Health Behaviour in School-aged Children

A WORLD HEALTH ORGANIZATION CROSS-NATIONAL STUDY

The Health of Youth

From the Regional Director's foreword:

'The Regional Office for Europe of the World Health Organization is proud to support this cross-national survey of health-related behaviour of young people. This survey is the fourth in the Health Behaviour of School-aged Children (HBSC) Study, since 1983-84. In the Study's plan to obtain comparable information about health-related behaviour among representative samples of schoolchildren in their countries, the WHO Regional Office recognized an opportunity to further the organization's goal of health for all. The project became a WHO collaborative study in 1982.'

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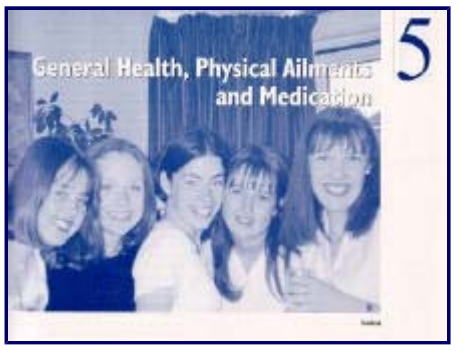

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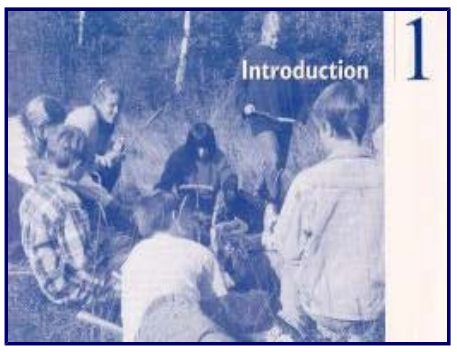

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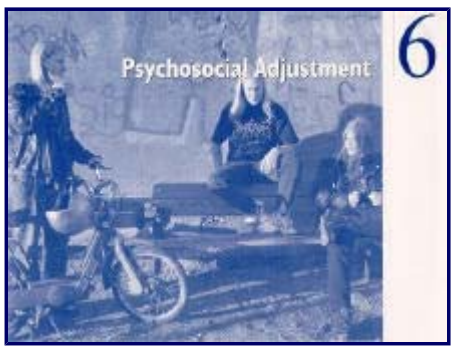

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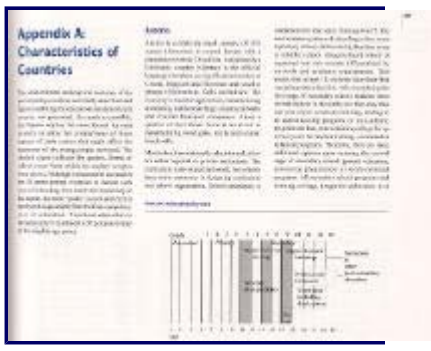

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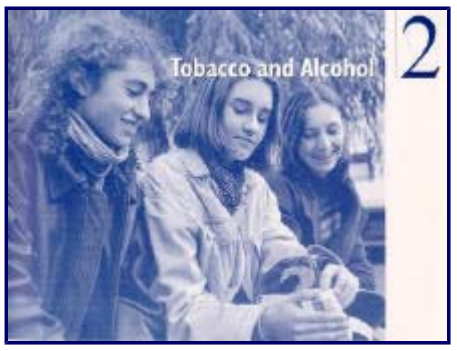

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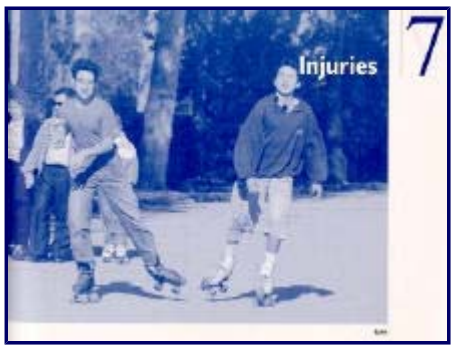

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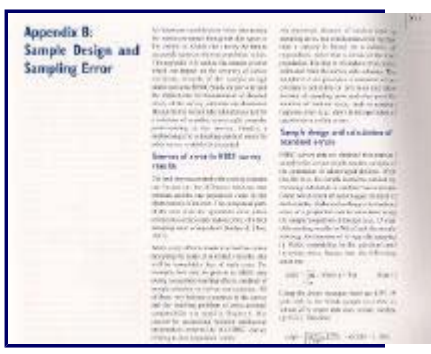

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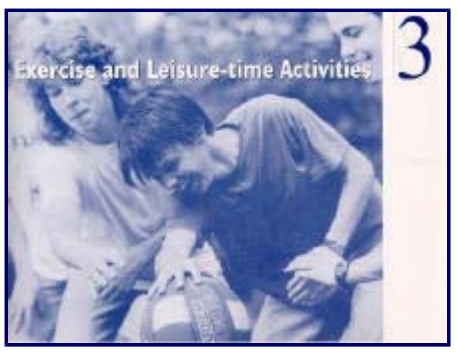

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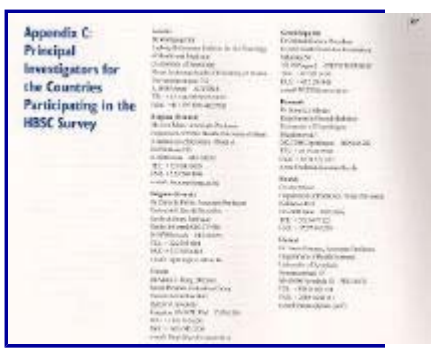

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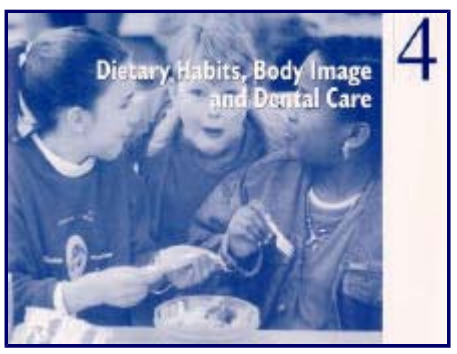

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Foreword

The Regional Office for Europe of the World Health Organization is proud to support this cross-national survey of health-related behaviour of young people. This survey is the fourth in the Health Behaviour of School-Aged Children (HBSC) Study, since 1983–84. In the Study's plan to obtain comparable information about health-related behaviour among representative samples of schoolchildren in their countries, the WHO Regional Office recognized an opportunity to further the organization's goal of health for all. The project became a WHO collaborative study in 1982.

Finland, Norway, Scotland, Wales and Austria took part in the first survey of the HBSC Study. These countries have been joined by 19 others – including Canada – and the numbers continue to grow. England, Greece and the United States will participate in the next HBSC survey. The Regional Office is delighted that interest in this Study has spread to countries outside the WHO European Region. Indeed, comparative information on schoolchildren's knowledge, attitudes, behaviour and perceptions of the school setting are of key importance to health promotion programs and policies.

The unique database that has resulted from the surveys carried out to date represents both important background information for health promotion initiatives and a reliable method to monitor changes within and among countries. It enables analyses between countries that facilitate examination of variations in health risk behaviour, such as smoking. It illustrates the commonality of health problems in youth across countries and the similarity of antecedents. The data yielded by the Study comprise an unprecedented resource for policy makers on health-related issues.

In addition, the Study affords health researchers and health professionals a remarkable opportunity to share information and monitor patterns of behaviour in their countries and internationally. The collaboration of investigators in this Study has created an international network of researchers whose ultimate goal is to understand how best to improve the health of the children in each of their countries.

The Regional Office supports this important study in a number of ways, including the designation of WHO collaborating centres for areas such as the international coordination of the Study and its overall data management. In addition, the HBSC Study is linked to another major Regional Office initiative – the European Network of Health Promoting Schools (ENHPS). This is a pan-European project involving almost 40 countries. Its aim is to make the school setting a health promoting environment for the school population. The HBSC Study provides salient baseline data for the ENHPS and a strong alliance to support health promotion in schools.

WHO, along with Health Canada, provided support for the publication of this report of the international findings of the 1993–94 survey. This report represents only the beginning of the data analysis that will be conducted by researchers from participating countries. Further work will be done within and across countries to take advantage of the wealth of information now available.

Dr J.E. Asvall
WHO Regional Director for Europe

Acknowledgements

The Health Behaviour in School-Aged Children (HBSC) Study involves the collaboration of researchers from several countries, under the auspices of the Regional Office for Europe of the World Health Organization (WHO). Comprehensive surveys of 11, 13 and 15 year olds are carried out by the researchers every few years and are used to investigate health issues within and across participating countries. Tapani Piha ably represented the WHO Regional Office during the planning and administration of the 1993–94 survey. Erio Ziglio ensured WHO standards would be met in the preparation of this report.

The enthusiastic and committed efforts of 25 teams of researchers from 24 countries in the planning and administration of the surveys made this report possible. The following, listed by country, are those who contributed substantially to the preparation of this report. The principal investigator for each country is mentioned first; see Appendix C for addresses and affiliations.

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Dzamila Stehlikova

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Estonia
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Kaili Kepler
Epp Tasa

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Arja Liinamo
Riikka Pötsönen
Jorma Tynjälä
Raili Välimaa

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Marie-Pierre Janvrin

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Greenland
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Ulla Marklund
Emma Wistrand

Switzerland
Yann LeGauffey
Yves François
Denise Mader
Jurgen Rehm

Wales
Chris Tudor-Smith
Laurence Moore
Chris Roberts

The data collection in each country was funded at a national level. We are grateful for the financial support offered by the various government ministries, research foundations and other funding bodies in the participating countries.

For the 1993-94 HBSC survey, Chris Tudor-Smith, Health Promotion Wales, served as administrative coordinator and Bente Wold, Research Center for Health Promotion, University of Bergen, Norway, served as research coordinator. The present international coordinator is Candace Currie, University of Edinburgh, Scotland. Special thanks go to Dag Stenvoll at the Norwegian Social Sciences Data Services for standardizing the data files and preparing the data bank for the study.

The preparation of this report has been funded by Health Canada, under the coordination of Mary Johnston. We also gratefully acknowledge the contributions of Chris Roberts, Health Promotion Wales, who helped in the interpretation of the findings and drafted the technical appendix of the report.

The Social Program Evaluation Group, Queen's University, Kingston, Canada, was largely responsible for final preparation of this report. Mary Johnston, Health Canada, assisted by Annick Gauvin-Fleurant, gave advice and direction throughout the project. The research team was comprised of Matthew King who supervised all aspects of the data analysis for this international presentation of survey findings, Marjorie Peart who contributed substantially to the preliminary drafts of the report, Helen Connop who contributed to Chapter 9 and researched the literature and Beverley Coles who organized the distribution and collection of the survey instruments, did preliminary data analyses and assisted with proofreading. Special thanks go to the secretarial/clerical team of Heidi Elliott, Heather Kenney, Kelly Forrest and Carol Belanger. Hazel Fotheringham edited the manuscript and coordinated its final preparation. Liaison between the WHO Regional Office for Europe and production coordination were the responsibilities of Wendy Warren. Pamela Charlton, Mary Stewart Burgher and Gill Nissen of the Regional Office assisted with final editing and publication details.

Last, but not least, we are very grateful for the cooperation of all the students who were willing to share their experiences with us, and to their schools for making this survey possible.

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CHAPTER 1

Introduction

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Introduction

A. Background

The Health Behaviour in School-Aged Children (HBSC) Study is a collaborative cross-national research study sponsored by the World Health Organization (WHO). The goal of the HBSC Study is to increase understanding of the health-related attitudes and behaviours of young people and the context in which they develop. Ultimately, the researchers aim to improve the quality of health promotion programs and health education for youth.

Since 1982, HBSC researchers have planned and coordinated the collection of data from a growing number of countries. Four separate questionnaire surveys have been conducted to date and the next is planned for the 1997-98 school year. This report presents the basic findings and preliminary analyses from surveys administered by research teams in 24 countries in the 1993-94 school year.

The content of the surveys has evolved substantially over the first four periods of questionnaire development although a basic core of health behaviour items has remained. As more and more countries participated in the survey development process, greater attention was given to flexibility in content and standardization of administration procedures. The first survey offered participating countries little flexibility in selecting content to be included, but the next two surveys provided considerable opportunity for researchers from each country to select content areas they found relevant to add to the basic core of questions. This greater flexibility in questionnaire structure and content made it difficult to achieve comparability across countries and tended to restrict analysis on some important issues.

The survey reported on here included a large component of common items that each participating country was required to implement. The core items from the first questionnaire were included as well as the most useful items, in terms of relevance and design, from all three surveys. Items on injuries and attitude toward school were added.

The Study has two main objectives. The first is to monitor health-risk behaviour in youth over time in order to provide the necessary background and clear targets for health promotion initiatives. The second objective is to provide information to researchers that will enable them to understand and explain the development of health attitudes and behaviours through early adolescence. The research should provide the analytical framework necessary for the design of effective health promotion intervention and health education programs.

In this chapter, the questionnaire, sampling procedures and data collection are discussed. An explanation of the presentation and interpretation of findings in this report follows. Then, characteristics of the students surveyed are presented. Finally, the content of the chapters is briefly outlined.

B. The questionnaire

Questionnaire topics for HBSC surveys are discussed among the various research teams and finally selected at international project meetings. A research protocol guides both data collection procedures and the general progress of the Study (Wold et al., 1994).

The conceptual framework for the design of the survey comes from the social sciences and has two main components. First there is the developmental perspective. Three age groups (11, 13 and 15 year olds) were selected as targets for data collection to examine changes that occur in health behaviours and attitudes from the onset of puberty to the middle of adolescence. Second, the framework incorporates health outcomes and factors which may influence or shape the outcomes. Outcomes include behaviours such as smoking, alcohol abuse, and level of physical activity, psychosocial states such as happiness and loneliness and physical problems such as headaches and backaches. Determinants include attitudes related to school, parents and peers. Outcomes and determinants may interact and therefore be interchangeable in analyses. Chapter 9 provides examples of the utilization of the framework that has guided the design of survey items.

As explained, this survey includes a core of items that have been used in each of the four surveys and additional items on specific topics. All countries were expected to include these items on their survey in addition to their own special questions of national and regional interest. In other words, each national or regional survey consists of core items, common items related to specific topics and optional items. Other than the core questions, questions concerning school and injury were common to the 1993-94 international standard version of the survey.

School, because it is an important setting in which the physical and psychosocial development of youth occurs, plays a crucial role as a place to monitor current health behaviours and trends and as a base for implementing health promotion programs. Previous HBSC research has indicated a link between a number of psychosocial problems at school and health. For example, feelings of alienation at school are associated with health compromising behaviour (Nutbeam et al., 1989; Nutbeam & Aarø, 1991). Eder found that school children who are socially well integrated report better health than those who do not feel part of school life (1990a,1990b). This survey expands on these findings to clarify the relationship between the school environment and the health and happiness of students.

Since unintentional injury is the major cause of death and morbidity in youth as well as loss of school time, the researchers incorporated items related to type, place and cause of injuries. This type of information was generally not available in most participating countries and is fundamental to the design of injury prevention programs.

The core questions, other than demographic ones, concern behaviours, such as smoking and physical activity, that are understood to affect health, and various psychosocial aspects of health, such as depression and happiness.

C. Sampling and data collection

1. Participating countries

The 24 countries in which research teams administered questionnaires are Austria, Belgium, Canada, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greenland, Hungary, Israel, Latvia, Lithuania, Northern Ireland, Norway, Poland, the Russian Federation, Scotland, Slovakia, Spain, Sweden, Switzerland and Wales. In France, Germany and the Russian Federation, the survey was conducted only in regions (see Figure 1.1). In Belgium, the Flemish-speaking community and the French-speaking community were surveyed independently. In order to simplify the presentation, each of the 25 areas in which surveys were conducted is referred to in the following text as a country; the two Belgian communities are designated Belgium (Fl.) and Belgium (Fr.) and the Russian Federation is identified as Russia. Brief descriptions of the participating countries, the characteristics of their school systems and the grades in which the questionnaires were administered appear in Appendix A.

2. Sampling procedures

Approximately 1300 respondents in each of three age groups – 11, 13 and 15 years – were targeted in each country. School classes or schools at the appropriate grade levels were randomly selected in each country or region to be surveyed. Thus, a cluster sample design was used, in which the first level of sampling occurs at the school or school class level and then all students in the appropriate age group are surveyed. Table 1.1 shows that the minimum sample sizes were met by most participating countries. Since the population of Greenland is relatively small, the entire in-school population for each age group was surveyed, with the exception of those not present at the time of the survey. A detailed description of the sampling design is provided in Appendix B.

