HBSC Briefing Paper 15
April 2009
HBSC is the Health Behaviour in School-Aged Children: WHO Collaborative Cross-National Study

Key Findings from the 2006 Scottish Health Behaviour in School-aged Children Study

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Introduction

Recent government policies have focussed on the improvement of young people's health. In particular, physical activity, nutrition, mental health and sexual health have been targeted at national and local level, with an additional overarching aim to reduce health inequalities. Similarly, smoking, alcohol, drug use and risk associated with being overweight are areas of concern. Young people's health is an important issue in Scotland, as Dr David Gordon, Head of Public Health Observatory Division of NHS Health Scotland, writes in his Foreword to the 2008 HBSC Scotland National Report "Among the many important issues for public health in Scotland today, possibly the single most important one is the critical impact for future health of our formative years. Our trajectories in life are largely established by our late teens, and so are the lifelong health impacts of the advantages and disadvantages accrued during childhood and youth. The balance of advantages and disadvantages that an individual gains are not down to chance (though chance always plays some part in life). They are closely linked to the circumstances of children's and young people's lives – to their social, economic and cultural context". (p. VI, Currie et al., 2008).

The Health Behaviour in School-aged Children (HBSC) Study in Scotland is a key source of information on child and adolescent health nationally. HBSC takes a broad perspective, gathering information on wide-ranging aspects of young people's health and well-being, as well as the social contexts in which young people grow up (Currie et al., 2004).

This *fifteenth* Briefing paper in the HBSC series summarizes the key findings of the 2006 HBSC Survey in Scotland as reported in the 2008 HBSC Scotland National Report (Currie et al., 2008). This paper will highlight the main findings for 11, 13 and 15 year olds in Scotland, on the following topics: family life, school environment, peer relations, eating habits, physical activity and sedentary behaviour, weight control behaviour, body image and BMI, tooth brushing, mental well-being, substance use, sexual health, bullying, fighting and injuries. For detailed information see the 2008 HBSC Scotland National Report which is available from the CAHRU website: **www.education.ed.ac.uk/cahru/publications/** under the heading 'Reports'. The survey methodology is described in the Technical Appendix.

Family Life

For adolescents, as well as younger children, the family is a vital setting for physical, emotional and social development. Family provides the context in which many health behaviours are established and its influence continues throughout adolescence and onward through the life course (Currie et al., 2004).

Family Structure

Associations between family structure and adolescent health often show more favourable outcomes for children living in two-parent families compared to step- and single-parent families (Amato and Keith, 1991; Griesbach et al., 2003; McMunn et al., 2001; Todd et al., 2007).

- In Scotland, 68% of young people live with both their parents, 19% with a single parent (17% with mother and 2% with father) and 12% in a step family; the remaining 1% live in a variety of other arrangements, including living with foster parents or with other family members such as grandparents

Family SocioEconomic Status (SES)

Family socioeconomic circumstances can also have a profound influence on the health and well-being of young people. In particular, parental occupation and family affluence are associated with a range of adolescent health outcomes. Children from high affluence families are more likely to have high life satisfaction, engage in physical activity, have healthy eating patterns and brush their teeth twice daily (Currie et al., 2008; Currie et al., 2004; Levin et al., 2007; Maes et al., 2006).

- Of those children living with both parents, 78% have both parents in employment, and a further 19% have one parent in employment, whilst 70% of children from single parent families have a parent in employment
- Of the 64% of fathers who have been assigned socio-economic status (SES), most fall into skilled manual (SES 4) and managerial/technical (SES 2) categories. Among the 60% of mothers with an assigned SES, the most common category is managerial/technical (SES 2)
- 57% of young people think their family is quite or very well off

Family Communication

Good parent-child relations can serve a protective function, helping children to achieve positive health outcomes and avoid stress (Barrett and Turner, 2006). Adolescents who have good relationships with their parents experience fewer behavioural problems and are less likely to engage in risk taking behaviour (McArdle et al., 2002; Ward and Laughlin, 2003; Currie et al., 2004).

