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Young people's health

Health in Sweden: The National Public Health Report 2012. Chapter 3.

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Summary

The present chapter discusses trends in public health among 16–24-year-olds – young people who are poised precariously between childhood and adulthood. The group includes upper-secondary school pupils and young people who have gone on to higher education or work.

Along with the rest of the population, young people have benefited from the development of postwar health and welfare policies and programs. Since the 1990s, however, the health of young people – particularly their mental health – has not shown the same general improvement as that of other age groups.

Since health status surveys began at the end of the 1980s, the proportion of young people aged 16–24 who suffer from anxiousness, nervousness and anxiety (angst) has increased. In 1988–1989, 9 per cent of women and 4 per cent of men reported experiencing feelings of anxiousness, nervousness or anxiety. In 2004–2005, the percentage had risen to 30 per cent among women and 14 per cent among men.

This increase not only subsumes self-reported complaints such as anxiousness, nervousness and anxiety; it has also become more common for young people to be hospitalised with depression and states of anxiety. The percentage of 20–24-year-old men and women who were hospitalised with depression more than doubled between 1990 and 2010, and in the 16–19 age group, hospitalisation have become eight times as frequent among women and four times among men. Hospitalisation as a result of suicide attempts or other self-destructive behaviour rose

significantly among women 16–24-year-olds from the beginning of the 1990s until 2007, but has since declined. Although the number of suicide attempts was also rising among young men, twice as many women as men are hospitalised for suicide attempts in 2010.

Accidents and suicides are the most common causes of death among young people. Approximately a quarter of all women and men who died between the ages of 16 and 24 committed suicide, while 27 per cent of women and 40 per cent of men died in accidents. Suicide among young people was more frequent in the 1970s than in the 1990s. Suicide is twice as frequent among men as women. In the last decade, the number of suicides has declined in several age groups. However, this does not apply to young women and men. Rather, the tendency appears to be towards a slight increase in the number of suicides in this age group. However, it is difficult to assess the trend in suicides among young people in view of the relatively small number of cases and the fairly large 'random' variations from one year to the next. Although suicide is a frequent cause of death among people aged 16–24, it is less common than in older age groups.

According to self-reported data, alcohol consumption among 15–16-year-old girls and boys rose in the second half of the 1990s. However, it has declined in recent years. Alcohol consumption among upper-secondary school pupils has declined among men, and is largely unchanged among women. More young people are being hospitalised with alcohol poisoning today

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than at the beginning of the 1990s. Hospitalisation for this condition has since increased more among women than men, and is now equally common in both sexes. The number of alcohol-related deaths among men has also risen in the 2000s. The figures for women, however, have remained unchanged.

It has also become more common for young people to be hospitalised for narcotic drug use. Deaths caused by drug abuse also increased significantly in the 1990s, particularly among men, but have declined in the 2000s. Significantly more men than women are hospitalised or die as a result of drug abuse.

The overall rise in the number of deaths caused by accidents or by alcohol and narcotics abuse together with a small increase in the number of suicides have led to a slight increase in the mortality rate among men aged 16–24 since the mid-1990s. But deaths among young people are still uncommon; an average of approximately 120 women and 300 men in the 16–24 age group die each year.

Significantly more women than men feel they suffer from impaired mental wellbeing. The disparities are greatest among young people aged 16–19. Of these, 29 per cent of young women and 7 per cent of young men reported having problems with anxiousness, nervousness and anxiety in 2004–2005.

Impaired mental wellbeing is on the increase in every category of young people, irrespective of family circumstances, country of birth, labour market status, parents' socioeconomic status, etc. However, the increase varies in size from group to group, and in the severity of the complaint.

