HEALTH BEHAVIOUR IN SCHOOL-AGED CHILDREN (HBSC) STUDY PROTOCOL: BACKGROUND, METHODOLOGY AND MANDATORY ITEMS FOR THE 2009/10 SURVEY
HEALTH BEHAVIOUR IN SCHOOL-AGED CHILDREN (HBSC) STUDY PROTOCOL:
BACKGROUND, METHODOLOGY AND MANDATORY ITEMS FOR THE 2009/10 SURVEY

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The preparation of this Study Protocol was coordinated jointly by the HBSC International Coordination Centre (Edinburgh)¹ and the Ludwig Boltzmann Institute for Health Promotion Research (Vienna)².

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Further thanks are given for the continuing support of our valued partners who include: the World Health Organization’s Regional Office for Europe, NHS Health Scotland, who funds the HBSC International Coordination Centre, and the numerous national funders of HBSC country teams.
The Health Behaviour in School-aged Children: WHO Collaborative Cross-National Study (HBSC) network aims to share knowledge and increase transparency in our work. By making our Study Protocol available to researchers, policy makers and a wide range of stakeholders, we are hoping to raise awareness of and promote the HBSC Study internationally.

This document is an abridged version (hereafter termed 'External Protocol') of the full HBSC International Study Research Protocol for the 2009/10 Survey (hereafter termed 'Internal Protocol'). The External Protocol is available to the public on the HBSC website (www.hbsc.org).

HBSC cross-national surveys are conducted every four years in member countries. For each survey, an Internal Protocol is produced by the International HBSC Network members. It includes full information on HBSC’s scientific rationale and methodology, as well as, mandatory and optional survey questions of the HBSC Survey. The Internal Protocol is a resource developed specifically for Network members to support practical elements, such as survey administration and translation guides. It also details conceptual work and research areas under development.

In response to growing interest in the Study, the HBSC network has prepared an abridged version of the full Study Protocol – the External Protocol – for public use. The External Protocol summarises the Internal Protocol and includes: the historical development of the HBSC Study, its conceptual framework and details of published work. Further to this, an overview of our scientific background and methods, including the mandatory survey items is also provided. Note HBSC optional item packages are listed by title, but full item descriptions are not provided as they include developing HBSC work.

As with most surveys, HBSC validation work is ongoing. The External Protocol is not intended to be a comprehensive guide on how to complete the HBSC Survey outside of HBSC member countries. However, it is hoped that the External Protocol will provide a window into the HBSC Network and an overview of our history, methodology and findings.

The HBSC Network welcomes external interest in our work and seeks to forge new research collaborations internationally.

**Professor Candace Currie, OBE**
International Coordinator of the HBSC Study
1 Background rationale and HBSC organisational structure
The Health Behaviour in School-aged Children: a World Health Organization (WHO) Collaborative Cross-National Study (HBSC), is a unique cross-national research study of the health and health behaviours of adolescents across a large number of countries in Europe and North America, conducted in collaboration with the WHO Regional Office for Europe. Research into children’s health and health behaviours, as well as the factors that influence them, is essential for the development of effective health promotion and health improvement policies, programmes and practices. It is important that young people’s health is considered in its broadest sense, encompassing physical, social and emotional well-being; and that in accordance with the WHO perspective, health is acknowledged as a resource for everyday living, and not just the absence of disease. Thus research into children’s health must investigate positive aspects of health and well-being as well as risk factors for future ill-health and disease. Many of the behaviours that comprise young people’s lifestyles may directly or indirectly impinge on their health in the short or long term and consequently a wide range of behavioural variables should be measured. HBSC takes a social, rather than biomedical, research perspective which means studying the social environmental determinants of child and adolescent health and health behaviour. Family, school and peer settings and relationships, and the socioeconomic environment in which young people are growing up, are all explored in order to understand the patterns of health and health behaviour found in the adolescent population.

Aims and objectives

The HBSC study aims to gain new insight into, and increase understanding of, adolescent health behaviours, health and lifestyles in their social context. The study is both an international research study and an international monitoring study of health and health behaviours in school-aged children. Researchers participating in the HBSC study come from different disciplinary backgrounds and use a variety of conceptual and theoretical models to describe, analyse and explain the health and health behaviours of young people. The main objectives of the study are as follows:

- to initiate and sustain national and international research on health and well-being, health behaviour and the social context of health in school-aged children;
- to contribute to theoretical, conceptual and methodological development in the area of research on health and well-being, health behaviour and the social context of health in school-aged children;
- to collect relevant data on school-aged children and to monitor health and well-being, health behaviour and social contexts of school-aged children in member countries;
- to contribute to the knowledge base on health and well-being, health behaviour and the social context of health in school-aged children;
- to disseminate findings to the relevant audiences including researchers, health and education policy makers, health promotion practitioners, teachers, parents and young people;
- to link to WHO objectives, especially in relation to the European Child and Adolescent Health Strategy;
- to support the development of health promotion with school-aged children;
- to promote and support the establishment of national expertise on health and well-being, health behaviour and the social context of health in school-aged children; and
- to establish and strengthen an international network of experts in this field.
HBSC organisational structure

The study is composed of a network of around 300 individual researchers based in University departments, research centres or organisations, governments or other institutions (the Principal Investigators and their national teams) who work in collaboration with the WHO. It comprises a number of working groups with specific responsibilities within the network. There are three principal elected roles: the International Coordinator (IC), the Deputy International Coordinator and International Data Manager (DM). The IC is responsible for the overall coordination of the study, acts as the key link with the WHO, and manages the Study’s International Coordinating Centre (ICC). The Deputy International Coordinator provides support to the IC, ICC and Network as required. The DM is responsible for the organisation of the international data file, the standards for data inclusion, the codebook and all related matters. The main decision-making body is the Assembly, consisting of all national Principal Investigators (PI). The network Coordinating Committee (CC) is an elected body that advises and supports the International Coordinator and Assembly in reviewing the management, organisation, activities and progress of the study. Following the 1997/98 survey, a system of working groups was established which enabled all members to contribute to the development of the Study within their area of expertise and interest. These groups, known as Focus Groups (FGs) have worked on the following specific scientific topic areas: Family Culture; Peer Culture; Social Inequality; School Setting; Eating and Dieting; Physical Activity; Positive Health; Risk Behaviour; Sexual Health; and Violence and Injuries. The FGs are responsible for the development of research in their chosen area including conceptual development, the production of a scientific rationale, development of new survey items and validation. Each Focus Group is represented on the Scientific Development Group (SDG) which is chaired by the International Coordinator and is responsible for overseeing Focus Group work, refining the conceptual framework and ensuring production of the Protocol. Each Focus Group also has a representative on the Policy Development Group (PDG) which has the task of devising a framework, which informs the policy content and dissemination strategy for the International Reports and the wider Study. The Methodology Development Group (MDG) is an expert group who works to provide quality improvement and methodological advice for the Study. The Network membership meets twice a year with a full scientific meeting in the spring and a working meeting in the autumn/fall. The HBSC website is the main means of information sharing for network members through a “Members Only” area. The public area of the website (HBSC Website) provides a comprehensive source of information for external interest groups and professionals.

HBSC membership

HBSC was initiated in 1982, by researchers from three countries – Finland, Norway and England. The study began as a small, informal collaboration with five countries carrying out the first survey in 1983/84. The membership has grown steadily over the years with 43 countries/regions taking part in the 2009/10 survey. As one of the primary aims of the study is to produce data of the highest possible quality, membership of HBSC is strictly dependent upon adherence to the International Research Protocol for each survey. The rapid expansion of the study during the 1990s necessitated a formalisation of the process for joining the study and the procedures for applying are outlined in detail in the HBSC Terms of Reference.
Currently, HBSC admits new countries within the European region of the WHO as Associate members. These members attain full membership status once they have successfully completed a survey and their data have been accepted for inclusion in the international data file. In 2010, the HBSC Network established a linked project system. This system is for non-HBSC Members countries outside of Europe and North America who use HBSC methodology available in the public domain to conduct surveys in their countries/regions. Countries are asked to register their interest in becoming a linked project on the HBSC website. Whilst linked researchers and projects are not official members of the HBSC Network, nor can the Network validate their work, the creation of this system allows HBSC to participate in a wider global exchange with researchers that are using HBSC methodology. HBSC sees this as a step forward in increasing its transparency and engaging in greater scientific collegiality with colleagues around the world.

References

2 Conceptual framework
The perspective taken from the study's inception was one in which adolescent health-related behaviours were seen as part of young people's broader lifestyle and health was viewed in its social context. Both the wider society and the social worlds that adolescents inhabited were considered important influences on their behaviour. Health behaviour, health and well-being were considered to be outcomes of individual and environmental factors which, in turn, were seen as predictors or determinants. The importance of demographics and the macro-social context as influences were also explicitly acknowledged in the early descriptions of the HBSC conceptual framework. The survey design and content has always acknowledged that how young people feel is a valid aspect of their health, and as such, they can accurately report on it. Further to this, adolescents' everyday symptoms and health complaints, as well as their reflections on their health and well-being, have also been included in HBSC. A developmental perspective informed the choice of age groups to study. It recognised that maturational processes affect cognitive function, self-perceptions and psychological processes, and that social influences and expectations also vary according to age and maturational age. The selected age groups – 11, 13 and 15 – represent the onset of adolescence, the time when young people face the challenges of physical and emotional changes; and the middle years, when young people start to consider important life and career decisions. They also mark a period of increased autonomy and choice around patterns of consumption.

The initial conceptual framework for HBSC has been further developed, with an increasing focus on inequality and the social determinants of health as well descriptive work around cross-national comparisons and trends. There has also been the recognition of new threats and challenges to adolescent health and a growing exploration of macro-level influences on social, health and behavioural outcomes. At the macro-level, policies, education and information are all considered to be important components of the model. In recent years, the use of the term "lifestyle" has largely been replaced by a simpler terminology of health and well-being, health behaviours, and personal and contextual factors. This change befits the broad social settings/social contextual approach that has become the common framework used by the international group. With the growth of the study and the expansion of the international research network, the multidisciplinarity of the study's approach has been emphasised and reinforced. This growth has allowed multiple strands of research to proceed simultaneously, and a cross-fertilisation or "fusion" of conceptual approaches. There are at least four general conceptual approaches integrated into the HBSC study.

1. A social psychological approach which includes the original lifestyle approach, and the more general social settings/context approach. This paradigm can also embrace developmental perspectives and approaches which consider psychological factors such as personal coping skills, self-esteem, perceived social support, and perceived social strain, in explanations of health behaviours and health at the individual level.

2. A public health/epidemiological approach, including surveillance, the study of populations at risk, trends, and identification of risk factors. To study trends, countries need to have participated in at least three successive surveys; trends in social contextual factors can be analysed as well as trends in health and behaviour.

3. A socio-ecological/multilevel approach which can include: investigating the interplay between individual and environmental/system level correlates; identifying the risk and resilience factors within social settings and circumstances; conducting theory-driven or theory-building research; use of multivariate and multi-level analyses; identifying social structural/system variables to gain a new level of understanding of dependent variables.

4. A developmental or biological approach where the importance of maturation, including timing of puberty, in influencing health and well-being and health and risk behaviours, is considered.
Over the years, the study has seen some significant advances. In particular, these include the introduction of new theories and concepts which contribute to a more sophisticated and multifaceted understanding of health in young people; the development of new instruments to address new research questions; and the use of advanced statistical tools to enhance data interrogation and analytic enquiry. The principal work in the development of the 2009/10 protocol may be described as review, revision and an elaboration of previous protocols and instruments to measure background factors, social resources, individual resources, developmental factors, environmental/setting characteristics, health behaviours and health outcomes.

References

Survey methodology
The HBSC survey instrument

HBSC is a school-based survey, and data are collected through self-completion questionnaires administered in the classroom. Data are then collected and compiled into an international data file. Surveys have been conducted at four year intervals since 1985/86 in a growing number of member countries (See Table 1). An International Protocol is developed by study members for each survey. The HBSC international questionnaire for each survey consists of three types of questions which are used to create the national survey instrument: mandatory questions that each country is required to include to create the international dataset; optional packages of questions on specific topic areas from which countries can choose; and country-specific questions related to issues of national importance. A summary of all the mandatory and optional items included in the 2009/10 questionnaire is presented in Table 2. The full mandatory questionnaire is available in Appendix 1. For the 2009/10 survey, a school level questionnaire was introduced to describe school health promotion policies and processes, to analyse schools according to organisational factors relevant for health and health promotion, and to investigate how organisational factors and health promotion structures and characteristics are associated with students’ health behaviours, health and life satisfaction.

The HBSC international mandatory questionnaire allows for the collection of common data across all participating countries, enabling the quantification of patterns of key health behaviours, health indicators and contextual variables. These data allow cross-national comparisons to be made and, with successive surveys, trend data are gathered and may be examined at both the national and cross-national level. As well as being a research and monitoring study, HBSC also aims to inform and have impact on health promotion and health improvement policies, programmes and practices aimed at young people at both national and international levels.

Survey questions cover a range of health indicators and health-related behaviours as well as the life circumstances of young people. Questions are subject to validation and piloting at national and international levels, with the outcomes of these studies being shared within the network and being published internationally. The mandatory questions provide information on: demographic factors (e.g., age, gender, socioeconomic status); social context (e.g., family, peer culture, school environment); health outcomes (e.g., self-rated health, injuries, overweight and obesity); health behaviours (e.g., eating and dieting, physical activity and weight reduction behaviour); and risk behaviours (e.g., smoking, alcohol use, cannabis use, sexual behaviour, bullying). Analysis of trends is possible as a number of these mandatory items have remained unchanged over three or more survey cycles.

The layout of national questionnaires depends on the individual use of optional packages and additional questions of national interest. However, guidance is provided on the overall design and balance of topic areas, and on some general principals. For example:

- It is recommended that generic questions be placed before specific ones so that an immediate response is gained without being influenced by reactions to questions on more specific perceptions within the same setting or context.
- Optional package items can be placed within the topic area following on from mandatory items.
- Sensitive questions in the mandatory questionnaire should be carefully placed in order to reduce their sensitivity and to avoid association with other items which could influence responses.
A standard text is used for the cover of the final student questionnaires. The text explains the aim of the study, the confidential nature of answers and processes to ensure confidentiality, the option to not answer any or all of the questionnaire, and simple instructions on answering the questions.

Original language and English language versions of the final student and school-level questionnaire form part of the metadata available for each country’s data file.

Translation

The source language for all questions is English and these are then translated into the national language(s). Accurate translation is crucial for robust cross-national comparison of survey results. The standard approach in HBSC has been to ask the same question in each country, that is to say a direct translation with adaptations permitted only when absolutely necessary for linguistic clarity. The standard method employed in the study for checking translations is a back-translation process, whereby the translated questions are back-translated into the source language (English in this case) and compared against the original. Although this method, without any additional reviewing techniques, has limitations\(^1\), it is still able to identify major errors and highlight potential discrepancies. In recent surveys, the back-translation process has been strengthened by incorporating a more thorough system where back-translations are also independently checked by a translation team specifically established for the task, followed by discussion, and further review between the researcher and translator where necessary.

New member countries carrying out the survey for the first time are required to test their translations through pilot surveys and qualitative work (e.g. focus groups with children). Translations are adjusted at this stage and may also be further refined during the required pilot phase prior to each survey. Similarly, new items are thoroughly tested across countries in this way. From the early phase of the study, language groups have been established, and reflected in geographical zones used in the management structure for the study. For example, those countries that include Russian speaking populations have collaborated to work more efficiently and ensure consistency with translations.

Validation

HBSC is involved in a continuous process of developing and validating their research instruments. Validation of the research instruments is an important part of quality assurance, permitting robust research conclusions to be reached. In addition, identifying and publishing the psychometric properties of HBSC instruments/items allows other studies and researchers to use the items in other surveys. Within member countries, validation work is ongoing, and new validation initiatives are undertaken as new instruments and items are developed for each survey round. These are available internally to the Network. Over the years, HBSC members have published validation studies on a wide range of topics, for example validation of the family affluence scale\(^6,13,18,24\), the subjective health questionnaire\(^13-15\), the food frequency questionnaire\(^27\), and the KIDSCREEN 10 index\(^9\).
Sampling

The specific population targeted for sampling (the sample frame) is young people attending school aged 11, 13, and 15. The desired mean age for the three age groups is 11.5, 13.5, and 15.5 years. A minimum of 95% of the eligible target population should be within the sample frame. Countries may choose to stratify their samples to ensure representation by, for example, geography, ethnic group, or school type.

Cluster sampling is used, the primary sampling unit being school class. Where the number of classes eligible for sampling is unknown, probability proportionate to size (PPS) sampling is used, making use of actual or estimated school size. When schools are the primary sampling unit a single class is chosen to be included in the sample once the required information is available from selected schools. All pupils within selected classes are included in the sample. The recommended sample size for each of the three age groups is set at approximately 1,500 students, the calculation assuming a 95% confidence interval of +/- 3% around a proportion of 50% and a design factor of 1.2, based on analyses of existing HBSC data.

Differing school systems mean that imposing a uniform sampling approach to timing of the survey and grades/classes to be sampled from across all countries is impractical. In some countries, each age group corresponds to a single school grade, while in others a proportion of each age group may be found across grades due to students being advanced or held back. Further complications arise when the target population is split across different levels of schooling, such as primary and secondary. To deal with this complexity, age is determined as the priority for sampling, with classes containing students of the relevant age being selected across school years. The survey is administered at different times of the academic year as appropriate to the national school system in order to produce samples with mean ages of 11.5, 13.5 and 15.5. Fieldwork usually lasts from one to two months in each country.

In the vast majority of countries, a nationally representative sample is drawn. Where a national sample is not possible, a regional sample is drawn. For regional samples, the minimum size of the total population should be one million. It should also be noted that a census among the relevant age groups is taken in those countries where the population is sufficiently small (i.e. all classes with young people in the relevant age groups are surveyed).

Countries are provided with sampling guidance notes and required to submit a standardised sampling report providing comprehensive information on the sampling strategy employed. This information is part of the metadata attached to each country’s data file and the international data file. It is then collated and made available to the Network by the HBSC International Data Management Centre (DMC) at the University of Bergen, Norway.

Ethical practice

The World Health Organization states that “all research involving human participants must be conducted in an ethical manner that respects the dignity, safety and rights of research participants and that recognises the responsibilities of researchers”. Children’s rights are also specifically protected through the United Nations Convention on the Rights of the Child. Article 12 of the UNCRC, in particular, addresses children’s rights to express their views on all matters that affect them and it is expected that efforts should be made to obtain informed consent from children involved in research projects, as well as their parents or guardians. HBSC recognises and adheres to these recommendations at each stage of the survey process.
Each HBSC country is required to:

(a) Ensure procedures are in place to review ethical conduct. This will often take the form of an ethics committee within a university or region. Where ethics committees are not in place, countries should adhere to national ethical guidelines concerning research with children and submit their protocol to any relevant board at country level;

(b) make certain that any applicable legal requirements are satisfied in relation to researchers working with children (e.g., police checks, police clearance certificate).

(c) guarantee participants in the study and their schools, parents/guardians are fully informed about the research and that procedures are in place to enable them to withdraw from the study easily;

(d) employ written and/or oral procedures for “informed” consent; and

(e) fully document their national procedures.

Documentation is provided to inform parents/children of the ways in which confidentiality and anonymity are assured, give details of who has access to the data and how they are stored and used. Confidentiality and anonymity, in particular, are explained in a way that children can understand. Parental (or guardian) as well as pupil consent are sought, as the young people involved are normally under the age of legal consent. Informed consent relies on the quality of the information given and the procedures in place to ensure this process is monitored. The approach typically adopted in HBSC is of “opt out” or “passive” consent, with the option to withdraw from participation.

Instructions for those administering the survey highlight the importance of ensuring children are aware that they can choose whether or not to participate. An introduction at the beginning of the survey is included informing children that they do not have to answer questions if they do not want to.

Schools may wish to see the full questionnaire and it is useful if this is accompanied by a rationale for the study as a whole, a timescale, a description of what the study will entail in terms of time and teacher/pupil involvement and contact details of the research team. Ultimately, if schools are unhappy and want to exclude certain questions, HBSC teams respect this decision but document this for the purpose of coding data later.

**Survey administration**

There are a variety of procedures that countries use for administering the survey. Survey completion may be managed by researchers who visit the schools and ensure a standard protocol is followed. Alternatively, instructions are issued to class teachers, school nurses or other staff who then administer the survey. Where it is not possible to oversee this process, instructions are required to be clear and concise. In a minority of HBSC countries, participants can choose to complete the survey online.

Depending on national procedures and guidelines, countries are advised to bear in mind the following recommendations:

- Local authorities or education boards should be contacted before approaching schools, so that they are able to manage the research burden on schools. (Note, this may be a requirement in certain countries.)
- A standardised instruction sheet/document for teachers (or others administering the survey) is important to ensure uniform procedures are followed.
- It is good practice to convey survey findings to all those involved in the study (schools, teachers and pupils).
Piloting

All mandatory and optional items in the questionnaires have been piloted within HBSC countries. Every participating country is required to carry out a pilot of their full national questionnaire prior to the survey. This pilot is for national organisational purposes to check for completion within given time, the respondents’ understanding of the items (particularly for the younger age group), questionnaire layout and sequencing of questions, any translation issues, and provision of adequate instructions. Before items are suggested as mandatory or optional items, they are thoroughly tested in a number of countries within the Study.

Data management

The HBSC survey covers sensitive topics and has assured anonymity to participants. All HBSC members have a responsibility to ensure information provided by young people is kept in a secure and confidential manner, and that information that could possibly lead to the identification of individuals is not available in the data file.

HBSC recommends that members be guided by the European Data Protection Directive (95/46/EC) on the protection of individuals with regard to the processing of personal data and the free movement of such data, and the Organisation for Economic Co-operation and Development (OECD) Guidelines on the Protection of Privacy and Transborder Flows of Personal Data. Further to this, Network members are asked to consult the European Commission’s RESPECT guidelines which form the basis of a voluntary code of practice covering the conduct of socioeconomic research in Europe.

Data files from each country are prepared in accordance with detailed guidelines with regard to data entry, coding and data quality checking, which are documented in the HBSC internal research protocol. Subsequently, the data file is exported to the DMC. In addition, all countries are required to provide metadata through a web-based questionnaire at the DMC. This questionnaire includes items on: sampling method, non-response, response rates, weighting method, ethical clearance procedures, and any questionnaire deviations from the international standard version.

To ensure the quality of the data all data processing, including consistency checks, age cleaning, derivation of variables, and imputation is handled centrally at the DMC with support from the Norwegian Social Science Data Services (NSD). Data on young people outside the target age groups are removed and deviations from the Research Protocol are documented, typically to make users of the data aware where there are changes to the wording of questions and/or response categories in a country. Depending on the magnitude of the deviation, the user can then choose to include or exclude items from subsequent analyses. Sample weights, primary sampling units and stratification variables are clearly identified, enabling the precision of estimates to be correctly adjusted for survey design in subsequent analyses and recognising the increasing use of hierarchical modelling methods.

When all national data have been accepted and processed centrally the files are merged and the combined dataset is subjected to a further round of data quality checking. The agreed international data file is made available to the Principal Investigators in each participating country. Subsequently, the international data file is used to produce the HBSC international report, international journal articles, policy reports and briefings.
From the time it is finalised, the international data file is restricted for the use of member country teams for a period of three years, after which time the mandatory part of the data are available for external use by agreement with Principal Investigators across the study. Further details regarding data access can be found at the HBSC homepage. Current systems are under development to create greater access to internal HBSC data for external users.

Continuous improvements and quality assurance procedures

Review of current practice and suggestions for improvement to ensure the highest possible data quality are part of the on-going work of the HBSC Network. The development of the study’s management and working group structure has aided this process. Periodic review of the internal research protocol ensures all aspects of the study are revisited and recent advances in research methods and conceptualisation can be incorporated. In the past, such reviews have led to substantial refinements of procedures relating to sampling, translation and data documentation, and an increased emphasis on peer reviewed publication.

References

Dissemination
The end goal of the HBSC study is to improve the health and well-being of young people. To achieve this goal, research findings are disseminated to a wide range of users, including, but not limited to: academia, policy-makers, practitioners, the voluntary/non-governmental sectors, the public, and the media. HBSC findings are used to: influence or gauge the effectiveness of policy; develop programmes and practices; raise public awareness; and promote scientific development.

HBSC findings are disseminated in a range of ways including: international and national reports, international scientific publications, conference presentations and workshops, press articles, and websites. HBSC have contributed to approximately: 4 WHO/HBSC International Reports, 10 topic reports and articles; 13 book chapters; over 500 national reports, numerous journal articles and policy briefings; and over 300 papers in peer reviewed English language journals, of which 125 use cross-national research. This impressive publication record demonstrates the HBSC Network’s vast contribution to child and adolescent health research.

The HBSC Network works closely with external partners, in order to maximise the impact of their findings. Of particular importance, is the long-standing partnership between the WHO and the HBSC Network. Following every HBSC survey, findings are published by the WHO in an International Report. This report compares data from all participating HBSC countries during that survey cycle. The WHO/HBSC International Report is widely used by international policy makers and lobbyists, including UNICEF, the European Commission and the Organisation for Economic Cooperation and Development (OECD).

The most recent 2005/06 WHO/HBSC International Report, “Inequalities in Young People’s Health” was among the WHO’s most downloaded reports on the WHO Regional Office for Europe website in 2009 and 2010. Further to this, the forthcoming 2009/10 WHO/HBSC International Report has been awarded “high corporate product” status, in recognition of its likely future impact in the public health field.

Further to the above, HBSC’s contribution to child and adolescent health has also been recognised by the International Journal of Public Health, who published a dedicated Journal Supplement: Social Determinants of child and adolescent health: Findings from the International Health Behaviour in School-aged Children (HBSC) Study in 2009. The supplement included editorials, from eminent researchers in the field of public health including Dr. David V. McQueen, which explored HBSC’s development over its twenty-five year history and Sir Michael Marmot who highlighted the contribution of HBSC to current work on social determinants of adolescent health.

The HBSC Network promotes evidence based policy making by working with national and international decision makers in structured “evidence into practice” meetings and fora. The WHO/HBSC Fora use HBSC data to develop and facilitate the translation of research findings into effective policy-making and practice. To date, there have been three WHO/HBSC Forums. They include:

- “Addressing the Socioeconomic Determinants of Healthy Eating Habits and Physical Activity” among Adolescents held in Florence, Italy from 10-11 March 2006. From this the WHO European Ministerial Conference on Counteracting Obesity (Istanbul, November 2006), drew upon the evidence from the WHO/HBSC Forum, to increase understanding of the social determinants of healthy eating habits and physical activity levels among adolescents.
- “WHO European Ministerial Conference on Mental Health” (Helsinki, January 2005), which was followed up with a Forum entitled Social Cohesion for Mental Well-being Among Adolescents held in Tuscany, Italy from 5-6 October 2007 (WHO-Forum 2007).
• “Socio-environmentally Determined Health Inequities among Children and Adolescents” held in Siena, Italy from 19-20 October 2009. This helped inform the Fifth Ministerial Conference on Environment and Health\(^9\), which established the Parma Declaration\(^11\) which sets out targets to reduce the harm to health from environmental threats over the next decade.

