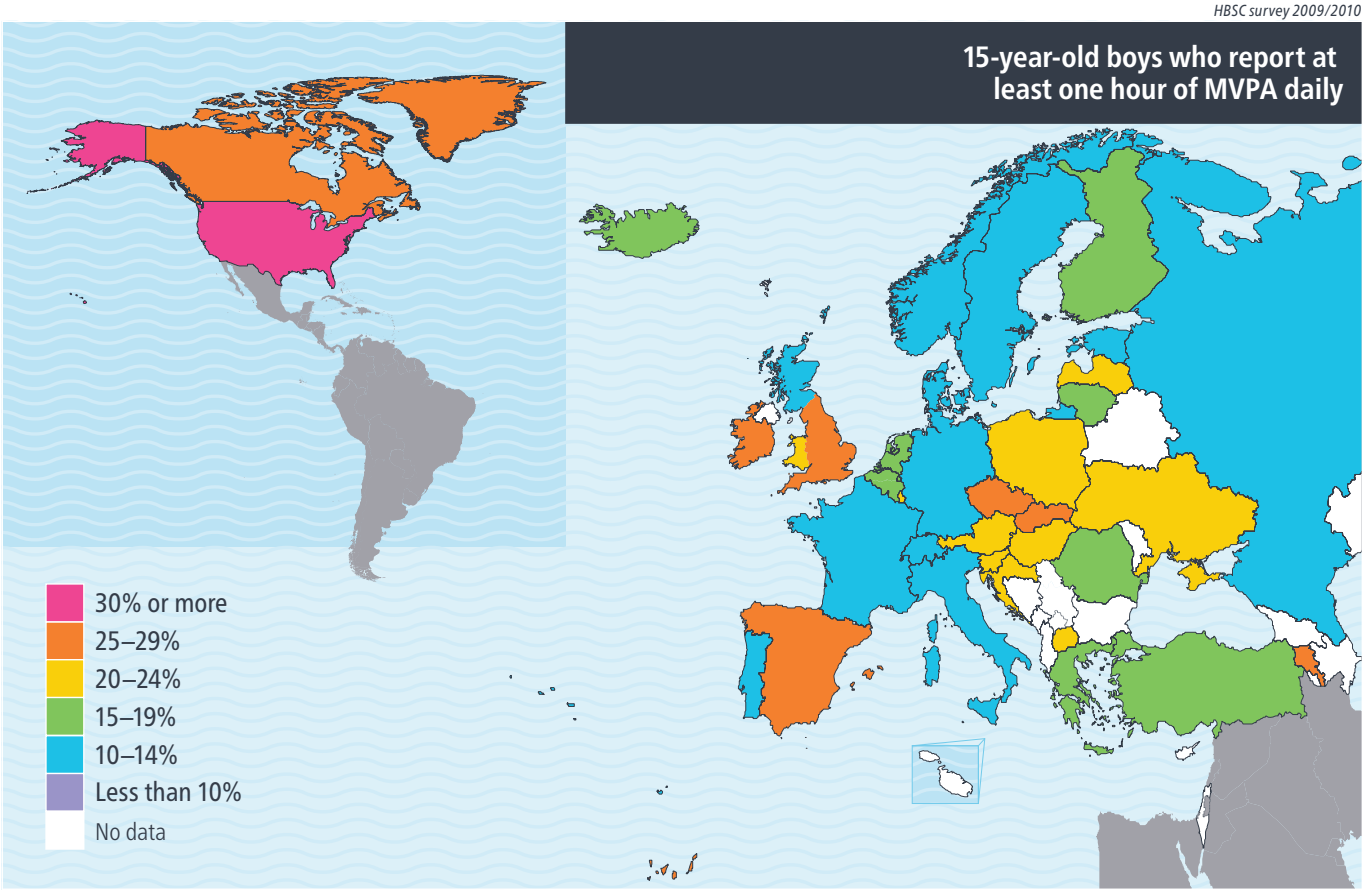
15-year-old girls who report at least one hour of MVPA daily



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

HBSC survey 2009/2010

15-year-old boys who report at least one hour of MVPA daily



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

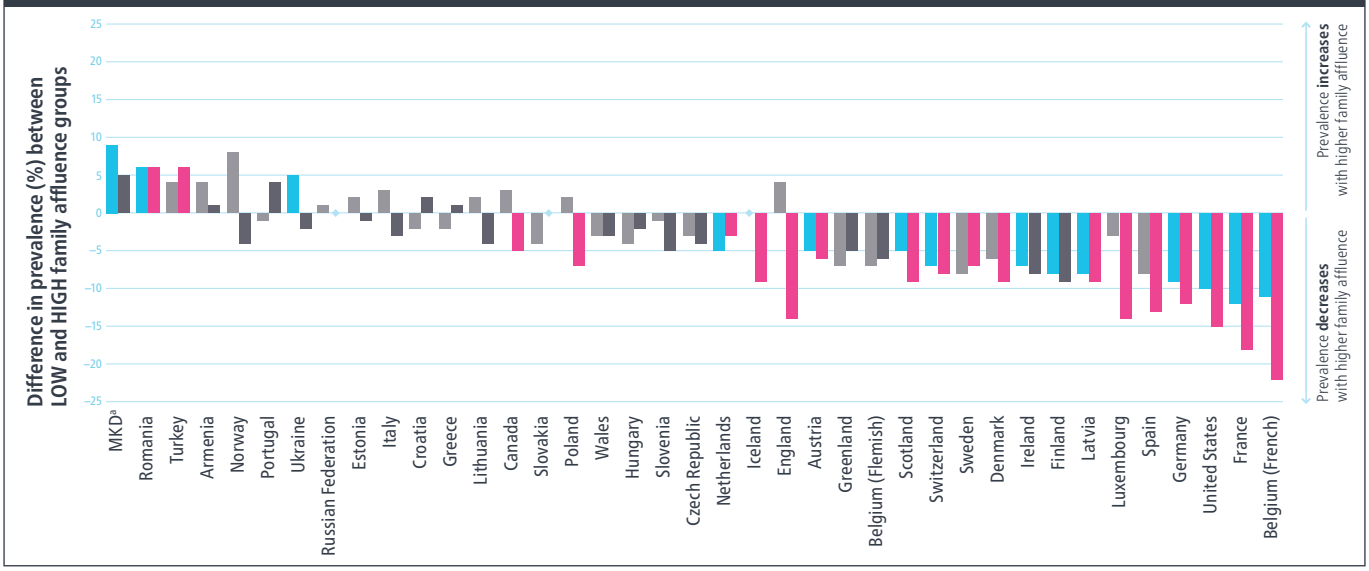
ENERGY EXPENDITURE: SEDENTARY BEHAVIOUR, WATCHING TELEVISION

Sedentary behaviour refers to an absence of or minimal involvement in physical activity, and low energy expenditure *(9)*. Although HBSC analyses show weak or no relationship with reduced physical activity *(10,11)*, sedentary behaviour is a cardiovascular-disease risk factor independent of low physical-activity levels *(12)*. In addition, screen-based sedentary behaviours have been related to other adverse health behaviours and negative health indices, such as substance use, health complaints and aggression *(3,13)*.

Its effects are cumulative over the course of childhood, with television viewing during adolescence being associated with weight gain in adulthood *(14)*. Interventions targeting sedentary behaviour in children result in weight reduction *(15)*. Current recommendations suggest that children should have no more than 1–2 hours of high-quality television and/or screen time per day, but most exceed these limits *(16)*.

HBSC survey 2009/2010

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



[a] The former Yugoslav Republic of Macedonia. ◆ Indicates less than +/– 0.5%.

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 who reported watching television for two or more hours every weekday.

RESULTS

Age

Prevalence of television viewing was significantly higher for 15-year-olds than 11-year-olds in just under half of countries and regions for boys and in most for girls. The difference was more than 10% in a few.

Gender

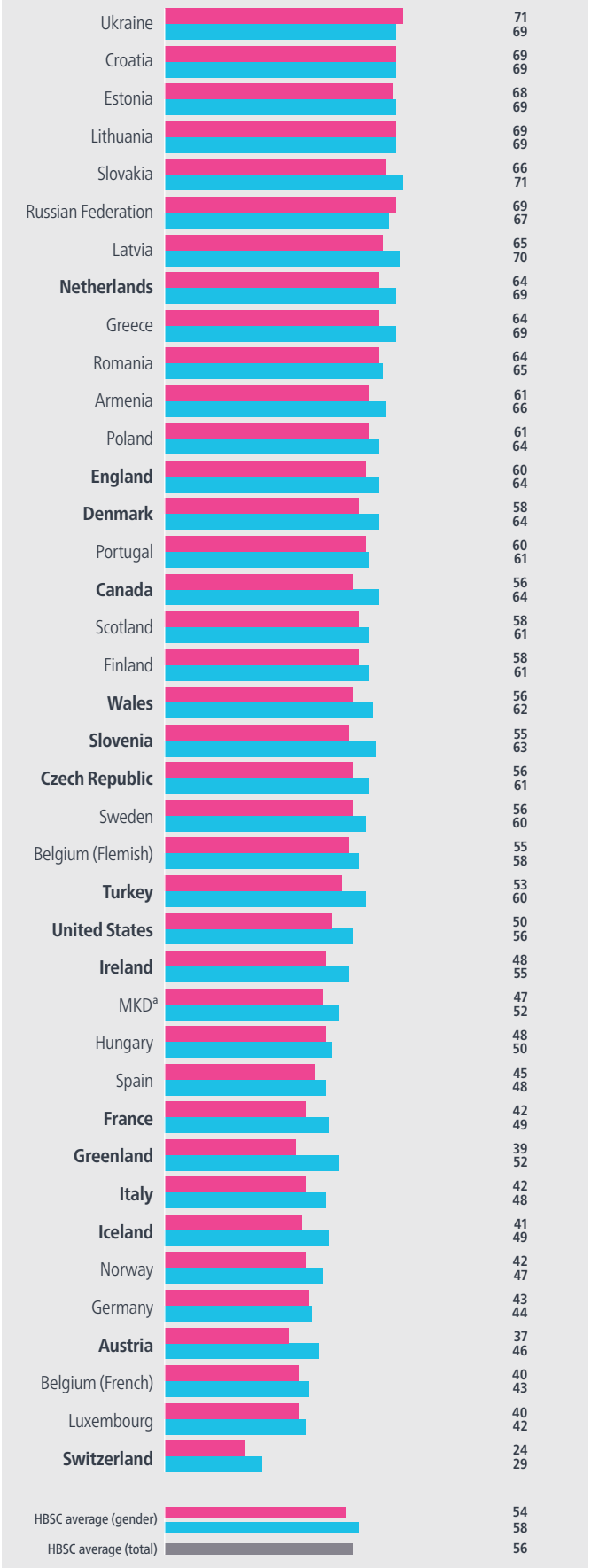
Boys were significantly more likely to report it in just under half of countries and regions at age 11, and in a few at ages 13 and 15. Gender differences were not large: usually less than 10%.

Family affluence

Differences associated with family affluence tended to be modest: less than 10%. Higher prevalence was associated with lower family affluence in just under half of countries and regions for girls and in around a third for boys.

HBSC survey 2009/2010

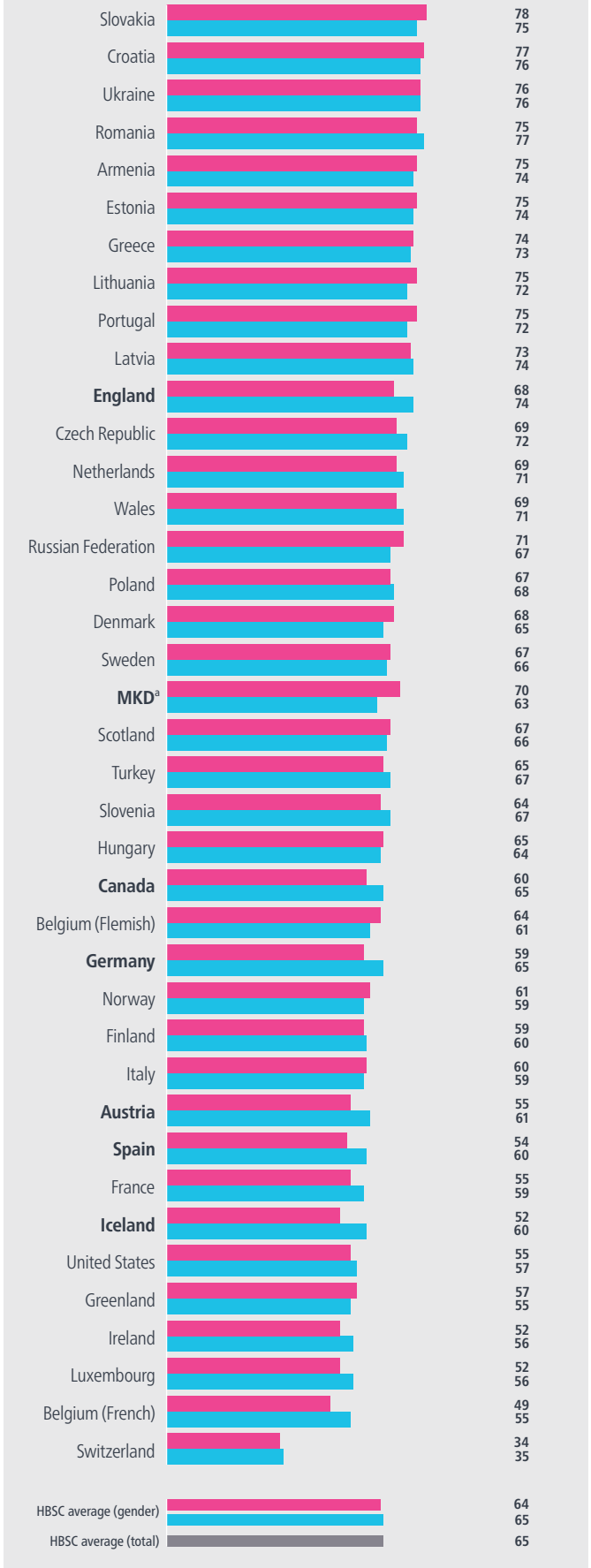
11-year-olds who watch television for two or more hours on weekdays



[a] The former Yugoslav Republic of Macedonia.

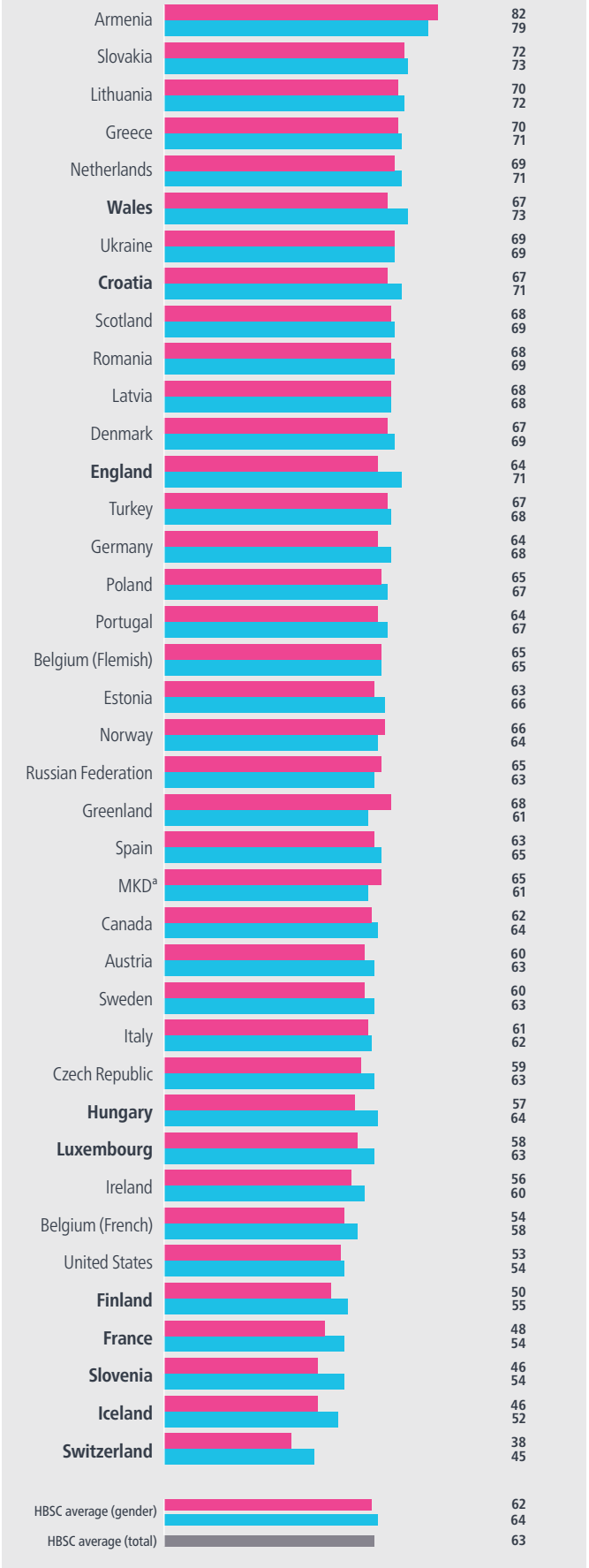
HBSC survey 2009/2010

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



HBSC survey 2009/2010

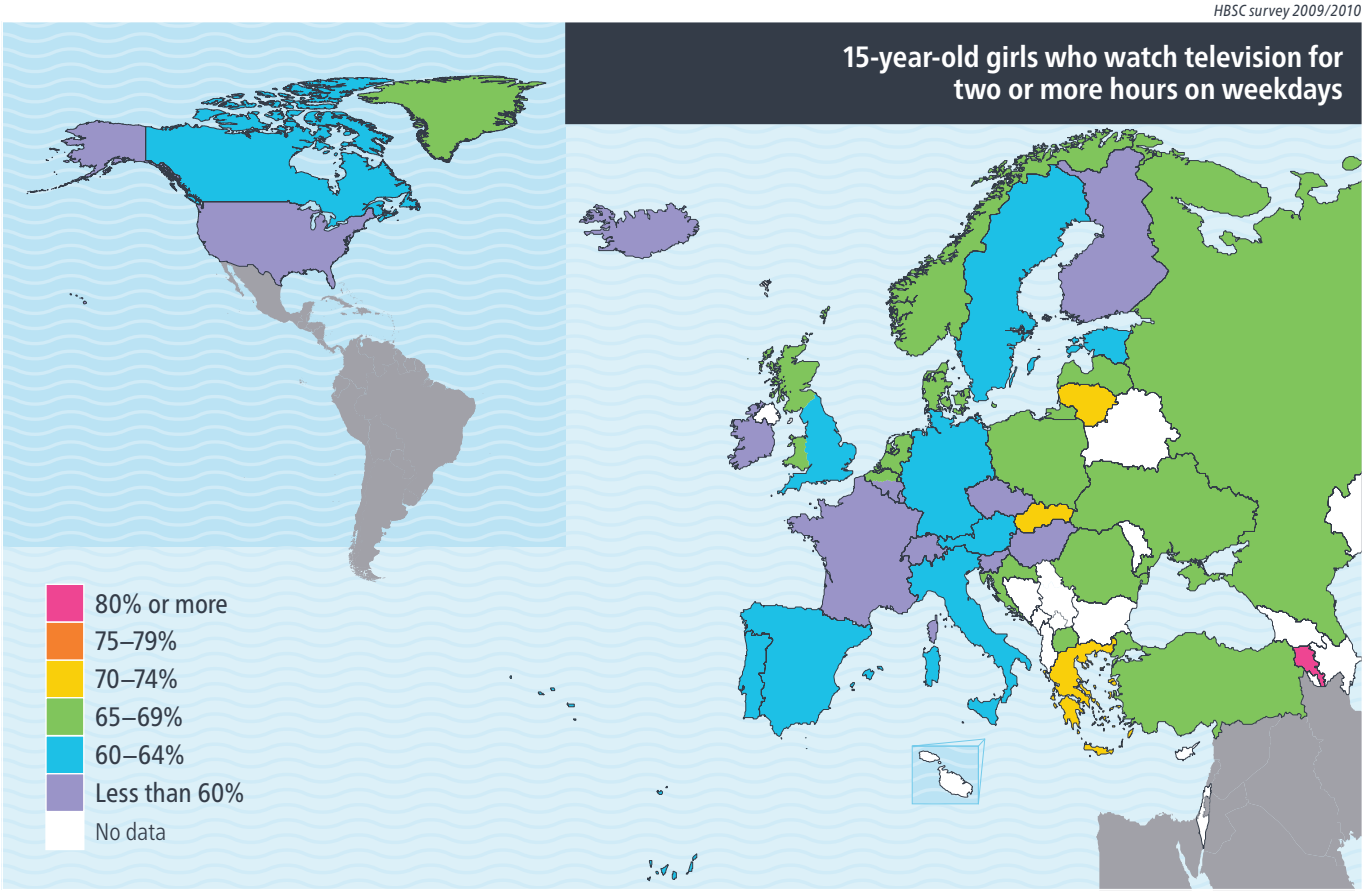
15-year-olds who watch television for two or more hours on weekdays



Note. **Indicates** significant gender difference (at p<0.05).

HBSC survey 2009/2010

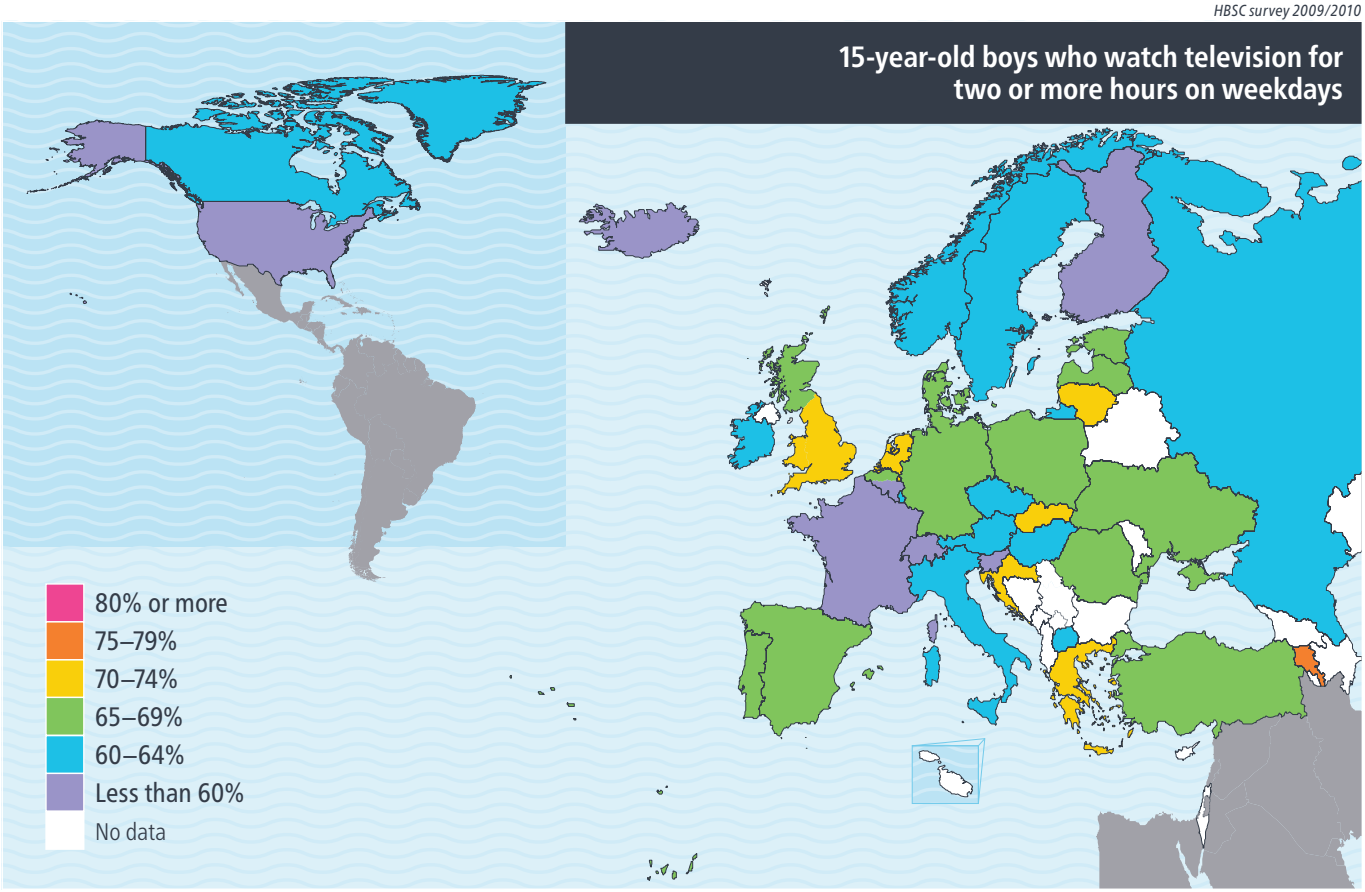
15-year-old girls who watch television for two or more hours on weekdays



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

HBSC survey 2009/2010

15-year-old boys who watch television for two or more hours on weekdays



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

ENERGY EXPENDITURE: SCIENTIFIC DISCUSSION AND POLICY REFLECTIONS

SCIENTIFIC DISCUSSION

Physical activity levels significantly decrease between ages 11 and 15. This may reflect change in the types of physical activity undertaken by each age group: free play is more common in younger children, while older groups tend to participate in more structured activities in sports clubs or through school-based physical education *(1)*.

Boys continue to be significantly more active than girls in most countries, suggesting that opportunities to participate in MVPA may be gender biased in favour of boys. Activities that centre on competition and capability capture boys' interests, while girls focus more on health and fitness. Girls are also more likely to have low perceptions of neighbourhood safety, which presents another barrier to participation *(17)*.

No clear geographic patterns are apparent, but policies and guidelines may explain some country differences. For example, in Italy, a country with relatively low levels of daily MVPA, physical-education reform has resulted in fewer physical-education teachers; higher levels are found in Finland, where recommendations for MVPA exceed WHO guidelines *(18)*. Policy context could also partly explain why family affluence predicts MVPA in countries where fee structures may prohibit access to facilities for those from less-affluent households.

Relationships between social determinants and sedentary behaviour are less clear. Family affluence and gender do not seem to be strong predictors, but rates appear to increase across the age groups in around half of countries and regions. Lack of variation is probably to be expected, given that most young people have access to television and report regular viewing.

POLICY REFLECTIONS

The findings underline the need for policy interventions to increase physical activity, especially among older age groups, girls and low-affluence groups. Policy-makers and practitioners should seek to identify what prevents and what motivates participation. Factors that ensure equitable access include:

- providing a range of activities that appeal specifically to girls;
- ensuring activities are free or affordable, with provision of free or low-cost transportation to the venue;
- involving young people in programme design to identify barriers to participation;
- ensuring a safe local environment in which children can actively travel and play *(9)*; and
- educating the public through the mass media to raise awareness and change social norms around physical activity *(9)*.

It is important to encourage and embed physical activity in the younger years so that participation can continue across the lifespan. Useful interventions include:

- engaging parents in supporting and encouraging their children's physical activity *(19,20)*;
- providing multisite interventions using a combination of school-based physical education and home-basedactivities *(19,20)*;
- developing school policies that promote highly active physical education classes, suitable physical environments with resources to support structured and unstructured physical activity throughout the day and active travel programmes *(9)*;
- promoting interventions that recognize the positive influence of peers *(20)*;
- promoting interventions that are specifically designed to increase physical activity rather than a range of health behaviours *(20)*; and
- monitoring television or video-game use *(19)*.

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CHAPTER 5.
RISK BEHAVIOURS

TOBACCO USE
ALCOHOL USE
CANNABIS USE
SEXUAL BEHAVIOUR
FIGHTING
BULLYING

TOBACCO USE

Tobacco is the leading cause of preventable death in the world, imposing a large burden on societies *(1)*. Smoking behaviour is typically established during adolescence; most adult smokers had their first cigarette or were already addicted to nicotine by age 18 *(2)*. The duration of smoking and number of cigarettes required to establish nicotine addiction are lower for adolescents than adults, so addiction is established more quickly *(3)*. Although studies have clearly shown the negative health effects of tobacco use, adolescents typically remain attracted by it, perhaps because they perceive smoking as adult behaviour and have a strong desire to be perceived as adult by peers *(4)*.

Previous HBSC research has shown that tobacco use is related to other risk behaviours and negative health outcomes in young people, including unhealthy dieting patterns *(5)*, high levels of alcohol consumption *(6)*, bullying *(7)*, early sexual initiation *(8)*, poor self-rated health and low life satisfaction *(9)*, frequent multiple health complaints *(10)* and injuries *(11)*. It can therefore be considered part of a broader pattern of unhealthy behaviours that cluster in adolescence.

Many family factors – such as divorce or separation *(12)*, parental smoking *(13)* and low family cohesion and connectedness *(14)* – predict tobacco use. Positive relationships with parents are usually negatively associated with adolescent smoking, but peer relationships may encourage it through, for example, providing access to tobacco products and helping to create norms to support use *(15)*. Peers have been suggested as agents in intervention programmes aiming to reduce tobacco use among adolescents precisely because they can have such a significant influence on behaviour *(16)*.

MEASURES

Tobacco initiation

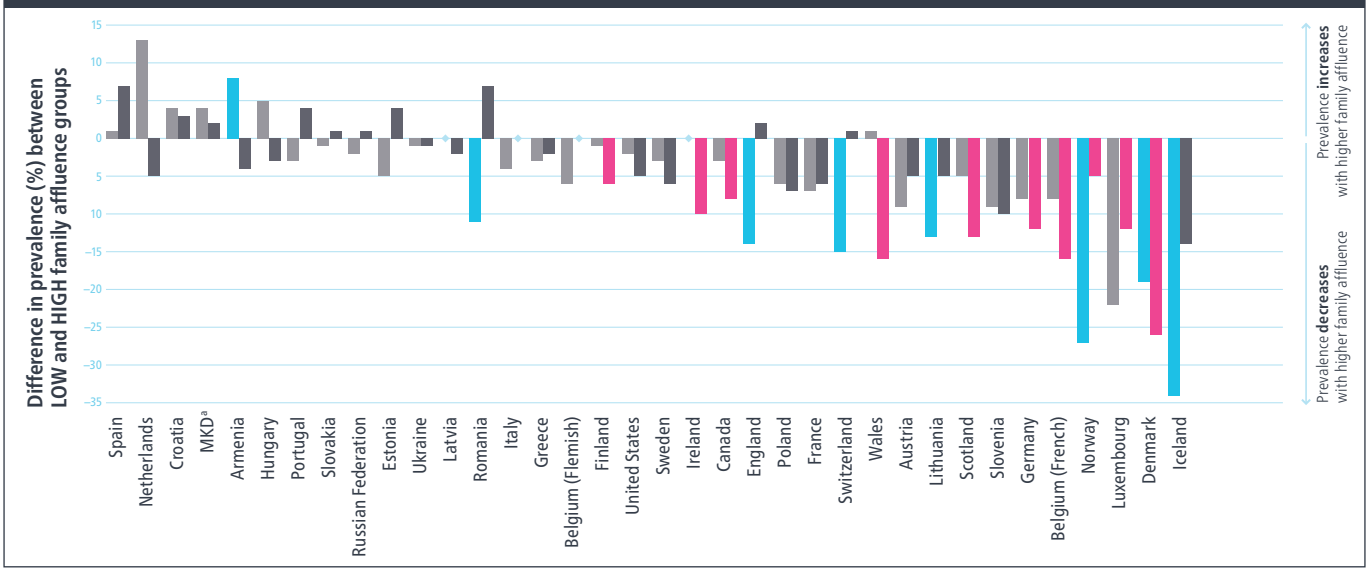
Young people were asked at what age they first smoked a cigarette, defined as "more than a puff". The findings show the proportions who reported first smoking a cigarette at age 13 or younger.

Weekly smoking

Young people were asked how often they smoke tobacco. Response options ranged from "I do not smoke" to "every day". The findings presented here are the proportion who reported smoking at least once a week.

HBSC survey 2009/2010

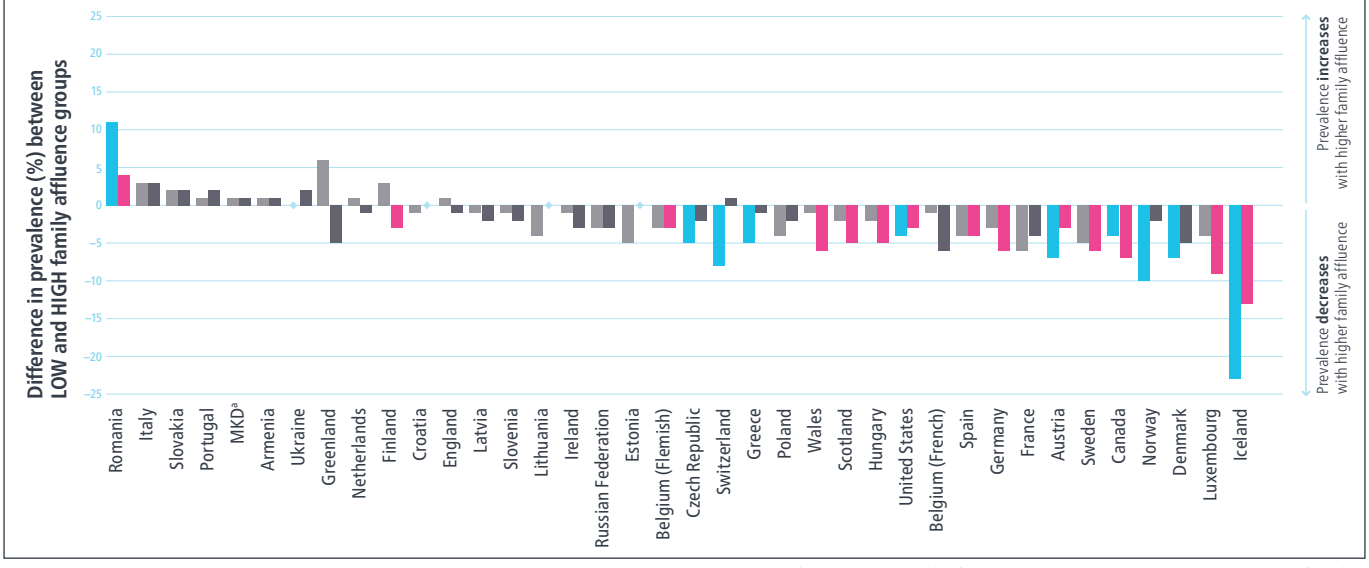
Associations between family affluence and indicators of health, by country/region and gender: TOBACCO INITIATION



[a] The former Yugoslav Republic of Macedonia. ◆ Indicates less than +/−0.5%. *Note.* No data for Czech Republic, Greenland and Turkey.

HBSC survey 2009/2010

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



[a] The former Yugoslav Republic of Macedonia. ◆ Indicates less than +/−0.5%. *Note.* No data for Turkey.

HBSC survey 2009/2010

RESULTS

Tobacco initiation

Age

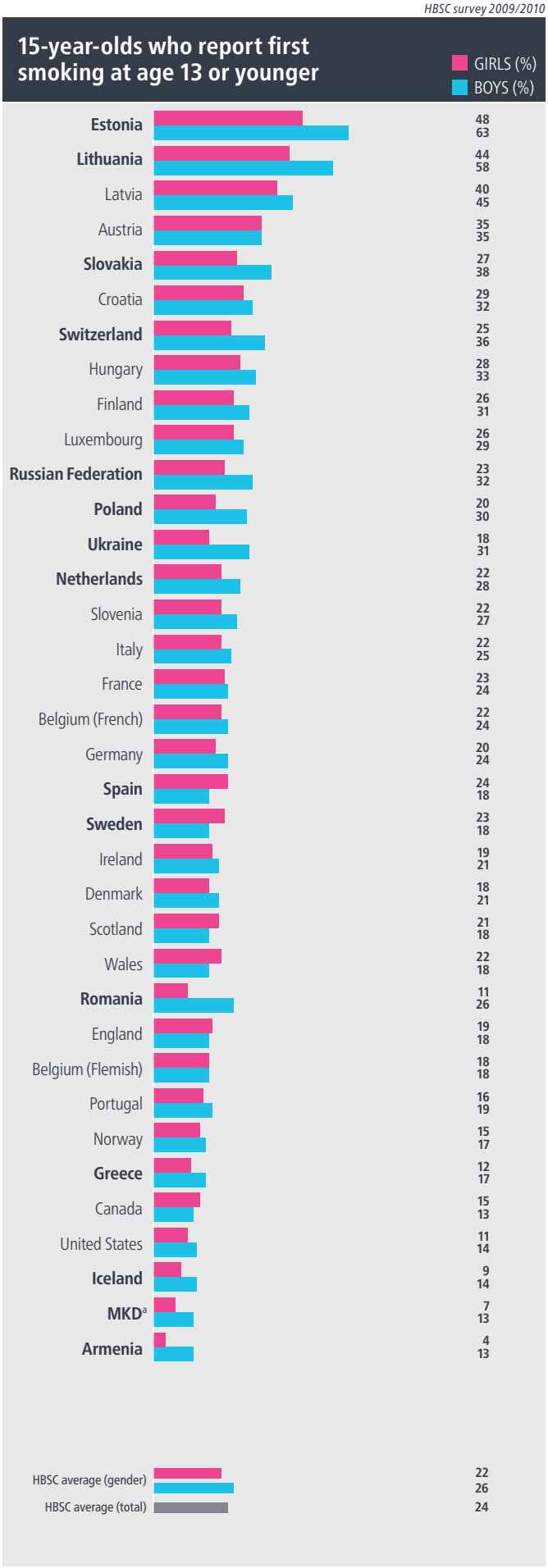
Only data from 15-year-olds are reported.

Gender

Younger onset of smoking was significantly more prevalent in boys in under half of countries and regions. More girls than boys began smoking at 13 years or younger in only two countries.

Family affluence

Younger onset was significantly more prevalent among boys and girls from lower-affluence families in a few countries. No country or region showed a significant positive relationship.



Note. **Indicates** significant gender difference (at p<0.05).
No data for Czech Republic, Greenland and Turkey.

RESULTS

Weekly smoking

Age

Prevalence of weekly smoking increased significantly with age for boys and girls in most countries and regions. The increase in prevalence from ages 11 to 15 exceeded 15% in a minority.

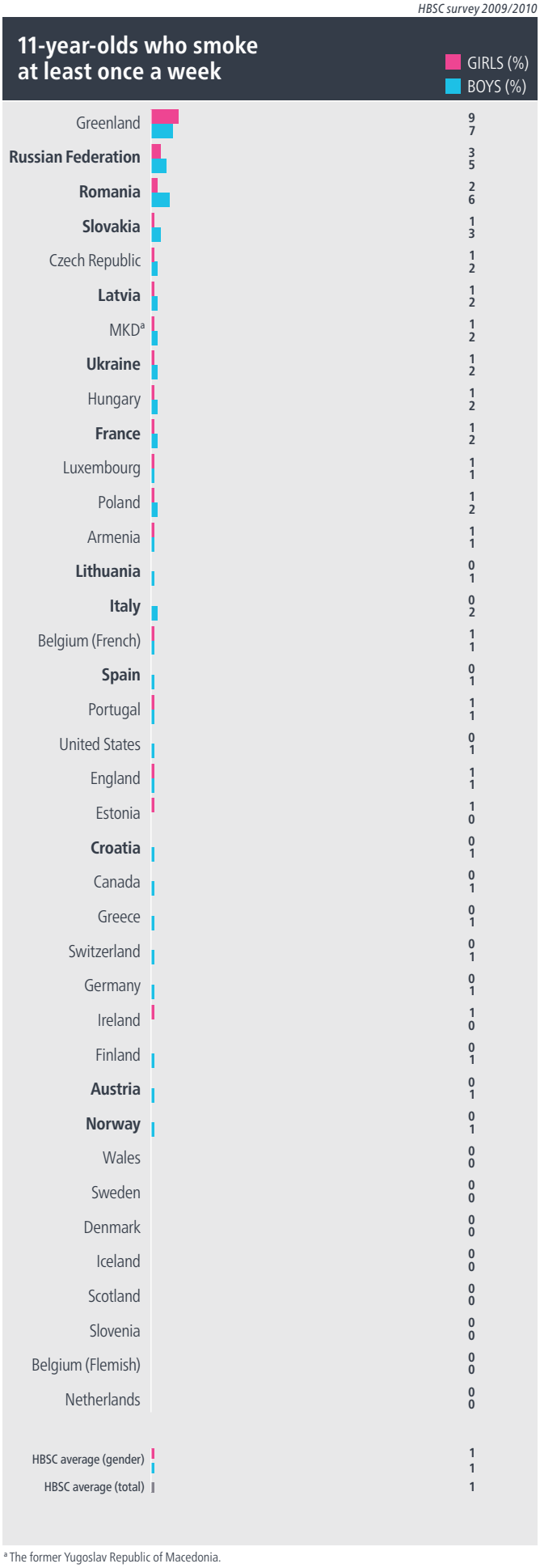
Gender

Large gender differences were seen in some countries and regions at age 15, mainly with higher prevalence among boys, but not at age 11. Girls had significantly higher prevalence in a small number.

Family affluence

Lower family affluence was significantly associated with increased prevalence in a minority of countries.

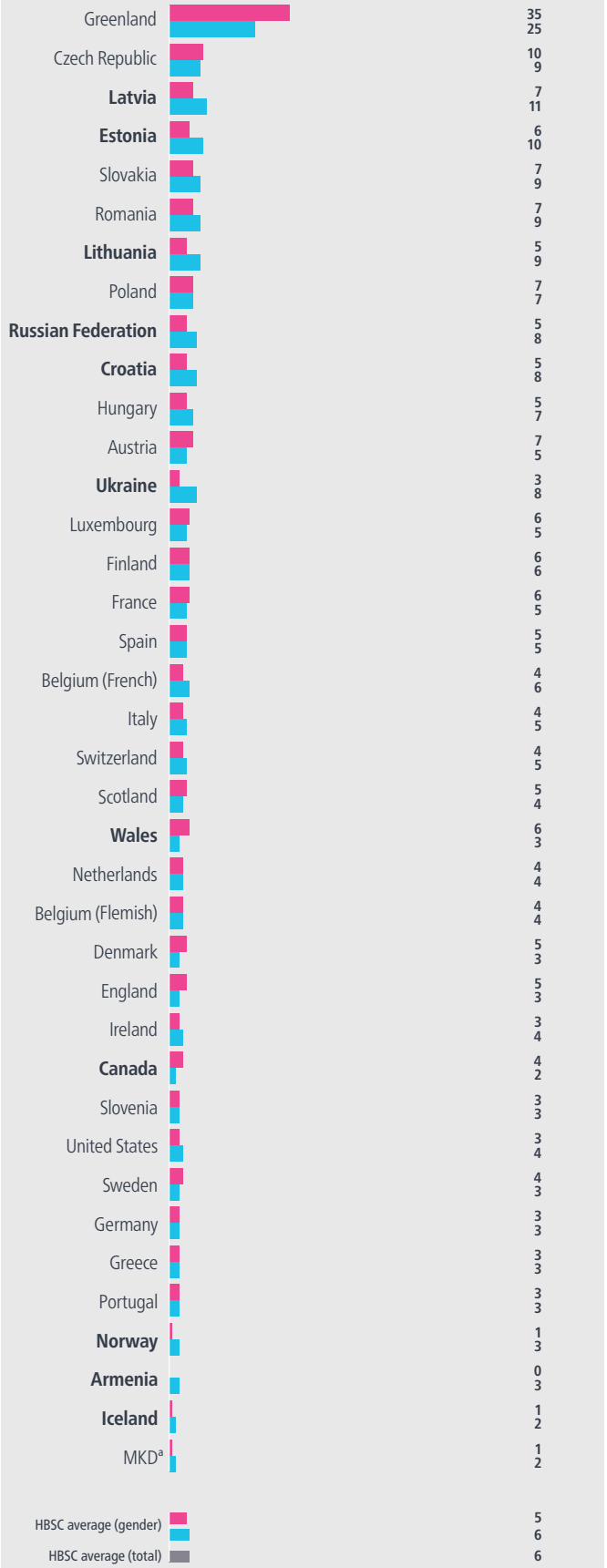
HBSC survey 2009/2010



[a] The former Yugoslav Republic of Macedonia.