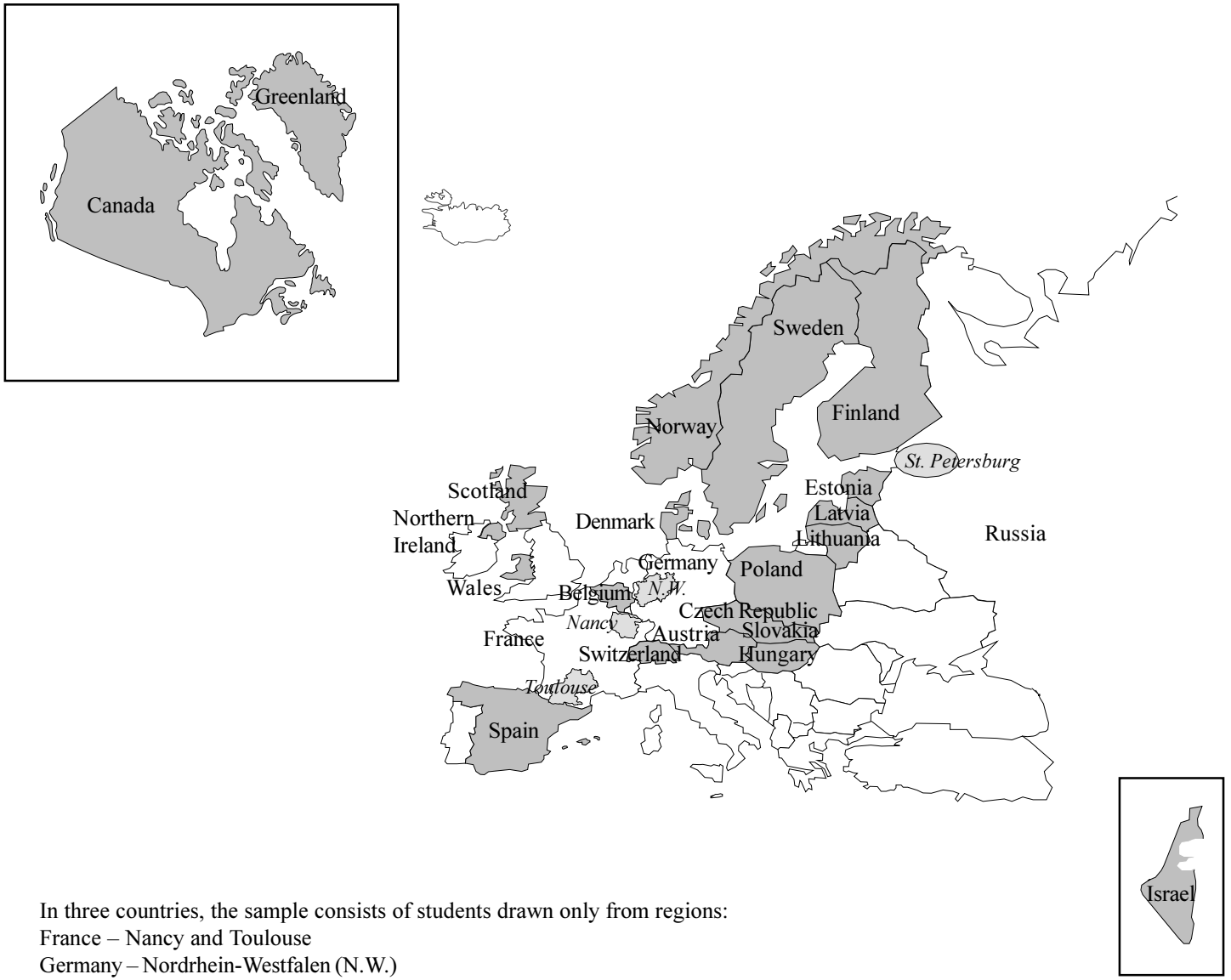
The guidelines for the survey state that 90 percent of the respondents in a country should fall within one-half a year of the mean age and the remaining 10 percent no more than one-half a year beyond this point. The grade levels corresponding to the desired age ranges are 6, 8 and 10 in most countries; however, where compulsory education begins at age 7, the grade levels are 5, 7 and 9. In a few countries, e.g., Wales, the grade levels are 7, 9 and 11. See Appendix A for further details about the targeted groups in each country.

Table I.1 Sample size, by country

Country	11 year olds	13 year olds	15 year olds
Austria	1614	1788	1815
Belgium Fl.	1733	1424	1349
Belgium Fr.	1935	1585	1676
Canada	2289	2250	2219
Czech Rep.	1094	1290	1201
Denmark	1219	1379	1314
Estonia	1170	1167	1179
Finland	1714	1279	1194
France*	1461	1283	1260
Germany*	1104	1121	1050
Greenland	457	490	375
Hungary	2072	1944	1759
Israel	1301	1646	1352
Latvia	1307	1248	1263
Lithuania	1783	1886	1759
N. Ireland	1346	1355	1269
Norway	1614	1701	1637
Poland	1473	1514	1540
Russia*	1353	1294	1354
Scotland	2007	1579	1373
Slovakia	1088	1352	934
Spain	1507	1576	1487
Sweden	1225	1208	1151
Switzerland	2009	3438	3251
Wales	1272	1332	1266
Totals	**37 147**	**37 129**	**36 027**

* *France, Germany and Russia are represented only by regions.*

Figure I.1 Countries and regions in the survey



In three countries, the sample consists of students drawn only from regions:
France – Nancy and Toulouse
Germany – Nordrhein-Westfalen (N.W.)
Russia – St. Petersburg and district

3. Data collection and file preparation

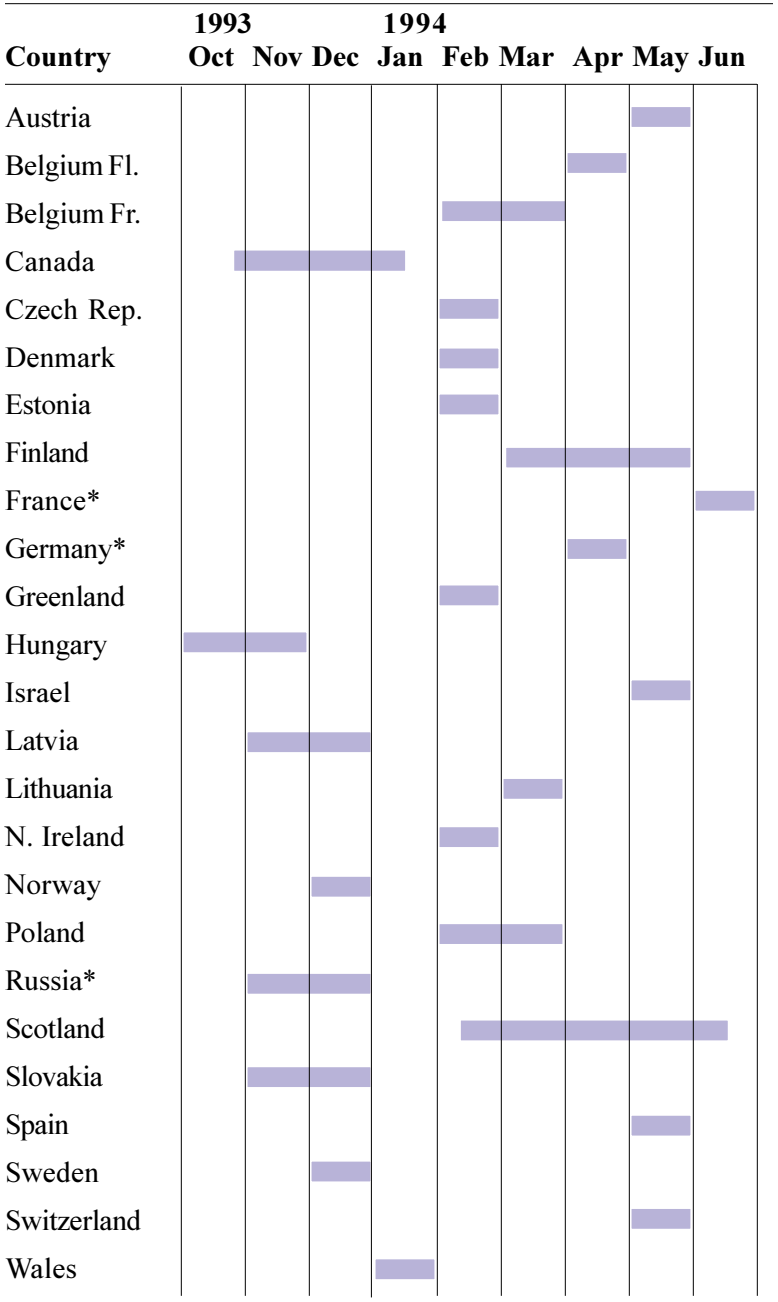
Every effort was taken to ensure that the research protocol (Wold et al., 1994) was followed. Researchers tried to use common definitions of most terms, to make the survey instruments similar, and to use standard data collection and processing procedures.

Questionnaires were administered in school classrooms between October 1993 and June 1994. Each research team worked out a procedure to ensure students' anonymity. Specially trained or instructed personnel (i.e., teachers, school nurses, guidance counsellors, school psychologists, or members of the survey team) were responsible for administering the survey to the respondents. They followed a set of instructions that conformed in principle to the guidelines in the protocol.

Figure 1.2 indicates when data were collected in each country. For the most part, dates of survey administration were selected to produce mean ages of the samples as close to 11.5, 13.5 and 15.5 as possible.

National files were exported to the HBSC International Data Bank in Bergen, Norway where they were checked and cleaned. Data from students outside the targeted age ranges were removed and each set of cleaned national files was checked for items and response keys that differed from the international standard. Items that were significantly different from the standard were excluded from the analyses presented in this report.

Figure I.2 Survey administration: 1993-94 school year



* *France, Germany and Russia are represented only by regions.*

D. Presentation of findings

Most of the findings are presented in simple bar graphs according to country, age and gender. Typically the data from only one response alternative or a combination of response alternatives are presented; for example, the proportion of respondents who smoke at least weekly. Although an effort has been made to include the proportions of respondents who selected the remaining response alternatives in the interpretation of findings, those data are not included. However, if the reader requires more information, tables which include all the responses are available from the WHO Regional Office for Europe.

Coefficients of correlation for factors related to important outcome measures (happiness, health, alcohol use and smoking, for example) are presented using symbols to represent ranges: 0.15 to 0.19, 0.20 to 0.29, 0.30 to 0.39 and 0.40 +. These correlation figures combine data for all countries by gender for each age group.

Two different types of figures are employed in Chapter 9. Line graphs are used to indicate trends across all countries across the three age groupings. Symbols representing standardized beta weights from regression equations are used to illustrate general prediction patterns across countries. Specific details on these analyses are available from the authors.

Two scale scores are used in the analyses as summary measures of the broad concepts social integration and attitude toward school. The scales are simply devices used to reduce and simplify the amount of information presented. The items used for the scales were determined through factor analysis and face validity. Reliability analysis for individual countries and for all countries combined was then used to determine the final scale items.

The social integration scale consists of 10 items: Do you ever feel lonely?; Other students accept me as I am; Have you ever been bullied this school term?; How often has it happened this term that other students do not want to spend time with you at school and you end up being alone?; How easy is it for you to talk to friends of the same sex about things that really bother you?; How easy is it for you to talk to friends of the opposite sex about things that really bother you?; How many close friends do you have?; How often do you spend time with friends right after school?; Have you ever felt like you were being left out of things?; and, Is it easy or difficult for you to make new friends? For the social integration scale the Cronbach's alpha for all countries combined was 0.69. This indicator of scale reliability is only moderately high but still makes the scale useful for the basic analyses.

The scale score for attitude toward school was similarly constructed. It consists of 12 items: How do you feel about school at present?; The students are treated too severely/strictly in this school; The rules in this school are fair; Our school is a nice place to be; I feel I belong at this school; Our school is clean; My teachers encourage me to express my own views in class; My teachers treat me fairly; When I need extra help, I can get it; My teachers show an interest in me as a person; The students in my class(es) enjoy being together; and, Most of the students in my class(es) are kind and helpful. The Cronbach's alpha for the attitude toward school score for all countries combined was 0.81, an indicator of relatively high reliability for a scale of this type.

The responses to two items were combined to obtain a measure of parent communication. Students were asked how easy it was for them to talk to their mother and how easy it was to talk to their father about things that really bother them.

This report presents the basic findings of the survey and illustrations of the types of analysis that can be done. More sophisticated analyses specific to each country/region will be done by the principal investigators participating in the study.

E. Interpreting the findings

Various difficulties in achieving comparable data for 25 regions must be taken into account when making international comparisons and reaching conclusions about the populations sampled. For example, inevitable discrepancies in data collection result when more than one research team administers the survey instrument. In this survey, several design factors – cluster sampling, differences in school systems and cultural and language differences – must be taken into account in the data analysis. Nevertheless, it can be argued that such problems are unlikely to account fully for the large variations across countries, genders and age groups in health-related attitudes and behaviours that were revealed in these data.

The cluster sampling used in the survey means items are more or less correlated across respondents depending on the extent to which those that make up each cluster share a similar behaviour or point of view. For example, a class of students is more likely to share a similar view about their teacher or about school than to feel depressed or be lonely or smoke cigarettes. Therefore, greater importance can be attached to smaller differences in smoking behaviour than in attitude toward school.

The variety of school systems included in the survey made it impossible to achieve both homogeneity in the ages of the sampled children and to collect data at the same time of the year in all countries (see Figure 1.2). The priority was given to matching ages. Although the school class was generally the sampling cluster, where class lists were not available schools were used. Also, in some countries the age distribution in classes was so heterogeneous (e.g., in school systems with policies of failing students) that the sampling procedure targeted the specified age groups in a school rather than particular classes.

Since the date of administration of surveys varied from October 1993 to June 1994, children were responding to items in different seasons and at different points in their school year. Differences in seasons and weather conditions would likely affect responses to certain items, about physical activity levels or diet, for example. Slight differences in age characteristics of samples can influence when they take up a behaviour such as smoking or alcohol use.

It is not possible to ensure that all concepts covered by the questionnaire items are interpreted identically from country to country. Terms to describe behaviours like smoking and brushing teeth are easily translated and understood similarly everywhere, but it has been difficult or impossible to find appropriate words and phrases in some languages to represent terms used in the standard version of the questionnaire to describe psychosocial concepts such as loneliness or depression. Indeed some items – those about dietary habits are a good example – had to be modified from country to country to reflect cultural differences.

Specific guidelines for making truly reliable comparisons using the survey data are provided in Appendix B. Only a general rule of thumb to be considered when interpreting the findings is provided here. To compare across age groups, genders or countries, it is best not to attach much weight to differences of seven percentage points or less. In the text accompanying the figures, differences are not highlighted if they are less than this; however, if the differences are part of a general trend in comparing genders or across countries, they are mentioned.

Since the figures presenting coefficients of correlation are based on aggregated data from all countries, they indicate general patterns only. Relationships with particular factors may be stronger or weaker in some countries. Substantial relationships may be present in some countries, but are not apparent when data are aggregated.

The cluster sampling procedure used in the survey results in higher standard errors than would occur in a randomly selected sample. Standard errors have been produced using a model where design factors have been calculated for selected variables using survey data from eight countries. See Appendix B for details.

F. Characteristics of respondents

Before the results of the survey are presented in this report, some characteristics of the young people involved are described. In addition to their age, gender and grade level, respondents provided information about the composition of their household and indicated how they perceive their socioeconomic circumstances. Responses to the question "How well off is your family?" were used to indicate family socioeconomic status in the analyses. Below, the mean age, home situation, and number of siblings of the respondents are briefly summarized.

The mean age of all the respondents in each group surveyed was 11.6, 13.6 and 15.5 years (Table 1.2). Respondents in Austria, Estonia, Lithuania and Russia were younger than the average age and those in the Czech Republic, Hungary, Northern Ireland and Wales older.

Table 1.2 Mean ages of respondents, by country

Country	11 year olds	13 year olds	15 year olds
Austria	11.3	13.3	15.2
Belgium Fl.	11.6	13.5	15.6
Belgium Fr.	11.5	13.5	15.5
Canada	11.5	13.5	15.5
Czech Rep.	11.9	14.0	16.0
Denmark	11.6	13.6	15.6
Estonia	11.4	13.3	15.3
Finland	11.8	13.8	15.8
France*	11.5	13.5	15.5
Germany*	11.5	13.5	15.5
Greenland	11.6	13.6	15.6
Hungary	12.0	13.8	15.8
Israel	11.8	13.5	15.6
Latvia	11.8	13.7	15.7
Lithuania	11.4	13.3	15.2
N. Ireland	11.9	13.9	15.9
Norway	11.5	13.5	15.5
Poland	11.7	13.7	15.7
Russia*	11.1	13.1	15.0
Scotland	11.5	13.5	15.6
Slovakia	11.8	13.7	15.6
Spain	11.5	13.5	15.6
Sweden	11.5	13.5	15.5
Switzerland	11.5	13.5	15.4
Wales	11.9	13.9	15.9
Total	**11.6**	**13.6**	**15.5**

* *France, Germany and Russia are represented only by regions.*

In all countries, except Greenland, 73 percent or more of respondents reported living with both parents (Figure 1.3). In 11 countries, over 80 percent of respondents lived with both their parents. The percentage of respondents living with one parent and a step parent ranged from under two percent in Spain and Israel to over eight percent in Canada, Denmark, Greenland and Sweden. In one-third of the countries surveyed less than 10 percent of students lived with a single parent, in most cases their mother. In the remaining two-thirds of countries the percentage living with a single parent ranged from 10 to 23 percent. Very few of the young people surveyed lived with someone other than at least one parent, except in Greenland (12%).

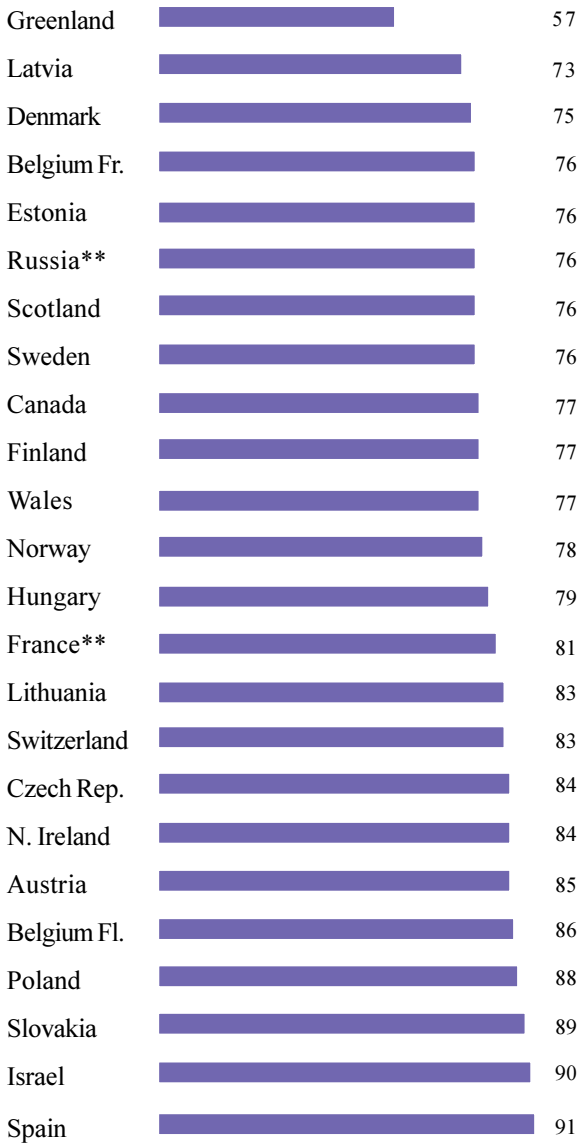
Except for respondents in Greenland and Israel, the highest proportion of young people had one sibling living at home with them (Table 1.3). In Israel, the greatest proportion lived with two siblings. Israel and Northern Ireland had substantial numbers of respondents with three or more siblings. Two-fifths of respondents in Greenland and Russia reported they were the only child living at home.

G. Organization of the report

The remainder of this report is divided into nine chapters. Chapter 2 presents the findings on the students' health risks related to smoking tobacco and drinking alcohol. Chapter 3 describes the physical and leisure-time activities of the students in terms of sports, fitness activities, both in and out of school, television watching and other leisure pursuits. The amount of time they reported spending in these activities, their attitudes toward them, reasons for participating and an assessment of their fitness level are discussed in this chapter. The topics in Chapter 4 are related to diet and dental care – the various foods eaten or drunk, some healthy and some not, as well as the care taken with teeth.