Also, HBSC hosted the First International Symposium on Health Assets in a Global Context in Seville in 2010. Recommendations from this Symposium were incorporated into an independent expert report: Moving Forward Equity in Health\(^6\), commissioned through the Spanish Presidency of the EU. Two key directives are to scale up action on the social determinants of health, and to take a Health in All policy approach.

The HBSC Network will continue to build upon their commitment to widely disseminate their findings to those that share an interest in child and adolescent health research. In addition to the 2009/10 WHO/HBSC International Report, HBSC intend to publish a journal supplement focusing on trends in health, relevant findings reports, and policy briefings. HBSC also hopes to maintain existing and forge new research partnerships in future. Further to this, HBSC strives to increase accessibility to HBSC work and further promote its important findings.

References

Description of Mandatory items
5.1 DESCRIPTION OF MANDATORY ITEMS

Alcohol use
5.1 Alcohol use

1. Background

The study of alcohol consumption among adolescents is important because the initiation of alcohol use and excessive drinking frequently begins during this period. Drinking prevalence also increases dramatically during the adolescent years. Frequent and excessive drinking is associated with a range of negative outcomes to which some adolescents may be particularly susceptible. Adolescent alcohol use is also associated with a number of adverse consequences, including future drinking and drug use, academic problems, unplanned and risky sex, motor vehicle crashes, and physical and emotional problems. Therefore, many countries have an interest in monitoring adolescent alcohol use, identifying associated factors, and establishing policies and programmes to limit its use.

Internationally, alcohol is the most commonly used substance among post-primary school students. The use of alcohol remains high in many countries, although it has declined recently in some countries and increased in others. There is also evidence that shows that differences in drinking rates between adolescent boys and girls may have diminished in recent years in some countries. Alcohol consumption among adolescents is largely dominated by beer. However, adolescent use of spirits appears to be particularly associated with negative effects.

Over the last decade, drunkenness (i.e., drinking to intoxication or heavy episodic drinking – often labelled as “binge drinking”) among young people has become a major public health concern in many countries worldwide. Recent results demonstrate that drunkenness varies considerably across countries, with lifetime prevalence rates of over 40% in some countries, but less than 20% in other countries.

2. HBSC Approach and Previous Work

Many theories have been applied to adolescent substance use. Among these, prominent developmental theories are: Primary Socialisation Theory, Social Bonding Theory and Social Identity Theory. Developmental theories emphasize the importance of family and other social influences on adolescent experimentation with alcohol. Other prominent psychosocial theories also emphasize social influences. These include: Problem Behaviour Theory, Social Exchange Theory, Social Cognitive Theory and the Theory of Reasoned Action. Social influences include, for example, peers, parents, normative perceptions and social context. Peer influence is the factor most closely associated with adolescent substance use but parental, school, neighbourhood factors and cognitions are also important.

The module on alcohol use has been included in the HBSC study since its inception. Previous HBSC research has yielded papers on: parent-child communication; family and school factors; peer and school factors; alcohol outlet density; emotional well-being; single occasion adolescent drinkers; cross-national comparison of drinking and drunkenness; drunkenness and income inequality; and policy; and trends in alcohol use and drunkenness.
3. Objectives

- To identify patterns of use and factors associated with use in adolescents by age, sex, country and time.
- To examine the frequency of use over lifetime, past year, and past month.
- To investigate consumption of types of alcoholic beverages.

4. Instruments

With respect to the measurement of alcohol use, a compromise has been sought between keeping the original questions for monitoring purposes and improving them to reflect contemporary measurement standards. We aim to capture emerging changes in the field.

A question on the types of alcoholic beverages consumed was introduced into the HBSC mandatory survey in 1997/98 (See Item Box 1). This question is designed to measure the frequency with which adolescents currently consume specific alcoholic beverages. The question consists of a maximum of eight items corresponding to different types of alcoholic beverages. An estimation of total intake of alcohol can be calculated by collapsing the items.

The question was revised slightly in the 2001/02 HBSC survey. A maximum of three (instead of an unlimited number) examples of country/region specific alcoholic beverages were specified. Restricting the number of country options is designed to improve reliability. An item on any other drink that contains alcohol was also added to the list to capture all possible responses from students whose alcoholic preferences are not covered by the preceding items.

Item Box 1

At present, how often do you drink anything alcoholic, such as beer, wine or spirits like... [Country specific examples can be given]? Try to include even those times when you only drink a small amount.
Please tick one box for each line.

<table>
<thead>
<tr>
<th></th>
<th>Every day</th>
<th>Every week</th>
<th>Every month</th>
<th>Rarely</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beer</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Wine</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Spirits / Liquor</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Alcopops [e.g., Smirnoff Ice, Bacardi Breezer, Mike’s Hard Lemonade]</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>National drinks categories (maximum of three)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Any other drink that contains alcohol</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

The lifetime “drunkenness” item (See Item Box 2) has been included in all HBSC surveys since the beginning of the study. Drunkenness is an aspect of the pattern of drinking that is especially important in young people and has shown correlates to the frequency of drinking as well as to the intake of different types of beverages, mainly spirits\textsuperscript{33, 49}.

**Item Box 2**

**Have you ever had so much alcohol that you were really drunk?**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No, never</td>
</tr>
<tr>
<td></td>
<td>Yes, once</td>
</tr>
<tr>
<td></td>
<td>Yes, 2-3 times</td>
</tr>
<tr>
<td></td>
<td>Yes, 4-10 times</td>
</tr>
<tr>
<td></td>
<td>Yes, more than 10 times</td>
</tr>
</tbody>
</table>

*Source: HBSC Survey 1985/86.*

The age of onset of alcohol use and drunkenness item (See Item Box 3) has been used in HBSC surveys as a question only for fifteen-year olds since 2001/02\textsuperscript{48}. Monitoring changes in the age of onset is useful because it can show the correlation that the earlier a person begins drinking alcohol and experiences drunkenness, the more likely this person is to establish a lifestyle pattern that includes drinking. This can also correlate to a higher risk of developing negative alcohol-related health outcomes\textsuperscript{13, 21}.

**Item Box 3**

**At what age did you first do the following things?**

*If there is something you have not done, choose the “never” category.*

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>11 years old or less</th>
<th>12 years old</th>
<th>13 years old</th>
<th>14 years old</th>
<th>15 years old</th>
<th>16 years or older</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drink alcohol (more than a small amount)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Get drunk</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Smoke a cigarette (more than a puff)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

*Source: Adapted from the European School Survey Project on Alcohol and Other Drugs (ESPAD) 1995, 1999. First used in HBSC Survey 2001/2. Revised in 2005/06. Shaded area not relevant to instrument on Alcohol but included as part of the same question.*
5.1 Alcohol use

The “Drinking in the past 30 days” items (See Item Box 4) aim to assess the frequency of substance use more precisely and are in line with other international surveys of youth substance use (e.g., Monitoring the Future, ESPAD). Measures of the frequency of smoking, drinking alcohol, and drunkenness during the previous 30 days are the standard measures of experimental substance use employed in prominent national and international surveys, including Monitoring the Future\textsuperscript{79} (www.monitoringthefuture.org/) Youth Risk Behavior Survey (YRBS)\textsuperscript{18} (www.cdc.gov/HealthyYouth/yrbs), and the European School Survey Project on Alcohol and Other Drugs (ESPAD)\textsuperscript{23} (www.espad.org/espad-reports). Employing the same format for questions about various substances allows for direct comparison across substances and by asking these questions within a 30-day framework this enables the identification of those who are frequent, and thus high-risk, consumers of these substances.

**Item Box 4**

**On how many occasions (if any) have you done the following things in the last 30 days?**

*Please tick one box for each line.*

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>1-2 times</th>
<th>3-5 times</th>
<th>6-9 times</th>
<th>10-19 times</th>
<th>20-39 times</th>
<th>40 or more</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smoked cigarettes</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Drunk alcohol</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Been drunk</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

**Source:** Adapted from Monitoring the Future: A continuing Study of the Lifestyles and Values of Youth (1975-on) and the European School Survey Project on Alcohol and other Drugs (ESPAD) 1995, 1999. First used in HBSC Survey in 2001/02. Revised in 2005/06. Shaded area not relevant to instrument on Alcohol but included as part of the same question.

The frequency of alcohol use in young people is correlated to frequency of drunkenness\textsuperscript{33, 49}. The correlation between drunkenness and a preference for spirits was positive in 21 countries and strong (Pearson’s r > .40) in some Eastern countries. International comparisons show large variation in the frequency of drinking in general\textsuperscript{50} and in the preference for specific beverages. It is possible to identify clusters of countries according to their tradition of alcohol use\textsuperscript{48}. A recent review of existing empirical literature indicates that the validity of adolescent self-report of alcohol use is better when the language is simple and clear\textsuperscript{7}. Complex recall tasks are less reliable than simple recall tasks, and the recall of recent events is more reliable than the recall of distant events\textsuperscript{4}. Notably, questions assessing age of initiation of alcohol use tend to elicit a large proportion of inaccurate responses\textsuperscript{16, 26}. Therefore, the question on initiation is restricted to 15 year olds. In general, self-reported substance use is considered to be highly reliable and accurate when the questions are self-administered, anonymous, and carefully administered in the school setting\textsuperscript{9}. 
5. References


HBSC STUDY PROTOCOL 2009/10: SECTION 5

5.1 Alcohol use


HEALTH BEHAVIOUR IN SCHOOL-AGED CHILDREN (HBSC) STUDY PROTOCOL:
BACKGROUND, METHODOLOGY AND MANDATORY ITEMS FOR THE 2009/10 SURVEY

5.2 DESCRIPTION OF MANDATORY ITEMS

Body image
1. Background

Body image is a multidimensional construct with attitudinal, perceptual and behavioural components. It evolves and changes under biological, psychological, social and cultural influences. The majority of body image disturbances begin during adolescence, although their occurrence has been reported at younger ages. Problems are more prevalent in girls than in boys, but this difference seems to be decreasing, as prevalence of negative body image among boys is increasing.

Negative body image predicts weight control behaviour which may manifest itself in both healthy (e.g., healthy diet, appropriate physical activity) and unhealthy (e.g., fasting, purging, smoking, extreme diets or training) actions. In general, boys want to increase their muscle mass and tone and decrease their fat mass, while girls want to lose weight. Thus boys choose mainly physical activity, whilst girls choose mainly dieting or other eating-related methods to change their weight. Body image problems and weight concerns are also related to substance use, low self-worth, depressive mood, suicidal ideation and eating disturbances.

A number of resource and risk factors related to body image are known. The main biological risk factors are body weight and BMI. Overweight and obese children and adolescents have lower body satisfaction than their non-overweight peers. Clark and Tiggemann identified higher appearance schemas, higher internalization of thin ideals, and lower autonomy as individual psychological factors which predicted worsening body image in girls. Thompson et al. identify parents, peers and media influences as the main direct socio-cultural factors predicting body image. Research reveals typical gender differences in the importance and the mode of action of such factors. Media seems to have a stronger influence on girls than boys. Perceived acceptance by the family and peers and good social relations are also important resource factors for both boys and girls. Conversely, peer criticism is a risk factor for body dissatisfaction.

HBSC provides a unique opportunity to examine young people’s body image and to estimate prevalence and trends in different cultures. Research to date has identified a wide range of factors that appear to influence body image which can help the development of effective health education and prevention strategies and programmes.

2. HBSC Approach and Previous Work

Adolescence, or more precisely puberty, is a time when fundamental and rapid bodily changes occur in young people and is a crucial period pertaining to body image and body satisfaction. Young people tend to inspect their bodies with an increasing scrutiny during this time. The impact of pubertal development on adolescents’ body perception and evaluation is gender-dependent. The typical gender difference stems from different socio-cultural expectations. In most westernised cultures, the ideal female body shape is very slim and prepubescent-like, while the ideal physique for males is also slim, but muscular and wide-shouldered. Normal growth and development results in a move from this ideal in girls as their body fat increases and their hips broaden. Boys, however, become more muscular with wider shoulders at the end of puberty, and fat loss often occurs. Appearance in general seems to have greater importance for girls than for boys, although there is evidence that this may be changing.
Body image items have been included in HBSC since the 1993/94 survey. International HBSC data on body image have shown that perception of overweight is the strongest predictor of attempts to lose weight. Further national work has shown associations between body image and puberty, subjective well-being, body mass index, weight control behaviour, eating habits, physical activity, and problem behaviour.

3. Objectives

- To compare body image prevalences and trends cross-nationally.
- To examine body image in the context of a wide range of health behaviours and health outcomes.
- To investigate associations between body image and psychosocial factors.

4. Instruments

The mandatory body image item measures body shape perception related to body weight (Item Box 1). This dimension of body image has particular importance as subjective well-being, weight-control and weight reduction behaviour are highly associated with it.

Item Box 1

<table>
<thead>
<tr>
<th>Do you think your body is...?</th>
</tr>
</thead>
<tbody>
<tr>
<td>◯</td>
</tr>
<tr>
<td>◯</td>
</tr>
<tr>
<td>◯</td>
</tr>
<tr>
<td>◯</td>
</tr>
<tr>
<td>◯</td>
</tr>
</tbody>
</table>

Source: Survey 1993/94. Revised in 2001/02 (Response category “I do not think about it” was removed).

5. References


DESCRIPTION OF MANDATORY ITEMS

5.3

Body mass
1. Background

Overweight is a public health problem worldwide. Obesity in childhood and adolescence is associated with increased risk for cardiovascular disease in later years. Obese children are more likely to remain obese in adulthood. Furthermore, childhood and adolescent obesity are associated with psychosocial conditions such as depression, impaired health-related quality of life, and impaired fertility in adulthood.

The challenges in understanding the global prevalence and circumstances associated with overweight in children and adolescents are multifaceted. They include the methodological differences across studies, such as approaches used to measure weight and height and criteria used to define overweight (preobesity and obesity), as well as the lack of representative data from different countries across age and gender. Thus, there is a need to provide updated information on the burden of overweight in childhood and adolescence.

The HBSC survey offers the unique opportunity to examine the prevalence of overweight and obesity in several countries using standardised methods, and to monitor trends in overweight prevalence across European countries, the USA and Canada. It is well-recognised that being overweight in childhood and adolescence has a negative impact on the present and future psychosocial and physical aspects of health. Because HBSC has a multidisciplinary approach, the relationship of overweight with life satisfaction, perceived health, medication use and psychological well-being can be addressed.

2. HBSC approach and previous research

Data on weight and height are important in order to determine body mass index (BMI). BMI is calculated as weight in kg divided by height in m² (kg/m²). BMI is associated with direct measures of fatness and is a commonly employed index of adiposity status (underweight, normal, or overweight). The use of BMI to evaluate overweight and obesity in children and adolescents is recommended by several expert committees. Measuring weight and height in large nationally representative samples and on a regular basis is impractical and cost-intensive, and therefore, often unfeasible. For these reasons, population-level surveillance and health research surveys including the HBSC survey regularly rely on self-reported weight and height.

The most common method of classifying overweight in children and adolescents has been to use a distributional approach whereby the 85th and 95th percentiles from nationally representative samples have typically been used to identify children as “preobese” and “obese”, respectively. A second approach is the method of Cole et al., in which the age- and gender-specific percentile levels corresponding to a BMI of 25 kg/m² (preobese) and 30 kg/m² (obese), respectively, at age 18 were identified and projected backwards into childhood in a large international sample of children and youth. The development of these thresholds was endorsed by an expert committee convened by the International Obesity Task Force (IOTF) and these age- and sex- specific cut-offs are often referred to as the IOTF cut-points. For the surveillance of overweight and obesity in cross-national surveys, such as the HBSC study, it is logical to use the BMI thresholds of IOTF to classify children and youth as preobese and obese. These cut-points are less arbitrary and more internationally based than other alternatives, and thus can be useful to provide internationally comparable prevalence rates of overweight in youth.
Data on overweight in children relative to those in adults are limited\textsuperscript{19, 26, 38} and are lacking in many countries. However, the HBSC survey has contributed to filling this gap in the literature. In the last five years, studies have reported national prevalence of overweight in several HBSC countries\textsuperscript{1, 8, 11, 21, 28} as well as cross-national comparisons across the countries\textsuperscript{4, 10, 25}.

Several HBSC reports have focused on the association of socioeconomic status (SES) and overweight prevalence, generally supporting an inverse relationship. Janssen et al.\textsuperscript{21} examined the association of both individual- and area-level measures of SES with obesity and also reported a higher prevalence of overweight (both preobesity and obesity) in rural versus urban areas\textsuperscript{6}.

In recent years, many HBSC reports have focused on the association of overweight with psychosocial, behavioural and lifestyle factors. Physical inactivity and sedentary behaviours have been positively related to overweight\textsuperscript{14, 19}. Reported consumption of fruit, vegetables, soft drinks and breakfast have been related to overweight prevalence\textsuperscript{14, 19, 32}, and a consistent negative correlation between regular breakfast consumption and overweight has been noted across countries. In addition, associations with dieting, bullying behaviours and perceived health are also evident\textsuperscript{14, 18, 28}.

### 3. Objectives

- To identify the prevalence of overweight (preobese and obese) among 11, 13 and 15 year-old male and female adolescents.
- To classify high-risk (overweight) groups.
- To describe the prevalence of overweight and secular trends in overweight.
- To establish associations between overweight and other health related behaviours, psychological well-being and social factors.

### 4. Instruments

In the HBSC survey, questions on height and weight were asked for the first time in the 1997/98 survey in fifteen of the countries who participated in that survey (See Item Box 1). The international BMI standards for youth recommended by the IOTF are derived from measured heights and body weights\textsuperscript{7}. Several validation studies have compared self-reported versus measured heights and weights in children and adolescents\textsuperscript{1, 5, 6, 16, 17, 36, 39}. In general, the results from these validation studies suggest that mean self-reported heights are slightly greater than actual heights, and mean self-reported weights are slightly lower than measured weights. This self-report bias leads to an underestimation of mean BMI; this bias being generally greater in girls than boys, with increasing age in youth, and with increasing BMI values\textsuperscript{1, 5, 10, 16, 17, 19}. Some researchers have nonetheless concluded that self-reported height and weight are valid and acceptable for population-based studies\textsuperscript{12, 30}. Strauss et al.\textsuperscript{37} reported that 94% of youth aged 12–16 years are correctly classified as normal-weight or obese based on self-reported heights and weights, although others have found less convincing results\textsuperscript{5, 10, 17}. Importantly, the association between overweight and obesity with lifestyle habits (e.g., physical activity participation, and television viewing) in youth was not different when based on objectively measured or self-reported heights and weights\textsuperscript{36}.

Thus, there is sufficient evidence to support the use of prevalence rates for overweight (preobesity and obesity) derived from self-reported measures as fairly accurate proxies, particularly when such data cannot be obtained by actual measurements, and that self-reported heights and weights are suitable for identifying valid relationships in epidemiological studies\textsuperscript{12, 35}.
5.3 Body mass

Item Box 1

How much do you weigh without clothes? ____________

How tall are you without shoes? ____________


The children are allowed to write down their height and weight in country-appropriate units (cm versus inches, pounds versus kg), however, all the values should be finally (re)coded in cm and kg, respectively.

5. References

5.3 Body mass


DESCRIPTION OF MANDATORY ITEMS

Eating habits
1. Background

Healthy eating habits in childhood and adolescence promote optimal health, growth, and intellectual development. Further to this, they prevent immediate health problems, such as iron deficiency anaemia, obesity, eating disorders and dental caries; and may prevent long-term health problems, such as coronary heart disease, cancer and stroke. The burden of disease associated with poor nutrition continues to grow in the European Region, particularly as a result of the obesity epidemic. The need has never been greater to support healthy eating and physical activity in children and youth.

Additionally, eating habits acquired during childhood and adolescence might track into adulthood where the association between diet and disease morbidity and mortality is well recognised. Furthermore, psychosocial changes encountered during adolescence, such as growing independence, the need to explore, to take risks and to seek self-identity, the need for peer acceptance, increased eating away from home, and busy schedules, may all have an effect on eating patterns and food choices. They may also put young people at increased risk for unhealthy eating habits and/or weight-related eating disorders resulting in poor nutritional health. Finally, food habits are still developing during adolescence, and are influenced by a myriad of individual and environmental factors. In order to develop interventions to improve adolescents’ food habits, these factors need to be better understood.

2. HBSC Approach and Previous Work

The difficulties of assessing dietary habits among children and adolescents are numerous. The challenge becomes even greater when attempting to assess dietary patterns of young people across countries. In view of the overall structure and context of the HBSC survey, detailed dietary data and nutritional analyses remain out of the scope of the study. Therefore, only a limited number of food frequency items, focusing on a few key indicators of an adolescent’s diet, are employed. The indicators that have been used since the 2001/02 survey are: fruit, vegetables, non-diet soft drinks and sweets. Fruit and vegetables are of high priority for most countries as continued attention to increasing fruit and vegetable consumption is an important way to optimize diet/nutritional status, to reduce disease risk and to maximize good health. Non-diet soft drinks and sweets (i.e., candy or chocolate) were selected in the context of the increasing prevalence of obesity, although the data remains equivocal in this regard.

Several studies have consistently shown that regular breakfast consumption is associated with higher intakes of micronutrients, and a better diet quality in school-aged children. In addition, many cross-sectional studies across the world suggest an inverse relationship between breakfast consumption and BMI or overweight. Prospective studies have confirmed this association in adolescents. However, breakfast skipping is highly prevalent in Europe and United States, ranging from 10% to 30%. Data from HBSC 2005/06 confirm this pattern across all regions in Europe. Breakfast skipping has been shown to be associated with several health compromising behaviours such as smoking, alcohol consumption, drug use, inactive lifestyles, and sedentary behaviours.
HBSC data have been used to describe adolescents’ food habits and wide variation is found. Results indicate a need for national and international health promotion programmes to improve adolescents’ food habits. Key findings, to date, include:

- Associations between daily fruit and soft drink consumption and socioeconomic status.
- Positive associations between TV viewing and sweets and soft drinks, and negative associations between TV viewing and fruit and vegetable consumption.
- A relationship between school food policy and adolescents’ food habits.
- Schoolchildren reporting food poverty are less likely to eat fruits, vegetables, brown bread, and more likely to miss breakfast on weekdays and to eat crisps, fried potatoes and hamburgers.
- Perceived good or excellent health being associated with daily fruit and vegetable consumption as well as regular breakfast consumption.
- Daily consumption of breakfast is associated with physical activity, while television viewing is associated with the consumption of energy dense foods.
- Skipping breakfast is common among adolescents, especially in girls, older adolescents and those from disadvantaged families. Additionally, results indicate that skipping breakfast can serve as an indicator to identify children at risk for unhealthy lifestyle behaviours.

3. Objectives

- To investigate a selection of dietary indicators of adolescents’ food habits.
- To examine cultural variation in consumption frequency of different food items.
- To consider food habits in the context of other health behaviours.
- To study trends in food habits.

4. Instruments

A Food Frequency Questionnaire (FFQ) has been included in HBSC since 1986. The answer categories in the 1986 survey were "more than once a day", "once a day", "once a week", "rarely" and "never". The only change that occurred was the replacement of "once a week" with "at least once a week but not daily" since the 1989/90 survey. However, revisions for the 2001/02 survey resulted in substantial changes with only four items kept as mandatory. Additionally, the response category "at least once a week but not daily" was further subdivided into "once a week", "2-4 days a week" and "5-6 days a week" as the gap between "once a day" and "at least once a week but not daily" was considered to be too wide.
5.4 Eating habits

**Item Box 1**

**How many times a week do you usually eat or drink…?**

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Less than once a week</th>
<th>Once a week</th>
<th>2-4 days a week</th>
<th>5-6 days a week</th>
<th>Once a day, every day</th>
<th>Every day, more than once</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fruits</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Vegetables</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Sweets (candy or chocolate)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Coke or other soft drinks that contain sugar</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

*Source: HBSC Survey 1985/86. Revised in 2001/02 (Response categories expanded; “raw” and “cooked” vegetables combined into one item “vegetables”).*

The breakfast consumption item (**Item Box 2**) was introduced for the first time in the 2001/02 survey.

**Item Box 2**

**How often do you usually have breakfast (more than a glass of milk or fruit juice)?**

*Please tick one box for weekdays and one box for weekend.*

<table>
<thead>
<tr>
<th></th>
<th>Weekdays</th>
<th>Weekend</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>☐ I never have breakfast during the week</td>
<td>☐ I never have breakfast during the weekend</td>
</tr>
<tr>
<td></td>
<td>☐ One day</td>
<td>☐ I usually have breakfast on only one day of the weekend (Saturday OR Sunday)</td>
</tr>
<tr>
<td></td>
<td>☐ Two days</td>
<td>☐ I usually have breakfast on both weekend days (Saturday AND Sunday)</td>
</tr>
<tr>
<td></td>
<td>☐ Three days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>☐ Four days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>☐ Five days</td>
<td></td>
</tr>
</tbody>
</table>

*Source: HBSC Survey 2001/02.*

In 2004/05 a validation study, incorporating the FFQ, the questions on breakfast consumption, and food related lifestyle aspects was conducted in Belgium, Italy and Finland. Test re-test was done in all three countries; in Belgium and Italy, pupils also completed a 7-day food diary\(^2\). Spearman’s correlations between the FFQ items and the diary varied between -0.13 and 0.67. When comparing the FFQ with the food diary, an overestimation was found for most items. Kappa statistics comparing the daily consumption of breakfast according to the diaries in the Flemish population were fair for the weekend (0.34) and moderate for the weekdays (0.47).
5. References


5.4 Eating habits


5.5 Family culture

DESCRIPTION OF MANDATORY ITEMS
1. Background

Many play a role in the socialisation process, including family, peers, schools and the media. But it is recognised that family, as the first development context, has the greatest influence on socialisation\(^2\). Socialisation is a process by which an individual's standards, skills, attitudes and behaviours change to conform to those regarded as desirable and appropriate for his or her present and future role in society. The family provides the foremost setting where children learn and develop values and norms and adopt behaviours that help them function within society. Therefore family contexts need to be examined in order to fully understand how they shape the health and well-being of young people.

Recent debates surrounding the influence of the family on adolescent development\(^2,13,14,27,28\), demonstrate that both family structure and family dynamics, especially communication with parents, are important.