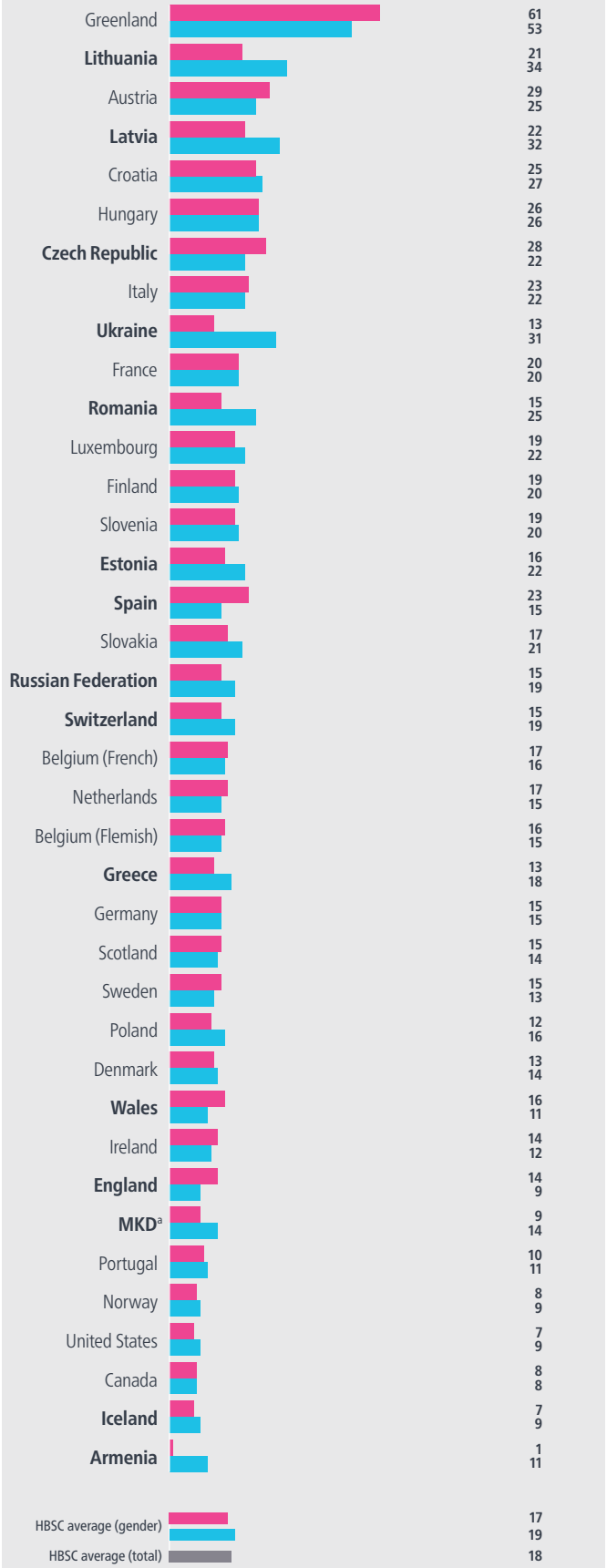
HBSC survey 2009/2010

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



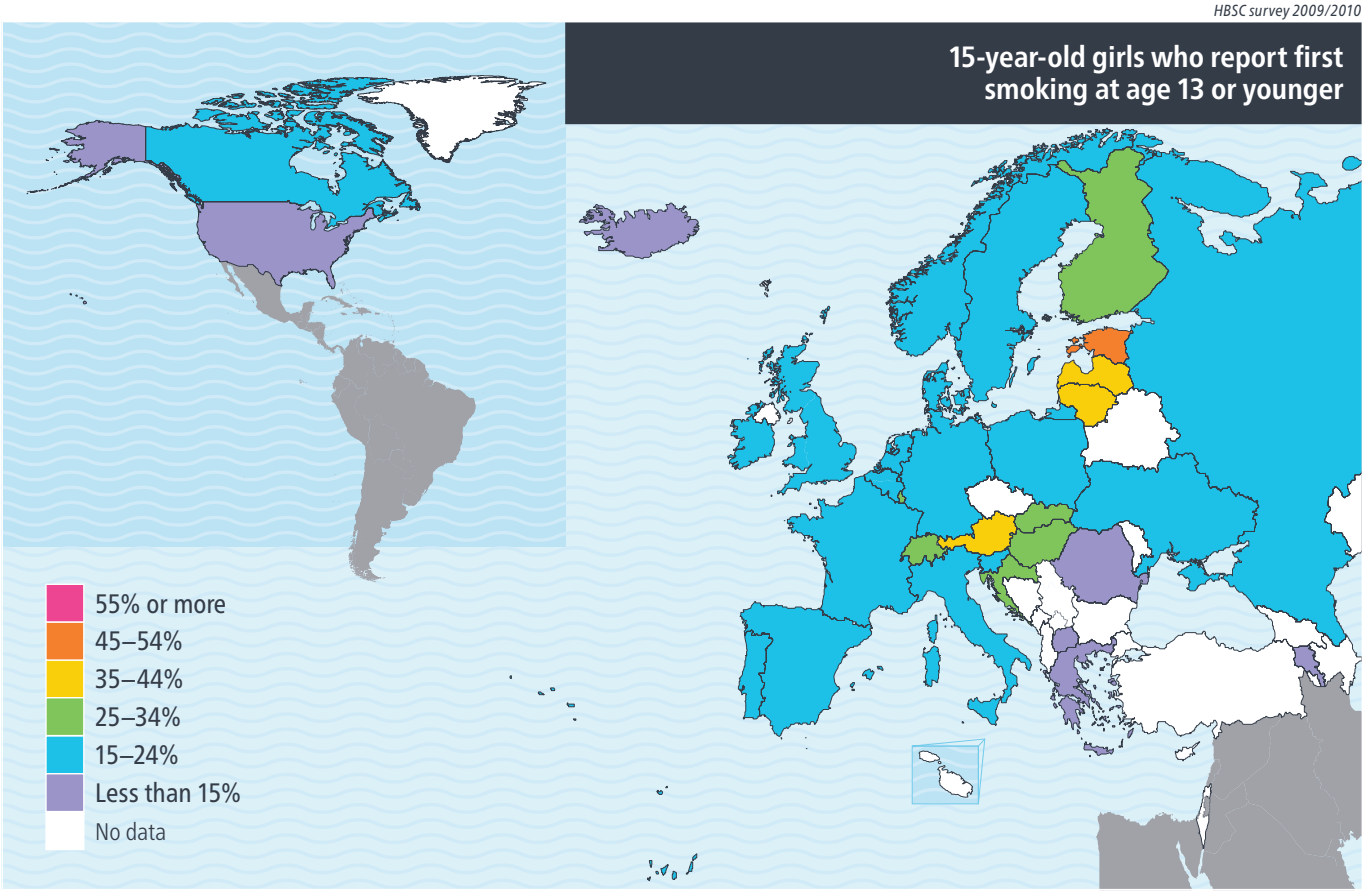
HBSC survey 2009/2010

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



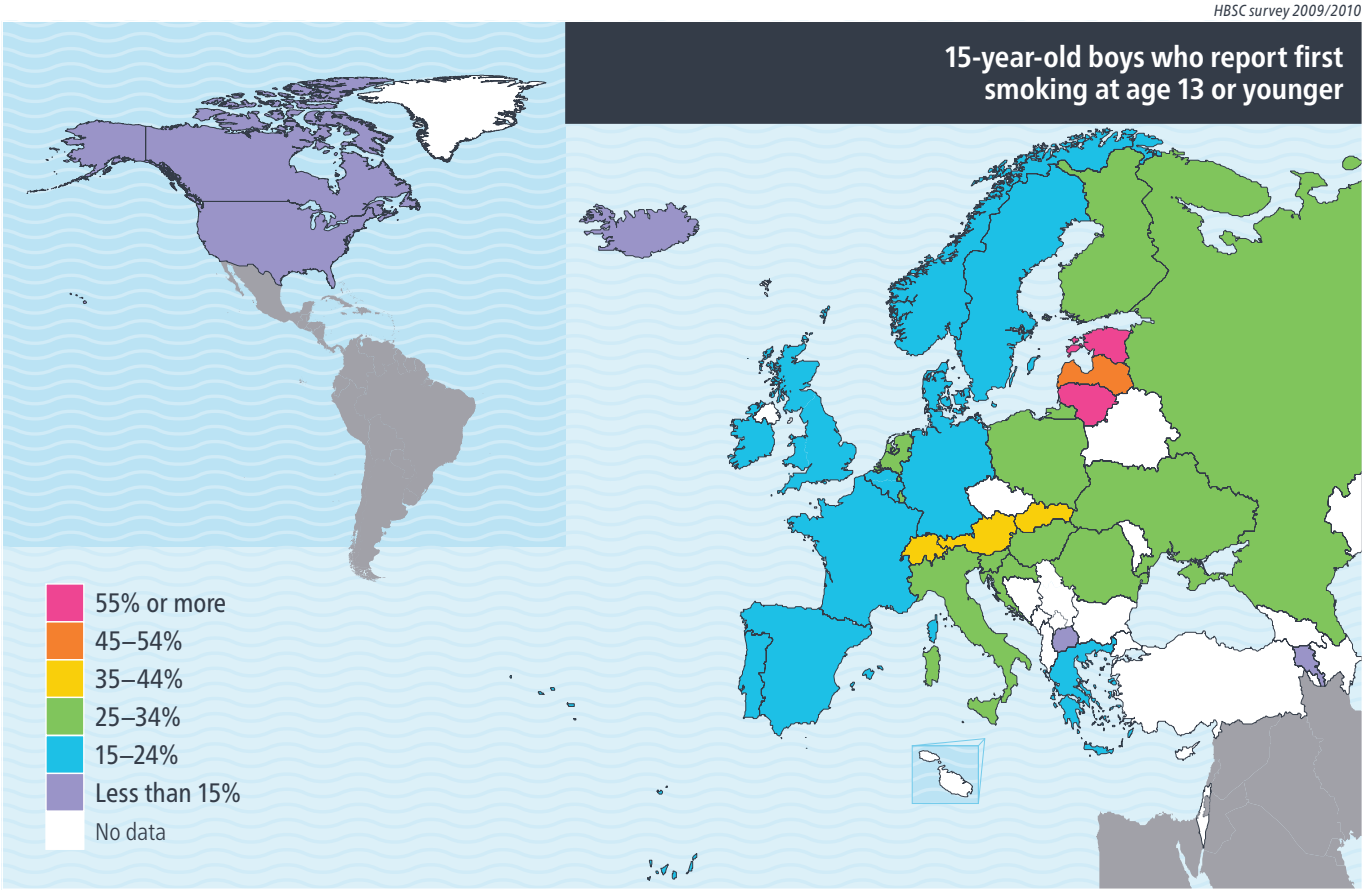
Note. **Indicates** significant gender difference (at p<0.05). No data for Turkey.
Zero values correspond to less than 0.5%.

HBSC survey 2009/2010



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

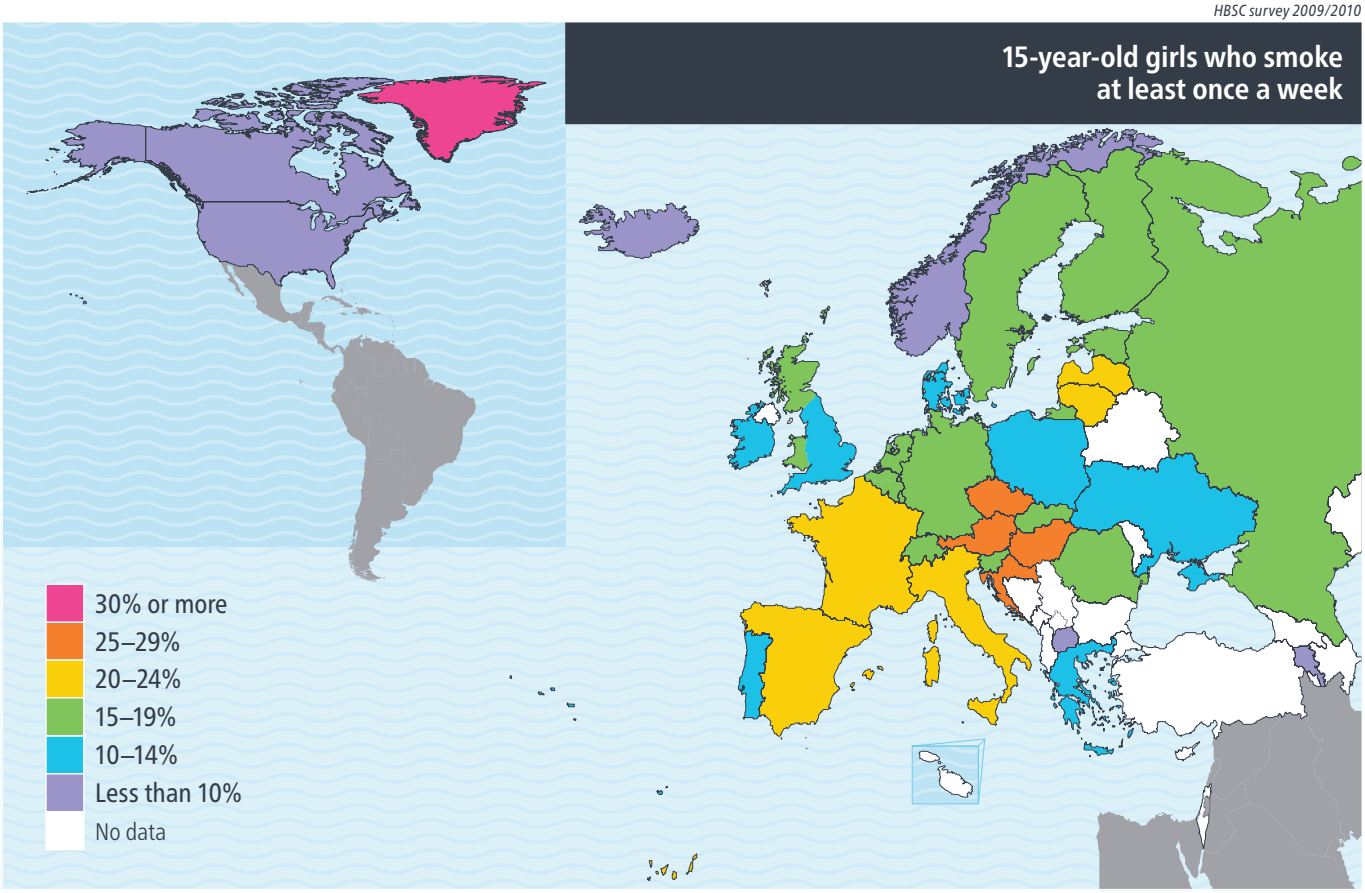
HBSC survey 2009/2010



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

HBSC survey 2009/2010

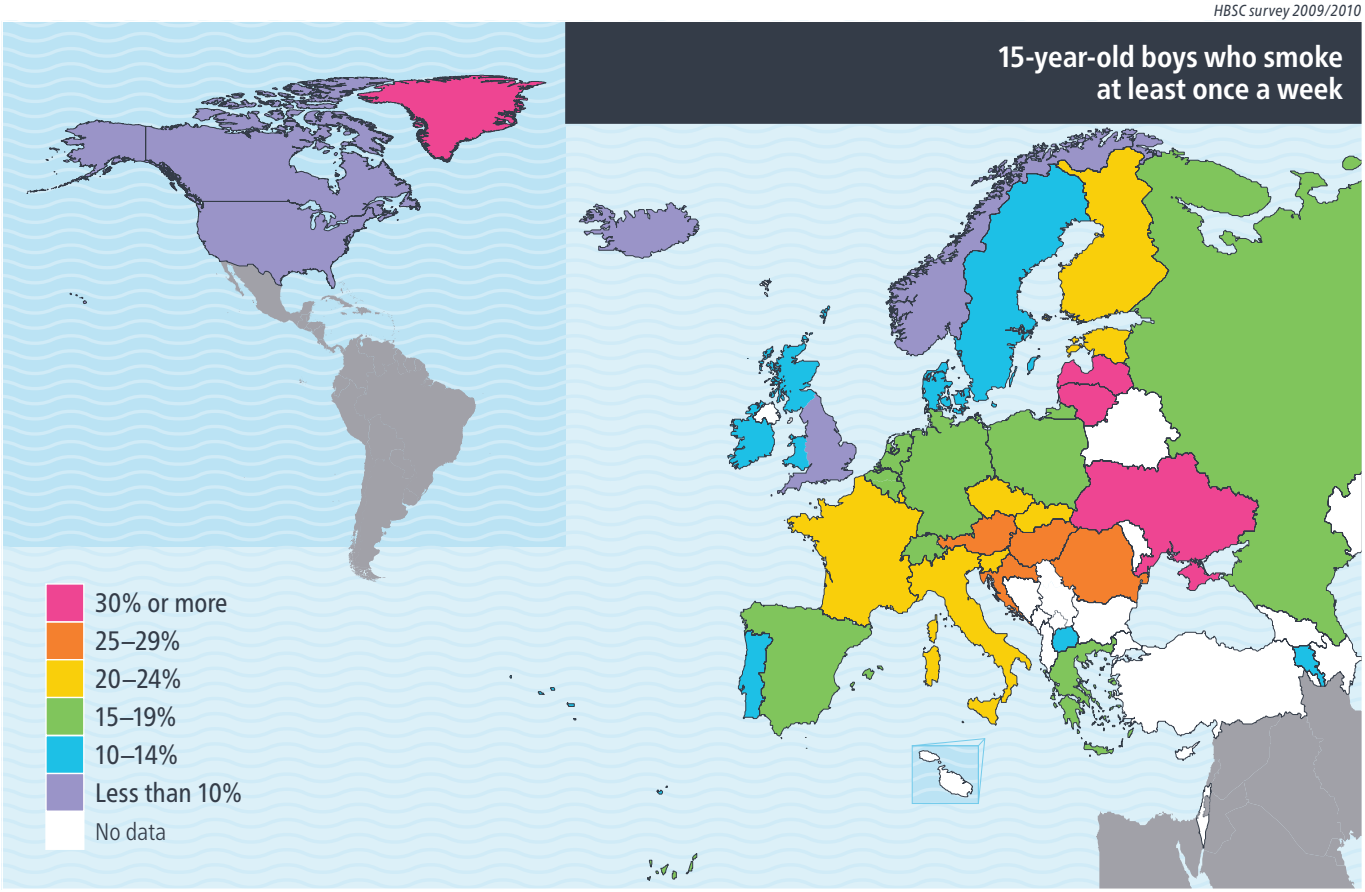
15-year-old girls who smoke at least once a week



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

HBSC survey 2009/2010

15-year-old boys who smoke at least once a week



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

TOBACCO USE: SCIENTIFIC DISCUSSION AND POLICY REFLECTIONS

SCIENTIFIC DISCUSSION

The HBSC findings show considerable variation among countries in early smoking initiation and weekly smoking among 15-year-olds.

As duration influences smoking-related health problems, and as only a small number of adolescents who try to quit smoking succeed *(17)*, a high burden on the health-care system may be predicted in countries with high prevalence.

Boys engage in smoking behaviours more frequently than girls, although the pattern is reversed in some countries. Changing gender differences may be explained by the fact that the smoking epidemic follows four stages that involve interactions between socioeconomic position and gender *(18)*. While western European countries were previously in stage 3, in which smoking prevalence was declining among males while peaking among females, they are now moving towards stage 4, where both males' and females' smoking declines. Eastern European countries were generally in stage 1 or 2, characterized by high smoking rates among males, but are now mainly in stage 3 *(19)*.

The finding that boys and adolescents with low family affluence are particularly vulnerable replicates earlier HBSC surveys *(20,21)*. While the relationship between family affluence and smoking may be partially explained by parental modelling *(22)*, more research is necessary to fully understand the underpinning mechanisms.

POLICY REFLECTIONS

The findings highlight the need for policy and programmes to reflect social influences on smoking initiation and weekly smoking. These include the high prevalence of early smoking initiation in some countries, higher smoking prevalence among boys (although the profile is changing in some countries) and the association between low family affluence and frequent tobacco use.

European and North American countries have launched national and international tobacco-prevention programmes in recent years to reduce smoking among young people. The WHO Framework Convention on Tobacco Control offers tools to support countries to build legislation *(23)*. Its main goal is to increase tobacco taxes, as this has been shown to be an effective deterrent among adolescents and adults *(1)*. Other initiatives that can contribute to reducing smoking prevalence include:

- smoking bans in public places
- bans on tobacco advertising, promotion and sponsorship
- regulation of the contents of tobacco products
- requirements on manufacturers to disclose product ingredients
- regulation of packaging and labelling of tobacco products
- education, communication, training and public awareness
- measures concerning tobacco dependence and cessation.

Smoking bans in school and restricted sale of tobacco to young people have been shown to be particularly effective *(24–26)*.

Evidence to support school-based and family interventions is currently limited, but promising approaches include peer-led interventions and those focusing on coping skills and motivation enhancement that take account of smokers' stage of change regarding cessation. Family interventions have the potential to prevent adolescent smoking, but more research is needed *(27)*.

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ALCOHOL USE

Adolescent alcohol use is common in many European and North American countries. It has been suggested that adults act as models for drinking behaviour in many cultures *(1)*. Young people may perceive alcohol as fulfilling social and personal needs, intensifying contacts with peers and initiating new relationships *(2)*.

Alcohol use is nevertheless one of the major risk factors for morbidity and mortality worldwide *(3)* and is involved in more than 60 different causes of ill health, constituting an enormous burden for individuals and societies *(4)*. Risky drinking, including frequent drinking and drunkenness, is associated with adverse psychological, social and physical health consequences, including academic failure, violence, accidents, injury and unprotected sexual intercourse *(5)*. Alcohol can disrupt brain development in childhood and adolescence, particularly in the cortical region, which influences cognitive, emotional and social development *(6)*.

Adolescent alcohol use commonly occurs with other risk behaviours, such as tobacco and illicit drug use and risky sexual behaviour *(7)*. Early initiators, excessive drinkers and those engaging in multiple risk behaviours are especially likely to experience adverse health outcomes *(8)*.

MEASURES

Weekly drinking

Young people were asked how often they drink any alcoholic beverage 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 who reported drinking any alcoholic beverage at least every week.

Drunkenness initiation

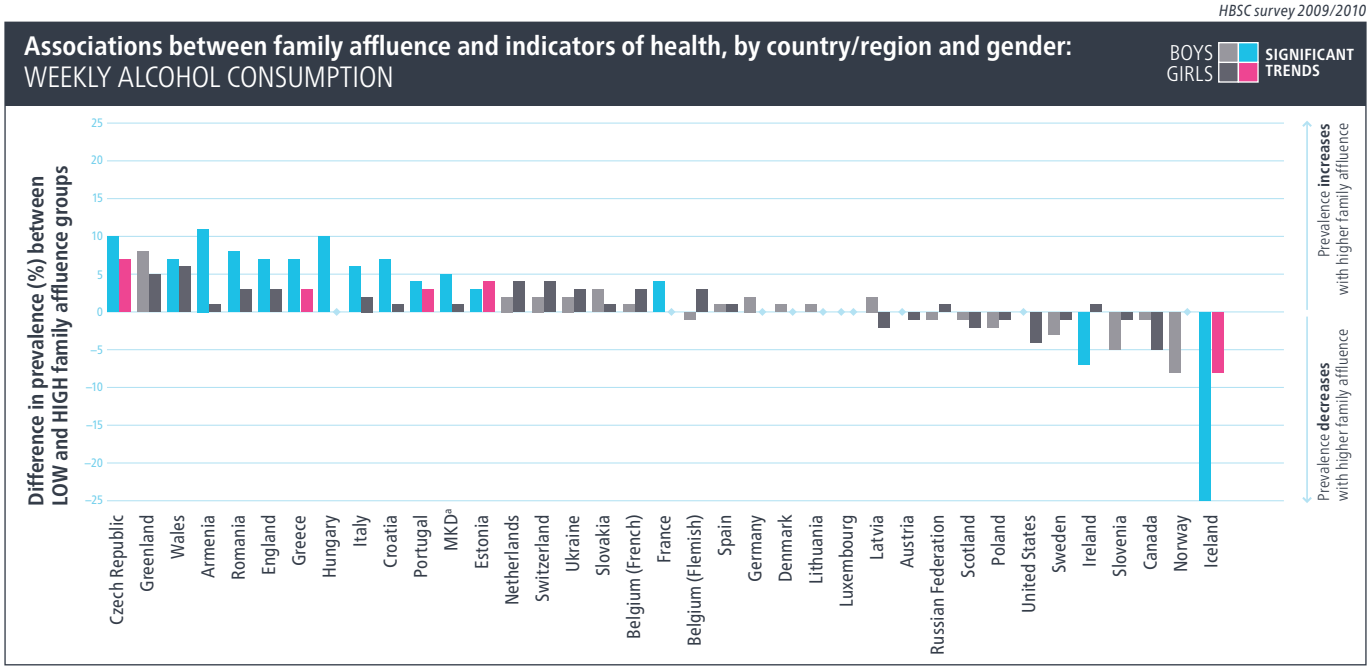
Young people were asked at what age they first got drunk. The findings presented here are for 15-year-olds only and show the proportions who reported first getting drunk at age 13 or younger.

Drunkenness

Young people were asked whether they had ever had so much alcohol that they were "really drunk". Response options range from "no, never" to "yes, more than 10 times". The findings presented here show the proportions who reported having been drunk twice or more.

HBSC survey 2009/2010

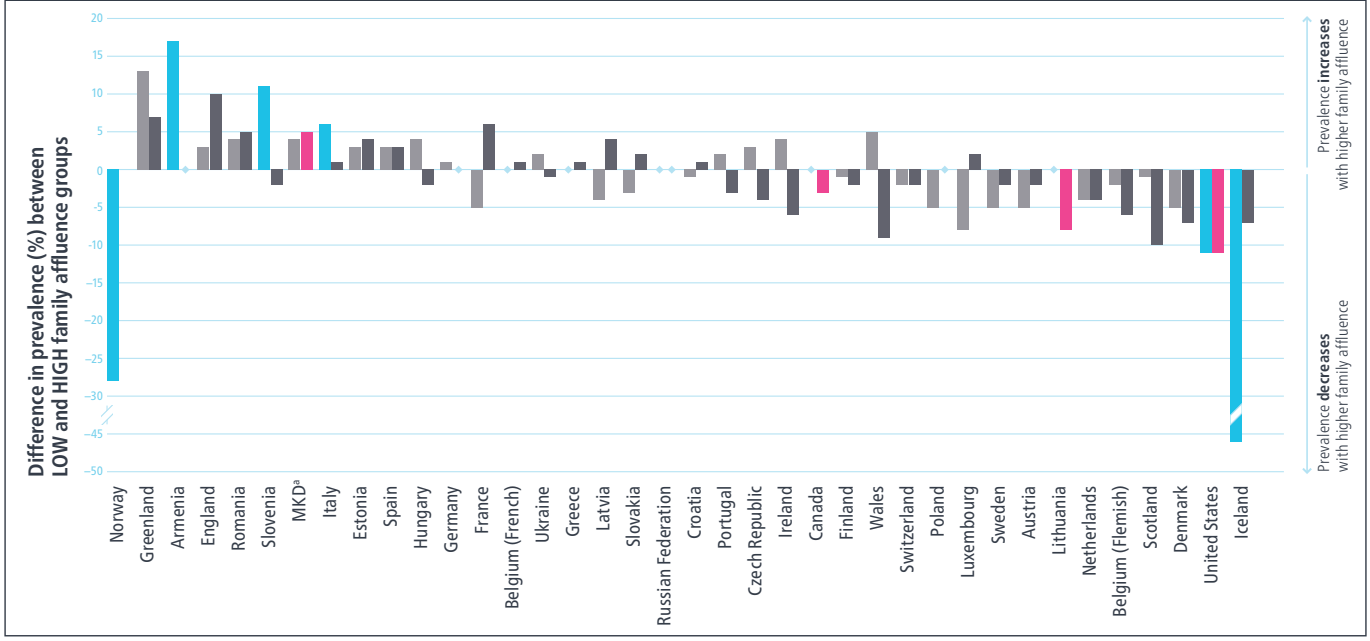
Associations between family affluence and indicators of health, by country/region and gender: WEEKLY ALCOHOL CONSUMPTION



[a] The former Yugoslav Republic of Macedonia. ◆ Indicates less than +/–0.5%. *Note.* No data for Finland and Turkey.

HBSC survey 2009/2010

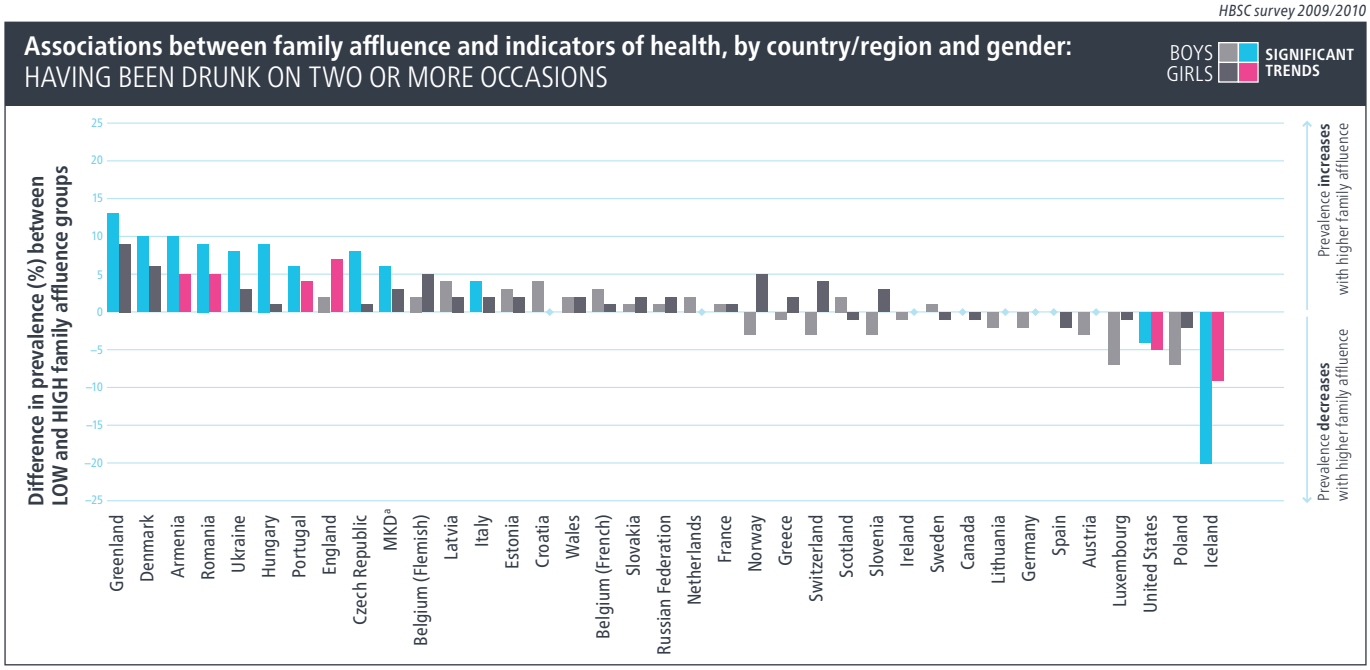
Associations between family affluence and indicators of health, by country/region and gender: FIRST DRUNKENNESS AT AGE 13 OR YOUNGER



[a] The former Yugoslav Republic of Macedonia. ◆ Indicates less than +/–0.5%. *Note.* No data for Turkey. Disaggregation by FAS not available for Norway (Girls).

HBSC survey 2009/2010

Associations between family affluence and indicators of health, by country/region and gender:
HAVING BEEN DRUNK ON TWO OR MORE OCCASIONS



[a]The former Yugoslav Republic of Macedonia. ◆ Indicates less than +/–0.5%. No data for Finland and Turkey.

RESULTS

Weekly drinking

Age

Prevalence of weekly drinking increased significantly between ages 11 and 15 in almost all countries and regions for boys and girls. The difference exceeded 15% in most countries and regions for boys and just less than half for girls.

Gender

It tended to be more common among boys, with the difference being significant in most countries at all ages.

Family affluence

There was a significant association between higher prevalence and high family affluence in some countries and regions for boys, but in only a few for girls.

Drunkenness initiation

Age

Data are presented for 15-year-olds only.

Gender

Boys were slightly more likely to report that they were first drunk at or before the age of 13, but the gender difference was significant in under half of countries and greater than 10% in only a few.

Family affluence

A significant association between prevalence and family affluence was found in only a few countries, with no consistency in the direction of the association.

Drunkenness

Age

Prevalence of drunkenness increased significantly between ages 11 and 15 for boys and girls in almost all countries and regions. The change in prevalence with age was greater than 15% in almost all.

Gender

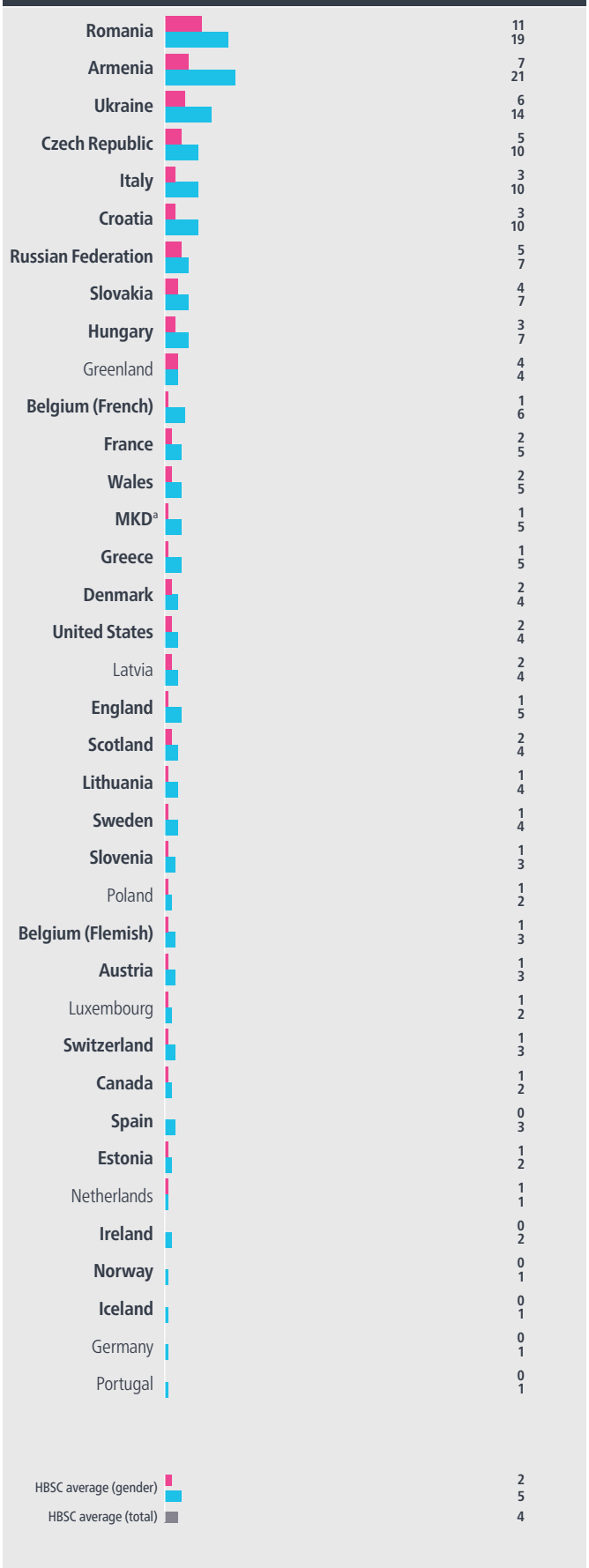
Boys were more likely to report drunkenness in most countries and regions, with 15-year-old girls having higher prevalence in only a few.

Family affluence

A significant association between high family affluence and higher prevalence was seen in only a few countries, with the opposite association apparent in some.

HBSC survey 2009/2010

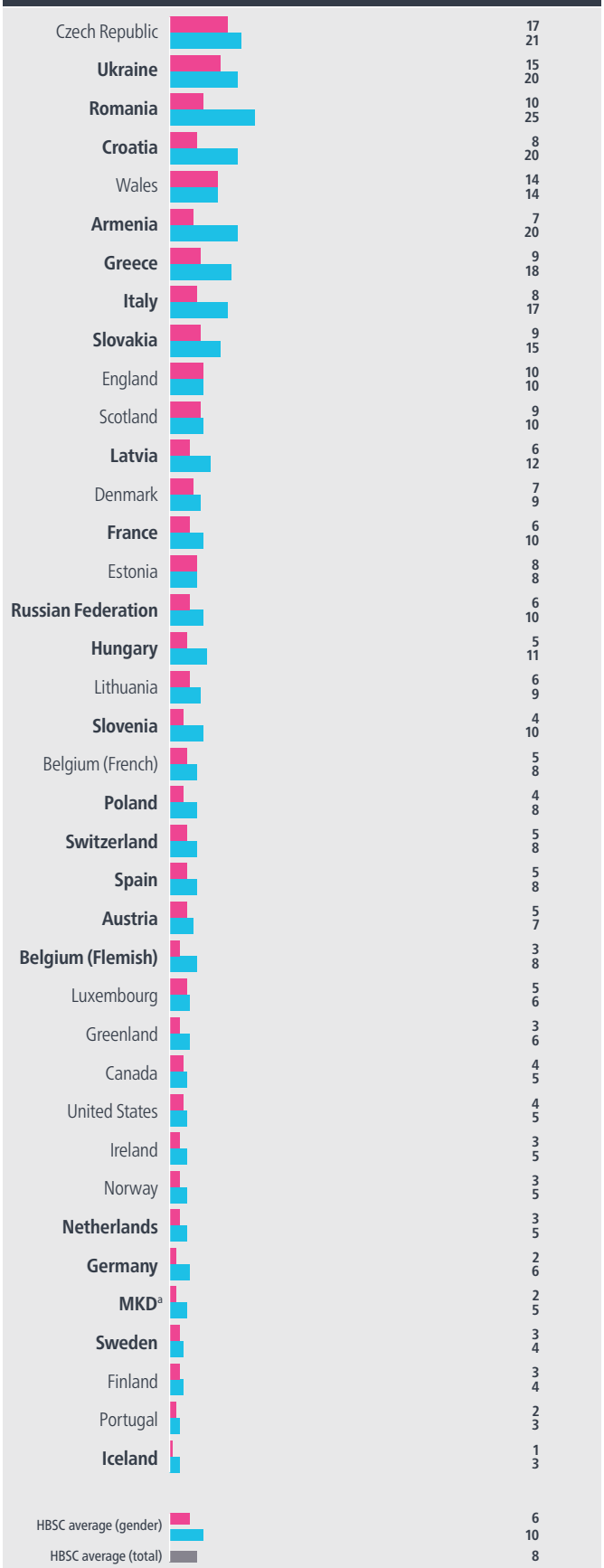
11-year-olds who drink alcohol at least once a week



[a] The former Yugoslav Republic of Macedonia.

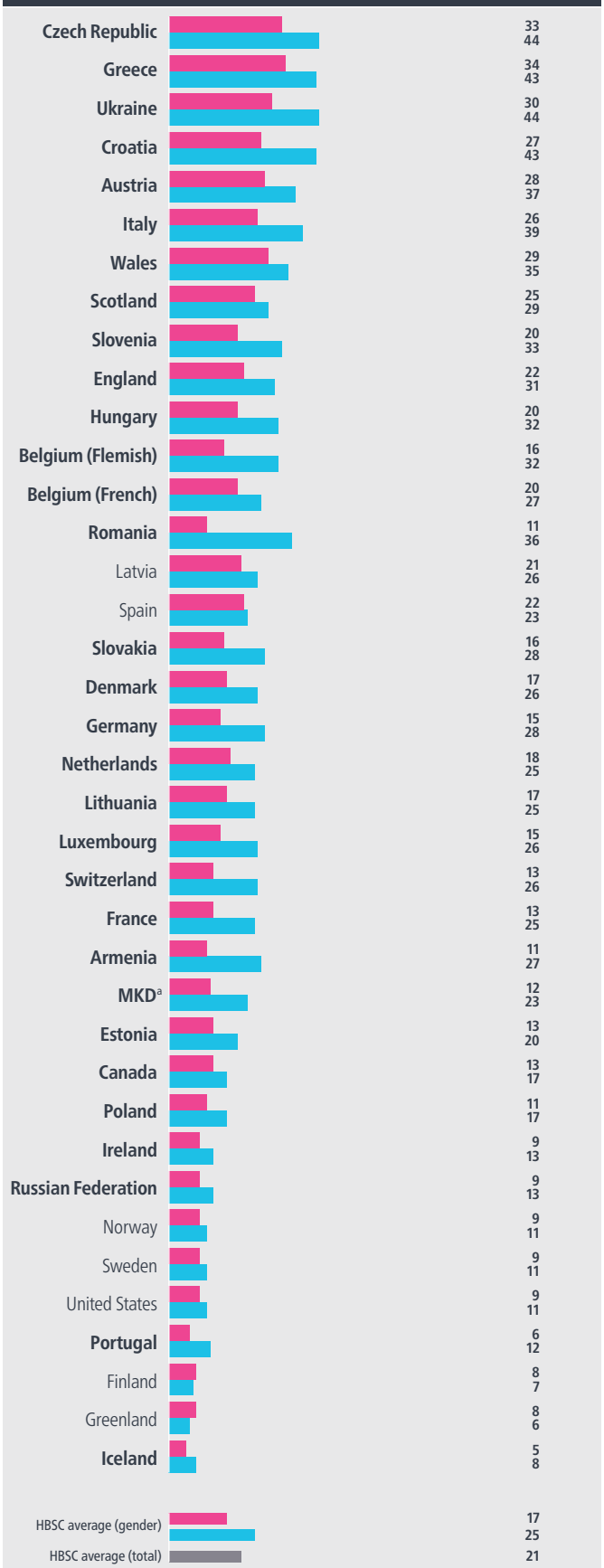
HBSC survey 2009/2010

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



HBSC survey 2009/2010

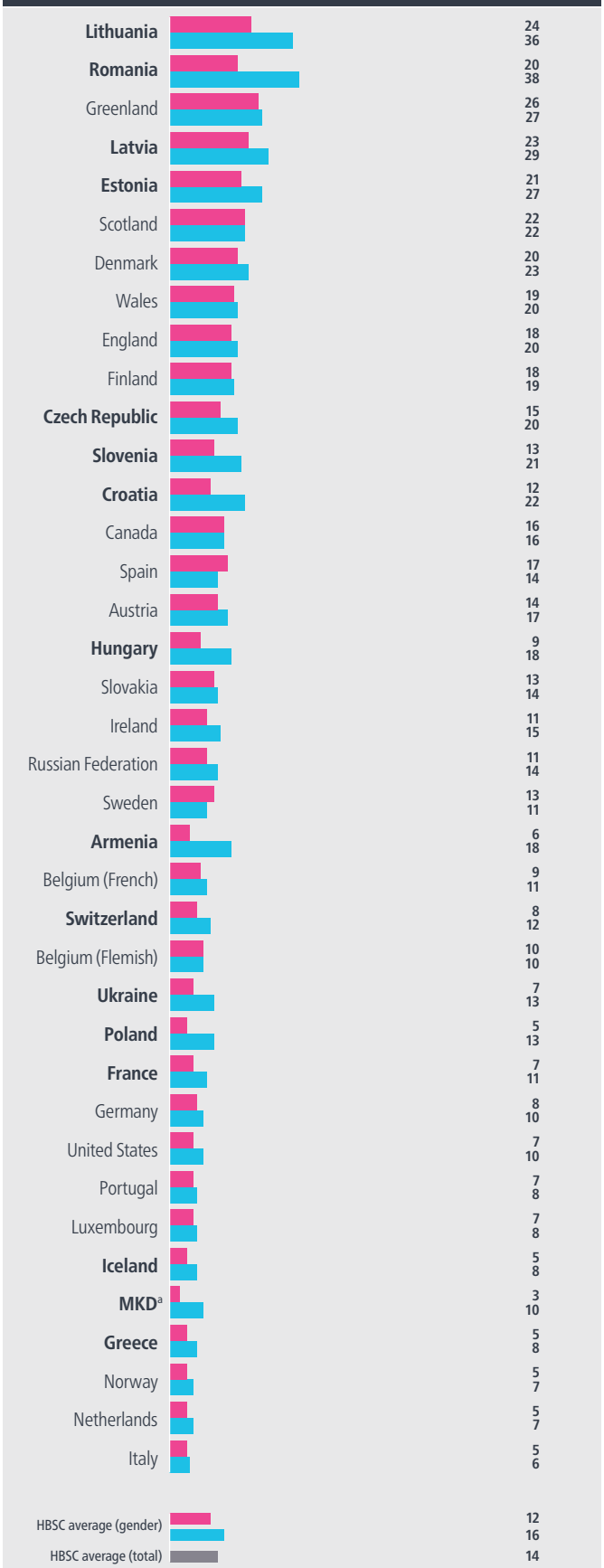
15-year-olds who drink alcohol at least once a week



Note. **Indicates** significant gender difference (at p<0.05). No data for Finland (11-year-olds) and Turkey.
Zero values correspond to less than 0.5%.

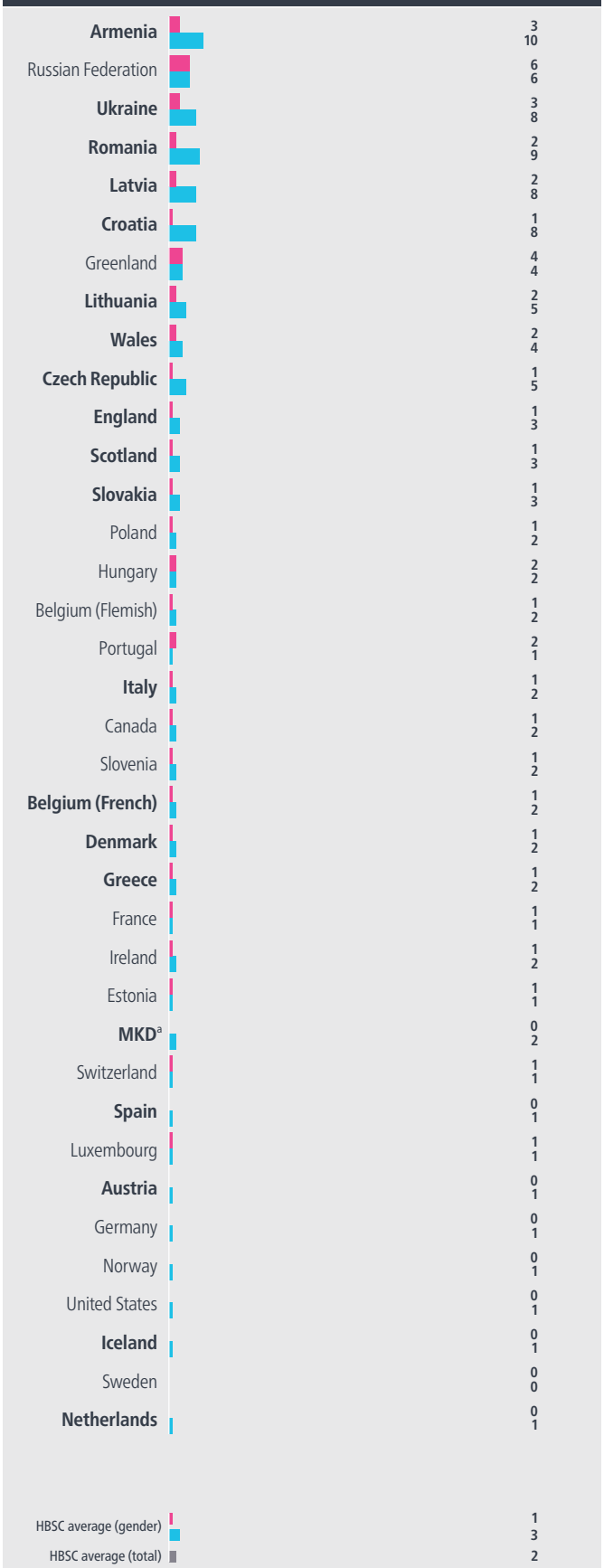
HBSC survey 2009/2010

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



HBSC survey 2009/2010

11-year-olds who have been drunk at least twice

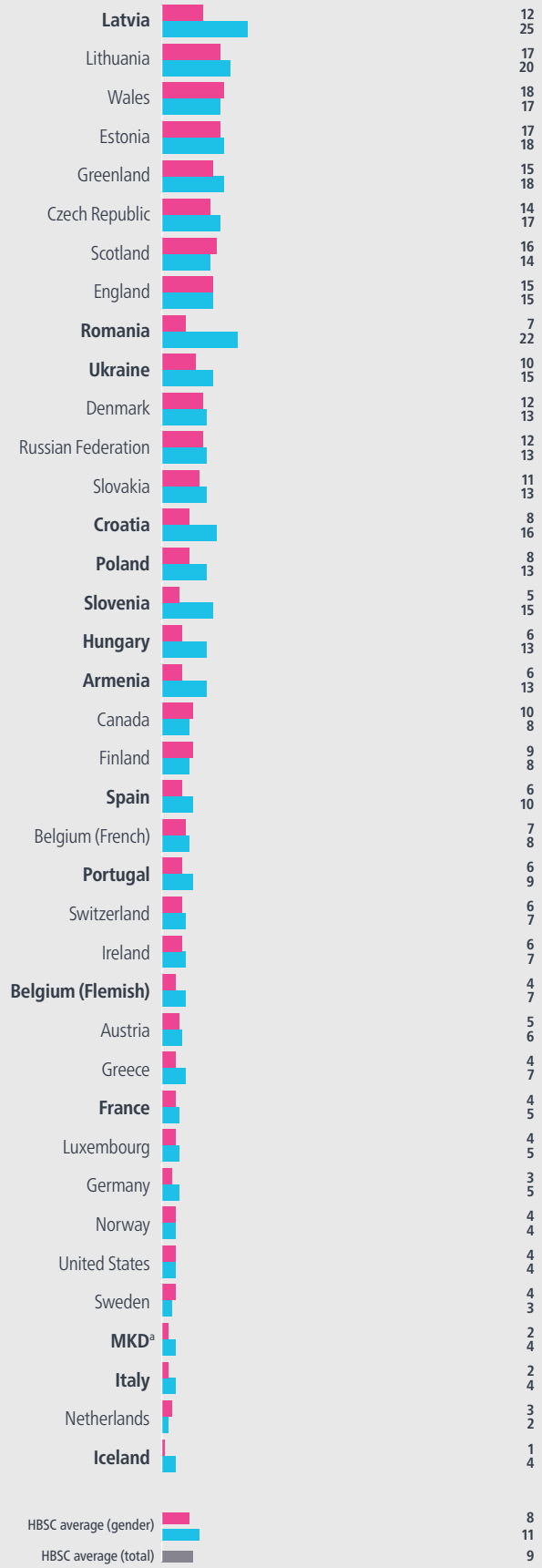


[a] The former Yugoslav Republic of Macedonia.