Among 16–19-year-olds, anxiousness, nervousness and anxiety occur most frequently among people who neither study nor work. However, this is a relatively small group. Most young people in this category study. What has mainly accounted for the increase in the number of complaints in this age group over the past 20 years is the threefold rise in the number of problems among female teenage school pupils. The growing prevalence of anxiousness, nervousness and anxiety has been most evident in the 20–24 age group, with women students being the most commonly affected. However, a significantly growing number of male students also suffer from these problems. Women aged between 20 and 24 and men who are largely gainfully employed have fewer issues than students.

It is unclear why mental health issues have become more frequent among young people. The fact that living conditions for young people have changed considerably may be one explanation. At present, the number of full-time job opportunities for compulsory and upper-secondary school leavers is significantly lower than it was 20 years ago. Many may be pursuing further studies although they would prefer to work. Moreover, those that do find jobs face poorer

working conditions. While more young people are studying compared with earlier generations, many more are also inactive, i.e. they neither work, study, do military service nor work in the home. However, it is unclear how these changes are affecting people's mental health. It is also unclear why the gender disparities are so significant and why they are greater in the 16–19 age group than among 20–24-year-olds.

Causes of death among young people

Approximately 120 women and 300 men in the 16–24 age group die every year. Figure 1 shows the relationship between risk of death and increasing age in this age group. The number of deaths among men rises sharply between the age of 16 and 20. Although there is no such clear-cut increase among women, the death rate peaks at the age of 19 due to traffic accidents. Nearly three times as many men as women die at the age of 20. Significantly more young men than women die by suicide, in traffic and other kinds of accidents, and from alcohol and drug abuse. Alcohol is also an important contributing factor in accidental deaths and suicide [1].

Deaths occurring between the ages of 16 and 24 are mainly due to injuries, approximately half of which are caused by accidents. The remaining half are the result of suicides. In 2000–2006, an average of 34 women and 89 men died by suicide each year (including inconclusive cases), 20 women and 78 men died in traffic accidents, and 10 women and 44 men died in other kinds of accidents (not including the tsunami disaster in Southeast Asia). The tsunami disaster, which struck on 26 December 2004 in Thailand, where many Swedes were staying, took the lives of 40 Swedish young people aged 16–24. In 2000–2006, an average of 13 women and 63 men also died each year of alcohol- or drug-related causes. An average of 5 women and 8 men died each year as a result of violence or other assault by another person. Seventeen women and 23 men died each year of cancer.

Rising mortality rate among young men

Since the 1950s, the mortality rate among women and men aged 16–24 has fallen by nearly half (Figure 2). However, the rate for both women and men remained essentially unchanged from the mid-1950s until the end of the 1970s. During this period, the percentage of people who died of infectious diseases declined, while the percentage of suicides rose. The number of accidental deaths remained largely unchanged among men but increased among women. However, the period from the mid-1970s until the mid-1990s saw a marked drop in the mortality rate, primarily due to a significant decline in the number of traffic accidents.