In recent decades, family structures (especially in Western countries) have undergone major changes. The “traditional” family, composed of biological parents and their children, is less common than it used to be\(^6,8\). As a result of these changes, new family configurations have been created. These include: children living with a biological parent and his/her partner, single parent families or children living with someone outside the immediate family\(^4,26\).

It is crucial to reflect on how, and under what conditions, these changes in family structure may affect the development of children and adolescents. Conflict between parents, including divorce or separation, modifies the family structure and alters family dynamics. It has been shown that this may lead to inconsistent parenting styles, less time spent together as a family, less availability and less responsiveness\(^1,16\). It has also been shown that families which are responsive and communicative are associated with positive health and healthy behaviours. In contrast, when families are unable to deal with changes or problems within the family context, psychological and behavioural problems may result\(^10,12,15\).

Parent-child communication is revealed as one of the basic elements of analysis within the family dynamic. Communication has been shown as a protective developmental factor\(^2,28,29\) in the sense that families who are more communicative successfully deal with the problems raised during adolescence compared to those families that report poor communication and interaction during this developmental stage\(^18,20\).

2. HBSC Approach and Background

Within HBSC, we use an ecological systemic perspective in order to describe the family structure in which adolescents live and to analyse family dynamics and family life. Furthermore, there has been a growing awareness in the HBSC study of the need for sensitivity towards children who answer our questionnaire. To address this, considerable effort was made to ensure that all children could find their families reflected in the HBSC questionnaire regardless of the type of family in which they live. By using these varied types of instruments, the HBSC study provides a clearer picture of family structures in many HBSC countries\(^4\). HBSC findings also provide important information on the main factors which influence adolescent development within family structures\(^32\).
In relation to communication with parents, results from HBSC confirm those of previous publications.\textsuperscript{18, 21, 24, 29} HBSC data show that communication with the mother, as well as with the father, decreases (although communication with the mother is typically perceived as being easier). The majority of how both adolescent girls and boys perceive communication with their mothers is seen to be relatively easy. However, boys are much more likely than girls to report feeling that communication with their mothers to be relatively easy. However boys are much more likely than girls to report feeling that they can communicate easily with their fathers. Increasingly, evidence from HBSC and other studies indicates that the quality of communication with parents during adolescence represents an important protective health factor or asset.\textsuperscript{9, 21-22, 26} For example, if there is a high level of ease in talking to their mother or father about things that bother them, this is seen to act as a protective factor for life satisfaction.\textsuperscript{19} In particular, the mother-child relationship plays an important role and this is especially true for girls.

3. Objectives

- To describe differences in family structure and how these may introduce variations in children and adolescent’s living conditions.
- To examine family dynamics, paying special attention to the influence of communication on health and health behaviours in normal and vulnerable contexts.

4. Instruments

Family structure has been included in the HBSC questionnaire since the early years of the study but the format of the question has changed over time. The current family structure items were introduced in the 2005/06 survey. These questions are designed to be sensitive to the fact that family structures are varied (See Item Boxes 1 and 2). Within HBSC, young people are asked to state where and with whom they live most of the time, and to state if they have another family or house e.g. in the case of divorce. The questions also ask respondents to state the number of sisters and brothers that they have both within their primary home and at any additional homes.
**Item Box 1**

All families are different (for example, not everyone lives with both their parents, sometimes people live with just one parent, or they have two homes or live with two families) and we would like to know about yours. Please answer this first question for the home where you live all or most of the time and tick the people who live there.

<table>
<thead>
<tr>
<th>Adults</th>
<th>Children</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mother</td>
<td>Please say how many brothers and sisters live here (including half, step or foster brothers and sisters). Please write in the number or write 0 (zero) if there are none. Please do not count yourself</td>
</tr>
<tr>
<td>Father</td>
<td>How many brothers? ______</td>
</tr>
<tr>
<td>Stepmother (or father's girlfriend)</td>
<td>How many sisters? _____</td>
</tr>
<tr>
<td>Stepfather (or mother's boyfriend)</td>
<td></td>
</tr>
<tr>
<td>Grandmother</td>
<td></td>
</tr>
<tr>
<td>Grandfather</td>
<td></td>
</tr>
<tr>
<td>I live in a foster home or children's home</td>
<td></td>
</tr>
<tr>
<td>Someone or somewhere else: please write it down</td>
<td></td>
</tr>
</tbody>
</table>

**Source:** HBSC Survey 2001/02. Revised in 2005/06.
### Item Box 2

Do you have another home or another family, such as the case when your parents are separated or divorced?

<table>
<thead>
<tr>
<th>No</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>☑</td>
<td>☑</td>
</tr>
</tbody>
</table>

- How often do you stay there?
  - ☐ Half the time
  - ☐ Regularly but less than half the time
  - ☐ Sometimes
  - ☐ Hardly ever

Please tick the people who live there:

<table>
<thead>
<tr>
<th>Adults</th>
<th>Children</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ Mother</td>
<td>Please say how many brothers and sisters live here (including half, step or foster brothers and sisters). Please write in the number or write 0 (zero) if there are none. Please do not count yourself.</td>
</tr>
<tr>
<td>☐ Father</td>
<td>How many brothers? _____</td>
</tr>
<tr>
<td>☐ Stepmother (or father's girlfriend)</td>
<td>How many sisters? _____</td>
</tr>
<tr>
<td>☐ Stepmother (or mother's boyfriend)</td>
<td></td>
</tr>
<tr>
<td>☐ Grandmother</td>
<td></td>
</tr>
<tr>
<td>☐ Grandfather</td>
<td></td>
</tr>
<tr>
<td>☐ I live in a foster home or children's home</td>
<td></td>
</tr>
<tr>
<td>☐ Someone or somewhere else: please write it down</td>
<td></td>
</tr>
</tbody>
</table>

Source: HBSC Survey 2001/02. Revised in 2005/06 (Two-column format replaced by two separate questions).
An item on family communication has been used in HBSC since 1985/86 (See Item Box 3). Although this is a single item measure, it has been used and validated in numerous national and international studies and it serves as a valuable measure of the quality of the relationship with parents\textsuperscript{5, 7, 21}.

**Item Box 3**

How easy is it for you to talk to the following persons about things that really bother you?

*Please tick one box for each line.*

<table>
<thead>
<tr>
<th></th>
<th>Very easy</th>
<th>Easy</th>
<th>Difficult</th>
<th>Very difficult</th>
<th>Don’t have or see this person</th>
</tr>
</thead>
<tbody>
<tr>
<td>Father</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stepfather (or mother’s boyfriend)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mother</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stepmother (or father’s girlfriend)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elder brother(s)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elder sister(s)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Best friend</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Friends of the same sex</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Friends of the opposite sex</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: HBSC Survey 1985/86. Note: Shaded area not relevant to instruments on family but included as part of same question.

### 5. References

5.5 Family culture


HEALTH BEHAVIOUR IN SCHOOL-AGED CHILDREN (HBSC) STUDY PROTOCOL:
BACKGROUND, METHODOLOGY AND MANDATORY ITEMS FOR THE 2009/10 SURVEY

5.6 DESCRIPTION OF MANDATORY ITEMS

Fighting and bullying
1. Background

Violence is a major concern in most countries with youth violence being one of the most visible forms of bullying in society. To understand this problem, and to examine the factors that influence and contribute to it, core measures of violence as a problem behaviour need to be identified. This section will address fighting and bullying. These two behaviours have been identified by expert consensus as the highest priority behaviours associated with youth violence and intentional injuries.

Physical fighting is the most common manifestation of interpersonal violence in adolescence and is often associated with substance use and other problem behaviours. Much has been written about a syndrome of multiple problem behaviours that describes youth at high risk and predicts increased frequency of subsequent morbidity and mortality. Physical fighting is included among these high-risk behaviours of youth. Because it is highly visible and often results in contact with health professionals, fighting behaviour has been proposed as one of the most reliable markers of multiple risk behaviours and other problem behaviours.

Bullying behaviour, both perpetration and victimization, has long-term effects on the individual. Bullying has been defined as negative physical or verbal actions that have hostile intent, cause distress to victims, are repeated over time, and involve a power differential between bullies and their victims. Victims of bullying experience a wide range of problems, such as psychological maladjustment, psychosomatic health problems, medicine use, and depression and anxiety. In extreme cases, suicide has occurred. Students who engage in bullying others may be less interested in school and more likely to engage in health-risk behaviours such as smoking, drug use and excessive drinking.

Pepler and Craig have examined bullying from a developmental perspective and argue that this type of aggressive behaviour merits attention because it underlies many problems related to interpersonal violence. From this perspective, the lessons learned in bullying within peer relationships can be applied to other developmentally significant relationships. The use of power and aggression found in playground bullying is an indicator of future sexual harassment, marital aggression, child abuse, and elder abuse. Thus, understanding and preventing bullying during adolescence has important implications for the immediate health of young people, and long-term societal health.

2. HBSC Approach and Previous Work

To address the problem of youth violence and the associated behaviours as portrayed by Jessor and Jessor in their Problem Behaviour Theory, we follow the public health approach. The public health approach to violence prevention seeks to improve the health and safety of all individuals by addressing underlying risk factors that increase the likelihood that an individual will become a victim or a perpetrator of violence. The topic of violence and bullying (perpetration and victimization) was introduced to HBSC in 1997/98.

Adolescent violence is an emerging topic of great contemporary importance, and this is reflected in the increasing number of peer-review manuscripts that have been produced on these topics by HBSC investigators. The following description of manuscripts is meant to be illustrative rather than exhaustive. From across national perspectives, violence has been examined in numerous ways. Harel demonstrated the link between negative school perceptions and bullying. Findings reported by Smitj-Khuri et al. and Pickett...
et al. highlighted the associations between fighting, involvement in risk behaviour, bullying and injury. Lastly, Molcho et al. reported that, across most HBSC countries, the prevalence of bullying behaviours decreased between 1994 and 2006.

In addition to the topics of physical fighting and weapon carrying, there is an emerging academic interest in the social topic of bullying within the scientific community. Within HBSC, bullying has been examined in the context of: victimisation and medicine use; adolescent health; obesity as a risk factor for bullying perpetration; psychosocial adjustment, psychosomatic symptoms; and family, peer and school relationships.

### 3. Objectives

- To document the prevalence of fighting and bullying in young people.
- To analyse international differences and similarities in fighting and bullying.
- To identify time trends in fighting and bullying.
- To document predictors and consequences of bullying and fighting behaviours.

### 4. Instruments

The concern about fighting and its place in society raises a number of questions about the frequency, nature, origins and health effects of physical fights. These are all questions in need of answers, if fighting behaviour is to be considered a marker for "at-risk youth" and a contributor to the violence-related morbidity and mortality of adolescents. Therefore, frequency of physical fighting is assessed as a measure of aggression and violence and a component of multiple problem and risk behaviours. Frequency of fighting has been well validated and reliability ascertained with extensive use in the US Youth Risk Behaviour Survey. The violence package includes one mandatory item examining the frequency of involvement in physical fight, during the last 12 months (See Item Box 1).

#### Item Box 1

**During the past 12 months, how many times were you in a physical fight?**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>☐</td>
<td>I have not been in a physical fight in the past 12 months</td>
</tr>
<tr>
<td>☐</td>
<td>1 time</td>
</tr>
<tr>
<td>☐</td>
<td>2 times</td>
</tr>
<tr>
<td>☐</td>
<td>3 times</td>
</tr>
<tr>
<td>☐</td>
<td>4 times or more</td>
</tr>
</tbody>
</table>

*Source: Brener et al., 1995. First used in HBSC Survey in 2001/02.*
The mandatory items on the frequency of bullying and being bullied start with a definition developed by Olweus\(^9\). This introduces the concept of bullying in its many forms to students, and distinguishes bullying from other forms of conflict. The questions about the frequency of school bullying perpetration and victimization are shown below (See Item Boxes 2 and 3).

**Item Box 2**

Here are some questions about bullying. We say a student is BEING BULLIED when another student, or a group of students, say or do nasty and unpleasant things to him or her. It is also bullying when a student is teased repeatedly in a way he or she does not like or when he or she is deliberately left out of things. But it is NOT BULLYING when two students of about the same strength or power argue or fight. It is also not bullying when a student is teased in a friendly and playful way.

How often have you been bullied at school in the past couple of months?

- [ ] I have not been bullied at school in the past couple of months
- [ ] It has only happened once or twice
- [ ] 2 or 3 times a month
- [ ] About once a week
- [ ] Several times a week

**Source:** First used in HBSC Survey in 1993/94. Revised in 2001/02 to conform with Olweus\(^9\).

**Item Box 3**

How often have you taken part in bullying another student(s) at school in the past couple of months?

- [ ] I have not bullied another student(s) at school in the past couple of months
- [ ] It has only happened once or twice
- [ ] 2 or 3 times a month
- [ ] About once a week
- [ ] Several times a week

**Source:** First used in HBSC Survey in 1993/94. Revised in 2001/02 to conform with Olweus\(^9\).
5. References


1. Background

In recent years, there has been growing awareness of increasing health complaints among children and adolescents. Health complaints do not only encompass somatic symptoms such as headache or backache, but also psychological symptoms, such as nervousness or irritability. It is generally agreed that psychosomatic complaints constitute a stress reaction based on psychosocial tensions. The term "subjective health complaints" is used to describe a wide range of phenomena, which may include those that most young people experience occasionally, as well as clinical manifestations of health complaints which may impair everyday functioning. In adolescents, health complaints tend to cluster together\textsuperscript{1,7,10,14}. Consequently, they can cause immense burden on the individual and health care systems. It is, therefore, particularly important that in-depth analyses explore the underlying factors of health complaints\textsuperscript{5}.

2. HBSC Approach and Previous Work

Previous research suggests that cultural and societal factors may play an important role in adults’ presentations of somatic complaints\textsuperscript{2}. It is important to document similar effects in young people as such evidence may point to the need for culturally sensitive efforts in primary and secondary prevention.

Health complaints have been included in the HBSC study since 1986 and the item has remained unchanged since the 2001/02 survey. The scale used in the HBSC study is a non-clinical measure of mental and physical health, including both physical and psychological symptoms. The measure is also referred to as “the HBSC symptom checklist” and “psychosomatic complaints”.

HBSC data have shown a significant between-country variance in health complaints\textsuperscript{12,16}. Distinct age and gender patterns are also evident with 15 year old girls at particular risk for health complaints, regardless of country of origin\textsuperscript{16}. On the basis of two studies conducted in Poland, strong social bonds appeared to be a protective factor against recurrent health complaints in low income families\textsuperscript{9}, and good family relationships were recognised as protective factors reducing influence of negative perception of peer environment on adolescent subjective health\textsuperscript{8}.

3. Objectives

- To study the underlying factors of health complaints and their burden on individuals.
- To identify trends within and across countries in terms of health complaints.
- To conduct comparisons in the prevalence of health complaints between countries and within countries according to age, gender, SES, and other factors.
- To study the association between health complaints and current trends in chronic conditions and physical as well as mental impairments.
4. Instruments

The “HBSC symptom checklist” (Item Box 1) is a measure of subjective health complaints and includes headache, abdominal pain, backache, feeling low, irritability or bad mood, feeling nervous, sleeping difficulties and dizziness. Previous and ongoing research suggests that the scale reflects two facets – one psychological and one somatic. But overall, the scale can be considered as measuring along a uni-dimensional latent trait of psychosomatic complaints. The scale is flexible in that statistical analyses are meaningful both at single-item level and at sum score level.

Haugland and colleagues performed an important line of studies on the validity of the HBSC symptom checklist. Qualitative semi-structured interviews with early adolescents revealed that adolescents perceive the symptoms to be aversive physical and psychological states that interfere with daily functional ability and well-being. In these interviews, adolescents were also consistent in how they defined different symptoms, suggesting that adolescents have a common frame of reference when they rate their frequency of symptoms. Interestingly however, adolescents differed in their lay perspectives on the causes of such symptoms. In some cases explanations were consistent with a stress-model of health complaints. In other cases, adolescents attributed their health complaints to developmental processes, such as growing pains, or ergonomic factors such as low air quality in classrooms. Using quantitative data, Haugland and Wold also found acceptable test-retest reliability for the HBSC symptom scale as a whole (Pearson r = .79), and somewhat lower reliability for the single symptoms (Pearson r = .61 to .76).

The sum score of the HBSC symptom checklist has been validated in 12 European countries within the large field study of a European project (n=22,000). Moderate to high correlation with scales measuring psychological well-being (r = -.47), depressive moods (r = .53) and physical well-being (r = -.42) have been observed.

Item Box 1

In the last 6 months: how often have you had the following...?
Please tick one box for each line.

<table>
<thead>
<tr>
<th>Symptom</th>
<th>About every day</th>
<th>More than once a week</th>
<th>About every week</th>
<th>About every month</th>
<th>Rarely or never</th>
</tr>
</thead>
<tbody>
<tr>
<td>Headache</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Stomach-ache</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Back ache</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Feeling low</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Irritability or bad temper</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Feeling nervous</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Difficulties in getting to sleep</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Feeling dizzy</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>
5. References


Illicit drug use

5.8

DESCRIPTION OF MANDATORY ITEMS
1. Background

Since the 1960’s, there has been an increase in the number of young people experimenting with illicit drugs. In many industrialised countries, occasional use of cannabis, the most widely used illicit drug among adolescents, has become normative among a substantial minority of high school-aged students. Amphetamines, MDMA (ecstasy) and cocaine represent the second largest group of illicit substances consumed in the EU and North America. In younger adolescents (under age 16) in the US the use of solvents is more frequent than Amphetamines, cocaine or MDMA. Cannabis use emerged as a central component of “alternative” lifestyles during the 1960s and 1970s, especially among young people rebelling against the cultures of their parents. This “counterculture” propagated the use of cannabis and other psychotropic drugs as a way to free themselves from the bourgeois mind-set that was considered typical of the older generation. Whilst middle class youth first popularised the use of cannabis, in later years it spread to other classes of youth. Both in Europe and in the US, cannabis use rose further during the 1990’s, decreasing thereafter in the US, and stabilising or decreasing further across Europe, with the exception of a small number of countries.

The late 1980s and 1990s saw the ascent of “rave” culture. The frantic dancing that is characteristic of this type of youth culture was sustained by widespread and heavy use of ecstasy and other so-called “party-drugs”. While drug use may be considered an integral part of youth culture, with young people using drugs for a variety of reasons, it is also seen as a health risk behaviour. HBSC monitors illicit drug use cross-nationally and can link drug use to differences in social contexts, cross-national and cultural determinants of use, and to health-related outcomes such as health risks and psychosocial problems.

2. HBSC Approach and Previous Work

A wide range of theories have been applied to adolescent substance use, including social cognitive and developmental theories which emphasise the cultural context of drug use, social influence of peers and parents, normative perceptions, adolescent development and personality as key influences on illicit drug use. It should be noted that peer influence is the single most well documented predictor of adolescent substance use, with parental factors, school and neighbourhood environments, personality, and other influences also being ranked as important.

With regard to cannabis, it has been suggested that a combination of factors can help explain cross-national differences in use, including: country wealth, the existence of drug-using older youth, and young people’s generalised perception that cannabis is readily available. Experimentation with cannabis and other drugs can be considered from a developmental perspective. Drug use has been explained as an attempt to assert the adult status to which adolescents aspire. Those who report early onset of substance use are especially at risk. Frequent early drug use is predictive of dropping out of school, having unsafe sex and involvement in delinquent activity. Heavy cannabis use is associated with reduced educational attainment and school-drop-out, depression, health problems, risk taking and deviancy, and higher odds for use of other drugs. The results of a plethora of studies showing that use of cannabis and harder drugs is connected to negative health risks and psychosocial outcomes makes assessing and monitoring illicit drug use and its cross-national determinants and consequences over time a crucial dimension of our work.
Except for cannabis use, no questions on illicit drug consumption have been mandatory in the HBSC study, although many countries have employed their own questions since the 1980s. Mandatory questions on the lifetime and 12 month prevalence of cannabis use have been included in the survey for 15-year-olds from the 2001/02 survey onwards. In the 2005/06 questionnaire, an additional item on the last month prevalence of cannabis use was included.

Data from HBSC have been used to describe: the prevalence of substance use\(^8,29\), trends in substance use\(^3\), cross-national differences\(^38,42\) national policies regarding substance use\(^36\) and youth culture's relationship to substance use\(^24\). Substance use also has been studied in the context of adolescent development, the family social environment\(^23\), peer and school factors\(^22,37\), ideologies endorsed by adolescent users\(^19\) and the use of other substances such as alcohol and tobacco\(^20,21\). The negative mental health effects of cannabis use have been studied by Monshouwer et al. Cannabis use has also been operationalised as part of a wider array of risk behaviours in order to identify the correlates of that set of risk behaviours\(^2,18,28,34,39\). Others have discussed drug use in relation to methodological issues\(^30\) and policy issues\(^32\).

### 3. Objectives

- To monitor substance use.
- To examine trends in illicit drug use.
- To distinguish between first time, recreational and heavy users of cannabis.
- To relate user profiles to other social and health outcomes.

### 4. Instruments

The mandatory questions on cannabis use are split into three items: lifetime prevalence, 12 month prevalence and 30 day prevalence (See Item Box 1). The lifetime prevalence question is designed to determine the scope of cannabis use by measuring the prevalence of its use among participating students. The second item helps to define the scope of the cannabis use by measuring the prevalence of substance use within the past 12 months and to differentiate adolescents who have tried cannabis once or twice (experimenters) from others who use the drug more frequently (regular users). To identify frequent users who may be at a higher risk for the negative consequences of cannabis use, a third item on last 30 day prevalence has been added. Appropriate country specific street names for cannabis should be added in brackets to ensure that the question is understood by all students and to capture all the different forms in which cannabis is used.
5.8 Illicit drug use

Item Box 1

Have you ever taken cannabis [INSERT APPROPRIATE COUNTRY SPECIFIC NAMES]...?
Please tick one box for each line.

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>1-2 times</th>
<th>3-5 times</th>
<th>6-9 times</th>
<th>10-19 times</th>
<th>20-39 times</th>
<th>40 or more</th>
</tr>
</thead>
<tbody>
<tr>
<td>In your life</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>In the last 12 months</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>In the last 30 days</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
</tbody>
</table>

Source: European School Survey Project on Alcohol and Other Drugs, (ESPAD) 1995 on. First used in HBSC Survey 2001/02 (Items 1 & 2). Revised in 2005/06.

5. References

Illicit drug use

DESCRIPTION OF MANDATORY ITEMS

5.9

Injuries
1. Background

As the greatest single cause of death and serious morbidity to youth in most developed countries, the study of factors that influence the health of adolescents must include the assessment of injuries, injury circumstances and factors that affect the risk for injury. The risk for injury rises dramatically during adolescence. It is estimated that injuries account for 36% of deaths in children under 15 years and 23% of deaths among those under 19 years. For every injury-related death, injuries result in many more hospital and emergency department visits, while numerous others are treated in the community.

Injury can also be viewed as a marker for a high risk adolescent lifestyle that includes multiple risk-taking behaviours, experimenting and associated health consequences. Medical and other consequences associated with injury impose a significant burden on society. Understanding the mechanisms and causal factors that result in injury morbidity is necessary to contribute to the development of interventions to control and prevent serious injuries and death in youth. The assessment of injury, and its immediate causes and effects, is therefore an important component of the HBSC survey and relevant to policy makers.

2. HBSC approach and previous research

The conceptual frameworks for injury prevention, reviewed by Andersson and Menckel, are based on the public health principles of prevention and systematic analyses of factors contributing to the outcome of injuries. Perhaps most well known, Haddon’s model of agents and phases reflects the heterogeneity of injuries and the importance of event-specific information to guide development of interventions. Thus, epidemiological and surveillance data are the cornerstone of successful injury prevention efforts.

The approach taken within HBSC is the "population health approach", which focuses on the interaction between individual and contextual factors that influence the health of populations over the life course. This approach, developed from Bronfenbrenner’s ecological model for human behaviour, tries to identify systematic variations in health outcomes and their patterns of occurrence. The resulting knowledge is applied in the development and implementation of policies and actions to improve health and well-being of those populations. HBSC provides an ideal opportunity to utilise the ecological model as a framework for analyses and interpretation of results, facilitating explanations of various health outcomes, including injury.

The topic of injury was first introduced in the 1993/94 HBSC survey. Previous HBSC research in this area has examined the prevalence of injury across countries, social determinants of injury and associations between multiple risk behaviour and injury.
3. Objectives

- To document injury prevalence in young people.
- To investigate the determinants of injury.
- To analyse international differences and similarities in injury prevalence.
- To identify activities and locations in which injury occurs, and compare results over time.
- To document severe injuries, their immediate causes and effects on young people’s health.

4. Instruments

We employ the most commonly used criteria for identifying more significant injuries, that of the requirement for medical attention and impairment of activity. This not only enables a focus on more significant injury events, it also creates consistency with other studies in the field. The mandatory question in HBSC, therefore, examines injury requiring medical attention. However, the alternative criterion of loss of normal activity to some degree is proposed as an optional question and is strongly recommended to further define injury and identify biases resulting from different medical systems4-5, 7.

The origin for the HBSC item measuring the frequency of medically treated injury is the 1988 Child Health Supplement to the U.S. National Health Interview Survey (CHS-NHIS)20, with the same item being regularly used in the US Youth Risk Behavior Survey (“YRBS”)6. Within HBSC, the item has been used in the HBSC Survey since 1993/94. (See Item Box 1). The item is considered the standard item for studying injuries and has been substantially validated as part of the YRBS study3, and in Canada16.

**Item Box 1**

Many young people get hurt or injured from activities such as playing sports or fighting with others at different places such as the street or home. Injuries can include being poisoned or burned. Injuries do not include illnesses such as Measles or the Flu. The following questions are about injuries you may have had during the past 12 months.

**During the past 12 months, how many times were you injured and had to be treated by a doctor or nurse?**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>☐</td>
<td>I was not injured in the past 12 months</td>
</tr>
<tr>
<td>☐</td>
<td>1 time</td>
</tr>
<tr>
<td>☐</td>
<td>2 times</td>
</tr>
<tr>
<td>☐</td>
<td>3 times</td>
</tr>
<tr>
<td>☐</td>
<td>4 times or more</td>
</tr>
</tbody>
</table>

HBSC STUDY PROTOCOL 2009/10: SECTION 5

5.9 Injuries

References

5.10

DESCRIPTION OF MANDATORY ITEMS

Life satisfaction
1. Background

Life satisfaction is a global assessment of one’s life. Among adults, it is associated with depression, anxiety, suicide, work disability, fatal accidents and all-cause mortality. During adolescence, studies have found that life satisfaction is strongly influenced by life experiences and relationships, particularly within the context of the family. The conceptualisation of life satisfaction draws largely upon psychological and sociological research, with an emphasis on the evaluative aspects of subjective well-being.