- Young people find it easier to talk to their mother (80%) than to their father (60%) and ease of communication with parents (particularly fathers) deteriorates with age for both boys and girls
- Boys and girls find it equally easy to talk to their mothers about things that bother them but boys are more likely than girls to have easy communication with their fathers

The School Environment

School is a particularly influential social context for young people's health (Hurrelmann et al., 1995; Lerner and Galambos, 1998; Nutbeam et al., 1993; Samdal et al., 1998; Torsheim et al., 2000; Torsheim and Wold, 2001). It plays a significant role in shaping pupils' self-perceptions and health behaviours, which inevitably affect future, as well as current, health and well-being. The importance of a positive ethos and the need for respectful, caring relationships within the school and the wider community, to enable young people to fulfil their potential, is recognised by the concept of Health Promoting Schools (Scottish Health Promoting Schools Unit, 2004) now implemented throughout Scotland.

- A quarter of young people like school 'a lot', with a higher prevalence of girls than boys, and a decline in liking school with age
- Two thirds of young people rate their school performance highly relative to their classmates but this proportion declines with age
- Schoolwork pressures affect nearly a third of young people, particularly at age 15 when 34% of boys and 45% of girls report feeling stressed
- 68% of young people find their classmates kind and helpful
- 84% of 15-year-old girls aspire to go on to university or further education on leaving school, compared with 54% of boys

Peer Relations/Friends

Spending time with friends is an important element of the network of social relations that young people need. Interaction with friends is vital for the development of social skills and the ability to cope with stressful events (Berndt, 1992). Peer contact is also important for the development of protective factors such as emotional well-being (Martin and Huebner, 2007) and young people socialise around health promoting behaviours, such as physical activity (Currie et al., 2004), as well as risk behaviours.

Time spent with friends

- Boys are more likely than girls to spend time with friends immediately after school (45% of boys and 37% of girls) or in the evening (51% of boys and 42% of girls)

Communication with friends

- Most young people say they find it easy to talk to their best friend about things that really bother them
- Easy communication with best friend increases with age, and girls find it easier to talk to their best friend than boys
- Half of girls and a third of boys contact their friends daily via phone, text messages and/or the internet and electronic media contact increases with age

Eating Habits

Eating well is a long-term investment in health, and healthy habits formed during childhood and adolescence are thought to track into adulthood, reducing the risk of major chronic diseases (MacPherson et al., 1995). As children move into adolescence they have more control over their food choices with greater opportunities to choose and buy their own food and drinks outside the home (Cooke et al., 2005). There are multiple influences on food choices including exposure to foods in the home and at school, taste preferences, affordability, advertising and personal concerns about weight and body image.

- Almost three quarters of young people eat a family meal four or more days a week and almost two thirds eat breakfast every school day
- The frequency with which young people eat a family meal or have breakfast decreases with age
- 40% of young people eat fruit daily and 38% eat vegetables daily, with higher proportions of girls than boys eating both
- The proportion of young people eating fruit daily decreases with age while there is no change in vegetable consumption
- There are no gender differences in the proportion of young people who eat sweets (34%), crisps (28%) or chips (13%) daily
- Daily consumption of water (51%) is more than double daily consumption of soft drinks

Physical Activity

Regular participation in physical activity can contribute to the enhancement of the physical, psychological and social well-being of young people (Biddle et al., 1998). Higher levels of physical activity have been associated with lower blood pressure, increased fitness and better mental health (Sallis, 1994; Riddoch, 1998). However, research currently shows that participation in physical activity decreases with age, particularly amongst girls (Inchley and Currie, 2005).