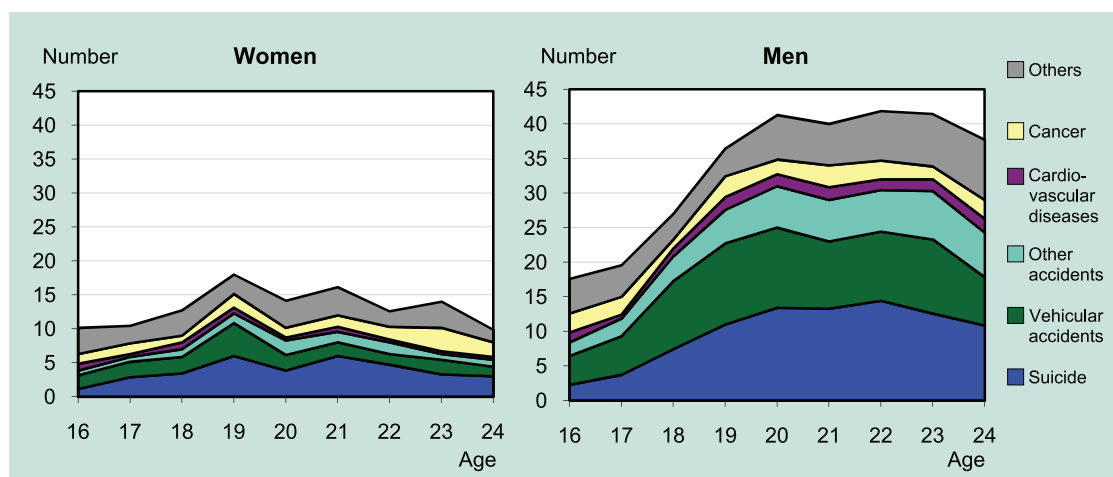


Figure 1. Age patterns for causes of death among young people

Number of deceased by cause of death and age. Averages for 2000–2006. Women and men aged 16–24.

Source: Cause of Death Register, Swedish National Board of Health and Welfare

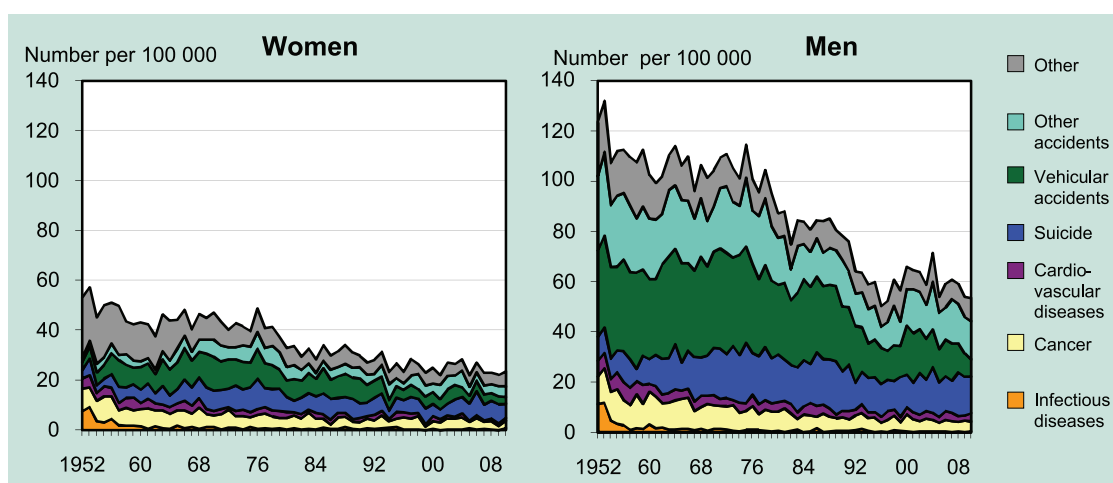


Figure 2. Mortality trend among young people by cause of death

Number of deceased per 100,000, by cause of death and year. Women and men aged 16–24, 1952–2010.

Source: Cause of Death Register, Swedish National Board of Health and Welfare

Since the mid-1990s, mortality among young men has risen slightly. In 2005–2006, the number of deaths from accidents, suicide, and alcohol and drug was greater than in 1997–1998. However the trend has turned in last few years and mortality among men is decreasing again.

Accidents

Traffic accidents with fatal outcomes are now more frequent among young people aged 16–24 than among people in any other age group, with the exception of the oldest members of the population, those aged 75

or older (Figure 3). The number of deaths in traffic accidents rose steadily until the beginning of the 1970s but has since declined for women and men in all age groups. The end of the 1990s saw a rise in the number of traffic deaths among 16–24-year-olds, particularly young men, followed in more recent years by another downward trend.

The number of young men who have been hospitalised as a result of accidents rose from the end of 1990s up until 2005, and has since declined (Figure 4). The fact that men are at greater risk of being involved in traffic accidents is also clearly borne out by patient statistics.