No data for Turkey.

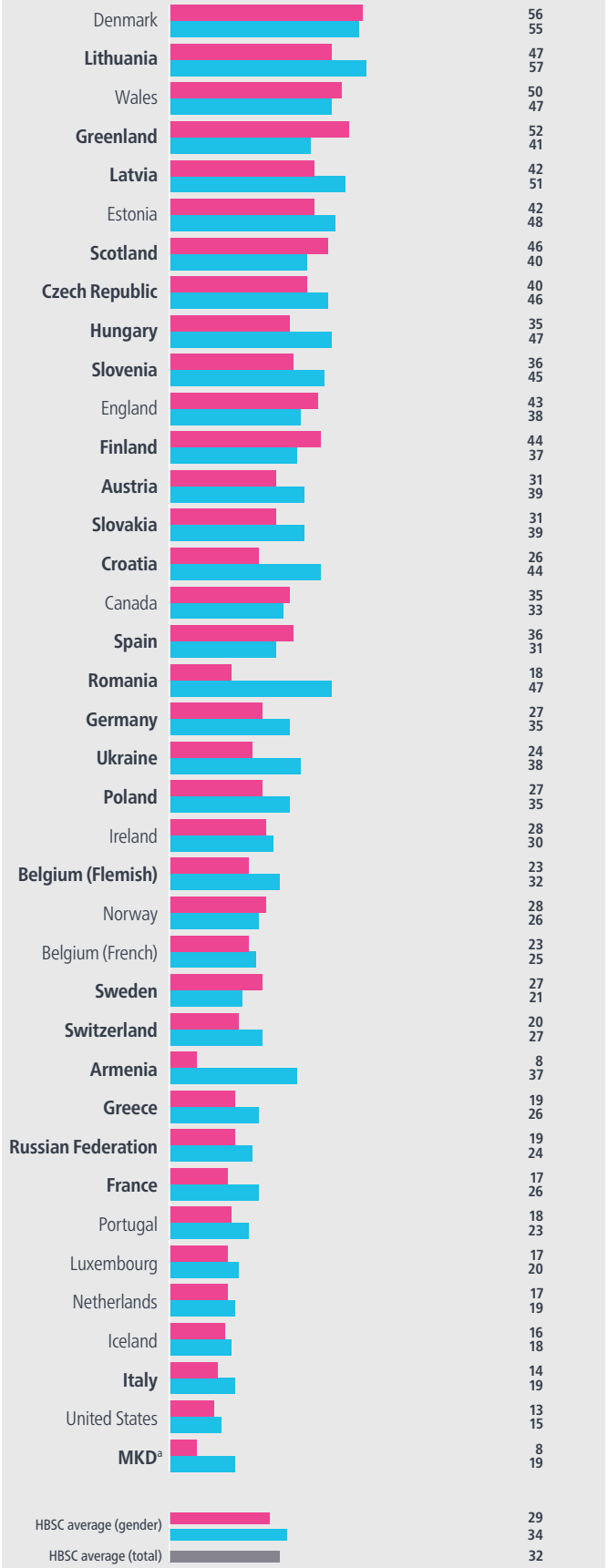
HBSC survey 2009/2010

13-year-olds who have been drunk at least twice



HBSC survey 2009/2010

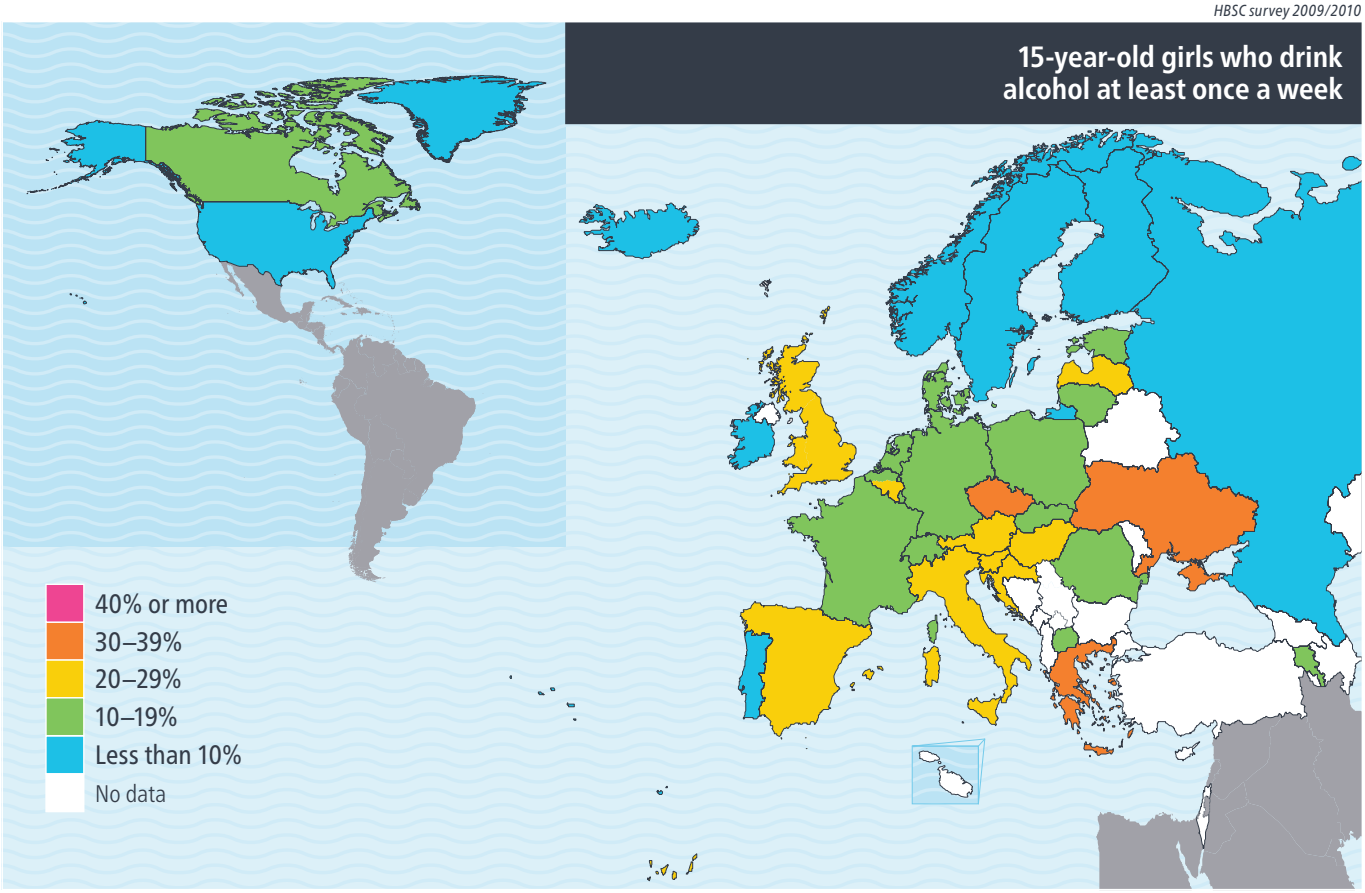
15-year-olds who have been drunk at least twice



Note. **Indicates** significant gender difference (at p<0.05). No data for Finland (11-year-olds) and Turkey.
Zero values correspond to less than 0.5%.

HBSC survey 2009/2010

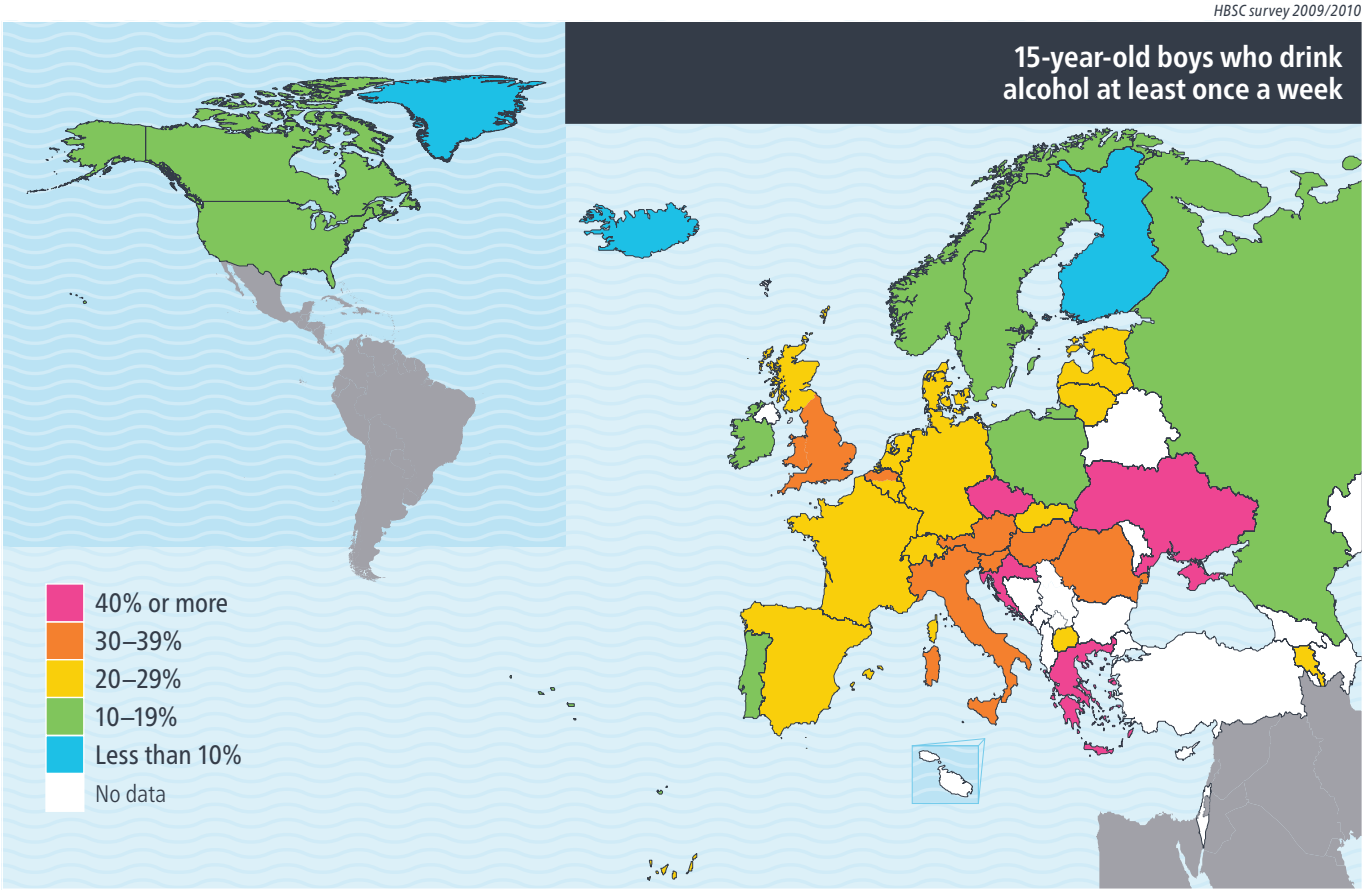
15-year-old girls who drink alcohol at least once a week



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

HBSC survey 2009/2010

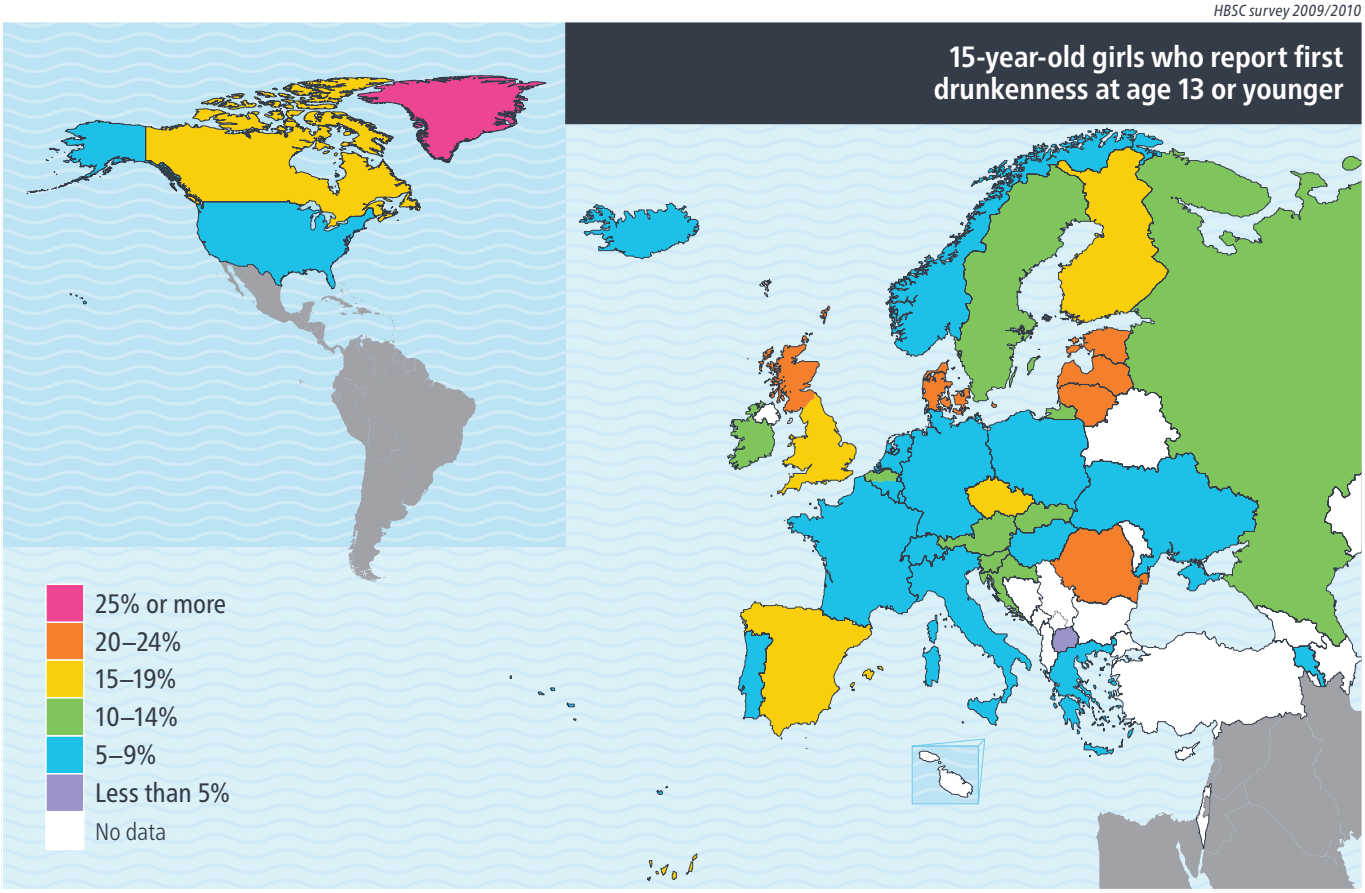
15-year-old boys who drink alcohol at least once a week



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

HBSC survey 2009/2010

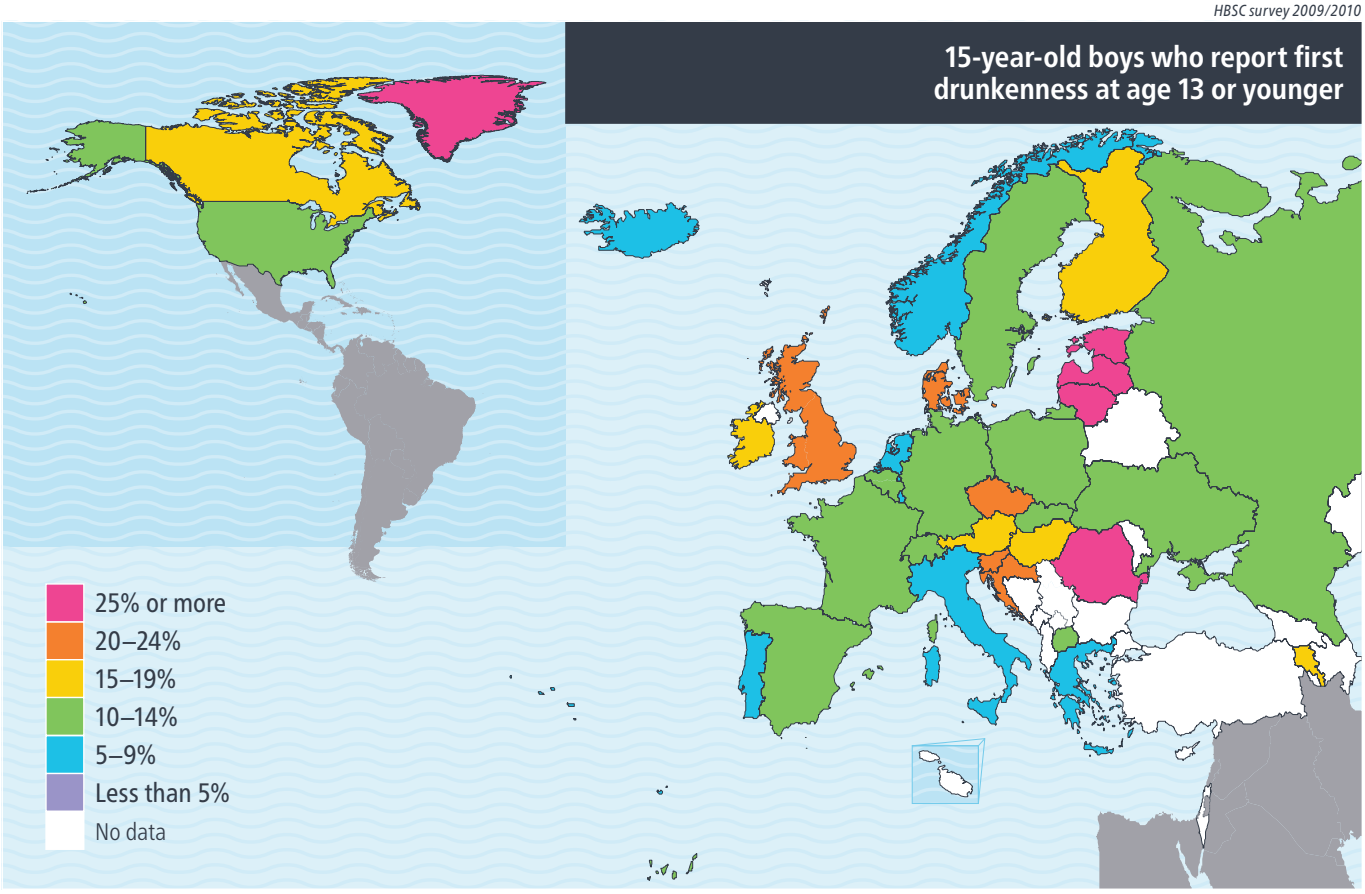
15-year-old girls who report first drunkenness at age 13 or younger



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

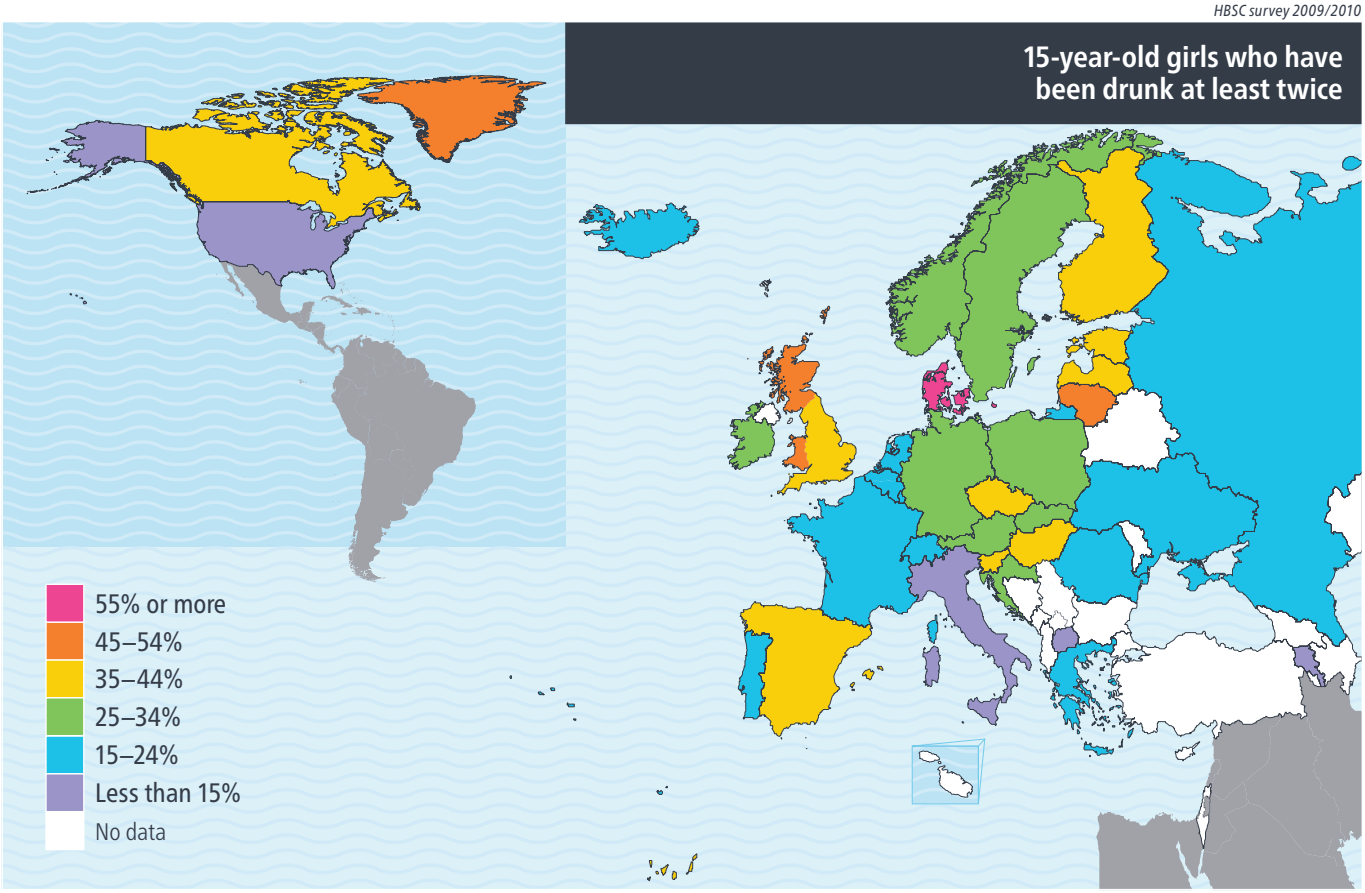
HBSC survey 2009/2010

15-year-old boys who report first drunkenness at age 13 or younger



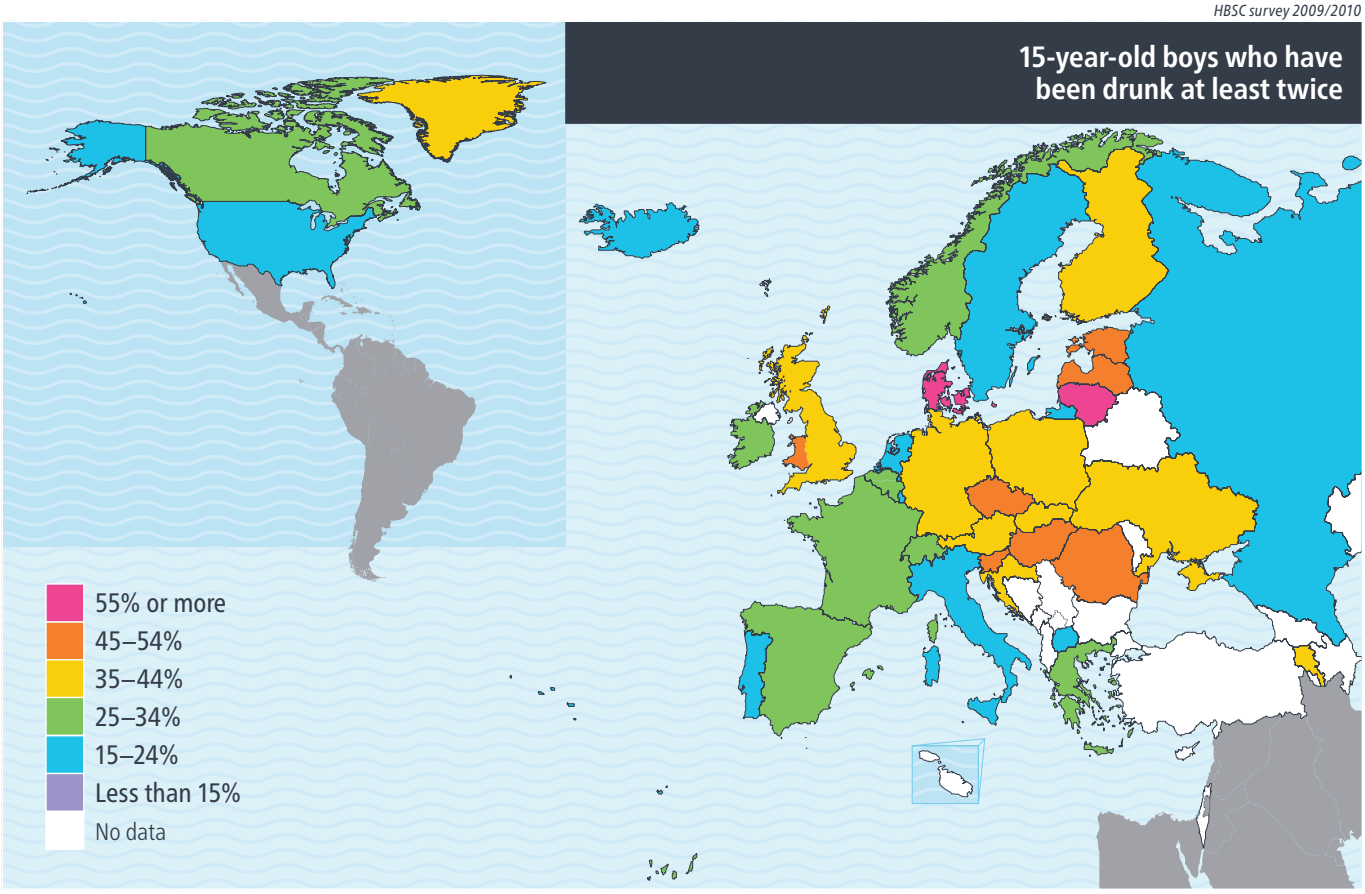
Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

HBSC survey 2009/2010



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

HBSC survey 2009/2010



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

ALCOHOL USE: SCIENTIFIC DISCUSSION AND POLICY REFLECTIONS

SCIENTIFIC DISCUSSION

The findings confirm previous HBSC surveys that showed prevalence rates of weekly alcohol use and (early) drunkenness increasing substantially with age (especially between ages 13 and 15) for boys and girls in all countries.

Boys are more likely to report weekly drinking and drunkenness, but the gender difference at age 13 is significant in fewer than half the countries and regions surveyed. Previous HBSC findings showed that the gender gap declined between 1998 and 2006 *(9)*. Further research using data from the most recent survey will be able to confirm if the gender gap has narrowed further.

Family affluence is not found to have a large effect in most countries and regions. Social position among peers may be more important than family SES in predicting alcohol use *(10)*. Family influence may decrease as the influence of peers and youth culture increases with age, particularly in relation to behaviours that do not start until adolescence (such as alcohol consumption), suggesting that the determining role of socioeconomic background for this type of behaviour might emerge only later in life *(11)*.

POLICY REFLECTIONS

Risky drinking and drunkenness in adolescence are often embedded in a high-risk lifestyle *(12)* and may have negative social, physical, psychological and neurological consequences reaching into adult life.

Policy programmes that contribute to reductions in alcohol use include the following.

- Almost all European and North American countries currently have legal age limits on both off- and on-premises sales of alcohol *(13)*. Legal purchase-age limits typically range from 16 to 21 years, but countries differ in the extent to which they are enforced. National drinking policies are related to lower rates of alcohol use among young people and seem an effective tool at macro level to reduce use *(14)*.
- School-based intervention programmes focusing specifically on alcohol use and targeting adolescents and their parents have considerable effects *(15)*. Generic, psychosocial and developmental, school-based prevention programmes focusing on life skills and a healthy lifestyle in general are also effective and could be considered as policy and practice options *(16)*.
- Family interventions are effective in delaying alcohol initiation and reducing frequency of consumption among adolescents *(17)*. Family treatments focused on change in maladaptive behaviours, multidimensional family therapy and group-administered cognitive behavioural therapies have received considerable empirical support *(18)*.

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CANNABIS USE

Occasional cannabis use is reported among a substantial minority of young people in Europe and North America *(1,2)*. Adolescents use the drug for a variety of reasons, including experimentation, mood enhancement, social enhancement and peer conformity, and relaxation *(3)*.

Adolescents who occasionally use cannabis in modest doses are usually as well adjusted as those who do not use it, with no specific health, social or peer-related problems *(4)*. Cannabis use, however, is a risk factor for mental disorders and may trigger psychosis, particularly among those who are prone to them *(5)*. Early-onset, heavy and accelerating cannabis use is related to a range of problems, including cognitive impairment *(6)*, deteriorating school performance and dropout *(7)*, externalizing problems such as risk taking, aggression and delinquency *(8)* and internalizing problems such as depression and anxiety *(8)*.

Boys are more likely to use cannabis *(9)*, with social influences including friends or older siblings who use it *(10)*; peers who use cannabis may act as models and can consequently shape norms, attitudes and values, as well as providing opportunities for use *(9,11)*. Use has also been associated with low parental involvement and reinforcement and high levels of coercive discipline *(12)*.

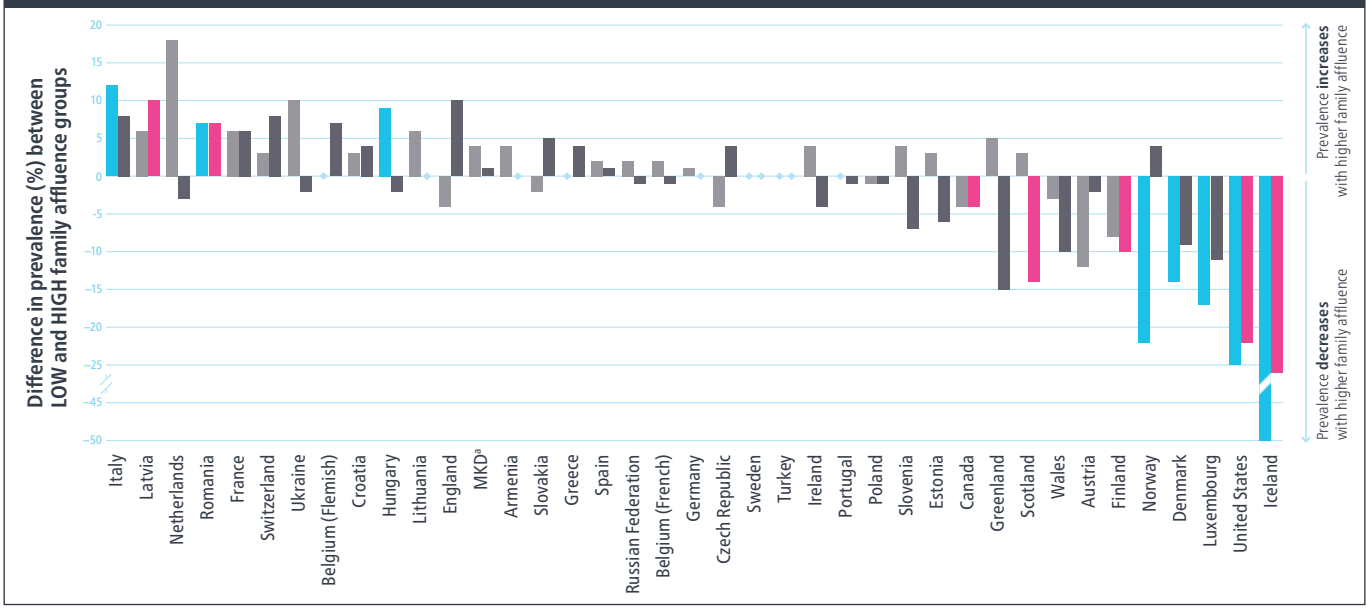
Family affluence does not appear to influence use at the individual level to any great extent, but does so at the macro level. Prevalence rates of lifetime and recent cannabis use have been found to be in general higher in wealthy countries *(11)*.

MEASURE

Young people were asked how often they had used cannabis in their lifetimes, during the last 12 months and during the last 30 days. The results presented here show the proportions who reported using cannabis at least once in their lives (lifetime use) and at least once in the last 30 days (recent use); the text reflects patterns of use across all three time spans.

HBSC survey 2009/2010

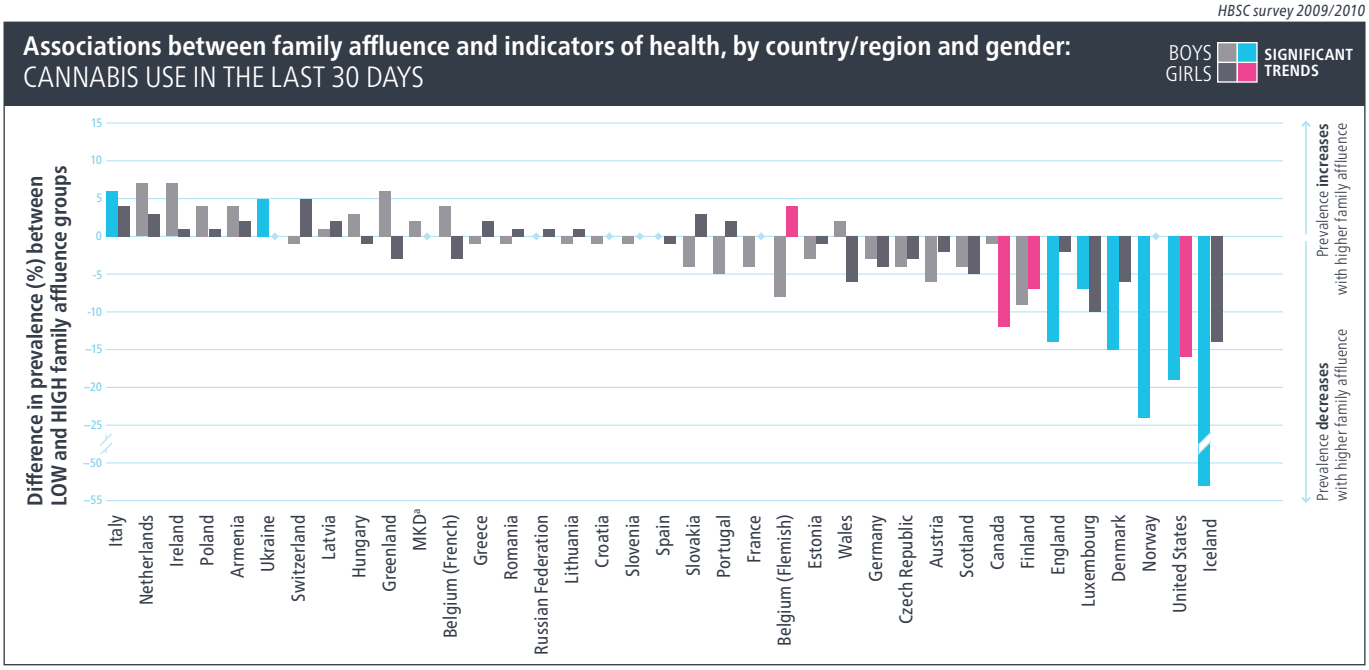
Associations between family affluence and indicators of health, by country/region and gender:
LIFETIME CANNABIS USE



[a] The former Yugoslav Republic of Macedonia. ◆ Indicates less than +/− 0.5%. *Note.* No data for Sweden and Turkey.

HBSC survey 2009/2010

Associations between family affluence and indicators of health, by country/region and gender:
CANNABIS USE IN THE LAST 30 DAYS



[a] The former Yugoslav Republic of Macedonia. ◆ Indicates less than +/– 0.5%. *Note.* No data for Sweden and Turkey.

RESULTS

Age

Data are presented for 15-year-olds only.

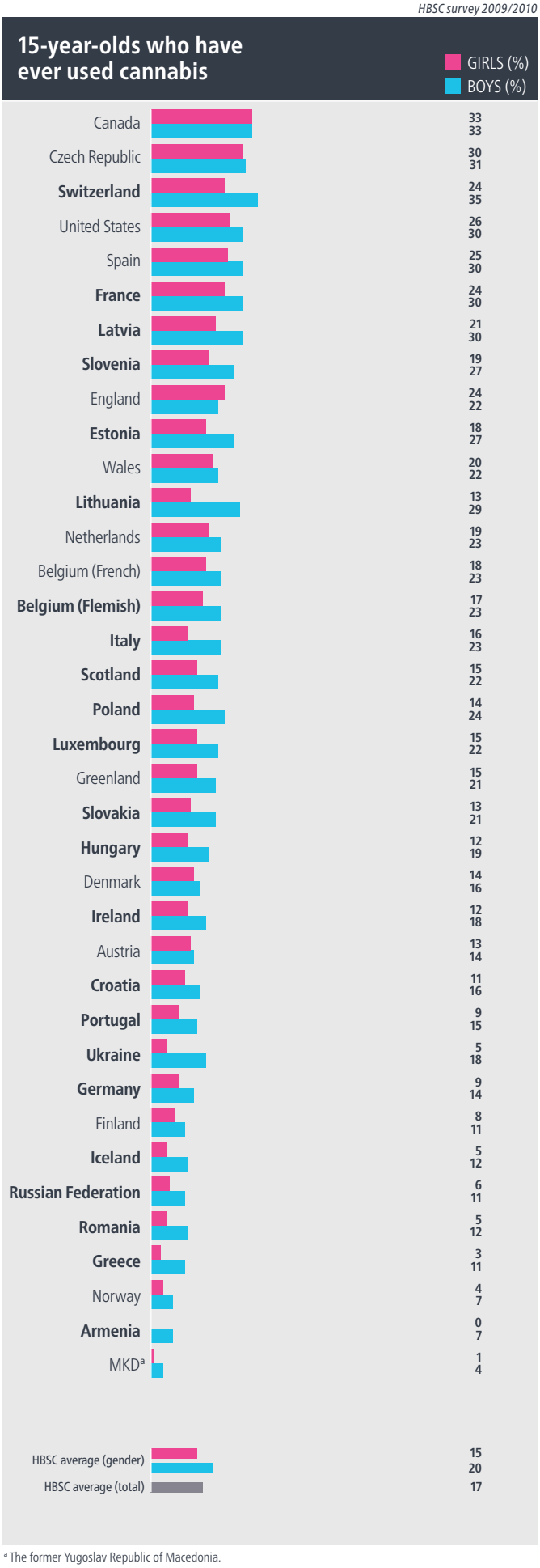
Gender

Boys reported higher prevalence of cannabis use in most countries across the three measures, but the gender difference was greater than 10% in only a few.

Family affluence

Use among boys and girls was significantly associated with family affluence in only a minority of countries and regions. Results were mixed in the few that had a significant association: higher prevalence was associated with both high and low family affluence. These findings need to be interpreted with caution, however, given the small number of frequent users.

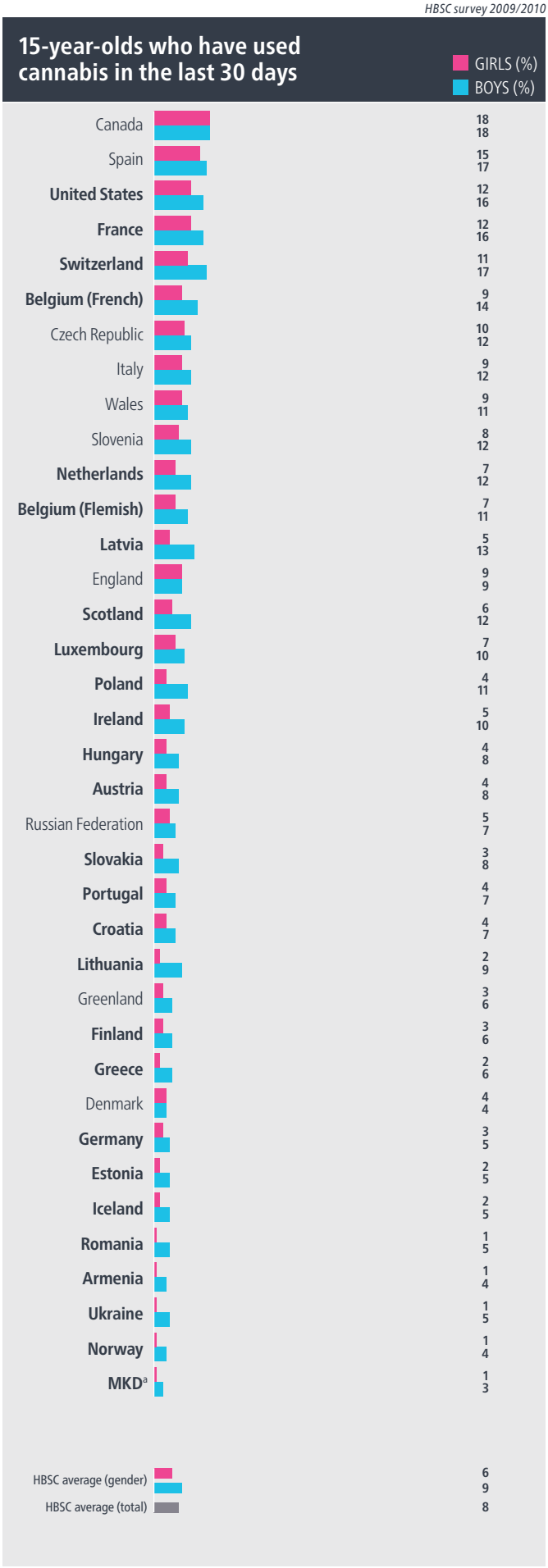
HBSC survey 2009/2010



[a] The former Yugoslav Republic of Macedonia.