- 29% of boys and 16% of girls meet the Scottish Government moderate to vigorous physical activity guidelines
- Older boys take part in vigorous exercise less often but for longer durations than younger boys
- Girls take part less frequently in vigorous exercise as they get older but duration of exercise remains the same across all ages
- Approximately half of young people in Scotland walk to school and walking to school is more common among primary than secondary schoolchildren

Sedentary Behaviour

Increasingly, concerns are being raised about the amount of time young people are engaged in sedentary activities such as watching television or using computers. Excess sedentary behaviour, along with low levels of physical activity, contributes to being overweight among adolescents (Elgar et al., 2005; Janssen et al., 2005).

- Boys play computer games and watch television more often than girls
- Whilst the use of computers for game playing decreases with age, computer use for other purposes (chatting on-line, internet, e-mailing, homework) increases

Weight Control Behaviour

Dieting and other weight control methods are commonplace among adolescents, particularly girls, and co-occur with the tendency for young people to exert more choice over eating habits at this age (Hill, 2002). Girls adopt mainly weight-reduction strategies, especially dieting, while boys are more likely to choose physical exercise to increase muscle mass and tone (Neumark-Sztainer et al., 1999; McCabe and Ricciardelli, 2001). Although often perceived to be a negative practice among young people, sensible weight control behaviour benefits those who are overweight or obese.

- Girls are twice as likely as boys to be dieting or doing something else to lose weight at present (22% and 11% respectively)
- Younger boys are more likely than older boys to try to control their weight, whilst the opposite is true for girls (older girls more likely than younger girls)
- One third of young people report that they have previously been or are currently on a diet
- There has been a 50% increase in reported dieting among boys since 1990

Body Image and BMI

Body image plays an important role in shaping young people's self-perceptions, mental health and psychological well-being, especially for girls (Siegel et al., 1999; Williams and Currie, 2000; Ge et al., 2001; Donnelly, 2006). Healthy body image is achieved when young people receive favourable feedback on their body shape/size and feel accepted by their family and peers (Ricciardelli et al., 2000; Barker and Galambos, 2003). Involvement in sport is also associated with a better body image (Ferron et al., 1999), while media pressure to reach an ideal body shape acts as a risk factor for poor body image (McCabe et al., 2002). In Scotland, the prevalence of obesity among adults has increased over the past two decades and current levels are among the highest in the Organisation for Economic Co-operation and Development (OECD) countries as measured by BMI. There is growing concern about obesity, prompting the introduction of public health programmes that address healthy eating and physical activity among young people.

- 25% of boys and 40% of girls report that they feel too fat
- 36% of boys and 26% of girls consider themselves to be good looking
- Young people's views of their physical appearance and body size are less favourable at age 13 and 15 than at age 11
- Three quarters of 15-year-olds are classified as having a normal weight according to their BMI and 2% are classified as being obese[1].

Tooth Brushing

The dental health of young people has improved in Scotland in recent years (National Dental Inspection Programme, 2006), but remains a major public health focus (Scottish Executive, 2002). The national target to be met by the year 2010, is for 60% of 11-year-olds to be free of 'obvious caries experience'. Twice-a-day tooth brushing is known to be associated with improved oral health and lower rates of dental disease (Scottish Executive, 2002).

- Girls are more likely than boys to brush their teeth twice a day or more (80% compared with 65%)
- There has been a steady increase from 1990 to 2006 in the proportion of boys and girls who brush their teeth two or more times a day

Mental Well-being

The mental well-being of young people is affected by experiences of school and learning (Inchley et al., 2007), friendships and peer relations (Currie et al., 2004) and family life and relationships (Levin et al., 2007; Todd et al., 2007). Good emotional and physical health enables young people to deal with these challenges and eases the transition through adolescence (Petersen et al., 1997). Previous research has shown that emotional and mental health problems in childhood and adolescence are predictors of risk behaviours such as smoking (Dierker et al., 2007), drinking alcohol (Verdurmen et al., 2005), eating disorders (Beato-Fernandez et al., 2004) and violence (Craig & Harel, 2004). Mental well-being and behavioural problems during childhood and adolescence may also persist into adulthood (Roza et al., 2003; Aalto-Setala et al., 2002). Promoting young

1 It should be noted that only 34% of 11-year-olds, 39% of 13-year-olds and 50% of 15-year-olds reported both their height and weight. Therefore, only results for 15-year-olds are reported here.

people's health can therefore have long-term benefits for individuals and society. Early intervention to promote mental well-being and prevent mental health problems among adolescents is therefore beneficial in the long, as well as short term.