Chapter 5 is concerned with ailments and medication. In it, students' responses to questions about how often they had experienced particular problems in the last six months and whether they had taken medication in the past month for specific ailments are

Figure 1.3 Students who lived with both mother and father, by country* (% of three age groups combined)



* *Germany did not include this item.*
** *France and Russia are represented only by regions.*

Table 1.3 Students who had siblings living with them, by country* (% of three age groups combined)

Country	0 siblings	1 sibling	2 siblings	3 +
Austria	23	55	17	5
Belgium Fl.	21	57	17	6
Belgium Fr.	29	45	16	9
Canada	17	60	18	5
Czech Rep.	16	60	20	4
Denmark	23	51	19	7
Estonia	24	59	13	4
Finland	25	54	14	6
France**	17	41	26	16
Greenland	40	31	17	12
Hungary	22	66	10	2
Israel	8	21	36	35
Latvia	19	41	31	8
Lithuania	21	64	11	2
N. Ireland	13	43	21	24
Norway	19	56	20	4
Poland	18	59	15	8
Russia**	37	54	7	2
Scotland	18	59	17	5
Slovakia	13	62	18	7
Spain	15	58	17	10
Sweden	20	58	17	4
Switzerland	22	53	17	8
Wales	16	60	18	5

* *Germany did not include this item.*
** *France and Russia are represented only by regions.*

discussed. Relationships – with family, with peers and with teachers – so essential in the lives of healthy adolescents, are the main topics in Chapter 6, Psychosocial Adjustment.

Chapter 7 presents the responses to the items related to injuries and the use of seatbelts. In Chapter 8, the students' responses to questions related to their general attitude toward their school experience, their teachers and their fellow students are discussed.

Chapter 9, Interrelationships, presents the analyses of relationships among health-risk factors and discusses some of the issues surrounding them. In Chapter 10, the findings are summarized and suggestions are offered regarding the implications of the survey for policy and program development.

In chapters 2 through 8, data are presented in figures by country, age and gender. In these figures, countries are ordered from the least positive to the most positive responses and the ordering is by the gender with the highest proportions responding positively to the item. These chapters also include figures presenting the coefficients of correlation for factors related to specific outcome measures. The data in these figures serve to consolidate the literature on factors associated with specific adolescent behaviours.

As mentioned, not all items included in the survey are presented and discussed in the text and the figures used to present the basic findings do not include all response alternatives for each item. Correlation matrices and multiple linear regression analyses used to provide the specific figures that appear in the report are not included. The WHO Regional Office for Europe will make the basic tables used in the study available on request. Further information on the analyses may be obtained from the study authors.

CHAPTER 2

Tobacco and Alcohol

Nicole Henry-Crémon

CHAPTER 2

Tobacco and Alcohol

A. Introduction

Both tobacco and alcohol use have been shown to be prominent causes of morbidity and premature mortality. In excess of 50,000 studies have been conducted throughout the world that have produced extensive documentation about the deleterious health effects associated with tobacco use (Freedman & Cohen, 1993). In fact, tobacco use alone accounts for nearly three million deaths each year and has been identified as the leading cause of preventable death in the developed world (Peto et al., 1992; Pan American Health Organization, 1992). Thus it is now recognized that smoking is associated with a wide range of disease, such as coronary heart disease, lung cancer, chronic bronchitis and emphysema (WHO, 1993; Johnson, 1991). Similarly, the adverse and long-term effects of excessive alcohol consumption on health have been established and include certain cancers, stroke, hypertension, liver disease and depression. Alcohol misuse has also been associated with a number of social and economic problems, including road accidents, high-risk sexual behaviour, violence, crime, labour absenteeism and impaired work performance (Royal College of Psychiatrists, 1986).

Policies and programs designed to reduce this toll of ill health and death from tobacco and alcohol use have thus formed key components in the health strategies of many countries (Healthy People 2000, 1990; Health Promotion Authority for Wales, 1990; Nutbeam et al., 1993). These policies and programs advocate two basic approaches, namely to support existing users of tobacco and alcohol in giving up or cutting down on their habit, and to dissuade young people from starting to use and abuse these substances in the first place. To this end, a wide range of organizations in many countries has been undertaking activities which emphasize the adoption of healthy lifestyle choices. These activities include: education to improve knowledge about the harmful effects of tobacco and other substance use coupled with techniques to foster the development of abilities and social skills necessary to resist social pressures to smoke and use alcohol; and the development of policies promoting, for example, smoke-free environments and

restrictions on the availability, sale and advertising of tobacco and alcohol. The social significance of these preventative efforts to curb tobacco and alcohol use among young people, in particular, cannot be underestimated as many future health-related behaviours seem to be initiated during the adolescent years (Bertrand & Abernathy, 1993; Pulkkinen, 1983).

The development and form of policies and programs to prevent young people from becoming smokers varies markedly between countries. For example, within the European Union there is considerable variation in taxes on tobacco, such that the cost of the most expensive tobacco is seven times that of the least expensive tobacco available (Longfield, 1994). In Canada, increasingly prohibitive legislative changes have been enacted regarding the sale and promotion of tobacco products to youth. These changes include raising the legal age to purchase cigarettes, requiring prominent warning labels to be displayed on cigarette packages and restricting cigarette smoking in schools.

Similarly, there are variations between countries in legislation about both the sale of alcohol and the total number of outlets. In many Scandinavian countries, strict laws limit the sale of alcohol to specific outlets and restrict sales to specific times, whereas in other European countries, such as France, there are comparatively few legislative barriers to the purchase of alcohol (Baldwin, 1995). Alcohol consumption is also mitigated by legal restrictions concerning the age at which a person is permitted to purchase alcohol. This minimum legal age varies among countries, from 16 to 21 years of age. While the majority of countries also have laws which prohibit driving while intoxicated, again, the definition of legally acceptable blood alcohol levels varies widely from country to country. Such national variations in the social and economic circumstances, or macrosocial factors, related to tobacco and alcohol use must also be considered important determinants of national consumption of these products (Mendoza, 1990). Therefore, the interpretation of cross-national data presented in this chapter requires particular care.

B. Tobacco use

In spite of legislative acts to restrict the availability of tobacco products and in the presence of comprehensive health education programs which underscore the long-term health risks associated with tobacco use, a significant proportion of young people continue to smoke. In the 1989/90 WHO-HBSC survey, *The Health of Canada's Youth: Views and Behaviours of 11, 13 and 15 year olds from 11 countries* (King & Coles, 1992), it was found that, in all but one country, more than half of the 15-year-old students surveyed had tried smoking at least once. By age 15, the total percentage of students who responded that they smoked at least occasionally ranged from 19 to 39 percent and 16 to 39 percent for males and females respectively. For this survey, the same items were used to estimate the extent of tobacco use among youth in the 24 participating countries permitting comparison between the results of two HBSC surveys for those countries that participated in both. Young people in all the countries participating in the survey were asked about their experience of tobacco use. They were asked whether they had ever experimented with smoking (even if it was only once) and whether they were currently smoking (even if only very occasionally).

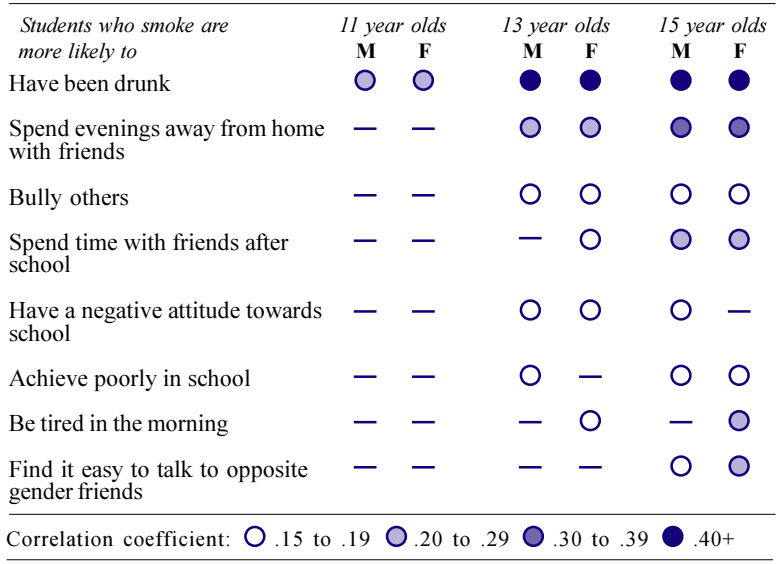
In all countries, a variety of factors influence young people in their decision to smoke. Cigarette advertising is a very powerful influence, especially when an adolescent hero is promoting the product. Smoking is glamorized in the movies and on TV. The cost variable across countries can also be influential in determining whether or not young people can afford to smoke. These pressures on adolescents can counter to some extent the effects of health education programs which promote abstinence of smoking because of its harmful results.

There is mounting evidence to suggest that smoking is a powerful predictor of participation in other health-risk behaviours, primarily in relation to alcohol abuse and illicit drug use. Torabi et al. (1993) contend that self-reported cigarette smoking seems to be a more accurate predictor of both alcohol abuse and illicit drug use than,

for example, perceived risk of harm or peer approval/disapproval of use. Other studies on health-risk behaviours corroborate these findings by demonstrating strong positive correlations between tobacco use, alcohol and illicit drug use and other health-risk activities (King & Coles, 1992; King et al., 1988). It is also increasingly evident that youth who participate in health-risk behaviours are doing so collectively and not as social isolates. Hence, peer group structure is now considered a critical factor in the initiation and maintenance of adolescent smoking (Urberg, 1992; Clayton, 1991; Van Roosmalen & McDaniel, 1989).

Data from this survey strongly reinforce these findings. They also show a link between smoking and a negative attitude toward school and poor academic achievement. Smoking and bullying behaviour were also shown to be related. Figure 2.1 shows the factors which correlated substantially with smoking for both male and female students in all countries combined. For the 11-year-old age group where very few students smoke, the only meaningful correlate of smoking behaviour was having been drunk. For 13 and 15 year olds there was also a substantial relationship between these two risk behaviours. Smokers from the two older groups were also more likely than non-smokers to spend their evenings away from home with friends. Both male and female 15-year-old smokers were more likely to find it easy to talk with opposite-gender friends and along with 13-year-old girls were more likely to spend time with friends after school. All 13 year olds, as well as 15-year-old boys were more likely to have a negative attitude toward school; 13-year-old boys and 15-year-old boys and girls were more likely to do poorly at school. Thirteen- and 15-year-old smokers of both genders were more likely to bully others. A more detailed examination of these relationships is presented in Chapter 9.

Figure 2.1 Factors associated with smoking



I. Experimentation with smoking

Figure 2.2 shows the proportion of young people in the survey who reported having tried smoking at least once both by age group and gender. It indicates that in all countries there was a dramatic increase in the number of young people who reported having tried smoking between the ages of 11 and 15. Nevertheless, there was a wide disparity in the levels of reported experimentation with smoking between countries. At all ages, a relatively high proportion of boys in Estonia, Finland, Latvia and Slovakia reported that they have tried smoking. The pattern was quite different for girls in this group of countries. Only girls from Finland were consistently among the higher proportions having experimented with smoking. The percentage of girls in Greenland who had tried smoking was far larger than in any other country and this was the only country where girls outnumbered boys in each age group. Further, rates of experimentation among 13- and 15- year-old females in Greenland exceeded those reported for both male and female respondents in all other participating countries. For each age group, young Israelis were less likely than their counterparts in other countries to report such experimentation. Indeed, Israel was the only country in which fewer than two out of five 15-year-old boys and girls reported having tried smoking.

Two distinct patterns of smoking experimentation emerged by age 15: in eastern European countries more boys than girls at all ages

Figure 2.2 Students who have experimented with smoking (%)

* *France, Germany and Russia are represented only by regions: see Chapter 1 for details.*

reported having tried smoking, but in most western European countries, Canada and Greenland, this gender pattern was reversed.

2. Current use

Of those who experiment with tobacco, many decide not to do so again, while others experiment further and take up the habit. To determine the prevalence of current tobacco use, students were asked, "How often do you smoke at present?" and were given the option of responding: I do not smoke; everyday; at least once a week, but not everyday; and less than once a week. Figure 2.3 shows the proportion of young people who reported current use of tobacco by age group and gender. Only those who reported smoking at least once a week are referred to as current smokers.

Less than 5 percent of 11 year olds reported that they smoke weekly except for girls in Greenland, 6 percent of whom reported smoking at least weekly. But, as with experimentation with smoking, the proportion taking up the habit on a more regular basis rose sharply with age in all countries. By age 15, nearly half of both sexes reported smoking weekly in Greenland, while more than a quarter reported doing so in Austria and Finland. At the other end of the scale, just under one-tenth of Israeli 15 year olds indicated that they were current smokers.

Gender differences in current use of tobacco were particularly marked in most eastern European countries; for example, among 15 year olds in the Baltic states and Slovakia, more than twice as many boys as girls said that they smoked weekly. In fact, girls from eastern European countries reported relatively low rates of weekly smoking at all ages. By way of contrast, the prevalence of reported weekly smoking among 15 year olds was higher for girls than boys in all western European and North American countries, apart from Belgium (both the Flemish- and French-speaking communities), Finland and Greenland.

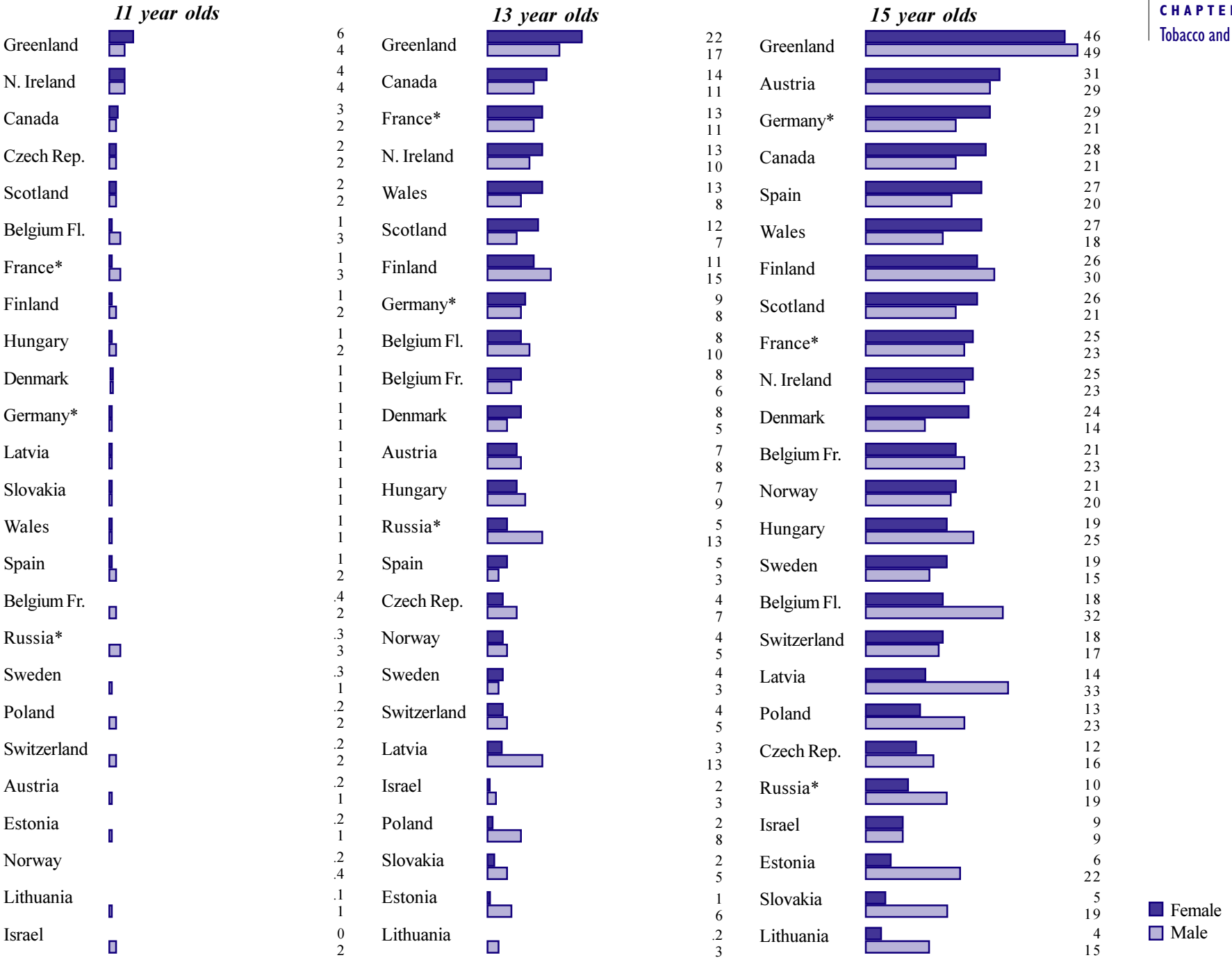
C. Alcohol consumption

As previously stated in terms of tobacco use, similar exposure to both alcohol advertising and its use in media productions tend to counter the laws and education programs warning about alcohol. If restrictions on the sale and consumption of alcoholic beverages were, indeed, sufficient to compel young people to abstain from alcohol use until they reach the legal drinking age, the incidence of drinking behaviour among 11 to 15 year olds would scarcely be worthy of mention in the context of this report. As evidenced by the preceding WHO-sponsored study of health-related behaviours among 11, 13 and 15 year olds, however, a large proportion of youth have already tasted alcohol as early as age 11 (King & Coles, 1992). By age 15, the proportion of students in this survey who drank alcoholic beverages on a weekly basis was as high as 52 percent for males and 45 percent for females. Such data would seem to indicate that alcohol misuse among young people occurs despite laws regulating its availability. Clearly, young people are involved with alcohol at much earlier ages than the legislation prescribing age limits would infer.

The young people participating in the survey were asked about their use of alcohol. Specifically, they were asked whether they had ever tasted an alcoholic drink, how frequently (even if only a small amount) they took alcoholic drinks such as wine, spirits, beer and, in several countries, cider, and whether they had ever been drunk. In contrast to reported levels of adolescent smoking, young people's reports of alcohol consumption and drunkenness are usually assumed to be exaggerated (Nutbeam, 1989). Nevertheless, the data presented here represent reasonable indicators of alcohol use and abuse among young people.