HBSC survey 2009/2010

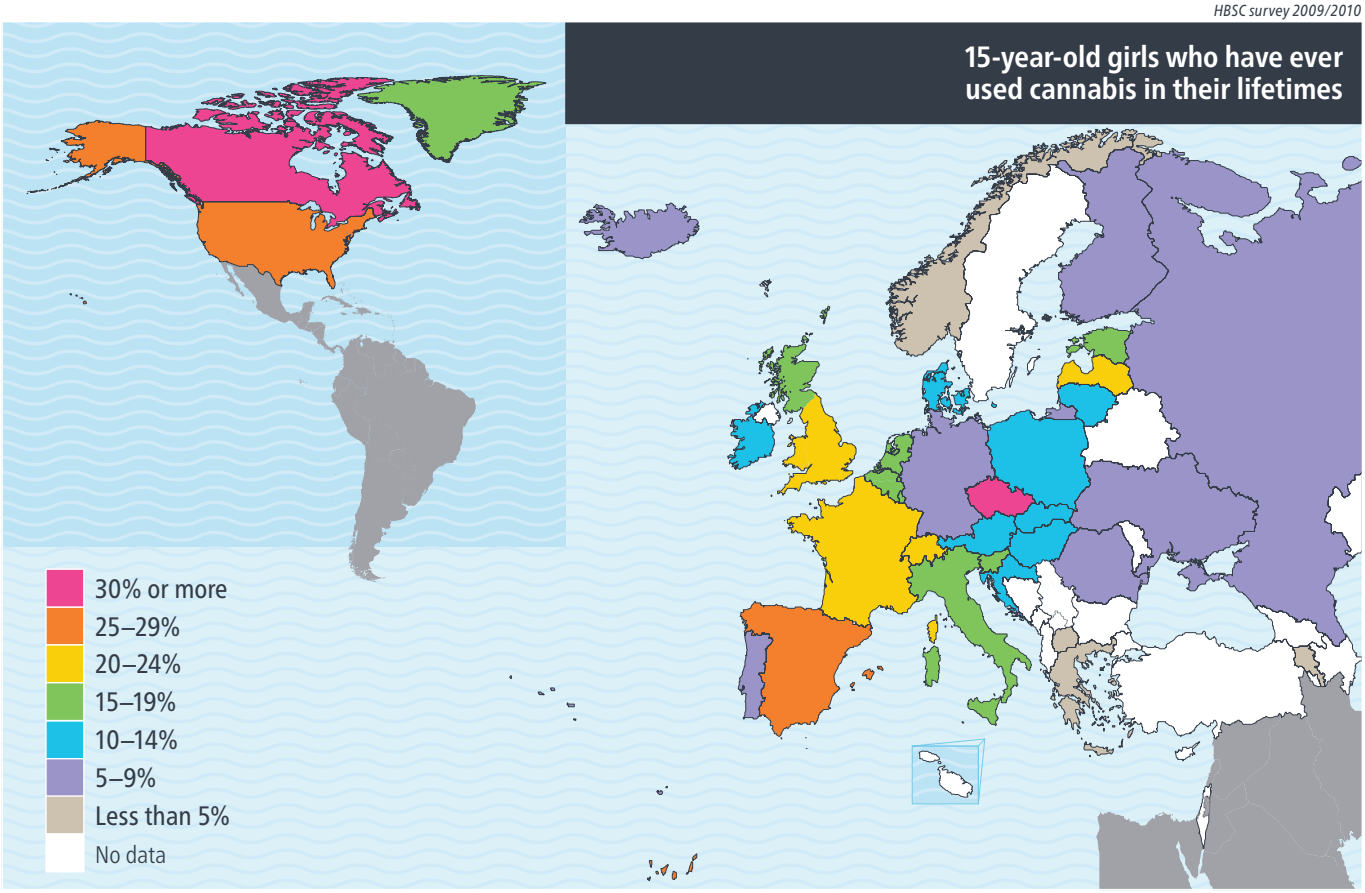
15-year-olds who have used cannabis in the last 30 days



Note. **Indicates** significant gender difference (at p<0.05). No data for Sweden and Turkey.
Zero values correspond to less than 0.5%

HBSC survey 2009/2010

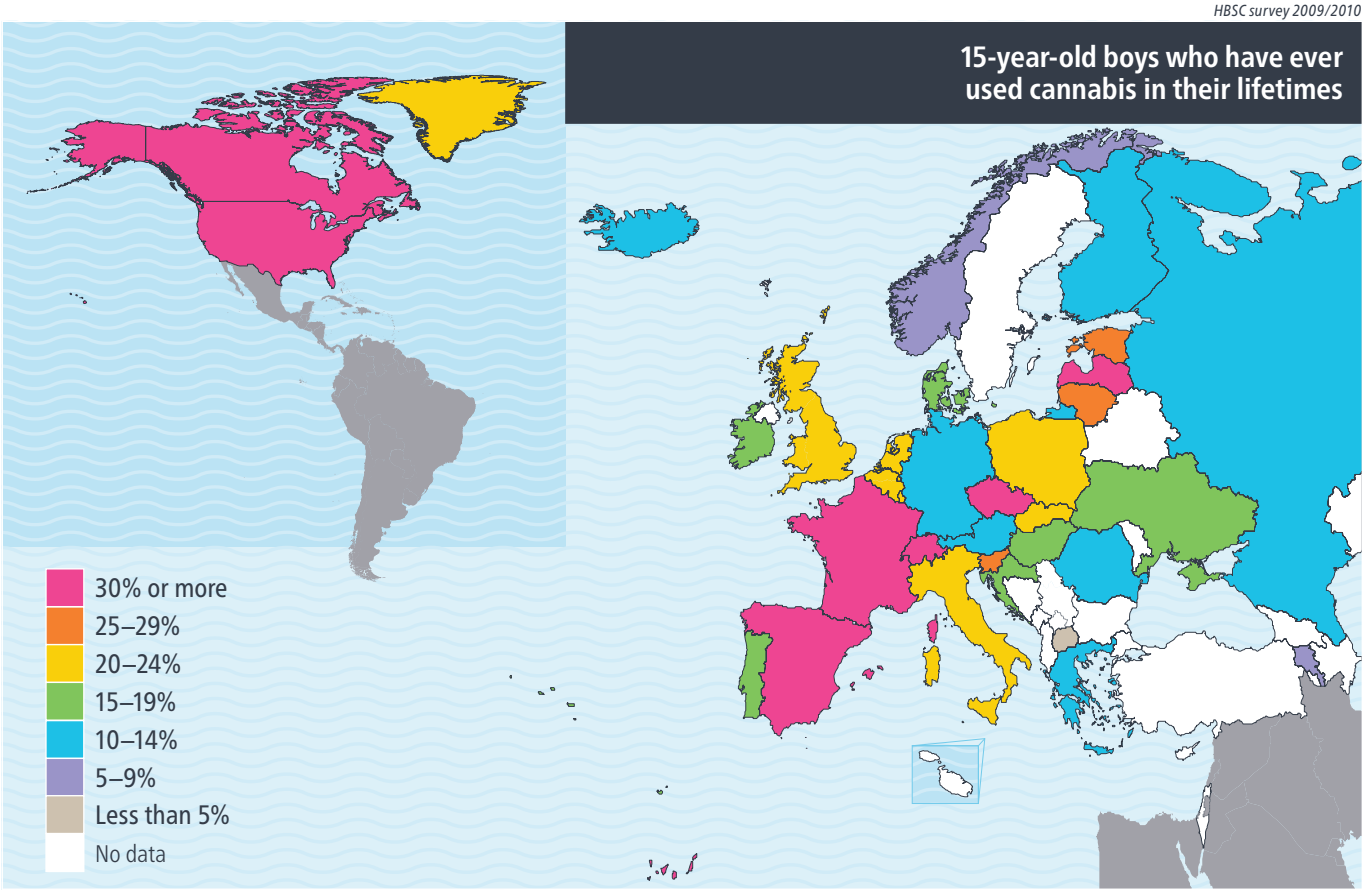
15-year-old girls who have ever used cannabis in their lifetimes



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

HBSC survey 2009/2010

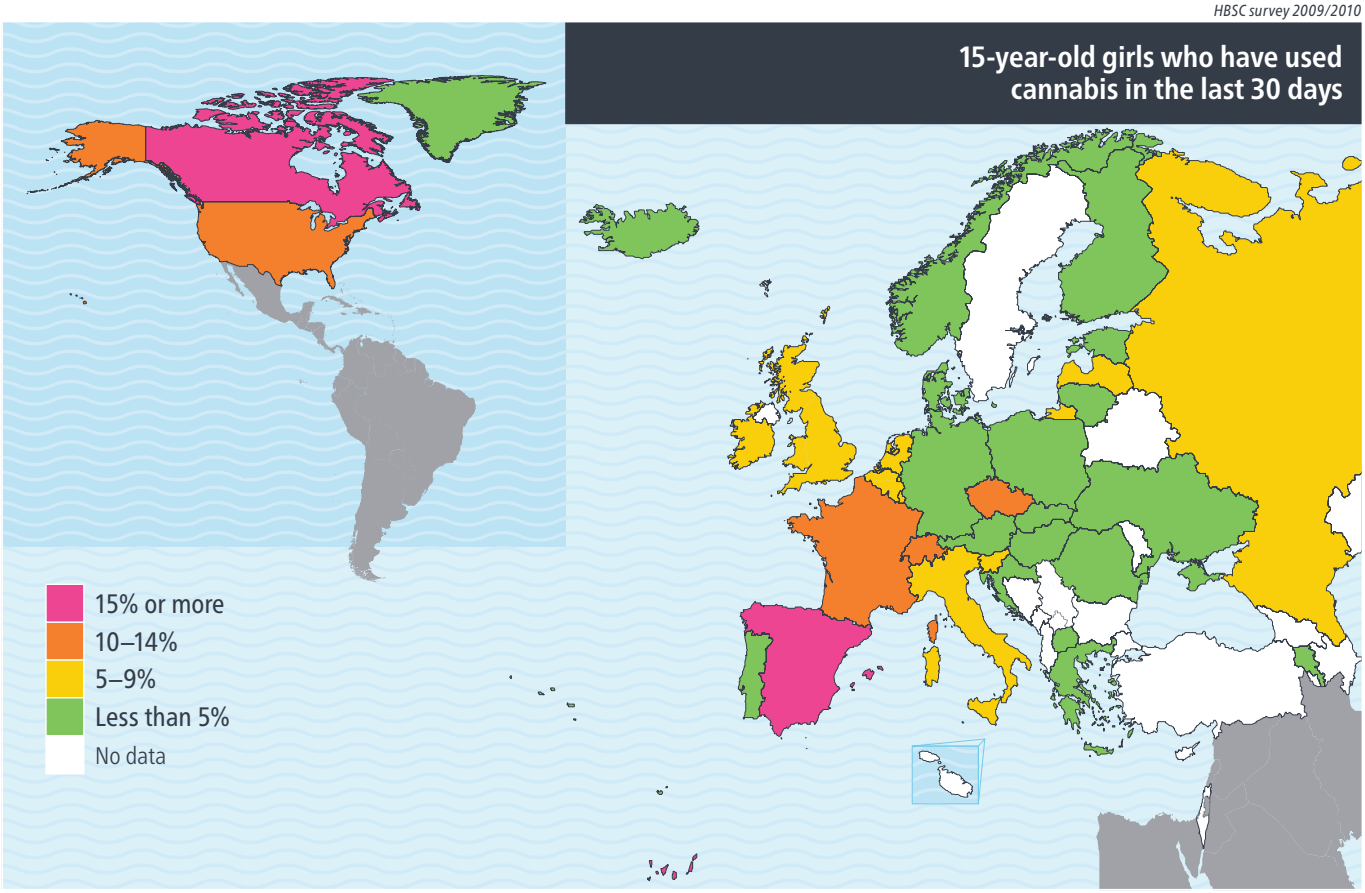
15-year-old boys who have ever used cannabis in their lifetimes



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

HBSC survey 2009/2010

15-year-old girls who have used cannabis in the last 30 days



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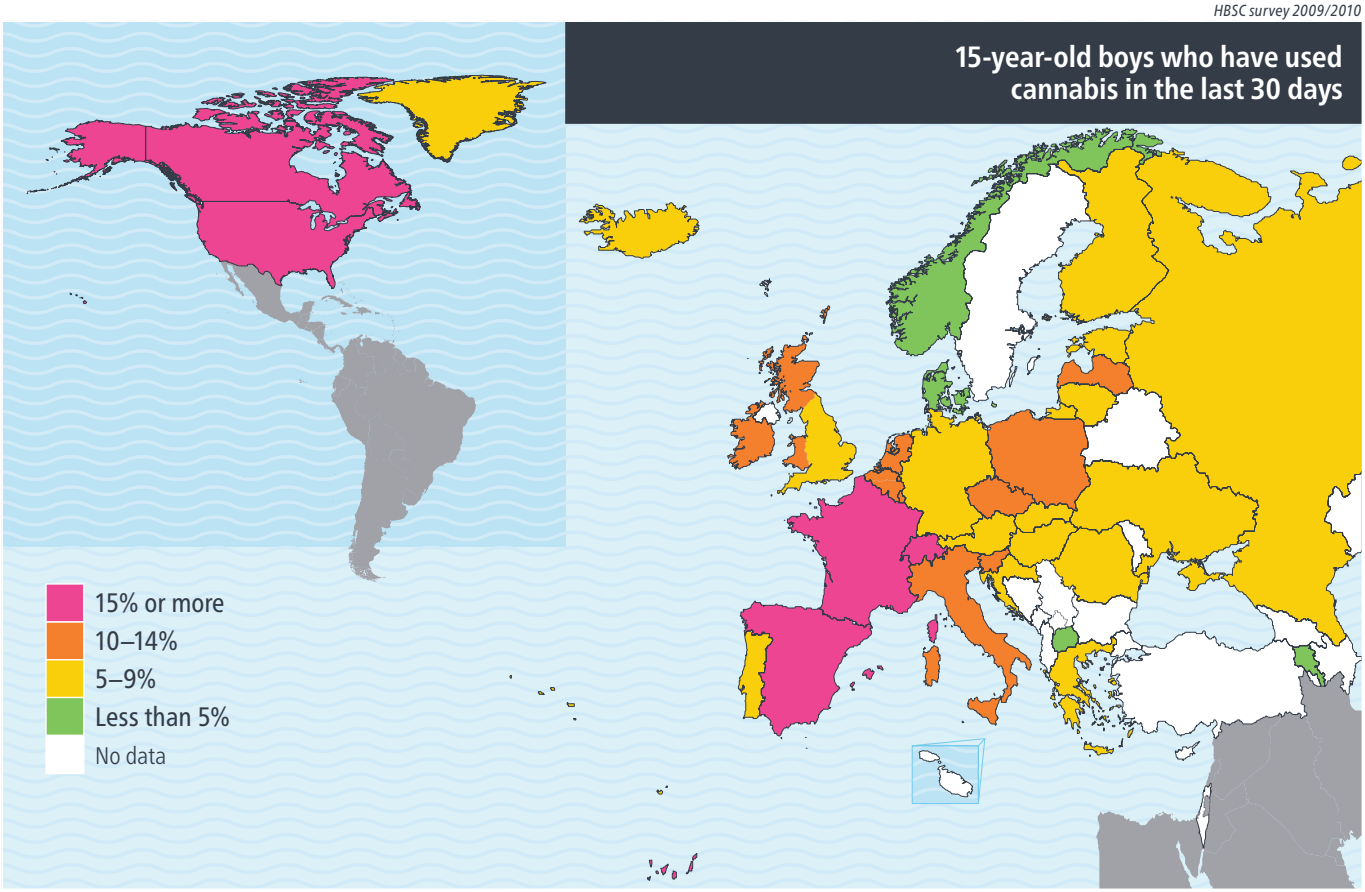
HBSC survey 2009/2010

15-year-old boys who have used cannabis in the last 30 days



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

CANNABIS USE: SCIENTIFIC DISCUSSION AND POLICY REFLECTIONS

SCIENTIFIC DISCUSSION

The findings confirm that boys report using cannabis more frequently and that it is not consistently related to individual family affluence.

Substantial variations exist between countries and regions. Prevalence of recent cannabis use is less than 1% in some, but over 20% in others. Differences may be partly explained by cross-national differences in country wealth, perceived availability of cannabis in the peer culture and estimations of risks associated with use. Prevalence rates are in general higher among those living in countries in which the perceived availability of cannabis is high and where non-users associate fewer risks with use *(11)*. These factors may foster the emergence of a drug-using community of young people that may play a crucial role in the socialization of younger potential cannabis users *(11)*.

National policies may influence adolescent cannabis use, but a study comparing use in the Netherlands, the United States and Canada found that, while prohibition-oriented policies on alcohol deterred use (and liberal policies elevated it), this effect was not found for cannabis *(13)*. More research into cross-national differences in young people's cannabis use is needed to enable understanding of the mechanisms involved.

POLICY REFLECTIONS

Adolescents who initiate substance use early and are frequent users are more likely to suffer adverse consequences *(8–10)* and therefore warrant particular attention from policy-makers.

Existing school- and family-based interventions can make help to alleviate the problem. Interventions in schools that focus on increasing drug knowledge, decision-making skills, self-esteem and resistance to peer pressure effectively reduce cannabis use *(14)*, and family-based treatments concentrating on cannabis or substance use are similarly effective; indeed, family-based and multisystem approaches have a large effect *(15)*. Motivational interviewing is also effective *(15)*.

While cannabis use is illegal in most countries in Europe and North America, it is not clear which specific policies are effective in reducing adolescent use.

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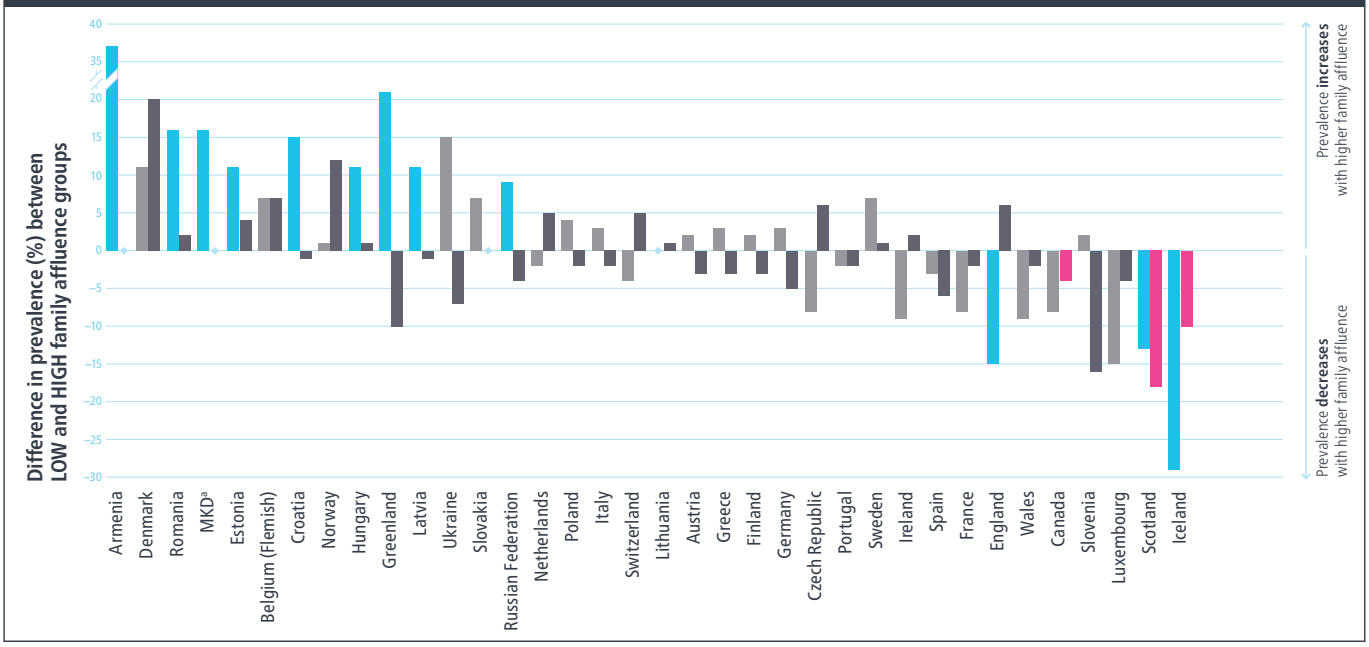
SEXUAL BEHAVIOUR: EXPERIENCE OF SEXUAL INTERCOURSE

Adolescents usually initiate intimate relationships and become sexually active *(1)*. Early sexual activity, initiated while young people are still developing emotionally and cognitively, may increase the risk of unwanted and unplanned pregnancy or sexually transmitted infections (STIs) *(2)*, mainly owing to the misuse or non-use of condoms or other contraceptives.

Evidence suggests that the age of onset of sexual intercourse is declining in industrialized countries *(3)* and the rate of STIs among adolescents is rising *(4)*. While fertility rates vary across countries, about 15 million adolescents worldwide give birth every year *(5)*. Based on these observations, and combined with findings that early sexual activity is associated with risk factors such as substance use *(6)*, lower academic achievement *(6)* and poor mental health *(7)*, early onset of sexual activity has been pinpointed as an important marker for sexual health *(5)*.

HBSC survey 2009/2010

Associations between family affluence and indicators of health, by country/region and gender:
HAD SEXUAL INTERCOURSE



[a]The former Yugoslav Republic of Macedonia. ◆ Indicates less than +/− 0.5%. *Note.* No data for Turkey, United States and Belgium (French). Data not presented for girls in MKD as there were too few cases.

MEASURE

Only 15-year-olds 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 that the question was about full penetrative sex. The findings presented here show the proportions who reported that they had had sexual intercourse.

RESULTS

Age

Data are presented for 15-year-olds only.

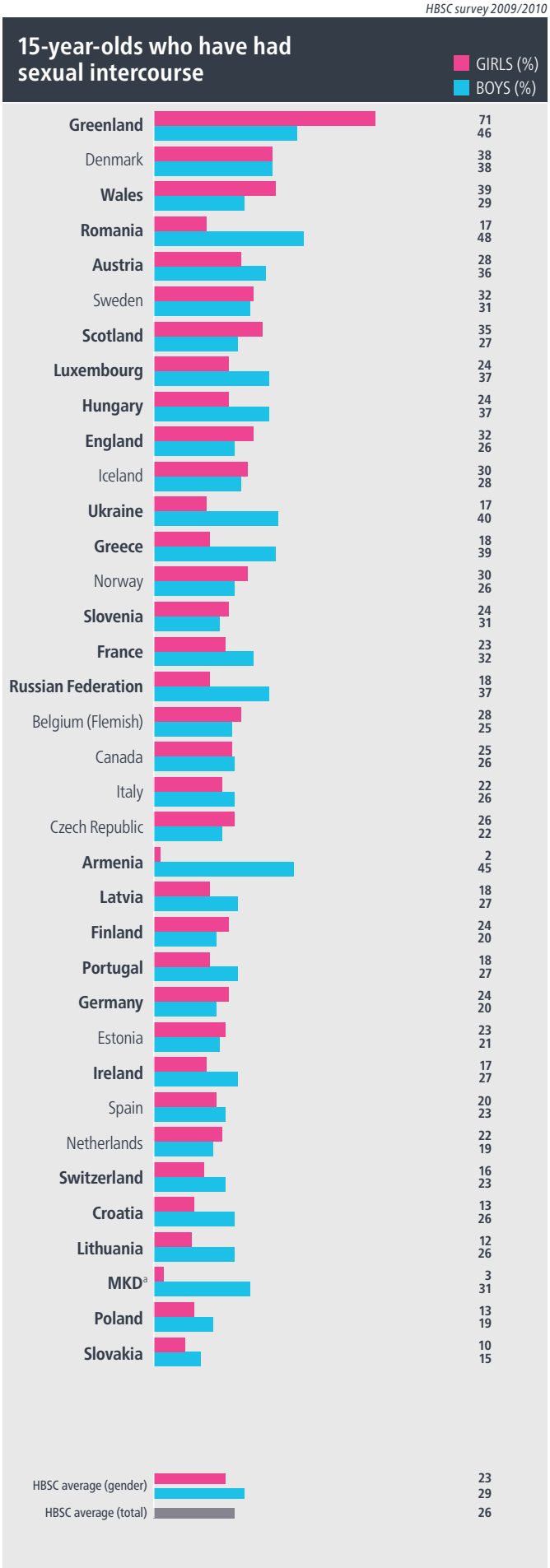
Gender

Boys were significantly more likely to report having had sexual intercourse in around half of countries. The greatest gender disparity was observed in eastern European countries, Armenia and Greece. Higher prevalence among girls was reported in seven, mainly Scandinavian countries and the United Kingdom.

Family affluence

Prevalence was associated with family affluence in only a few countries and regions. It was significantly lower among boys in high-affluence families in around a quarter and higher in only three, while for girls it increased with higher affluence in a few. The size of prevalence differences tended to be greater among boys.

HBSC survey 2009/2010

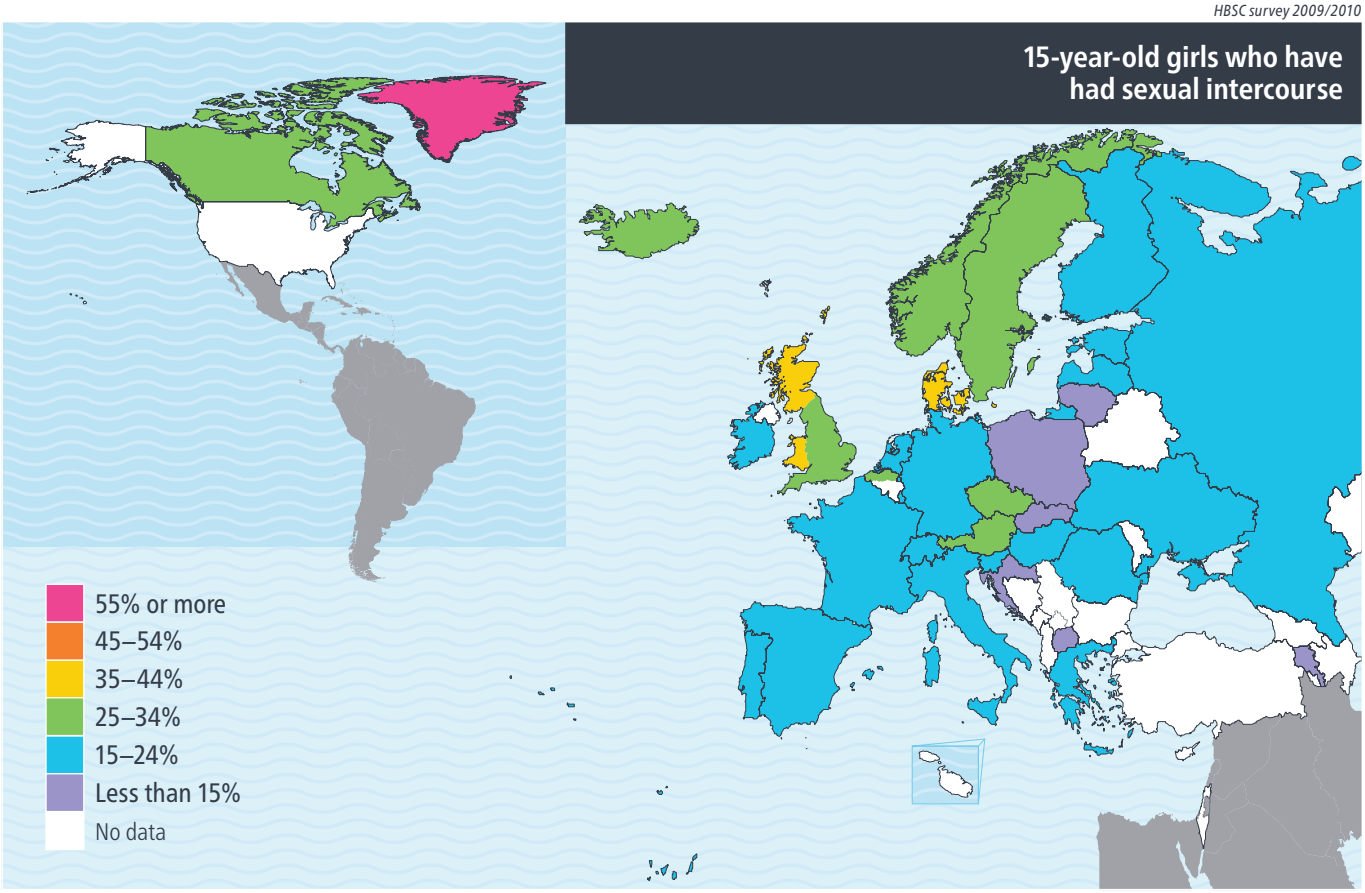


[a] The former Yugoslav Republic of Macedonia.

Note. **Indicates** significant gender difference (at p<0.05).
No data for Turkey, United States and Belgium (French).

HBSC survey 2009/2010

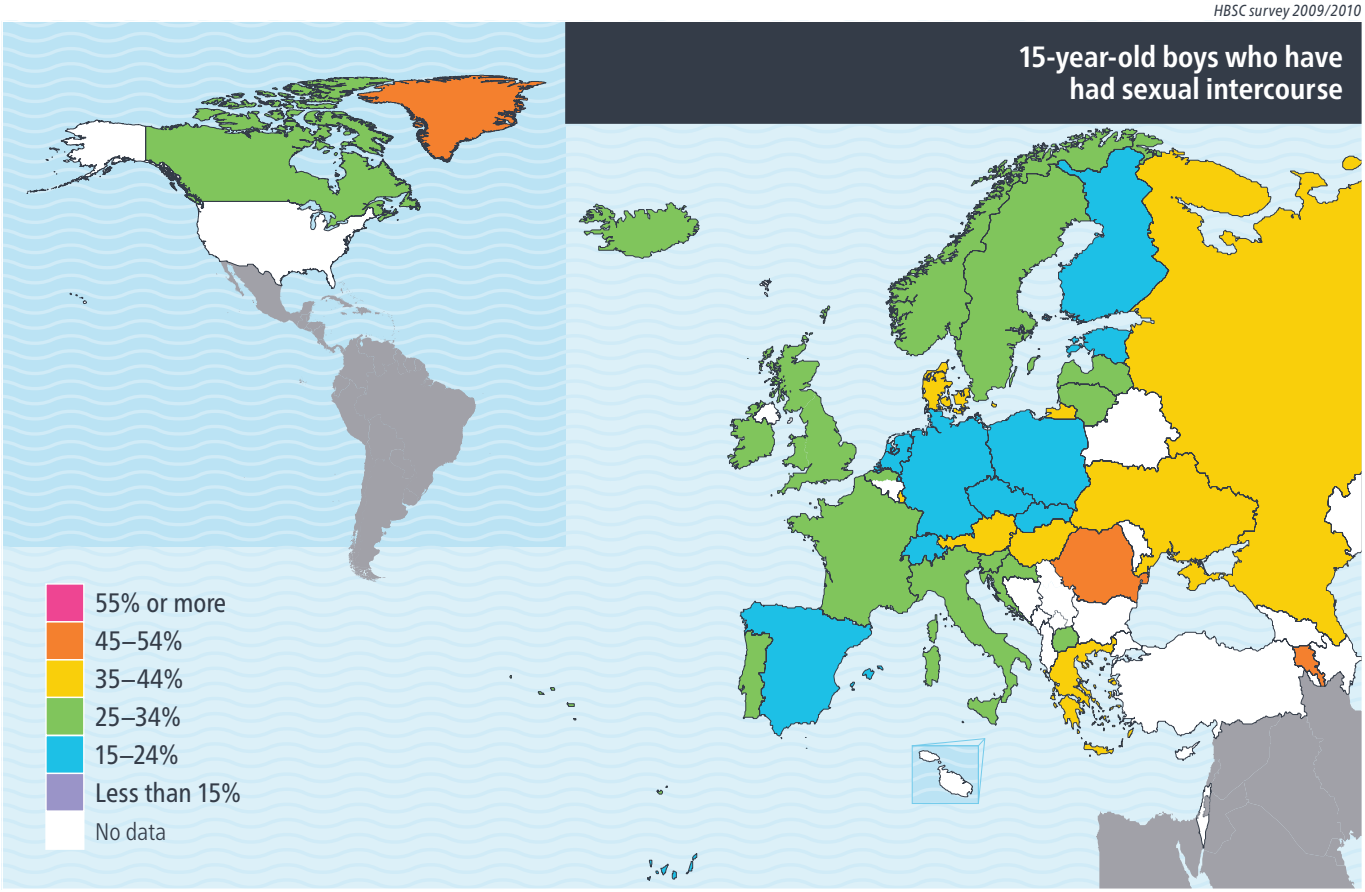
15-year-old girls who have had sexual intercourse



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

HBSC survey 2009/2010

15-year-old boys who have had sexual intercourse



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

SEXUAL BEHAVIOUR: CONDOM AND PILL USE

Estimating rates of STIs is difficult, particularly among adolescents, but there is evidence that, despite a decline in HIV, incidence of the most frequently occurring STIs (*Chlamydia*, gonorrhoea and syphilis) has increased in several European countries in the last decade *(1)*.

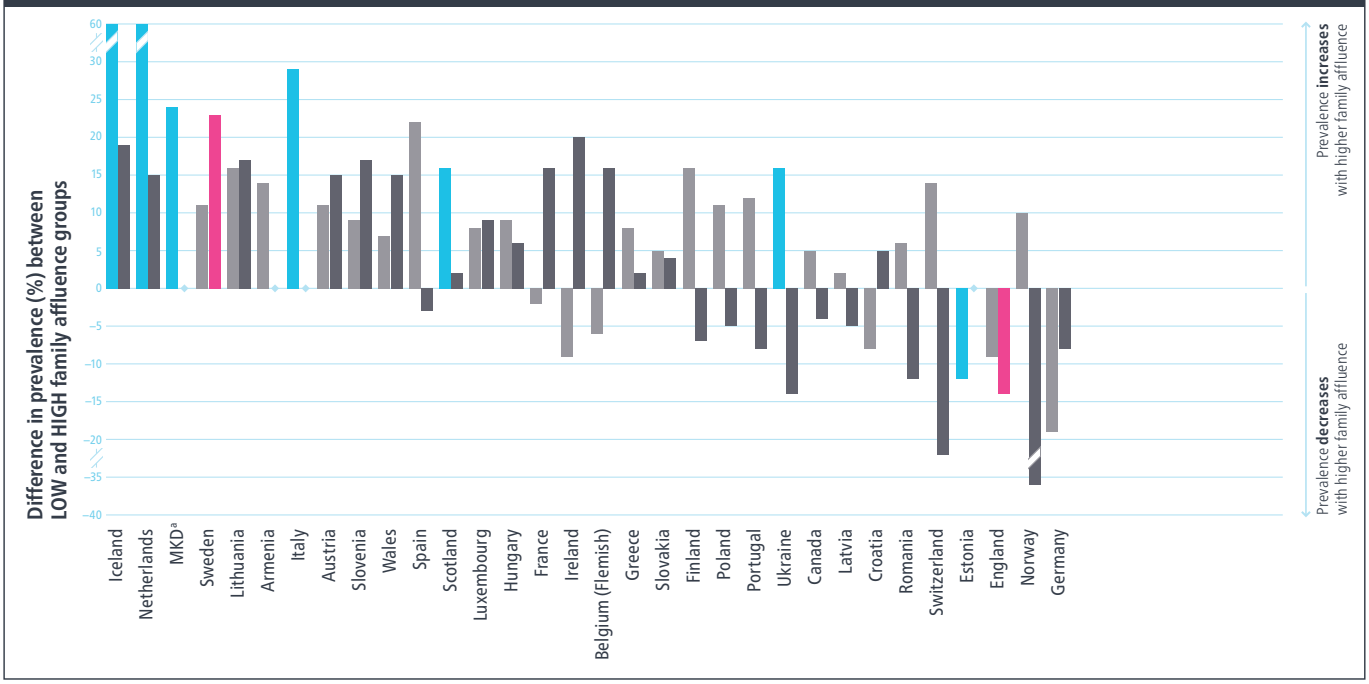
Condoms are the most effective method of preventing STIs and the contraception method most commonly reported by 15-year-olds in many countries *(4)*. Condom use remains inconsistent *(8)*, however, and is influenced by factors such as self-efficacy, perceived attitudes of peers and assertiveness *(9,10)*. Not using a condom has been associated with other risky sexual behaviours, such as early onset of sexual activity, having multiple partners and engaging in substance use before sexual intercourse *(11)*.

Condoms offer an effective method of preventing pregnancy. Adolescent pregnancy rates have fallen significantly in Europe during the last two decades *(1)*, but remain a high public health priority *(1,12,13)*. It is reasonable to assume that teenage pregnancy is frequently unintended, at least in most developed countries *(1,12,13)*, and is likely to result in negative outcomes for mother and child *(1,13)*.

Teenage pregnancies can also be prevented by the use of oral contraceptive pills, which are safe and suitable for women of all ages. This is a frequently reported contraceptive method in industrialized countries, including among adolescents *(12)*, but dual contraception (pill plus condom) is not common among young people *(8)*.

European and North American countries show large differences in rates of contraceptive pill and condom use among adolescents *(14)*, mainly due to issues around the accessibility and affordability of sexual health services, especially for those who are under the legal age. It is therefore essential to promote contraceptive use across countries through education and services that guarantee accessibility and confidentiality.

Associations between family affluence and indicators of health, by country/region and gender:
CONDOM USE AT LAST INTERCOURSE



[a] The former Yugoslav Republic of Macedonia. ◆ Indicates less than +/– 0.5%. *Note.* No data for Belgium (French), Czech Republic, Denmark, Greenland, Russian Federation, Turkey and United States. Data not presented for girls in Armenia and girls in MKD as there were too few cases.

MEASURES

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 the so-called "morning-after pill" and "natural rhythm method").

Condom use

Only 15-year-olds were asked whether they or their partners used a condom at their last sexual intercourse. The findings presented here show the proportions who reported "yes" to this question.

Pill use

Only 15-year-olds were asked what method(s) to prevent pregnancy had been used at their last sexual intercourse. The findings presented here show the proportions who reported that they or their partners used the contraceptive pill at their last sexual intercourse.

RESULTS

Condom use

Age

Data are presented for 15-year-olds only.

Gender

Prevalence of condom use was significantly higher among boys in around a third of countries and regions.

Family affluence

Overall, there was no strong association between condom use and family affluence, but this should be interpreted with caution as numbers in the low-affluence categories were small in many countries and regions.

Pill use

Age

Data are presented for 15-year-olds only.

Gender

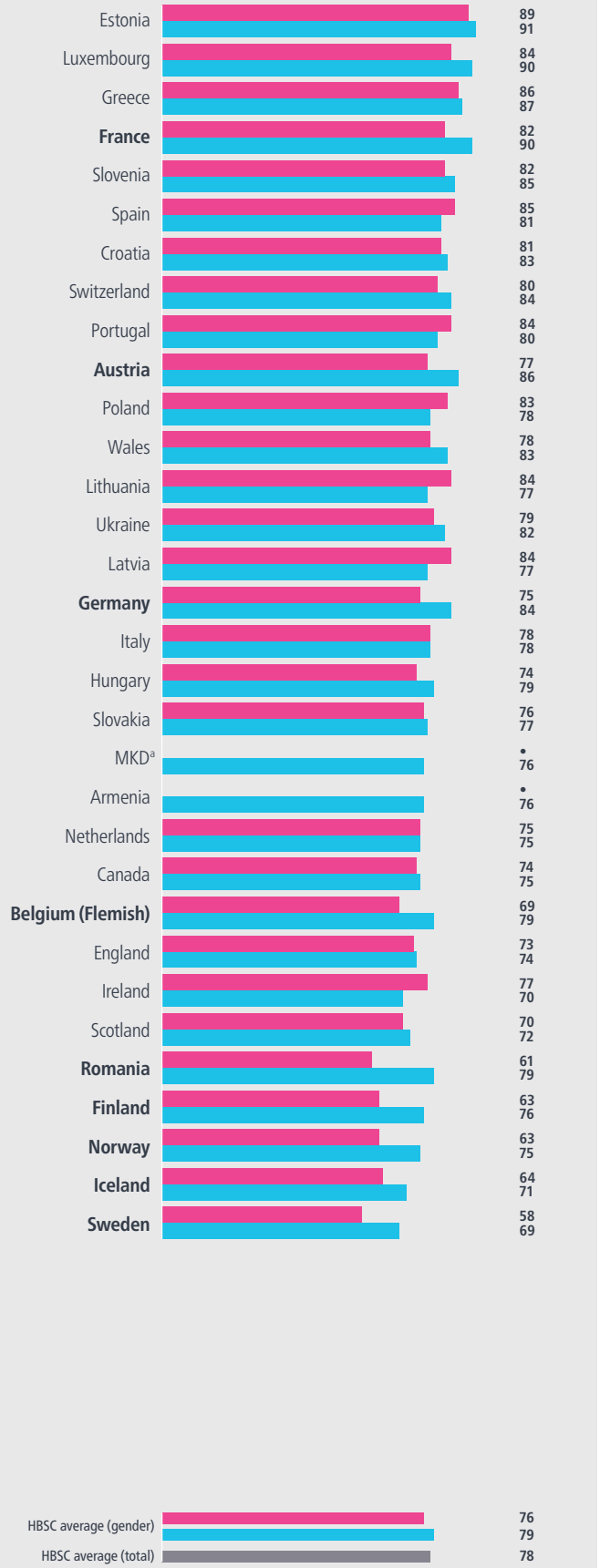
Prevalence of pill use was significantly higher among girls in a minority of countries and regions.

Family affluence

It was not possible to confirm significant associations between the pill use at last sexual intercourse and family affluence, as the numbers were too small to reliably identify statistical significance.

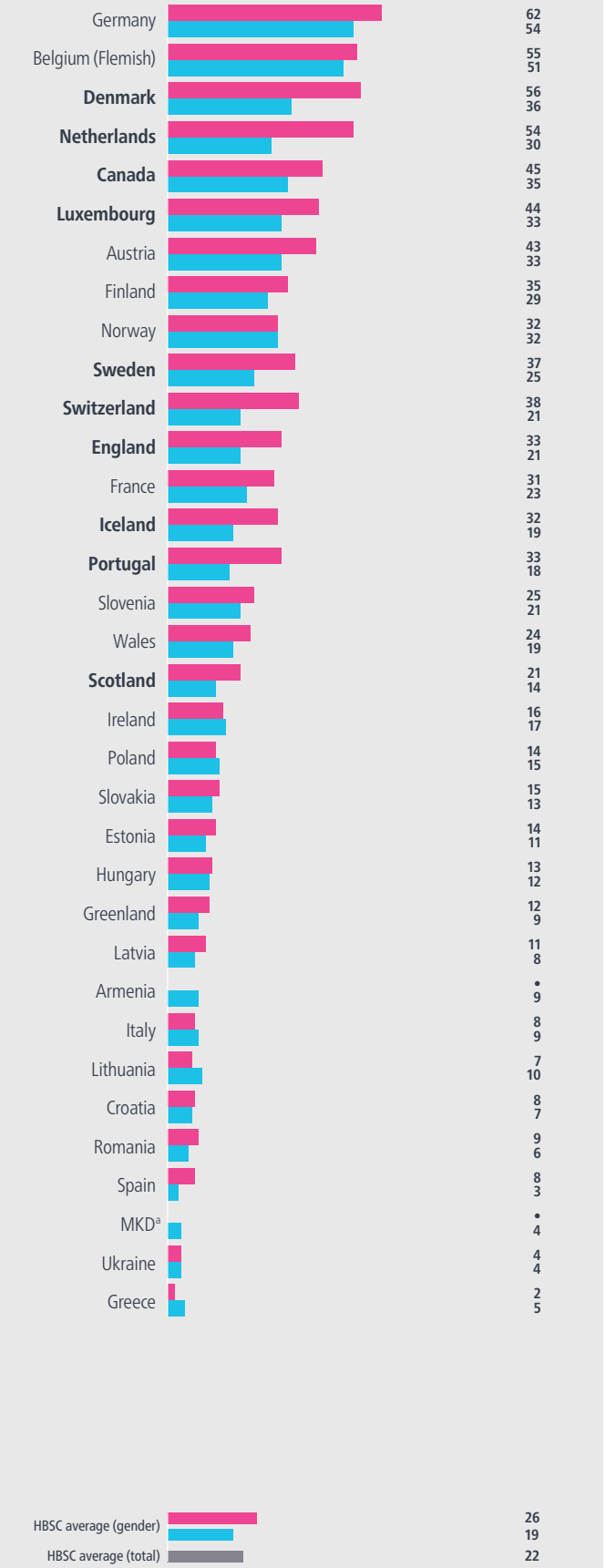
HBSC survey 2009/2010

15-year-olds who used a condom at last intercourse



HBSC survey 2009/2010

15-year-olds who used the contraceptive pill at last intercourse

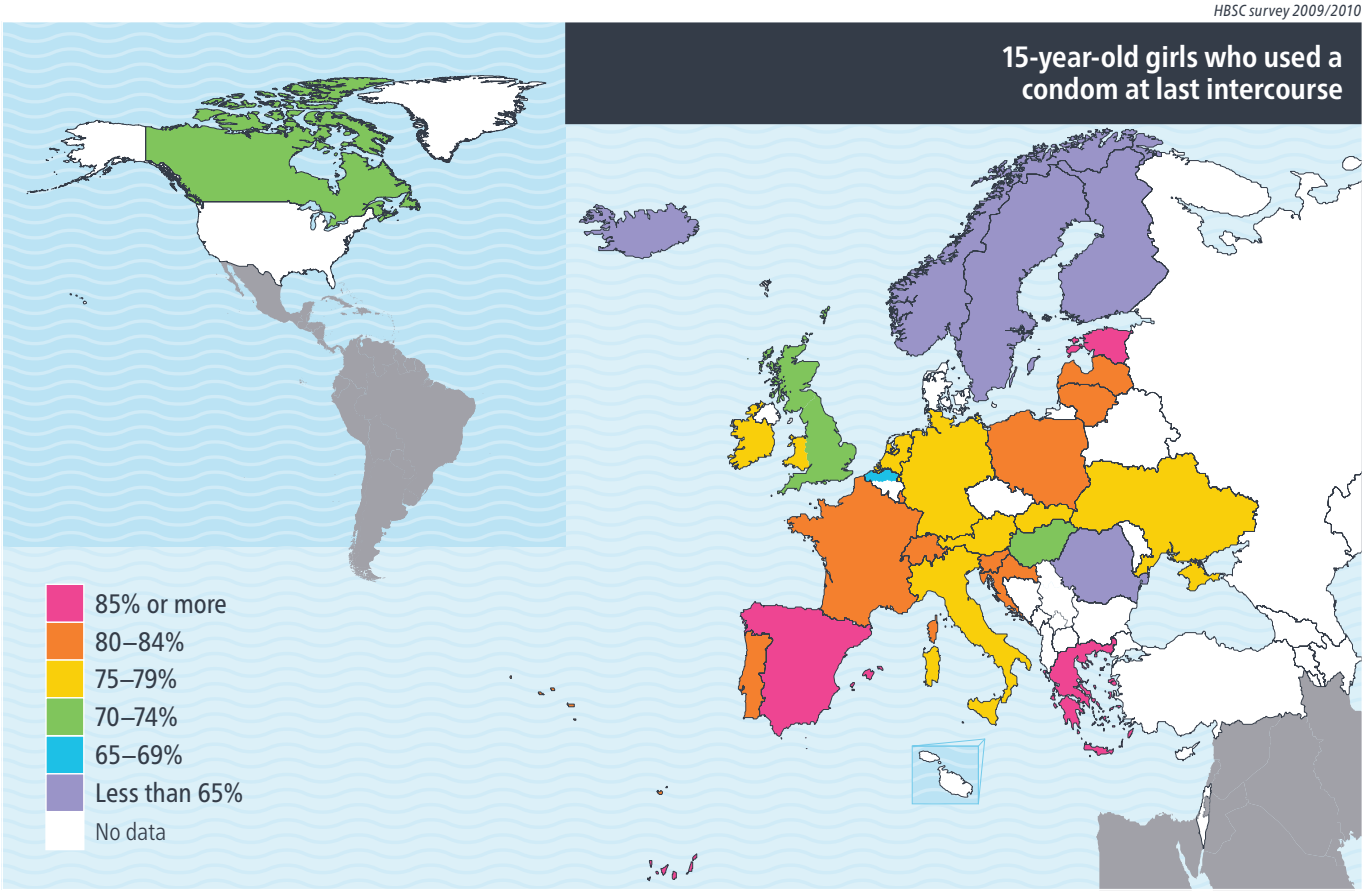


[a] The former Yugoslav Republic of Macedonia.
No data for Belgium (French), Czech Republic, Denmark, Greenland, Russian Federation, Turkey and United States.
Data not presented for girls in Armenia and girls in MKD as there were too few cases.

Note. **Indicates** significant gender difference (at p<0.05).

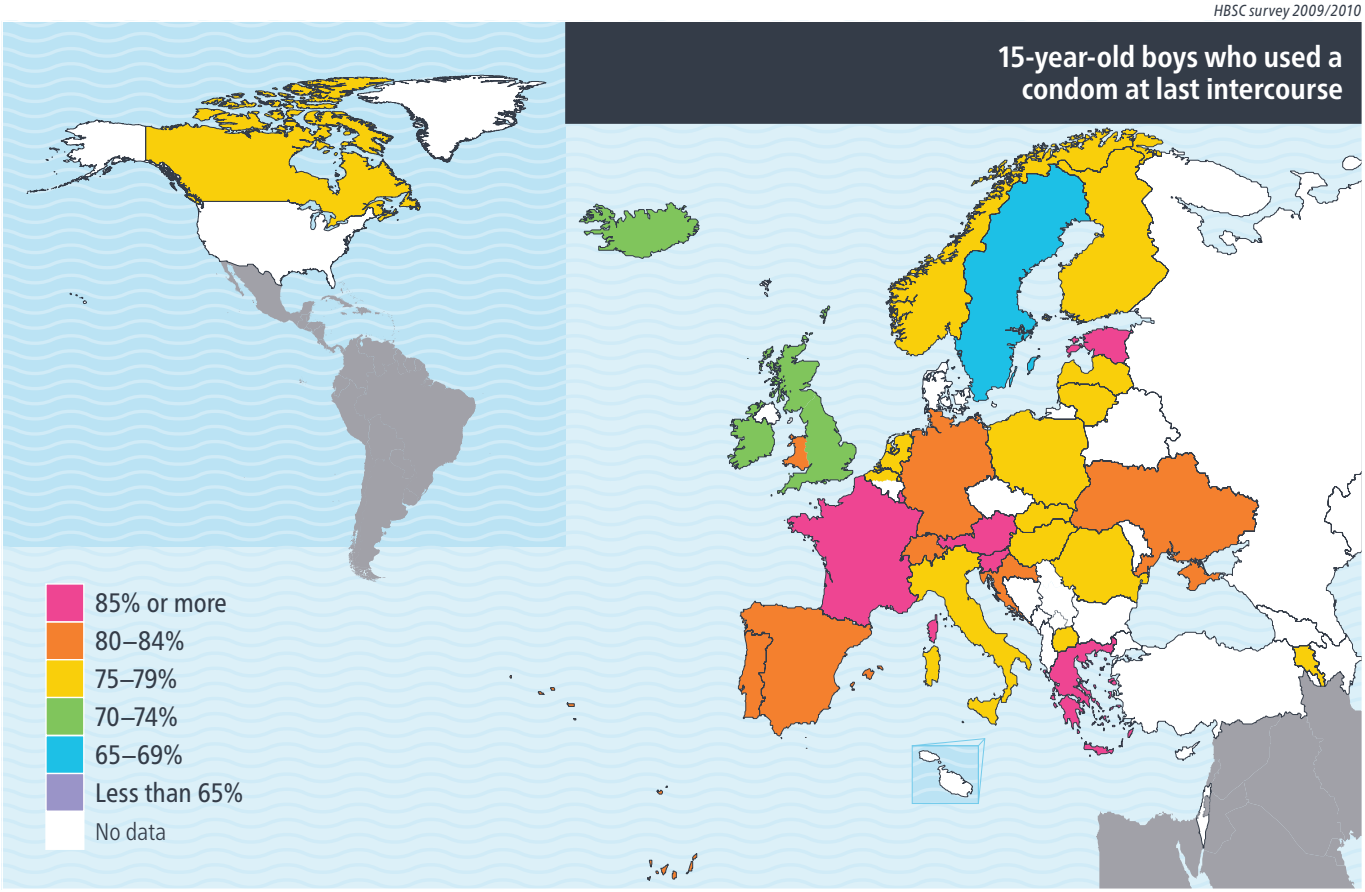
No data for Belgium (French), Czech Republic, Russian Federation, Turkey and United States.