- 84% of young people are satisfied with their life, 49% are very happy, 36% never feel helpless, 22% never feel left out of things, 21% rate their health as excellent and 20% always feel confident
- Boys fare better than girls on all six mental health measures
- Self-rated health, happiness, life satisfaction, confidence, never feeling helpless and never feeling left out all decrease with age and this trend is more pronounced for girls than boys
- Happiness, confidence and never feeling helpless among young people have increased between 1994 and 2006 and the proportion of young people not feeling left out has increased between 1998 and 2006

Substance Use

Tobacco use

Most adult smokers began smoking in their teenage years. Early initiation is linked to a greater risk of addiction (Center for Disease Control and Prevention, 1994) and can cause problems such as reduced lung function, increased asthmatic problems, coughing, wheezing and shortness of breath. However, young people's own accounts suggest that smoking can serve a social function among peers (Michell, 1997). Smoking among young people is linked to a range of social and developmental factors including family structure, parent-child communication, parental smoking, school experience, early maturation and local area deprivation (Currie et al., 2004; Corbett et al., 2005). Smoking among young people in Scotland is a continuing major public health concern with national targets set for reducing prevalence among 13 to 15-year-olds (Scottish Executive, 2006, Scottish Office, 1999).

- More than one in four young people have tried smoking and at age 15 girls are more likely to have tried smoking than boys
- 13% of girls and 10% of boys report that they are smoking at present. Girls are more likely than boys to be smoking at 13 and the gap widens further at 15
- At age 15 two thirds of current smokers report that they smoke every day

Alcohol use

Scotland's young people have among the highest rates of alcohol use in Europe and North America along with other UK countries (Currie et al., 2004). Although alcohol appeals to many young people, it is known to be associated with other risk behaviours such as consuming other drugs, unprotected sex, under achievement, truancy, injury and alcohol-related deaths (Advisory Council on the Misuse of Drugs, 2006; Currie et al., 2003; Corbett et al., 2005; Murgraff et al., 1999; Wechsler et al., 1994). Adolescent binge drinkers are also subsequently more likely to form a dependency on alcohol as adults (Viner and Taylor, 2007).

- One in five 13-year-olds and two in five 15-year-olds drink alcohol at least once a week
- Although boys and girls are equally likely to drink alcohol by age 13, the type of drink consumed varies; boys are most likely to drink beer, while girls prefer alcopops and spirits
- 48% of 15-year-old girls and 43% of 15-year-old boys have been drunk on at least two occasions

Cannabis use

Cannabis is the most widely used substance among adolescents after alcohol and tobacco, despite the illegality of its use (BRMB Social Research, 2007). Factors associated with cannabis use include family structure, parental supervision, drug use by older siblings and truancy. There are a number of detrimental health effects of cannabis use including intoxication, lethargy, lung damage, precipitation and exacerbation of psychosis. Furthermore, there are significant financial costs and cannabis use can be a stepping-stone to other harder drugs (Advisory Council on the Misuse of Drugs, 2006). Nonetheless, evidence suggests that adolescents who use cannabis in modest doses are well-integrated socially (Shedler and Block, 1990; Engels and ter Bogt, 2001).