Numerous studies of adolescent behaviour have demonstrated striking similarities between correlates of cigarette smoking with those of alcohol use (Torabi et al., 1993; McDermott et al., 1992). Some researchers assert that the psychosocial and demographic predictors of adolescent smoking and drinking have more in common than variables thought to predict illicit drug use and other deviant

Figure 2.3 Students who smoked cigarettes once a week or more (%)

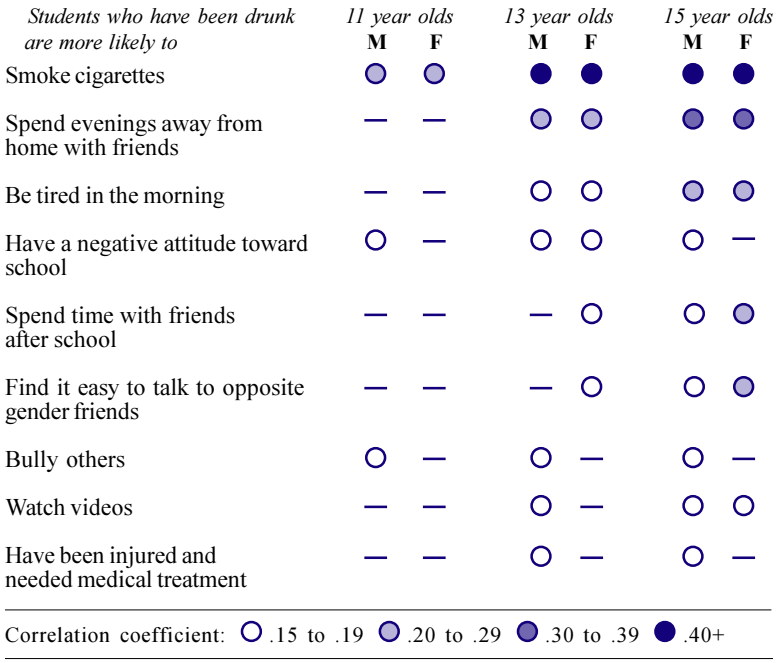


* *France, Germany and Russia are represented only by regions: see Chapter 1 for details.*

behaviours among adolescents (Thorlindsson & Vilhjalmsson, 1991). In this survey as well, the correlates of drinking alcohol were found to be similar to those of smoking cigarettes. The data also strongly reinforce the idea that the adolescents who engage in these health-risk behaviours tend to socialize more with their peers than those who do not smoke and drink alcohol. Furthermore, they indicate a link between disaffection with school and health-risk behaviours.

Figure 2.4 shows the factors which correlate highly with having been drunk in all countries combined. For both males and females at all three age levels, students who had been drunk were more likely to smoke cigarettes. Male and female 13 and 15 year olds who had been drunk were more likely to spend evenings away from home with friends and to be tired in the morning. Drinking to excess was linked with spending time with friends after school and watching videos for 15-year-olds. Thirteen-year-old girls are also likely to spend time with friends after school and 13-year-old boys to spend time watching videos. These students also find it easy to talk with friends of the opposite gender. Boys at all three age levels along with 13-year-old girls were more likely to have a negative attitude toward school. Boys of each age group were more likely to bully other students. Thirteen- and 15-year old boys who drank to excess were more likely to be injured seriously enough in the last year to require medical treatment.

Figure 2.4 Factors associated with having been drunk

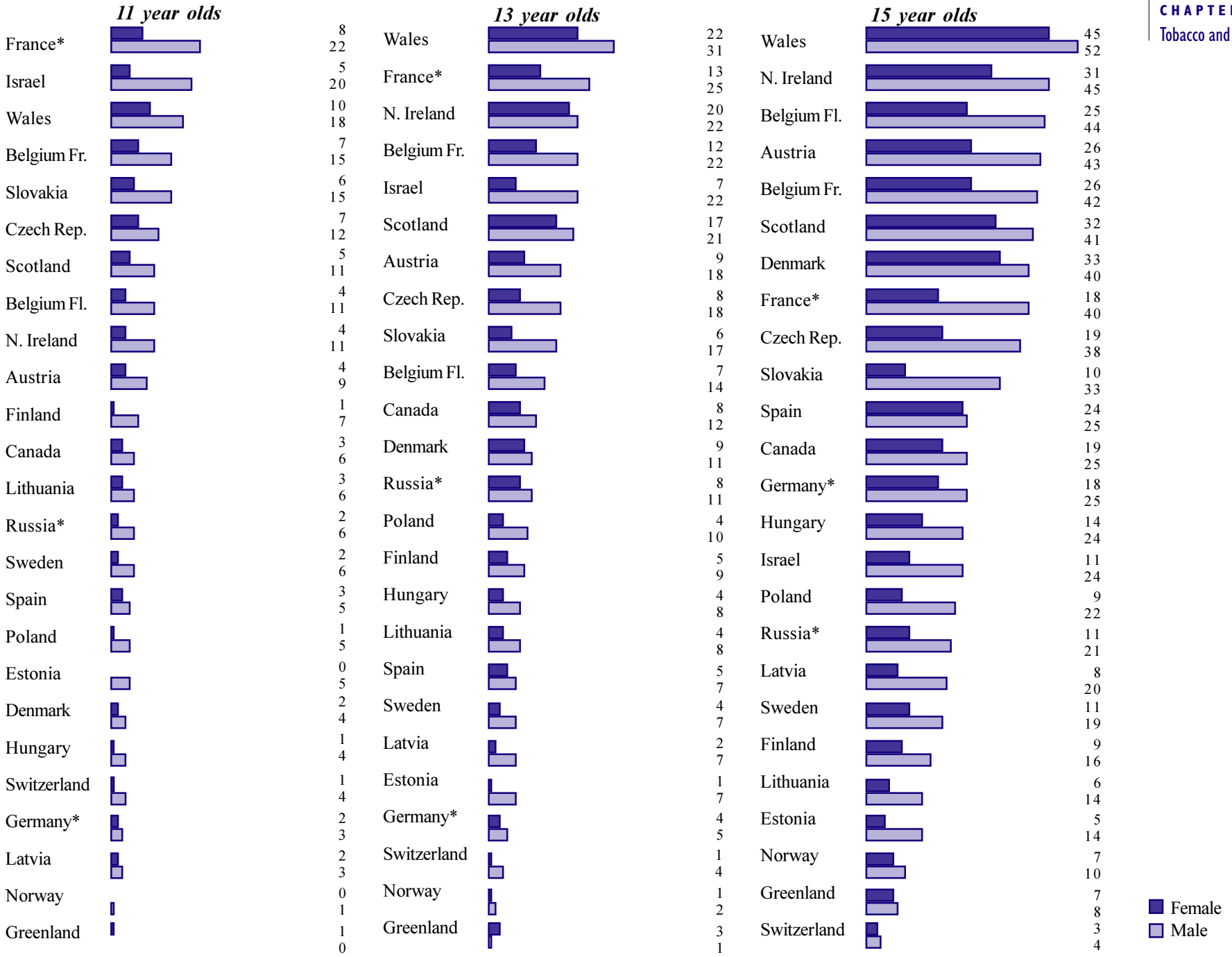


I. Experimentation and current use

In most countries, the majority of 11 year olds reported that they had tasted an alcoholic drink; only among girls in Estonia, Greenland, Israel, Latvia, Norway, Russia and Switzerland and boys in Greenland, Norway and Switzerland was such experimentation with alcohol reported by fewer than half of 11 year olds. By the age of 15, the proportion who reported having tasted an alcoholic drink reached nearly 100 percent in Wales and exceeded 80 percent in all countries except Israel; among 15-year-old Israelis, only 68 percent of boys and 54 percent of girls reported that they had tasted alcohol.

Current consumption of alcohol, which in this report is defined as drinking some kind of alcoholic beverage at least every week, also increased substantially with age. Figure 2.5 shows that in all countries there was more than a doubling of the proportion of students between

Figure 2.5 Students who drank alcoholic beverages at least weekly (%)

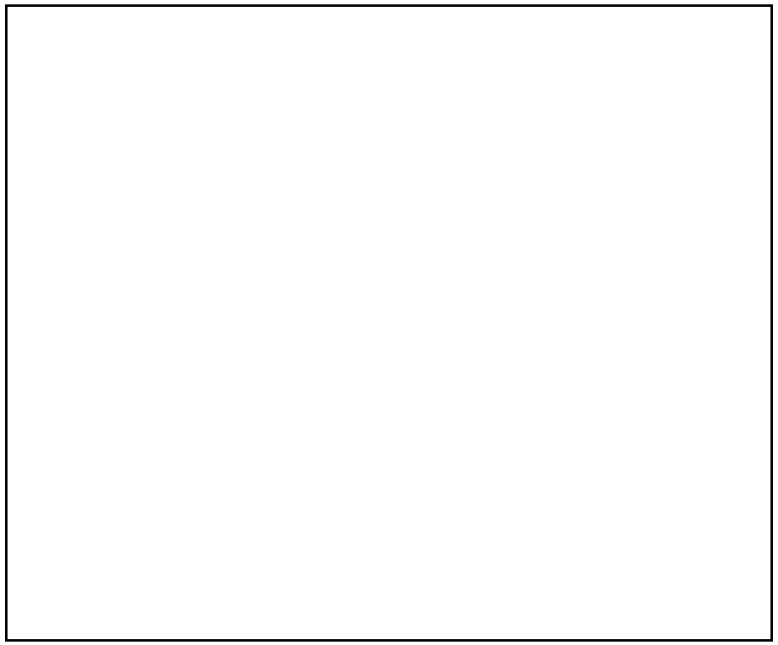


* *France, Germany and Russia are represented only by regions: see Chapter 1 for details.*

the ages of 11 and 15 who reported current consumption of alcohol, apart from among boys in Israel and France and among girls in Slovakia. Overall, more boys than girls reported drinking alcohol at least weekly (except for 11- and 13-year-old Greenlandic students). At all ages the proportion reporting regular alcohol consumption was relatively high for both boys and girls in Wales and relatively low in Greenland, Norway and Switzerland. The study also reveals that 10 percent or less of 15-year-old females reported weekly consumption of alcohol in the following countries: Estonia, Finland, Greenland, Latvia, Lithuania, Norway, Poland, Slovakia and Switzerland.

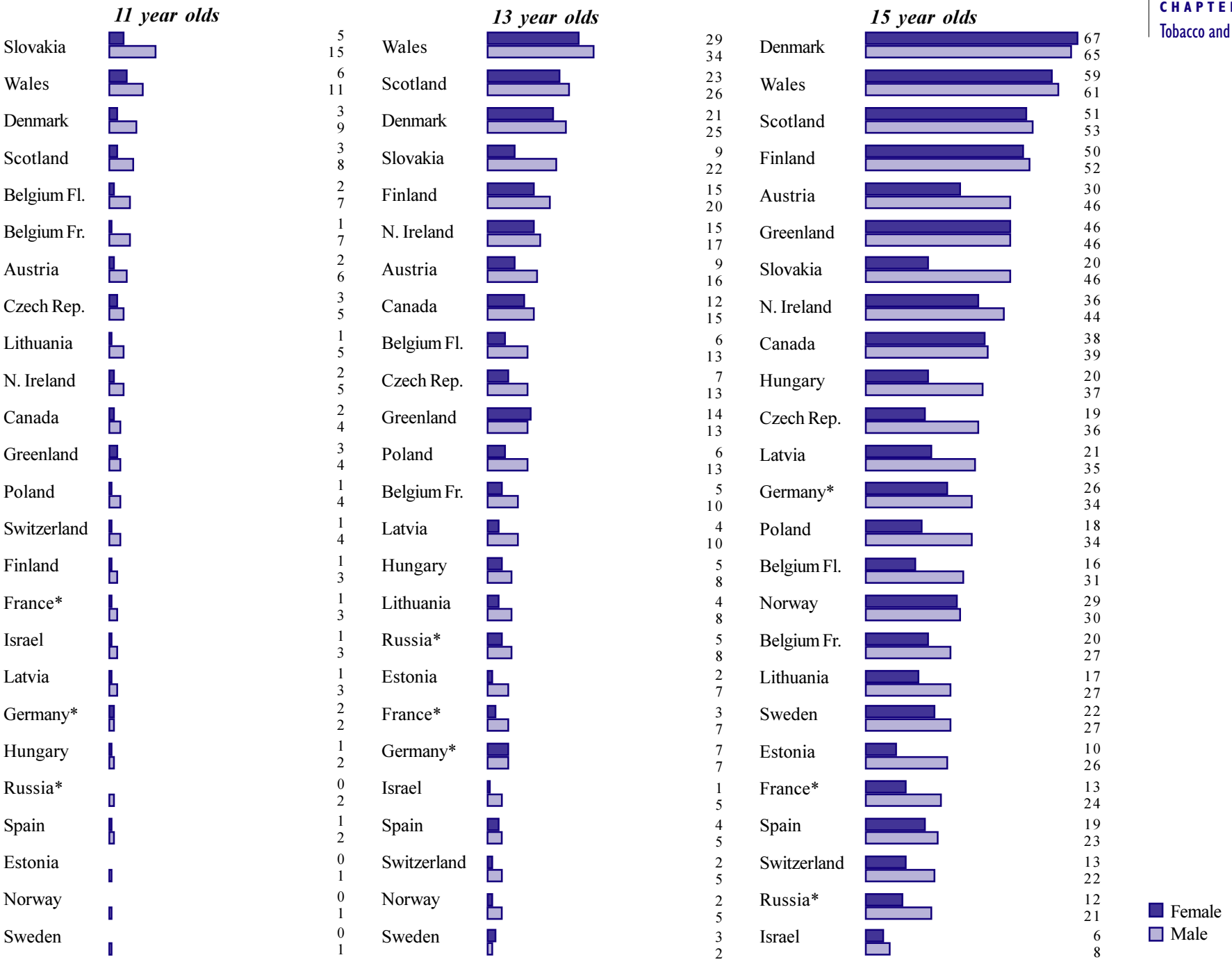
2. Episodes of drunkenness

Reported drunkenness may be seen as indicative of an episode of alcohol misuse. Young people who report having been "drunk" on several occasions may be viewed as a special risk group. Figure 2.6 shows the proportion of young people in each country who reported two or more episodes of drunkenness by age and sex. It can be seen that in all countries, such alcohol misuse increased with age and in most countries it was more frequent among boys than girls, apart from 13 year olds in Sweden and Greenland and 15 year olds in Denmark. Among 15 year olds, the highest levels of multiple episodes of drunkenness (half or more of boys and girls) were recorded in Denmark, Finland, Scotland and Wales, while the lowest level (less than 10% of boys and girls) was recorded in Israel. Again, a low percentage of 15-year-old females (less than 15%) reported drunkenness on two or more occasions in the following countries: Estonia, France, Israel, Russia and Switzerland.



Sweden

Figure 2.6 Students who had been really drunk two or more times (%)



**France, Germany and Russia are represented only by regions: see Chapter 1 for details.*

D. Summary

The data in this chapter indicate that a significant proportion of young Europeans and North Americans are engaging in health-damaging behaviours. In over half the countries participating in the survey, more than two-fifths of the young people reported experimenting with tobacco by the age of 13 and one-fifth that they had taken up the habit by the age of 15. Among this oldest age group, more than one in ten reported two or more episodes of drunkenness. However, there was considerable variation among countries in reported levels of smoking and drinking. Greenland, Canada and Ireland are notable for high prevalence levels of smoking at all ages, with Lithuania and Israel at low prevalence levels. The highest proportion of youth who drank weekly was in Wales and the lowest proportions in Greenland and Norway.

In many countries, more girls than boys reported smoking cigarettes, but the data for eastern Europe suggest that smoking by boys remains the priority concern there. However, if eastern Europe follows the trend that has taken place in western Europe over recent years, then in the future, girls may be expected to show an increase in smoking prevalence and overtake the boys. Reported alcohol use was more common among boys than girls in all countries with the exception of 13 year olds in Greenland and Sweden.

Of interest, also, are the factors associated with adolescent smoking and drinking behaviours in all countries. These data verify the interrelatedness of health-risk behaviours, alienation from home and school, and peer group affiliation by showing strong positive correlations between factors such as smoking, alcohol misuse, time spent with friends away from home in the evenings, and low academic achievement. Although this survey does not take into account differences in macrosocial factors such as the commercial availability of these products to young people, their cost, national advertising regulations or social acceptability of tobacco and alcohol use, the data show a link between individual factors. On this level, these findings suggest that conventional health education programs that primarily transmit knowledge are not effective with all young people in deterring adolescent tobacco and alcohol use.

CHAPTER 3

Exercise and Leisure-time Activities

CHAPTER 3

Exercise and Leisure-time Activities

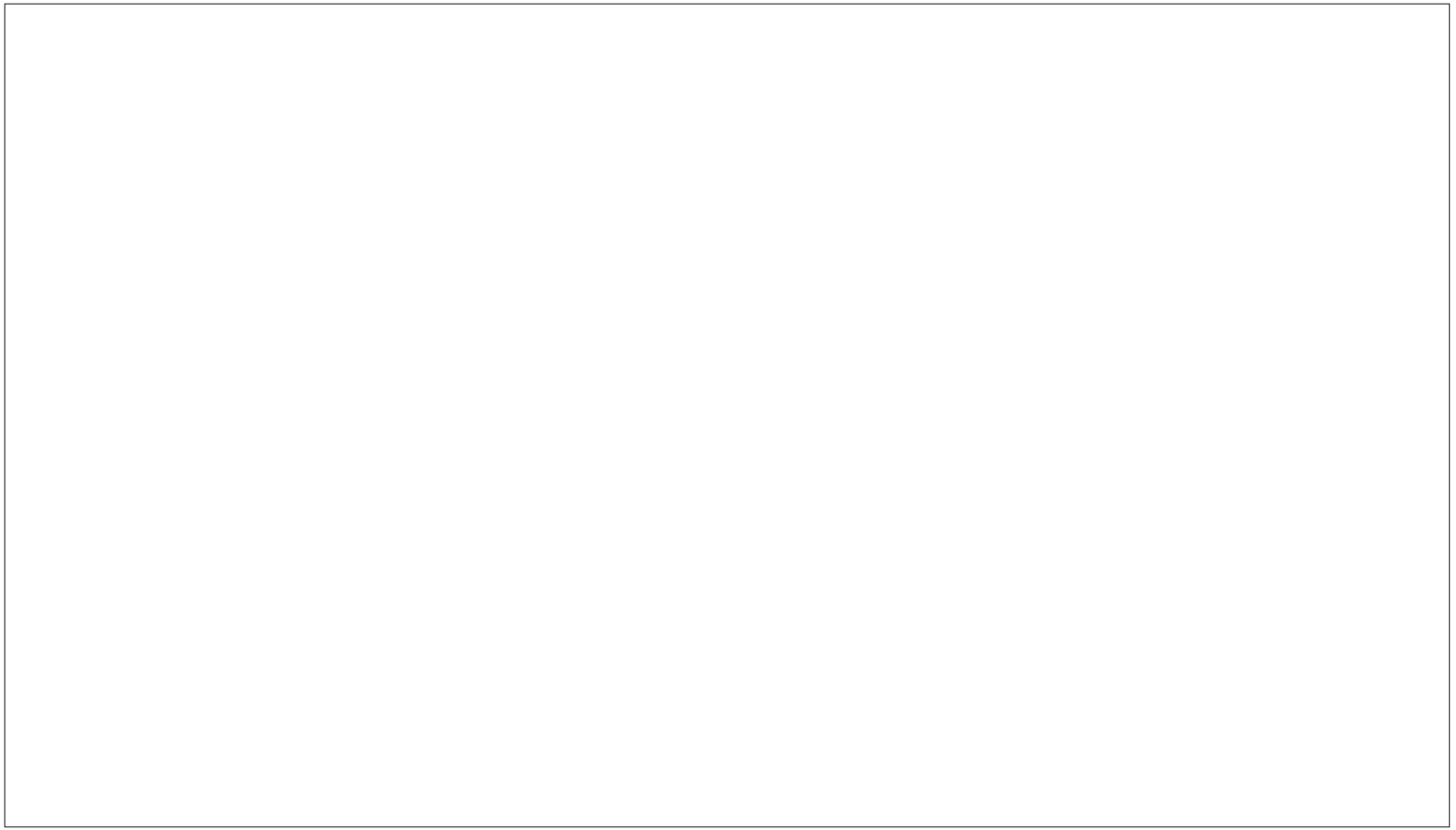
A. Introduction

In this chapter we examine the extent to which young people engage in the type of physical activity which is both beneficial when they are young and likely to encourage a lifelong involvement in physical exercise. Their involvement in leisure-time activities, such as watching television (TV) and video cassette recorder (VCR) movies and playing computer/video games, is considered in relation to the health implications of these activities.