HBSC survey 2009/2010



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

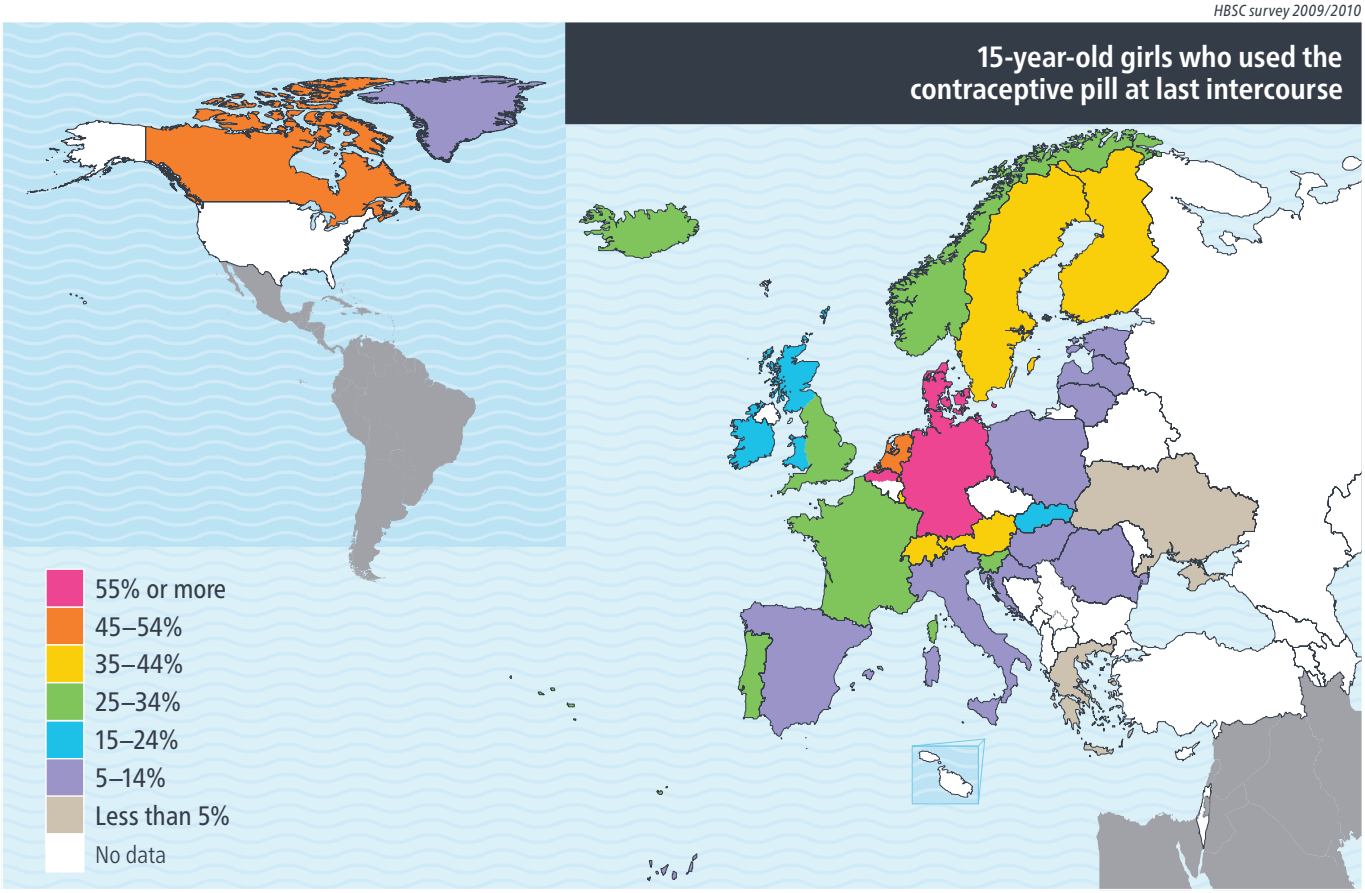
HBSC survey 2009/2010



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

HBSC survey 2009/2010

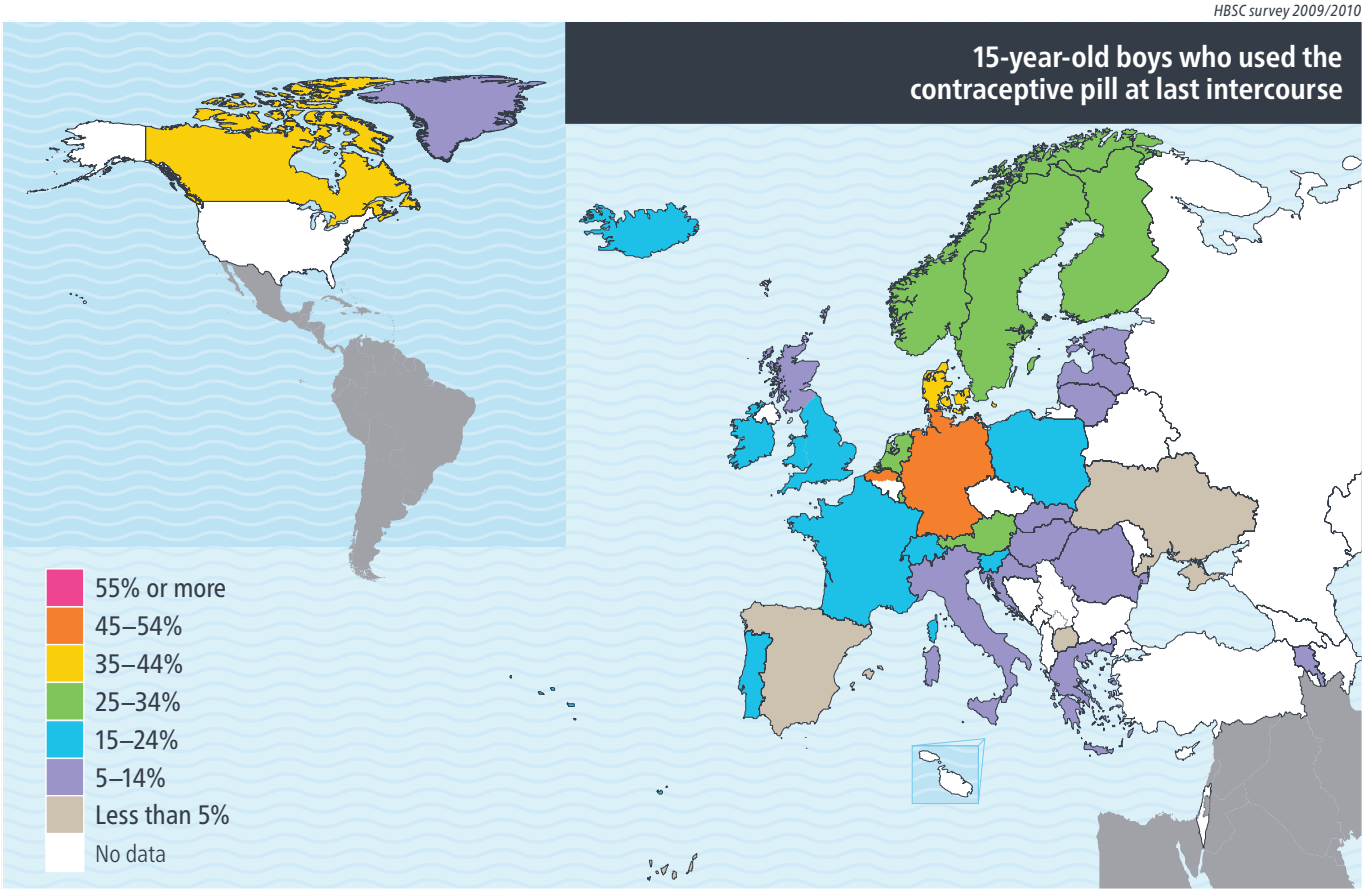
15-year-old girls who used the contraceptive pill at last intercourse



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

HBSC survey 2009/2010

15-year-old boys who used the contraceptive pill at last intercourse



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

SEXUAL BEHAVIOUR: SCIENTIFIC DISCUSSION AND POLICY REFLECTIONS

SCIENTIFIC DISCUSSION

Experience of sexual intercourse

Much of the interest in adolescent sexual intercourse is driven by its serious consequences, which include STIs, unwanted pregnancy, abortion and negative psychosocial outcomes *(1,2,13).* Prevalence rates vary considerably across countries and cultures, as do gender differences. In many countries and regions, boys are still more likely to report sexual intercourse, but this is reversed in a few in northern and western Europe, perhaps reflecting an erosion in gender stereotypes *(12,15).*

Higher family affluence is associated with lower rates of sexual intercourse in only a few countries and regions. The association may be explained by better access to education and sexual health services *(4,16)*, but family affluence is not a consistently strong predictor across countries.

Condom and pill use

The percentage of adolescents reporting condom use has increased in recent years *(9)*, but a significant minority still reports non-use. This may be explained by young people lacking either access to or the necessary skills to buy or use condoms *(8,9)*.

Boys are more likely to report condom use at last sexual intercourse, possibly as they feel less embarrassed buying and/or carrying them *(17)*, but rates of use do not vary significantly between countries and does not appear to be associated with family affluence.

Contraceptive pill use remains low across countries and regions, with a clear geographic pattern. Rates are highest in northern and western Europe and lowest in southern and eastern Europe. Acceptance of sexual activity may be a broader among those with higher pill use (linked to culture, religion, politics and economics), which enables better access to contraception and sexual health services for young people *(12)*.

The tendency for girls to report use of oral contraceptives at last sexual intercourse more frequently may be explained by boys' not always knowing if their partners use the pill. Contraceptive-pill use is not associated with family affluence.

POLICY REFLECTIONS

Negative outcomes related to sexual health can be reduced if initiatives aim:

- to ensure that young people do not engage in sexual relationships before they are developmentally ready to do so; and
- to enable effective use of contraceptives.

Integrated programmes involving school, community and health care settings are most likely to be effective in reaching these goals *(18)*.

Early implementation of comprehensive education on sex and relationships is recommended, as it is more likely to be effective if delivered before young people start sexual activity *(19)*. Communication and negotiation skills to handle how and when first to engage in sexual relationships may form an important part of effective sex and relationships education, as these skills can enable young people to refrain from engaging before they are ready.

WHO has identified shortcomings in the availability and/or suitability of adolescent-specific health services in countries *(18)*. Inequity in service provision based on age may prevent young people from seeking contraceptive advice before engaging in sexual activity, leaving them at risk. Services providing help and advice on the use of condoms and the contraceptive pill should be available to young people of all ages; the services should be accessible and confidential, with staff trained to meet the specific needs of adolescents *(16)*.

Different messages may be needed for boys and girls within programmes that focus on the use of contraceptives, as reasons for and barriers to carrying and using condoms may differ between genders. Boys are more receptive to messages relating to HIV/AIDS, and girls are more likely to respond to pregnancy-prevention interventions *(20)*.

In addition to comprehensive sex and relationships education and the provision of adolescent-friendly services, broad youth-development programmes that target social exclusion by developing self-esteem and providing educational support and vocational preparation are effective in countering potentially the negative outcomes of early sexual initiation *(21)*.

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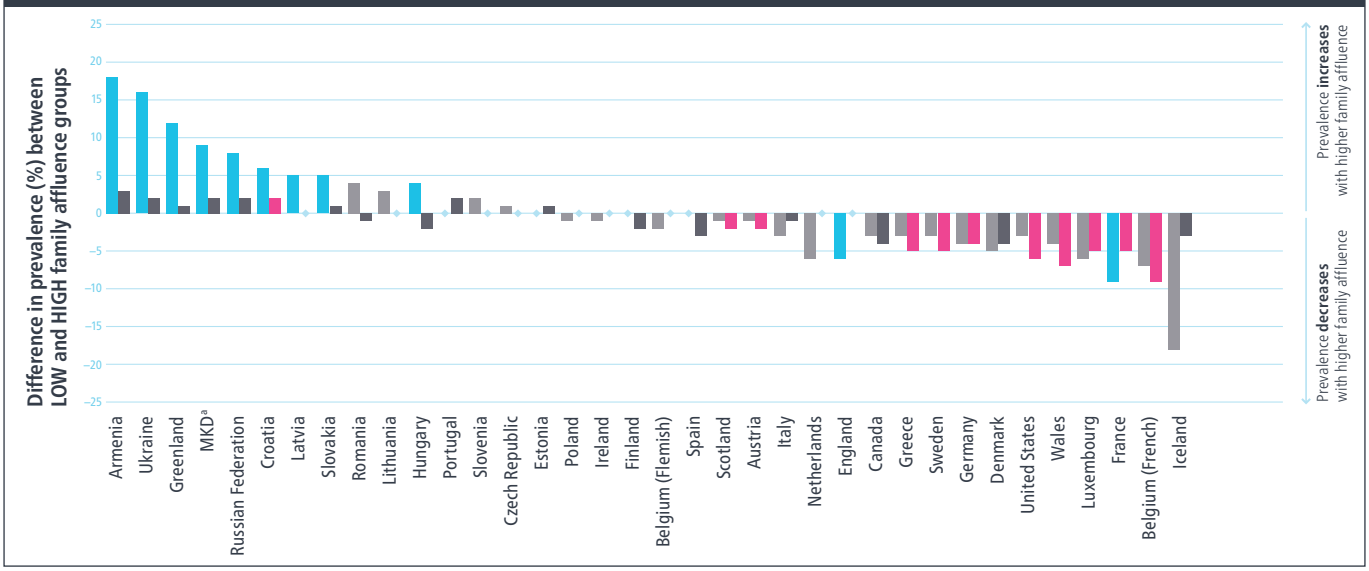
FIGHTING

Violence among young people is a major concern in most countries *(1)*. Physical fighting is the most common manifestation of interpersonal violence and is associated with intentional injury, often requiring medical attention and hospitalization *(2,3)*. It has consistently been found to be associated with substance use *(3–5)* and links have also been reported with weapon carrying and injuries *(6,7)*. Children involved in fighting are more likely to report impaired life satisfaction, poor family and peer relationships *(8)* and poor school perceptions *(9)*.

HBSC survey 2009/2010

Associations between family affluence and indicators of health, by country/region and gender:
FIGHTING THREE OR MORE TIMES IN THE LAST 12 MONTHS



[a]The former Yugoslav Republic of Macedonia. ◆ Indicates less than +/–0.5%. *Note.* No data available for Norway, Switzerland and Turkey.

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 "4 times or more". The findings presented here are the proportions of young people who reported fighting 3 times or more in the past 12 months, indicating a habitual behaviour.

RESULTS

Age

Prevalence of fighting declined with age in most countries and regions for boys, and in a few for girls. The decline between ages 11 and 15 was less than 10% in most countries and regions for boys and less than 5% in most for girls.

Gender

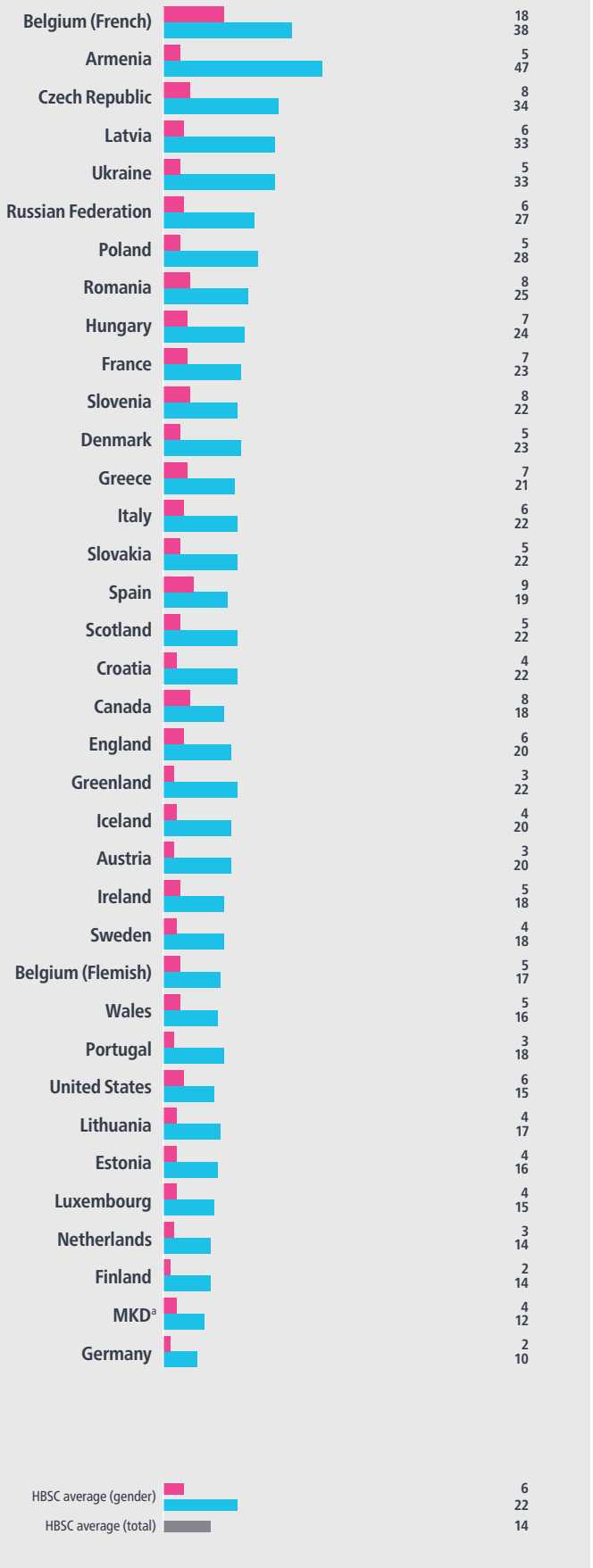
Girls at all ages were significantly less likely to report fighting in almost all countries and regions. The gender difference among 15-year-olds exceeded 10% in around half.

Family affluence

There was a significant association between increased prevalence and lower levels of family affluence for girls in a few countries, while prevalence was higher among boys from more affluent families in a small number. Differences tended to be 10% or less, with a few exceptions.

HBSC survey 2009/2010

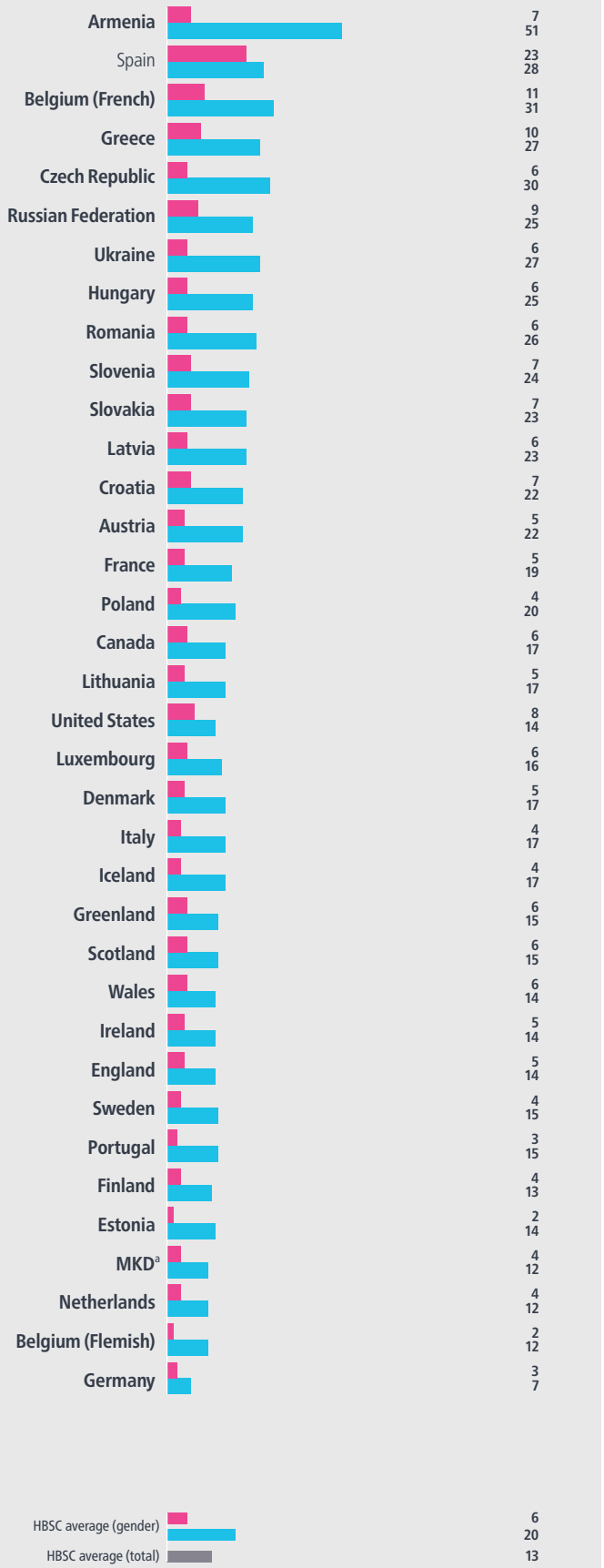
11-year olds who have been involved in a physical fight at least three times in the last 12 months



[a] The former Yugoslav Republic of Macedonia.

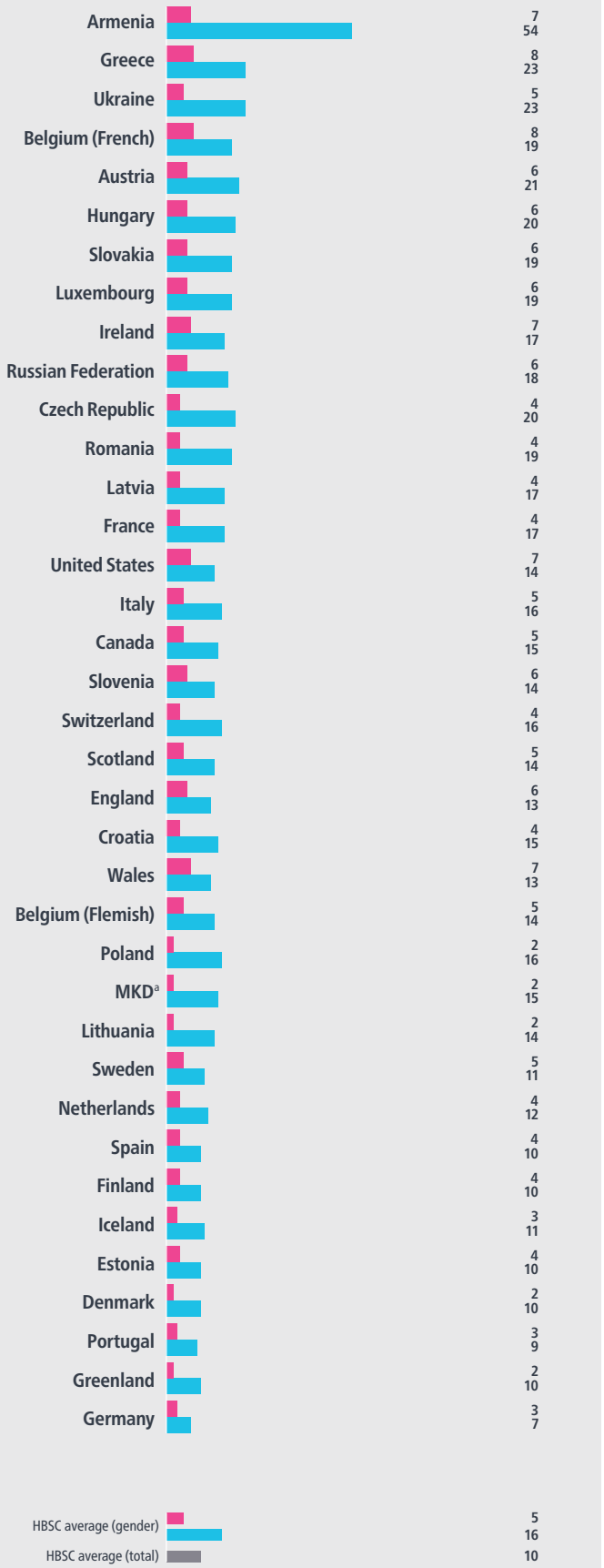
HBSC survey 2009/2010

13-year olds who have been involved in a physical fight at least three times in the last 12 months



HBSC survey 2009/2010

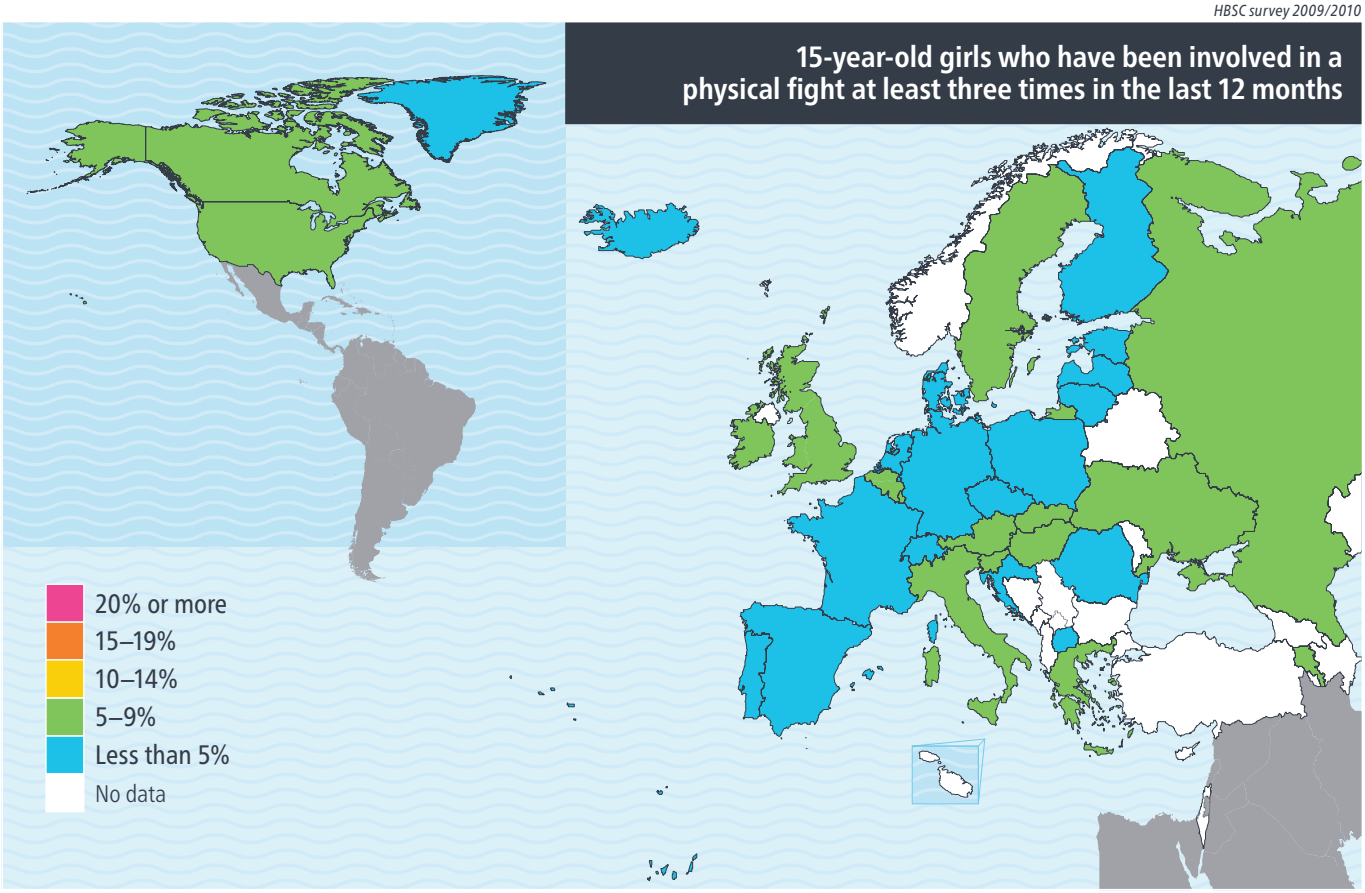
15-year olds who have been involved in a physical fight at least three times in the last 12 months



Note. **Indicates** significant gender difference (at p<0.05).
No data for Norway, Switzerland and Turkey (11-year-olds and 13-year-olds).

HBSC survey 2009/2010

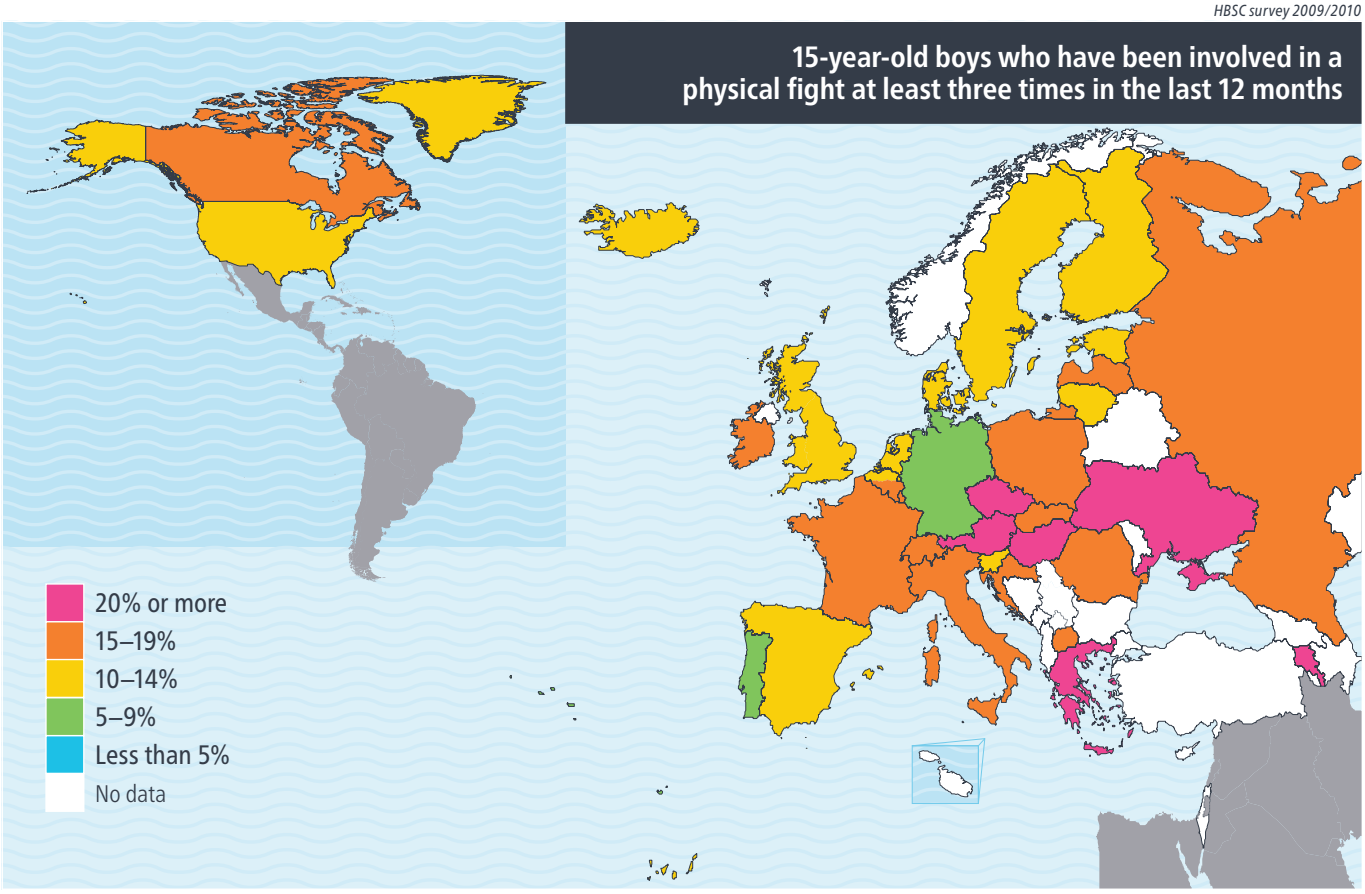
15-year-old girls who have been involved in a physical fight at least three times in the last 12 months



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

HBSC survey 2009/2010

15-year-old boys who have been involved in a physical fight at least three times in the last 12 months



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

FIGHTING: SCIENTIFIC DISCUSSION AND POLICY REFLECTIONS

SCIENTIFIC DISCUSSION

Around 25% of boys and 7% of girls reported that they have been involved in a physical fight at least three times in the last year. Observed gender differences show that boys are involved three times more than girls across all countries and within each age group. Prevalence of reported physical fighting in most countries is lower among 15-year-olds than those aged 11 and 13.

These findings are consistent with previous research *(5,10,11)* in suggesting that girls are less involved in physical violence and that children engage in emotional and verbal, rather than physical, violence as they grow older. Executive functioning (the cognitive process that regulates an individual's ability to organize thoughts and activities, prioritize tasks, manage time efficiently and make decisions) provides a possible explanation for observed gender and age differences, but the literature is equivocal about the link between deficits in executive-functioning skills and involvement in risk-taking behaviours *(12)*. Other explanations include possible differences in cultural and societal acceptance of boys' and girls' fighting and biological differences related to testosterone levels and aggression *(6)*.

POLICY REFLECTIONS

Fighting is more common in younger age groups. Older children may become involved in more subtle, socially acceptable and less visible types of violence, such as verbal and emotional abuse *(11)*. Prevention efforts should therefore consider:

- interventions that promote the development of verbal and social skills at an early age to improve the chances of dealing with conflict in non-violent ways; and
- the further development of school-based programmes that have been found to be effective in reducing fighting among adolescents *(13,14)*.

Observed cross-national differences in physical fighting could be attributable to national differences in prevention efforts and in the acceptability of violent behaviours. Further exploration of policy and societal contexts within which fighting takes place may be useful in defining the conditions required to minimize its occurrence.

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BEING BULLIED AND BULLYING OTHERS

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 perpetrators and victims *(2,3)*. Power relationships become consolidated with repeated bullying: bullies increase their power, and victims lose theirs. Young people who are being bullied become increasingly less able to defend themselves.

Victims are likely to experience a range of problems, such as depression and anxiety (which can lead to suicide in extreme cases) *(2,4)*, and are more likely to report internalizing issues, socially withdrawn behaviours and school difficulties (refusal, underachievement and dropout) *(5)*. Being bullied is associated with lowered ability to make friends and loneliness *(6)*, poor school perceptions *(7)*, psychosomatic symptoms *(8)* and higher levels of substance use *(9)*. The effects are acute but may also persist into later adolescence and adulthood *(10,11)*, with a recent review suggesting that victimization from bullying at school significantly increases the likelihood of depression in adulthood *(12)*.

Students who bully others report elevated rates of health-risk behaviours such as smoking and excessive drinking *(13)*, weapon carrying, fighting and being injured through fighting *(14)*. They also report disconnectedness with parents and negative school perceptions *(15)*. The use of power and aggression in so-called playground bullying may be an indicator of future sexual harassment, marital aggression, child abuse and elder abuse *(7)* and is possibly a marker for future delinquency *(16,17)*.

MEASURES

Being bullied

Olweus *(18)* originally developed the questions on bullying. Young people were asked how often they had been bullied at school in the past couple of months. The question was preceded by the following definition of bullying *(18)*:

> 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.

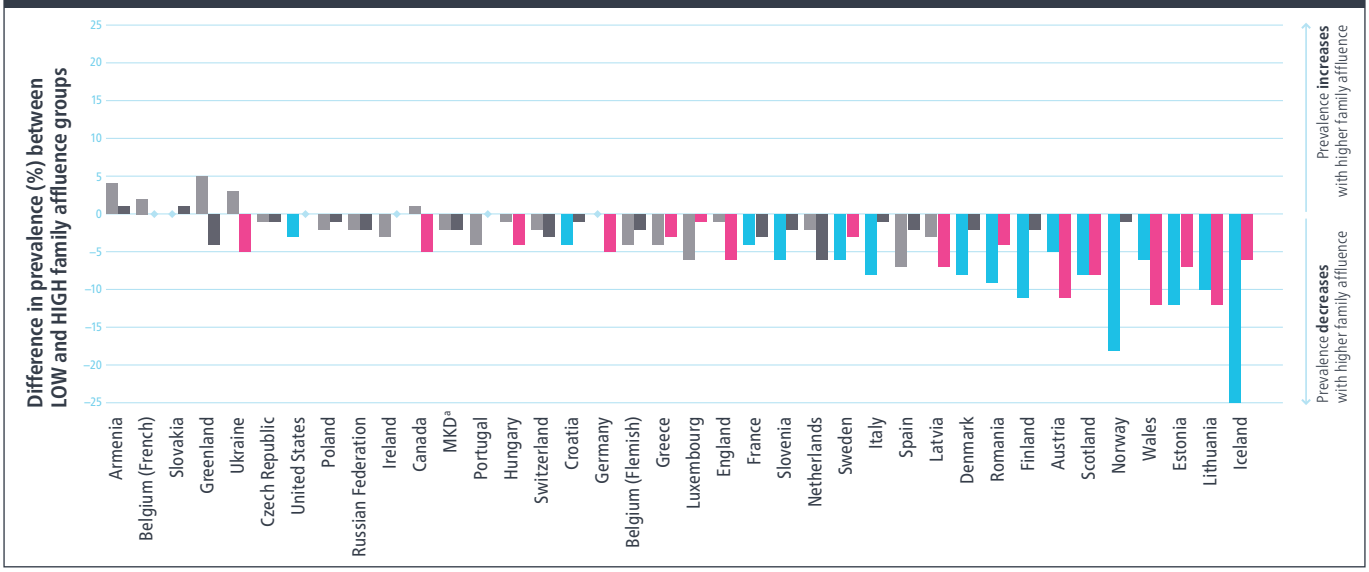
Response options ranged from "I was not bullied at school in the past couple of months" to "several times a week". The findings presented here show the proportions who reported being bullied at least two or three times at school in the past couple of months.

Bullying others

Young people were asked how often they had taken part in bullying (an)other student(s) at school in the past couple of months. The question was preceded by the Olweus definition *(18)*. 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 indicate the proportions who reported bullying others at least two or three times in the past couple of months.

HBSC survey 2009/2010

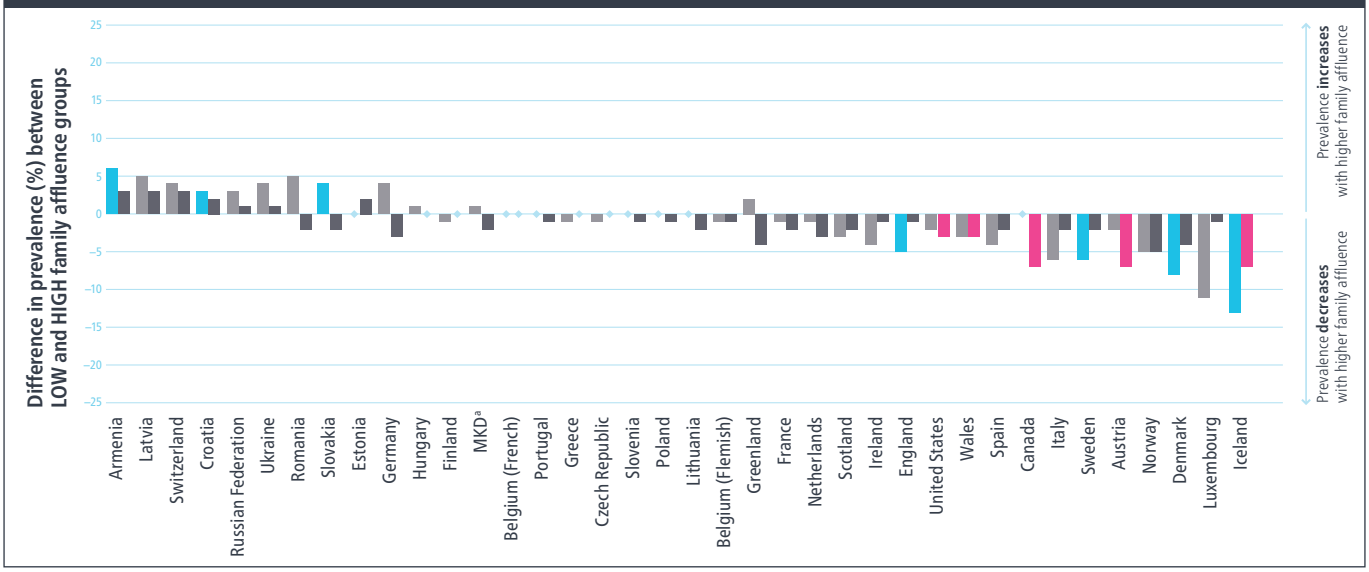
Associations between family affluence and indicators of health, by country/region and gender:
BEING A VICTIM OF BULLYING AT SCHOOL AT LEAST TWICE IN THE PAST COUPLE OF MONTHS



[a] The former Yugoslav Republic of Macedonia. ◆ Indicates less than +/- 0.5%. *Note.* No data available for Turkey.

HBSC survey 2009/2010

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



[a] The former Yugoslav Republic of Macedonia. ◆ Indicates less than +/– 0.5%. *Note.* No data available for Turkey.

RESULTS

Being bullied

Age

Prevalence declined between ages 11 and 15. Significant declines in prevalence were observed in most countries and regions among boys and girls, with the change usually being less than 10%.

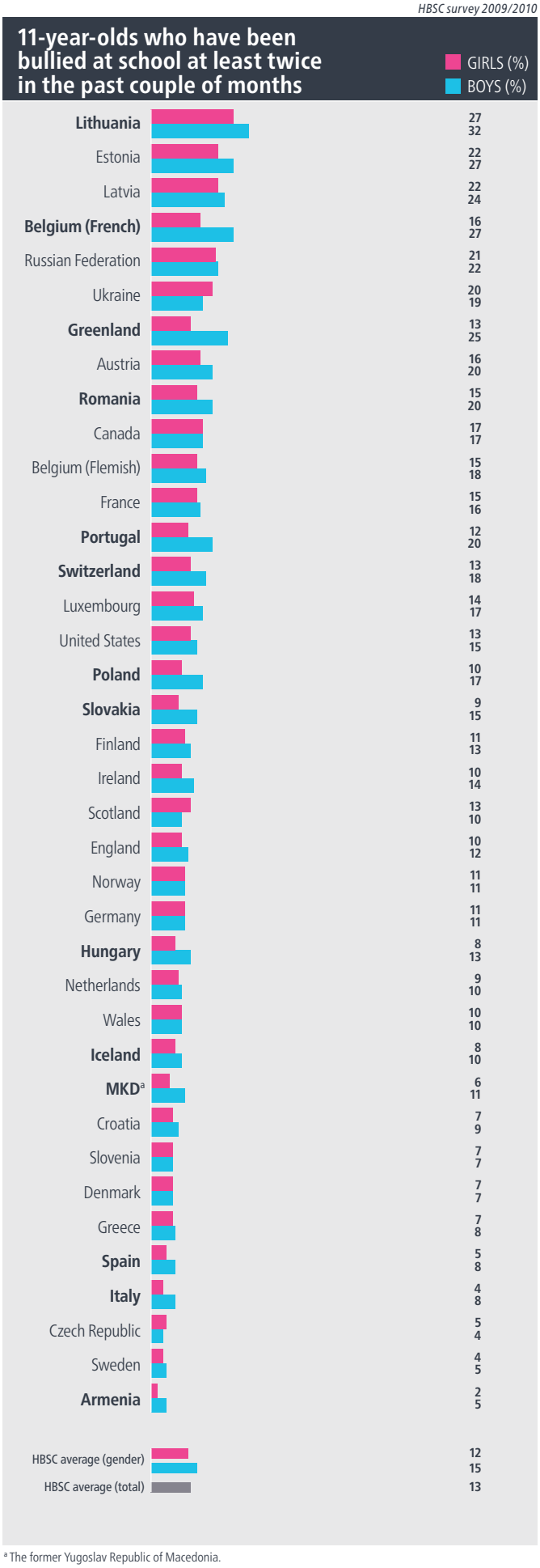
Gender

Boys were significantly more likely to report having been bullied in a minority of countries across each age group. Gender differences were usually less than 10%.

Family affluence

A significant association was found between lower levels of affluence and higher prevalence of being bullied in a minority of countries.

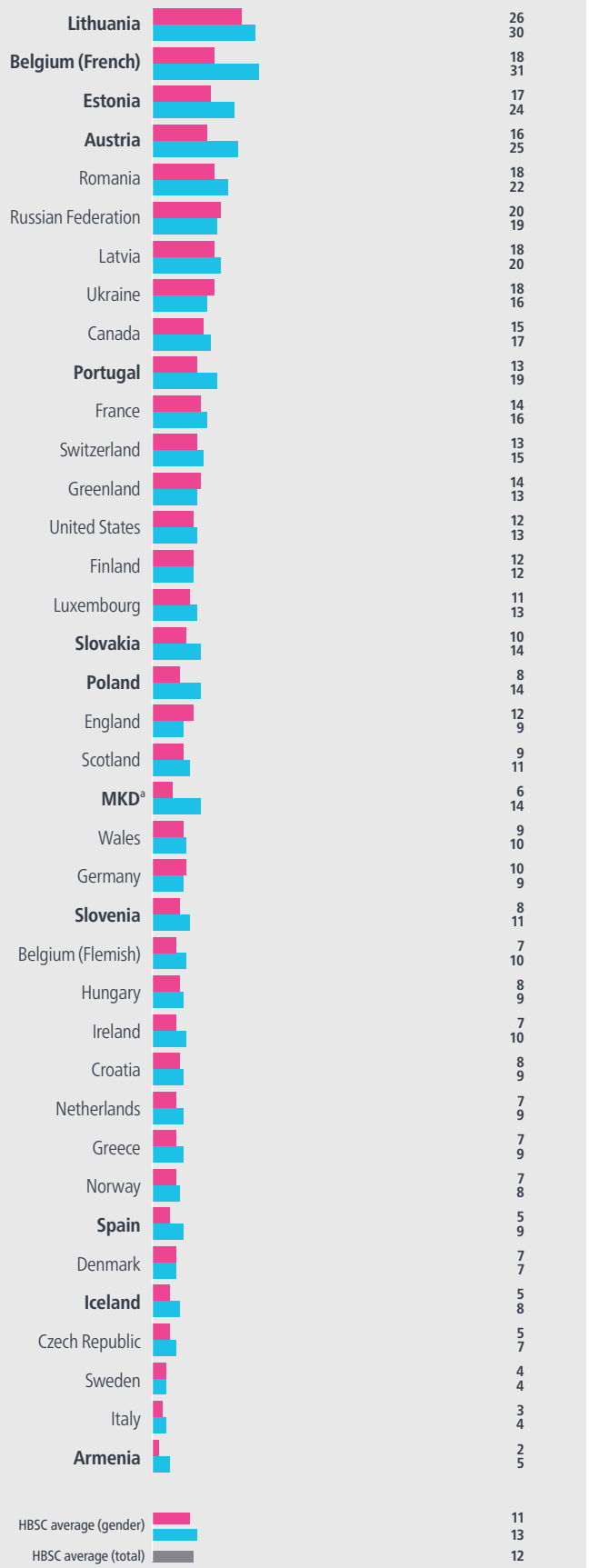
HBSC survey 2009/2010



[a] The former Yugoslav Republic of Macedonia.