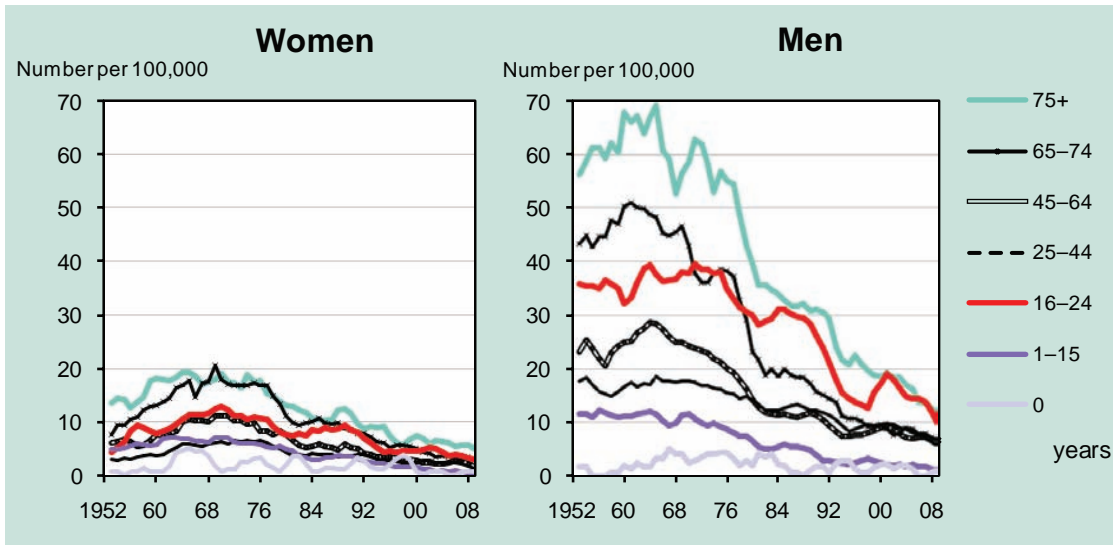


Figure 3. Fatalities resulting from traffic accidents

Number of deceased per 100,000 inhabitants as a result of traffic accidents*. Women and men in various age groups, 1952–2009**.

*Accidents involving road transport vehicles.

**Three-year moving averages.

Source: Cause of Death Register, Swedish National Board of Health and Welfare

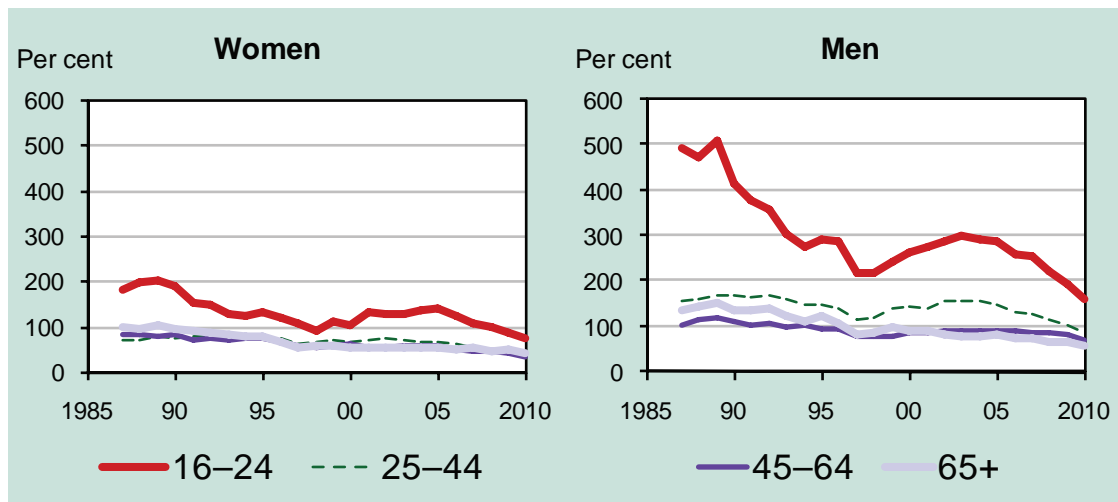


Figure 4. People hospitalised as a result of traffic accidents

Annual number of people per 100,000 inhabitants hospitalised as a result of traffic accidents*. Women and men in various age groups, 1987–2010.