Previous research has demonstrated that moderate physical activity enhances physical, mental and social well-being, and plays an important role in the prevention of cardiovascular disease (CVD) (Bouchard et al., 1990). In the past 20 years several large, long-term studies of adults have shown that physical inactivity is a major risk factor for CVD and premature mortality (Leon et al., 1987; Powell et al., 1987). Regular physical activity can benefit children as well (Sallis & Faucette, 1992). Since risk factor levels in childhood predict levels in young adulthood (Cresanta et al., 1986), decreasing these risk factors in children is an important health consideration.

In addition to the benefits related to the prevention of CVD, physical activity appears to promote improved mental health in adults (Taylor et al., 1985) and to enhance self-esteem in children (Gruber, 1986). Physical activity and sports, as well as being an important health behaviour, constitute important socialization arenas for youth (Kenyon & McPherson, 1973).

The benefits of physical activity are extremely important; however, participation in physical activity is not necessarily risk free (Sallis & Faucette, 1992). While most of the risks are associated with carelessness or unnecessary risk taking, some are just outcomes of taking part in games and play. Benefits tend to be maximized and risks minimized with appropriate amounts of physical activity and effective safety measures. Chapter 7 summarizes the incidence of injuries associated with activity for our sample of young people.



Norway

The amount of time young people spend watching television and playing computer and video games is examined for three reasons. First, time devoted to these essentially passive activities is not available for health-important physical activity. Second, those who spend time watching TV tend to develop poor nutrition habits (Felts et al., 1992). Third, both television programs and computer games emphasize violent acts which may contribute to the development of a set of values that influence young people's behaviour.

Cross-country comparisons must be cautiously interpreted because the questionnaires were not administered in every country at the same time of the year and seasonal differences in outdoor activity opportunities vary greatly from one country to another. For example, the sports played by young people in winter in Finland differ greatly from those played at the same time of year in Israel.

B. Exercise

In order to obtain an estimate of weekly cardiovascular activity, students were asked how often per week they exercise outside school hours until they are out of breath or they sweat. Figure 3.1 shows the percentage of students who exercise outside school hours 2 to 3 times per week or more often. The level of physical activity was quite high among boys in all countries, but less so among girls. Between 62 and 92 percent of the boys across age groups and countries said they exercised vigorously two or more times a week; between 41 and 84 percent of the girls did. In many countries the difference between the proportions of boys and girls who exercise is noteworthy. For example, in Spain 39 percent fewer 15-year-old girls than boys said they participated in vigorous exercise two or more times per week; only in Norway were gender differences consistently quite small. Although the trend was for fewer 15-year-old students to exercise than 11 and 13 year olds, the proportions of boys declined by more than 10 percent in only four countries (Estonia and Poland, 11%; Finland, 15%; and Slovakia, 19%). Although in a few countries more 13-year-old girls than 11 year olds exercised two or more times per week, by age 15 the proportions declined in most countries and the decline exceeded 12 percent in many countries.

In Austria a high percentage of boys maintained an exercise regime as did 11- and 13-year-old girls, but there was a substantial drop for 15-year-old Austrian girls. Overall, more girls in Austria, Finland, Germany and Norway were likely to exercise and fewer girls in Greenland, Lithuania and Spain.

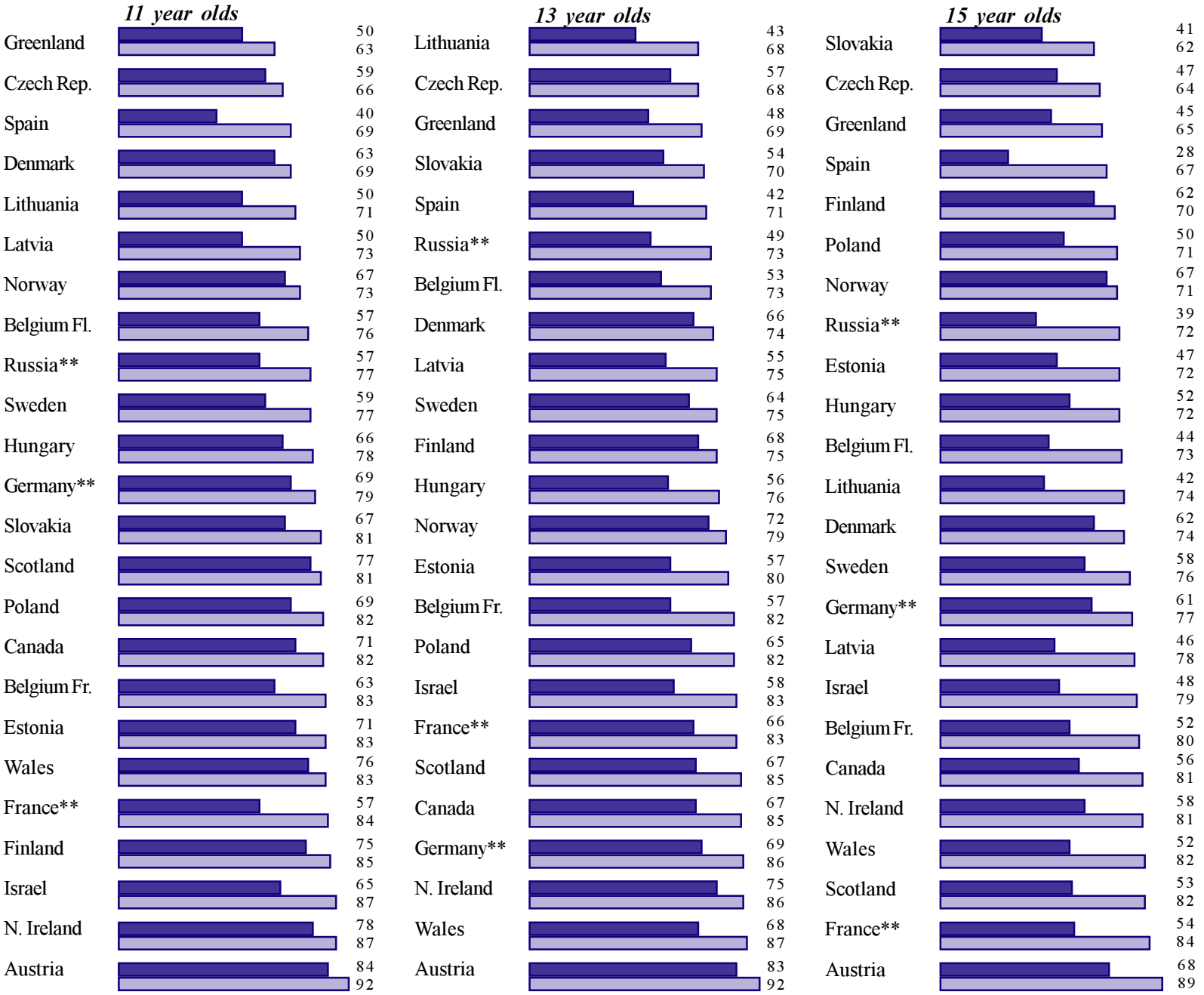
Respondents were also asked how many hours a week they exercise. Only Austrian students were consistent; they led in all age groups for both items. Students in Spain and the Czech Republic were in the lower third of the countries across all ages for both items.

C. Leisure-time activities

Leisure-time activities include the out-of-school sports and exercise described earlier as well as the many other pursuits in which students are involved. In this section we examine the pastimes of watching TV, watching movies on VCRs and playing computer games.

There are numerous studies of the effect of television on children, much of it centred on the negative impact of violent images. In recent years, concern has grown to include movies available for VCR viewing and computer games. (The latter are treated more fully in section 3 below.) Although TV viewing, and watching video movies, is often regarded as a passive activity, it does require some degree of cognitive or mental effort. For example, TV viewers have been shown to be attentive and to be involved in message processing and meaning comprehension (Hawkins & Pingree, 1987) and children to be able to perceive moral themes and infer the underlying messages in what they watch (Christenson, 1986). On the other hand, recent research indicated a measurable increase, from 3 to 15 percent, in aggressive behaviour among viewers of violent television programs (Clark, 1993) and it has been noted that over 1000 separate reports and reviews associate media violence with facilitating aggressive, antisocial behaviour and desensitizing viewers to future violence (Comstock & Strasburger, 1993). Researchers have also found a relationship between excessive TV viewing and poor dietary habits and a sedentary lifestyle (Robinson & Killen, 1995; Felts et al., 1992; Groves, 1988).

Figure 3.1 Students who took part in physical activity two or more times per week* (%)



* *Switzerland did not include this item.*

** *France, Germany and Russia are represented only by regions: see Chapter 1 for details.*

I. Watching television

Watching TV is obviously a popular pastime in all countries, but the data must be viewed with caution since the availability of programming, the novelty of TV viewing and access to other activities may be contributing factors in the extent to which students watch TV.

When coefficients of correlation were calculated for all countries aggregated, an association between TV viewing and the consumption of foods with a high sugar content was found for both genders and all age groups (Figure 3.2). The correlations shown almost certainly underestimate the strength of the relationship; analysis by country tends to show stronger relationships between watching TV for lengthy periods of time and poor diet habits. However, the data show only a slight relationship between TV viewing and aggressive, bullying behaviour. There is a strong correlation between watching TV and watching videos among all age groups, and among all male respondents and 11-year-old females between watching TV and playing computer games. Eleven-year-old boys and 13-year-old girls who watched TV a great deal were likely to have a negative attitude toward school.

The majority of students did not watch TV more than four hours a day; in only five countries did half of either boys or girls in at least one of the age groups do so (Figure 3.3). The patterns of TV watching for each age group were somewhat different. Generally, more 13 year olds than 11 year olds spent time in front of the TV, but there tended to be a decline in the proportions watching by age 15. At each age, more boys than girls watched TV four or more hours a day, but there was a slight anomaly in this pattern for 13 year olds where higher proportions of girls spent time watching TV in six countries compared with more girls in only one country for 11 and 15 year olds (Israel and Scotland, respectively). Boys and girls in all age groups from Estonia, Israel, Lithuania, Russia and Wales, and boys in Latvia and Poland appeared consistently among the one-third of the countries where the most students watched four or more hours of TV per day.

Figure 3.2 Factors associated with watching TV

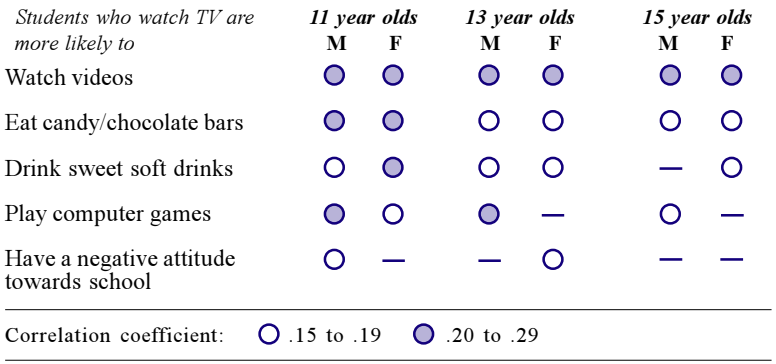
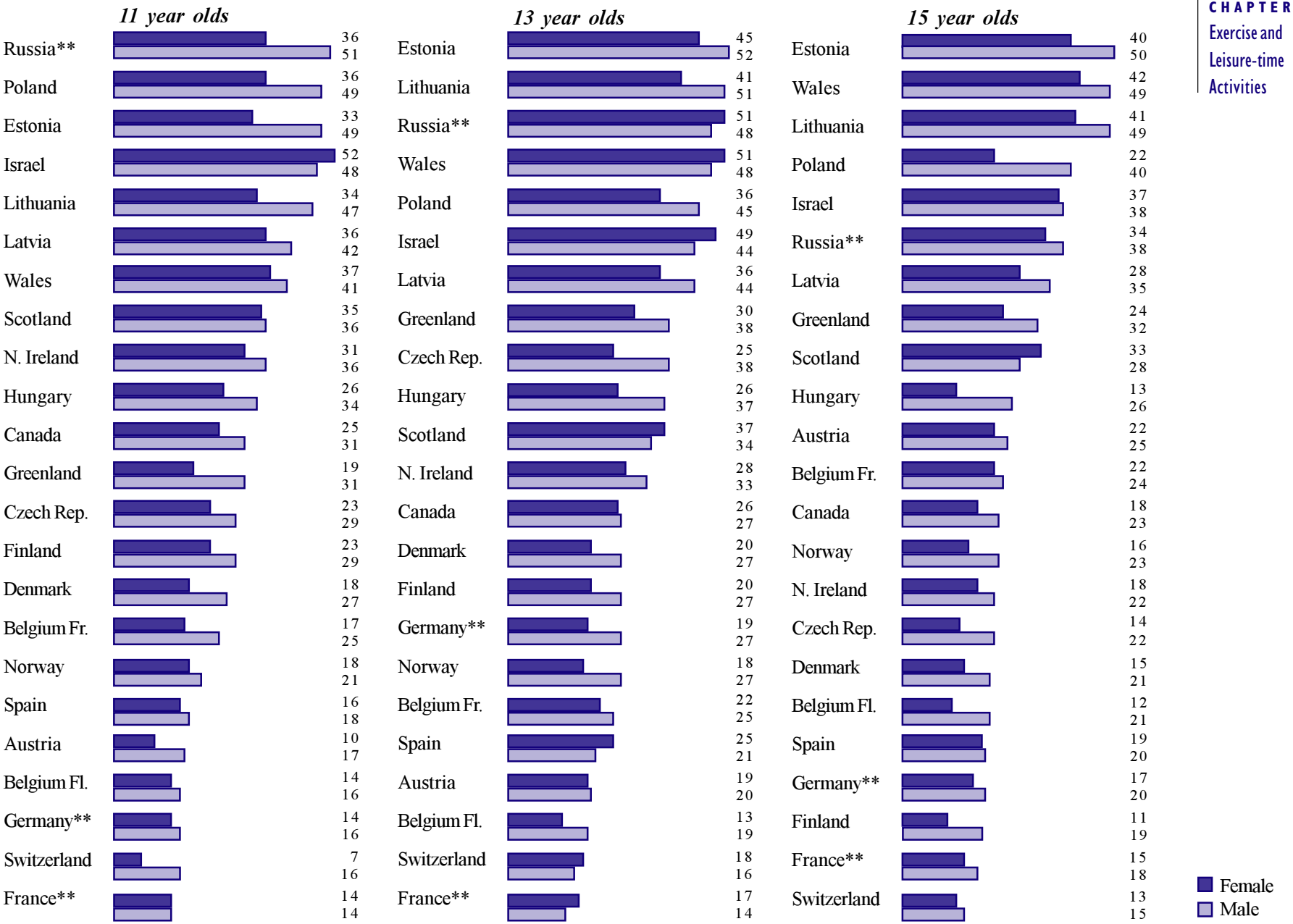


Figure 3.3 Students who watched TV at least four hours a day* (%)



* *Slovakia and Sweden did not include this item.*

** *France, Germany and Russia are represented only by regions: see Chapter 1 for details.*

2. Watching videos

In the last few years rental videos have become widely available. They represent all types of entertainment – from movies made for children to those that feature extreme violence. Analysis of the aggregated data show substantial correlations between watching videos and similar pastimes – watching TV and playing computer games – and between video watching and poor dietary habits (Figure 3.4). An association with aggressive behaviour was not evident. A positive correlation was found in all age and gender groups surveyed, between watching videos and spending evenings with friends and among 13- and 15-year-old boys and 15-year-old girls between watching videos and having been drunk.

The data in this survey show that VCR movie watching does not appear to be a major leisure-time activity among the young people surveyed (see Figure 3.5). The highest proportion of boys or girls who spent four hours or more per week watching VCR movies was 15-year-old boys in Greenland. For the most part, very few students spent four or more hours per week watching videos – less than 20 percent of girls and less than 35 percent of boys in most countries watched videos four or more hours per week. However, more boys than girls of all ages in all countries did so.

Figure 3.4 Factors associated with watching videos

Students who watch videos more likely to	*11 year olds* M	F	*13 year olds* M	F	*15 year olds* M	F
Play computer games	●	◉	◉	◉	◉	○
Watch television	◉	◉	◉	◉	◉	◉
Drink sweet soft drinks	◉	◉	◉	◉	○	◉
Eat potato chips	○	○	◉	○	○	○
Spend evenings with friends	○	○	○	○	○	○
Have been drunk	—	—	○	—	○	○
Eat hamburgers/hot dogs	—	—	○	○	—	—
Eat candy/chocolate bars	○	—	○	—	—	—

Correlation coefficient: ○ .15 to .19 ◉ .20 to .29 ● .30 to .39

3. Playing computer games

The damaging effects of increased aggressive and antisocial behaviours among children and adolescents have been documented in the majority of recent research literature on computer games (National Coalition on Television Violence, 1990). It has also been noted that the content of these games has become increasingly violent as elements of fantasy and challenge are intertwined in an ever more complex matrix of visual effects needed to gratify skilled players. Research has also shown that males are more likely to play computer games than females and that game manufacturers are responding to a perceived demand for an increasingly violent product from this audience (Clark, 1993). One study revealed gender-role stereotyping to be rampant among the top selling Nintendo games; there were a total of 115 male and 9 female characters in 47 of the games (Provenzo, 1992). Furthermore, over a quarter of the games featured a plot in which a woman is either kidnapped or cast in a perilous situation and has to be rescued.