2. HBSC Approach and Previous Work

Relevant theories view life satisfaction as being structured by goals. The basic assumption is that resources that lead to achievement of developmental tasks have a major positive impact on overall life satisfaction. Such resources may exist both at the individual and the contextual level. According to Hurrelmann/Lösel, adolescence can be characterised by four main developmental tasks:

- Scholastic achievement to qualify for further education;
- Development of social and sexual relationships;
- Building up a consumer lifestyle; and
- Building up an ethical and political system of values.

The association between social and material resources and their contribution to life satisfaction is also of interest. In research on adults, two competing perspectives on the role of material resources have dominated: the relativistic and the absolute-level view. According to the latter view, it is the absolute level of resources that is of importance to individual life satisfaction. In contrast, the relativistic perspective maintains that it is the resources relative to a given standard (e.g., neighbours, workmates) that are of importance to life satisfaction. Evidence for the absolute-level hypothesis was reported by Diener et al. in a study on national subjective well-being of adults. They found that average purchase power was a strong predictor of the average level of life satisfaction. However, others have found support for the relative position, suggesting that within-group comparisons of resources may also be important to well-being.

Life satisfaction has been included in the HBSC study since 2001/02. Analyses of the 2005/06 international data show that, on average, 15% of children and adolescents report a low satisfaction with life. The analyses of Ravens-Sieberer et al. further point out that there is a relationship between low socioeconomic status and low life satisfaction (OR=2.33). Moreover, national analyses show an association between communication with parents and life satisfaction. The highest life satisfaction was found in boys and girls who reported easy communication with their father, whereas the lowest life satisfaction was found in girls with difficulty in talking with their mother. Karademas et al. also found a link between life satisfaction and family and school factors. An effect of family and school factors on life satisfaction and health complaints remained even after gender and subjective socioeconomic status were controlled for. Although these effects decreased with age, certain family variables, such as communication, continued to be associated with children’s health.
5.10 Life satisfaction

3. Objectives

- To explore trends in life satisfaction.
- To identify differences in life satisfaction between different groups of children and adolescents.
- To assess life satisfaction in different family settings.

4. Instrument

Life satisfaction focuses on describing the overall, not just “health-orientated”, satisfaction with life, i.e., the child’s/adolescents’ current situation. The HBSC item is a measure of general life satisfaction in adults (See Item Box 1) and functions as an indicator of well-being. It is adapted from the Cantril Ladder which has proved to be a valid measure of life satisfaction in adults. Previous HBSC work on life satisfaction showed that observed relationships with quality of life, self-rated health and health complaints are in the expected range.

Minor wording changes were made to the original item to facilitate its use in 11 year olds and this revised version was piloted in five countries in the spring of 2001. In all but one country, the revised scale worked well. Based on the feedback of the pilot study, some design changes have been made to the presentation of the item. The item may be analyzed in terms of the actual item answer category, leading to a score between 0 and 10. Alternatively, it is possible to categorize the responders into those with high life satisfaction (6-10) and those with low life satisfaction (0-5).

Item Box 1

Here is a picture of a ladder. The top of the ladder “10” is the best possible life for you and the bottom “0” is the worst possible life for you. In general, where on the ladder do you feel you stand at the moment? Tick the box next to the number that best describes where you stand.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>◯</td>
<td>10 Best possible life</td>
</tr>
<tr>
<td>◯</td>
<td>9</td>
</tr>
<tr>
<td>◯</td>
<td>8</td>
</tr>
<tr>
<td>◯</td>
<td>7</td>
</tr>
<tr>
<td>◯</td>
<td>6</td>
</tr>
<tr>
<td>◯</td>
<td>5</td>
</tr>
<tr>
<td>◯</td>
<td>4</td>
</tr>
<tr>
<td>◯</td>
<td>3</td>
</tr>
<tr>
<td>◯</td>
<td>2</td>
</tr>
<tr>
<td>◯</td>
<td>1</td>
</tr>
<tr>
<td>◯</td>
<td>0 Worst possible life</td>
</tr>
</tbody>
</table>

5. References


Oral health

5.11

DESCRIPTION OF
MANDATORY ITEMS
1. Background

Oral diseases are very common throughout the world causing pain, discomfort and reducing quality of life. In addition, their treatment is very costly. The most common oral diseases, caries and periodontal diseases, can be prevented by the adoption of healthy behaviours. In order to maintain good oral hygiene, toothbrushing twice a day has been accepted as the international recommendation. Dental caries and erosion of the teeth can be prevented by using fluoride toothpaste when brushing twice a day and by restricting the frequency of between meal sugar consumption. Improvement of toothbrushing habits has been a target of oral health promotion for decades.

During childhood and adolescence, parents play a dominant role in encouraging the adoption of toothbrushing habits in their children. It has been shown that relatively stable patterns of toothbrushing are established during childhood and adolescence, and that individuals who brush their teeth more than once a day seem to have a more stable habit than those who brush less often.

Neglecting oral health care may be associated with adolescent lifestyles detrimental to health. A number of studies have reported that health behaviours tend to cluster together. For example, smoking and alcohol use have been shown to be related to irregular toothbrushing, whereas sport-oriented adolescents are more likely to be habitual brushers. In addition, frequent toothbrushing is associated with low consumption of sweets. Toothbrushing habits in adolescence have also been shown to predict attained education level in early middle age. It was shown that if toothbrushing frequency was low at age 12, by the age of 27–33, years these persons were more likely to be within the less educated stratum of society.

2. HBSC approach and previous research

Evidence from previous studies indicates that improvements in oral health can be obtained through adoption of programmes that are based on the Common Risk Factor Approach (“CRFA”). The CRFA addresses risk factors common to many chronic diseases (e.g. smoking, diets high in saturated fats and sugars, alcohol, environmental hygiene) within the context of the wider socio-environmental milieu.

Previous HBSC findings have shown that the prevalence of recommended toothbrushing, twice a day, varies considerably between countries. Recommended toothbrushing is more frequent among girls, adolescents who perform well at school, those from high affluent families and those whose parents have high-status occupations.

3. Objectives

- To monitor trends in toothbrushing habits;
- To examine associations between toothbrushing and family/individual characteristics; and
- To examine associations between toothbrushing and other health behaviours.
4. Instruments

Toothbrushing frequency has been determined by the same question since the first HBSC survey in 1985/86 (See Item Box 1). The reliability and validity of the question has been tested several times and has been shown to be good.\textsuperscript{7,12}

**Item Box 1**

<table>
<thead>
<tr>
<th>How often do you brush your teeth?</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>◯</td>
<td>More than once a day</td>
</tr>
<tr>
<td>◯</td>
<td>Once a day</td>
</tr>
<tr>
<td>◯</td>
<td>At least once a week but not daily</td>
</tr>
<tr>
<td>◯</td>
<td>Less than once a week</td>
</tr>
<tr>
<td>◯</td>
<td>Never</td>
</tr>
</tbody>
</table>

*Source: HBSC Survey 1985/86.*
5. References


DESCRIPTION OF MANDATORY ITEMS

5.12 Peer culture
1. Background

Adolescence is a time when peer relations become more intense and extensive. During this time, peers become crucial in helping each other to define their identities, and develop personal and social competences. Adolescents' social life and perceptions of belonging have been shown to be related to health, as well as to perceptions of well-being and quality of life. Having good peer relationships can therefore be considered a health/well-being indicator.

Although peer groups are important at all ages, friendship plays a pivotal role during adolescence. Trust, self-disclosure and loyalty are aspects that characterize adolescent friendship which is already aimed at intimacy as a result of the emotional and cognitive changes that guide adolescents to autonomy and understanding another's point of view. Peer groups are a source of support and a basic guide in this social learning process. There is a need for an in-depth understanding of processes behind peer group support and peer group pressure. Gender and quality of friendship are also to be considered.

To fully understand peer influence, it is not enough to examine the number of friends a person has and the frequency of contact with their friends, but the role of sharing activities with friends is also of interest. Carrying out different types of activities, can not only influence the personal well-being of the people involved in these activities, but also shape social norms and values that are accepted inside the group, creating a “culture” shared by the members. Peer culture can be defined as “a stable set of activities, artifacts, values and concerns that children produce and share in interaction with peers.” It is also important to investigate the importance of peer and family relationships simultaneously, examining the degree to which they are concurrent or competitive in youths’ development.

Another crucial aspect of peer relationships concerns communication and the emerging importance of new technologies in adolescents’ social lives. Adolescents’ access to and use of new media technology is on the rise. This explosion of technology brings with it potential benefits and risks. Recent evidence suggested that greater use of electronic media is associated with greater face-to-face contact with friends; the frequency of electronic media communication (“EMC”) increased with increasing number of afternoons and evenings spent with friends. These findings are consistent with the idea that EMC facilitates rather than supersedes face-to-face contacts. It has been suggested that EMC might facilitate the maintenance of existing relations and also help to establish new contacts with peers with whom to spend time and go out in the evening. However, some of these new technologies may also provide a new “format” for previously identified problems (e.g., cyber-bullying). It is imperative that more research is carried out regarding this issue, to explore associations between EMC, well-being and health behaviours across different cultures, time, gender and ages.

2. HBSC Approach and Previous Work

From a social learning theory point of view, peer relations provide an advantageous context in which skills can be learned relating to empathic capacity, the adoption of others’ perspectives, communication, cooperation, and the management and resolution of conflicts. Children with no friends have fewer opportunities to learn social skills, and their difficulties in relating to others can often perpetuate their isolation. Friendship provides a supportive context for self-exploration and emotional growth.
From an attachment theory point of view, the characteristics and quality of early bonding with caregivers can facilitate secure relationships in the future\(^1, 2\). Adolescents with secure attachments are more socially competent when dealing with their peers. Friendship helps with adjustment to new situations and in facing stressful life experiences; it also predicts success in future relationships and is associated with happiness.

Friendship is a strong predictor of the perception of happiness, well-being, social support, sharing interests, self assurance, and social and emotional learning\(^7\), whereas conflict is associated with poor health\(^{15}\). Hartup\(^{9}\) has long argued that the best child predictor for adult adjustment is not intelligence, schooling, or behaviour in class, but the ability to relate to others. Social competence is frequently related to social adjustment and to the ability to develop rewarding interpersonal relationships.

About 90% of adolescents can name at least one peer whom they consider to be a close friend and when they are asked to name more than one, most of them name someone who in turn also names him or her as a close friend\(^{5}\). Having a satisfactory intimate experience with at least one peer is one of the factors that best predicts positive health. Adolescents can clearly discriminate between close friendship and other types of friendship, giving reasons related to good communication, support, trust or feeling good when being with his/her friend, with the quality of this friendship being the key issue. Having at least one good close friend is seen as a resiliency factor\(^2, 3, 24\).

HBSC has shown an interest in the social experience of adolescents since its very beginning and some of the questions have been present since the first HBSC surveys. Recent HBSC results from Kuntsche \textit{et al.}\(^{14}\) show that EMC has increased in almost all participating countries. Particularly high increases were found in Eastern Europe. Moreno \textit{et al.}\(^{17}\) found that those adolescents with better communication in family and social contexts showed fewer psychological complaints. Kuntsche/Gmel\(^{13}\) found that solitary adolescents have a low self-worth, low life satisfaction, more frequent depressive moods and they are more likely to become victims of bullying. These effects were even more pronounced when the solitary adolescents were binge drinkers. Adolescents that report no friends have also been found to be more likely to smoke and use alcohol\(^9\), use illicit drugs more frequently, and tend to feel lonelier\(^{22}\).

Conversely, Simões \textit{et al.}\(^{20}\) found that peer support and communication have a significant positive impact on subjective well-being. Social support from friends is a strong protective factor against life dissatisfaction and psychological symptoms\(^8\) and is positively associated with psychosocial well-being\(^{23}\).

HBSC data also show a connection between time spent with friends, especially in the evenings, and risk behaviours\(^9\). Such analyses, however, should be extended as this relationship could be moderated if the quality of the relationship is taken into account.

**3. Objectives**

- To examine associations between peer relationships and health.
- To explore the implications for health of (not) having a close friend.
- To determine trends in communication with friends and use of EMC across time.
4. Instrument

The number of close friends is measured by two items (See Item Box 1). The question was introduced in the 1993/94 survey and revised in 2001/02 to identify the gender of friends. It has been useful for determining the proportion of adolescents of each gender who have friends of their own, the other or both genders.

**Item Box 1**

**At present, how many close male and female friends do you have?**

*Please tick one box for each column.*

<table>
<thead>
<tr>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>One</td>
<td>One</td>
</tr>
<tr>
<td>Two</td>
<td>Two</td>
</tr>
<tr>
<td>Three or more</td>
<td>Three or more</td>
</tr>
</tbody>
</table>

*Source: HBSC Survey 1993/94. Revised in 2001/02 (Split between male and female friends).*

Frequency of peer contact is measured by three questions. The first two questions have been included since the 1985/86 survey and were designed with the aim of assessing the frequency with which adolescents have contact with their peers out of school, regardless of the place in which this time is spent, whether they are close friends or whether they are frequently together (See Item Boxes 2 and 3).

**Item Box 2**

**How many days a week do you usually spend time with friends right after school?**

<table>
<thead>
<tr>
<th></th>
<th>0 days</th>
<th>1 day</th>
<th>2 days</th>
<th>3 days</th>
<th>4 days</th>
<th>5 days</th>
<th>6 days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Males</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Females</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

*Source: HBSC Survey 1985/86. Revised in 2001/02 (Response categories adjusted to match that of evening contact with peers).*

**Item Box 3**

**How many evenings per week do you usually spend out with your friends?**

<table>
<thead>
<tr>
<th></th>
<th>0 evenings</th>
<th>1 evening</th>
<th>2 evenings</th>
<th>3 evenings</th>
<th>4 evenings</th>
<th>5 evenings</th>
<th>6 evenings</th>
<th>7 evenings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Males</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Females</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

*Source: HBSC Survey 1985/86.*
5.12 Peer culture

The third question measures contact frequency through electronic media (See Item Box 4). The question was developed by the Peer Culture Focus Group in 2001/02 and was revised and updated in 2005/06 to include contact through the internet (such as MSN, chat rooms, etc.) as this form of communication is increasingly popular.

**Item Box 4**

**How often do you talk to your friend(s) on the phone or send them text messages or have contact through the internet?**

<table>
<thead>
<tr>
<th></th>
<th>Rarely or never</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 or 2 days a week</td>
</tr>
<tr>
<td></td>
<td>3 or 4 days a week</td>
</tr>
<tr>
<td></td>
<td>5 or 6 days a week</td>
</tr>
<tr>
<td></td>
<td>Every day</td>
</tr>
</tbody>
</table>

*Source: HBSC Survey 2001/02. Revised in 2005/06 (To include internet communication (chat rooms, MSN, etc.).)*

The items on time spent with friends are relevant for all age groups, given that the increase in peer contact occurs from mid-childhood onwards. In relation to these and other items on peers, their assessment among younger children could be a way of gaining more key information on the effect of children’s early inclusion within typical adolescent routines.
5. References


22. Tomé G, Matos MG & Diniz JA. Consumo de substâncias e isolamento social durante a adolescência; (Substance use and social isolation during childhood). In: Matos, M, (ed). Uso de substâncias: estilo de vida ou à procura de um estilo. (Substance use: a lifestyle or in search for a style?) IDT, Lisboa, 2008: pp. 95-126.


DESCRIPTION OF MANDATORY ITEMS

5.13 Physical activity
1. Background

The health benefits of physical activity are well documented. Regular physical activity can make an important contribution to improving quality of life, both physical and psychological\(^2\). Extensive reviews of the literature on children and adolescents indicate that moderate-to-vigorous physical activity (MVPA) is related to decreased adiposity, reduced risk of metabolic syndrome, enhanced bone density, muscular strength, endurance and aerobic fitness, and improved mental health\(^9,32\). General health, bone health, health-related quality of life, and positive mood states have all been associated with higher levels of daily physical activity\(^2,9,12,22\). In early and mid adolescence, physical activity is positively related to self-image and quality of family and peer relationships, and negatively related to health complaints and smoking\(^12\). In addition, there is evidence for an association between increased physical activity and improved academic and cognitive performance\(^12,32\). Establishment of healthy patterns of physical activity during childhood and adolescence is important because physical activity tracks during adolescence and from adolescence into adulthood\(^9\). Furthermore, adolescent physical activity predicts obesity and abdominal obesity in adulthood\(^19,23\).

Secular and age trends indicate a decrease in physical activity in childhood and adolescence and a corresponding increase in childhood obesity\(^20,21\). Much work has been undertaken in identifying the determinants of physical activity. This work seeks to address potential barriers to and promote participation in physical activities. Sallis et al.\(^29\) and Biddle et al.\(^4\) provide useful reviews of work in this area, suggesting that the key determinants include demographic factors (younger age, male), psychological factors (e.g. perceived barriers, competence and enjoyment), social factors (e.g. encouragement from parents, sibling and peers) and the physical environment (e.g. availability of facilities and programmes).

Current guidelines for physical activity in children and adolescents recommend a minimum of 60 minutes of moderate-to-vigorous physical activity daily\(^32\). Moderate intensity activity is defined as equivalent to brisk walking, which might leave the participant feeling warm and slightly out of breath.

2. Objectives

- To determine the duration of physical activity on weekdays and at weekends.
- To determine the duration and frequency of students’ vigorous physical activity in their free time.
- To identify the proportion of students who meet the current guidelines for daily physical activity.
- To explore correlates of physical activity.
- To describe secular trends in physical activity.

3. HBSC Approach and Previous Work

Because of cognitive and social developmental changes during adolescence, a range of theories are used to explain physical activity behaviour in adolescents. These include Social Cognitive Theory\(^3\), Theory of Planned Behaviour\(^1\), and Self Determination Theory\(^27\). These theories assume complex cognitive processes including self-evaluation, goal setting, and planning. The key constructs
include self-efficacy, outcome expectations, perceived social norms, behavioural attitudes, perceived behavioural control, perceived competence and autonomy.

Environmental issues have also been addressed as key facilitators of physical activity. Ecological approaches to health and health behaviours have been recognised in, for example, the fields of sociology, psychology, education and public health. Within the field of physical activity research, the physical environment has been identified as a crucial element of the ecological model. The thinking behind the approach is that the physical environment can promote or constrain health behaviours, although the interplay between social and physical environment and individual characteristics is fully recognised.

Previous HBSC research has examined age, gender, and socioeconomic differences in physical activity as well as potential mediating relationships between these influences on physical activity. Physical activity rates are higher for boys, decline with age, particularly among girls, and increase with socioeconomic status. Furthermore, those countries where socioeconomic status is important are more likely to display the decrease in physical activity with age. Other HBSC research has shown that involvement in sport and exercise increases with the number of family members and best friends that participate in sports and that motivation for sport participation becomes increasingly fun oriented and decreasingly achievement oriented with age. In addition, it has been shown that young people who meet up with their friends on more than two evenings a week are more likely to be physically active than their peers who socialise less frequently. Finally, active travel to school can play a role in daily physical activity.

HBSC items on vigorous physical activity (VPA) have also been used in assessing sleep quality, the influence of school policies on health behaviours, sedentary behaviour and weight problems. Items on MVPA, introduced to the study in 2001/02, have been used in examining patterns of overweight and obesity and health complaints.

4. Instruments

Three items measuring physical activity are included as mandatory in the 2009/10 survey, measuring MVPA and VPA. The MVPA item was included for the first time in the 2001/02 survey and is used within HBSC to identify those who meet the current international guidelines for physical activity. The question focuses on the total amount of activity and therefore includes all types of activities undertaken both in and out of school hours. It was originally developed by Prochaska et al.24 as a physical activity screening measure for use with children and adolescents with two items measuring physical activity in the past 7 days and during a typical week. Items were found to be reliable (intraclass correlation = .77) and to correlate significantly (r = .40, p < .001) with accelerometer data from US adolescents. Given the limited space available with the HBSC questionnaire and the high correlation between the two items, only the ‘past 7 days’ item is included in the mandatory questionnaire. A similar approach has been taken in the Youth Risk Behaviour Study in the United States.

The two VPA items have been included in HBSC since the beginning of the study and the frequency and duration of vigorous physical activity undertaken as a recreational/leisure pursuit outside of school hours. Booth et al.6 evaluated the reliability and validity of the HBSC vigorous physical activity items in a large sample of 13 and 15 year old Australian students. Based on their responses, students were classified as active or inactive. Boys and girls classified as active had higher fitness levels than those classified as inactive. Reliability of the measure was good (67% to 85%). Rangul et al.25 examined the reliability of the VPA items and these were found to be reliable (intraclass correlation = .71 for frequency and .73 for duration) and validity was fair when correlated with peak VO2 (33 to .39).
5.13 Physical activity

A test-retest study in Finland with approximately 250 young people of both sexes aged 11-15 years demonstrated that the reliability of both the MVPA and VPA items proposed was acceptable, with intraclass correlation coefficients in the order of 0.6 to 0.8, although there was some variation between age-groups. Liu et al. found in their study of 11 and 15-year-old pupils (n=95) in the Beijing area in China that test-retest intraclass correlations for VPA were 0.68 (95% CI 0.55-0.77) for frequency and 0.57 (95% CI 0.42-0.66) for duration. In the same study the intraclass correlation for MVPA was 0.82 (95% CI 0.74-0.88).

Item Box 1

Physical activity is any activity that increases your heart rate and makes you get out of breath some of the time. Physical activity can be done in sports, school activities, playing with friends, or walking to school. Some examples of physical activity are running, brisk walking, rollerblading, biking, dancing, skateboarding, swimming, soccer, basketball, football, & surfing.

[COUNTRY SPECIFIC EXAMPLES CAN BE GIVEN]

For this next question, add up all the time you spent in physical activity each day.

Over the past 7 days, on how many days were you physically active for a total of at least 60 minutes per day?

<table>
<thead>
<tr>
<th>0 days</th>
<th>1 day</th>
<th>2 days</th>
<th>3 days</th>
<th>4 days</th>
<th>5 days</th>
<th>6 days</th>
<th>7 days</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="" alt=" " /></td>
<td><img src="" alt=" " /></td>
<td><img src="" alt=" " /></td>
<td><img src="" alt=" " /></td>
<td><img src="" alt=" " /></td>
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<td><img src="" alt=" " /></td>
<td><img src="" alt=" " /></td>
</tr>
</tbody>
</table>


Item Box 2

OUTSIDE SCHOOL HOURS: How often do you usually exercise in your free time so much that you get out of breath or sweat?

| ![ ]( ) | Every day |
| ![ ]( ) | 4 to 6 times a week |
| ![ ]( ) | 2 to 3 times a week |
| ![ ]( ) | Once a week |
| ![ ]( ) | Once a month |
| ![ ]( ) | Less than once a month |
| ![ ]( ) | Never |

Source: HBSC Survey 1985/86.
### Item Box 3

**OUTSIDE SCHOOL HOURS:** How many hours a week do you usually exercise in your free time so much that you get out of breath or sweat?

- [ ] None
- [ ] About half an hour
- [ ] About 1 hour
- [ ] About 2 to 3 hours
- [ ] About 4 to 6 hours
- [ ] About 7 hours or more
- [ ] Never

*Source: HBSC Survey 1985/86.*

---

### 5. References

5.13 Physical activity


Pubertal status and timing
1. Background

Puberty is the initial period of adolescence during which fundamental biological changes take place and, as a result, the fertile adult develops from the immature child. The underlying biological processes resulting in physical changes have clear intellectual, emotional, social and behavioural implications, many of which result in health-related outcomes. Puberty includes a period of very rapid skeletal growth (the adolescent “growth spurt”) accompanied by gradual development of reproductive organs and secondary sex characteristics (breast development in girls, facial hair growth in boys and the appearance of pubic hair in both sexes). On average, the growth spurt occurs as an early event in girls’ development whereas in boys, fastest growth occurs in mid-puberty. For girls, menarche, the first menstrual period, occurs relatively late in puberty. Spermarche in boys which marks the first ejaculation usually occurs in mid-puberty.

The changes in bodily appearance that occur during puberty can present a major challenge of adjustment. Young people become increasingly body conscious. This increased self-awareness can affect how they feel about themselves and relate to others, and ultimately influence their social and health-related behaviour. Self-concept is shaped during this period. Besides visible body changes, hormonal and other physiological processes also influence young people’s emotions, moods and psychological well-being, as well as their behaviours. Pubertal development is often associated with a higher level of depressive symptoms and stress perception, problems in parent-child relationships, increased level of sensation seeking and substance use, physical activity in boys, initiation of sexual activity and eating disturbances. Caspi/Moffit state that the “crisis” of puberty does not cause psychological and behavioural problems, but can accentuate existing individual differences.

The onset of puberty varies between individuals, as does the pace of physical changes. Some reach puberty well before others, and this has been attributed to the influence of a wide range of factors: genetic and biological influences, stress, socioeconomic status, environmental toxins, nutrition, diet, exercise, amount of body fat, body weight and chronic illness as well as the family social environment. The variance in timing of onset and rate of progress of pubertal change means that although the same chronological age, young people may appear, feel and behave differently according to their stage of maturation. From a policy and practice perspective, there is growing interest in this area, as early puberty has implications for the provision of health education.

2. HBSC Approach and Previous Work

Young people’s capacity to adapt to the changes of puberty seems to depend, at least in part, on the timing of puberty in relation to the majority of their peers of the same age. A number of different theories have been proposed to explain this relationship. These theories rest on two basic conceptualisations, developed in the last 20 years or so, that have been used to guide the interpretation of empirical findings in many subsequent studies. The deviance hypothesis states that any deviance from the norm, whether earlier or later timing of maturation, results in difficulties in adaptation for the young person. These difficulties may be expressed through internalising, for example mental health or emotional problems, or externalising in the form of risk behaviours such as smoking or drinking. In contrast, the stage termination hypothesis predicts developmental problems arising from early maturation because, relative to age-mates, early developers have less time to adapt to their physical changes and the psychological and social challenges associated with these.
According to longitudinal studies, early maturing girls show signs of poor adjustment, having more depressive symptoms, higher body dissatisfaction and increased sexual activity, lower levels of physical activity, higher sedentary behaviour, more functional symptoms, and increased likelihood of alcohol use and smoking compared to on-time and late maturing peers. Early puberty is also associated with deviant behaviour in girls. Early onset of puberty can represent a health risk for girls in terms of negative body image. Since they have a greater proportion of body fat than their later maturing peers, they may be more likely to consider themselves too fat and in need of losing weight. This can result in a preoccupation with weight control and an unhealthy relationship with food, common among many young women.

For boys, the data are far from conclusive. On the one hand, early maturing boys have better social skills because of heightened self-esteem and body image as they are generally taller and more muscular than their peers and this can render them self-confident and socially dominant. In turn, late maturing boys are more vulnerable from these points of view. On the other hand, early maturers use more substances than their peers, initiate smoking earlier, associate with close friends who smoke, smoke more and initiate sexual activity earlier. In a recent study both early and late maturing boys reported high dysfunctional eating patterns, victimization and depressive symptoms. In boys, deviant behaviour and substance use in young adulthood was found to be related with late maturation.