*Accidents involving road transport vehicles.

An adjustment has been made for lapses in the reporting of external causes of injury in the Patient Registry, based on the assumption that the effect of the lapse is uniformly distributed across all types of injuries.

Source: Swedish National Patient Register, Swedish National Board of Health and Welfare

Alcohol is a contributing factor in more than one-third of all accidental deaths involving young men, but only in one in every ten fatal accidents involving young women [2]. Moreover, more men in the 20–24 age group drink to the point of intoxication than men in any other category (see Chapter 11, Health Effects of Alcohol and Narcotics Abuse). Accidents

among young drivers are also due to lack of experience. Young men are particularly overrepresented in single-car accidents, high-speed accidents and accidents in which the driver has lost control of the vehicle [3]. Most accidents in which young people are involved occur on weekends, in the evening or at night.

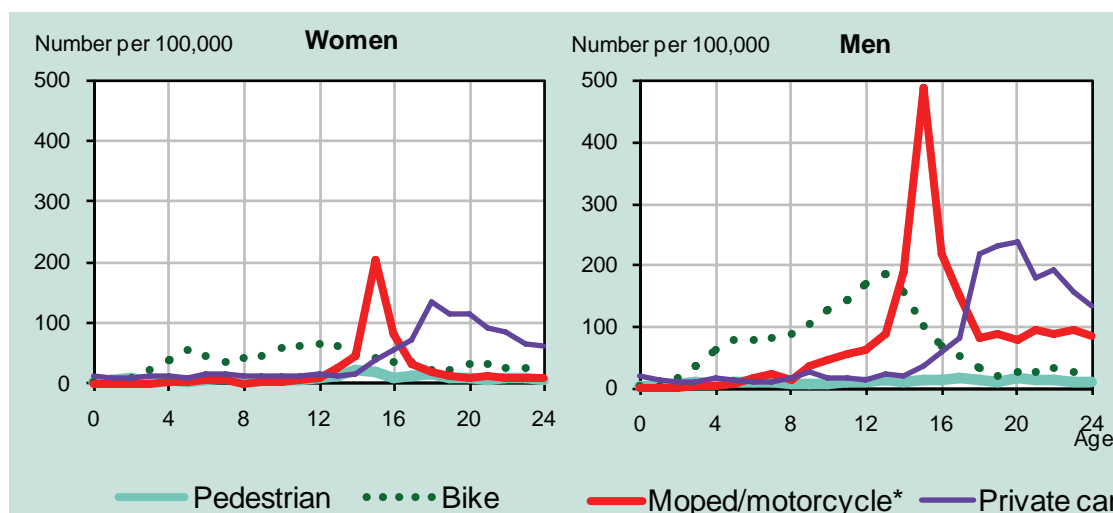


Figure 5. Age patterns for hospitalisation due to traffic accidents

Number of people per 100,000 inhabitants hospitalised as a result of various traffic accidents. Women and men aged 0–24. Averages for 2005–2007.

Source: Swedish National Patient Register, Swedish National Board of Health and Welfare

The causes of traffic injuries change with age (Figure 5). Bicycle accidents are most frequent among younger young people. The proportion of those receiving medical care as a result of moped accidents peaks sharply in the 15–16 age group. Accidents involving private cars predominate after the age of 20.

The past decade has seen a rise in the number of moped accidents among 15–16-year-olds; no other type of transport accidents shows a comparable increase. The main factor behind this trend is the marked increase in the number of mopeds on the roads, particularly Class 1 mopeds (so-called EU mopeds) [4]. The number of young people injured in private car accidents also increased up until 2004, but has since declined.

