INTRODUCTION
HEALTH BEHAVIOUR IN SCHOOL-AGED CHILDREN (HBSC) STUDY

HBSC, a WHO collaborative cross-national study, asks 11-, 13- and 15-year-old boys and girls about their health and well-being, social environments and health behaviours every four years using a self-report survey. Full contact details for the international survey and national teams can be found on the HBSC website (1).

HBSC uses findings at national and international levels to:
- gain new insight into young people’s health and well-being
- 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 now grown to include 44 countries and regions across Europe and North America. The table shows the growth in the international network over the nine survey rounds.

RESEARCH APPROACH
HBSC focuses on understanding young people’s health in their social context – at home, school, and with family and friends. Researchers in the HBSC network are interested in understanding how these factors, individually and collectively, 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 2013/2014 international study protocol (2).

Each country or region uses random sampling to select a proportion of young people aged 11, 13 and 15 years, ensuring that the sample is representative of all in the age range. Around 1500 students in each HBSC country or region were selected from each age group in the 2013/2014 survey, totalling almost 220 000 (see the Annex for further details).

Of the 44 countries and regions that are HBSC network members, 42 completed the 2013/2014 survey and met the guidelines for publication of data in this report. Those not included were unable to conduct the survey. Fieldwork took place mainly between September 2013 and June 2014, except in four countries, where an extended fieldwork period was necessary to reach the required sample size. Further information on the survey design, consent and fieldwork is given in the Annex, and a more detailed description of the research approach is set out in the HBSC 2013/2014 international study protocol (2). Methodological development of the study since its inception is described by Roberts et al. (3).

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, alcohol and tobacco use, physical activity levels and diet. HBSC’s findings show the changes in young people’s health as they move from childhood through adolescence and into adulthood. They can be used to monitor young people’s health and determine the effectiveness of health improvement interventions.

HBSC RESEARCH NETWORK
The number of researchers working on HBSC across the 44 countries and regions now exceeds 340. Information on each national team is available on the HBSC website (1). The study is supported by two specialist centres: the International Coordinating Centre, based at the Child and Adolescent Health Research Unit, School of Medicine, University of St Andrews, United Kingdom (Scotland);

1 This report uses the terms young people and adolescents interchangeably to describe respondents to the survey.
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<th>Year</th>
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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.
ENGAGING WITH YOUNG PEOPLE

The vision is to involve young people in all aspects of the HBSC study beyond completing questionnaires in the classroom, from identifying domains of inquiry to the dissemination of results. Youth engagement consequently has become a core and integral part of the work undertaken in the HBSC network. It represents a meaningful way of recognizing and including young people as critical stakeholders in the production of science and policy.

Fundamental to the work is Article 12 of the United Nations Convention on the Rights of the Child, which enshrines the rights of children to have their views and opinions heard, respected and taken into account. Young people have a right to participate in issues that concern their lives and in the determination of decisions that are relevant to them. Their role in research has traditionally been as a resource, but participatory research engages them to do more than provide responses to research instruments designed by adults. Given that children and young people are experts in their own lives, their active engagement in research that is relevant to them is essential.

The HBSC network has developed a range of methodologies to facilitate young people’s active engagement in the research process. The approach explicitly concerns power within the research cycle and the requirement for research to be both empowering and health-promoting. Participatory research approaches with young people have been employed in the HBSC study in relation to data generation, devising new research areas and related questions, and data analysis, interpretation and dissemination.

There are countless examples of teams in the network embracing such approaches in their national projects, including those in Canada, Czech Republic, France, Ireland, Poland, Portugal, Scotland, Slovakia and United Kingdom (England). Others aim to document the scientific evidence base on the benefits of involving young people in the development, implementation and evaluation of health-related programmes.

While there is still much to do in terms of streamlining practice at international level, the HBSC work will drive the case for youth engagement as an international standard in adolescent health research. The aim is to capture data that are meaningful to young people and which reflect their current lifestyles, while also being of significant value to programme and policy design.

Quotations supplied by the HBSC Youth Engagement Group appear throughout this report, highlighting issues young people have identified as being important to them.

ENGAGING WITH POLICY-MAKERS

Data such as those presented in this report provide an essential, but not sufficient, basis for policy action to improve young people’s well-being. The HBSC network therefore works closely with external partners to maximize the impact of its findings and the reach of its experts.

Through its long-standing partnership with WHO, the study has become an integral part of efforts to invest in young people’s health, such as the European child and adolescent health strategy for 2015 to 2020, major publications on adolescent health, global adolescent health indicator coordination and the development of WHO collaborating centres specifically aimed at increasing the knowledge base on adolescent health.