According to the stress-change hypothesis, change is inherently stressful, hence those who are in maturation process will experience troubles compared to youth in pre- and post-pubertal phase. For example, boys during puberty had more depressive symptoms compared to pre- and post-pubertal boys.

The topic of puberty was included in the international HBSC questionnaire for the first time in 2001/02 with a single mandatory item to measure girls' pubertal timing and status (See Item Box 1). The onset of menstruation (menarche) is a reliable indicator of puberty in girls. No suitable equivalent indicator has been established for boys for the mandatory questionnaire because of cultural sensitivities on the topic and the difficulty to reliably validate.

A number of national publications have arisen from this area of research. These have analysed relationships related to puberty, sexual behaviour, social background, body image, self-esteem, social relations and well-being. Early maturation in girls has been found to be a risk factor for smoking, negative body image, poor self-esteem and early sexual activity, with evidence supporting both the stage termination and deviance hypotheses. A significant direct relationship between pubertal development and subjective health complaints was found in a Hungarian sample.

3. Objectives

- To examine relationships between pubertal development and subjective well-being, as well as health-related behaviour.
- To investigate how structural factors, such as family socioeconomic status and family composition, may affect pubertal timing.
- To explore associations between body mass index and puberty.
- To study the importance of pubertal timing on adolescent adjustment in different social and cultural contexts.
5.14 Pubertal status and timing

4. Instruments

Puberty is a continuous process involving a whole host of biological events, many of which cannot be observed or perceived. In the case of girls, the most obvious and memorable event is menarche and, for boys, its equivalent is spermarche. It should be noted, that neither of these events mark the exact start of puberty but nevertheless indicate that puberty has begun. Both menarche and spermarche are appropriate for self-report although with varying degrees of sensitivity in different cultures. To date, the inclusion of menarche in the HBSC instrument (See Item Box 1) has been acceptable in the vast majority of participating countries. However, as previously noted, spermarche is quite culturally sensitive and thus not included as a mandatory item.

Item Box 1

**GIRLS ONLY**

**Have you begun to menstruate (have periods)?**

- [ ] No, I have not yet begun to menstruate
- [ ] Yes, I began at the age of _____ years and _____ months

Source: HBSC Survey 2001/02.

5. References

5.14 Pubertal status and timing


5.15 DESCRIPTION OF MANDATORY ITEMS

School setting
1. Background

During childhood and adolescence, thousands of hours are spent at school. A supportive school environment may be considered a resource for the development of health-enhancing behaviours, health and life satisfaction, while a non-supportive school environment may constitute a risk. This perspective is supported by numerous empirical findings, which are concentrated around a number of focus areas. These include: satisfaction with school, school connectedness, academic achievement and school-related stress. Operationalisations of school satisfaction and school connectedness are often overlapping, indicating that distinct conceptualisations are still unclear. However, the association with health and health behaviours is evident. Several studies find that low school satisfaction or the feeling of not being connected to school is associated with compromising health behaviours including: cigarette smoking, alcohol consumption, marijuana use\(^2, 3, 19, 24\), lower self-rated health\(^3\) and increased somatic and psychological symptoms\(^2, 7, 25, 26, 32\).

The influence of academic achievement on health and health behaviour has been studied less extensively. However, longitudinal studies provide some evidence that student academic achievement functions as a health predictor\(^4, 13, 16\). Studies have found significant links between low academic performance at school and low self-rated health and well-being\(^5, 12, 20, 29, 34\).

The body of literature on school-related stress – often operationalised by measures of perceived pressure at school – tends to have consistent findings. In general, it is found that students who experience higher levels of pressure at school are characterized by more compromising health behaviours, more frequent health complaints (i.e., headache, abdominal pain, backache, dizziness) and psychological complaints, such as feeling sad, tense and nervous\(^10-11, 24, 30-32\). High levels of school pressure are also shown to be associated with lower self-reported health, lower life satisfaction and lower levels of well-being\(^20\).

The importance of the school setting for students’ development of health and health behaviours is evident. Due to the nature of school systems, many health promotion initiatives are implemented within the school setting where most children can be reached. However, most health promotion programmes focus on behaviour-specific interventions aimed at affecting personal factors. Rarely have students’ experiences, in terms of school satisfaction, academic achievement and school-related stress, been integrated into health promotion programmes. Whilst the relevance of students’ school experiences for health and health behaviour is evident, an integration of these elements with personal and structural factors into future health promotion initiatives may be beneficial.

HBSC has a huge potential to contribute new and important knowledge in this area. Beyond describing the prevalence of students’ perceptions and experiences at school, HBSC provides an outstanding opportunity to study the relationship between students’ school life and health and health behaviours. Additionally, due to the cross-national design of the study, HBSC gives an opportunity to study the influence of cross-cultural factors.
2. HBSC Approach and Previous Work

The scientific thinking in relation to the complex interplay between students’ health and school factors has led to a variety of theories and concepts that have not yet coalesced into a coherent scientific theory of the subject. In particular, the differences between psychological, sociological and educational perspectives and theories imply heterogeneous and sometimes competing perspectives, rather than a holistic picture which could guide research and instruct effective policies. To locate and integrate the different theoretical approaches within an overarching framework, the School Focus Group within the HBSC study uses basic elements of modern Systems Theory. This framework provides a theoretical underpinning for the amalgamation of such diverse concepts as social systems, organisations, interactions, individual behaviours, perceptions, attitudes, and health and well-being.

In full accordance with the modern constructivist learning theory, learning as a behavioural or psychological process is under full control of the learning individual and not under the control of the school: it may be irritated, positively influenced or disturbed by the learning environment, but in a very strict sense it is the student who learns – or does not learn. However, the interactions between individuals within the school setting play a key role in the learning process. Thus, the academic achievement of students depends, to a large extent, on their interactions with their teachers. Similarly, the relations among students themselves, be they supportive or destructive, have a strong impact on an individual’s learning behaviour and results, and on his or her school satisfaction and motivation.

Both organisational and interactional factors are important when we try to understand the schools’ impact on the health and health behaviours of students. This impact can be conceptualized as the sum of influences of organisational decisions (processes and structures), teaching and learning interactions, and the organisational culture. What is needed, therefore, are theories and concepts that can conceptualize the interplay between social systems – organisations and interactions – and individuals’ health and well-being. Such concepts as used in HBSC are: the theory of effort-reward-imbalance, the theory of self-determination, the theory of empowerment, the theory of organised participation and the theory of quality and effectiveness of teaching.

Much of the early work using HBSC school items originated in the Scandinavian countries, with a focus on country-specific data. In Norway, Torsheim et al. demonstrated that sense of coherence and school-related stress interact with subjective health complaints during early adolescence. In Denmark, poor relations with teachers and school are associated with poorer health; while high school connectedness is associated with being a non-smoker. Andersen et al. showed that, among girls, exposure to school-related risk factors was more prevalent in lower socioeconomic groups.

Early work by Nutbeam et al. showed that school alienation was associated with smoking and alcohol use for 15 year olds in 13 countries. Further work by Samdal found that low student autonomy, high student support, low school satisfaction and unreasonable expectations are predictors of students’ smoking and alcohol use. High social support from fellow students was the strongest predictor of subjective well-being. Ravens-Sieberer et al. showed that both perceived academic achievement and liking school are associated with fewer subjective health complaints, good self-rated health, greater overall life satisfaction and a lower risk of smoking. Young people who do not feel greatly pressured by schoolwork are much more satisfied with their lives and have fewer subjective health complaints. Furthermore, the shared psychosocial school class environment may have large effects on adolescent health complaints beyond that predicted by individual-level perceived school pressure.
3. Objectives

- To describe the prevalence of school factors relevant for health and health behaviours including: classroom interactions, academic achievement, perceived pressure, demands and liking school.
- To investigate cross-cultural differences in prevalence of school factors.
- To examine the relations/associations between school factors and students’ health behaviours, health and well-being.
- To inform policy makers in the health and education sectors.

4. Instruments

The 2009/10 HBSC survey contains six mandatory items. The first mandatory item measures students’ emotional and psychological connectedness to school in terms of liking school (See Item Box 1). It has been included in the HBSC survey since 1985/86 and has been found to be a powerful correlate of health behaviours and health perceptions.23,35

**Item Box 1**

How do you feel about school at present?

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>☐</td>
<td>I like it a lot</td>
</tr>
<tr>
<td>☐</td>
<td>I like it a bit</td>
</tr>
<tr>
<td>☐</td>
<td>I don’t like it very much</td>
</tr>
<tr>
<td>☐</td>
<td>I don’t like it at all</td>
</tr>
</tbody>
</table>

Source: HBSC Survey 1985/86.

Demands on students are measured by a mandatory item which intends to measure the global feeling of being pressured by the demands of schoolwork, including work at school and homework (See Item Box 2).

**Item Box 2**

How pressured do you feel by the schoolwork you have to do?

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>☐</td>
<td>Not at all</td>
</tr>
<tr>
<td>☐</td>
<td>A little</td>
</tr>
<tr>
<td>☐</td>
<td>Some</td>
</tr>
<tr>
<td>☐</td>
<td>A lot</td>
</tr>
</tbody>
</table>

Source: HBSC Survey 1993/94.
5.15 School setting

Students’ academic achievement is measured by one item: a measure of the student’s perception of how the teacher evaluates his or her academic performance compared to their classmates (See Item Box 3).

**Item Box 3**

**In your opinion, what does your class teacher(s) think about your school performance compared to your classmates?**

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>◯</td>
<td>Very good</td>
</tr>
<tr>
<td>◯</td>
<td>Good</td>
</tr>
<tr>
<td>◯</td>
<td>Average</td>
</tr>
<tr>
<td>◯</td>
<td>Below average</td>
</tr>
</tbody>
</table>

*Source: HBSC Survey 1985/86.*

Three mandatory items on student support have been included in each survey since 1993/94 (See Item Box 4). In the 2001/02 survey the introductory text was revised to specify students and response categories were changed to “strongly agree” … “strongly disagree” from “always” … “never”. The items are intended to form a composite scale to measure social support from classmates. A sum-score should be generated from the responses to the three items. The classmate support scale was included in validation analyses along with three-item parental support and teacher support scales. Confirmatory factor analyses showed that a correlated 3-factor model fit the data well, indicating that the division into a teacher, a classmate and a parent support subscale was a valid measurement model[18, 33].

**Item Box 4**

Here are some statements about the students in your class(es). Please show how much you agree or disagree with each one. Please tick one box for each line.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Neither agree nor disagree</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>The students in my class(es) enjoy being together.</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
</tr>
<tr>
<td>Most of the students in my class(es) are kind and helpful.</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
</tr>
<tr>
<td>Other students accept me as I am.</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
</tr>
</tbody>
</table>

*Source: HBSC Survey 1993/94. Revised in 2001/02 (Introductory text revised to specify students; response categories changed to agree/disagree from “always”… “never”)*
5. References


Sedentary behaviour
1. Background

One of the reasons for recent interest in sedentary behaviours is its relationship with obesity. The primary mechanism for overweight and obesity is an imbalance of energy intake versus energy expenditure. Sedentary behaviours are associated with risk for overweight in adolescents ages 11 through 15. It also appears that sedentary behaviours contribute to weight status independent of physical activity. The relationship between sedentary behaviours and obesity may depend on the type of activity, gender, and age. There is evidence for a dose-response relationship between sedentary behaviours and prevalence of overweight. Furthermore, a causal relationship between sedentary behaviours and obesity is suggested by interventions demonstrating that reduction in sedentary behaviours leads to improvements in weight status.

Adolescent sedentary behaviours have been related to other health problems including neck, shoulder and lower back pain, psychological and somatic symptoms, physical and verbal aggression, hostility, cigarette smoking, alcohol use, and illicit drug use. However, sedentary behaviours can also have positive effects in adolescence. For example, across countries and age groups, a positive relationship between sedentary behaviours and the number of friends, the time spent with friends, and the quality of peer relationships has been found.

Secular trends for sedentary behaviours parallel those for physical activity; just as physical activity is decreasing, sedentary behaviour is increasing. Developmental patterns are also parallel with leisure-time sedentary behaviour increasing from childhood through adolescence. These developmental and secular trends are accompanied by a corresponding increase in childhood obesity.

2. HBSC Approach and Previous Work

The American Academy of Pediatrics' recommendation is that children be exposed to no more than 2 hours of quality television programming per day (this recommendation is sometimes stated as “screen time” so that it refers to video/computer games as well). Others suggest a threshold of four hours per day before the negative effects of sedentary behaviours are evident. The most prevalent adolescent sedentary behaviour appears to be television watching and it may be that the negative effects of sedentary behaviours on health are more evident for television watching than for computer use or video games. There is evidence that adolescents who spend more time watching television are less likely to engage in preventive behaviours such as seat belt use, adequate sleep, and activities outside of school and more likely to engage in health risk behaviours such as sex, delinquency, smoking, alcohol, drugs and truancy. One explanation for the effect of sedentary behaviour on health status is that higher rates of exposure to television content foster risk taking, affecting willingness to engage in health-risk behaviours.

Explanations for the effect of television viewing on adiposity include the effect of television advertising on diet and increased caloric intake when families watch television during mealtimes. However, Mark/Janssen report a dose-response relationship between adolescent screen time (television, computer and video game combined) and indices of the Metabolic Syndrome (triglycerides, fasting glucose, waist circumference, blood pressure, and HDL cholesterol) even when controlling for fat and carbohydrate intake.
Another explanation for the negative effects of sedentary behaviours is that they compete with or displace physical activity; that is, youth who spend more time engaging in sedentary behaviours have less time to reap the benefits of physical activity. However, most studies do not support this hypothesis\(^4\,^27\).

Items on leisure-time sedentary activities have been included in all HBSC surveys from 1985/86; however, they have been amended slightly through time, largely due to technological changes. Much of the previous work has examined relations between sedentary behaviours and physical activity and has shown a weak or no relationship\(^5\,^16-18\). Sedentary behaviours are positively related to diet\(^19\), alcohol and tobacco use\(^16-17\), hostility among classmates\(^20\), bullying\(^20\) and physical violence\(^16-17\). The implications of computer use for health education have also been explored, with a focus on health complaints such as headache, neck/shoulder pain and backache\(^1\). Iannotti et al\(^16-17\) found sedentary behaviour was negatively related to positive health indicators including self image, physical health status, quality of life, and quality of family relationships; however, sedentary behaviour was positively related to quality of peer relationships and negative health indices such as health complaints, physical aggression, cigarette smoking, and alcohol use.

### 3. Objectives

- To assess time spent in the three primary components of adolescent sedentary behaviours: playing computer/video games, using a computer for activities other than games, and watching television.
- To determine weekday and weekend patterns of sedentary behaviours.
- To calculate whether adolescents exceed the 2hr/day and 4hr/day guidelines.
- To examine trends in sedentary behaviour.
- To explore associations between sedentary behaviour, risk behaviours and health outcomes.

### 4. Instruments

Two items were originally included in the HBSC survey, covering hours a day watching television and hours a week playing computer games. In 2001/02, items on hours a day watching television (and videos), using a computer (for playing games, emailing, chatting or surfing the internet) and doing homework were included. A broader range of response categories was also introduced in 2001/02 following piloting, ranging from no time at all, about half an hour a day, about an hour a day and hourly intervals until about 7 or more hours a day. In previous work, similar items have been shown to have good test-retest reliability and validity\(^28-29\). In the 2009/10 survey, six mandatory items are included to capture three typical sedentary leisure activities: TV watching (See Item Box 1), gaming (on computer or games console) (See Item Box 2), and general computer use (chatting online, internet, emailing, homework, etc.) (See Item Box 3). The items are split by weekday and weekend as this is thought to be important in gaining a more accurate picture of the time spent participating in each.
### Item Box 1

**About how many hours a day do you usually watch television (including DVDs and videos) in your free time?** Please tick one box for *weekdays* and one box for *weekend*.

<table>
<thead>
<tr>
<th>Weekdays</th>
<th>Weekend</th>
</tr>
</thead>
<tbody>
<tr>
<td>None at all</td>
<td>None at all</td>
</tr>
<tr>
<td>About half an hour a day</td>
<td>About half an hour a day</td>
</tr>
<tr>
<td>About 1 hour a day</td>
<td>About 1 hour a day</td>
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<tr>
<td>About 2 hours a day</td>
<td>About 2 hours a day</td>
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<tr>
<td>About 3 hours a day</td>
<td>About 3 hours a day</td>
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<tr>
<td>About 4 hours a day</td>
<td>About 4 hours a day</td>
</tr>
<tr>
<td>About 5 hours a day</td>
<td>About 5 hours a day</td>
</tr>
<tr>
<td>About 6 hours a day</td>
<td>About 6 hours a day</td>
</tr>
<tr>
<td>About 7 or more hours a day</td>
<td>About 7 or more hours a day</td>
</tr>
</tbody>
</table>

*Source: HBSC Survey 1985/86. Revised 2001/02 (Weekday/weekend split introduced; response categories expanded; “videos” included). Revised 2005/06 (DVDs added).*

### Item Box 2

**About how many hours a day do you usually play games on a computer or games console (Playstation, Xbox, GameCube etc.) in your free time?** Please tick one box for *weekdays* and one box for *weekend*.

<table>
<thead>
<tr>
<th>Weekdays</th>
<th>Weekend</th>
</tr>
</thead>
<tbody>
<tr>
<td>None at all</td>
<td>None at all</td>
</tr>
<tr>
<td>About half an hour a day</td>
<td>About half an hour a day</td>
</tr>
<tr>
<td>About 1 hour a day</td>
<td>About 1 hour a day</td>
</tr>
<tr>
<td>About 2 hours a day</td>
<td>About 2 hours a day</td>
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<tr>
<td>About 3 hours a day</td>
<td>About 3 hours a day</td>
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<tr>
<td>About 4 hours a day</td>
<td>About 4 hours a day</td>
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<tr>
<td>About 5 hours a day</td>
<td>About 5 hours a day</td>
</tr>
<tr>
<td>About 6 hours a day</td>
<td>About 6 hours a day</td>
</tr>
<tr>
<td>About 7 or more hours a day</td>
<td>About 7 or more hours a day</td>
</tr>
</tbody>
</table>

*Source: HBSC Survey 1989/90. Revised 2001/02 (Weekly activity changed to daily; weekday/weekend split introduced; definition in brackets added).*
5.16 Sedentary behaviour

About how many hours a day do you usually use a computer for chatting on-line, internet, emailing, homework etc. in your free time? Please tick one box for weekdays and one box for weekend.

<table>
<thead>
<tr>
<th>Weekdays</th>
<th>Weekend</th>
</tr>
</thead>
<tbody>
<tr>
<td>○ None at all</td>
<td>○ None at all</td>
</tr>
<tr>
<td>○ About half an hour a day</td>
<td>○ About half an hour a day</td>
</tr>
<tr>
<td>○ About 1 hour a day</td>
<td>○ About 1 hour a day</td>
</tr>
<tr>
<td>○ About 2 hours a day</td>
<td>○ About 2 hours a day</td>
</tr>
<tr>
<td>○ About 3 hours a day</td>
<td>○ About 3 hours a day</td>
</tr>
<tr>
<td>○ About 4 hours a day</td>
<td>○ About 4 hours a day</td>
</tr>
<tr>
<td>○ About 5 hours a day</td>
<td>○ About 5 hours a day</td>
</tr>
<tr>
<td>○ About 6 hours a day</td>
<td>○ About 6 hours a day</td>
</tr>
<tr>
<td>○ About 7 or more hours a day</td>
<td>○ About 7 or more hours a day</td>
</tr>
</tbody>
</table>

Source: HBSC Survey 1989/90. Revised 2001/02 (Weekly activity changed to daily; weekday/weekend split introduced; definition in brackets added).

5. References

Self-rated health
1. Background

Self-rated health is based on an individual’s perception and evaluation of his or her health, and is usually founded on age-peer comparison either consciously or unconsciously. Self-rated health can be distinguished from more specific health constructs in that it captures an overall conception of health, rather than a summation across specific domains of health. The relevance of such general perceptions has been demonstrated in a number of empirical studies in which self-reported health has been an independent predictor of mortality, even after accounting for known demographic, social and medical risk factors. The relationship with gender has also been explored, indicating quite strong gender differences. In general, these studies indicate a lower self-rated health status in females. Sweeting and West further point out that poor self-rated health – as well as physical and psychological distress – increase with age in females. In another study, Vingilis et al. found that sex differences in poor self-rated health became less pronounced when lifestyle factors and psychological distress were included in the analyses. Moreover, Goodman identified an association between self-rated health and household income as well as education. Other studies confirm that there are multiple independent correlates of adolescent self-rated health, and that age-related increases in poor health can be observed during adolescence.

2. HBSC Approach and Previous Work

In adolescence, health is a particularly important resource and poor health may result in long-term negative effects which may continue throughout adulthood. As they develop, young people must deal with a variety of challenges. Being in good health – physically, emotionally and socially – helps young people deal productively with these challenges. Thus, promoting young people’s health can have long-term benefits for individuals and societies, especially as it contributes to the health of future generations. Monitoring and documenting trends and cross-national differences in psychological, social, and physical well-being may serve as an important first step in making public health services responsive to the health needs of young people.

The HBSC self-rated health item measures perceived health status and is a well-established measure of self-reported health. Self-rated health has been included in the HBSC study since its inception and has been addressed in several HBSC publications. Cavallo et al. reported a gender by age interaction in self-rated health, with girls reporting poorer health across ages 11 to 15. Kelleher et al. found psychosocial, demographic, and health-related correlates of self-rated health. It was shown that adolescents with self-rated poor health had more health complaints, lower life satisfaction, were less physically active and had more difficulties making friends. Other studies also suggest that health problems may accumulate in adolescents. For example, Ravens-Sieberer et al. found that 44% of 11-15 year olds report multiple recurrent health complaints, poor or fair health, low life satisfaction or a combination of these problems. The highest odds for health problems were found in older adolescents and girls, whereby socioeconomic status also played a role. Torsheim et al. reported a strong relationship between material circumstances at individual, school and country levels and self-rated poor health. Associations with health behaviours, such as medicine use, have also been identified.
3. Objectives

- To identify trends in self-rated health and conduct country comparisons.
- To explore the role of social and cultural background on perceived health and identify similarities/differences.
- To examine the role of contextual factors, e.g. different gender role traditions, at the cultural level.
- To explore the impact of national indicators, such as gross domestic product (GDP), the Gini coefficient, youth unemployment rates, etc., on subjective health.

4. Instruments

The self-rated health item has been proven to work well in large epidemiological surveys\(^7\), and now includes four response categories: excellent, good, fair, and poor (See Item Box 1). Since the introduction of the item, it has been known that there are variations in the translation of “fair”, which in some countries has a positive slant (leaning towards “excellent” and “good”) while in other countries, the translation has a negative slant, leaning towards “poor”. The item has remained unchanged since the 2001/02 survey.

**Item Box 1**

<table>
<thead>
<tr>
<th>Would you say your health is...?</th>
</tr>
</thead>
<tbody>
<tr>
<td>◯ Excellent</td>
</tr>
<tr>
<td>◯ Good</td>
</tr>
<tr>
<td>◯ Fair</td>
</tr>
<tr>
<td>◯ Poor</td>
</tr>
</tbody>
</table>


5. References


DESCRIPTION OF MANDATORY ITEMS

5.18

Sexual health
1. Background

Reproductive and sexual health is an integral part of holistic health, and comprises the promotion of safe and healthy sexual behaviour, including reproductive choice. Reproductive and sexual health has a substantial contribution to make towards meeting the UN Millennium Development Goals. Indeed, it has been argued that these aspects of health are fundamental to human well-being.

Attaining mature sexuality is among the many major tasks, both psychological and physical, inherent in the period of transition between childhood and adulthood. Sexual health is part of adolescents’ general, social and personal well-being. It is rooted in a life-long sexual development spanning from early childhood throughout adulthood. Sexual health is a central component of health for all sections of the population, but the challenges for maximising the sexual health of adolescents are substantial. Across industrialised nations, a relatively high proportion of those leaving compulsory education have already experienced sexual intercourse, and have engaged in sexual risk behaviour. Addressing the sexual health of young people by raising their commitment to safer sex has become a major issue among developed countries.

The potential risks associated with sexual behaviour among adolescents are primarily linked to the emotional and behavioural characteristics of this developmental stage. It is known that early sex has implications for self-perceptions, well-being, social status and future health behaviour including sexual behaviour. Early sexual initiation can be seen as part of broader risk behaviour clusters including substance use and unprotected sex. The links between early puberty, early sexual initiation and other risk behaviours have also been documented. Unprotected and poorly protected intercourse brings the risk of unintended pregnancy with its myriad of possible outcomes for this age group, including abortion, early motherhood and adoption. Moreover, for those not employing barrier methods of protection, the risk of sexually transmitted infections (STIs) is also present, with serious short- and long-term medical, health and social implications.

Evidence suggests the rates of adolescent pregnancy are decreasing. However, in many countries, the average age of first sexual experience has been decreasing; yet, there seems to be no universal trend towards earlier sexual intercourse. Across countries and regions, there has been a reported rise in sexually transmitted infections (STIs). Thus, while the risk profile may be changing, early and poorly protected sexual intercourse remains highly relevant to public health.

2. HBSC Approach and Previous Work

A categorisation of cultures by their permissiveness regarding adolescent sexuality shows that the majority of the HBSC countries belong to the group of “sexually permissive cultures”. This means that sexuality is tolerated and sexuality among adolescents is considered normal and a valued part of life. In contrast, a few HBSC countries could be regarded as “sexually restrictive cultures”. In these societies there is an attempt to limit sexuality and premarital abstinence is expected, at least for women. Finally, several HBSC countries could be perceived as “sexually supportive cultures”. This means that sex is seen as indispensable for human happiness, sexuality is encouraged among young people and customs and social structures provide information for responsible behaviour.
Previous surveys have tended to show that, in general, the more “open” the society is to sexual issues, the lower the teenage birth rate. However, there is little evidence of substantial differences between countries in the actual levels of sexual activity among young people. In his analysis of trends in sexual initiation between 1960 and 1995, Teitler found that patterns of youth behaviours are converging across developed countries. The variation within and between countries in the age of sexual debut is narrowing, while the influence of social class is becoming less predominant.

It is important to note that within any country or political subdivision, diverse beliefs and patterns about sexual health co-exist, thereby increasing the challenges inherent in delivering appropriate sexual and reproductive health programmes to the adolescent population. Efforts that address the broader determinants of sexual behaviours are needed, particularly those addressing social context encompassing, for example, school ethos and parental communication.