Another concern about computer games is that they emphasize autonomous and aggressive action rather than collaboration or teamwork (Provenzo, 1992). Most games involve an individual player battling against enemy forces. Developing cooperative spirit or a feeling of community seldom figures in the plots of these games. Yet, some researchers contend that the arcade environment itself can provide youth with opportunities for social interaction and tension-reduction (Wigand et al., 1986). They suggest that playing these games acts as a communication "icebreaker" by enabling young people to meet and interact with others in a nonmediated social environment. Computer games may also function as tension-relieving activities by diverting attention from everyday stresses.

Figure 3.5 Students who watched videos at least four hours a week* (%)

* *Slovakia did not include this item.*

** *France, Germany and Russia are represented only by regions: see Chapter 1 for details.*

Figure 3.6 Factors associated with playing computer games

Students who play computer games are more likely to	*11 year olds* M	*11 year olds* F	*13 year olds* M	*13 year olds* F	*15 year olds* M	*15 year olds* F
Watch videos	●	◉	◉	◉	◉	○
Watch television	◉	○	◉	—	◉	—
Drink sweet soft drinks	◉	◉	○	○	—	—
Eat potato chips	◉	○	○	○	—	—
Spend evenings with friends	○	○	—	—	—	—
Eat hamburgers/hot dogs	○	—	○	—	—	—
Eat candy/chocolate bars	○	—	○	—	—	—

Correlation coefficient: ○ .15 to .19 ◉ .20 to .29 ● .30 to .39

Figure 3.6 shows the relationships between playing computer games and other activities. Those who do so are more likely to spend time watching videos and television shows. Younger game players are more likely to drink soft drinks and eat potato chips. It is not surprising to see that there are more relationships for boys than for girls.

The data in this survey affirmed the gender differences in playing computer games, with boys far more likely to be players. As Figure 3.7 shows, only in Switzerland did a substantial number of girls say they played computer games; among the 11 year olds, almost as high a proportion of Swiss girls as boys played. Computer games are least likely to be played in Spain, but overall there is no predictable pattern by country related to availability. Computer games are most commonly played by boys in Denmark, Northern Ireland (11 and 13 year olds), Scotland, Switzerland and Wales.

D. Summary

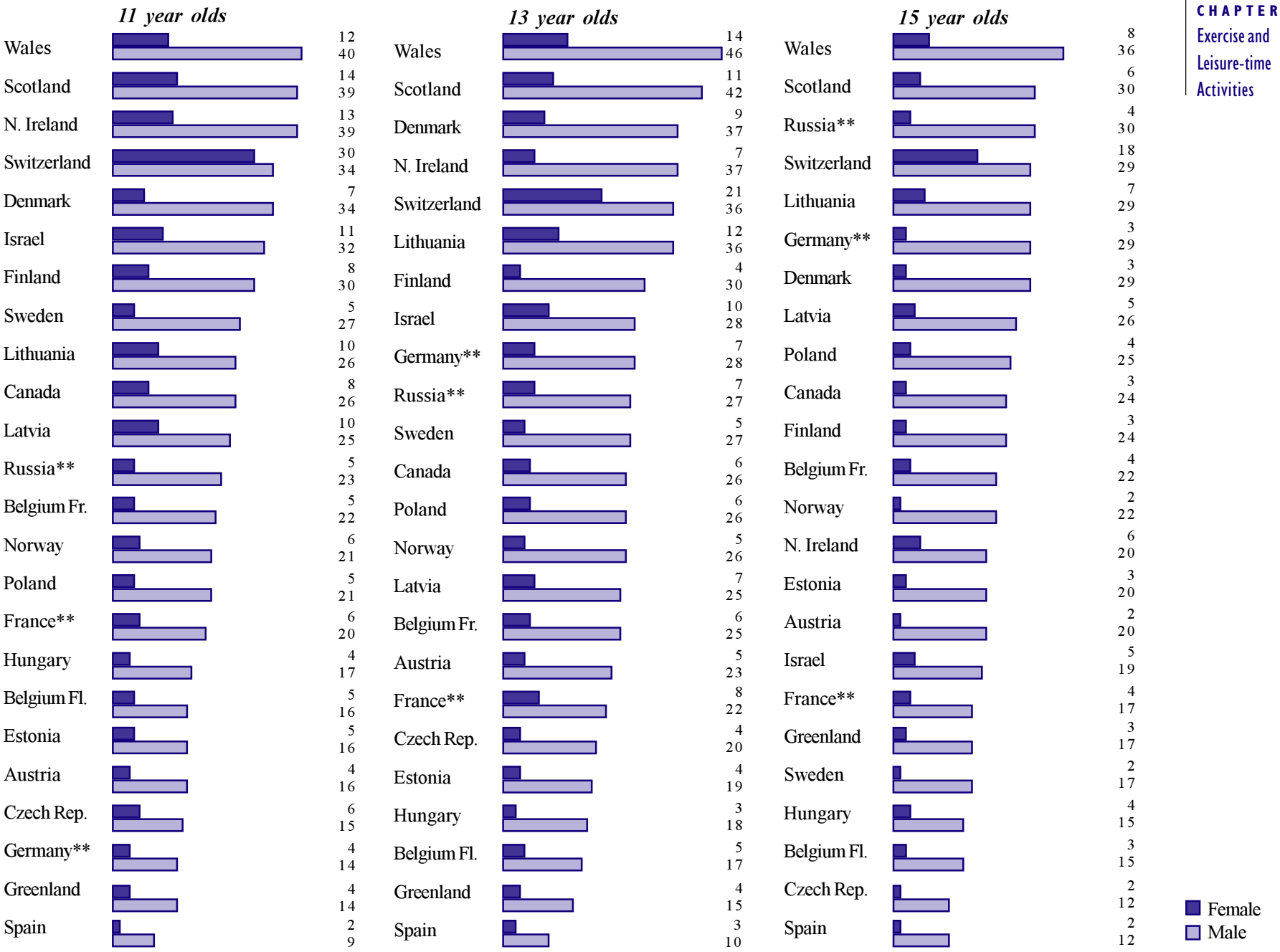
The level of physical activity among the students who participated in this survey is generally quite high. If this activity is encouraged and maintained there should be obvious health benefits for these students in the future.

The findings suggest, however, that girls are less physically active than boys and the gender differences seem to increase during early adolescence. Other studies have also shown that boys are generally more physically active than girls (Sallis & Faucette, 1992). Boys receive a great deal of encouragement from their families and from society to play sports and be physically active. Boys, though, tended to be more involved in sedentary activities such as watching TV and videos and playing computer games.

Among eastern European girls the level of physical activity is somewhat lower, especially when compared to 15-year-old girls from the northern European countries. One explanation of this finding is that countries with a longer tradition of focusing on gender equality, such as Denmark and Norway, have been more successful in overcoming the traditional gender-based stereotypes associated with participation in sports.

When designing interventions aimed at promoting physical activity, it is of paramount importance to know how habitual physical activity is adopted, maintained and discontinued. Findings from the 1985-86 HBSC survey indicate that social, entertainment and health motives are perceived as the main motivation for sport participation (Wold & Kannas, 1993). Competition and achievements are not rated as important reasons for liking sport, with older pupils seeming to attach more importance to sport being fun. Winning and achieving better skills in sport seem to decrease in importance as pupils grow older. These findings imply that health promotion programs aimed at increasing the level of physical activity among children would be more effective if physical activities and games emphasizing cooperation, fun and sharing, and simply becoming more active were designed and promoted (Sallis & Faucette, 1992).

Figure 3.7 Students who played computer games at least four hours a week* (%)



* *Slovakia did not include this item.*

** *France, Germany and Russia are represented only by regions: see Chapter 1 for details.*

Findings of the 1985-86 HBSC survey indicate that adolescent participation in leisure-time physical activity is influenced by the combined effects of their experiences at home, at school and with peers (Wold et al., 1994). Such findings imply that knowledge concerning the direct influences of parents, peers and schools, as well as knowledge concerning how these factors act together should be used as a basis for constructing exercise interventions.

Several studies have shown that families influence the physical activity of young children and adolescents (Anderssen & Wold, 1992; Wold & Anderssen, 1992). Therefore, one way to encourage young people to be active is to promote physical activity among parents.

Children experience many of the same barriers to physical activity that adults complain about (Dishman et al., 1985). Adults often say that they do not have time for exercise, but there are also powerful competitors for the time children might devote to exercise. Many children have music classes, tutoring, chores or other activities after school that make it difficult for them to find regular times for physical activity (Sallis & Faucette, 1992). The findings presented here show that sedentary activities like watching TV programs and VCR movies are popular activities among children and adolescents, although not a major cause for concern at this time, but if the time spent on these types of activities increases, the involvement of youth in leisure-time physical activity is likely to decrease.

The greatest resource for promoting physical activity is physical education in school (Sallis & McKenzie, 1991). Unfortunately, many schools have failed to provide the students adequate time for such programs (Ross et al., 1987). According to Sallis & Faucette (1992), observations of physical education classes indicate that students' activity levels are usually quite low. A number of studies has shown that attempts to implement school-based, health-related interventions have been quite successful (Biddle & Mutrie, 1991). However, the most successful projects to date seem to be those that apply the greatest number of strategies in the most settings directed at the appropriate target groups (Powell et al., 1991). Results from the Class of 1989 Study, part of the Minnesota Heart Health Program, also suggest that multiple strategies can produce lasting improvement in adolescent physical activity, particularly among girls (Perry et al., 1994).

CHAPTER

4

Dietary Habits, Body Image and Dental Care

CHAPTER

4

Dietary Habits, Dental Care and Body Image

A. Introduction

Sound nutritional practices have been clearly demonstrated to contribute to physical and emotional well-being and a long healthy life. It is during adolescence that patterns of food choice are established. Most countries have developed nutrition recommendations for sound dietary habits, which focus on the importance of a diet that includes a variety of foods and include the following:

- fibre content, e.g., breads and other grain products, vegetables and fruits;
- lower-fat dairy products, leaner meats and foods prepared with little or no fat;
- a limited amount of salt and alcohol.

While adolescents are at an age where they could develop healthy eating habits, external pressures can influence them to choose foods that do not promote growth and development and do not help them maintain a healthy body weight. For example, many young people frequently go to fast food restaurants with friends and frequent indulgence in fast foods can contribute to an excessively fatty diet. Many students are concerned that their weight and appearance conform with popular images; concern about weight and appearance can lead to anorexia and bulimia. Even social class background can influence food choice and family income can affect the type and quality of food available at home.

The items on food habits included in this survey sought information on frequency of consumption and not quantities consumed, making it difficult to assess the quality of the diet of those surveyed. However, the questions were ordered based on whether the foods in question can be generally considered beneficial to good health because they provide fibre, vitamins and cancer-fighting benefits (fruit, vegetables, low fat milk, whole wheat breads) or harmful to good health because they are high in fat, cholesterol, salt and sugar.

Such a categorization of foods has been employed in analyses of previous HBSC data (Nutbeam et al., 1991; Aarø et al., 1995; King

Spain

& Coles, 1992). The results indicate that consumption of healthy foods is part of a health-enhancing lifestyle, while consumption of unhealthy foods is related to other health-risk behaviours such as alcohol abuse and smoking. Thus, the food items in this survey may be better perceived as indicators of health-related lifestyles rather than comprehensive measures of healthy or unhealthy diets.

Students indicated how often they eat or drink each listed food item by choosing one of the following five responses: more than once a day; once a day; at least once a week, but not daily; seldom and never. The description of some food items varied from one country's questionnaire to another. Data from countries that defined specific foods differently from the standard questions were omitted from the analyses.

To interpret the findings it is necessary to make judgments about the availability of the foods in various countries. For example, typical high fat foods such as hamburgers and hot dogs are not equally available in all of the participating countries. Differences between countries may therefore reflect differences in availability or other cultural variations, rather than the students' attempts to choose healthy foods.

To learn about dental hygiene the respondents were asked how often they brush their teeth and how often they use dental floss. In this chapter we discuss fully only the item about brushing because flossing is not viewed as a health priority in some countries.

Several questions were asked related to the issues of dieting behaviours and how young people perceive their appearance. The students' responses are summarized and examined in this chapter. Interpretation has been cautious in light of differences across countries in availability and types of food and in attitudes toward ideal weight and appearance.

B. Nutritious foods

For this analysis, it was assumed that students ate in a nutritious manner if they consumed fruits, vegetables, low fat milk and whole grain breads on a daily basis, while at the same time limiting their consumption of chocolate and candy, sugary soft drinks, potato chips/crisps, hot dogs and hamburgers. Below is a discussion of the frequency with which students ate a representative group of these foods.

I. Fruits and vegetables

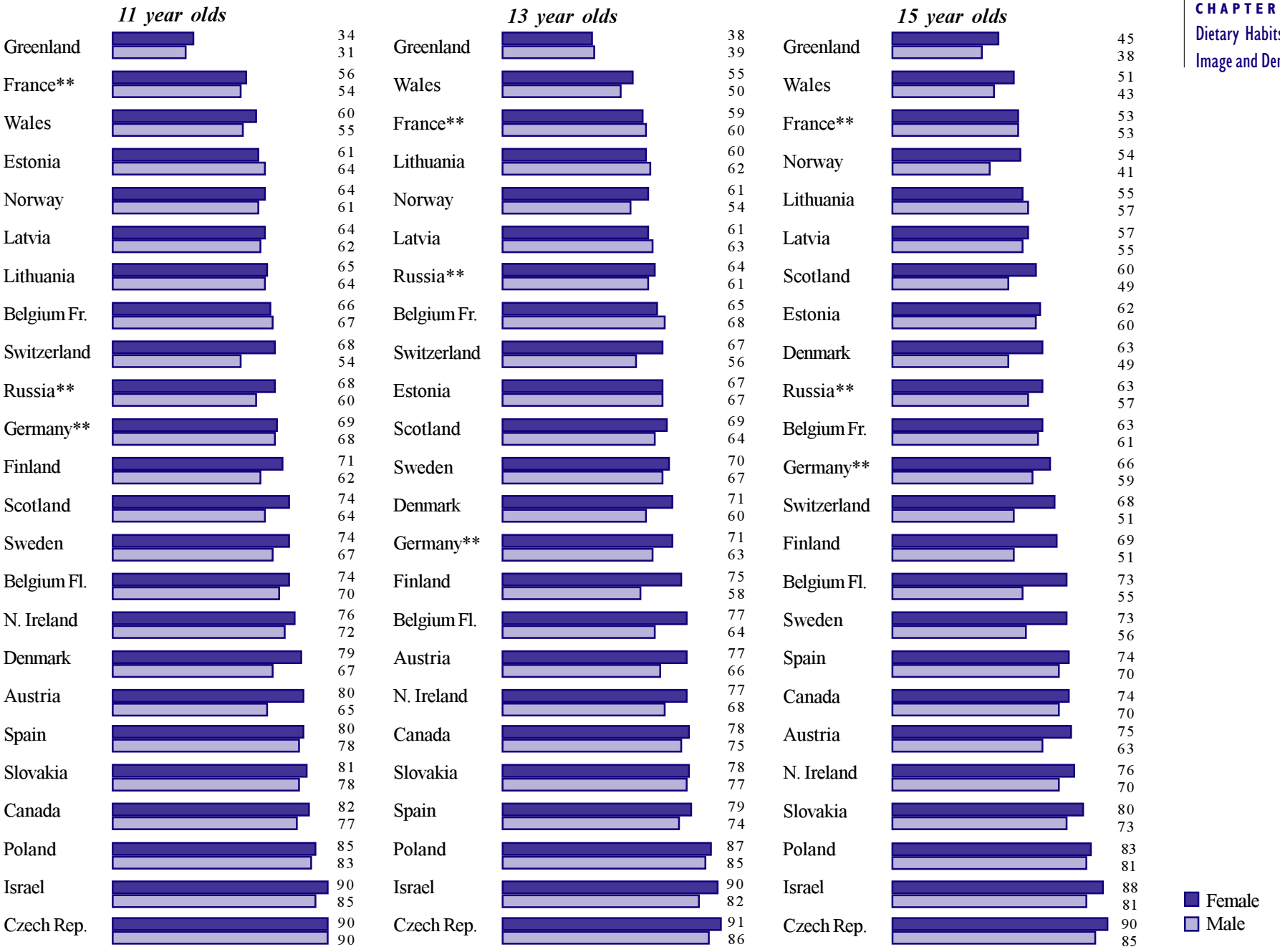
For decades, nutritionists have asserted that daily consumption of fruit is essential in maintaining a general state of health. Eating two to three servings of fruit per day can also reduce the risk of certain nutrition-related diseases. Many fruits provide adequate amounts of both soluble fibre and insoluble fibre. Soluble fibre, which is only partially digested, plays a role in regulating blood-sugar levels and may be helpful in reducing blood cholesterol. Apples, strawberries and citrus fruits are some of the best sources of soluble fibre. Insoluble fibre, also known as roughage, is not digestible and may be helpful in preventing certain types of cancers (Harris & Ferguson, 1993). Fruits are also important sources of vitamins A and C. These vitamins are necessary in maintaining healthy skin and bones. Recent studies have indicated that consumption of foods containing vitamins A, C and E appear to have an anticarcinogenic effect (Burnstein, 1993).

There was a wide variation in the percentages of respondents who ate fruit every day, ranging from a low of 31 percent for 11-year-old Greenlandic males to a high of 91 percent for Czech 13-year-old females (Figure 4.1). In most countries, higher proportions of girls than boys of the same age reported eating fruit daily. For both genders, in many countries, fewer 15 year olds than 11 year olds said they ate fruit at least once every day. The decreases were more pronounced for boys than girls. Only in Greenland were there increases in the proportion of students who ate fruit between ages 11 and 15, although the overall consumption by Greenlandic youth was much lower than in any other country. This may be explained by the difficulty and cost of purchasing fresh fruit in Greenland.

Raw vegetables are a good source of dietary fibre and vitamins. Dark green and deep yellow-orange vegetables, in particular, are rich in vitamins A and C. Vegetables, such as broccoli, cabbage and turnip, are an abundant source of vitamins and minerals as well as of dietary fibre which may be linked to the prevention of specific cancers.

Generally, fewer than half of the students and slightly more girls than boys ate raw vegetables daily. In Israel three-quarters or more of the students in each age group ate raw vegetables daily, far more than in any other country. Very few Welsh boys reported doing so. There was little consistency across age groups of the country rankings in terms of the proportions who ate raw vegetables at least daily.