2 Current centres include: the WHO Collaborating Centre for International Child and Adolescent Health Policy (Scotland); the WHO Collaborating Centre for Health Promotion and Education (Norway); the WHO Collaborating Centre for Health Promotion Research (Ireland); and the WHO Collaborating Centre for Health Promotion and Public Health Development (Scotland).
HBSC experts and data have been integral to the development, implementation and monitoring of strategies. This latest HBSC report, which is part of the WHO Health Policy for Children and Adolescents series established in 1999, represents an additional effort to raise the profile of children and young people’s health for policy-makers.

One of the main aims of the HBSC network is to create and maintain active collaboration with health and education ministries, and other government entities responsible for the well-being of young people. The study has been at the forefront of making research relevant to policy and practice, while also engaging with policy-makers in identifying themes that should be included in the study.

The WHO/HBSC Forum series (11–13) convened researchers, policy-makers and practitioners to analyse data, review policies and interventions and formulate lessons learnt about priority public health issues from the perspective of social determinants of health. HBSC members work nationally to encourage the inclusion and use of adolescent health indicators in relevant policy and implementation documents.

The study has also built strong relationships with national and international stakeholders, such as other adolescent health surveys, lobbyists, and professional groups and networks, including the United Nations Children’s Fund (UNICEF), the European Commission, the Organisation for Economic Co-operation and Development, Eurochild, the Excellence in Pediatrics Institute and the Schools for Health in Europe Network. These organizations work strategically and practically to advance the rights and well-being of young people and benefit from the use and dissemination of HBSC data. HBSC data and experts have featured, for example, in a number of UNICEF report cards, including the forthcoming Report Card 13 that will be published in 2016. HBSC continues to explore innovative ways to engage with stakeholders interested in improving young people’s health and is willing to work with organizations and individuals seeking to advance this goal.

SOCIAL DETERMINANTS OF HEALTH AND WELL-BEING AMONG YOUNG PEOPLE

Evidence gathered over the last few decades shows that disadvantaged social circumstances are associated with increased health risks (14–16). 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 within and between countries are avoidable (17), 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. Less 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, as UNICEF puts it (18), “turn this vulnerable age into an age of opportunity”.

In general, young people in the WHO European Region enjoy better health and development than ever before, but are failing to achieve their full potential. This results in significant social, economic and human costs and wide variations in health. Health experience during the adolescent period has short- and long-term implications for individuals and society. Within a life-course approach (19), adolescence is 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.

Findings presented in this report can contribute to WHO’s European policy for health and well-being, Health 2020 (20), which aims to ensure an evidence-based and coherent policy framework capable of addressing present and future challenges to population health. It provides a clear common vision and roadmap for pursuing health and health equity across the European Region, strengthening the promotion of population health and reducing health inequities by addressing the social determinants of health. The data can also support implementation of the European child and adolescent health strategy (8), which calls for targeted action to break negative cycles in childhood and adolescence and give every child the opportunity to live a healthy and meaningful life.
Attempts to address health inequalities 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 regions 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 circumstances 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 but have been insufficiently 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 (21). 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 determinants of, and inequalities in, young people’s health by presenting data from the HBSC 2013/2014 survey analysed in four dimensions: age, gender, country/region of residence and family affluence. First, however, it describes what is known about the relationship between social determinants and young people’s health and well-being.

**OVERVIEW OF PREVIOUS HBSC FINDINGS**

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

**Age differences**

Young people’s health choices change during adolescence. Health inequalities emerge or worsen and translate into continuing health problems and inequalities in the adult years (22,23). 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 (18). This is vital for individuals as they grow, but is also important as a means of maximizing return on programmes focused on increasing 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 (24).

Gender differences for some health behaviours and indicators, such as current attempts to lose weight (25) and psychosomatic complaints (24,26–31), tend to increase during 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 health differentials based on gender 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 (26). Similarly, the gender difference in drunkenness is greater in eastern European countries (31). These findings underscore the need to incorporate macro-level sociocontextual factors in the study of gender health inequalities among young people (27).

**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 (32–34) and participating in fee-based physical activity (35,36). Young people living in low-affluence households are less likely to have adequate access to health resources (37) and more likely to be exposed to psychosocial stress, which underpin health inequalities in self-rated health and well-being (38). Many of these inequalities have persisted or increased over time (39,40). A better understanding of the effects may enable the identification of the origins of socioeconomic differences in adult health and offer 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 and regions with large differences in wealth distribution are more vulnerable to poorer health outcomes, independent of their individual family wealth (27,30,40–44).