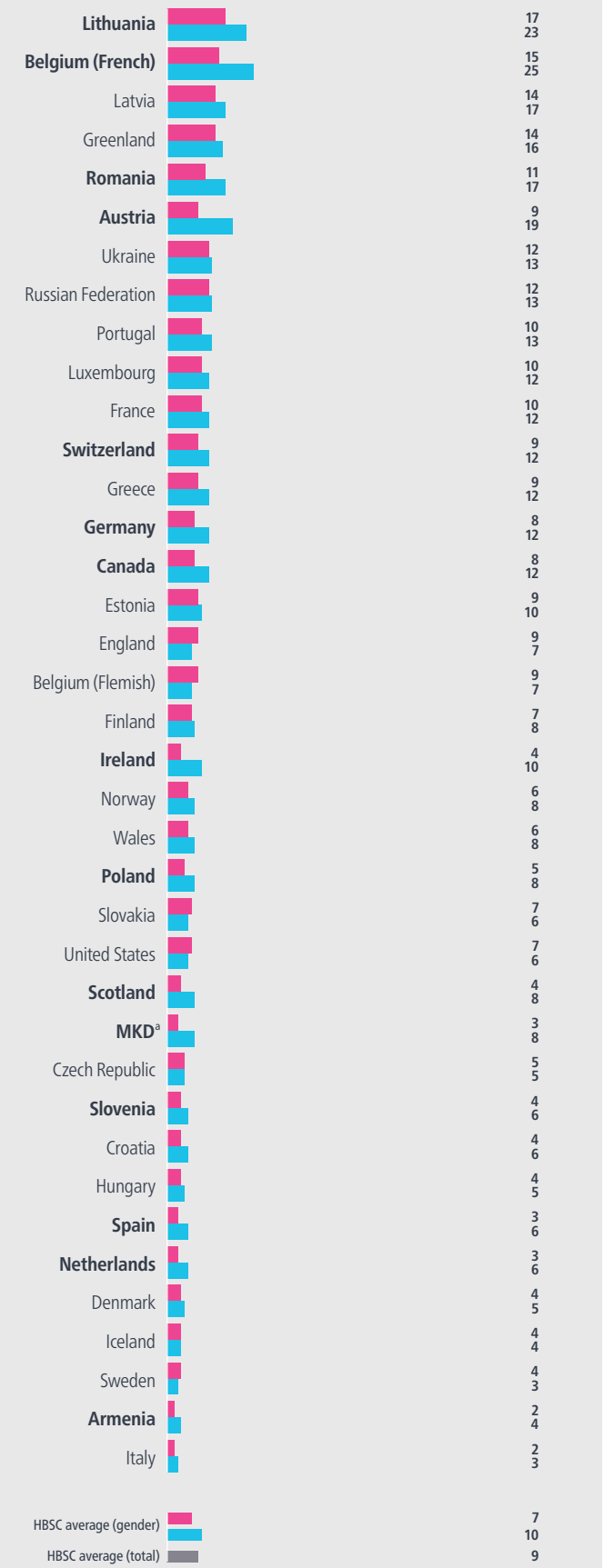
HBSC survey 2009/2010

13-year-olds who have been bullied at school at least twice in the past couple of months



HBSC survey 2009/2010

15-year-olds who have been bullied at school at least twice in the past couple of months



Note. **Indicates** significant gender difference (at p<0.05). No data for Turkey.

RESULTS

Bullying others

Age

The reported prevalence of bullying others significantly increased in between ages 11 and 15 in around half of countries and regions for boys and in just under half for girls. This increase was relatively small in most countries and regions, particularly among girls, and was more than 10% in a few countries among boys.

Gender

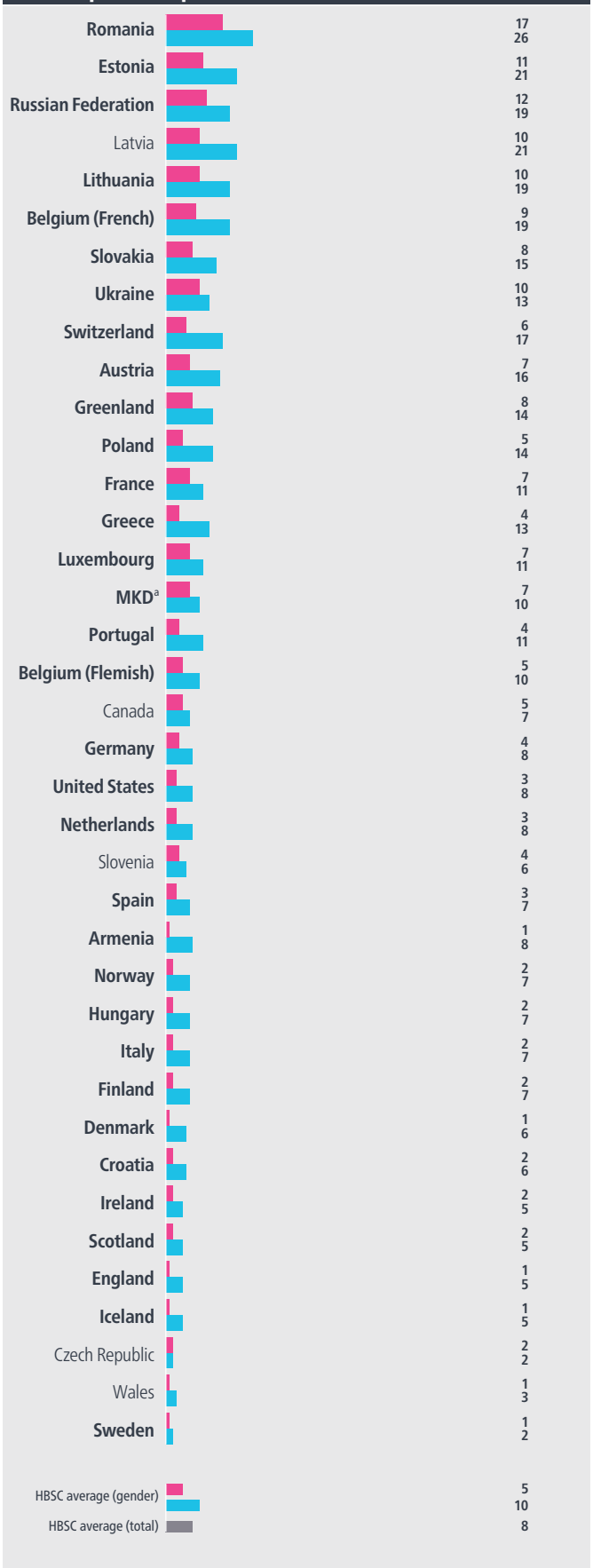
Boys were significantly more likely to report having bullied others. Almost all countries and regions showed this clear gender difference at all ages, with differences being greater than 10% in a few.

Family affluence

Increased prevalence was associated with lower family affluence in only a few countries.

HBSC survey 2009/2010

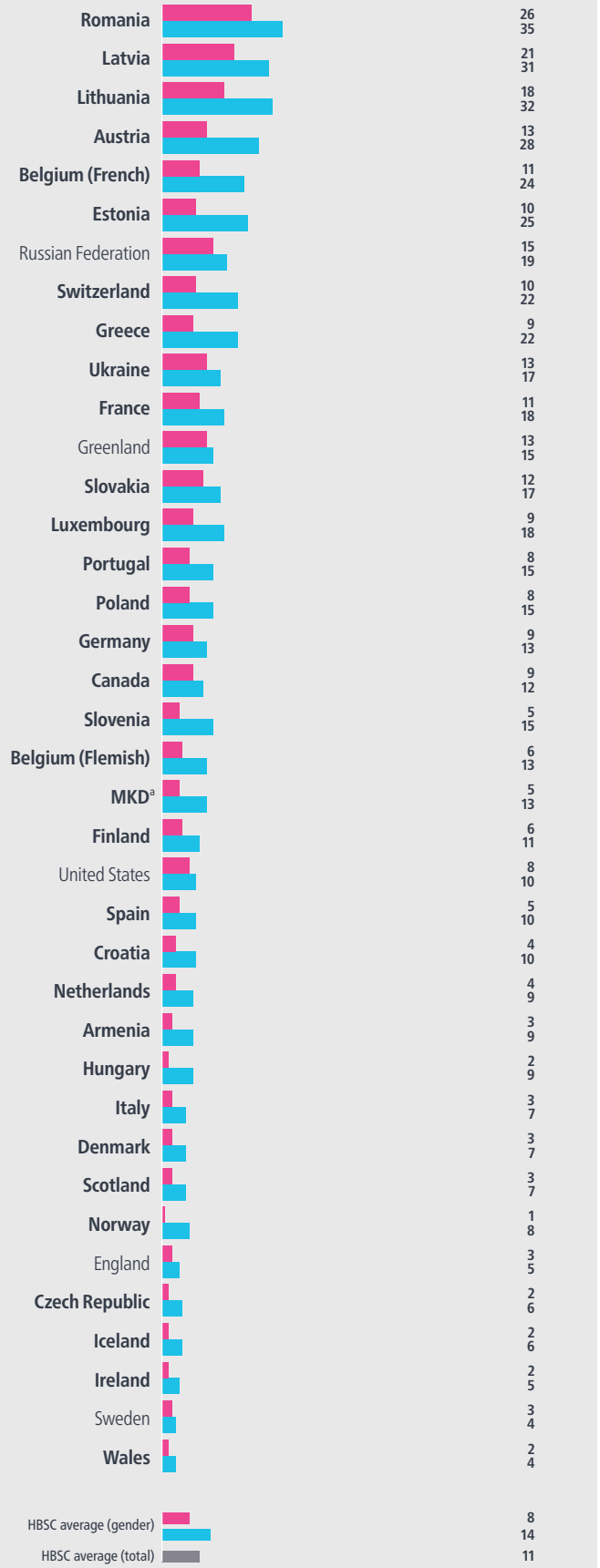
11-year-olds who have bullied others at school at least twice in the past couple of months



[a] The former Yugoslav Republic of Macedonia.

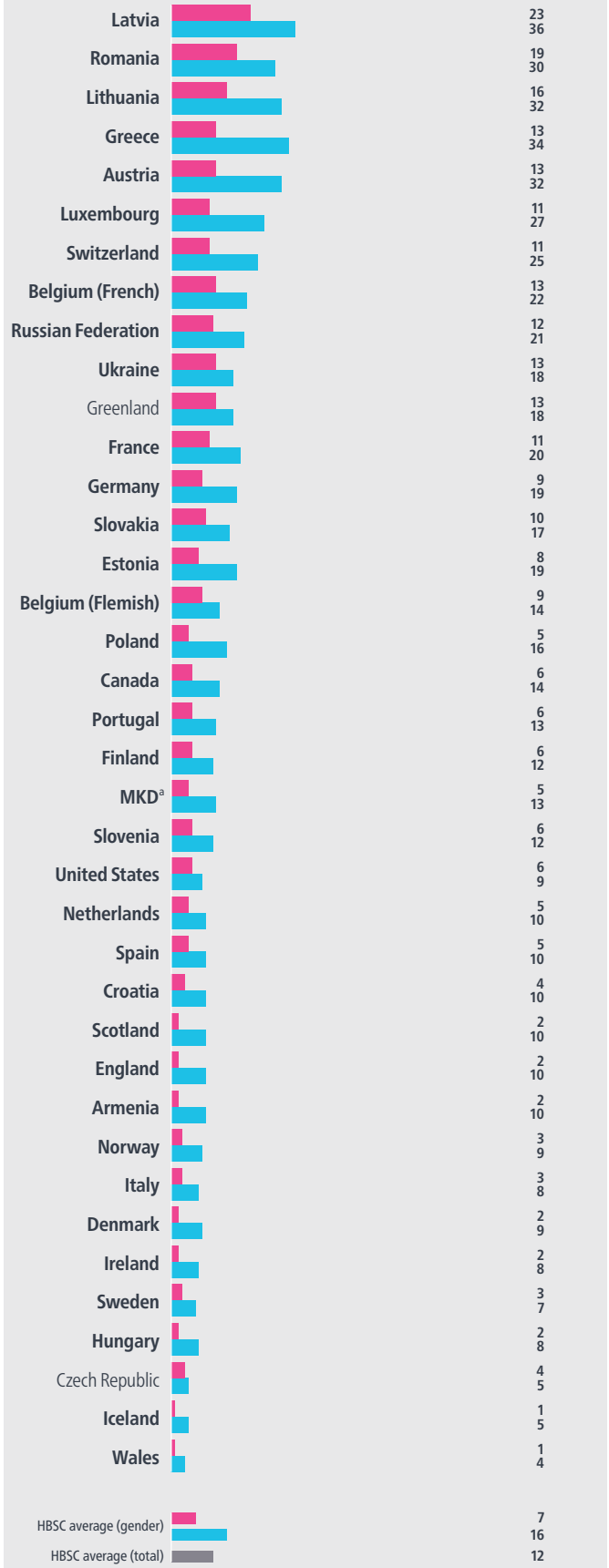
HBSC survey 2009/2010

13-year-olds who have bullied others at school at least twice in the past couple of months



HBSC survey 2009/2010

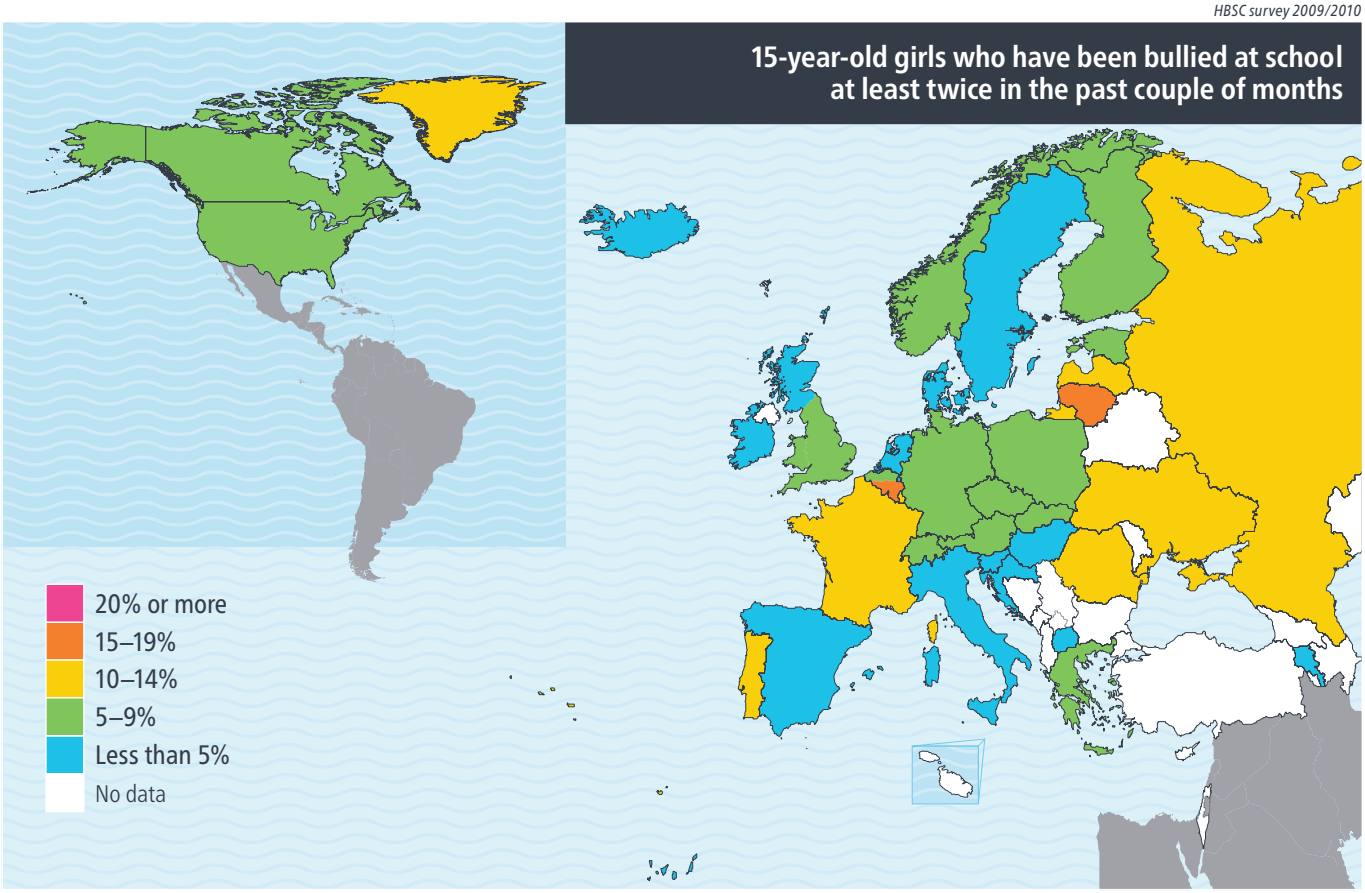
15-year-olds who have bullied others at school at least twice in the past couple of months



Note. **Indicates** significant gender difference (at p<0.05). No data for Turkey.

HBSC survey 2009/2010

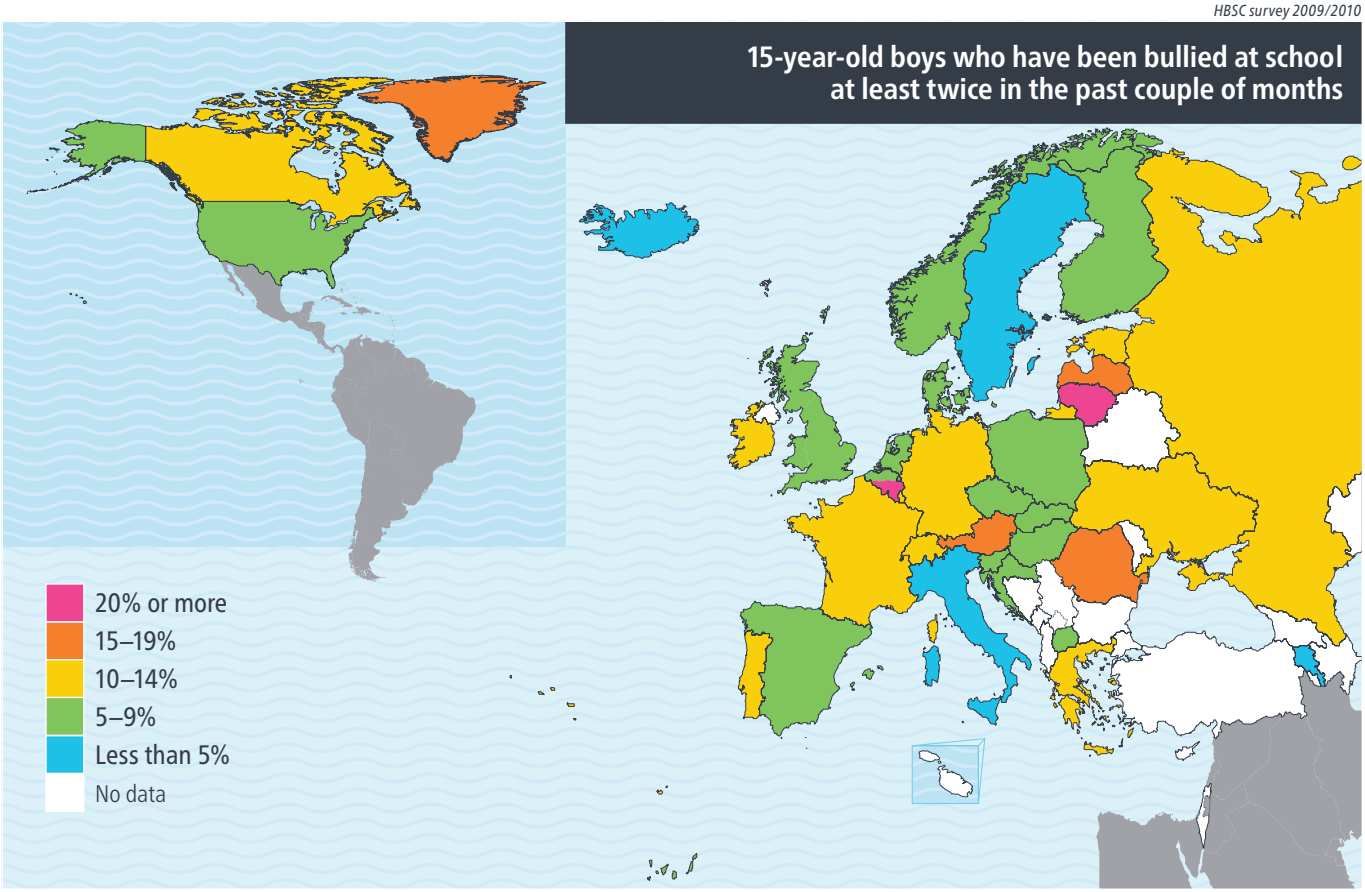
15-year-old girls who have been bullied at school at least twice in the past couple of months



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

HBSC survey 2009/2010

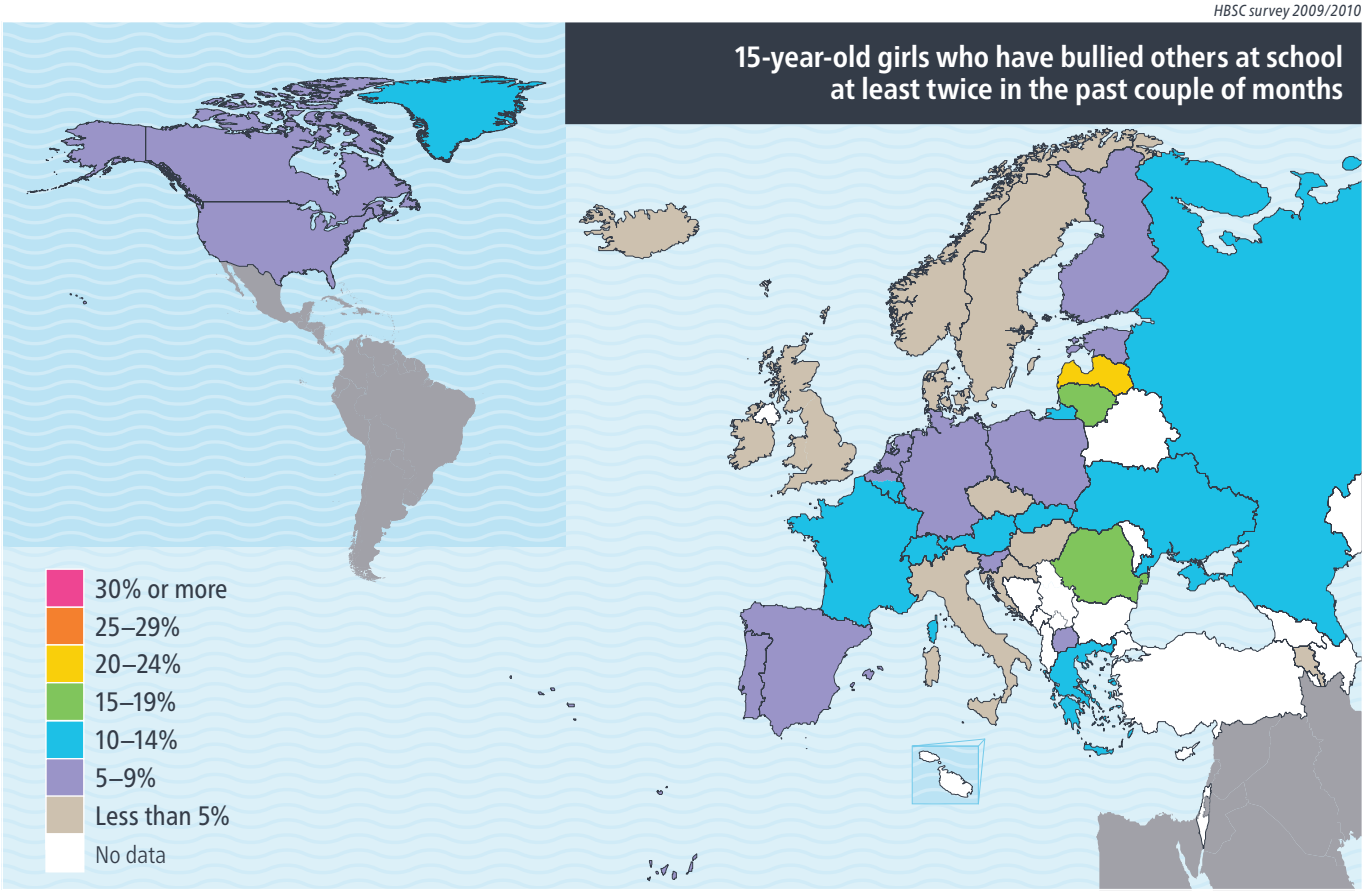
15-year-old boys who have been bullied at school at least twice in the past couple of months



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

HBSC survey 2009/2010

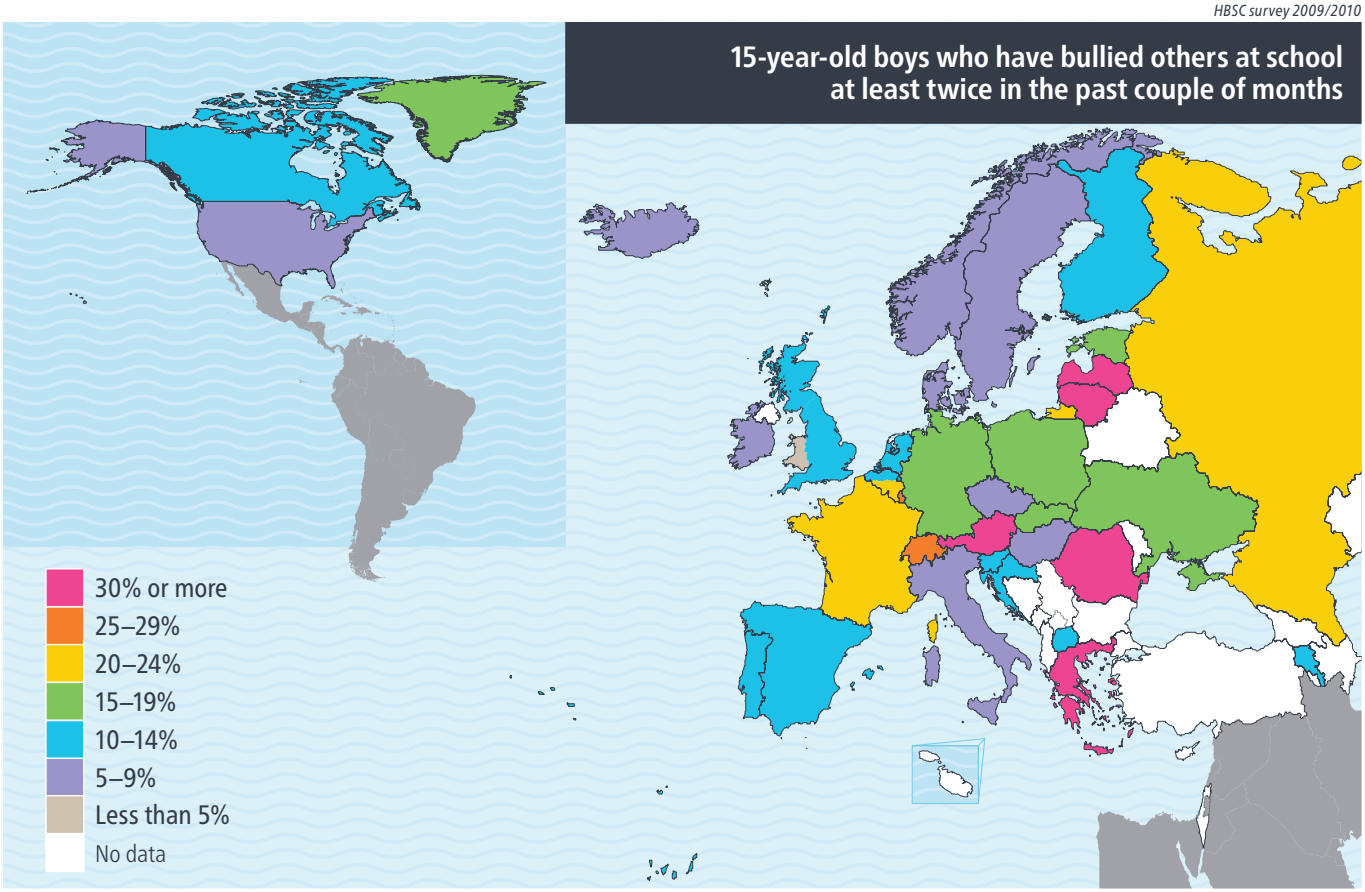
15-year-old girls who have bullied others at school at least twice in the past couple of months



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

HBSC survey 2009/2010

15-year-old boys who have bullied others at school at least twice in the past couple of months



Note. HBSC teams provided disaggregated data for Belgium and the United Kingdom; these data appear in the map above.

BEING BULLIED AND BULLYING OTHERS: SCIENTIFIC DISCUSSION AND POLICY REFLECTIONS

SCIENTIFIC DISCUSSION

Bullying victimization and perpetration are prevalent behaviours among young people, but prevalence rates differ considerably across countries. This suggests that cultural factors may affect and influence its acceptability.

The finding that both victimization and perpetration are more common among boys confirms previous research. Boys and girls may be involved in different types of behaviours, however, with boys displaying more obvious physical expressions. Boys have been found to be more involved in physical, verbal and cyberbullying, with girls more inclined to relational bullying *(19)*. Studies on more subtle and hidden methods may be necessary to better understand gender differences.

POLICY REFLECTIONS

Studies suggest that the prevalence of bullying is decreasing in most countries *(14)*, possibly owing to continuing reduction efforts or changed attitudes and tolerance levels. The HBSC findings, however, show that prevalence remains high in some countries, suggesting the continuing need for prevention and intervention programmes.

Fairly consistent evidence suggests that school-based interventions can significantly reduce adolescents' bullying behaviour, with the opportunities for success being greatest if the intervention incorporates a whole-school approach involving multiple disciplines and the entire school community *(20)*. Staff commitment to implementing the intervention plays a crucial role in its success *(20)*. Curriculum-based interventions or targeted social-skills groups are less effective and may sometimes worsen bullying and victimization *(20)*. Public health policies may play an important role in supporting the implementation of effective programmes at schools and in facilitating future research to identify factors that increase their effectiveness and cost efficiency.

The emergence of new types of bullying involving modern communication technologies, such as cyberbullying, means that prevention and intervention programmes are now challenged to cover a wider range of behaviours. Programmes on cyberbullying have been developed in recent years, including web-based psychoeducational programmes addressing parents, adolescents (victims and perpetrators) and educators. Their effectiveness has not yet been assessed: research on the effectiveness of prevention and intervention programmes on cyberbullying is therefore strongly encouraged *(21)*.

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PART 3.
DISCUSSION

CHAPTER 6.
AGE

AGE

The HBSC study includes 11-, 13- and 15-year-olds, covering the onset of adolescence and the early and middle stages of adolescent development. Rapid changes in physical, emotional and psychological status are taking place at these times, with ongoing transformation of relationships with parents and peers, formation of identity and values, and development of patterns of health-promoting and health-compromising behaviours *(1)*. Pre-existing or emerging health inequalities are associated with health status and have an influence on health quality in adult life *(2)*. It is therefore vital to understand age-related developmental trajectories during the adolescent period, to support and protect young people's health and well-being.

SOCIAL CONTEXT

The HBSC 2009/2010 survey observed age differences in social relations with peers and perceptions of social context in and out of school. Having three or more close friends of the same gender decreases between ages 11 and 15, possibly because of increases in intimacy of friendships. Older students are more likely to spend evenings out with friends and use EMC in most countries.

Age-related trends in perceptions of the school environment become more negative with age: fewer students at age 15 than age 11 report that they "like school a lot". The decline is statistically significant in most countries and regions, and is relatively large, with differences of over 15% reported. Perceived school performance and support from classmates declines with age in almost all countries and regions.

HEALTH OUTCOMES

Strong and similar age trends are seen across health complaints and self-rated health, with an increase in reporting of multiple health complaints and poor or fair health as students grow older. The increase in prevalence of these negative health indicators among girls between ages 11 and 15 is more than 10% in most countries, with smaller increases for boys. Life satisfaction declines with increasing age: this trend is significant among girls in almost all countries.

The average rate of overweight for all countries for ages 11–15 is 14%. Rates of overweight by age groups are relatively similar among boys, but are lower in older age groups for girls. Age trends in weight-reduction behaviour go in opposite directions for boys and girls: 15-year-old girls are more likely to report it than those aged 11, while the survey found the reverse for boys.

HEALTH BEHAVIOURS

Age-related trends for health-promoting and health-compromising behaviours are remarkably consistent. Younger children are more likely to report health-promoting behaviours, and health-compromising behaviours increase with age.

Eating breakfast and fruit daily decreases with age in almost all countries, with the difference between ages 11 and 15 in both genders about 15% or more. Daily consumption of soft drinks tends to increase between ages 11 and 15, with a stronger trend among boys.

Meeting physical activity guidelines (at least one hour of MVPA daily) is significantly more frequent among 11-year-olds than 15-year-olds in almost all countries and regions. Older students watch television more often in most.

RISK BEHAVIOURS

Health-compromising behaviours (particularly smoking and alcohol consumption) seem to increase between ages 13 and 15. The pattern of increase varies by country in older age groups. Increases in weekly smoking, weekly alcohol consumption, drunkenness and cannabis experimentation are seen with rising age for boys. In contrast, the prevalence of medically attended injuries does not show significant variations between ages 11 and 15.

DISCUSSION

The burden of negative health perceptions and health-compromising behaviours increases with age. This finding raises the question of how much of this increase is related to individual characteristics, including general development and adjustment from childhood to adolescence, and how much to experience in the settings in which young people develop (home, school and leisure).

Most young people enter puberty between ages 11 and 15, with associated biological changes and the conscious establishment of identity. Early entrance to puberty is related to increased levels of health-compromising behaviours *(3)*. Young people going through puberty seek new experiences and increased autonomy, but understandings of appropriate levels of these are likely to vary with cultural norms. Relatively few children have entered puberty at age 11: this may explain why there are few variations in health perceptions and health behaviours across countries for 11-year-olds. Such variation is likely to be seen with older groups.

Parents are likely to have a stronger influence on health behaviours than peers on 11-year-olds *(4)*. Parents shape social norms and model behaviours. They are structural facilitators, determining eating, sleeping, studying and leisure times for their children. Parental regulation of a child's day is likely to follow a similar pattern within and across countries, although the extent and type of regulation provided will vary depending on factors such as the perceived maturity of the child.

As children grow older, parents tend to leave room for them to make their own decisions on how to fill their time and with whom to spend it, although some basic restrictions would still apply. Parental norms remain influential in preventing health-compromising behaviours in older age groups *(5)*, but may be operating in competition with influences from peers, which become increasingly important through adolescence *(4,6)*. The peer group is likely to exert a strong influence on young people's daily life, with peer influence being seen through role modelling of in-group behaviour (behaviour that is considered relevant and important to the group, such as smoking or experimenting with alcohol). Peers also provide social support in managing daily activities and coping with stressors, particularly in relation to family-related conflicts *(4)*.

Adolescence consequently represents a time in which young people have increased autonomy over their behaviours and with whom they spend their time, but are expected by parents to be able to take adequate care of themselves in an increasing number of situations. Schools expect young people to accept more responsibility for their learning, allowing opportunities for greater influence on their education but also potentially creating stress *(7)*.

Age-related differences identified in the HBSC survey may represent an interplay between the individual and his or her experiences in different social contexts (with family or peers, at leisure or in school) *(8)*. Research suggests that the same individual and social influences may relate to different health behaviours. Given this effect, identifying individual and social correlates of health behaviours and health becomes increasingly important in the promotion of adolescents' health *(9)*.

Looking at age from a longer-term perspective, social contexts, experiences and health behaviours established in childhood or adolescence may also affect and track into health in adulthood *(10)*. Adolescents who start smoking, for instance, are more likely to continue smoking as adults and face health risks such as cardiovascular diseases and cancer. Stressful experiences in school that lead to increased psychosomatic complaints are also likely to persist into adulthood. Preventing health-compromising behaviours from an early age with interventions that aim to provide young people with opportunities for healthy development is therefore an important factor.

CONCLUSION

Health-compromising behaviours increase for 13- and 15-year-olds, with the extent and pattern of increase varying across countries. This indicates that social, cultural and economic contexts in countries may play an important role in influencing young people's health perceptions and behaviours. Individual trajectories of pubertal change are likely to interact with contextual influences.

The observed age differences in social contexts, health perceptions and health behaviours highlight the need for developing age-differentiated interventions to promote young people's health and well-being. These interventions should, for example, reflect the interplay between pubertal development and contextual influences. The school setting has been identified as a particularly relevant arena for such interventions, using the knowledge and skills of teachers and health support staff *(11)*.

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CHAPTER 7.
GENDER

GENDER

Gender is an important category of social differentiation. Awareness of gender differences and similarities, and understanding and explaining them are prerequisites for designing successful and targeted interventions. Building on such principles, the WHO Regional Office for Europe has stated *(1)*:

> To achieve the highest standard of health, health policies have to recognize that women and men, owing to their biological differences and their gender roles, have different needs, obstacles and opportunities.

Biological factors (including hormonal changes, physical changes associated with the development of secondary sexual characteristics and brain maturation *(2)*) and social expectations of what is regarded as male or female (gender roles) are relevant in this context. Gender roles stem from biological differences but are shaped by society. They can therefore be modified and are likely to differ across countries *(3)*.

This section presents an overview of gender differences in adolescent health and health-related behaviours across Europe and North America. The HBSC survey shows where clear gender differences exist and where there is gender equality, with patterns varying from country to country. Information on gender is important in influencing the design of interventions and strategies for health promotion and disease prevention, which may need to be tailored differently for girls and boys.

SOCIAL CONTEXT

Country variation in the extent of gender differences suggests that social and cultural factors play an important role in shaping gender roles, health outcomes and health behaviours for girls and boys. HBSC gathers information on key social contexts (such as young people's social support from family, peers and school), enabling an examination of gender differences in these relationships and investigation of how they may affect health.

Boys are more likely to report having multiple friendships and spend more time with friends, but the gender pattern changes for EMC, with girls reporting more social interaction.

When asked about ease of communication with parents, boys are more likely to report that they find it easy to talk to their fathers about things that really bother them. No clear gender differences exist for communication with mothers.

Girls are more likely to report high satisfaction with school and high perceived academic achievement, indicating that they have more positive school experiences. No clear gender differences are found for classmate support. The gender pattern for school-related pressure changes with age, being more prevalent among younger boys and older girls.

HEALTH OUTCOMES

Despite social changes and narrowing gender gaps in many areas, gender differences in health and well-being persist. Girls describe lower self-rated health and life satisfaction, with the gender difference being greatest in older age groups, and report fair or poor health and psychosomatic complaints more frequently. Boys have a higher prevalence of medically attended injuries.

Boys are more likely to be overweight or obese, with the gender difference increasing with age. Girls are nevertheless more likely to report being dissatisfied with their bodies and feeling they need to lose weight.

HEALTH BEHAVIOURS

HBSC identifies clear gender differences in young people's health behaviours. Girls consume fruit more frequently and are less likely to take soft drinks. They also, however, skip breakfast more frequently and are more likely to be on diets to control their weight. Boys are more likely to engage in physical activity and girls are consistently more likely to report that they brush their teeth more than once a day.

RISK BEHAVIOURS

Clear gender differences are also found for health-compromising behaviours. Boys in general report drinking alcohol more frequently and more boys have been drunk before the age of 13. Drunkenness tends to be more prevalent among boys, as is use of cannabis. The patterns are less consistent for early sexual behaviour. Boys are more likely to report having had sexual intercourse in some regions (mainly in eastern European countries), and girls in others (mainly northern and western Europe).

Boys at all ages are generally more likely to be weekly smokers, although older girls report higher smoking rates in some countries. Boys are consistently more likely to report being involved in fighting and having bullied others; they are also more likely to have been bullied.

DISCUSSION

HBSC data reflect gender-specific social relationships shaped by gender socialization, the process by which boys and girls learn feminine and masculine identities, and by societal expectations, which may differ across countries *(4)*. Gender socialization leads to gender-specific modes of coping with adolescence that affect the development of health-risk behaviours and social networks *(5)*. Boys' social networks are based on activities, with higher levels of physical activities and sports, while girls' networks and friendships are based on personal communication. Both seem to use EMC primarily to reinforce existing relationships *(6)*.

In many countries and regions, girls perform better at school. Boys are lagging behind; they dislike school more often and rate their achievement lower. School-based factors, such as teaching practices and examination systems, may make schools more appealing to girls *(7)*.

Persistent gendered patterns in self-rated health, with girls reporting lower subjective health, require attention. They may reflect higher expectations for daily life among girls or a gender bias in measuring self-rated health. HBSC questions might focus on female-specific reactions to stress (such as headache, stomach ache and feeling nervous), rather than anger-based reactions more frequently seen among boys *(8,9)*

Differences in body satisfaction can be attributed to physical changes in puberty. Boys' bodies change in the desired direction, becoming more muscular and strong, while girls lose their so-called ideal appearance through gaining body fat.

Girls eat fruit and vegetables more often but also tend to skip breakfast, engage in weight-reduction strategies and take part in less physical activity. These behaviours reflect awareness of health, but also high concerns over body image. An Australian study of girls' non-participation in sports notes that girls defined sports as "uncool"; they felt they were crossing traditional gender boundaries when playing sports and had concerns about developing a masculine appearance *(10)*.

Gender differences in smoking seem to be changing, and vary significantly between countries *(11)*. Boys smoke more than girls in eastern European countries, and while previous HBSC surveys found that girls in some western European countries and Canada smoked more, no gender differences are now evident. A social gradient in smoking is currently more important than gender differences in countries with higher SES, while male smoking is dominant in lower-SES countries.

Boys use cannabis and alcohol more often and report physical fights and bullying more frequently. These health-compromising behaviours can be considered gendered, with young people attempting to behave in accordance with dominant norms of masculinity and femininity: heavy drinking among boys, for example, and weight control among girls *(12)*. Differences in numbers of injuries sustained can also be interpreted by gender stereotypes, pushing boys to perform more risky behaviours to fulfil notions of masculinity *(12)*.

CONCLUSION

Health promotion and disease prevention efforts need to take account of the observed gender differences in health and health behaviour. Gender-specific means of communicating health messages may be needed, with schools-based promotion and prevention activity giving greater attention to addressing boys' needs.

Girls' self-esteem remains strongly related to body image. This calls for mental health promotion to give stronger emphasis to strengthening girls' self-esteem and preventing them from developing negative ideas about their bodies. More generally, health-promotion activity should target boys, as they report higher levels of health-compromising behaviours.

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CHAPTER 8.
FAMILY AFFLUENCE

FAMILY AFFLUENCE

Social inequalities are observed for most outcomes, with higher family affluence in general being associated with better health outcomes, health behaviours and positive social contexts with respect to family, peers and school. The picture for risk behaviours, however, is more complex, often presenting an absence of association with family affluence.

SOCIAL CONTEXT

Young people from higher-affluence families have better communication with mothers and fathers, higher classmate support and more close friends. They also have higher perceived school achievement, but this is not systematically related to perceived school pressure and liking school.

HEALTH OUTCOMES

Inequalities related to family affluence are evident across a range of health outcomes. Higher FAS scores are significantly positively associated with self-rated health and life satisfaction, but negatively with prevalence of perceived health complaints (significant for both genders and most countries). Prevalence of overweight and perception of being too fat are negatively associated with family affluence in about half of countries, with the pattern being stronger in western countries. Medically attended injuries, however, increase with higher family affluence.

HEALTH BEHAVIOURS

Higher affluence is associated with higher MVPA, higher fruit intake and, to some extent, lower soft drink intake, and children from higher-affluence families are more likely to eat breakfast daily. A significant association between low affluence and lower prevalence of daily MVPA is found in a minority of countries. Higher family affluence tends to be related to lower prevalence of watching two or more hours of television every weekday.

RISK BEHAVIOURS

As a notable exception to the other domains of health, no clear pattern of health inequalities emerges in risk behaviours. Family affluence appears to be less influential for alcohol use and risky drinking than for other domains. In the rare cases in which a relationship emerges, it is in the opposite direction to other domains. Higher FAS is associated with greater health-compromising behaviours such as alcohol use, with a significant association between higher rates of weekly drinking and high family affluence in a minority of countries and regions for boys and in a few for girls. Some countries show a significant association between high family affluence and higher rates of early drunkenness.

Recent cannabis use is significantly associated with high family affluence in only a few countries and mainly among boys, but weekly smoking is more prevalent among boys and girls from low-affluence families in most countries. This relationship is significant in 9 countries for boys and 13 for girls: weekly smoking was significantly positively associated with family affluence only in Romania.

DISCUSSION

No single explanation can account for inequalities existing across contexts and health domains. The mechanisms involved in creating social inequality in number of close friends, for example, are likely to be different to those related to MVPA and fruit consumption *(1)*. Material wealth might represent a marker of attractiveness and popularity in relation to number of close friends *(2)*, but is a necessary factor in ability to purchase fruit *(3)*, particularly in countries where fruit is expensive. This illustrates a high degree of specificity in the mechanisms involved in SES *(4)*. Although family affluence is a marker of material wealth, the underlying processes need not be strictly material.

The reported inequalities in general health outcomes largely mimic results from previous HBSC surveys *(5,6)* and studies *(7–9)* and reinforces recognition of health inequalities in young people. Differences partially reflect social-patterned differences in stress exposure, coping and health behaviour *(9,10)*, reflecting behavioural, psychosocial and material processes. This might provide an indication of accumulated risk associated with SES. General health outcomes, such as self-rated health and life satisfaction, are therefore of particular value as markers of inequality in a given society.

Observed relationships between higher affluence and diet patterns are consistent with previous studies *(11,12)*. The relative expense of fruit compared to other food alternatives might explain some of the inequality *(3)*, and economic factors might also contribute to the pattern observed in daily breakfast consumption, where low-affluence families may face difficulties in purchasing nutritious breakfast foods.

It has been suggested that peer, school and media influences have an equalizing effect on adolescent health outcomes *(13)*. This appears to be valid only for a subset of the outcomes, most notably risk behaviours. The relative absence of social inequalities in risk behaviours might seem striking, given the pattern observed for other health domains and contexts. The lack of association, however, is consistent with other studies *(14,15)* and previous HBSC surveys *(5,6)*. Risk behaviours tend to develop in a period in which family influence is reduced and other social influences are raised *(6)*, particularly from peers and social networks *(16)*. In line with the notion of equalization, the role of family affluence becomes less important under these normative influences.

The family context is the epicentre of health inequality, but patterns of inequality related to family wealth clearly spread to school and peer arenas. Family affluence has a significant positive association with perceived school performance in most countries, and with perceived classmate support in almost half. Education and schooling are key instruments in reducing health inequalities, so it is important to observe that the current situation in schools seems to be one of social reproduction, with better school achievement and more support for children from high-affluence families: this can be described as the educational pathway of social inequalities in health *(1)*.

The establishment of friendship relations with peers represents a critical developmental task during adolescence and is associated with higher levels of psychosocial well-being and positive development *(17)*. In line with other research *(18)*, the HBSC results suggest that adolescents may experience different opportunities to create social ties with peers. Those from lower-affluence families are less likely to report having three or more friends. Prevention and promotion efforts should therefore focus on promoting friendships among adolescents coming from disadvantaged contexts (such as low-income families or countries), to overcome some of the obstacles to the creation of social ties.