Few studies on sexual behaviour and contraception use among adolescents have been conducted across countries (see Daroch). Although some cross-national comparisons do exist, they do not use similar questions and methods across countries. HBSC, because of its cross-national and cross-cultural dimensions, as well as its broad scope around health determinants of young people, has much to contribute to the understanding of the links between such determinants and sexual behaviours of young people. Since the 2001/02 HBSC survey, four standardised questions related to sexual behaviour have been included in the questionnaire for 15 year-olds students.

Recent HBSC papers have focused on contraception use, a topic where data are sparse. Codeau et al. found that a substantial minority of 15 year olds had engaged in sexual intercourse, and that condoms were the most frequent method of contraception reported by respondents, followed by the use of both condoms and contraceptive pills, and then by the sole use of the contraceptive pill. Within the 11 countries that have asked about emergency contraception, there is high heterogeneity, from 1.7% to 17.8%. However, the proportion of poorly protected and fully unprotected youth remained relatively high; a finding particularly relevant to inform prevention practice.

The 2005/06 HBSC International Report presented the overall prevalence of ever having had sex and, separately, the use of condoms and contraceptive pills during first intercourse. Trends between 2002 and 2006 are also presented for the 24 countries that asked questions in a comparable fashion, and commented in Nic Gabhainn et al.

### 3. Objectives

- To measure the proportion of students who have engaged in sexual intercourse.
- To know at what age students first engaged in sexual intercourse.
- To measure the level of students protected against pregnancy.
- To measure the level of students protected against STIs.

### 4. Instruments

Four sexual health items are mandatory for the 2009/10 HBSC survey. All of these have been derived from the US Youth Risk Behaviour Survey (YRBS). These four items are largely the same as the four mandatory questions from the 2001/02 and 2005/06 HBSC surveys, to maintain comparability. The items are only asked of students from the 15 year-old age group, because
the overwhelming majority of younger adolescents are unlikely to have experienced sexual intercourse and because many schools and parents find such questions too sensitive to ask younger students. The first mandatory sexual health item (See Item Box 1) is designed to measure the prevalence of sexual intercourse among participating students. This question includes parenthetical cues to assist the young person to understand the meaning of the term “sexual intercourse”. Validity studies have shown that adolescents can report accurately whether they have engaged in sexual behaviour. It also should be noted that, by asking only whether young people had ever had sexual intercourse, the question does not identify those who are currently sexually active and, therefore, immediately at risk of pregnancy or an STI.

**Item Box 1**

**Have you ever had sexual intercourse** (sometimes this is called “making love,” “having sex,” or “going all the way” or other appropriate colloquial terms)?

- [ ] Yes
- [ ] No

*Source: Centers for Disease Control, Youth Risk Behavior Survey (YRBS), USA. First used in HBSC Survey 2001/02.*

The second question is designed to measure age at first sexual intercourse (See Item Box 2). The age of initiation question provides pre-coded age categories ranging from “11 years old or younger” to “17 years old or older.” The ages above 15 years old have been included because many countries select and survey students in intact classrooms containing mixed grades and ages. However, in the international dataset, older students are removed.

**Item Box 2**

**How old were you when you had sexual intercourse for the first time?**

- [ ] I have never had sexual intercourse
- [ ] 11 years old or younger
- [ ] 12 years old
- [ ] 13 years old
- [ ] 14 years old
- [ ] 15 years old
- [ ] 16 years old
- [ ] 17 years old or older

*Source: Centers for Disease Control, Youth Risk Behavior Survey (YRBS), USA. First used in HBSC Survey 2001/02.*
The third and fourth questions are designed to measure contraception use at last intercourse (See Item Box 3) and condom use at last intercourse (See Item Box 4).

**Item Box 3**

The last time you had sexual intercourse, what method(s) did you or your partner use to prevent pregnancy: Mark all that apply.

<table>
<thead>
<tr>
<th>Method</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>I have never had sexual intercourse</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No method was used to prevent pregnancy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Birth control pills</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Condoms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Withdrawal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(National choice option here)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some other method</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not sure</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Source: Centers for Disease Control, Youth Risk Behaviour Surveys (YRBS), USA. Adapted for use in HBSC Survey in 2001/02.*

**Item Box 4**

The last time you had sexual intercourse; did you or your partner use a condom?

<table>
<thead>
<tr>
<th>Answer</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>I have never had sexual intercourse</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td></td>
</tr>
</tbody>
</table>

*Source: Centers for Disease Control and Prevention, Youth Risk Behavior Surveys (YRBS), USA Adapted for use in HBSC Survey 2001/02.*

The strongest pilot test of the mandatory sexual health questions consisted of test-retest reliability studies periodically conducted on the YRBS. Mean Kappa scores for many of the sexual health items were in the “substantial” or “almost perfect” ranges based on Landis and Koch's classification."
5. References


5.19 DESCRIPTION OF MANDATORY ITEMS

Social inequality
1. Background

The prevention and reduction of social inequalities in health and health behaviours is a key public health priority. Within the HBSC study, we describe and analyse the socioeconomic patterning of health and health behaviours. The socioeconomic variations across the HBSC member countries are considerable. Across the industrialised world, socioeconomic inequality is increasing and the number of people living in poverty is growing. In most countries, between 3% and 22% of children and young people live in poverty as defined by national standards. Socioeconomic inequality has led also to altered living conditions for children and adolescents. In some countries, globalised and restructured economies have resulted in reduced resources and lower social well-being among young people. This is due to the fact that more and more parents are unemployed, have low-paid jobs, or have contractual employment without social benefits. Some HBSC countries have experienced extraordinary changes in: wealth, income distribution, political systems, social welfare, migration, and other aspects of the general living conditions over the past 20 years.

Some studies suggest that childhood and youth is the life stage with the least social inequalities in health and propose the equalization in youth hypothesis. This hypothesis was introduced by West and confirmed by Rahkonen and Lahelma because they were unable to document any social inequalities in health and behaviours in their studies in Glasgow (Scotland) and Helsinki (Finland). This hypothesis has been influential and is often referred to; but a range of publications from the HBSC study show substantial social inequalities in health and health behaviours, i.e., increasing health and behaviour problems with decreasing socioeconomic position. Due to these inconsistencies, we need to continue our research into social inequalities in health and health behaviours to provide a nuanced and updated picture, and to explain the processes which result in social inequalities in health and behaviours.

It is a challenge to find appropriate indicators of socioeconomic position among children and adolescents. Schoolchildren are usually outside the labour market and do not have a socioeconomic position of their own. The socioeconomic position of their families can be described in several ways, e.g., by their parents’ education and occupational social class, by family affluence, or by indicators of wealth or social deprivation in the residential area. These indicators are not mutually interchangeable. They express different aspects of the socioeconomic circumstances and may cross various aspects of social inequality when used in research on social inequality in health. HBSC is involved in the development of valid indicators of social background and social inequality among children and adolescents.

2. HBSC Approach and Previous Work

Within HBSC, we have been working towards a socio-environmental conceptualisation of socioeconomic position as a resource that is accessible at multiple levels (individual, family, local area). Dahrendorf’s Theory of Life Chances is an example of a theory which encompasses this HBSC perspective and reflects an individual’s opportunities to gain control over his or her life. He proposes the basic concept of “life chances” which is defined as the sum of opportunities offered to individuals by their society and their specific position within this society. The study of social inequality in young people’s health and health behaviour is therefore based on the view that we live our lives within a social structure which patterns individuals’ life chances.
HBSC also applies an ecological or macro-sociological perspective in analysis of social inequalities in health. This ecological/macro perspective recognises the influence of wider characteristics at a local community/country level, e.g., its affluence and the distribution of affluence and social deprivation.

HBSC uses a strategy for the study of social inequality in health and health behaviours based on the Diderichsen theoretical model. This model suggests that the empirical study of social inequalities should be organised in four steps:

1. The study of differential exposure: How much are children and adolescents from different socioeconomic groups exposed to health hazards and health protective factors.
2. The study of differential vulnerability: Exposure to health hazards does not always result in poor health or poor health behaviours. Some individuals are resilient to such exposures or they have sufficient resources and options to avoid being harmed, while other individuals are vulnerable and end up with poor health and health behaviours.
3. The study of differential effect: Poor health and poor health behaviours may sometimes have harmful effects and sometimes less serious effects.
4. The study of macro factors: (macro economic circumstances and policies) and how these influence the above three processes, combining individual data on health outcomes and macro data on economic circumstances and policies.

In general, we find increasing proportions reporting good self-rated health as family affluence increases. Furthermore, high family affluence is associated with reporting of fewer subjective health complaints. These patterns are found in most countries.

Torsheim et al. found substantial social inequalities in self-rated health across HBSC countries at both the individual, school and country level – with an additive effect for individual and area level inequalities. The most deprived 11 year-olds had odds of > 8 for poor self-rated health compared to the least deprived child. Ranking countries by low Family Affluence Scale (FAS) highly correlated with ranking on health. In 11 selected countries, family wealth was consistently associated with symptom load. Also, Zambon et al. showed that in all countries (2002), FAS was negatively related to symptom load and poor life satisfaction; and that countries with stronger redistributive policies were more effective in reducing health inequalities. Molcho et al. focused on the indicator of poverty (hunger/food poverty) and found that across all countries, food poverty was associated with low life satisfaction. Furthermore, there are marked socioeconomic variations in the circumstances in which injuries occur.

Living in countries with high levels of income inequality appears to increase the probability of poor self-rated health, as adolescents living in the group of countries with highest inequalities (high standard deviations of FAS) had more than 2:1 odds of reporting poor health, even when controlling for individual level FAS and family support. Furthermore, higher levels of income inequality are associated with higher levels of drinking and drunkenness and higher prevalence of multiple complaints.

Cross-nationally, there is no systematic socioeconomic inequality in smoking and drinking. An international study showed that cannabis use was most prevalent among students from families with a high socioeconomic position (SEP). In addition, in many countries it has been shown that students from families with high SEP brush their teeth more often and do more physical activity.
3. Objectives

- To describe socioeconomic differences in young people’s basic living conditions, how these differences vary within and across countries and regions, and how they change over time.
- To analyse social inequalities in health and health behaviours between and within countries, and how these inequalities develop over time.
- To analyse how different components of socioeconomic position are associated with different aspects of health and health behaviours.
- To develop appropriate and valid measures of socioeconomic position.
- To study the processes behind the socioeconomic patterning of health and health behaviours.

4. Instruments

HBSC includes four mandatory measures of socioeconomic position, two measures relating to family and two measures of local area socioeconomic position.

**Parental occupation:** The classical indicator of social class is occupation, in this case, parental occupation. HBSC includes four items about father’s and mother’s employment, workplace, and job function (See Item Box 1). These items have been included in HBSC since the very first survey in the 1980s and represent a research tradition in studies within social sciences and public health. It is mandatory to code this information in order to characterise the parents’ occupational social class into five rank-ordered social classes, either by applying an appropriate national coding scheme or – preferably, in accordance with the classical Registrar General Social Class (“RGSC”) coding scheme. Item Box 2 explains the mandatory coding into five social classes and three other categories.
## Item Box 1

<table>
<thead>
<tr>
<th>Father</th>
<th>Mother</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Does your father have a job?</strong></td>
<td><strong>Does your mother have a job?</strong></td>
</tr>
<tr>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Don’t know</td>
<td>Don’t know</td>
</tr>
<tr>
<td>Don’t know or don’t see father</td>
<td>Don’t know or don’t see mother</td>
</tr>
</tbody>
</table>

**If YES, please say in what place he works**
(for example: hospital, bank, restaurant)

**If YES, please say in what place she works**
(for example: hospital, bank, restaurant)

**Please write down exactly what job he does there**
(for example: teacher, bus driver)

**Please write down exactly what job she does there**
(for example: teacher, bus driver)

**If NO, why does your father not have a job?**
(Please tick the box that best describes the situation)

| He is sick, or retired, or a student | She is sick, or retired, or a student |
| He is looking for a job | She is looking for a job |
| He takes care of others, or is full-time at home | She takes care of others, or is full-time at home |
| I don’t know | don’t know |

**If NO, why does your mother not have a job?**
(Please tick the box that best describes the situation)

Source: HBSC Survey 1989/90, although the provided examples in parentheses and the format of the items have changed over time. The present format was introduced in the HBSC Survey 2001/02.
Mandatory coding of parental occupation

<table>
<thead>
<tr>
<th>Code</th>
<th>Mandatory coding of parental occupation</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Code 1</td>
<td>Highest socioeconomic position</td>
<td>Code 2</td>
</tr>
<tr>
<td>Code 3</td>
<td>Lowest socioeconomic position</td>
<td>Code 4</td>
</tr>
<tr>
<td>Code 5</td>
<td>Economically active but unclassifiable into codes 1-5</td>
<td></td>
</tr>
<tr>
<td>Code 6</td>
<td>Economically inactive, e.g., sick, retired, student</td>
<td></td>
</tr>
<tr>
<td>Code 7</td>
<td>Unclassifiable, missing, don’t know, response unclear</td>
<td></td>
</tr>
</tbody>
</table>

The validity of children’s reports about parental occupation has often been described as acceptable. A study by Lien et al. used matched data from 12-year-old children and their parents about parental education and occupation. The correspondence between children’s and parents’ information about parents’ education was low, while the correspondence regarding occupation was high. Other similar studies confirm that children’s report of parents’ occupation is fairly valid. Krølner studied the correspondence between 11 year-old children and their parents’ reports about employment and occupational social class in a study with 1400 matched child-parent questionnaires. There was high correspondence regarding current employment (Kappa-values around 0.90) and white collar vs. blue collar occupation (Kappa-values around 0.90). The correspondence between children and their parents regarding a more detailed coding of occupational social class into five groups resulted in crude kappa-values around 0.60 and adjusted kappa-values around 0.70.

Family affluence: Many young people are unable or unwilling to provide sufficient information about parents’ occupation and it is a challenge to code information about occupation to occupational social class. For these reasons, we have developed a different proxy indicator for socioeconomic position which also reflects life chances namely the Family Affluence Scale (“FAS”) which is a measurement of access to material goods in the family. The first version of FAS was used in the survey cycle in 1993/94 and included items on car ownership and whether the respondent had his/her own bedroom. FAS was further developed in the 1997/98 survey with the addition of an item on family holidays. These items have their origin in classical measures of material and social deprivation. To increase the scale’s discrimination in affluent countries where having one’s own bedroom, family car and family holidays are commonplace, we added an item on computer ownership in 2001/02 (See Item Boxes 3-6).
Item box 3

Does your family own a car, van or truck?

| ☐ | No                   |
| ☐ | Yes, one            |
| ☐ | Yes, two or more    |

Source: HBSC Survey 1993/94.

Item box 4

Do you have your own bedroom for yourself?

| ☐ | No                     |
| ☐ | Yes                    |

Source: HBSC Survey 1993/94.

Item box 5

During the past 12 months, how many times did you travel away on holiday [vacation] with your family?

| ☐ | Not at all            |
| ☐ | Once                  |
| ☐ | Twice                 |
| ☐ | More than twice       |


Item box 6

How many computers does your family own?

| ☐ | None                  |
| ☐ | One                   |
| ☐ | Two                   |
| ☐ | More than two         |

Source: HBSC Survey 2001/02.
The validity of FAS has been addressed by several studies (see review in Currie et al.11). The average FAS of the schoolchildren in a country corresponds with objective measures of wealth in the country, e.g., GNI3, 32. Andersen et al.1 described high agreement between parents’ and 11 year-old students’ response on the FAS items in six countries. There was high agreement for three of the four items and for the total FAS-point but problems regarding the holiday-item. A study in Ireland showed that FAS revealed a moderate internal reliability and FAS scores were significantly associated with reported parental occupation29.

**Perceived family wealth:** This item, first used in the 1993/94 study, was designed to measure young people’s perceptions of their own family’s socioeconomic circumstances (See Item Box 7). Over the past decade, several scholars have developed and used measures of perceived social status13, 17-18. This item shows association with practically all the health and behaviour outcome measures applied in the HBSC study.

**Item box 7**

<table>
<thead>
<tr>
<th>How well off do you think your family is?</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ Very well off</td>
</tr>
<tr>
<td>☐ Quite well off</td>
</tr>
<tr>
<td>☐ Average</td>
</tr>
<tr>
<td>☐ Not so well off</td>
</tr>
<tr>
<td>☐ Not at all well off</td>
</tr>
</tbody>
</table>

*Source:* HBSC Survey 1993/94.

**Hungry to bed:** In acknowledgement of the fact that HBSC lacks a measure of very low socioeconomic status, we added an item about going to bed in the 2001/02 Survey (See Item Box 8). It is now widely accepted that food insecurity and shortage of food in the family is significantly associated with a range of indicators of poor health, poor well-being, poor cognitive development, and negative health behaviours among children and adolescents, and even associated with a risk of overweight and obesity4-6. The item was chosen after considerable consultation and pilot work. Molcho et al.27 analysed Irish HBSC data and concluded that food poverty in schoolchildren was not restricted to those from lower social class families and that food poverty was associated risk to physical and mental health and well-being.

**Item box 8**

<table>
<thead>
<tr>
<th>Some young people go to school or to bed hungry because there is not enough food at home. How often does this happen to you?</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ Always</td>
</tr>
<tr>
<td>☐ Often</td>
</tr>
<tr>
<td>☐ Sometimes</td>
</tr>
<tr>
<td>☐ Never</td>
</tr>
</tbody>
</table>

*Source:* HBSC Survey 2001/02.
5. References


37. West P. Health inequalities in the early years: is there equalisation in youth? Social Science & Medicine, Volume 44(6), 1997: pp. 833-858.
5.20

DESCRIPTION OF MANDATORY ITEMS

Tobacco use
1. Background

Tobacco is still the leading cause of preventable death in the world\(^44\). As well as many long-term risks, smoking also has short-term health effects on youth, including decreased lung function, decreased physical fitness, increased asthmatic problems, and increased coughing, wheezing and shortness of breath\(^43\). In addition, there is evidence to support a positive relationship between cigarette use and the subsequent use of alcohol and cannabis\(^6\).

Smoking behaviour is typically established in adolescence. Most adult smokers lit their first cigarette or were already addicted to nicotine before the age of 18\(^13\). In adolescents, the duration of smoking and the number of cigarettes required to establish nicotine addiction is lower than in adults\(^13\). Smoking prevention in adolescents is therefore very important.

In spite of the many negative consequences, smoking serves a number of functions among adolescents. The most prevalent are: to control negative moods and depression; to belong to a group or to have contact with a group; to control weight; and to be identified with a certain image of maturity and self-reliance\(^20\).

2. HBSC Approach and Previous Work

A broad range of risk and protective factors related to youth smoking extend over different levels of adolescents’ lives. Within an ecological model, a number of levels of influence explain individual behaviour such as smoking. At the individual level, demographic factors such as age\(^36\), gender\(^42\) and educational level\(^18\) influence smoking behaviour. Less smoking is observed in adolescents with an optimistic mood, strong engagement and perceived control. Stress factors such as abuse, job loss of parents, conflicts with parents and poor performance at school are related to smoking initiation and continuation\(^33, 38\).

At the environmental level, the immediate social environment of the adolescent also plays a very important role in smoking initiation, experimentation and regular smoking. Reorganised family structure, low socioeconomic status of the parents and low family cohesion and connectedness have all been associated with adolescent smoking\(^9, 8, 17, 11, 45\). Parental expectations of good behaviour are protective against smoking\(^9\). In addition, parental smoking has been found to be a predictor for smoking experimentation\(^9\), while peer smoking is more consistently related to regular smoking\(^33\). Peers are particularly influential because they provide access to tobacco products, increase the perceived prevalence of smoking behaviour, and help to create norms with which the adolescent identifies\(^5\).

At the institutional level, school is an important environment for adolescents. School characteristics that are related to smoking include school size, school culture, type of school, sex ratio of the students and staff, curriculum, ethos and school level policy to prevent smoking\(^2\). At the community level, smoking behaviour is influenced by values, social norms and behavioural patterns embedded in the wider community. Thus, low neighbourhood attachment, community disorganisation, community norms favouring drug use and a lack of community opportunities for pro-social involvement, are associated with regular smoking in adolescents\(^5\).
5.20 Tobacco use

Several of these variables at the individual and environmental level are included in the HBSC questionnaire and therefore, instead of only looking at smoking prevalence rates, smoking can be studied in a broader context and as part of an adolescent's lifestyle. Questions about smoking prevalence (ever smoked and current smoking) have remained unchanged in the HBSC questionnaire since the 1985/86 survey. These items allow for monitoring trends across countries and across survey cycles.

Previous work has been undertaken to explain smoking behaviour by focusing on various aspects of adolescent life (i.e., personality, school, family, peers etc) and by examining data at different levels of analysis\textsuperscript{17, 21, 27, 31, 45}. Rasmussen et al.\textsuperscript{34} found that the risk of becoming a smoker is different for boys and girls. Family-related aspects of adolescent life have also emerged as important factors in analyses on adolescent smoking. For example, Griesbach et al.\textsuperscript{10} examined the relationship of family structure and smoking and found that smoking prevalence was lowest among adolescents in intact families and highest among adolescents in stepfamilies.

Smoking has also been studied as a determinant of health and risk behaviours such as: perceived health\textsuperscript{24, 41}; life satisfaction\textsuperscript{24}; psychosomatic complaints\textsuperscript{7, 37}; injuries\textsuperscript{16, 29-30, 40}; unhealthy dieting patterns\textsuperscript{26}; alcohol consumption\textsuperscript{1, 22}; bullying\textsuperscript{23, 39}; and early sexual initiation\textsuperscript{8}.

An age of onset item was introduced for the first time as a mandatory item in the 2001/02 survey. Early initiation (≤ 13 years of age) of tobacco (and alcohol) use is associated with the early use of cannabis and with frequent use of tobacco, alcohol and cannabis at age 15\textsuperscript{15}.

3. Objectives

- To monitor tobacco use over time.
- To define the scope of tobacco use by measuring the prevalence of tobacco use among participating students.
- To examine the extent of the tobacco problem by measuring the frequency with which students smoke.
- To identify the age of initiation of tobacco use.

4. Instruments

Smoking prevalence is measured by three mandatory questions. A first question asks about ever smoking (See Item Box 1). A second question asks about current smoking (See Item Box 2). These two questions have been part of HBSC since the 1985/86 survey. A third mandatory question is included to assess the frequency of substance use more precisely within the last 30 days (See Item Box 3).

Self-reported smoking status is a simple and inexpensive method to study smoking prevalence. In general, self-reported smoking prevalence has been considered as a good indicator of actual smoking status compared with biochemically validated smoking prevalence\textsuperscript{25}. Factors influencing self-reports are the level of demand (perceived pressure to give a socially desirable answer), age (adolescents have higher rates of misreporting), and gender (men tend to report their smoking status less accurately than women)\textsuperscript{16, 25}. In the HBSC study, the level of demand is likely to be low compared with, for example, an intervention study, and the questionnaires are completed anonymously. Cultural differences in choosing answers that are socially desirable cannot be avoided, especially as smoking can be regarded as either normal or deviant in different countries for girls and/or boys\textsuperscript{34}. As age and gender play an important role in self-reports, the results could be an underestimation of the real smoking problem. It should also be noted that no question referring to "smokeless tobacco" or other tobacco products is included in the survey. This could lead to an underestimation of tobacco consumption in some countries\textsuperscript{15}. 
5.20 Tobacco use

Item Box 1

Have you ever smoked tobacco? (At least one cigarette, cigar or pipe)

- [ ] Yes
- [ ] No

Source: HBSC Survey 1985/86.

Item Box 2

How often do you smoke tobacco at present?

- [ ] Every day
- [ ] At least once a week, but not every day
- [ ] Less than once a week
- [ ] I do not smoke

Source: HBSC Survey 1985/86.

Item Box 3

On how many occasions (if any) have you done the following things in the last 30 days?
Please tick one box for each line.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Never</th>
<th>1-2 times</th>
<th>3-5 times</th>
<th>6-9 times</th>
<th>10-19 times</th>
<th>20-39 times</th>
<th>40 or more</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smoked cigarettes</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>Drunk alcohol</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>Been drunk</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
</tbody>
</table>

Source: Adapted from: Monitoring the Future: A Continuing Study of the Lifestyles and Values of Youth (1975-on) and the European School Survey Project on Alcohol and Other Drugs (ESPAD) 1995. First used in HBSC Survey in 2001/02. Revised in 2005/06. Shaded areas not relevant to instrument on Tobacco but included as part of the same question.

A fourth mandatory item on smoking initiation measures the age of initiation to tobacco use (See Item Box 4). This question was adapted from the European School Survey Project on Alcohol and other Drugs (ESPAD) question on the same topic.
5.20 Tobacco use

Item Box 4

At what age did you first do the following things?
If there is something you have not done, choose the "never" category.

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>11 years old or less</th>
<th>12 years old</th>
<th>13 years old</th>
<th>14 years old</th>
<th>15 years old</th>
<th>16 years old or older</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drink alcohol (more than a small amount)</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
</tr>
<tr>
<td>Get drunk</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
</tr>
<tr>
<td>Smoke a cigarette (more than a puff)</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
</tr>
</tbody>
</table>

Source: Adapted from the European School Survey Project on Alcohol and Other Drugs (ESPAD) 1995. First used in HBSC Survey 2001/02. Revised in 2005/06. Shaded areas not relevant to instrument on Tobacco but included as part of the same question.

5. References

HBSC STUDY PROTOCOL 2009/10: SECTION 5

5.20 Tobacco use


5.21

DESCRIPTION OF MANDATORY ITEMS

Weight reduction behaviour
1. Background

Being thin is greatly valued within Western societies in spite of increased rates of childhood and adolescent obesity. In fact, the stigmatization of obesity by children appears to have increased. Weight control behaviour has become a well-known feature of adolescent behaviour, as a means of achieving the "perfect" body. Both the prevalence and frequency of weight control behaviour increases as body mass index (BMI) rises. However, adolescents often find it difficult to classify themselves appropriately in terms of weight, and their perception of being overweight rather than their actual weight, appears to be a potent force behind their attempts to lose weight.

Concern has arisen about adolescents' weight reduction behaviour, as it might be associated with negative physical and psychological outcomes. Dieters are more susceptible to nutritional deficiency, growth retardation, menstrual irregularities, delayed sexual maturation, irritability, sleep disturbances and concentration problems. Extreme dieting has been connected with low self-esteem and other negative psychological states, such as depression, anxiety, suicidal thoughts and eating disorders.

Among adolescents, Neumark-Sztainer et al. found that unhealthy weight-control behaviours predicted obesity and eating disorders five years later. Therefore, the identification of shared risk and protective factors for overweight and disordered eating can guide the development of relevant interventions for a broad spectrum of weight-related problems. The HBSC study offers the possibility to investigate the contexts of weight control behaviour in a wide range of industrialised countries.