Figure 4.1 Students who ate fruit once a day or more often* (%)



* *Hungary did not include this item.*

** *France, Germany and Russia are represented only by regions: see Chapter 1 for details.*

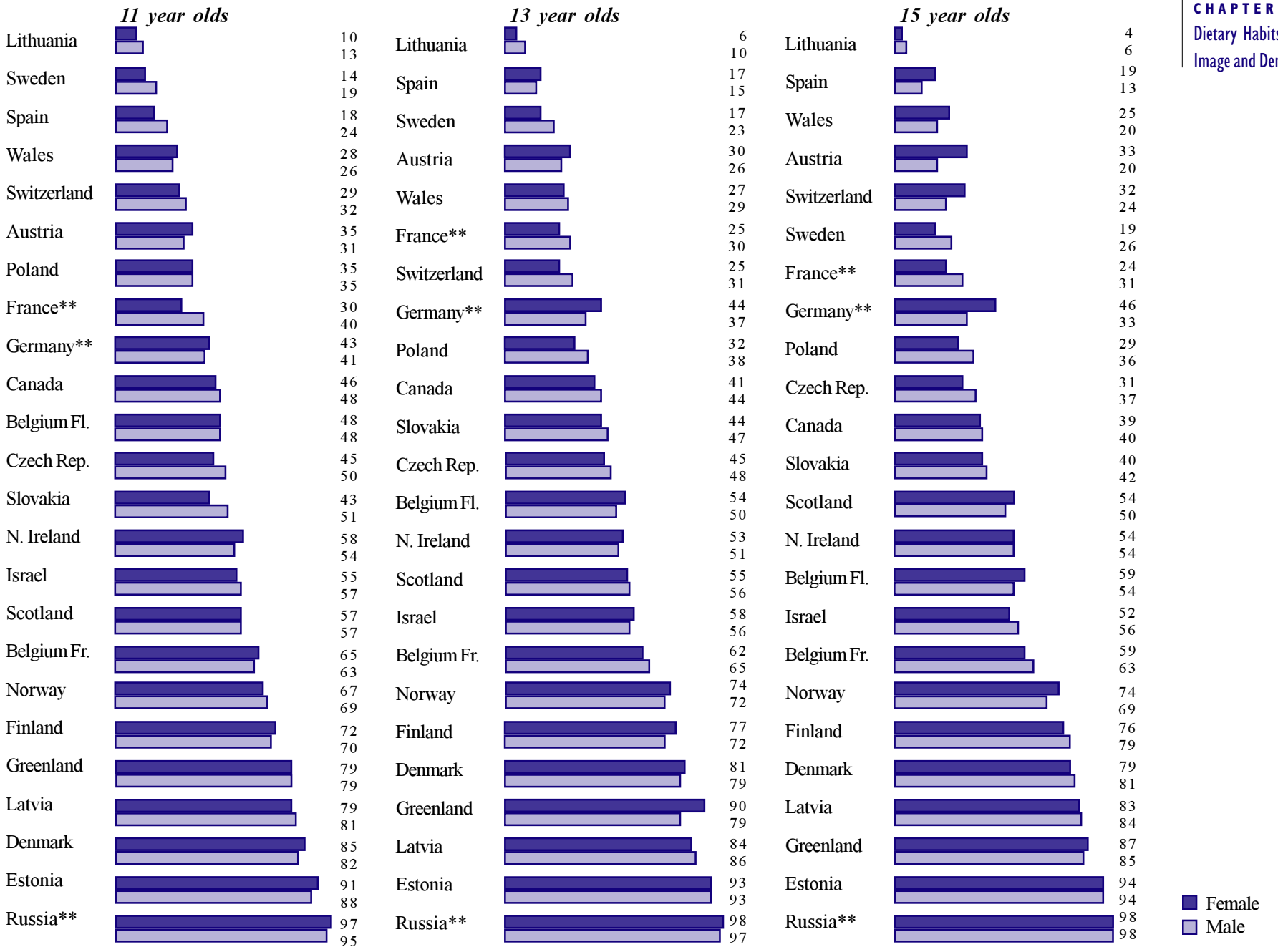
2. Whole wheat and rye breads

Whole grain products, such as whole wheat and rye breads, constitute important sources of insoluble dietary fibre and are healthy substitutes for foods high in fat. Epidemiological studies suggest that high daily fibre intake is associated with low incidence of colon and rectal cancer, but it remains unclear whether the protective mechanism results from the fibre either acting directly on colonic carcinogens or indirectly through the process of absorption and fermentation (Harris & Ferguson, 1993).

An excellent source of fibre is whole grain products, such as whole wheat bread and rye bread. Figure 4.2 shows the number of respondents who indicated they ate whole wheat or rye bread daily. The proportion of males and females who reported that they ate whole wheat or rye bread at least daily was quite similar. For 11 year olds, only in France and Slovakia did substantially more boys (10 and 8 percent respectively) say they ate whole grain bread every day or more often. There were not large differences between 13- or 15-year-old boys and girls either; in Greenland 11 percent more of the 13-year-old girls than the boys ate fibre-rich bread and in Austria and Germany 13 percent more 15-year-old girls than boys did so.

However, there are large differences across countries in the proportions of young people who reported eating these types of bread daily. This may, in part, reflect differences, determined by cultural factors, in the types of bread available. Whereas in the Russian Federation almost all students ate whole grain bread at least once a day, an extremely small percentage of Lithuanian students reported doing so. In Denmark, Estonia, Finland, Greenland and Latvia large proportions of students consistently said they eat fibre-rich bread every day, but substantially fewer in Austria, Spain, Sweden, Switzerland and Wales tended to eat whole grain bread.

Figure 4.2 Students who ate whole wheat or rye bread once a day or more often* (%)



* *Hungary did not include this item.*

** *France, Germany and Russia are represented only by regions: see Chapter 1 for details.*

C. Non-nutritious foods

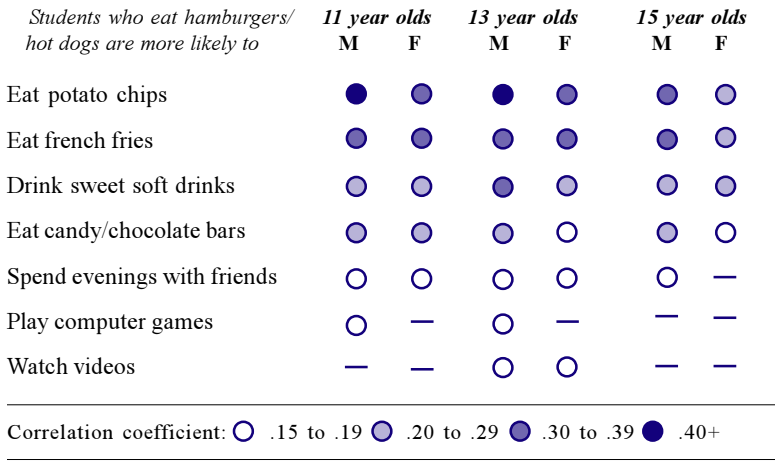
The cornerstone of healthy eating is to achieve a balance between eating sufficient amounts of essential nutrients needed to enhance good health without compromising these benefits by eating excessive amounts of any one nutrient, such as fat or sugar. While it is important to eat a varied diet, consumption of non-nutritious foods should be kept to a minimum. In this discussion of non-nutritious foods, emphasis is placed on hamburgers and hot dogs, sweets and soft drinks because these foods are recognized by nutritionists as being especially high in fat and sugar, thus offering little nutritive value.

I. Hamburgers and hot dogs

Although hamburgers and hot dogs satisfy some of the requirements of the meat and meat alternates food group, these particular meats are high in animal (saturated) fat. In some countries, the list included sausage, which may have been interpreted differently across countries. No differentiation has been made in this discussion. Occasional use of such food items is not considered harmful, but daily consumption would increase fat intake to a higher than recommended level. Moreover, this type of food is typically regarded as fast food, and may often be consumed between or instead of regular meals.

Few respondents ate only one type of non-nutritious food. As shown in Figure 4.3, students who ate hamburgers and hot dogs were more likely to eat other unhealthy foods as well. Except for 15-year-old girls, students who ate hamburgers and hot dogs often, spent time in the evenings with friends. Thirteen-year-old boys, along with 11-year-old boys and 13-year-old girls tended as well, to spend time watching videos and/or playing computer games, suggesting that they may not be spending very much time exercising.

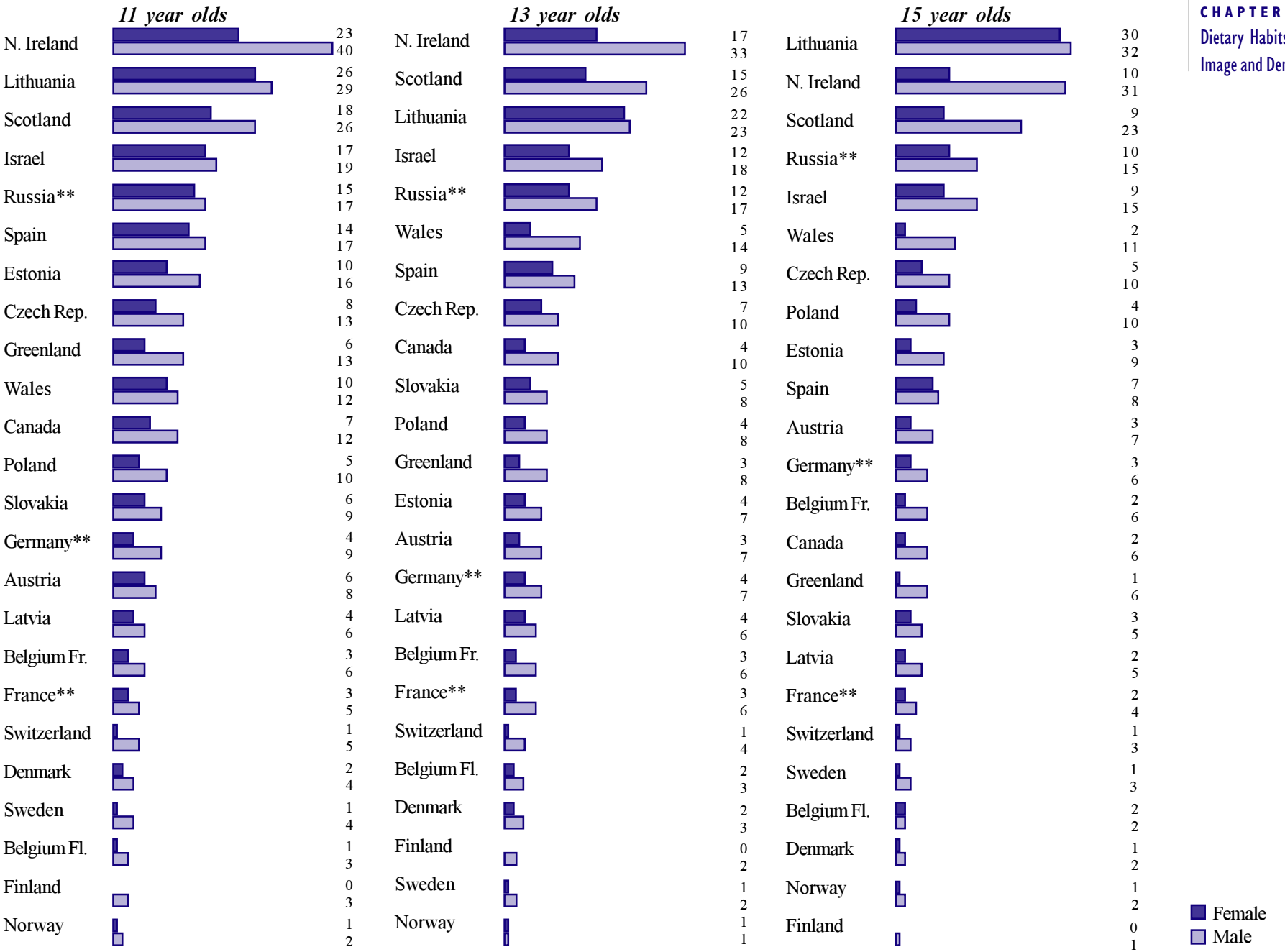
Figure 4.3 Factors associated with eating hamburgers/hot dogs



In most countries, few respondents ate these products every day except Northern Ireland, where one-third or more of the boys in each age group (40% of 11 year olds) said they eat hamburgers and/or hot dogs every day and Lithuania, where approximately one-quarter or more of both boys and girls ate these meats regularly (Figure 4.4). The lowest proportions reporting that they ate hamburgers and hot dogs at least once a day or more were in Belgium (Fl.), Switzerland and the Scandinavian countries. Almost no Finnish girls ate these meats as frequently as once a day.

There were slight gender differences in the students' fast food eating habits. In almost all countries, boys ate more fatty and non-nutritious food than girls, and there is no country in which the amount eaten by girls surpasses that of the boys. Age does not seem to play an important role in determining patterns of consumption of these foods. In some countries, the intake of hamburgers and hot dogs increases with the adolescents' age, while in other countries it stays the same or even diminishes.

Figure 4.4 Students who ate hamburgers or hot dogs once a day or more often* (%)



* *Hungary did not include this item.*

** *France, Germany and Russia are represented only by regions: see Chapter 1 for details.*

2. Sweets and soft drinks

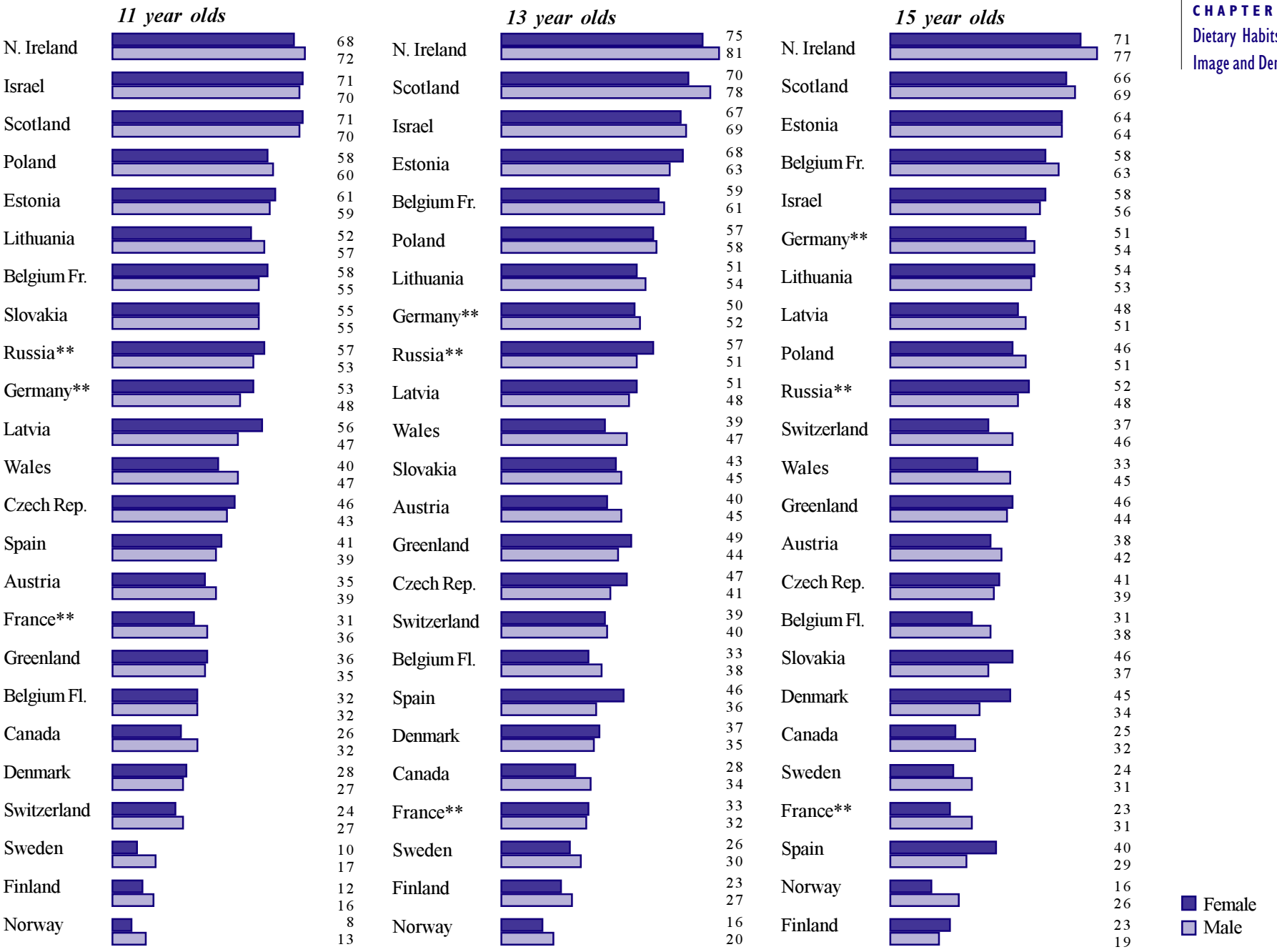
Young people are often habitual consumers of foods notoriously high in sugar, namely candy and chocolate bars. Although dietary sugar supplies the body with quick-release food energy, too much caloric input can result in weight gain. Chocolate bars, in particular, are nutritionally deficient because they are high in both fat and caffeine. High dietary fat intake is positively correlated with obesity and increased risk of heart attack, stroke and specific types of cancer. Because caffeine is also found in other food products such as coffee, tea and colas, it is important to minimize chocolate-bar consumption in conjunction with these items so as not to exceed daily recommended levels of caffeine.

Figure 4.5 shows the percentage of students who ate candy or chocolate bars or sweets at least once a day. Of all respondents, youth in Northern Ireland and Scotland reported eating sweets most frequently. Far fewer students in Finland, Norway and Sweden ate sweets regularly. Only 8 percent of Norwegian 11-year-old girls ate sweets once a day or more often, whereas 71 percent of Israeli and Scottish girls of the same age reported this pattern.

In many countries taking part in this survey, 11-year-old children seemed to eat sweets less often than did students in the other age groups. This may be because younger children have less spending money and parents may have more influence over the diets of their younger children. For the most part, the consumption of sweets differed to a small extent by gender, but there were differences of between 8 and 12 percent by age 15 in seven countries. However, there was no consistency in which gender reported eating sweets most often.

Soft drinks such as colas or lemonades are frequently taken with fast food such as hamburgers and hot dogs. The countries with the highest proportion of students drinking soft drinks at least daily were essentially the same as those for sweets, mainly Israel, Northern Ireland and Scotland. For the most part, more boys drank soft drinks every day than girls and it is remarkable to note that, by age 15, over 60 percent of the boys in six countries were doing so. The highest incidence for all ages and both genders occurred in Northern Ireland.