- 28% of 15-year-olds and 7% of 13-year-olds have used cannabis
- 9% of 15-year-olds are 'experimental' cannabis users (have used cannabis once or twice in the past 12 months) and 10% are 'regular' users (more than twice but less than 40 times in the past 12 months)

Sexual Health

Sexual Health information

Adolescence is a key stage for the development of personal relationships and sexual behaviour. During this time, it is important that young people learn how to become comfortable with themselves, learn how to deal with their sexual feelings and for those engaging in sexual behaviour, become aware of safe practices. Information available to young people can come from the home, school and peers as well as from mass media, health services and community-based programmes.

- Over 80% of 15-year-olds report that eight of ten key sex education topics have been discussed in class
- Schools, friends and parents rank first, second and third respectively as sources of information on sexual matters for both boys and girls
- Approximately three quarters of 15-year-olds say that it is easiest to discuss personal and sexual matters with friends

Sexual Behaviour

Early sexual activity can have consequences for young people's health and well-being, especially if it begins before they are sufficiently physically and mentally mature to cope with it (Godeau et al., 2008). For example, previous studies have found that sexual intercourse before the age of 16 is often regretted (Johnson et al., 1994; Wight et al., 2000) and when associated with inconsistent or non-use of contraception can lead to unwanted pregnancy and sexually transmitted infections (STIs) (Godeau et al., 2008).

- Nearly a third of 15-year-olds report that they have had sexual intercourse (30% of boys and 34% of girls)
- 85% of boys and 74% of girls who are sexually active used a condom on the last occasion that they had sexual intercourse

Bullying

Children who are bullied are more likely to feel depressed and lonely and are more likely to be rejected by their peers (Craig, 1998) and experience a range of physical and psychological symptoms (Due et al., 2005). Studies have shown that the school is often the setting in which bullying occurs (Olweus, 1993; Fekkes et al., 2005). Victimisation during school years has lasting and measurable effects in adulthood including higher levels of loneliness, emotional distress and greater difficulty forming adult relationships (Robson, 2003; Tritt and Duncan, 1997). Bullies too, report lower rates of mental well-being when compared with other young people (Alexander et al., 2004).

- Approximately 10% of young people have been bullied at least two or three times a month at school in the previous two months, although at age 15 this figure is 7%
- 5% of young people report bullying others (8% of boys; 3% of girls)

Fighting

While bullying is characterised by an imbalance of power between victim and perpetrator (bullies are often larger, stronger or older than their victims), fighting is an aggressive behaviour where those involved are typically of a similar age and equal strength (Craig and Harel, 2004).

- 8% of girls and 22% of boys report that they have been involved in a physical fight three or more times in the previous 12 months
- Fighting decreases with age among boys

Injuries

During the latter half of the 20th century, injuries replaced infectious disease as the primary cause of death in children and adolescents in parts of Europe and North America (Krug et al., 2000). Injuries are not only costly to individuals in terms of pain and reduced function, or in severe cases, death, but also cause longer-term economic loss at a population level (Max et al., 1990). The most common locations where young people report being injured are at home, school and sport facilities (Molcho et al., 2006; Pickett et al., 2005).

- Almost half of young people have received an injury requiring medical attention in the past 12 months
- Boys are more likely to be injured than girls

Discussion

This briefing paper summarises findings on family life, school experience and peer relationships reported in the 2008 HBSC Scotland National Report and gives an overview of young people's health status. Positive long-term trends observed include improved emotional well-being – young people report feeling happier, more confident and less helpless - and an increase in twice-a-day tooth-brushing. A higher proportion of young people also report receiving sex education in school in 2006 than in 1990.

The full main Scottish National 2008 Report also shows shorter term improvements between 2002 and 2006 are seen in: eating habits – fruit and vegetable consumption has increased while crisps and sweets consumption has reduced; almost three quarters of young people eat a family meal four or more days a week and almost two thirds eat breakfast every school day; physical activity – a higher proportion of boys and girls are meeting government guidelines of an hour a day of moderate to vigorous activity; experimental and heavy use of cannabis has decreased; and condom use has increased.