Young people living in small towns are several times more likely to die in a private car accident than young people living in one of the three metropolitan areas: Stockholm, Gothenburg or Malmö (Figure 6). Young people living in medium-sized towns also run a greater risk than their counterparts in metropolitan areas but not as great as those living in sparsely populated areas or small towns. This is largely because road speeds are higher in less densely populated areas.

The figure also shows that parents' level of education is important the lower the mother's level of education the greater the risk of a fatal car accident (Figure 6). The social disparities in fatal car accidents are wider in smaller communities than in metropolitan areas. This is probably because the big city suburbs, where the level of education is lowest, generally have the best traffic planning, e.g. the large residential areas built under the Million Homes Programme of the 1970s.

Mortality from non-vehicle accidents increases with age (Figure 7). The number of such accidents has declined since the end of the 1970s except among women aged 65–74. In addition to road traffic accidents, the number of other accidents has increased among men aged 16–24 since mid-1990s, but in contrast to road traffic accidents, has not declined in recent years.

Violence

In the 2004–2005 Survey of Living Conditions (ULF) 12 per cent of young women and 17 per cent of young men aged 16–24 reported having been subjected to acts of violence or threats in the past year, a higher figure than for other age groups. Approximately 4 per cent of women and 10 per cent of men reported having been subjected to violence resulting in physical injury. The proportion of young people subjected to violence increased between the beginning of the 1980s and the mid-1990s but has since declined among men and remained unchanged among women (see Figure 12 in Chapter 12, Violence).

Women more frequently avoid going out in the evening for fear of being assaulted, robbed or harassed in some other way. In 2004–2005, approximately 9 per cent of young women and 1 per cent of men reported that they had avoided going out in the evening in the past year for this reason.

Generally, women and men are victims of different types of violence, a subject discussed in greater detail in Chapter 12, Violence. Young men aged 16–24 are

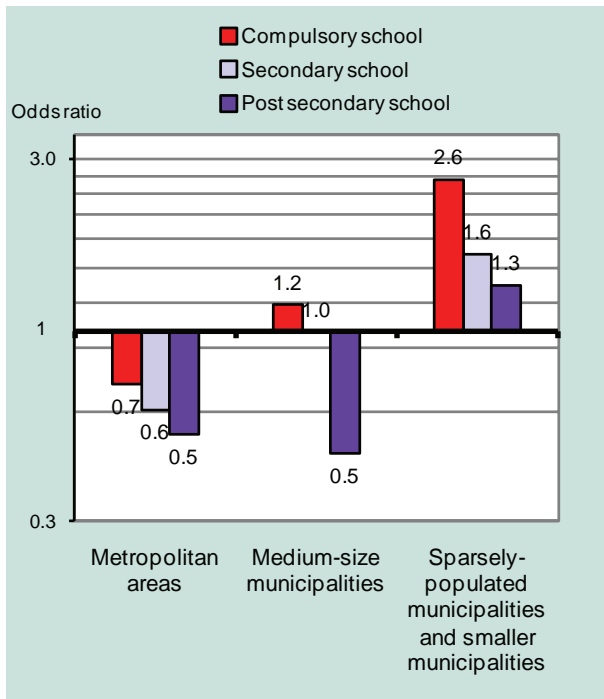


Figure 6. Fatal accidents involving private cars

Risk of mortality from private car accidents among young people aged 15–24, by type of civil registration municipality* and mother's highest level of education, 2002–2005. Note: Logarithmic scale on the y-axis.

The reference group (odds ratio=1) comprises young people in medium-size municipalities whose mothers have completed upper-secondary school. An odds ratio of 0.5 indicates that the risk of dying in a private car accident in that group is roughly half as great as for the reference group, and an odds ratio of 2 for a group indicates that the risk is roughly twice as high. Adjusted for age and sex.

*Metropolitan areas include big cities and their suburban municipalities. Medium-size municipalities include larger towns, commuter towns (bedroom communities) and municipalities with more than 25,000 inhabitants. Sparsely-populated and smaller municipalities comprise the remaining municipalities (see Fact Box 1).