Figure 4.5 Students who ate candy/chocolate bars once a day or more often* (%)



* *Hungary did not include this item.*

** *France, Germany and Russia are represented only by regions: see Chapter 1 for details.*

D. Dental care

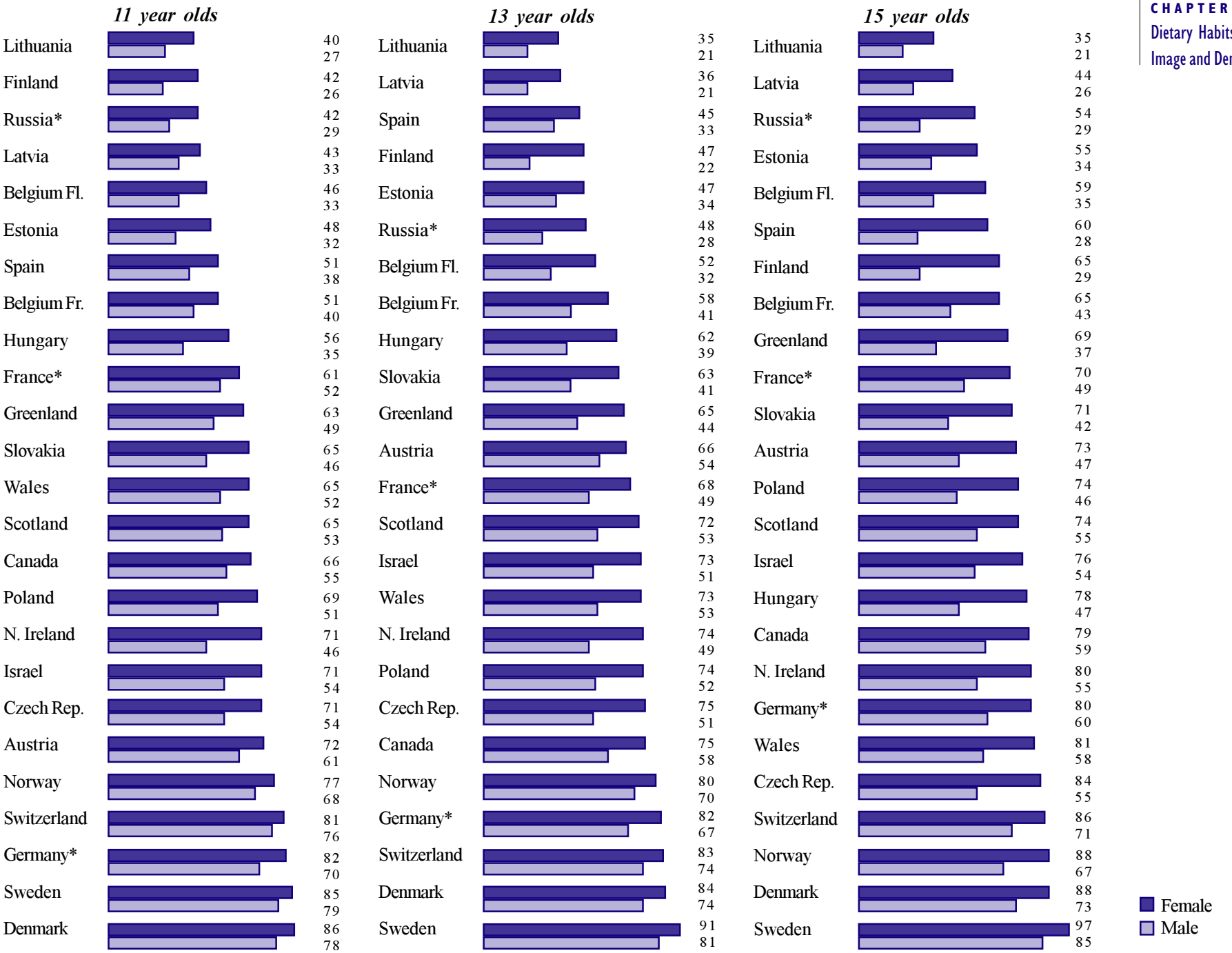
It has long been established that sugar intake in young people's diets can lead to dental cavities, poor nutrition and obesity (Rogers & Morris, 1986). Good tooth-brushing habits and preventive dental hygiene, such as using dental floss regularly, can offset the effects of excessive amounts of sugar on dental health. However, some researchers have suggested that students are more likely to be motivated by social reasons to brush their teeth regularly than to be motivated by concerns of disease prevention. Findings indicated that regular brushing was most often associated with wanting to have fresh breath (MacGregor, 1994).

Students were asked to indicate how often they brush their teeth using the following response categories: more than once a day; once a day; at least once a week but not every day; less than once a week; and never. They were also asked how often they use dental floss: daily; weekly; seldom; or never.

As shown in Figure 4.6, overall there was a wide range across countries in the proportions of students who brushed their teeth more than once a day – from 21 to 85 percent for boys and 35 to 97 percent for girls. Lithuanian boys and girls brushed their teeth the least; Swedish youth brushed the most frequently with the proportions increasing as they got older. Eighty-five percent of Swedish 15-year-old boys and 97 percent of the girls brushed their teeth more than once a day. In all countries and age groups, girls brushed their teeth much more frequently than did boys. In ranking the countries by female responses, the countries in which students brushed the least and the most were similar across the three age groups.

In several countries one-third or more of the students did not know what dental floss is. However, even where no students indicated that they were not familiar with dental floss, very few used it. Only in Canada (females) and Russia (males and females) did more than one-half of them say they flossed at least weekly.

Figure 4.6 Students who brushed their teeth more than once a day (%)



* *France, Germany and Russia are represented only by regions: see Chapter 1 for details.*

E. Dieting

Dieting to lose weight or concern about their weight is directly associated with how students feel about themselves. Young people become extremely self-conscious during adolescence, and most students who are dieting or feel the need to lose weight are expressing serious concern about their appearance. Some young people may not accept the standard norms of appropriate weight for their age and height because they are influenced by media images of slim, beautiful women and muscular, handsome men. Cultural definitions of beauty can also influence the perceptions young people have of their own body image (Wardle, 1993).

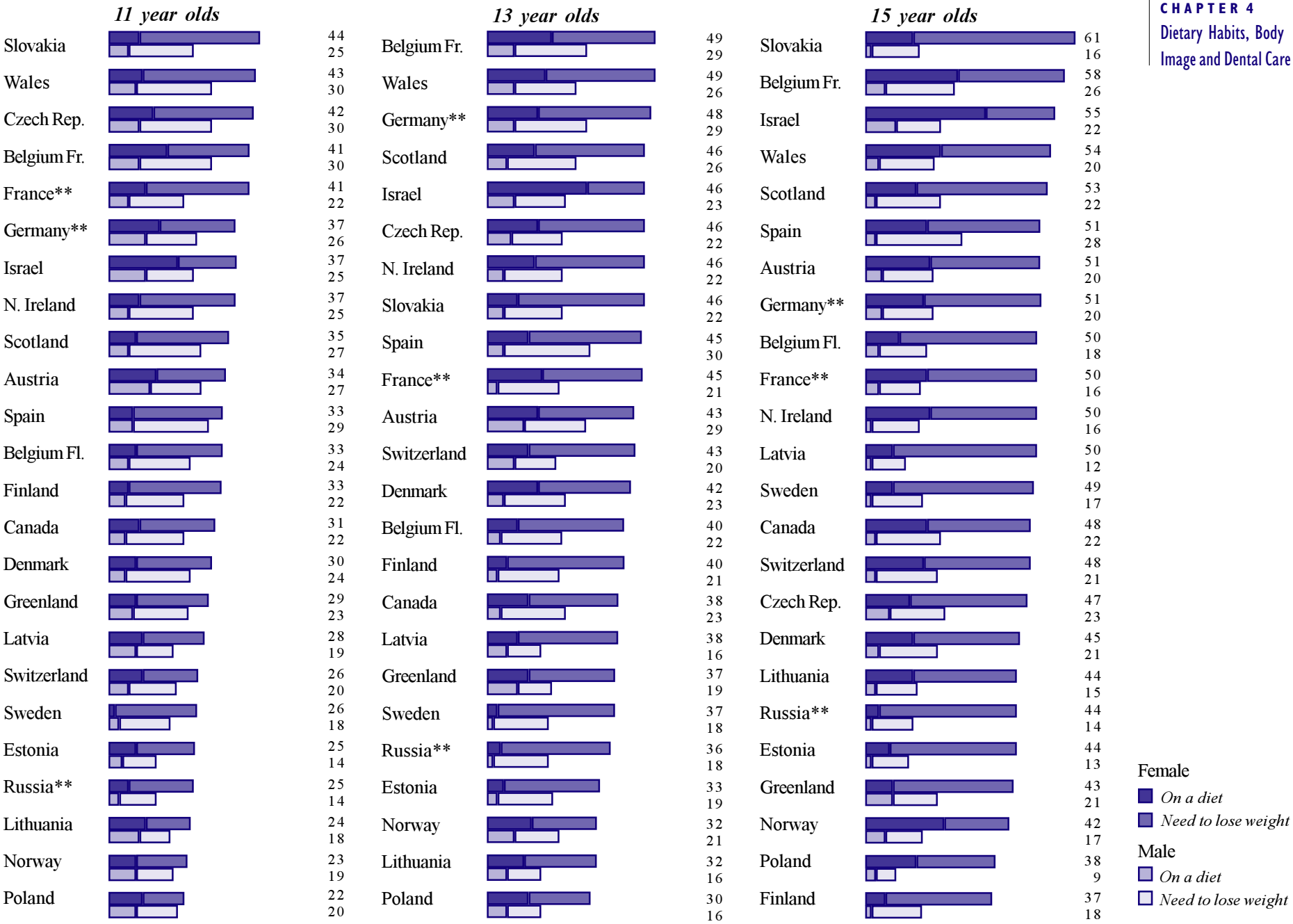
Research has shown that adolescent females are more likely than males to perceive themselves as fat and to engage in eating behaviours, such as binge eating, fasting and excessive physical exercise to control body weight, which can result in bulimia nervosa or anorexia nervosa (Mikow, 1995; Levine et al., 1994.). Youth who develop unhealthy eating behaviours due to distorted perceptions of body weight and physical attractiveness suffer considerable psychosocial distress characterized by feelings of loneliness and hopelessness (Page, 1991). They are also at increased risk of developing health problems due to nutritional deficiencies.

Students were asked if they were on a diet to lose weight. Their response choices were: No, because my weight is fine; No, but I do need to lose weight; and Yes. Incidence of dieting and attitudes toward weight are summarized in Figure 4.7. In all countries the majority of 11- and 13-year-old students were satisfied with their weight, but this was not the case among 15 year olds. The most obvious pattern in responses to this item regarding dieting and students' concern about their weight was the gender differences noted. In every country and for each age group surveyed, the proportion of girls dieting or who felt that they should be on a diet was substantially higher than for boys and increased significantly with age. Twenty-two to 44 percent of the 11-year-old girls were concerned about their weight, but 30 to 49 percent of 13-year-old girls were, and by age 15, 37 to 61 percent of the girls were either on a diet or thought they should be. Boys, on the other hand, tended to be less concerned about their weight by the time they reached 15. Girls in Belgium (Fr.), Israel, Slovakia and Wales and boys in Belgium (Fr.), the Czech Republic, Scotland and Spain were among the most likely to be dieting or conscious of their weight. Students in Estonia, Lithuania, Norway, Poland and Russia tended to rank among the least likely to diet or to say they need to lose weight.

Few boys of any age said they were actually dieting with the highest percentages being among 11 year olds: over 10 percent of them in three countries indicated they were dieting. By age 13, the only incidence of 10 percent dieting was for boys in Austria; less than 10 percent of 15-year-old boys in all countries indicated that they were on a diet. The figures for girls were much higher – at age 11 more than 10 percent of the girls in 10 countries were dieting, with Israeli girls at 20 percent. By age 13 and 15, over 10 percent of the girls in 17 countries said they were on a diet and again, Israeli girls reported the highest incidence at 29 percent at age 13 and 35 percent at age 15.

Boys were generally more likely to feel the need to diet or think they needed to lose weight when they were younger (age 11) than older (age 15). It may be that older boys feel the need to be more muscular which involves weight gain.

Figure 4.7 Students who were on a diet or felt the need to lose weight* (%)



* *Hungary did not include this item.*

** *France, Germany and Russia are represented only by regions: see Chapter 1 for details.*

F. Appearance

Physical appearance is very important to adolescents as they cope with the changes associated with becoming mature adults. Physical appearance was valued more than any other "lifestyle factor" considered in the Minnesota Heart Health Youth program and its importance increased with age (Prokhorov et al., 1993). As well, those who see themselves as unattractive in the generally or culturally accepted definition of the term have been shown to suffer various types of psychosocial distress. Page (1991) found that adolescents who believed their weight placed them outside the "good looking" category experienced more feelings of loneliness, helplessness and shyness. Society has tended to emphasize female more than male attractiveness and studies show adolescent girls to be less satisfied with their body than their male counterparts (Rodriguez-Tomé et al., 1993; Richards et al., 1990; Çok, 1990). Data from this survey tend to corroborate these findings: adolescents who believe they are not good looking were more likely to be unhappy and to feel lonely and depressed (Figure 4.8). The converse – those who thought they were good looking tended to feel confident and happy – was also found to be true (Figure 4.9).

The factors associated with an affirmative response to the question, Is there anything about your body you would like to change? aside from reinforcing data showing the prevalence of perceptions of excess body weight among adolescents, indicate the critical role personal appearance plays in the lives of young people. Thirteen-year-old boys dissatisfied with something about their appearance were vulnerable to feelings of unhappiness, loneliness, depression, helplessness and to feeling like an outsider. Respondents in each of the other age and gender groups, were likely to suffer one or more of these problems. Eleven- and 13-year-old girls were likely to have a negative attitude toward school and poor communication with their parents.

Figure 4.8 Factors associated with wanting to change something about their body

Students who want to change something about their body are more likely to	*11 year olds* M	F	*13 year olds* M	F	*15 year olds* M	F
Say they need to lose weight	◐	●	◐	◐	○	◐
Be dissatisfied with their appearance	○	◐	○	◐	○	○
Feel like an outsider	○	◐	○	○	○	—
Not be happy	○	○	○	○	○	○
Feel lonely	○	○	○	—	○	—
Feel depressed	○	○	○	○	—	—
Be irritable	○	○	○	○	—	—
Feel helpless	○	○	○	○	—	—
Feel nervous	○	○	—	—	—	—
Have a negative attitude towards school	—	○	—	○	—	—
Have poor communication with parents	—	○	—	○	—	—

Correlation coefficient: ○ .15 to .19 ◐ .20 to .29 ● .30 to .39

Figure 4.9 Factors associated with thinking they are good looking

Students who think they are good looking are more likely to	*11 year olds* M	F	*13 year olds* M	F	*15 year olds* M	F
Feel confident	◐	●	◐	●	◐	●
Be well-integrated socially	◐	●	◐	◐	◐	◐
Feel happy	◐	◐	◐	○	◐	○
Not want to change anything about their body	○	◐	○	◐	○	○
Feel healthy	◐	◐	◐	○	◐	—
Believe their family is well off	○	○	◐	○	○	—
Not feel helpless	—	○	○	○	○	○
Achieve well in school	○	◐	○	○	—	—
Have good communication with their parents	—	○	○	○	—	—

Correlation coefficient: ○ .15 to .19 ◐ .20 to .29 ● .30 to .39

Adolescents who responded they are very/quite good looking from a series of response alternatives (very good looking, quite good looking, about average, not very good looking, not at all good looking, I don't think about my looks) were more likely to feel confident, be well-integrated socially and feel happy. For younger students feeling good looking was related to doing well in school, and for 11-year-old girls and 13 year olds, it was related to being able to communicate more easily with parents.

In almost all countries, the proportion of students who would like to change something about their body increased with age (Figure 4.10). These findings also confirm those from studies showing distinct gender differences on this issue. In almost all age groups and all countries more females than males responded yes; in fact, by age 15, more than 70 percent of the girls in every country except Greenland did so. In contrast, the vast majority of students indicated that they considered themselves average looking.

In response to whether they felt their body was too thin, too fat or about right, more males than females said about right. Overall, more students said they were a bit too fat than said they were too thin; however, more boys than girls thought themselves too thin and more girls a bit too fat. By age 15, there were substantial differences between the genders in both the a bit too fat and much too fat response categories which, of course, is consistent with the gender differences on dieting behaviour.

G. Summary

As would be expected, the findings indicate major differences between the countries with respect to reported consumption patterns for the selected food items. Since the items included in this survey are not intended to measure the quality of the diet of respondents, it is virtually impossible to make sound conclusions about the appropriateness of the various foods eaten by young people in different countries. However, the findings do have some important implications for educational programs in nutrition, as well as for more general health promotion for youth. In general, girls seem to adopt healthier food habits than boys with more eating the healthy foods and fewer eating the less nutritious foods. These findings are consistent with those from more detailed dietary surveys in other studies of populations of young people (Andersen et al., 1995).

Dieting habits and concern about weight appear to be more of a problem for girls than for boys. More 15-year-old girls are on a diet or think they should be than 11-year-old girls and the margin between the responses of boys and girls increases substantially between 11 and 15 years of age.

Although many students, especially girls, wanted to change something about their body, most felt they were average or good looking or said they did not think about their looks at all.

The dental habits of girls tend to be more positive than those of boys. Thus, boys seem to constitute a vital target group for programs to improve both food habits and dental hygiene.

The results suggest a negative development of eating habits with increasing age. The diet of 15 year olds surveyed was less nutritious than that of younger students. During the years between age 11 and 15, there is a marked change in the settings in which the food choices of young people occur. Often, parents strongly influence what their young children eat: they purchase and prepare food, regulate meals and general schedules and control available spending money. However, these parental influences decrease as parents and children spend less time together. Peers seem to have a strong impact on children's food choices outside the home (Klepp et al., 1990). Thus, the findings of this survey imply that efforts aimed at developing more healthy food habits should take into consideration the significance of youth cultures. However, the most commonly used arena for promoting healthy diets is school. Since students spend extensive time in school this setting is ideal for reaching them with nutrition education and for modelling sound nutrition principles (Dwyer & Bourgeois, 1992). A number of nutrition education studies suggest that school-based educational programs may be effective in influencing adolescents to choose a healthier diet (Stone et al., 1989; Klepp & Wilhelmsen, 1993).

Figure 4.10 Students who responded yes to "Is there anything about your body you would like to change?" (%)

* *Germany, France and Russia are represented only by regions: see Chapter 1 for details.*