CONCLUSION

One of the unique aspects of the most recent HBSC survey is the ability to generalize patterns of health inequalities across countries and regions. In line with findings from several other studies, the direction of health inequalities shows high consistency. A split in effects is observed for a few outcomes, however, with significant positive associations found in some regions and significant negative in others. The survey did not include information that could explain the regional split.

The HBSC survey's reliance on a single indicator of SES presents a potential limitation. SES is a multidimensional construct *(19)*, and a stronger understanding may be obtained if multiple indicators of inequality are available. This points to a central challenge in health research: the construction of SES indicators that are developmentally appropriate and "culture-fair" *(20,21)*. Alternative indicators such as these do not currently exist, and cross-national comparability of traditional indicators of SES (income, education and occupation) is questionable for this age group. In the current situation, FAS represents the best available measurement option.

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CHAPTER 9.
CONCLUSION

CONCLUSION

Results from the 2009/2010 HBSC survey indicate that young people across countries report good health and high life satisfaction, healthy behaviours and positive experiences and relationships in family, school and wider community settings.

Significant inequalities in health and social indicators according to age, gender and SES are nevertheless evident. Self-reported health and life satisfaction decrease with age, and are poorer among girls and young people from less-affluent families. A substantial portion of young people engage in behaviours that compromise their health, such as smoking, alcohol use and low consumption of fruit and vegetables. These behaviours show increasing prevalence with age and with decreasing SES, and are more common among boys. Subjective health complaints also increase with age, but are more prevalent among girls.

Inequalities related to age and gender are observed for stress experienced in school, with increasing stress perceptions for 15-year-olds and higher rates among girls. Girls aged 15 are likely to report a lower number of close friends than boys and younger girls, and girls and boys in lower socioeconomic groups also report fewer close friends than those from higher-affluence backgrounds. In the family setting, young people in older age groups and lower socioeconomic groups are more likely to report difficulties in communicating with their mothers.

Systematic differences related to age, gender and SES across health, health behaviour outcomes and experiences in different life settings produce inequalities in health that call for international and national policies and actions. These need to address the determinants of observed health inequalities in childhood and adolescence, so that all young people have the opportunity to maximize their current and future health and well-being and that identified inequalities do not extend into adulthood, with all the negative consequences this may have for human life and societal development.

Health promotion programmes should be sensitive to age, gender and socioeconomic differences in adolescents' developmental trajectories and should aim to provide equal opportunities for all. They should address not only health and health behaviour outcomes, but also the social context in which young people live. Broad-scope actions such as these will help to prevent and diminish health inequalities and stimulate continued positive development for young people regardless of inequalities.

The evidence base around age, gender and socioeconomic inequalities in health and well-being must continue to develop, to inform improvements in the effectiveness of health-promotion actions and policies. The unique HBSC data provide a rich resource for such work.

Developing a robust evidence base on the social influences of young people's health is not, however, sufficient to secure positive outcomes. The HBSC network is working with WHO to develop a process to ensure that evidence not only informs but also influences, policy and practice development.

Data presented in this report point to a range of policy options that, if implemented, could contribute to overall improvements in young people's health and the reduction of health inequalities. Beyond policy development, attention must also be given to the prerequisites of effective implementation.

It has been argued that one of the reasons behind programme failure in the implementation phase is overemphasis on the "deficit model" *(1)*, an approach characterized by assessing problems and needs rather than identifying the conditions required by individuals and communities to maximize their health potential. The "asset model" *(2)* provides a systematic approach to identifying a set of key assets for health and the most effective approaches to promoting health and development. The HBSC study is aligned to this model, as shown at a recent international symposium where strong arguments (based on HBSC data) were developed on how personal and environmental resources can be harnessed to support healthy development *(3)*.

This report's overall aim is to stimulate a research and policy dialogue to support the development of international actions to enable young people to experience optimum health and well-being. HBSC provides a powerful tool for utilizing cross-national comparisons to promote policy action in two distinct ways:

- new data and trends presented in international reports help to raise awareness of national priority health and social issues; and
- additional analysis enables the effects that social and economic change, policy and legislation have on well-being outcomes to be assessed, supporting both national and international policy development.

The latter is already being achieved through a programme of HBSC research focusing on time trends that will provide a broader picture of how young people's health has been influenced by wider social and economic changes over the last few decades. From this, new research topics on inequalities in adolescent health are being developed for the 2013/2014 HBSC survey.

The HBSC network will continue to develop initiatives that optimize the potential for its unique data to help secure the health of young people now and for the future.

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ANNEX. METHODOLOGY AND SUPPLEMENTARY DATA TABLES

METHODOLOGY AND SUPPLEMENTARY DATA TABLES

HBSC METHODOLOGY FOR THE 2009/2010 SURVEY

Here is an overview of the research methods used by the HBSC network during the 2009/2010 survey. More information about these methods can be obtained by registering online for a copy of the 2009/2010 HBSC international study protocol *(1)* or referring to Roberts et al. *(2)*.

Sample design

The sample for each country is designed to elicit national-level data about young people aged 11, 13 and 15 years and attending school. Country teams are required to include at least 95% of children within these age groups in the sample frame. The small proportion of children excluded in each country includes those who are not in school or who attend schools for children with needs for additional support.

Each country team used a stratified cluster probability sampling scheme with school class as the sampling unit. Countries timed their data collection so that the mean ages of pupils within the samples were as close as possible to 11.5, 13.5 and 15.5 years. The mean age can be achieved through sampling young people across all school years containing the target age groups (for example, where there is a significant amount of advancement or school-year repetition of students) or targeting school years in which almost all young people in each age group are found. In the latter case, data collection is scheduled as close as possible to the date that determines school entry to ensure that most 11-, 13- and 15-year-olds are captured.

The recommended sample size was 1500 in each age group in each country; based on previous analyses of HBSC data, this sample size will ensure a 95% confidence interval in each age group of ±3% around an estimated proportion of 50%. The recommended sample size includes a design factor (deft = 1.2) that takes into account the effect of the sample design (clustering, stratification and weighting) on the precision of estimates. For example, using cluster sampling decreases precision compared with simple random sampling of the same number of individual students, reflecting the likelihood of individuals within the same class or school having similar characteristics. A larger sample must therefore be taken when using cluster sampling than with simple random sampling to maintain a desired level of precision.

In practice, many countries chose to sample more than the minimum sample size in each age group to increase precision of estimates in subpopulations. A census survey approach was considered appropriate in Iceland and Greenland owing to the small populations of young people in these countries. The sample frame in the Russian Federation covered a number of regions rather than the total national territory.

Survey administration

Self-report anonymized questionnaires were administered in schools between October 2009 and May 2010 in almost all countries. They were administered by researchers in some countries and by teachers in others, using a standard protocol provided by country teams. Appropriate ethical consent for the study was gained in all countries and in individual schools. Parents and children were provided with standardized information about the study and invited to participate. See the table below indicating the data collection period for each country and region included in this report.

TABLE. FIELDWORK DATES 2009/2010 HBSC SURVEY

Country	Dates	Country	Dates
Armenia	April–May 2010	Lithuania	February–May 2010
Austria	May–June 2010	Luxembourg	May–July 2010
Belgium (Flemish)	May–June 2010	Netherlands	October–December 2009
Belgium (French)	March–June 2010	Norway	December 2009–June 2010
Canada	September 2009–June 2010	Poland	February–April 2010
Croatia	March–June 2010	Portugal	November 2009–January 2010
Czech Republic	June 2010	Romania	April–May 2010
Denmark	February–March 2010	Russian Federation	February–May 2010
England	September 2009–July 2010	Scotland	January–April 2010
Estonia	February–April 2010	Slovakia	May–June 2010
Finland	March–May 2010	Slovenia	January–February 2010
France	April–June 2010	Spain	March–June 2010
Germany	February–July 2010	Sweden	November–December 2009
Greece	February–March 2010	Switzerland	January–April 2010
Greenland	April–June 2010	MKD[a]	October 2010
Hungary	March–May 2010	Turkey	May 2010
Iceland	November 2009–February 2010	Ukraine	February 2010
Ireland	April–June 2010	United States	October 2009–May 2010
Italy	November 2009–March 2010	Wales	October 2009–Jan 2010
Latvia	November 2009–February 2010		

[a] The former Yugoslav Republic of Macedonia.

Survey response, achieved sample size and mean ages

Response rates were over 60% in most countries. The most commonly cited reasons for not responding were schools electing not to participate owing to pressures on time and recent participation in other surveys. More details on response rate are available from the HBSC web site *(3)*.

The achieved sample size in each age group was at or above the study aim of 1500 students in most countries. This was not expected in Greenland and Iceland for reasons cited above (see table below).

TABLE. NUMBER OF RESPONDENTS IN THE 2009/2010 HBSC SURVEY

Country	Gender		Age group			Total
	Boys	Girls	11-year-olds	13-year-olds	15-year-olds	
Armenia	1 343	1 490	889	1 029	915	2 833
Austria	2 456	2 547	1 457	1 726	1 820	5 003
Belgium (Flemish)	2 086	2 094	1 501	1 453	1 226	4 180
Belgium (French)	1 985	2 027	1 275	1 396	1 341	4 012
Canada	7 711	7 999	4 490	5 779	5 441	15 710
Croatia	3 012	3 240	1 879	1 949	2 424	6 252
Czech Republic	2 135	2 269	1 426	1 456	1 522	4 404
Denmark	1 914	2 132	1 558	1 262	1 226	4 046
England	1 522	1 981	1 185	1 200	1 118	3 503
Estonia	2 022	2 202	1 416	1 410	1 398	4 224
Finland	3 179	3 428	2 345	2 152	2 110	6 607
France	3 030	2 990	2 042	2 072	1 906	6 020
Germany	2 406	2 549	1 687	1 628	1 640	4 955
Greece	2 380	2 519	1 639	1 612	1 648	4 899
Greenland	586	619	384	424	397	1 205
Hungary	2 257	2 530	1 473	1 581	1 733	4 787
Iceland	5 569	5 480	3 623	3 746	3 680	11 049
Ireland	2 522	2 202	1 148	1 881	1 695	4 724
Italy	2 408	2 403	1 585	1 680	1 546	4 811
Latvia	2 054	2 210	1 492	1 397	1 375	4 264
Lithuania	2 740	2 583	1 811	1 720	1 792	5 323
Luxembourg	2 044	2 028	1 079	1 611	1 382	4 072
Netherlands	2 219	2 301	1 483	1 580	1 457	4 520
Norway	2 171	2 167	1 679	1 320	1 339	4 338
Poland	2 065	2 176	1 395	1 436	1 410	4 241
Portugal	1 878	2 158	1 183	1 300	1 553	4 036
Romania	2 647	2 705	1 624	1 726	2 002	5 352
Russian Federation	2 576	2 598	2 052	1 275	1 847	5 174
Scotland	3 319	3 419	2 055	2 116	2 567	6 738
Slovakia	2 561	2 720	1 427	1 940	1 914	5 281
Slovenia	2 761	2 668	1 803	1 811	1 815	5 429
Spain	2 466	2 574	1 257	1 780	2 003	5 040
Sweden	3 312	3 333	2 264	2 291	2 090	6 645
Switzerland	3 320	3 291	1 843	2 522	2 246	6 611
MKD[a]	1 952	1 945	1 079	1 282	1 536	3 897
Turkey	2 652	2 922	1 902	1 912	1 760	5 574
Ukraine	2 809	3 081	2 131	1 862	1 897	5 890
United States	3 260	3 014	1 903	2 479	1 892	6 274
Wales	2 746	2 665	1 885	1 889	1 637	5 411
TOTAL	**102 075**	**105 259**	**66 349**	**70 685**	**70 300**	**207 334**

[a] The former Yugoslav Republic of Macedonia.

The achieved mean ages across the whole sample were 11.6, 13.5 and 15.5 years (see table below). Deviations ranged from 11.1 to 11.8 in the youngest age group, with similar patterns among those aged 13 and 15. These are largely explained by countries taking the targeted approach to sampling but being unable to undertake data collection around the date determining school entry.

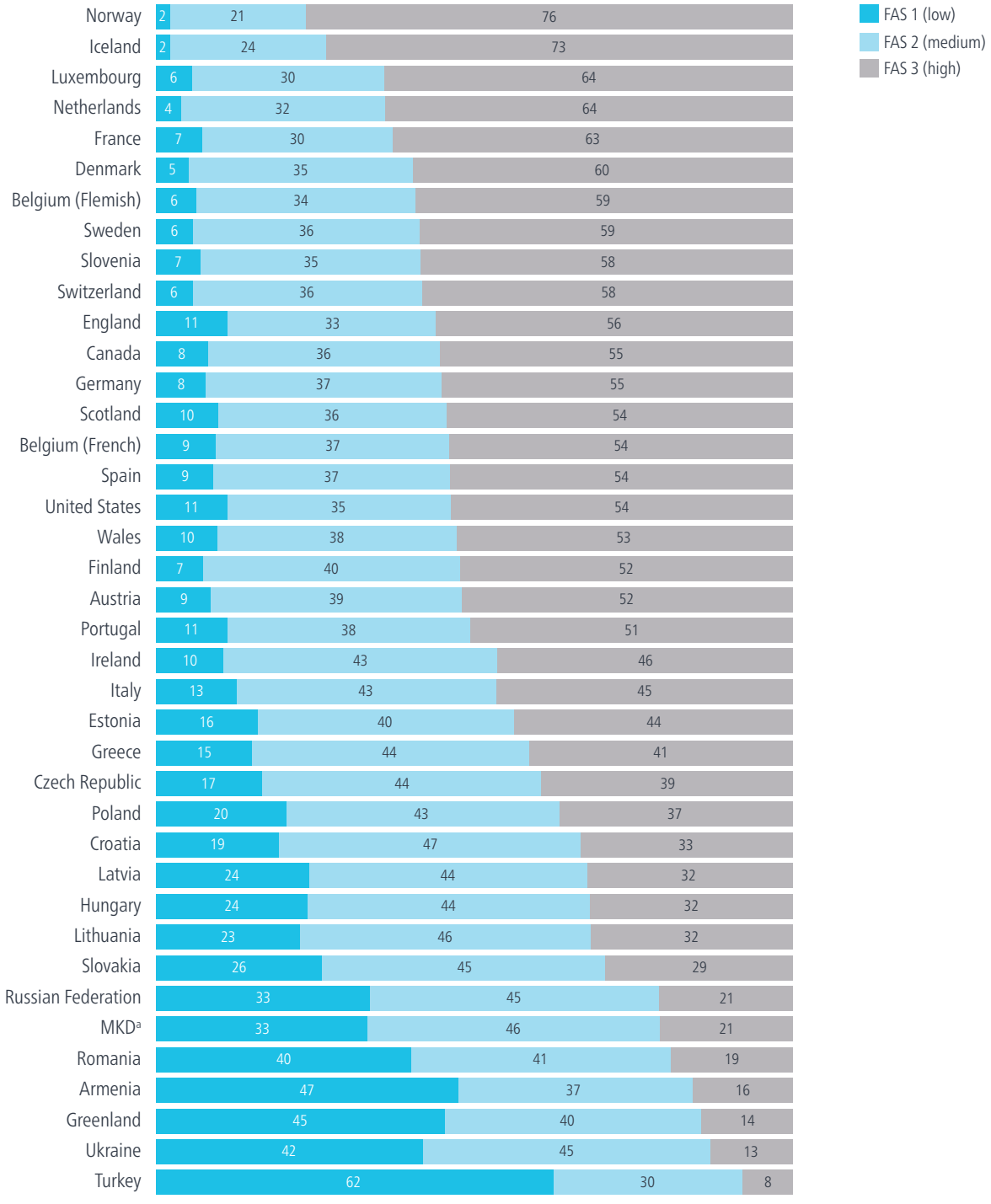
TABLE. MEAN AGES IN THE 2009/2010 HBSC SURVEY

Country	Age group		
	11-year-olds	13-year-olds	15-year-olds
Armenia	11.5	13.5	15.5
Austria	11.4	13.3	15.3
Belgium (Flemish)	11.4	13.4	15.5
Belgium (French)	11.5	13.5	15.5
Canada	11.7	13.5	15.5
Croatia	11.5	13.5	15.5
Czech Republic	11.5	13.5	15.4
Denmark	11.7	13.7	15.7
England	11.7	13.6	15.6
Estonia	11.8	13.8	15.8
Finland	11.7	13.7	15.7
France	11.4	13.4	15.5
Germany	11.4	13.4	15.4
Greece	11.7	13.7	15.7
Greenland	11.5	13.5	15.5
Hungary	11.5	13.5	15.5
Iceland	11.5	13.5	15.5
Ireland	11.6	13.5	15.5
Italy	11.4	13.4	15.4
Latvia	11.5	13.6	15.6
Lithuania	11.6	13.7	15.7
Luxembourg	11.5	13.5	15.5
Netherlands	11.6	13.5	15.4
Norway	11.6	13.6	15.5
Poland	11.7	13.7	15.7
Portugal	11.5	13.5	15.5
Romania	11.1	13.1	15.1
Russian Federation	11.6	13.3	15.4
Scotland	11.5	13.5	15.5
Slovakia	11.6	13.5	15.3
Slovenia	11.6	13.6	15.6
Spain	11.5	13.5	15.5
Sweden	11.5	13.5	15.5
Switzerland	11.5	13.5	15.4
MKD[a]	11.5	13.5	15.5
Turkey	11.8	13.7	15.8
Ukraine	11.8	13.7	15.7
United States	11.5	13.5	15.5
Wales	11.7	13.7	15.7
TOTAL	**11.6**	**13.5**	**15.5**

[a] The former Yugoslav Republic of Macedonia.

The figure below provides an overview of family affluence according to FAS scores across countries. For further information about FAS, refer to the HBSC international study protocol *(1)*.

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



[a] The former Yugoslav Republic of Macedonia.

Analyses

Country data are missing in a few cases; exceptions are noted in the relevant data sections. Tables on some indicators with different cut-offs (such as daily smoking) are presented here with some additional indicators that do not appear in Part 2.

Analyses for age and gender take account of the effect of the survey design (including stratification, clustering and weighting) on the precision of estimates presented. The significance level was set at 5%. Design-adjusted analyses were completed using the Complex Survey package of Predictive Analytics SoftWare (PASW) Statistics 18.0 (SPSS Inc., 2009, Chicago IL) or STATA v10 (StataCorp, 2007, College Station, TX: StataCorp LP). Design-adjusted chi-square tests for independence were carried out to assess statistical significance of differences between genders. Design-adjusted chi-square test for trend was used to assess significance of differences in prevalence of indicators across age groups and levels of family affluence. Statistical significance was used as a guide to aid interpretation and, in particular, to avoid overinterpretation of small differences; only strong, consistent patterns between individual variables and family affluence are discussed in the text.

SUPPLEMENTARY DATA TABLES

Here are tables of supplementary data that relate to the sections in Part 2:

1. social context:

- family structure: young people living in different family types;
- spending time with friends after school on four or more days per week;

2. health outcomes:

- reporting a headache more than once a week;
- reporting feeling low more than once a week;
- overweight and obesity: rates of missing BMI data;
- overweight and obesity, using WHO growth reference;

3. health behaviours:

- daily vegetable consumption;
- participating in vigorous physical activity for two or more hours per week;
- using a computer for e-mail, Internet and homework for two or more hours on weekdays;
- playing games on a computer or games console for two or more hours on weekdays;

4. risk behaviours:

- ever smoked tobacco;
- daily smoking;
- drinking beer at least once a week;
- drinking wine at least once a week;
- drinking spirits at least once a week;
- drinking alcopops at least once a week;
- first drinking alcohol at age 13 or younger;
- cannabis user groups;
- cannabis use in the last 12 months;
- involved in a physical fight at least once in the past 12 months;
- been bullied at school at least once in the past couple of months;
- bullying others at school at least once in the past couple of months.

SOCIAL CONTEXT: FAMILY STRUCTURE: YOUNG PEOPLE LIVING IN DIFFERENT FAMILY TYPES

Country/Region	Both parents (%)	Single parent (%)	Stepfamily (%)	Other (%)
Greenland	49	29	7	14
United States	58	23	15	4
Wales	60	24	12	4
Latvia	62	23	12	3
England	65	20	13	2
Estonia	66	19	14	2
Belgium (French)	66	16	16	2
Scotland	66	21	11	2
Canada	67	18	11	3
Czech Republic	68	16	14	3
Denmark	68	19	12	1
Lithuania	69	20	9	3
Iceland	69	16	13	1
Belgium (Flemish)	70	14	14	2
Hungary	71	17	10	2
France	71	14	13	1
Finland	71	15	13	1
Norway	72	14	12	2
Sweden	72	13	14	1
Luxembourg	74	15	10	2
Ukraine	74	16	8	3
Austria	74	18	7	2
Romania	74	17	3	5
Germany	75	15	9	1
Ireland	76	15	7	2
Switzerland	77	14	8	1
Slovakia	78	14	6	2
Portugal	79	12	7	2
Netherlands	80	13	7	1
Poland	81	13	5	2
Turkey	81	14	1	3
Spain	82	12	3	3
Slovenia	82	11	5	1
Italy	84	12	2	2
Greece	85	10	3	1
MKD[a]	87	10	1	2
Croatia	88	8	3	1
Armenia	88	10	1	1

Note. No data available for the Russian Federation.

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 stepfamily, a single-parent family or some other arrangement (for instance, a foster home or cared for by non-parental family members).

[a] The former Yugoslav Republic of Macedonia.

SOCIAL CONTEXT: SPENDING TIME WITH FRIENDS AFTER SCHOOL ON FOUR OR MORE DAYS PER WEEK

Country/Region	11-year-olds (%)			Country/Region	13-year-olds (%)			Country/Region	15-year-olds (%)		
	Boys	Girls	Total		Boys	Girls	Total		Boys	Girls	Total
MKD[a]	69	65	67	MKD[a]	69	60	64	MKD[a]	66	60	63
Ukraine	64	61	62	Greenland	57	61	59	Greenland	66	55	61
Romania	56	52	54	Ukraine	62	55	59	Ukraine	70	42	56
Poland	51	54	53	Slovakia	58	52	55	Slovakia	58	52	55
Greenland	49	51	50	Romania	59	44	52	Romania	60	47	53
Slovakia	48	50	49	Latvia	51	46	48	Latvia	53	46	50
England	50	43	46	Armenia	54	42	48	Armenia	52	46	49
Croatia	51	40	45	Luxembourg	53	42	47	Luxembourg	53	41	47
Latvia	46	44	45	Czech Republic	43	50	46	Czech Republic	51	42	47
Lithuania	45	45	45	Poland	49	43	46	Poland	49	43	46
Norway	48	41	44	Italy	47	43	45	Italy	43	48	46
Czech Republic	44	43	44	Croatia	50	39	45	Croatia	46	43	44
Luxembourg	46	37	42	Lithuania	45	44	44	Lithuania	49	40	44
Ireland	39	42	41	England	47	36	41	England	49	39	44
Armenia	50	30	40	Spain	44	35	40	Spain	46	40	43
Iceland	41	38	40	Iceland	40	39	39	Iceland	43	40	42
Estonia	40	39	39	Ireland	41	35	38	Ireland	49	31	40
Austria	40	36	38	Estonia	41	34	38	Estonia	41	37	39
Germany	39	36	37	Austria	43	31	37	Austria	46	30	38
Portugal	42	32	37	Slovenia	36	37	36	Slovenia	41	32	36
Slovenia	38	36	37	Norway	40	32	36	Norway	37	35	36
Spain	41	32	36	Greece	38	32	35	Greece	41	30	36
Wales	40	31	36	Portugal	37	32	35	Portugal	37	33	35
Italy	37	34	36	Wales	38	31	34	Wales	35	30	33
Finland	39	31	35	Hungary	39	30	34	Hungary	36	29	33
Scotland	38	30	34	Germany	37	31	34	Germany	34	29	32
United States	36	31	33	Scotland	37	31	34	Scotland	34	28	31
Hungary	33	31	32	France	35	31	33	France	35	26	30
Sweden	34	30	32	United States	35	28	32	United States	32	25	29
Greece	34	27	31	Finland	35	24	30	Finland	35	21	28
France	33	28	30	Canada	33	25	29	Canada	34	22	28
Canada	32	25	29	Switzerland	29	26	27	Switzerland	31	24	28
Netherlands	30	27	28	Belgium (Flemish)	27	26	26	Belgium (Flemish)	29	25	27
Switzerland	29	23	26	Sweden	28	25	26	Sweden	29	24	27
Denmark	28	21	25	Denmark	24	25	25	Denmark	26	18	22
Turkey	26	17	21	Turkey	29	15	22	Turkey	24	19	21
Belgium (French)	22	15	19	Netherlands	24	18	21	Netherlands	23	18	21
Belgium (Flemish)	21	16	19	Belgium (French)	21	16	19	Belgium (French)	28	13	20
HBSC average	41	36	38	**HBSC average**	41	35	38	**HBSC average**	42	34	38

Note. No data available for the Russian Federation.

MEASURE Young people were asked on how many days per week they usually spent 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.

[a] The former Yugoslav Republic of Macedonia.

HEALTH OUTCOMES: REPORTING A HEADACHE MORE THAN ONCE A WEEK

Country/Region	11-year-olds (%)			Country/Region	13-year-olds (%)			Country/Region	15-year-olds (%)		
	Boys	Girls	Total		Boys	Girls	Total		Boys	Girls	Total
Turkey	23	32	27	Turkey	25	36	31	Italy	15	42	29
Italy	20	30	25	Armenia	21	27	24	Turkey	22	35	29
Armenia	26	23	25	Russian Federation	20	28	24	Armenia	16	37	26
Romania	22	24	23	Slovakia	18	29	24	Romania	15	33	24
Greenland	19	27	23	Italy	16	31	23	Greenland	18	28	23
Slovakia	19	24	21	Belgium (French)	20	27	23	Belgium (French)	14	32	23
Russian Federation	16	26	21	Romania	14	31	23	Greece	14	31	23
Latvia	16	22	19	Greenland	21	22	22	Russian Federation	15	30	23
Belgium (French)	15	23	19	Lithuania	16	26	21	United States	14	31	23
Poland	16	21	19	Poland	17	23	20	Poland	13	31	22
Ukraine	13	24	18	Netherlands	15	24	20	Lithuania	15	28	22
Lithuania	16	21	18	Greece	11	28	19	Hungary	15	29	22
Netherlands	15	21	18	Ukraine	13	25	19	England	14	28	21
England	14	22	18	United States	13	25	19	Ukraine	10	33	21
United States	15	19	17	Czech Republic	14	23	19	Slovakia	15	27	21
Hungary	16	18	17	Latvia	15	21	18	Czech Republic	13	28	20
Czech Republic	13	21	17	Estonia	14	21	17	Luxembourg	13	26	19
Spain	14	18	16	England	13	21	17	Sweden	11	28	19
Iceland	13	19	16	Hungary	11	23	17	Latvia	13	26	19
Wales	12	16	14	Iceland	14	20	17	Canada	12	27	19
Estonia	12	16	14	Wales	12	21	17	Iceland	13	25	19
Canada	11	16	13	France	13	20	17	Scotland	12	26	19
France	11	16	13	Canada	11	21	16	Ireland	12	26	19
Norway	10	17	13	Luxembourg	13	19	16	Wales	10	27	18
Belgium (Flemish)	11	13	12	Scotland	13	18	16	Estonia	13	24	18
Ireland	11	13	12	Spain	12	19	15	France	11	24	17
Finland	9	15	12	Sweden	9	20	15	Spain	11	23	17
Germany	10	13	12	Switzerland	12	18	15	Netherlands	10	23	17
Greece	9	14	11	Belgium (Flemish)	12	17	15	Austria	10	22	16
Scotland	11	12	11	Austria	10	19	15	Norway	10	22	16
Portugal	9	13	11	Ireland	11	16	14	Belgium (Flemish)	8	23	16
Croatia	9	12	11	Norway	9	17	13	Portugal	10	21	15
Switzerland	11	11	11	Finland	8	17	13	MKD[a]	8	23	15
Austria	11	11	11	Germany	7	17	12	Switzerland	9	22	15
Sweden	9	12	10	MKD[a]	8	16	12	Finland	8	22	15
Luxembourg	8	12	10	Portugal	8	15	11	Croatia	8	21	15
MKD[a]	8	12	10	Croatia	8	15	11	Germany	6	22	14
Denmark	7	11	9	Denmark	7	15	11	Denmark	8	15	12
Slovenia	7	8	7	Slovenia	8	10	9	Slovenia	6	14	10
HBSC average	13	18	16	**HBSC average**	13	22	17	**HBSC average**	12	26	19

MEASURE Young people were asked how often in the last six months they had experienced a number of symptoms: headache; stomach ache; feeling low; feeling 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.

[a] The former Yugoslav Republic of Macedonia.

HEALTH OUTCOMES: REPORTING FEELING LOW MORE THAN ONCE A WEEK

Country/Region	11-year-olds (%)			Country/Region	13-year-olds (%)			Country/Region	15-year-olds (%)		
	Boys	Girls	Total		Boys	Girls	Total		Boys	Girls	Total
Turkey	37	48	42	Turkey	41	58	49	Turkey	40	52	46
Romania	25	30	28	Romania	27	40	33	Italy	24	51	37
Italy	22	29	26	Italy	22	40	31	Armenia	25	47	36
Armenia	23	24	24	Armenia	22	36	29	Romania	24	45	35
Lithuania	16	21	18	Greece	17	33	25	Greece	23	36	29
Greenland	11	26	18	Lithuania	16	32	24	Greenland	14	37	25
Estonia	13	22	18	Greenland	15	29	22	Lithuania	13	30	22
Slovakia	15	19	17	Slovakia	16	28	22	Hungary	16	27	21
Latvia	13	18	15	MKD[a]	16	26	21	Ukraine	10	32	21
Norway	11	18	14	Estonia	10	29	20	Luxembourg	14	28	21
Canada	12	15	14	Switzerland	9	24	17	Slovakia	14	26	20
Iceland	11	15	13	Hungary	14	19	16	Sweden	10	28	19
Ukraine	10	16	13	Poland	13	20	16	Czech Republic	13	24	19
Luxembourg	11	16	13	Spain	12	19	16	England	9	28	19
Hungary	13	13	13	Luxembourg	8	22	15	Poland	13	23	18
Switzerland	9	17	13	England	10	20	15	MKD[a]	12	24	18
MKD[a]	10	16	13	France	10	20	15	United States	12	24	18
Poland	10	16	13	Czech Republic	10	19	15	Spain	13	23	18
Spain	11	14	12	Ukraine	9	20	14	Norway	8	27	18
England	9	16	12	Canada	10	19	14	Iceland	12	24	18
Greece	11	13	12	Sweden	9	20	14	Estonia	10	25	17
United States	11	14	12	United States	10	18	14	Belgium (French)	11	24	17
France	10	13	12	Scotland	12	16	14	Ireland	12	22	17
Czech Republic	10	14	12	Latvia	11	17	14	Canada	12	21	17
Belgium (French)	9	13	11	Portugal	9	18	13	France	12	21	17
Russian Federation	8	14	11	Belgium (French)	12	15	13	Scotland	11	21	16
Ireland	10	13	11	Norway	7	19	13	Latvia	11	21	16
Portugal	9	12	11	Russian Federation	10	16	13	Wales	9	23	16
Denmark	6	14	10	Iceland	9	16	13	Russian Federation	10	18	14
Sweden	8	10	9	Wales	9	17	13	Portugal	11	17	14
Croatia	8	10	9	Ireland	9	14	11	Switzerland	8	20	14
Wales	7	10	9	Croatia	7	15	11	Croatia	7	19	13
Netherlands	6	10	8	Denmark	4	15	9	Belgium (Flemish)	9	14	12
Scotland	7	9	8	Slovenia	5	12	8	Germany	6	14	10
Finland	7	8	7	Finland	6	11	8	Finland	6	14	10
Germany	5	9	7	Germany	5	12	8	Slovenia	5	14	10
Slovenia	5	9	7	Netherlands	6	10	8	Austria	6	11	8
Austria	6	6	6	Belgium (Flemish)	6	8	7	Netherlands	5	11	8
Belgium (Flemish)	4	4	4	Austria	4	9	6	Denmark	4	12	8
HBSC average	11	16	13	**HBSC average**	12	21	16	**HBSC average**	21	25	19

MEASURE Young people were asked how often in the last six months they had experienced a number of symptoms: headache; stomach ache; feeling low; feeling 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.

[a] The former Yugoslav Republic of Macedonia.

HEALTH OUTCOMES: OVERWEIGHT AND OBESITY: RATES OF MISSING BMI DATA

Country/Region	11-year-olds (%)	Country/Region	11-year-olds (%)	Country/Region	15-year-olds (%)
Ireland	84	Ireland	74	Ireland	56
Scotland	71	Scotland	64	Scotland	52
Wales	69	England	58	Greenland	42
England	67	Wales	52	England	40
Greenland	49	Greenland	44	Wales	33
Lithuania	37	Belgium (French)	32	Belgium (French)	25
Belgium (French)	35	Lithuania	27	Lithuania	20
Canada	34	Armenia	24	Armenia	17
Sweden	29	Canada	23	France	17
United States	28	France	21	Germany	15
Armenia	28	Netherlands	19	Norway	15
Norway	26	Norway	19	Estonia	14
France	24	Estonia	19	Canada	14
Estonia	24	Germany	18	MKD[a]	11
Iceland	23	Sweden	15	Netherlands	11
Denmark	21	MKD[a]	15	Sweden	11
MKD[a]	20	United States	14	Russian Federation	10
Italy	20	Russian Federation	13	Luxembourg	9
Germany	19	Denmark	13	Spain	9
Romania	17	Iceland	13	Iceland	8
Netherlands	17	Slovakia	11	Austria	8
Slovakia	16	Romania	11	Italy	7
Hungary	14	Luxembourg	10	Slovakia	7
Ukraine	13	Hungary	10	United States	7
Luxembourg	11	Italy	10	Belgium (Flemish)	7
Russian Federation	11	Austria	9	Denmark	7
Latvia	10	Switzerland	9	Ukraine	6
Switzerland	10	Ukraine	8	Switzerland	6
Austria	10	Spain	8	Portugal	5
Belgium (Flemish)	9	Latvia	8	Hungary	5
Turkey	8	Turkey	8	Romania	5
Portugal	8	Belgium (Flemish)	7	Greece	5
Croatia	7	Portugal	7	Turkey	5
Slovenia	7	Finland	7	Slovenia	5
Poland	7	Slovenia	5	Finland	4
Spain	7	Croatia	4	Latvia	4
Greece	5	Poland	4	Croatia	4
Finland	5	Greece	4	Czech Republic	3
Czech Republic	4	Czech Republic	3	Poland	3
HBSC average	23	**HBSC average**	18	**HBSC average**	14

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. The findings presented here show the levels of missing data across all countries and regions.

[a] The former Yugoslav Republic of Macedonia.

HEALTH OUTCOMES: OVERWEIGHT AND OBESITY, USING WHO GROWTH REFERENCE

Country/Region	11-year-olds (%) Boys	Girls	Total	Country/Region	13-year-olds (%) Boys	Girls	Total	Country/Region	15-year-olds (%) Boys	Girls	Total
United States	42	35	39	United States	40	26	33	United States	38	29	34
Greece	41	24	33	Greece	34	19	27	Canada	28	19	23
Portugal	37	25	32	Portugal	31	18	25	Greece	32	14	23
Ireland	37	23	30	Greenland	19	28	24	Wales	26	17	21
Canada	37	23	30	Spain	30	17	23	Slovenia	27	15	21
Spain	35	24	30	Canada	27	19	23	Portugal	24	17	20
Poland	36	23	29	Croatia	30	15	23	Iceland	24	15	20
Italy	35	22	29	Italy	27	17	22	Italy	26	12	19
Greenland	30	24	27	Poland	28	16	22	Luxembourg	25	13	19
MKD[a]	33	20	27	Slovenia	27	16	22	Croatia	27	11	19
Croatia	33	21	27	Wales	26	17	22	Greenland	22	16	19
Romania	33	19	26	Finland	25	17	21	Romania	27	10	19
Slovenia	31	20	26	MKD[a]	26	15	21	Spain	23	14	19
Wales	30	21	26	Austria	25	15	20	Austria	24	12	18
Russian Federation	32	18	25	Estonia	23	16	20	Hungary	22	12	17
Estonia	29	19	24	Romania	25	15	20	Czech Republic	22	12	17
Czech Republic	31	16	23	Hungary	26	13	19	Germany	21	12	17
Hungary	29	18	23	Czech Republic	28	11	19	Norway	21	12	17
Finland	29	17	23	Turkey	25	14	19	Ireland	19	14	16
Armenia	26	17	22	Slovakia	28	10	19	MKD[a]	24	8	16
Slovakia	29	13	22	Iceland	23	14	19	Finland	20	12	16
Scotland	23	20	22	Germany	21	16	19	Poland	20	12	16
Austria	25	17	21	Luxembourg	23	14	19	Scotland	18	13	16
Lithuania	27	13	20	Armenia	24	13	18	Sweden	20	8	14
Turkey	26	14	20	Sweden	20	11	16	Belgium (French)	18	10	14
Sweden	24	16	20	Latvia	19	12	16	Estonia	17	10	14
Luxembourg	23	15	19	Russian Federation	22	9	16	Switzerland	18	9	13
Germany	23	14	19	France	18	13	16	Belgium (Flemish)	16	11	13
Iceland	22	14	18	Belgium (French)	20	11	16	Turkey	19	7	13
Latvia	23	12	18	Ireland	20	11	15	Slovakia	18	8	13
Ukraine	22	12	17	Norway	19	11	15	England	14	12	13
England	18	17	17	Ukraine	21	9	15	Ukraine	17	8	12
Norway	21	12	17	Scotland	20	10	15	France	16	8	12
Belgium (French)	19	13	16	Lithuania	18	11	15	Latvia	15	9	12
France	19	11	15	England	11	17	14	Denmark	12	9	11
Denmark	16	14	15	Belgium (Flemish)	14	14	14	Lithuania	15	5	10
Belgium (Flemish)	15	14	15	Denmark	15	11	13	Armenia	15	6	10
Netherlands	15	12	13	Switzerland	18	9	13	Netherlands	14	6	10
Switzerland	14	9	11	Netherlands	13	10	12	Russian Federation	13	7	10
HBSC average	28	18	23	**HBSC average**	24	14	19	**HBSC average**	21	12	16

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 based on the WHO growth reference for school-aged children and adolescents for 5–19 years to monitor growth *(1)*. The findings presented here show the proportions with a BMI greater than one standard deviation above the average WHO reference BMI for their age.

1. de Onis M et al. Development of a WHO growth reference for school-aged children and adolescents. *Bulletin of the World Health Organization*, 2007, 85(9):661–668 (http://www.who.int/bulletin/volumes/85/9/en/index.html, accessed 2 March 2012).

[a] The former Yugoslav Republic of Macedonia.

HEALTH BEHAVIOURS: DAILY VEGETABLE CONSUMPTION

Country/Region	11-year-olds (%)			Country/Region	13-year-olds (%)			Country/Region	15-year-olds (%)		
	Boys	Girls	Total		Boys	Girls	Total		Boys	Girls	Total
Belgium (Flemish)	50	56	53	Belgium (Flemish)	51	65	58	Belgium (Flemish)	46	61	53
Ukraine	46	55	51	Belgium (French)	45	53	49	Belgium (French)	46	59	53
France	47	52	49	Ukraine	40	50	45	France	38	47	43
Denmark	41	52	47	France	42	47	44	Canada	38	47	42
Netherlands	41	52	46	Canada	40	47	43	Denmark	33	49	41
Switzerland	42	50	46	Netherlands	39	45	42	Ukraine	37	44	41
Belgium (French)	45	45	45	Switzerland	38	46	42	Ireland	39	42	40
Canada	39	50	44	Ireland	37	44	41	Switzerland	34	45	40
Ireland	39	48	44	England	37	44	41	Netherlands	35	42	38
Sweden	36	47	41	Denmark	37	41	39	Greenland	35	40	38
MKD[a]	38	44	41	United States	35	40	38	England	34	41	38
England	35	45	40	Greenland	34	39	36	Armenia	33	37	35
Romania	35	44	40	MKD[a]	30	41	36	Sweden	30	39	34
Scotland	35	43	39	Scotland	33	38	35	Scotland	31	37	34
Greenland	34	44	39	Sweden	30	36	33	MKD[a]	27	38	33
United States	34	44	39	Wales	30	36	33	United States	31	34	33
Luxembourg	36	40	38	Greece	28	36	32	Wales	30	34	32
Czech Republic	30	43	36	Romania	28	36	32	Greece	25	33	29
Greece	33	37	35	Russian Federation	33	30	32	Russian Federation	28	29	29
Norway	31	37	34	Turkey	27	36	32	Czech Republic	21	36	28
Russian Federation	33	35	34	Czech Republic	27	34	31	Norway	23	33	28
Lithuania	28	39	33	Luxembourg	28	33	30	Luxembourg	24	32	28
Portugal	30	35	33	Armenia	26	33	30	Romania	21	32	27
Slovakia	31	34	32	Norway	27	28	28	Poland	21	30	26
Wales	29	33	31	Slovakia	25	29	27	Turkey	21	31	26
Turkey	26	36	31	Portugal	24	29	27	Germany	17	33	25
Poland	26	35	31	Hungary	24	29	27	Finland	14	35	25
Iceland	25	36	30	Austria	20	30	25	Portugal	19	28	24
Hungary	26	33	29	Poland	23	28	25	Lithuania	20	28	24
Slovenia	27	32	29	Iceland	21	29	25	Slovakia	20	25	23
Armenia	27	31	29	Germany	18	31	24	Italy	20	26	23
Latvia	27	31	29	Italy	22	27	24	Iceland	19	27	23
Croatia	27	31	29	Slovenia	20	28	24	Slovenia	17	26	22
Austria	25	33	29	Latvia	21	27	24	Hungary	20	22	21
Finland	26	30	28	Lithuania	21	26	23	Croatia	19	23	21
Germany	21	32	27	Croatia	21	23	22	Latvia	16	25	21
Spain	23	25	24	Finland	19	26	22	Spain	15	24	19
Italy	20	27	23	Spain	18	24	21	Estonia	16	21	18
Estonia	20	24	22	Estonia	20	19	19	Austria	12	23	18
HBSC average	32	40	36	**HBSC average**	29	35	32	**HBSC average**	26	35	31

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.

[a] The former Yugoslav Republic of Macedonia.

HEALTH BEHAVIOURS: PARTICIPATING IN VIGOROUS PHYSICAL ACTIVITY FOR TWO OR MORE HOURS PER WEEK

Country/Region	11-year-olds (%)			Country/Region	13-year-olds (%)			Country/Region	15-year-olds (%)		
	Boys	Girls	Total		Boys	Girls	Total		Boys	Girls	Total
Netherlands	82	79	80	Netherlands	79	75	77	Netherlands	81	70	75
Luxembourg	81	68	75	Norway	75	70	73	Norway	73	67	70
Switzerland	78	63	70	Denmark	78	66	72	Denmark	71	67	69
Denmark	75	64	70	Luxembourg	80	61	70	Luxembourg	77	57	67
Finland	73	64	69	Switzerland	76	63	69	Germany	73	57	65
Norway	68	64	66	Austria	76	55	66	Iceland	66	63	64
Belgium (Flemish)	70	57	64	Germany	70	59	64	Switzerland	73	55	64
Austria	69	51	60	Greece	69	52	60	Canada	66	59	62
Greece	65	53	59	Iceland	60	60	60	Belgium (Flemish)	68	52	60
Germany	64	52	58	Scotland	67	53	60	Scotland	65	54	60
Canada	60	52	56	Belgium (Flemish)	68	52	60	Belgium (French)	68	49	58
Belgium (French)	65	47	56	Finland	64	55	59	Finland	59	55	57
Scotland	58	52	55	Belgium (French)	66	53	59	England	66	47	57
France	63	45	54	Canada	63	54	58	Sweden	61	50	56
Iceland	54	51	52	Sweden	59	51	55	Austria	66	43	55
Sweden	55	50	52	France	67	43	55	Greece	64	43	53
Ireland	55	45	50	Italy	65	45	55	France	65	40	53
England	52	45	49	Wales	58	46	52	Wales	62	43	53
Russian Federation	53	39	46	England	55	48	52	Italy	64	38	51
Slovenia	53	39	46	Ireland	57	46	51	United States	58	38	48
Slovakia	55	37	46	Slovenia	57	44	50	Hungary	60	36	48
Wales	51	40	46	Hungary	58	42	50	Slovakia	58	36	47
Italy	55	36	45	United States	54	41	48	Ireland	55	38	47
Hungary	52	37	45	Slovakia	55	37	46	Russian Federation	54	38	46
United States	48	40	44	Croatia	54	35	44	Slovenia	55	36	45
Spain	53	31	42	Russian Federation	49	37	43	Spain	56	34	45
Poland	46	35	40	Latvia	48	37	42	Latvia	51	39	45
Czech Republic	46	35	40	Portugal	51	29	40	Lithuania	57	33	45
Croatia	49	32	40	Czech Republic	48	32	40	Estonia	47	40	44
Latvia	43	34	38	Armenia	47	32	40	Greenland	50	37	43
Ukraine	43	31	37	Ukraine	46	33	39	Portugal	56	30	43
Greenland	35	38	36	Estonia	40	35	37	Croatia	54	27	41
Estonia	39	33	36	Lithuania	48	26	37	Poland	49	27	38
Armenia	47	25	36	Poland	44	29	36	Czech Republic	47	28	37
Portugal	41	23	32	Greenland	44	28	36	Ukraine	50	25	37
Turkey	40	24	32	MKD[a]	41	29	35	MKD[a]	47	26	37
Lithuania	38	26	32	Romania	46	20	33	Armenia	50	23	36
Romania	40	23	32	Turkey	43	19	31	Turkey	46	16	31
MKD[a]	33	19	26	Spain	41	16	29	Romania	38	17	28
HBSC average	55	43	49	**HBSC average**	58	44	51	**HBSC average**	60	42	51

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 vigorous physical activity for two or more hours per week.

[a] The former Yugoslav Republic of Macedonia.