2. HBSC Approach and Previous Work

Gender differences are apparent in the ways in which male and female adolescents evaluate their body shape and weight. Males are most likely to report dissatisfaction with their muscle size and shape whereas females are more often dissatisfied with their weight and want to become thinner. Pubertal development, which is a key process in adolescence, is highly associated with BMI, body image and body weight satisfaction changes. Some studies stress the key impact of BMI on body dissatisfaction and attempts to lose weight, with only a marginal influence of puberty itself. Others state that, regardless of nutritional status, pubertal development causes increased body dissatisfaction which then leads to an initiation of weight managing behaviours.

Overweight adolescents may adopt extreme weight reduction practices because they are further from their ideal weight or have failed to lose weight by means of modest eating or exercise changes. It may also be that the increased bias against obesity drives obese young people to turn to rapid or unhealthy ways to lose weight. Young people who value their body and health are less likely to engage in rapid or extreme weight reduction practices, regardless of their body weight.

The current item on weight control behaviour has been included in HBSC since 2001/02. HBSC international data demonstrate that adolescents' attempts to lose weight are not only strongly defined by weight status but also by gender, age, self-perception of overweight and the country of residence. Self-perception of being overweight has been found to be the most important factor to attempts at losing weight. According to recent international reports, weight reduction behaviour shows clear gender differences with girls about three times as likely as boys to report engaging in weight control behaviour.
In the international study by Al Sabbah et al., body weight dissatisfaction was highly prevalent and more common among girls than boys, among overweight than non-overweight, and among older adolescents than younger adolescents.

3. Objectives

• To identify adolescents who are currently engaged in weight reduction behaviour.
• To identify high-risk groups.
• To explore associations between weight control behaviour and other health-related behaviour, psychological well-being, and social factors.
• To study trends in weight control behaviour especially in respect of obesity.

4. Instruments

The item on weight reduction behaviour identifies those young people who are currently trying to lose weight or feel the need to do so (See Item Box 1). Previously, a question relating specifically to dieting behaviour was asked. Original testing of the item took place in Flanders, Belgium 2000 (n=560 pupils: Kappa = .77, 88% agreement). Test-retest reliability was investigated again in Finland in 2005 (n=194, 13 and 15-year-old school children, Kappa = .69, 83% agreement, ICC .64 (CI .55-.71)) and found to be acceptable.

Item Box 1

At present are you on a diet or doing something else to lose weight?

- No, my weight is fine
- No, but I should lose some weight
- No, because I need to put on weight
- Yes

Source: HBSC Survey 1993/94. Revised in 2001/02 (Question expanded to include other methods to lose weight, response category “no because I need to put on weight” added).

5. References

5.21 Weight reduction behaviour


Index of Tables
### Table 1: Growth of HBSC by Year with Country

**Carried out survey after scheduled fieldwork dates.**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
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<td>1983/84</td>
<td>1 England</td>
<td>2 Finland</td>
<td>3 Norway</td>
<td>4 Austria</td>
<td>5 Denmark*</td>
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<td></td>
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<tr>
<td>1985/86</td>
<td>1 Finland</td>
<td>2 Norway</td>
<td>3 Austria</td>
<td>4 Belgium (French)*</td>
<td>5 Hungary</td>
<td></td>
<td></td>
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<tr>
<td>1989/90</td>
<td>1 Finland</td>
<td>2 Austria</td>
<td>3 Belgium (French)*</td>
<td>4 Hungary</td>
<td>5 Spain</td>
<td></td>
<td></td>
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<tr>
<td>1993/94</td>
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<td>2 Belgium (French)*</td>
<td>3 Hungary</td>
<td>4 Israel</td>
<td>5 Scotland</td>
<td></td>
<td></td>
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<tr>
<td>1997/98</td>
<td>1 Austria</td>
<td>2 Hungary</td>
<td>3 Scotland</td>
<td>4 Turkey</td>
<td>5 Denmark*</td>
<td></td>
<td></td>
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<tr>
<td>2001/02</td>
<td>1 Belgium (Flemish)</td>
<td>2 Czech Republic</td>
<td>3 Estonia</td>
<td>4 France</td>
<td>5 Luxembourg</td>
<td></td>
<td></td>
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<tr>
<td>2005/06</td>
<td>1 Poland</td>
<td>2 Germany</td>
<td>3 Russia</td>
<td>4 Slovak Republic</td>
<td>5 England</td>
<td></td>
<td></td>
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<tr>
<td>2009/10</td>
<td>1 England</td>
<td>2 Greece</td>
<td>3 Portugal</td>
<td>4 USA</td>
<td>5 Armenia</td>
<td></td>
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</table>

* The former Yugoslav Republic of Macedonia.
### Table 2

**MANDATORY AND OPTIONAL ITEMS OF THE 2009/10 HBSC STUDENT QUESTIONNAIRE**

<table>
<thead>
<tr>
<th>Mandatory items</th>
<th>Optional packages/items</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Demographic factors</strong></td>
<td>(Information on these items not available in Abridged Protocol)</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Grade</td>
<td></td>
</tr>
<tr>
<td>Age: month of birth</td>
<td></td>
</tr>
<tr>
<td>Age: year of birth</td>
<td></td>
</tr>
<tr>
<td><strong>Social inequality</strong></td>
<td></td>
</tr>
<tr>
<td>Parental occupation</td>
<td>Local area socio-economic status</td>
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<tr>
<td>Family Affluence Scale (FAS)</td>
<td>Ethnicity</td>
</tr>
<tr>
<td>Perceived family wealth</td>
<td></td>
</tr>
<tr>
<td>Hunger (Food Poverty)</td>
<td></td>
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<tr>
<td><strong>Family</strong></td>
<td></td>
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<tr>
<td>Family structure: main home</td>
<td>Parental monitoring</td>
</tr>
<tr>
<td>Family structure: second home</td>
<td>Parental bonding</td>
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<tr>
<td>Family communication</td>
<td>Parenting disciplinary styles</td>
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<tr>
<td></td>
<td>Family activities</td>
</tr>
<tr>
<td></td>
<td>Family structure</td>
</tr>
<tr>
<td></td>
<td>Living situation</td>
</tr>
<tr>
<td></td>
<td>Family relationships</td>
</tr>
<tr>
<td><strong>School</strong></td>
<td></td>
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<tr>
<td>Academic achievement</td>
<td>Academic self-efficacy</td>
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<tr>
<td>Satisfaction with school</td>
<td>School engagement</td>
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<tr>
<td>Student relations</td>
<td>Effort</td>
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<td>School-related stress</td>
<td>Reward</td>
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<td></td>
<td>Achievement goal theory</td>
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<td></td>
<td>Competences/autonomy</td>
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<td>Relatedness</td>
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<td>Classroom management</td>
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<tr>
<td></td>
<td>Participation</td>
</tr>
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<td></td>
<td>Student relations</td>
</tr>
<tr>
<td><strong>Peers</strong></td>
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<td>Number of close friends</td>
<td>Group configuration</td>
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<tr>
<td>Peer contact frequency: after school</td>
<td>Group functioning</td>
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<tr>
<td>Peer contact frequency: evenings</td>
<td>Peer activities</td>
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<tr>
<td>Peer contact – Electronic Media Consumption</td>
<td>Social competence</td>
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<td>Electronic media consumption</td>
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<td><strong>Sedentary behaviour</strong></td>
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<tr>
<td>Television use</td>
<td>Participation in leisure time activities</td>
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<tr>
<td>Computer use: game playing</td>
<td>Groups of leisure time activities</td>
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<tr>
<td>Computer use: email, internet etc.</td>
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</tr>
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</table>
### Table 2.

**MANDATORY AND OPTIONAL ITEMS OF THE 2009/10 HBSC STUDENT QUESTIONNAIRE**

<table>
<thead>
<tr>
<th>Mandatory items</th>
<th>Optional packages/items</th>
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</thead>
<tbody>
<tr>
<td><strong>Puberty</strong></td>
<td><strong>(Information on these items not available in Abridged Protocol)</strong></td>
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<tr>
<td>Menarche</td>
<td>Perceived pubertal timing and puberty in boys</td>
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<td></td>
<td>Pubertal Development Scale</td>
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<tr>
<td><strong>Positive health</strong></td>
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<tr>
<td>Self-rated health</td>
<td>(KIDSCREEN) Mental Health Index</td>
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<tr>
<td>Life-satisfaction</td>
<td>Physical disability and chronic conditions</td>
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<td>Subjective health complaints</td>
<td>Strength and difficulties questionnaire</td>
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<td></td>
<td>Medicine use</td>
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<tr>
<td><strong>Weight control &amp; body image</strong></td>
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<tr>
<td>Body Image</td>
<td>Looks</td>
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<tr>
<td>Height</td>
<td>Body Investment Scale</td>
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<tr>
<td>Weight</td>
<td>Dieting</td>
</tr>
<tr>
<td>Weight control behaviour</td>
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<tr>
<td>Oral Health</td>
<td></td>
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<tr>
<td><strong>Eating habits</strong></td>
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<tr>
<td>Breakfast consumption</td>
<td>Food frequency questions</td>
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<td>Food consumption frequency</td>
<td>Food related lifestyle aspects</td>
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<td><strong>Risk behaviour</strong></td>
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<tr>
<td>Tobacco use: ever smoked</td>
<td>Frequency of smoking</td>
</tr>
<tr>
<td>Tobacco use: current smoking</td>
<td>Peer smoking</td>
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<tr>
<td>Alcohol use</td>
<td>Drinking and getting drunk in past 12 months</td>
</tr>
<tr>
<td>Drunkenness</td>
<td>Perceived alcohol use and drunkenness by friends</td>
</tr>
<tr>
<td>Age of onset of smoking, alcohol consumption and drunkenness</td>
<td>Usual quantity</td>
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<tr>
<td>Last 30 day use: alcohol and tobacco</td>
<td>Drinking motives</td>
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<tr>
<td>Cannabis use</td>
<td>Peer substance use</td>
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<tr>
<td></td>
<td>Frequency of illicit drug consumption</td>
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<td></td>
<td>Age of onset</td>
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<tr>
<td><strong>Sexual Health</strong></td>
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<tr>
<td>Prevalence of sexual intercourse</td>
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<td>Age of first sexual intercourse</td>
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<td>Contraception use</td>
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<td>Condom use</td>
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<tr>
<td><strong>Physical activity</strong></td>
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<tr>
<td>Moderate-to-vigorous physical activity (MVPA)</td>
<td>Reasons for physical activities</td>
</tr>
<tr>
<td>Vigorous Physical Activity (VPA): frequency</td>
<td>Active transport</td>
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<tr>
<td>Vigorous Physical Activity (VPA): duration</td>
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</tr>
</tbody>
</table>
Table 2. MANDATORY AND OPTIONAL ITEMS OF THE 2009/10 HBSC STUDENT QUESTIONNAIRE

<table>
<thead>
<tr>
<th>Mandatory items</th>
<th>Optional packages/items (Information on these items not available in Abridged Protocol)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Injuries</strong></td>
<td>Location of injury&lt;br&gt;Activity leading to injury&lt;br&gt;Organisation of activity leading to injury&lt;br&gt;Injury treatment&lt;br&gt;Injury severity&lt;br&gt; Suicide</td>
</tr>
<tr>
<td></td>
<td><strong>Fighting and Bullying</strong>&lt;br&gt;Physical fighting (with whom)&lt;br&gt;Carry weapon (last 30 days)&lt;br&gt;Type of weapon carried (last 30 days)&lt;br&gt;How often been bullied (last few months)&lt;br&gt;How often bullied (last few months)</td>
</tr>
<tr>
<td><strong>Fighting</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Being Bullied</strong></td>
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</tr>
<tr>
<td><strong>Bullying others</strong></td>
<td></td>
</tr>
</tbody>
</table>

Note: Information on these items not available in Abridged Protocol.
International standard version of the Mandatory Questionnaire

Overview

The 2009/10 HBSC International Mandatory Questionnaire has not changed from the 2005/06 version, apart from one addition. This enables HBSC to focus on trends over time for the dissemination of findings. Few changes were made between the 2001/02 and 2005/06 surveys. Hence there will be a minimum of three time points for the majority of participating countries.

The new addition to the survey is the inclusion of tobacco and alcohol use in the last 30 days (MQ23). These items were included in order to improve the capacity of HBSC to provide accurate cross-national comparisons of risk behaviour.

Note: Questions are arranged by focus area for organisational and reference purposes. It is NOT the recommended sequence for student questionnaires.

TABLE OF QUESTIONS

<table>
<thead>
<tr>
<th>QUESTION NUMBER</th>
<th>Demographic factors</th>
<th>Eating habits</th>
<th>Weight control &amp; body image</th>
<th>Physical activity</th>
<th>Sedentary behaviour</th>
<th>Risk behaviour</th>
</tr>
</thead>
<tbody>
<tr>
<td>MQ1</td>
<td>Gender</td>
<td>MQ5</td>
<td>MQ6</td>
<td>MQ7</td>
<td>MQ12</td>
<td>MQ18</td>
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<td>MQ2</td>
<td>Grade</td>
<td>MQ8</td>
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<td>MQ8</td>
<td>MQ13</td>
<td>MQ19</td>
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<td>MQ3</td>
<td>Age: month of birth</td>
<td>MQ9</td>
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<td>MQ9</td>
<td>MQ14</td>
<td>MQ20</td>
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<td>MQ4</td>
<td>Age: year of birth</td>
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<td></td>
<td>MQ10</td>
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<td>MQ12</td>
<td></td>
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<td>MQ23</td>
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<td>MQ22</td>
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<td>MQ23</td>
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<td>MQ24</td>
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## TABLE OF QUESTIONS

<table>
<thead>
<tr>
<th>QUESTION NUMBER</th>
<th>Sexual health</th>
<th>Injuries</th>
<th>Family</th>
<th>Peers</th>
<th>Positive health</th>
<th>School</th>
<th>Social Inequality</th>
<th>Puberty</th>
</tr>
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<tbody>
<tr>
<td>MQ25</td>
<td>Prevalence of sexual intercourse</td>
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<td>MQ26</td>
<td>Age of first sexual intercourse</td>
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<td>MQ27</td>
<td>Contraception use</td>
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<td>MQ29</td>
<td>Injuries</td>
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<td>MQ31</td>
<td>Being bullied</td>
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<td>MQ33</td>
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<td>MQ34</td>
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<td>Number of close friends</td>
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<td>MQ37</td>
<td>Peer contact frequency: after school</td>
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<tr>
<td>MQ38</td>
<td>Peer contact frequency: evenings</td>
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<tr>
<td>MQ39</td>
<td>Peer contact frequency: electronic-media communication</td>
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<td>MQ40</td>
<td>Subjective health complaints</td>
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<tr>
<td>MQ42</td>
<td>Life satisfaction</td>
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<tr>
<td>MQ43</td>
<td>Academic achievement</td>
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<td>MQ44</td>
<td>Satisfaction with school</td>
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<tr>
<td>MQ45</td>
<td>Student relations</td>
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<td>MQ46</td>
<td>School-related stress</td>
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<td>MQ48</td>
<td>FAS: car ownership</td>
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<tr>
<td>MQ49</td>
<td>FAS: own bedroom</td>
<td></td>
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<tr>
<td>MQ50</td>
<td>FAS: holidays</td>
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</tr>
<tr>
<td>MQ51</td>
<td>FAS: computer ownership</td>
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<tr>
<td>MQ52</td>
<td>Perceived family wealth</td>
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<tr>
<td>MQ53</td>
<td>Hunger (Food Poverty)</td>
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<td>MQ54</td>
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</tr>
</tbody>
</table>
Demographics

Gender

MQ1 Are you a boy or a girl?
◯ Boy
◯ Girl

Grade

MQ2 What class are you in?
◯ Country specific Grade (11 year old)
◯ Country specific Grade (13 year old)
◯ Country specific Grade (15 year old)

Age

MQ3 What month were you born?
Jan  Feb  Mar  Apr  May  June  July  Aug  Sept  Oct  Nov  Dec
◯   ◯   ◯   ◯   ◯   ◯   ◯   ◯   ◯   ◯   ◯   ◯

MQ4 What year were you born?
◯   ◯   ◯   ◯   ◯   ◯   ◯   ◯   ◯   ◯   ◯   ◯

Note: All appropriate grades should be included in the national questionnaire according to how countries have sampled. Translation Guidelines: Available for Network Members.
Eating habits

Breakfast consumption

MQ5  How often do you usually have breakfast (more than a glass of milk or fruit juice)?

Please tick one box for weekdays and one box for weekend.

<table>
<thead>
<tr>
<th>Weekdays</th>
<th>Weekend</th>
</tr>
</thead>
<tbody>
<tr>
<td>◯ I never have breakfast during the week</td>
<td>◯ I never have breakfast during the weekend</td>
</tr>
<tr>
<td>◯ One day</td>
<td>◯ I usually have breakfast on only one day of the weekend (Saturday OR Sunday)</td>
</tr>
<tr>
<td>◯ Two days</td>
<td>◯ I usually have breakfast on both weekend days (Saturday AND Sunday)</td>
</tr>
<tr>
<td>◯ Four days</td>
<td></td>
</tr>
<tr>
<td>◯ Five days</td>
<td></td>
</tr>
</tbody>
</table>

Source: HBSC Survey 2001/02.

Description: A measure on frequency of breakfast consumption in order to identify those who regularly skip this meal, which is generally considered an important factor in a healthy lifestyle. Skipping breakfast has been associated with other health compromising behaviours, such as substance use and reduced cognitive functioning. The question is split between weekdays and weekends to identify those who do not eat breakfast on a school day.

Translation Guidelines: Available for Network Members.

Food consumption frequency

MQ6  How many times a week do you usually eat or drink...?

<table>
<thead>
<tr>
<th>Fruits</th>
<th>Never</th>
<th>Less than once a week</th>
<th>Once a week</th>
<th>2-4 days a week</th>
<th>5-6 days a week</th>
<th>Once a day, every day</th>
<th>Every day, more than once</th>
</tr>
</thead>
<tbody>
<tr>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Vegetables</th>
<th>Never</th>
<th>Less than once a week</th>
<th>Once a week</th>
<th>2-4 days a week</th>
<th>5-6 days a week</th>
<th>Once a day, every day</th>
<th>Every day, more than once</th>
</tr>
</thead>
<tbody>
<tr>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sweets (candy or chocolate)</th>
<th>Never</th>
<th>Less than once a week</th>
<th>Once a week</th>
<th>2-4 days a week</th>
<th>5-6 days a week</th>
<th>Once a day, every day</th>
<th>Every day, more than once</th>
</tr>
</thead>
<tbody>
<tr>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Coke or other soft drinks that contain sugar</th>
<th>Never</th>
<th>Less than once a week</th>
<th>Once a week</th>
<th>2-4 days a week</th>
<th>5-6 days a week</th>
<th>Once a day, every day</th>
<th>Every day, more than once</th>
</tr>
</thead>
<tbody>
<tr>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
</tr>
</tbody>
</table>

Source: HBSC Survey 1985/86. Revised in 2001/02 (Response categories expanded; "raw" and "cooked" vegetables combined into one item "vegetables").

Description: These four items represent broad indicators of healthy (fruit and vegetables) and unhealthy (sweets and soft drinks) food consumption.

Translation Guidelines: Available for Network Members.
**Weight Control & Body Image**

### Weight Control

**MQ7** At present are you on a diet or doing something else to lose weight?

- [ ] No, my weight is fine
- [ ] No, but I should lose some weight
- [ ] No, because I need to put on weight
- [ ] Yes

*Source:* HBSC Survey 1993/94. Revised in 2001/02 (Question expanded to include other methods to lose weight, response category "no because I need to put on weight" added).

**Description:** This item identifies those who are currently engaging in some form of behaviour in order to lose weight.

**Item placement:** For sensitivity reasons and to avoid contamination, this item should be placed separately from the items on height & weight and dieting/weight control behaviour.

**Translation Guidelines:** Available for Network Members.

### Body image

**MQ8** Do you think your body is...?

- [ ] Much too thin
- [ ] A bit too thin
- [ ] About the right size
- [ ] A bit too fat
- [ ] Much too fat

*Source:* HBSC Survey 1993/94. Revised in 2001/02 (Response category "I do not think about it" was removed).

**Description:** This item examines perceived body size in order to identify those who are dissatisfied with their body weight.

**Item placement:** For sensitivity reasons and to avoid contamination, this item should be placed separately from the items on height & weight and dieting/weight control behaviour.

**Translation Guidelines:** Available for Network Members.
Height & weight (BMI)

<table>
<thead>
<tr>
<th>MQ9</th>
<th>How much do you weigh without clothes? ____________</th>
</tr>
</thead>
<tbody>
<tr>
<td>MQ10</td>
<td>How tall are you without shoes? ________________</td>
</tr>
</tbody>
</table>


**Description:** Height and weight is used to calculate Body Mass Index (BMI), which is used to determine those who are overweight or obese.

**Item placement:** Height/weight should be placed separately from the items on food consumption, dieting and body image.

**Translation Guidelines:** Available for Network Members.

Oral health

<table>
<thead>
<tr>
<th>MQ11</th>
<th>How often do you brush your teeth?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>More than once a day</td>
</tr>
<tr>
<td></td>
<td>Once a day</td>
</tr>
<tr>
<td></td>
<td>At least once a week but not daily</td>
</tr>
<tr>
<td></td>
<td>Less than once a week</td>
</tr>
<tr>
<td></td>
<td>Never</td>
</tr>
</tbody>
</table>

Source: HBSC Survey 1985/86.

**Description:** A basic measure on frequency of tooth-brushing. The commonly accepted recommendation for tooth-brushing is twice a day. This item has been included in every HBSC survey since the study’s inception.

**Translation Guidelines:** Available for Network Members.
Physical activity

Moderate-to-Vigorous Physical Activity (MVPA)

MQ12 Physical activity is any activity that increases your heart rate and makes you get out of breath some of the time.

Physical activity can be done in sports, school activities, playing with friends, or walking to school. Some examples of physical activity are running, brisk walking, rollerblading, biking, dancing, skateboarding, swimming, soccer, basketball, football, & surfing.

[COUNTRY SPECIFIC EXAMPLES CAN BE GIVEN]

For this next question, add up all the time you spent in physical activity each day.

Over the past 7 days, on how many days were you physically active for a total of at least 60 minutes per day?

<table>
<thead>
<tr>
<th></th>
<th>0 days</th>
<th>1 day</th>
<th>2 days</th>
<th>3 days</th>
<th>4 days</th>
<th>5 days</th>
<th>6 days</th>
<th>7 days</th>
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</thead>
<tbody>
<tr>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
</tr>
</tbody>
</table>


Description: A measure of weekly moderate-to-vigorous physical activity. It has been used to identify those who meet the current international guidelines for physical activity of one hour or more of at least moderate intensity on five or more days a week. As indicated in the question definition text, the focus is on the total amount of activity undertaken and therefore includes all types of activity undertaken both in and out of school hours.

Translation Guidelines: Available for Network Members.
**Vigorous Physical Activity (VPA)**

**MQ13** | OUTSIDE SCHOOL HOURS: How often do you usually exercise in your free time so much that you get out of breath or sweat?
---|---
◯ | Every day
◯ | 4 to 6 times a week
◯ | 2 to 3 times a week
◯ | Once a week
◯ | Once a month
◯ | Less than once a month
◯ | Never

*Source:* HBSC Survey 1985/86.

**MQ14** | OUTSIDE SCHOOL HOURS: How many hours a week do you usually exercise in your free time so much that you get out of breath or sweat?
---|---
◯ | None
◯ | About half an hour
◯ | About 1 hour
◯ | About 2 to 3 hours
◯ | About 4 to 6 hours
◯ | About 7 hours or more

*Source:* HBSC Survey 1985/86.

**Description:** A two-item measure of the frequency and duration of vigorous physical activity undertaken as a recreational/leisure pursuit outside of school hours.

**Item placement:** Because these items use a different definition of physical activity to the preceding MVPA measure ("exercise" compared to "physical activity") and a different level of intensity of PA, it is important that they are placed in a separate section of the questionnaire to avoid confounding. As the items focus on out-of-school leisure activities, it is suggested that they are placed together with other such items (e.g., TV watching).

**Translation Guidelines:** Available for Network Members.
Leisure time activity

Television use

<table>
<thead>
<tr>
<th>MQ15</th>
<th>About how many hours a day do you usually watch television (including DVDs and videos) in your free time? Please tick one box for weekdays and one box for weekend.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Weekdays</strong></td>
</tr>
<tr>
<td></td>
<td>○ None at all</td>
</tr>
<tr>
<td></td>
<td>○ About half an hour a day</td>
</tr>
<tr>
<td></td>
<td>○ About 1 hour a day</td>
</tr>
<tr>
<td></td>
<td>○ About 2 hours a day</td>
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<tr>
<td></td>
<td>○ About 3 hours a day</td>
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<tr>
<td></td>
<td>○ About 4 hours a day</td>
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<tr>
<td></td>
<td>○ About 5 hours a day</td>
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<tr>
<td></td>
<td>○ About 6 hours a day</td>
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<tr>
<td></td>
<td>○ About 7 or more hours a day</td>
</tr>
</tbody>
</table>

**Source:** HBSC Survey 1985/86. Revised in 2001/02 (Weekday/weekend split introduced; response categories expanded; “videos” included). Revised in 2005/06 (DVDs added).

**Description:** A measure of the hours a day spent watching television as an indicator of, for example, sedentary activity.

**Translation Guidelines:** Available for Network Members.
### Computer use

**MQ16**  About how many hours a day do you usually play games on a computer or games console (PlayStation, Xbox, GameCube etc.) in your free time? Please tick one box for weekdays and one box for weekend.

<table>
<thead>
<tr>
<th>Weekdays</th>
<th>Weekend</th>
</tr>
</thead>
<tbody>
<tr>
<td>None at all</td>
<td>None at all</td>
</tr>
<tr>
<td>About half an hour a day</td>
<td>About half an hour a day</td>
</tr>
<tr>
<td>About 1 hour a day</td>
<td>About 1 hour a day</td>
</tr>
<tr>
<td>About 2 hours a day</td>
<td>About 2 hours a day</td>
</tr>
<tr>
<td>About 3 hours a day</td>
<td>About 3 hours a day</td>
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<tr>
<td>About 4 hours a day</td>
<td>About 4 hours a day</td>
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<tr>
<td>About 5 hours a day</td>
<td>About 5 hours a day</td>
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<tr>
<td>About 6 hours a day</td>
<td>About 6 hours a day</td>
</tr>
<tr>
<td>About 7 or more hours a day</td>
<td>About 7 or more hours a day</td>
</tr>
</tbody>
</table>

**Source:** HBSC Survey 1989/90. Revised in 2001/02 (Weekly activity changed to daily; weekday/weekend split introduced; definition in brackets added).

**Description:** These items measure hours a day spent using a computer and playing electronic games during the week and at weekends in students’ free time.