Source: Cause of Death Register, Swedish National Board of Health and Welfare, and LOUISE database, Statistics Sweden

victims of street assaults three times as often as young women, while young women are subjected to violence in the home twice as often as young men.

In 2005–2007, an average of 150 women and 800 men aged 16–24 were hospitalised each year as a result of violence. Hospitalisation as a result of assaults is most common among 20-year-olds (Figure 8). The number of young people subjected to serious violence appears to have risen somewhat since violence requiring hospitalisation increased between 1998–2000 and 2008–2010 (Figure 8). Hospitalisation as a result of violence is more frequent among young people than in other age groups (see Figure 1 in Chapter 12, Violence). However, deaths resulting from violence are more

common among people of middle age (see Figure 2 in Chapter 12, Violence).

Cancer among young people

The incidence of cancer among young women and men in the 16–24 age group is approximately the same, and neither morbidity nor mortality rates have changed appreciably since the 1980s. Some 260 young people develop cancer each year and approximately 40 die from it (Table I). The most common forms of cancer among young women are Hodgkin's lymphoma (cancer of the lymphatic system), malignant melanoma and brain tumours. Young men are most at risk of testicular cancer, Hodgkin's lymphoma and brain tumours. The prognosis for survival generally depends on how early the cancer is detected. However, nearly all cases of Hodgkin's disease and testicular cancer are completely cured following treatment.

Sexual and reproductive health among young people

The sexual and reproductive health of young people is discussed in greater detail in Chapter 9. Sexual and Reproductive Health. Only some of the more important points are presented below. Young people have adopted a more liberal attitude towards casual sexual contact. They are more likely to have sex on the first date and less likely to use condoms, even though most young people are aware that condoms afford good protection against sexually transmitted diseases and pregnancy. The incidence of chlamydia infection has increased significantly since the mid-1990s in the 15–19 and 20–24 age groups, among both women and men (see Figure 1 in Chapter 9, Sexual and Reproductive Health). The number of pregnancies and abortions also rose (Figure 9). In recent years this trend has come to a halt in terms of the number of abortions and the percentage of pregnancies among 15–19-year-olds.

In Sweden teenage women rarely bear children. In 2009, approximately 6 children were born per 1,000 young women aged 15–19, and the birth rate has remained unchanged for the past five years after a long decline over many years. The percentage of young women in the 15–19 and 20–24 age groups who choose to terminate their pregnancy through abortion has risen continuously since 1975. Eighty per cent of all pregnant 15–19-year-olds and 41 per cent of all pregnant 20–24-year-olds opted for abortion in 2009. Women are postponing childbearing; average age at the birth of a first child was 28.9 years in 2010, compared with 24 in 1975. The average age of men at the birth of a first child also rose over the same period, from 27.0 to 31.4. Since 2004, there has