HEALTH BEHAVIOURS: USING A COMPUTER FOR E-MAIL, INTERNET OR HOMEWORK FOR TWO OR MORE HOURS ON WEEKDAYS

Country/Region	11-year-olds (%)			Country/Region	13-year-olds (%)			Country/Region	15-year-olds (%)		
	Boys	Girls	Total		Boys	Girls	Total		Boys	Girls	Total
Poland	47	44	45	Netherlands	58	64	61	Iceland	71	75	73
Russian Federation	43	46	44	Estonia	53	66	60	Norway	65	81	73
Estonia	44	39	41	Wales	52	66	59	England	68	75	71
Wales	37	44	41	England	48	66	57	Estonia	64	76	70
Slovakia	42	39	40	Slovakia	53	61	57	Netherlands	62	75	69
England	36	41	39	Poland	54	56	55	Slovakia	65	70	68
Netherlands	36	35	36	Iceland	53	55	54	Denmark	64	66	65
Scotland	33	38	35	Scotland	45	61	53	Poland	64	66	65
Romania	38	30	34	Portugal	52	54	53	Sweden	61	69	65
Finland	31	35	33	Sweden	46	58	52	Wales	61	68	65
Portugal	33	32	33	Norway	43	57	50	Czech Republic	57	70	64
Canada	29	36	32	Finland	44	55	50	Scotland	60	67	63
Croatia	34	29	32	Denmark	45	53	49	Russian Federation	59	65	62
Turkey	35	29	32	Russian Federation	45	53	49	Latvia	54	64	59
Latvia	30	32	31	Canada	40	57	48	Finland	58	60	59
Sweden	31	31	31	Latvia	41	55	48	MKD[a]	58	60	59
Denmark	33	28	31	Czech Republic	40	56	48	Croatia	54	61	57
Belgium (Flemish)	31	30	31	MKD[a]	49	46	47	Germany	55	58	56
MKD[a]	35	25	30	Croatia	43	50	47	Romania	57	55	56
Lithuania	33	26	29	Hungary	45	47	46	Canada	50	61	56
Iceland	30	28	29	Slovenia	42	50	46	Luxembourg	56	55	55
Hungary	33	25	29	Romania	49	41	45	Portugal	60	51	55
Czech Republic	27	29	28	Luxembourg	41	45	43	Slovenia	51	58	55
Greece	33	22	27	Greece	41	43	42	Austria	53	56	55
Slovenia	26	28	27	Lithuania	38	44	41	Italy	51	57	54
France	27	24	26	Belgium (Flemish)	38	44	41	Hungary	53	53	53
Spain	26	25	25	Spain	40	42	41	Lithuania	47	57	52
Armenia	30	16	23	Germany	38	44	41	Greece	54	49	52
Italy	23	23	23	Italy	36	46	41	Spain	48	56	52
Norway	22	24	23	France	36	43	40	Belgium (Flemish)	48	53	50
Ukraine	24	19	22	Turkey	39	37	38	France	43	52	48
Austria	24	19	22	Austria	35	38	36	Switzerland	42	45	44
Luxembourg	20	18	19	United States	23	39	31	Armenia	47	34	40
Belgium (French)	19	19	19	Belgium (French)	28	34	31	United States	34	43	39
United States	18	19	18	Ukraine	30	27	29	Belgium (French)	38	39	38
Germany	18	17	18	Armenia	33	24	29	Turkey	40	33	37
Ireland	15	17	16	Ireland	25	31	28	Ukraine	32	37	35
Switzerland	12	11	12	Switzerland	25	30	28	Ireland	30	33	31
Greenland	12	8	10	Greenland	16	16	16	Greenland	23	28	26
HBSC average	29	28	29	**HBSC average**	41	48	44	**HBSC average**	53	57	55

MEASURE Young people were asked how many hours per day they used a computer for e-mail, 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.

[a] The former Yugoslav Republic of Macedonia.

HEALTH BEHAVIOURS: PLAYING GAMES ON A COMPUTER OR GAMES CONSOLE FOR TWO OR MORE HOURS ON WEEKDAYS

Country/Region	11-year-olds (%)			Country/Region	13-year-olds (%)			Country/Region	15-year-olds (%)		
	Boys	Girls	Total		Boys	Girls	Total		Boys	Girls	Total
Norway	—	—	—	Romania	70	50	60	Romania	68	52	60
Romania	57	43	50	Scotland	69	31	50	MKD[a]	59	40	50
Estonia	62	32	47	Estonia	68	32	50	Sweden	66	28	47
Poland	57	34	46	Sweden	61	37	49	Russian Federation	61	31	46
Scotland	63	29	46	MKD[a]	56	41	49	Denmark	68	22	45
Russian Federation	54	36	45	Wales	63	34	48	Scotland	64	26	45
Wales	54	32	43	Russian Federation	57	38	48	Estonia	63	21	42
Slovakia	57	29	43	Denmark	64	31	47	Germany	56	27	41
Denmark	57	28	42	Slovakia	65	26	46	Czech Republic	62	21	41
England	54	24	39	Poland	65	27	46	Poland	62	20	41
Sweden	52	25	39	Czech Republic	62	28	45	Canada	52	27	40
Latvia	53	23	38	Latvia	63	23	43	Armenia	51	28	39
Czech Republic	50	24	37	Canada	53	30	41	Wales	54	22	38
Netherlands	48	26	37	England	61	22	41	Slovakia	59	17	38
Finland	45	25	35	Netherlands	55	26	41	Hungary	53	23	38
Canada	45	25	35	Hungary	55	26	40	Norway	61	14	38
MKD[a]	43	26	35	Portugal	49	28	39	Netherlands	59	16	37
Ukraine	42	26	34	Croatia	51	26	39	Belgium (French)	45	29	37
Portugal	43	23	33	Germany	46	31	38	Latvia	59	15	37
Croatia	45	21	33	France	49	25	37	Spain	43	31	37
Armenia	41	24	33	Armenia	45	29	37	Italy	44	26	35
Hungary	41	24	32	Ukraine	48	25	37	Austria	47	23	35
France	39	21	30	Greece	50	23	37	Croatia	46	23	35
Greece	41	19	30	Norway	54	15	34	Greece	49	18	34
Slovenia	39	17	28	Spain	39	29	34	Portugal	51	16	34
Spain	35	21	28	Austria	43	24	34	Turkey	45	22	33
Belgium (Flemish)	36	17	26	Italy	40	26	33	Ukraine	44	23	33
Greenland	38	15	26	Belgium (French)	36	29	33	England	50	13	32
Turkey	33	19	26	Luxembourg	40	24	32	Luxembourg	44	19	32
Belgium (French)	26	22	24	Turkey	41	22	31	Belgium (Flemish)	44	14	29
United States	31	17	24	Finland	49	12	31	Iceland	51	6	29
Italy	31	16	24	Slovenia	47	14	31	France	41	15	28
Ireland	32	15	24	Belgium (Flemish)	40	20	30	Slovenia	46	9	28
Austria	29	16	22	Iceland	48	10	29	Finland	45	9	27
Iceland	34	11	22	United States	32	20	26	Greenland	35	11	23
Germany	26	16	21	Greenland	39	12	25	United States	28	13	20
Luxembourg	23	16	19	Ireland	35	14	24	Ireland	28	12	20
Switzerland	16	8	12	Switzerland	24	12	18	Switzerland	28	8	18
HBSC average	40	22	31	**HBSC average**	50	25	37	**HBSC average**	49	20	35

Note. No data for Norway (11-year-olds) or Lithuania.

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.

[a] The former Yugoslav Republic of Macedonia.

RISK BEHAVIOURS: EVER SMOKED TOBACCO

Country/Region	11-year-olds (%) Boys	Girls	Total	Country/Region	13-year-olds (%) Boys	Girls	Total	Country/Region	15-year-olds (%) Boys	Girls	Total
Greenland	45	43	44	Greenland	63	68	66	Greenland	82	88	85
Latvia	41	24	32	Latvia	66	56	61	Latvia	81	81	81
Estonia	29	16	23	Estonia	57	51	54	Lithuania	77	70	74
Russian Federation	27	18	22	Lithuania	56	47	52	Czech Republic	70	75	73
Lithuania	31	12	22	Czech Republic	50	51	50	Estonia	77	65	71
Czech Republic	25	16	21	Slovakia	44	37	40	Hungary	63	63	63
Ukraine	25	10	18	Croatia	41	35	38	Croatia	62	62	62
Slovakia	23	11	17	Ukraine	46	30	38	Ukraine	69	53	61
Croatia	22	10	16	Hungary	39	35	37	Slovakia	64	57	61
Poland	16	9	13	Russian Federation	34	30	32	Austria	57	63	60
Hungary	14	10	12	Switzerland	36	26	31	Luxembourg	56	56	56
Romania	15	7	11	Poland	35	26	31	Switzerland	60	50	55
Switzerland	14	6	10	Luxembourg	32	26	29	Poland	57	53	55
France	11	5	8	Austria	29	28	29	France	53	55	54
Finland	10	5	8	Finland	31	26	28	Slovenia	53	53	53
Slovenia	10	5	7	Slovenia	30	24	27	Italy	52	53	52
Norway	9	5	7	Romania	31	22	27	Finland	52	49	51
Luxembourg	8	6	7	France	27	25	26	Russian Federation	52	47	49
Belgium (French)	9	4	6	Denmark	24	26	25	Romania	55	43	49
Portugal	8	4	6	Portugal	26	23	24	Sweden	45	52	49
Denmark	9	3	6	Sweden	24	22	23	Denmark	45	51	48
Germany	8	4	6	Belgium (French)	25	20	23	Spain	41	54	48
Austria	8	4	6	Italy	26	19	22	Germany	50	46	48
Sweden	7	5	6	Spain	23	20	21	Belgium (French)	46	48	47
Netherlands	7	4	5	Germany	23	18	21	Belgium (Flemish)	47	44	45
Ireland	6	4	5	Wales	17	22	19	Portugal	44	43	44
MKD[a]	6	3	5	England	21	18	19	Netherlands	45	43	44
United States	7	3	5	Scotland	17	20	18	Greece	42	42	42
Armenia	7	2	4	Norway	23	13	18	Wales	38	46	42
Spain	6	2	4	Netherlands	20	15	18	England	37	45	41
Canada	4	4	4	Belgium (Flemish)	18	15	16	Norway	40	40	40
Italy	6	2	4	Ireland	17	15	16	Scotland	37	42	39
Belgium (Flemish)	6	2	4	Greece	15	15	15	Ireland	38	40	39
England	3	4	3	United States	15	13	14	Canada	31	34	32
Wales	4	3	3	Canada	13	14	13	United States	30	31	30
Scotland	4	3	3	Armenia	17	3	10	MKD[a]	33	26	30
Greece	5	1	3	Iceland	11	7	9	Iceland	33	26	29
Iceland	4	1	2	MKD[a]	10	6	8	Armenia	33	11	22
HBSC average	13	7	10	**HBSC average**	29	25	27	**HBSC average**	50	49	49

Note. No data for Turkey.

MEASURE Young people were asked if they had ever smoked tobacco (at least one cigarette, cigar or pipe). Response options were "yes" or "no". The findings presented here are the proportions that answered "yes".

[a] The former Yugoslav Republic of Macedonia.

RISK BEHAVIOURS: DAILY SMOKING

Country/Region	11-year-olds (%)			Country/Region	13-year-olds (%)			Country/Region	15-year-olds (%)		
	Boys	Girls	Total		Boys	Girls	Total		Boys	Girls	Total
Greenland	3	3	3	Greenland	16	25	21	Greenland	48	48	48
Russian Federation	4	1	3	Czech Republic	6	6	6	Hungary	21	19	20
Romania	3	1	2	Latvia	7	4	5	Croatia	21	19	20
MKD[a]	2	1	1	Poland	5	5	5	Lithuania	26	13	20
Hungary	1	0	1	Estonia	6	3	5	Austria	18	21	19
Czech Republic	1	0	1	Slovakia	6	3	4	Latvia	23	14	18
England	1	1	1	Lithuania	6	2	4	Czech Republic	16	20	18
Ukraine	1	0	1	Russian Federation	5	3	4	Italy	15	16	16
Armenia	0	1	1	Romania	4	3	3	Ukraine	23	8	15
France	1	0	1	Ukraine	5	2	3	Luxembourg	17	14	15
Poland	1	0	1	Scotland	4	3	3	Finland	15	13	14
Slovakia	1	0	1	Hungary	4	2	3	France	15	14	14
Greece	1	0	0	Finland	4	2	3	Slovenia	14	13	14
Lithuania	1	0	0	Croatia	4	2	3	Romania	18	10	14
United States	1	0	0	Wales	2	3	3	Spain	11	16	14
Austria	1	0	0	Austria	3	3	3	Estonia	16	10	13
Ireland	0	0	0	Luxembourg	3	3	3	Slovakia	15	9	12
Belgium (French)	0	0	0	Spain	3	3	3	Russian Federation	15	9	12
Luxembourg	1	0	0	Denmark	2	3	2	Belgium (French)	12	11	12
Latvia	0	0	0	France	2	3	2	Netherlands	10	12	11
Finland	0	0	0	England	2	3	2	Belgium (Flemish)	11	11	11
Italy	1	0	0	Belgium (French)	3	1	2	Switzerland	13	10	11
Germany	0	0	0	Switzerland	3	2	2	Scotland	10	11	11
Spain	0	0	0	Netherlands	2	2	2	Greece	13	8	10
Switzerland	0	0	0	Belgium (Flemish)	3	2	2	Wales	8	12	10
Iceland	0	0	0	Ireland	3	2	2	Germany	10	10	10
Canada	0	0	0	Germany	2	1	2	Poland	12	8	10
Scotland	0	0	0	Italy	2	2	2	Denmark	10	10	10
Portugal	0	0	0	Canada	2	2	2	Ireland	9	10	10
Croatia	0	0	0	Greece	2	1	2	Sweden	7	9	8
Belgium (Flemish)	0	0	0	Sweden	2	2	2	MKD[a]	9	7	8
Denmark	0	0	0	Slovenia	2	1	2	England	6	9	8
Norway	0	0	0	Norway	2	0	1	Portugal	7	6	7
Slovenia	0	0	0	Portugal	2	1	1	Norway	6	6	6
Wales	0	0	0	United States	1	1	1	Iceland	6	5	6
Sweden	0	0	0	MKD[a]	1	1	1	Canada	5	5	5
Estonia	0	0	0	Iceland	1	1	1	United States	5	4	4
Netherlands	0	0	0	Armenia	1	0	1	Armenia	8	1	4
HBSC average	1	0	1	**HBSC average**	3	3	3	**HBSC average**	14	12	13

Note. No data for Turkey.

MEASURE Young people were asked how often they smoked 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.

[a] The former Yugoslav Republic of Macedonia.

RISK BEHAVIOURS: DRINKING BEER AT LEAST ONCE A WEEK

Country/Region	11-year-olds (%)			Country/Region	13-year-olds (%)			Country/Region	15-year-olds (%)		
	Boys	Girls	Total		Boys	Girls	Total		Boys	Girls	Total
Finland	—	—	—	Czech Republic	17	10	14	Czech Republic	39	20	30
Armenia	11	3	7	Ukraine	15	7	11	Ukraine	39	18	29
Ukraine	9	3	6	Romania	15	3	9	Austria	31	9	20
Romania	9	2	6	Slovakia	10	4	7	Croatia	30	9	20
Czech Republic	7	4	5	Croatia	11	3	7	Greece	27	12	20
Slovakia	5	3	4	Armenia	12	1	7	Wales	26	11	19
Russian Federation	4	2	3	Wales	8	4	6	Belgium (Flemish)	26	10	18
Croatia	5	1	3	England	7	3	5	Slovenia	26	10	18
Italy	4	1	2	Slovenia	7	3	5	Italy	24	11	18
Denmark	2	2	2	Russian Federation	6	3	5	Romania	26	5	16
MKD[a]	4	1	2	Poland	7	2	5	Belgium (French)	20	10	15
Greenland	2	2	2	Italy	7	1	4	Germany	21	8	15
United States	2	1	1	Greece	7	2	4	England	23	6	14
Hungary	3	0	1	Latvia	7	1	4	Netherlands	21	6	14
Latvia	2	1	1	Denmark	4	3	4	Hungary	21	6	13
Belgium (French)	2	0	1	Lithuania	5	2	4	Slovakia	19	7	13
Wales	2	1	1	Switzerland	5	2	3	Switzerland	20	6	13
England	2	0	1	Hungary	6	1	3	Lithuania	19	7	13
Lithuania	2	0	1	Belgium (Flemish)	5	1	3	Denmark	18	7	12
Slovenia	1	1	1	Scotland	5	1	3	Latvia	19	5	12
Belgium (Flemish)	1	1	1	Austria	4	2	3	Luxembourg	17	6	12
Greece	1	0	1	Estonia	4	1	3	Scotland	19	4	11
Poland	1	1	1	Belgium (French)	4	1	2	Spain	14	8	11
Switzerland	1	0	1	Spain	3	2	2	Armenia	18	5	11
Scotland	1	0	1	Norway	3	1	2	Poland	14	8	11
Canada	1	0	1	Germany	4	1	2	France	16	6	11
Netherlands	0	1	1	France	3	1	2	MKD[a]	15	5	10
Estonia	1	0	1	United States	3	1	2	Canada	13	6	9
Austria	1	0	1	MKD[a]	3	1	2	Estonia	15	2	9
Luxembourg	1	0	1	Netherlands	2	1	2	Russian Federation	9	6	8
France	1	0	1	Canada	3	1	2	Norway	8	5	7
Spain	1	0	0	Ireland	3	1	2	United States	6	5	6
Iceland	1	0	0	Luxembourg	2	1	2	Portugal	8	3	5
Germany	1	0	0	Greenland	2	1	1	Ireland	8	2	5
Portugal	1	0	0	Iceland	2	1	1	Iceland	6	3	5
Ireland	1	0	0	Finland	2	1	1	Finland	5	4	5
Sweden	0	0	0	Portugal	2	0	1	Sweden	6	2	4
Norway	0	0	0	Sweden	1	1	1	Greenland	3	4	3
HBSC average	3	1	2	**HBSC average**	6	2	4	**HBSC average**	18	7	13

Note. No data for Finland (11-year-olds) or Turkey.

MEASURE Young people were asked how often they drank 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.

[a] The former Yugoslav Republic of Macedonia.

RISK BEHAVIOURS: DRINKING WINE AT LEAST ONCE A WEEK

Country/Region	11-year-olds (%)			Country/Region	13-year-olds (%)			Country/Region	15-year-olds (%)		
	Boys	Girls	Total		Boys	Girls	Total		Boys	Girls	Total
Finland	—	—	—	Armenia	13	6	9	Croatia	23	13	18
Armenia	15	4	10	Croatia	12	4	8	Hungary	20	11	16
Romania	8	2	5	Czech Republic	7	6	6	Czech Republic	12	14	13
Italy	4	2	3	Italy	7	3	5	Slovenia	14	9	12
Croatia	4	1	3	Romania	8	1	5	Armenia	15	6	11
Denmark	3	2	3	Denmark	5	3	4	Greece	10	8	9
Ukraine	3	1	2	Greece	5	2	3	Austria	10	8	9
Czech Republic	3	1	2	Hungary	4	2	3	Italy	12	5	8
Hungary	2	1	2	Ukraine	4	2	3	Romania	12	2	7
Russian Federation	2	1	2	Russian Federation	4	2	3	Ukraine	8	5	6
Belgium (French)	3	0	2	Wales	3	2	3	England	4	6	5
United States	2	1	1	Slovenia	4	1	2	Slovakia	7	3	5
MKD[a]	2	0	1	Slovakia	3	2	2	MKD[a]	6	4	5
Slovakia	1	1	1	England	2	2	2	Wales	4	5	4
England	2	0	1	Scotland	2	2	2	Belgium (French)	5	3	4
Wales	1	1	1	Belgium (Flemish)	3	1	2	Scotland	4	4	4
Greece	2	0	1	Switzerland	2	1	2	Netherlands	1	7	4
Poland	1	0	1	Austria	2	1	2	Spain	4	3	4
Slovenia	1	0	1	Belgium (French)	2	1	2	Russian Federation	6	2	4
Switzerland	1	0	1	United States	2	2	2	Belgium (Flemish)	4	4	4
Greenland	1	1	1	Spain	2	1	2	France	4	2	3
Scotland	1	1	1	Poland	2	1	2	Germany	2	3	3
France	1	0	1	Estonia	2	1	1	Denmark	4	1	3
Austria	1	0	1	France	1	1	1	Luxembourg	4	1	3
Belgium (Flemish)	1	0	1	MKD[a]	2	0	1	Latvia	3	2	3
Latvia	0	1	0	Luxembourg	2	1	1	United States	2	2	2
Canada	1	0	0	Ireland	2	1	1	Switzerland	3	1	2
Spain	1	0	0	Norway	1	1	1	Canada	3	2	2
Netherlands	0	1	0	Canada	1	0	1	Poland	3	2	2
Ireland	1	0	0	Latvia	1	0	1	Estonia	3	2	2
Luxembourg	1	0	0	Iceland	1	0	1	Ireland	3	2	2
Iceland	1	0	0	Lithuania	1	0	1	Lithuania	4	1	2
Portugal	1	0	0	Greenland	1	1	1	Iceland	3	1	2
Lithuania	0	0	0	Germany	1	0	1	Portugal	3	1	2
Estonia	0	0	0	Netherlands	1	0	0	Sweden	1	1	1
Germany	0	0	0	Finland	1	0	0	Norway	1	1	1
Norway	0	0	0	Portugal	0	0	0	Greenland	1	1	1
Sweden	0	0	0	Sweden	0	0	0	Finland	1	1	1
HBSC average	2	1	1	**HBSC average**	3	1	2	**HBSC average**	6	4	5

Note. No data for Finland (11-year-olds) or Turkey.

MEASURE Young people were asked how often they drank 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.

[a] The former Yugoslav Republic of Macedonia.

RISK BEHAVIOURS: DRINKING SPIRITS AT LEAST ONCE A WEEK

Country/Region	11-year-olds (%)			Country/Region	13-year-olds (%)			Country/Region	15-year-olds (%)		
	Boys	Girls	Total		Boys	Girls	Total		Boys	Girls	Total
Finland	—	—	—	Slovakia	5	4	4	Greece	22	17	19
Armenia	6	2	4	Wales	3	5	4	Austria	17	16	16
Romania	4	1	3	Armenia	7	2	4	Spain	15	17	16
Ukraine	3	1	2	Croatia	6	2	4	Scotland	12	15	14
Denmark	2	2	2	Spain	5	3	4	Hungary	17	10	13
Croatia	3	0	2	Scotland	4	4	4	Croatia	16	11	13
United States	2	0	1	Czech Republic	3	4	4	Slovenia	12	12	12
Russian Federation	1	1	1	Denmark	4	3	4	Denmark	14	9	11
Czech Republic	2	0	1	Romania	6	1	3	Czech Republic	13	10	11
Italy	2	0	1	Switzerland	4	3	3	Wales	8	13	11
Luxembourg	1	1	1	Greece	3	3	3	Slovakia	13	8	10
Slovakia	1	1	1	Estonia	2	3	3	Luxembourg	11	9	10
Greenland	1	1	1	Poland	3	2	3	Italy	13	7	10
Switzerland	1	0	1	Luxembourg	3	2	3	Switzerland	10	7	9
Hungary	1	0	1	Ukraine	4	1	2	England	8	8	8
England	1	0	1	England	2	3	2	Canada	8	8	8
Poland	1	0	1	Canada	2	2	2	France	9	5	7
Belgium (French)	1	0	1	Slovenia	3	1	2	Estonia	9	4	7
Slovenia	1	0	1	Austria	3	2	2	Ukraine	10	3	7
MKD[a]	1	0	0	Ireland	3	1	2	Ireland	8	6	7
Scotland	1	0	0	Lithuania	2	1	2	Belgium (Flemish)	8	4	6
Netherlands	0	1	0	Hungary	3	1	2	MKD[a]	8	4	6
Austria	1	0	0	Russian Federation	3	1	2	Latvia	8	4	6
Ireland	1	0	0	France	2	1	2	United States	7	5	6
Spain	1	0	0	United States	2	1	2	Lithuania	8	3	5
Greece	1	0	0	Belgium (Flemish)	2	1	2	Armenia	8	2	5
Canada	0	0	0	Portugal	2	1	1	Portugal	5	4	5
Wales	0	0	0	Latvia	2	0	1	Sweden	5	5	5
Latvia	0	0	0	Norway	1	1	1	Germany	6	3	4
Iceland	0	0	0	Italy	1	1	1	Romania	7	1	4
Belgium (Flemish)	0	0	0	MKD[a]	2	1	1	Iceland	5	2	4
Portugal	0	0	0	Iceland	1	0	1	Russian Federation	5	2	3
France	0	0	0	Germany	1	1	1	Poland	4	3	3
Germany	0	0	0	Greenland	2	0	1	Greenland	3	3	3
Norway	0	0	0	Belgium (French)	1	0	1	Belgium (French)	4	2	3
Lithuania	0	0	0	Sweden	1	0	1	Norway	3	2	3
Estonia	0	0	0	Finland	1	0	1	Finland	2	2	2
Sweden	0	0	0	Netherlands	0	1	1	Netherlands	1	2	2
HBSC average	1	0	1	**HBSC average**	3	2	2	**HBSC average**	9	6	8

Note. No data for Finland (11-year-olds) or Turkey.

MEASURE Young people were asked how often they drank 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.

[a] The former Yugoslav Republic of Macedonia.

RISK BEHAVIOURS: DRINKING ALCOPOPS AT LEAST ONCE A WEEK

Country/Region	11-year-olds (%)			Country/Region	13-year-olds (%)			Country/Region	15-year-olds (%)		
	Boys	Girls	Total		Boys	Girls	Total		Boys	Girls	Total
Finland	—	—	—	Ukraine	10	10	10	Austria	18	18	18
Ukraine	6	3	4	Wales	5	9	7	Ukraine	17	17	17
Romania	6	1	3	Italy	8	5	7	Italy	18	13	15
Italy	5	1	3	Greece	9	4	7	Croatia	14	14	14
Hungary	3	2	2	Lithuania	6	5	6	Wales	11	18	14
Russian Federation	3	2	2	Denmark	6	5	5	Denmark	14	13	14
Denmark	3	2	2	Estonia	5	6	5	Greece	15	12	13
Croatia	3	1	2	Latvia	6	4	5	Latvia	10	16	13
United States	3	1	2	Czech Republic	6	4	5	Lithuania	13	13	13
Czech Republic	3	1	2	Croatia	7	3	5	Scotland	9	14	11
Greenland	1	2	2	Scotland	4	5	4	England	9	13	11
Belgium (French)	2	1	1	England	3	5	4	Hungary	13	8	11
Latvia	2	1	1	Russian Federation	5	2	3	Czech Republic	12	9	10
Lithuania	2	0	1	Slovenia	4	3	3	Belgium (French)	11	9	10
Scotland	1	1	1	Romania	5	1	3	Estonia	9	11	10
Greece	2	1	1	Canada	3	3	3	Netherlands	9	10	10
Wales	1	1	1	Hungary	5	1	3	Germany	10	8	9
Poland	1	0	1	Greenland	3	3	3	Slovenia	10	6	8
Netherlands	1	1	1	Poland	4	2	3	Belgium (Flemish)	9	6	7
Slovenia	1	0	1	Belgium (French)	3	2	3	Spain	8	6	7
France	1	0	1	Austria	3	2	3	Canada	6	8	7
Estonia	1	0	1	Spain	3	2	3	Switzerland	8	6	7
Canada	1	1	1	Netherlands	3	2	2	United States	6	6	6
England	1	0	1	United States	3	2	2	Russian Federation	7	5	6
Slovakia	1	1	1	Ireland	3	2	2	Norway	5	6	5
Switzerland	1	0	1	Switzerland	3	2	2	Luxembourg	7	3	5
MKD[a]	1	0	1	France	2	2	2	France	6	3	5
Austria	1	0	0	Belgium (Flemish)	3	1	2	Ireland	5	4	4
Spain	1	0	0	Norway	2	1	2	Greenland	3	5	4
Ireland	1	0	0	Germany	2	1	1	Romania	7	1	4
Iceland	1	0	0	Luxembourg	2	1	1	Iceland	3	3	3
Belgium (Flemish)	1	0	0	Iceland	2	0	1	Portugal	4	2	3
Norway	0	0	0	Slovakia	1	1	1	Sweden	3	3	3
Germany	0	0	0	MKD[a]	2	0	1	Poland	4	1	3
Luxembourg	0	0	0	Sweden	1	1	1	Slovakia	3	2	3
Sweden	0	0	0	Portugal	1	1	1	MKD[a]	3	1	2
Portugal	0	0	0	Finland	1	1	1	Finland	1	1	1
HBSC average	2	1	1	**HBSC average**	4	3	3	**HBSC average**	9	8	8

Note. No data for Armenia, Finland (11-year-olds) or Turkey.

MEASURE Young people were asked how often they drank 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

[a] The former Yugoslav Republic of Macedonia.

RISK BEHAVIOURS: FIRST DRINKING ALCOHOL AT AGE 13 OR YOUNGER

Country/Region	15-year-olds (%)		
	Boys	Girls	Total
Estonia	66	58	62
Czech Republic	59	56	58
Lithuania	60	54	57
Latvia	52	51	51
Croatia	57	44	50
Poland	53	43	48
Belgium (Flemish)	51	44	48
Hungary	53	42	47
Greece	51	41	46
Slovenia	51	39	45
Denmark	45	45	45
England	47	43	45
Austria	47	42	44
Germany	46	42	44
Scotland	45	42	44
Netherlands	46	39	43
Spain	41	43	42
Portugal	46	38	42
Armenia	48	35	41
Belgium (French)	43	38	40
Wales	40	40	40
Greenland	37	36	37
Switzerland	40	33	37
Canada	35	31	33
Ireland	35	31	33
Slovakia	36	27	32
MKD[a]	42	22	32
Luxembourg	33	30	32
Ukraine	33	29	31
Italy	33	24	29
Finland	27	29	28
Romania	33	22	27
Russian Federation	26	25	26
Sweden	22	25	23
United States	21	19	20
Norway	20	18	19
Iceland	13	9	11
HBSC average	41	36	39

Note. No data for France or Turkey.

MEASURE Young people were asked at what age they had their first alcoholic drink. The findings presented here show the proportions that reported first drinking alcohol at age 13 or younger.

[a] The former Yugoslav Republic of Macedonia.

RISK BEHAVIOURS: CANNABIS USER GROUPS

	Discontinued users				Experimenters		
Country/Region	**15-year-olds (%)**			**Country/Region**	**15-year-olds (%)**		
	Boys	Girls	Total		Boys	Girls	Total
Czech Republic	10	9	9	Czech Republic	11	11	11
Greenland	10	6	8	Latvia	11	10	11
Lithuania	10	5	7	Spain	11	10	10
Estonia	9	6	7	Switzerland	9	9	9
Latvia	7	7	7	France	9	9	9
United States	7	6	6	Lithuania	11	6	9
Slovenia	7	4	6	Canada	8	9	9
Switzerland	7	4	6	Estonia	9	7	8
Canada	6	5	5	Slovenia	9	7	8
Hungary	6	4	5	England	7	8	8
Belgium (French)	5	5	5	Poland	8	6	7
France	6	3	5	United States	6	8	7
Ukraine	6	3	5	Netherlands	7	6	7
Belgium (Flemish)	4	5	4	Slovakia	7	6	7
Slovakia	5	3	4	Wales	6	7	7
England	4	5	4	Belgium (Flemish)	8	6	7
Poland	5	4	4	Scotland	7	6	7
Luxembourg	5	3	4	Hungary	6	6	6
Denmark	4	4	4	Italy	7	4	6
Russian Federation	5	2	4	Croatia	6	5	6
Spain	4	3	4	Belgium (French)	6	5	5
Netherlands	4	3	4	Denmark	6	5	5
Scotland	4	3	3	Luxembourg	6	5	5
Croatia	4	3	3	Finland	6	5	5
Austria	2	4	3	Ireland	5	5	5
Germany	3	3	3	Germany	5	4	5
Italy	3	2	3	Ukraine	7	2	4
Romania	3	2	3	Portugal	5	3	4
Portugal	3	2	2	Austria	4	4	4
Wales	2	2	2	Romania	5	2	4
Iceland	3	1	2	Greenland	2	4	3
Ireland	2	2	2	Iceland	4	2	3
Norway	1	1	1	Greece	4	1	2
Greece	1	1	1	Russian Federation	3	1	2
Finland	1	1	1	Norway	3	2	2
Armenia	2	0	1	Armenia	2	0	1
MKD[a]	1	0	1	MKD[a]	1	0	0
HBSC average	4	3	4	**HBSC average**	6	5	6

Note. No data for Sweden or Turkey.

MEASURE Young people (15-year-olds only) were asked whether 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:

[a] The former Yugoslav Republic of Macedonia.

Country/Region	Regular users 15-year-olds (%) Boys	Girls	Total	Country/Region	Heavy users 15-year-olds (%) Boys	Girls	Total
Canada	13	14	14	Canada	7	5	6
Switzerland	13	9	11	United States	6	3	5
France	12	10	11	Spain	5	2	3
United States	11	10	10	Belgium (French)	4	2	3
Spain	10	10	10	Switzerland	4	1	3
Italy	10	8	9	Luxembourg	4	2	3
Wales	8	9	9	Slovenia	3	2	3
Netherlands	8	8	8	Wales	4	1	3
Czech Republic	8	9	8	France	4	1	3
England	7	9	8	Scotland	4	1	2
Belgium (Flemish)	10	6	8	Czech Republic	3	2	2
Slovenia	8	6	7	England	3	1	2
Belgium (French)	7	6	7	Ireland	3	1	2
Scotland	8	6	7	Austria	3	0	2
Poland	9	4	7	Italy	3	1	2
Luxembourg	6	6	6	Netherlands	3	0	2
Latvia	8	4	6	Croatia	2	1	1
Ireland	7	4	6	Portugal	2	0	1
Slovakia	6	3	5	Greenland	2	0	1
Estonia	6	4	5	Belgium (Flemish)	2	0	1
Greenland	6	3	5	Latvia	2	0	1
Denmark	4	5	4	Poland	2	0	1
Austria	5	4	4	Denmark	2	0	1
Lithuania	6	2	4	Russian Federation	1	1	1
Portugal	5	3	4	Iceland	2	0	1
Hungary	5	2	3	Greece	2	0	1
Croatia	4	2	3	Estonia	1	0	1
Iceland	4	2	3	Hungary	2	0	1
Germany	4	1	3	Germany	1	0	1
Greece	3	2	3	Ukraine	2	0	1
Finland	2	2	2	Slovakia	1	0	1
Romania	3	1	2	Lithuania	1	0	1
Ukraine	3	1	2	Finland	1	0	1
MKD[a]	2	1	1	Norway	1	0	1
Norway	2	1	1	MKD[a]	1	0	0
Armenia	3	0	1	Armenia	1	0	0
Russian Federation	1	1	1	Romania	0	0	0
HBSC average	6	5	5	**HBSC average**	2	1	2

- **discontinued users:** those who have used cannabis at least once in their lifetime but not in the last 30 days or the last 12 months;
- **experimenters:** those who have used cannabis 1–2 times in the last 12 months;
- **regular users:** those who have used cannabis 3–39 times in the past 12 months;
- **heavy users:** those who have used cannabis 40 times or more in the past 12 months.

The findings presented here show the proportions in each user group.

RISK BEHAVIOURS: CANNABIS USE IN THE LAST 12 MONTHS

Country/Region	15-year-olds (%)		
	Boys	Girls	Total
Canada	28	28	28
Switzerland	28	20	24
Spain	26	22	24
France	24	21	23
United States	24	20	22
Czech Republic	21	22	21
Wales	20	18	19
Latvia	22	15	18
Slovenia	21	15	18
England	17	18	18
Netherlands	19	15	17
Italy	20	13	17
Belgium (French)	18	14	16
Belgium (Flemish)	19	13	16
Scotland	19	13	16
Luxembourg	17	13	15
Poland	19	10	15
Estonia	17	12	14
Lithuania	19	9	14
Greenland	15	12	13
Slovakia	16	10	13
Ireland	16	10	13
Denmark	12	11	11
Hungary	13	8	10
Austria	12	8	10
Croatia	12	8	10
Portugal	13	7	10
Finland	9	7	8
Germany	11	6	8
Ukraine	11	2	7
Iceland	10	4	7
Romania	9	3	6
Greece	10	3	6
Russian Federation	7	4	5
Sweden	7	4	5
Norway	6	3	4
Armenia	8	1	4
MKD[a]	3	1	2
HBSC average	16	11	13

Note. No data for 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 12 months.

[a] The former Yugoslav Republic of Macedonia.

RISK BEHAVIOURS: INVOLVED IN A PHYSICAL FIGHT AT LEAST ONCE IN THE PAST 12 MONTHS

Country/Region	11-year-olds (%) Boys	Girls	Total	Country/Region	13-year-olds (%) Boys	Girls	Total	Country/Region	15-year-olds (%) Boys	Girls	Total
Switzerland	—	—	—	Switzerland	—	—	—	Greece	68	33	50
Belgium (French)	80	47	63	Spain	97	90	93	Armenia	80	20	50
Latvia	76	30	53	Greece	70	35	52	Belgium (French)	51	27	39
Armenia	80	22	51	Armenia	80	22	51	Czech Republic	56	21	39
Czech Republic	73	25	49	Belgium (French)	68	31	50	Slovakia	52	25	38
Hungary	65	30	48	Czech Republic	71	25	48	Romania	55	20	37
Slovenia	63	28	46	Hungary	65	30	47	Hungary	50	23	36
Greece	60	32	46	Slovenia	66	28	47	Ireland	49	24	36
Romania	61	26	44	Romania	66	26	46	Austria	53	20	36
Ukraine	67	21	44	Croatia	65	27	46	Ukraine	54	18	36
Poland	67	20	44	Latvia	64	22	43	Italy	51	20	36
Spain	58	27	42	Ukraine	61	24	42	Lithuania	51	20	35
Russian Federation	60	24	42	Lithuania	60	24	42	Luxembourg	46	24	35
Croatia	62	20	41	Russian Federation	57	26	42	Latvia	50	19	35
Canada	56	25	40	Slovakia	58	24	41	Slovenia	48	20	34
Iceland	58	22	40	Austria	59	19	39	Russian Federation	47	21	34
France	56	24	40	England	52	24	38	United States	41	25	33
England	57	22	40	Canada	50	24	37	Croatia	48	17	33
Scotland	57	22	39	United States	45	27	36	Wales	42	23	33
Lithuania	61	17	39	France	52	20	36	Netherlands	43	22	32
Denmark	56	21	38	Wales	48	23	35	Belgium (Flemish)	41	24	32
Slovakia	54	20	37	Italy	51	20	35	Spain	43	21	32
Italy	54	19	37	Scotland	48	21	35	Canada	43	20	31
Netherlands	53	20	37	Ireland	49	20	35	England	41	21	31
Estonia	54	17	35	Poland	53	15	34	MKD[a]	48	14	31
Ireland	51	20	35	Iceland	51	16	33	Scotland	39	21	30
Sweden	52	19	35	Sweden	45	20	32	Poland	48	12	30
Austria	54	16	35	MKD[a]	47	17	32	France	42	18	30
Belgium (Flemish)	52	18	35	Netherlands	44	19	31	Switzerland	43	16	29
United States	45	22	33	Denmark	45	17	31	Sweden	35	20	27
Wales	48	18	33	Portugal	45	17	31	Finland	35	16	26
Luxembourg	43	20	31	Luxembourg	40	20	30	Estonia	35	15	25
Portugal	49	13	31	Estonia	46	14	30	Portugal	33	15	24
Finland	48	12	30	Greenland	41	19	30	Iceland	32	12	22
Greenland	43	15	29	Finland	43	15	29	Denmark	31	12	22
Germany	42	13	28	Belgium (Flemish)	42	13	28	Greenland	28	13	21
MKD[a]	35	15	25	Germany	35	11	23	Germany	26	10	18
HBSC average	57	22	39	**HBSC average**	55	23	39	**HBSC average**	45	19	32

Note. No data for Norway, Switzerland (11-year-olds and 13-year-olds) or Turkey.

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 last 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.

[a] The former Yugoslav Republic of Macedonia.

RISK BEHAVIOURS: BEEN BULLIED AT SCHOOL AT LEAST ONCE IN THE PAST COUPLE OF MONTHS

Country/Region	11-year-olds (%)			Country/Region	13-year-olds (%)			Country/Region	15-year-olds (%)		
	Boys	Girls	Total		Boys	Girls	Total		Boys	Girls	Total
Lithuania	59	56	57	Lithuania	58	58	58	Belgium (French)	55	39	47
Latvia	56	52	54	Belgium (French)	63	46	54	Lithuania	49	45	47
Belgium (French)	61	43	52	Latvia	50	48	49	Austria	45	32	38
Estonia	51	47	49	Ukraine	44	48	46	Romania	43	33	38
Ukraine	48	49	49	Estonia	50	42	46	Ukraine	36	38	37
Russian Federation	45	43	44	Romania	48	42	45	Latvia	37	36	37
Canada	42	43	42	Austria	47	41	44	Greenland	35	34	35
Switzerland	47	36	41	Portugal	47	37	42	Portugal	38	28	33
Romania	45	36	40	Russian Federation	42	40	41	Switzerland	32	28	30
Portugal	47	32	40	Greenland	39	38	39	Greece	34	26	30
Belgium (Flemish)	41	38	40	Switzerland	40	36	38	Germany	32	26	29
Greenland	44	35	39	Canada	36	38	37	France	28	28	28
Austria	43	35	39	France	37	34	36	Estonia	29	26	27
France	36	40	38	Finland	35	30	32	Canada	28	26	27
Hungary	40	31	36	England	32	31	32	Russian Federation	27	27	27
Finland	37	33	35	Germany	30	32	31	Luxembourg	25	27	26
Luxembourg	36	33	34	Luxembourg	31	29	30	Ireland	26	23	25
United States	34	32	33	Slovakia	33	26	30	Wales	27	22	25
Netherlands	35	30	32	United States	31	29	30	Finland	25	22	24
Ireland	33	32	32	Wales	31	28	30	Belgium (Flemish)	24	21	23
England	30	33	32	Hungary	31	27	29	Norway	24	19	21
Poland	36	28	32	Greece	30	27	28	England	21	21	21
Norway	30	31	31	Poland	35	21	28	United States	20	21	20
Slovakia	35	25	30	Ireland	29	25	27	Slovakia	20	20	20
Germany	32	27	30	Norway	29	24	26	Poland	24	15	19
Wales	31	29	30	Scotland	26	26	26	Hungary	18	19	19
Scotland	25	32	28	MKD[a]	32	19	25	Scotland	21	15	18
Denmark	25	25	25	Belgium (Flemish)	27	23	25	Netherlands	21	13	17
Greece	24	25	25	Netherlands	26	23	24	MKD[a]	21	12	16
Iceland	26	23	25	Slovenia	26	23	24	Slovenia	19	14	16
MKD[a]	26	18	22	Croatia	21	19	20	Czech Republic	15	15	15
Slovenia	21	21	21	Iceland	23	17	20	Croatia	14	13	13
Croatia	21	16	19	Denmark	19	21	20	Denmark	14	12	13
Spain	20	11	16	Czech Republic	17	16	17	Iceland	12	11	12
Italy	20	10	15	Spain	20	12	16	Spain	14	9	12
Czech Republic	16	14	15	Sweden	14	13	13	Sweden	9	10	9
Sweden	14	14	14	Italy	13	10	11	Armenia	9	9	9
Armenia	16	12	14	Armenia	13	9	11	Italy	9	6	7
HBSC average	34	30	32	**HBSC average**	33	29	31	**HBSC average**	25	22	24

Note. No data for Turkey.

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.

[a] The former Yugoslav Republic of Macedonia.

RISK BEHAVIOURS: BULLYING OTHERS AT SCHOOL AT LEAST ONCE IN THE PAST COUPLE OF MONTHS

Country/Region	11-year-olds (%) Boys	Girls	Total	Country/Region	13-year-olds (%) Boys	Girls	Total	Country/Region	15-year-olds (%) Boys	Girls	Total
Latvia	59	45	51	Latvia	69	59	65	Romania	68	61	64
Romania	52	44	48	Romania	66	59	63	Latvia	63	59	61
Lithuania	54	37	45	Lithuania	65	55	60	Lithuania	66	48	57
Estonia	53	35	44	Estonia	64	42	53	Greece	65	37	51
Belgium (French)	52	33	42	Ukraine	54	47	50	Austria	63	37	50
Ukraine	47	37	42	Switzerland	57	39	48	Switzerland	59	38	48
Switzerland	48	26	37	Austria	57	37	47	Greenland	51	45	48
Greenland	41	32	37	Greenland	46	41	44	Ukraine	50	42	46
Russian Federation	41	29	35	Belgium (French)	51	36	43	Germany	54	31	43
Belgium (Flemish)	40	25	33	France	46	38	42	France	50	35	42
Poland	41	23	32	Germany	48	36	42	Estonia	53	30	41
Slovakia	38	25	32	Slovakia	46	35	40	Luxembourg	47	34	41
France	35	28	32	Greece	51	29	40	Belgium (French)	45	35	40
Austria	40	22	31	Canada	42	37	40	Belgium (Flemish)	42	35	38
Portugal	40	21	31	Portugal	45	33	39	Slovakia	45	32	38
Canada	34	27	30	Russian Federation	45	33	39	Canada	44	32	38
Luxembourg	35	26	30	Luxembourg	44	32	38	Poland	45	24	35
Netherlands	35	20	28	Belgium (Flemish)	37	29	33	Russian Federation	38	25	32
Greece	34	20	27	Slovenia	40	25	33	Netherlands	39	24	31
Germany	31	22	26	Finland	39	26	32	Finland	39	22	31
Hungary	33	19	26	United States	34	30	32	United States	33	25	29
Finland	35	16	26	Poland	41	23	32	Portugal	36	21	28
United States	25	21	23	Netherlands	35	25	30	Slovenia	34	20	27
MKD[a]	29	17	23	Hungary	37	21	29	MKD[a]	34	20	27
Slovenia	26	16	21	MKD[a]	36	20	28	Norway	38	16	27
Norway	26	16	21	Croatia	33	18	26	Hungary	31	16	24
Denmark	26	13	19	England	33	18	26	Denmark	31	16	23
Iceland	27	11	19	Norway	33	16	24	England	31	15	23
Scotland	21	14	17	Wales	28	19	23	Croatia	30	16	23
Ireland	20	12	16	Spain	27	19	23	Spain	26	18	22
Spain	19	10	15	Denmark	25	18	22	Wales	28	13	20
Italy	20	8	14	Scotland	25	15	20	Italy	22	16	19
England	18	10	14	Italy	24	14	19	Ireland	28	11	19
Croatia	20	8	14	Iceland	25	12	18	Scotland	26	11	18
Armenia	22	5	13	Armenia	24	8	16	Czech Republic	23	13	18
Wales	15	9	12	Sweden	19	13	16	Sweden	21	11	16
Czech Republic	11	8	9	Ireland	21	10	16	Armenia	22	8	15
Sweden	13	6	9	Czech Republic	18	12	15	Iceland	18	8	13
HBSC average	33	21	27	**HBSC average**	40	28	34	**HBSC average**	40	26	33

Note. No data for Turkey.

MEASURE Young people were asked how often they had taken part in bullying (an)other 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 at school in the past couple of months.

[a] The former Yugoslav Republic of Macedonia.

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ISBN 978 92 890 1423 6
Original: English

SOCIAL DETERMINANTS OF HEALTH AND WELL-BEING AMONG YOUNG PEOPLE

HEALTH BEHAVIOUR IN SCHOOL-AGED CHILDREN (HBSC) STUDY:
INTERNATIONAL REPORT FROM THE 2009/2010 SURVEY

This book is the latest addition to a series of reports on young people's health by the Health Behaviour in School-aged Children (HBSC) study. It presents findings from the 2009/2010 survey on the demographic and social influences on the health of young people aged 11, 13 and 15 years in 39 countries and regions in the WHO European Region and North America. Responding to the survey, the young people described their social context (relations with family, peers and school), physical and mental health, health behaviours (patterns of eating, tooth brushing and physical activity) and risk behaviours (use of tobacco, alcohol and cannabis, sexual behaviour, fighting and bullying).

Statistical analyses were carried out to identify meaningful differences in the prevalence of health and social indicators by gender, age group and levels of family affluence. The findings contribute to a better understanding of the social determinants of health and well-being among young people.

Through this international report on the results of its most recent survey, the HBSC study aims to supply the up-to-date information needed by policy-makers at various levels of government, nongovernmental organizations, and professionals in sectors such as health, education, social services, justice and recreation, to protect and promote young people's health.

World Health Organization
Regional Office for Europe

Scherfigsvej 8, DK-2100 Copenhagen Ø, Denmark
Tel.: +45 39 17 17 17
Fax: +45 39 17 18 18
E-mail: contact@euro.who.int

Web site: www.euro.who.int

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