**Translation Guidelines:** Available for Network Members.
**MQ17** About how many hours a day do you usually use a computer for chatting on-line, internet, emailing, homework etc. in your free time? *Please tick one box for weekdays and one box for weekend.*

<table>
<thead>
<tr>
<th>Weekdays</th>
<th>Weekend</th>
</tr>
</thead>
<tbody>
<tr>
<td>None at all</td>
<td>None at all</td>
</tr>
<tr>
<td>About half an hour a day</td>
<td>About half an hour a day</td>
</tr>
<tr>
<td>About 1 hour a day</td>
<td>About 1 hour a day</td>
</tr>
<tr>
<td>About 2 hours a day</td>
<td>About 2 hours a day</td>
</tr>
<tr>
<td>About 3 hours a day</td>
<td>About 3 hours a day</td>
</tr>
<tr>
<td>About 4 hours a day</td>
<td>About 4 hours a day</td>
</tr>
<tr>
<td>About 5 hours a day</td>
<td>About 5 hours a day</td>
</tr>
<tr>
<td>About 6 hours a day</td>
<td>About 6 hours a day</td>
</tr>
<tr>
<td>About 7 or more hours a day</td>
<td>About 7 or more hours a day</td>
</tr>
</tbody>
</table>

**Source:** HBSC Survey 1989/90. Revised in 2001/02 (Weekly activity changed to daily; weekday/weekend split introduced; definition in brackets added).

**Description:** These items measure hours a day spent using a computer to chat online, browse internet, email, complete homework etc. during the week and at weekends in students’ free time.

**Translation Guidelines:** Available for Network Members.
Risk Behaviour

Tobacco use: ever smoked

MQ18 Have you ever smoked tobacco? (At least one cigarette, cigar or pipe)

- Yes
- No

Source: HBSC Survey 1985/86.

Description: A measure of the prevalence of tobacco use among participating students.

Translation Guidelines: Available for Network Members.

Tobacco use: current smoking

MQ19 How often do you smoke tobacco at present?

- Every day
- At least once a week, but not every day
- Less than once a week
- I do not smoke

Source: HBSC Survey 1985/86.

Description: A measure of the frequency of tobacco use.

Translation Guidelines: Available for Network Members.
### Alcohol use

**MQ20** At present, how often do you drink anything alcoholic, such as beer, wine or spirits like... [COUNTRY SPECIFIC EXAMPLES CAN BE GIVEN] Try to include even those times when you only drink a small amount. Please tick one box for each line.

<table>
<thead>
<tr>
<th></th>
<th>Every day</th>
<th>Every week</th>
<th>Every month</th>
<th>Rarely</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wine</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spirits / Liquor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alcopops [e.g., Smirnoff Ice, Bacardi Breezer, Mike’s Hard Lemonade]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>National drinks categories (maximum of three)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Any other drink that contains alcohol</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Source:** HBSC Survey 1985/86. Revised in 2001/02.

**Description:** A measure of the frequency with which adolescents currently consume alcohol. The item on “Alcopops” concerns beverages that are categorised as “Flavoured Alcoholic Beverages” (FABs) by the drinks industry, and includes both “pre-mixed” and “designer” drinks. The addition of this item acknowledges the growth in popularity of these drinks amongst young people over the past ten years.

**Translation Guidelines:** Available for Network Members.
Drunkenness

**MQ21** Have you ever had so much alcohol that you were really drunk?

- [ ] No, never
- [ ] Yes, once
- [ ] Yes, 2-3 times
- [ ] Yes, 4-10 times
- [ ] Yes, more than 10 times

*Source:* HBSC Survey 1985/86.

**Description:** A measure of lifetime drunkenness.

**Translation Guidelines:** Available for Network Members.

Age of onset of smoking, alcohol consumption and drunkenness: 15 year olds only

**MQ22** At what age did you first do the following things?

*If there is something you have not done, choose the “never” category.*

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>11 years old or less</th>
<th>12 years old</th>
<th>13 years old</th>
<th>14 years old</th>
<th>15 years old</th>
<th>16 years or older</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drink alcohol (more than a small amount)</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>Get drunk</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>Smoke a cigarette (more than a puff)</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
</tbody>
</table>

*Source:* Adapted from the European School Survey Project on Alcohol and Other Drugs (ESPAD) 1995, 1999. First used in HBSC Survey 2001/2. Revised in 2005/06.

**Note:** Countries surveying children older than 16 years can add response categories such as 17 years or older or 18 years or older as appropriate to their sample.

**Description:** A measure of the age of initiation into smoking, drinking alcohol and drunkenness.

**Translation Guidelines:** Available for Network Members.
**Alcohol and tobacco: last 30 days use**

**MQ23  On how many occasions (if any) have you done the following things in the last 30 days?**

*Please tick one box for each line.*

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>1-2 times</th>
<th>3-5 times</th>
<th>6-9 times</th>
<th>10-19 times</th>
<th>20-39 times</th>
<th>40 or more</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smoked cigarettes</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Drunk alcohol</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Been drunk</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>


**Note:** This is a new mandatory question for the 2009/10 survey.

**Description:** A measure of the frequency of smoking, drinking alcohol and drunkenness during the previous 30 days.

**Translation Guidelines:** Available for Network Members.

**Cannabis use: 15 year olds only**

**MQ24  Have you ever taken cannabis [INSERT APPROPRIATE COUNTRY SPECIFIC NAMES]...?**

*Please tick one box for each line.*

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>1-2 times</th>
<th>3-5 times</th>
<th>6-9 times</th>
<th>10-19 times</th>
<th>20-39 times</th>
<th>40 or more</th>
</tr>
</thead>
<tbody>
<tr>
<td>In your life</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>In the last 12 months</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>In the last 30 days</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

*Source:* European School Survey Project on Alcohol and Other Drugs, (ESPAD) 1995 on. First used in HBSC Survey 2001/02 (Items 1 & 2). Revised in 2005/06.

**Description:** Measures of cannabis use in order to define and to identify frequent users who may be at high risk.

**Translation Guidelines:** Available for Network Members.
Sexual health: 15 year olds only

Prevalence of sexual intercourse

**MQ25** Have you ever had sexual intercourse *(sometimes this is called “making love,” “having sex,” or “going all the way” or other appropriate colloquial terms)*?

- [ ] Yes
- [ ] No

*Source:* Centers for Disease Control, Youth Risk Behavior Surveys (YRBS), USA. Adapted for use in HBSC Survey in 2001/02.

*Description:* A measure of the prevalence of sexual intercourse among 15 year olds.

*Translation Guidelines:* Available for Network Members.

Age of first sexual intercourse

**MQ26** How old were you when you had sexual intercourse for the first time?

- [ ] I have never had sexual intercourse
- [ ] 11 years old or younger
- [ ] 12 years old
- [ ] 13 years old
- [ ] 14 years old
- [ ] 15 years old
- [ ] 16 years old
- [ ] 17 years old or older

*Source:* Centers for Disease Control, Youth Risk Behavior Surveys (YRBS), USA. Adapted for use in HBSC Survey in 2001/02.

*Description:* A measure of the age at which sexual intercourse first took place.

*Item placement:* It is recommended that this item is placed separately from the items on age of onset for substance use (MQ22).

*Translation Guidelines:* Available for Network Members.
### Contraception use to prevent pregnancy

**MQ27** The last time you had sexual intercourse, what method(s) did you or your partner use to prevent pregnancy: Mark all that apply.

<table>
<thead>
<tr>
<th>Method</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>I have never had sexual intercourse</td>
<td>☐</td>
<td></td>
</tr>
<tr>
<td>No method was used to prevent pregnancy</td>
<td>☐</td>
<td></td>
</tr>
<tr>
<td>Birth control pills</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Condoms</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Withdrawal</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>(National choice option here)</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Some other method</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Not sure</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

**Source:** Centers for Disease Control, Youth Risk Behavior Surveys (YRBS), USA. Adapted for use in HBSC Survey in 2001/02.

**Description:** A measure of contraception used at the last experience of sexual intercourse. This question and the following item on condom use (M28 below) aim to measure separately the methods used to prevent pregnancy and to prevent sexually transmitted diseases. Cognitive testing during the development of these on contraceptive use (by the YRBS) showed that asking the questions separately helps to ensure that respondents adequately consider what actions they took on both counts.

**Translation Guidelines:** Available for Network Members.
Condom use

MQ28  The last time you had sexual intercourse, did you or your partner use a condom?

☐ I have never had sexual intercourse
☐ Yes
☐ No

Source: Centers for Disease Control, Youth Risk Behaviour Surveys (YRBS), USA. Adapted for use in HBSC Survey in 2001/02.

Description: A measure of condom use at last intercourse in order to estimate those at risk from STIs (sexually transmitted infections).

Item placement for all sexual health questions: To ensure that these sensitive items are not associated with or affect/be affected by responses to other topic areas it is strongly recommended that they are placed entirely separately from questions on substance use and on relationships with peers.

For sensitivity reasons, these items should not be placed on the last (back) page of the questionnaire. This is to ensure that responses cannot be visible to other students or teachers when the questionnaire is completed.

Translation Guidelines: Available for Network Members.
Injuries, Fighting and Bullying

Injuries

MQ29 Many young people get hurt or injured from activities such as playing sports or fighting with others at different places such as the street or home. Injuries can include being poisoned or burned. Injuries do not include illnesses such as Measles or the Flu. The following questions are about injuries you may have had during the past 12 months.

During the past 12 months, how many times were you injured and had to be treated by a doctor or nurse?

- [ ] 1 was not injured in the past 12 months
- [ ] 1 time
- [ ] 2 times
- [ ] 3 times
- [ ] 4 times or more


Description: A measure of the frequency of significant injuries during the previous 12 months. In order to distinguish from minor injuries that are a common occurrence amongst young people a significant injury is here defined as one that requires medical attention.

Translation Guidelines: Available for Network Members.
Fighting

<table>
<thead>
<tr>
<th>MQ30</th>
<th>During the past 12 months, how many times were you in a physical fight?</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ I have not been in a physical fight in the past 12 months</td>
<td></td>
</tr>
<tr>
<td>☐ 1 time</td>
<td></td>
</tr>
<tr>
<td>☐ 2 times</td>
<td></td>
</tr>
<tr>
<td>☐ 3 times</td>
<td></td>
</tr>
<tr>
<td>☐ 4 times or more</td>
<td></td>
</tr>
</tbody>
</table>


Description: A measure of aggression and violence assessed through the frequency of physical fighting in the previous 12 months.

Translation Guidelines: Available for Network Members.
### Bullying

#### Being bullied

**MQ31** Here are some questions about bullying. We say a student is BEING BULLIED when another student, or a group of students, say or do nasty and unpleasant things to him or her. It is also bullying when a student is teased repeatedly in a way he or she does not like or when he or she is deliberately left out of things. But it is NOT BULLYING when two students of about the same strength or power argue or fight. It is also **not** bullying when a student is teased in a friendly and playful way.

**How often have you been bullied at school in the past couple of months?**

- [ ] I have not been bullied at school in the past couple of months
- [ ] It has only happened once or twice
- [ ] 2 or 3 times a month
- [ ] About once a week
- [ ] Several times a week

**Source:** First used in HBSC Survey in 1993/94. Revised in 2001/02 to conform with: Olweus, D, “The Revised Olweus Bully/Victim Questionnaire”. HEMIL Centre, University of Bergen, Norway, 1996.

#### Bullying others

**MQ32** How often have you taken part in bullying another student(s) at school in the past couple of months?

- [ ] I have not bullied another student(s) at school in the past couple of months
- [ ] It has only happened once or twice
- [ ] 2 or 3 times a month
- [ ] About once a week
- [ ] Several times a week

**Source:** First used in HBSC Survey in 1993/94. Revised in 2001/02 to conform with: Olweus, D, “The Revised Olweus Bully/Victim Questionnaire”. HEMIL Centre, University of Bergen, Norway, 1996.

**Description:** Two measures of the frequency of being bullied and bullying others at school. “Bullying” is the assertion of interpersonal power through aggression. It has been defined as negative physical or verbal actions that have hostile intent, cause distress to victims, are repeated over time, and involve a power differential between bullies and their victims.

**Item placement:** The items on bullying should not be placed before the item on “liking school”.

**Translation Guidelines:** Available for Network Members.
Family

Family structure

MQ33 All families are different (for example, not everyone lives with both their parents, sometimes people live with just one parent, or they have two homes or live with two families) and we would like to know about yours. Please answer this first question for the home where you live all or most of the time and tick the people who live there.

<table>
<thead>
<tr>
<th>Adults</th>
<th>Children</th>
</tr>
</thead>
<tbody>
<tr>
<td>○ Mother</td>
<td>Please say how many brothers and sisters live here (including half, step or foster brothers and sisters). Please write in the number or write 0 (zero) if there are none. Please do not count yourself</td>
</tr>
<tr>
<td>○ Father</td>
<td>How many brothers? ____</td>
</tr>
<tr>
<td>○ Stepmother (or father's girlfriend)</td>
<td>How many sisters? ____</td>
</tr>
<tr>
<td>○ Stepfather (or mother’s boyfriend)</td>
<td></td>
</tr>
<tr>
<td>○ Grandmother</td>
<td></td>
</tr>
<tr>
<td>○ Grandfather</td>
<td></td>
</tr>
<tr>
<td>○ I live in a foster home or children’s home</td>
<td></td>
</tr>
<tr>
<td>○ Someone or somewhere else: please write it down ___________________________</td>
<td></td>
</tr>
</tbody>
</table>

Source: HBSC Survey 2001/02. Revised in 2005/06.
**MMQ34** Do you have another home or another family, such as the case when your parents are separated or divorced?

<table>
<thead>
<tr>
<th><strong>No</strong></th>
<th><strong>Yes</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>No – GO TO QUESTION XX</td>
<td>How often do you stay there?</td>
</tr>
<tr>
<td></td>
<td>- Half the time</td>
</tr>
<tr>
<td></td>
<td>- Regularly but less than half the time</td>
</tr>
<tr>
<td></td>
<td>- Sometimes</td>
</tr>
<tr>
<td></td>
<td>- Hardly ever</td>
</tr>
</tbody>
</table>

Please tick the people who live there:

<table>
<thead>
<tr>
<th>Adults</th>
<th>Children</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mother</td>
<td>Please say how many brothers and sisters live here (including half, step or foster brothers and sisters). Please write in the number or write 0 (zero) if there are none. Please do not count yourself</td>
</tr>
<tr>
<td>Father</td>
<td>How many brothers? ______</td>
</tr>
<tr>
<td>Stepmother (or father’s girlfriend)</td>
<td>How many sisters? ______</td>
</tr>
<tr>
<td>Stepfather (or mother’s boyfriend)</td>
<td></td>
</tr>
<tr>
<td>Grandmother</td>
<td></td>
</tr>
<tr>
<td>Grandfather</td>
<td></td>
</tr>
<tr>
<td>I live in a foster home or children’s home</td>
<td></td>
</tr>
<tr>
<td>Someone or somewhere else: please write it down</td>
<td></td>
</tr>
</tbody>
</table>

**Source:** HBSC Survey 2001/02. Revised in 2005/06 (Two-column format replaced by two separate questions).

**Description:** A measure of family structure and household composition.

**Translation Guidelines:** Available for Network Members.
**Family communication**

**MQ35**  How easy is it for you to talk to the following persons about things that really bother you?

*Please tick one box for each line.*

<table>
<thead>
<tr>
<th></th>
<th>Very easy</th>
<th>Easy</th>
<th>Difficult</th>
<th>Very difficult</th>
<th>Don’t have or see this person</th>
</tr>
</thead>
<tbody>
<tr>
<td>Father</td>
<td></td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Stepfather (or mother’s boyfriend)</td>
<td></td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Mother</td>
<td></td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Stepmother (or father’s girlfriend)</td>
<td></td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Elder brother(s)</td>
<td></td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Elder sister(s)</td>
<td></td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Best friend</td>
<td></td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Friends of the same sex</td>
<td></td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Friends of the opposite sex</td>
<td></td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

**Source:** HBSC Survey 1985/86.

*Note: Shaded area not relevant to instruments on family but included as part of same question.*

**Description:** A measure of communication with family members and friends as an indicator of the quality of relationships.

**Translation Guidelines:** Available for Network Members.
Peers

Number of close friends

MQ36  At present, how many close male and female friends do you have?

Please tick one box for each column.

<table>
<thead>
<tr>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ None</td>
<td>☐ None</td>
</tr>
<tr>
<td>☐ One</td>
<td>☐ One</td>
</tr>
<tr>
<td>☐ Two</td>
<td>☐ Two</td>
</tr>
<tr>
<td>☐ Three or more</td>
<td>☐ Three or more</td>
</tr>
</tbody>
</table>

Source: HBSC Survey 1993/94. Revised in 2001/02 (Split between male and female friends).

Description: A measure of the size and gender of the student’s friendship group.

Translation Guidelines: Available for Network Members.

Peer contact frequency (after school)

MQ37  How many days a week do you usually spend time with friends right after school?

<table>
<thead>
<tr>
<th>0 days</th>
<th>1 day</th>
<th>2 days</th>
<th>3 days</th>
<th>4 days</th>
<th>5 days</th>
<th>6 days</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

Source: HBSC Survey 1985/86. Revised 2001/02 (Response categories adjusted to match that of evening contact with peers).

Description: A measure of frequency of contact with friends after school.

Translation Guidelines: Available for Network Members.
Peer contact frequency (evenings)

<table>
<thead>
<tr>
<th>MQ38</th>
<th>How many evenings per week do you usually spend out with your friends?</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 evenings</td>
<td>0</td>
</tr>
</tbody>
</table>

**Source:** HBSC Survey 1985/86.

**Description:** A measure of frequency of contact with friends in the evening.

**Translation Guidelines:** Available for Network Members.

Peer contact frequency (electronic-media communication)

<table>
<thead>
<tr>
<th>MQ39</th>
<th>How often do you talk to your friend(s) on the phone or send them text messages or have contact through the internet?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rarely or never</td>
<td>□</td>
</tr>
<tr>
<td>1 or 2 days a week</td>
<td>□</td>
</tr>
<tr>
<td>3 or 4 days a week</td>
<td>□</td>
</tr>
<tr>
<td>5 or 6 days a week</td>
<td>□</td>
</tr>
<tr>
<td>Every day</td>
<td>□</td>
</tr>
</tbody>
</table>

**Source:** HBSC Survey 2001/02. Revised in 2005/06 (To include internet communication (chatrooms, MSN, etc.).)

**Description:** A measure of frequency of contact with friends through electronic media.

**Translation Guidelines:** Available for Network Members.
Positive health

Subjective health complaints

 MQ40 In the last 6 months: how often have you had the following...?
Please tick one box for each line.

<table>
<thead>
<tr>
<th></th>
<th>About every day</th>
<th>More than once a week</th>
<th>About every week</th>
<th>About every month</th>
<th>Rarely or never</th>
</tr>
</thead>
<tbody>
<tr>
<td>Headache</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Stomach-ache</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Back ache</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Feeling low</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Irritability or bad temper</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Feeling nervous</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Difficulties in getting to sleep</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Feeling dizzy</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>


Description: A non-clinical measure of mental and physical health. The list includes physical and psychological symptoms. (Note: this measure is also referred to as “the HBSC symptom checklist” and “psychosomatic complaints”).

Translation Guidelines: Available for Network Members.

Self-rated health

 MQ41 Would you say your health is...?

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>☐</td>
<td>Excellent</td>
</tr>
<tr>
<td>☐</td>
<td>Good</td>
</tr>
<tr>
<td>☐</td>
<td>Fair</td>
</tr>
<tr>
<td>☐</td>
<td>Poor</td>
</tr>
</tbody>
</table>


Description: A measure of perceived health status.

Translation Guidelines: Available for Network Members.
Life satisfaction

MQ42 Here is a picture of a ladder. The top of the ladder “10” is the best possible life for you and the bottom “0” is the worst possible life for you. In general, where on the ladder do you feel you stand at the moment?

Tick the box next to the number that best describes where you stand.

<p>| | | | | | | | | | | |</p>
<table>
<thead>
<tr>
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<tbody>
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|   |   |   |   |   |   |   |   |   |   |   |


Description: A measure of general life satisfaction as an indicator of well-being.
Translation Guidelines: Available for Network Members.
School

Academic achievement

MQ43  In your opinion, what does your class teacher(s) think about your school performance compared to your classmates?

◯ Very good
◯ Good
◯ Average
◯ Below average

Source: HBSC Survey 1985/86.

Description: This item is a measure of the student’s perception of how the teacher evaluates their academic performance.
Translation Guidelines: Available for Network Members.

School Satisfaction

MQ44  How do you feel about school at present?

◯ I like it a lot
◯ I like it a bit
◯ I don’t like it very much
◯ I don’t like it at all

Source: HBSC Survey 1985/86.

Description: This item is intended to measure the students’ global feeling about school as a whole.
Translation Guidelines: Available for Network Members.
### Student relations

**MQ45**  Here are some statements about the students in your class(es). Please show how much you agree or disagree with each one. *Please tick one box for each line.*

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Neither agree nor disagree</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>The students in my class(es) enjoy being together.</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
</tr>
<tr>
<td>Most of the students in my class(es) are kind and helpful.</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
</tr>
<tr>
<td>Other students accept me as I am.</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
</tr>
</tbody>
</table>

*Source: HBSC Survey 1993/94. Revised in 2001/02 (Introductory text revised to specify students; response categories changed to agree/disagree from "always"..."never").*

**Description:** These three items are intended to form a composite scale to measure social support from classmates.

**Translation Guidelines:** Available for Network Members.

### School-related stress

**MQ46**  How pressured do you feel by the schoolwork you have to do?

- ◯  Not at all
- ◯  A little
- ◯  Some
- ◯  A lot

*Source: HBSC Survey 1993/94.*

**Description:** This item intends to measure the global feeling of being pressured by schoolwork, which includes work at school and homework.

**Translation Guidelines:** Available for Network Members.
## Social Inequality

### Parental occupation

<table>
<thead>
<tr>
<th>MQ47</th>
<th>Father</th>
<th>Mother</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does your father have a job?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[ ] Yes</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>[ ] No</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>[ ] Don’t know</td>
<td>Don’t know</td>
<td></td>
</tr>
<tr>
<td>[ ] Don’t know or don’t see father</td>
<td>Don’t know or don’t see mother</td>
<td></td>
</tr>
</tbody>
</table>

**If YES, please say in what place he works**  
(for example: hospital, bank, restaurant)

**Please write down exactly what job he does there**  
(for example: teacher, bus driver)

**If NO, why does your father not have a job?**  
(Please tick the box that best describes the situation)

| [ ] He is sick, or retired, or a student | [ ] She is sick, or retired, or a student |
| [ ] He is looking for a job | [ ] She is looking for a job |
| [ ] He takes care of others, or is full-time at home | [ ] She takes care of others, or is full-time at home |
| [ ] I don’t know | [ ] don’t know |

| Does your mother have a job? | |
| [ ] Yes | |
| [ ] No | |
| [ ] Don’t know | |
| [ ] Don’t know or don’t see mother | |

**If YES, please say in what place she works**  
(for example: hospital, bank, restaurant)

**Please write down exactly what job she does there**  
(for example: teacher, bus driver)

**If NO, why does your mother not have a job?**  
(Please tick the box that best describes the situation)

**Source:** HBSC Survey 1989/90, although the provided examples in parentheses and the format of the items have changed over time. The present format was introduced in the HBSC 2001/02 survey.

**Description:** The aim of this set of questions is to obtain sufficient information on parents' occupations to enable classification according to a standardised coding system. This is used as an indicator of socioeconomic status.

**Translation Guidelines:** Available for Network Members.
### The Family Affluence Scale (FAS)

<table>
<thead>
<tr>
<th>MQ48</th>
<th>Does your family own a car, van or truck?</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ No</td>
<td></td>
</tr>
<tr>
<td>☐ Yes, one</td>
<td></td>
</tr>
<tr>
<td>☐ Yes, two or more</td>
<td></td>
</tr>
</tbody>
</table>

**Source:** HBSC Survey 1993/94.

<table>
<thead>
<tr>
<th>MQ49</th>
<th>Do you have your own bedroom for yourself?</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ No</td>
<td></td>
</tr>
<tr>
<td>☐ Yes</td>
<td></td>
</tr>
</tbody>
</table>

**Source:** HBSC Survey 1993/94.

<table>
<thead>
<tr>
<th>MQ50</th>
<th>During the past 12 months, how many times did you travel away on holiday [vacation] with your family?</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ Not at all</td>
<td></td>
</tr>
<tr>
<td>☐ Once</td>
<td></td>
</tr>
<tr>
<td>☐ Twice</td>
<td></td>
</tr>
<tr>
<td>☐ More than twice</td>
<td></td>
</tr>
</tbody>
</table>

**Source:** HBSC Survey 1997/98.

<table>
<thead>
<tr>
<th>MQ51</th>
<th>How many computers does your family own?</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ None</td>
<td></td>
</tr>
<tr>
<td>☐ One</td>
<td></td>
</tr>
<tr>
<td>☐ Two</td>
<td></td>
</tr>
<tr>
<td>☐ More than two</td>
<td></td>
</tr>
</tbody>
</table>

**Source:** HBSC Survey 2001/02.


**Translation Guidelines:** Available for Network Members.
Perceived family wealth

**MQ52** How well off do you think your family is?

- **Very well off**
- **Quite well off**
- **Average**
- **Not so well off**
- **Not at all well off**

**Source:** HBSC Survey 1993/94.

**Description:** A measure young people’s perceptions of their own family’s socioeconomic position.

**Translation Guidelines:** Available for Network Members.

Hunger (Food Poverty)

**MQ53** Some young people go to school or to bed hungry because there is not enough food at home. How often does this happen to you?

- **Always**
- **Often**
- **Sometimes**
- **Never**

**Source:** HBSC Survey 2001/02.

**Description:** This item was originally devised to measure extreme poverty in terms of deprivation and hardship related to socioeconomic status. However, analyses of the 2001/02 survey data has revealed the potential of this item to be an indicator of a more subtle phenomenon that could be linked to other health inequality issues such as neglect, household disorganisation and family dysfunction.

**Translation Guidelines:** Available for Network Members.
Puberty

Girls Only

<table>
<thead>
<tr>
<th>GIRLS ONLY</th>
<th>MQ54 Have you begun to menstruate (have periods)?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes, I began at the age of ______ years and ______ months</td>
</tr>
<tr>
<td></td>
<td>No, I have not yet begun to menstruate</td>
</tr>
</tbody>
</table>

Source: HBSC Survey 2001/02.

Description: A measure of the onset of puberty in girls. An equivalent indicator for boys is available as an optional package.

Translation Guidelines: Available for Network Members.
HEALTH BEHAIOUR IN SCHOOL-AGED CHILDREN (HBSC) STUDY PROTOCOL:
BACKGROUND, METHODOLOGY AND MANDATORY ITEMS FOR THE 2009/10 SURVEY.