**Country differences in health**

Variations between countries and regions in patterns of health and its social determinants are seen. 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 (45) and to changes in social norms and economic factors.

The findings underline the importance of the wider societal context and the effect—positive and negative—it can have on young people’s health. While geographic patterns are not analysed in this report, the maps featured in Chapters 2–5 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 in the immediate social context of young people’s lives can offset the effect of some structural determinants of health inequalities, including poverty and deprivation (46–48). 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 in poorer life circumstances (12). 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 (49). Young people who report ease of communication with their parents are also more likely to experience a range of positive health outcomes, such as higher self-rated health, higher life satisfaction (31) and fewer physical and psychological complaints (23). HBSC data show that ease of communication with mothers and fathers has increased in many countries in recent years (50).
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 children will experience positive health (51). This suggests that professionals working in young people’s health should not only address health problems directly, but also consider families’ 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 and regions in which having high-quality peer relationships serves as a protective factor, with the positive effects on adolescent health including fewer psychological complaints (52).

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 (31). 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 (53,54).

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 (55–59) and low smoking prevalence (60). 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 (12,61) and greater likelihood of physical activity (62). Building neighbourhood social capital is therefore a means of tackling health inequalities.

This review of 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.

NEW TOPICS INCLUDED IN THE 2013/2014 REPORT
The HBSC study has a continuous process of item review and development to address current issues affecting young people’s health and well-being, and several new topics were introduced in the 2013/2014 survey. New topics presented here include peer and family support, serious injury, migration and cyberbullying. Data are included in the main chapters and/or the Annex.

Peer and family support
Social support from peers and parents is an important protective asset and is critical for adolescent psychosocial well-being. New items from the Multidimensional Scale of Perceived Social Support (MSPSS) (63) measuring perceived social support from parents and friends were added to existing items on family and peer relationships to provide insights into the role they play in young people’s lives.

Serious injury
Three items on serious injury were included in the 2013/2014 survey: in the past 12 months, has the young person undergone a serious injury that needed medical treatment, such as stitches, a cast, surgery or overnight hospitalization; where were they when this happened; and what activity were they doing?
Serious injuries have important mortality and morbidity implications. Unintentional injuries (including traffic injuries, drowning, burns and falls) are the leading cause of death for children aged 10–19 years. Road traffic injuries alone are the leading cause of death among 15–19-year-olds and the second leading cause among those aged 10–14 \( (18,64) \). Severe injuries can require hospital treatment and cause lost school days, disabilities and physical and psychological wounds, with long-term consequences for the young person and substantial financial costs to the family and society. Consequently, monitoring and understanding serious injuries has been prioritized \( (65) \). Surveillance can allow the identification of more distinct patterns of occurrence of burdensome events and their potential causes, which can help to focus prevention strategies.

**Migration**

Recent years have seen growth in understanding of the vulnerability of immigrant adolescents and their susceptibility to reduced well-being and greater involvement in risk behaviours \( (66–69) \). Global migration and the increasing numbers of young people with immigrant roots \( (70) \) make the subject a critical public health issue. A mandatory question asking young people where they and each of their parents were born was introduced in the 2013/2014 survey: a summary table of results can be found in the Annex.

**Cyberbullying**

Two new mandatory questions on cyberbullying victimization were included, asking young people: if they had experienced being sent mean messages, emails, texts or wall-postings, or someone had created a website that made fun of them; or someone had taken unflattering or inappropriate photographs of them without permission and posted them online.

Constant access to internet and media devices has changed the way young people interact with and connect to each other. While this offers a wide range of benefits, it may also present the context for negative outcomes \( (71) \).

Cyberbullying is typically defined as aggression that is intentionally and repeatedly carried out in an electronic context (through, for example, email, blogs, instant messages and text messages) against a person who cannot easily defend him- or herself \( (72) \). Exposure to cyberbullying has been related to a wide range of negative outcomes, including anxiety, depression, substance abuse, increased physical symptoms, dropping out of school and decline in school performance \( (73,74) \). The new questions allow monitoring of the prevalence of this new, relevant and worrying phenomenon and understanding of its relationship to other facets of adolescent lives such as well-being, social relationships, academic performance and risk behaviours.

**Accessing data**

Data presented in this report can be accessed at the WHO Regional Office for Europe’s health information gateway \( (75) \) and via the WHO European health statistics mobile application \( (76) \).

**REFERENCES**


47. Morgan A. Social capital as a health asset for young people’s health and wellbeing. J Child Adolesc Psychol. 2010;Suppl. 2:19–42.