The results show that more young people are engaged in society, school and in the home. The more engaged a child is, the more likely they are to develop into a healthy adult and are less likely to undertake risk behaviour. These findings are encouraging. However there are also areas of concern, such as weekly smoking and drinking, particularly among girls. For more statistical information and graphs of health and health behaviour measures by age, sex and over time, please refer to the 2008 HBSC Scotland National Report.

The next HBSC survey is due to take place in 2010, when young people will be surveyed in schools across Scotland.

Technical Appendix

Scotland, along with 40 other countries in Europe and North America, participated in the 2005/2006 Health Behaviour in School-aged Children (HBSC): WHO Collaborative Cross-National Survey. Previous surveys were conducted in 1989/90, 1993/94, 1997/98 and 2001/02 and findings from these have been published in a series of international and Scottish reports and briefing papers listed at the end of this document which can be found at **www.education.ed.ac.uk/cahru/**.

The 2006 HBSC survey in Scotland

The 2006 HBSC survey was carried out in 300 schools across Scotland. Pupils from mixed ability classes anonymously completed questionnaires in the classroom. The sample was nationally representative and included pupils from Primary 7 (11-year-olds, n=1727), Secondary 2 (13-year-olds, n=2266) and Secondary 4 (15-year-olds, n=2197) giving a total sample of 6,190. On completion of fieldwork, national data files were prepared using the standard documentation procedures of the HBSC International Protocol and submitted to the HBSC International Data Bank at the University of Bergen, Norway.

Notes on methodology, statistics & items

Information on study methodology, statistical method and items used in this briefing paper are reported in the HBSC Scotland National Report which can be downloaded from the CAHRU website: **www.education.ed.ac.uk/cahru/publications/** under the heading 'Reports'.

Acknowledgements

We thank the Regional and Island Authorities for granting permission for their schools to participate in the survey; and all the young people who completed questionnaires; and the schools and teachers who kindly agreed to administer the survey. Acknowledgement is made to all members of the international HBSC research network who prepared the HBSC protocol and collected national data, and the support of the WHO Regional Office for Europe. The HBSC study in Scotland is funded by NHS Health Scotland.

HBSC publications and HBSC Information

Further information on the HBSC survey can be obtained from the International Study website **www.hbsc.org**. The International Coordinating Centre of the HBSC Study is the Child and Adolescent Health Research Unit (CAHRU), The University of Edinburgh.

HBSC Briefing Papers from earlier surveys include:

Briefing Paper 1: Introduction, background and dissemination of the 2002 HBSC survey in Scotland.

Briefing Paper 2: Mental well-being among schoolchildren in Scotland: age and gender patterns, trends and cross-national comparisons.

Briefing Paper 3: Gender Matters: Physical activity patterns of schoolchildren in Scotland.

Briefing Paper 4: Mental-health and well-being in the context of school: Young people in Scotland.

Briefing Paper 5: How are Scotland's young people doing? A cross-national perspective on physical and emotional well-being.

Briefing Paper 6: How are Scotland's young people doing? A cross-national perspective on health-related risk.

Briefing Paper 7: How are Scotland's young people doing? A cross-national perspective on physical activity, TV viewing, eating habits, body image and oral hygiene.

Briefing Paper 8: Bullying and fighting among schoolchildren in Scotland: age and gender patterns, trends and cross-national comparisons.

Briefing Paper 9: Social Context of Bullying Behaviours.

Briefing Paper 10: Bullying: Health, Well-being and Risk Behaviours.

Briefing Paper 11: Family affluence and health among schoolchildren.

Briefing Paper 12: Family structure and relationships and health among schoolchildren.

Briefing Paper 13: Perceptions of school and health of schoolchildren.

Briefing Paper 14: Mental well-being of young people in Scotland: 1994-2006.

HBSC Reports

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Designed and produced for CAHRU by Susan Halcro, Communications and Marketing, The University of Edinburgh.