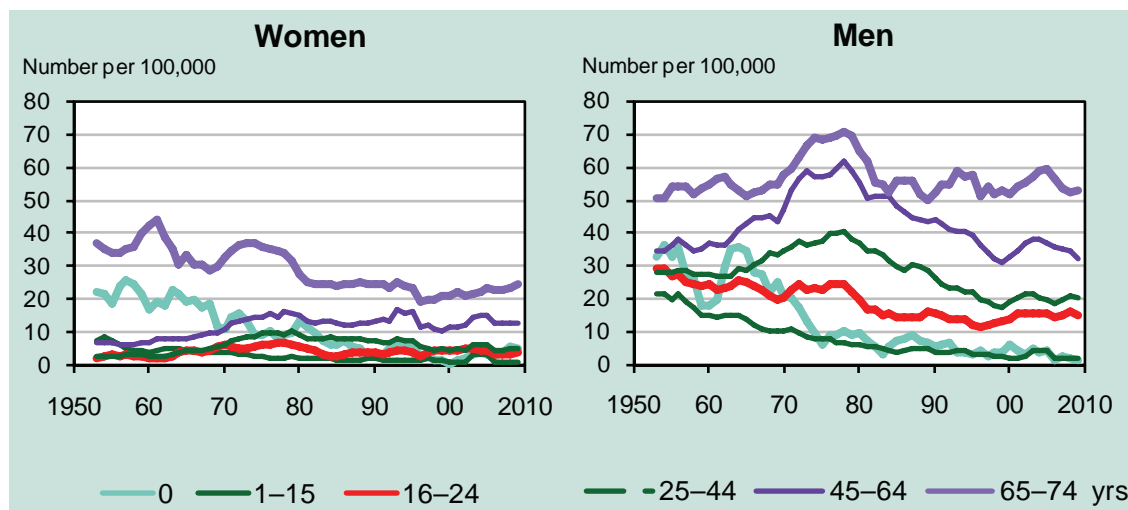


Figure 7. Deaths in other accidents

Number of deceased per 100,000 inhabitants as a result of other accidents*. Women and men in different age groups, for the period 1952–2009.**

*All accidents, excluding suicide and road traffic accidents.

Source: Cause of Death Register, Swedish National Board of Health and Welfare

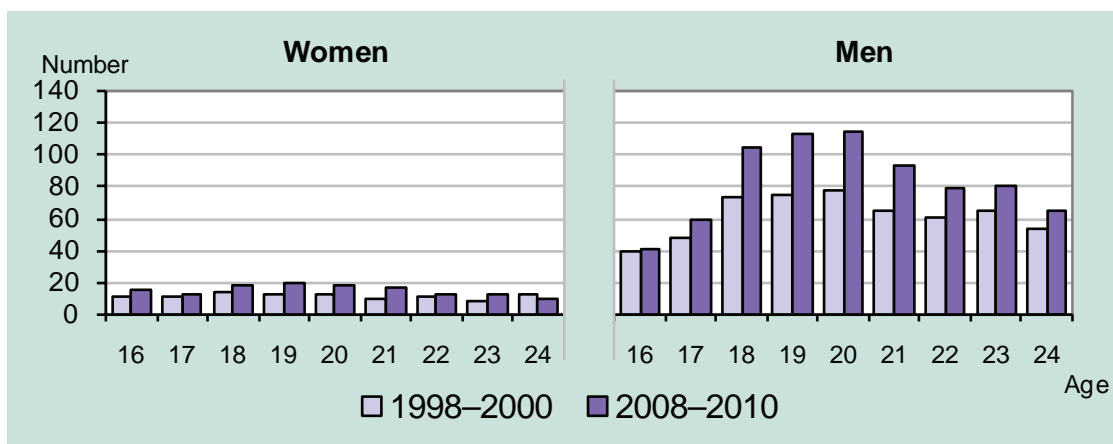


Figure 8. Inpatient hospitalisation as a result of assault

Number of people hospitalised as a result of assault by another person. Women and men aged 16–24, averages for 1998–2000 and 2008–2010.

Source: National Patient Register, Swedish National Board of Health and Welfare

been no increase in the age of the mother or the father at the birth of a first child; in fact, there is a tendency for more women aged 20–24 to give birth. In 2009, 48 children were born per 1,000 women aged 20–24.

Self-reported health problems on the rise

Impaired mental health and wellbeing is becoming increasingly common among young people (Figure 10). The period between 1988–1989 and 2004–2005 saw a threefold rise in the percentage of young men and women who reported feelings of anxiousness,

nervousness and anxiety (angst) during the previous two weeks. The percentage who reported having sleeping problems during the previous two weeks also tripled. Chronic fatigue, i.e. feeling tired in the morning, afternoon and evening, also increased. However, the rising prevalence of sleeping problems and chronic fatigue levelled off in the first half of the 2000s, while the incidence of anxiousness, nervousness and anxiety continued to rise.

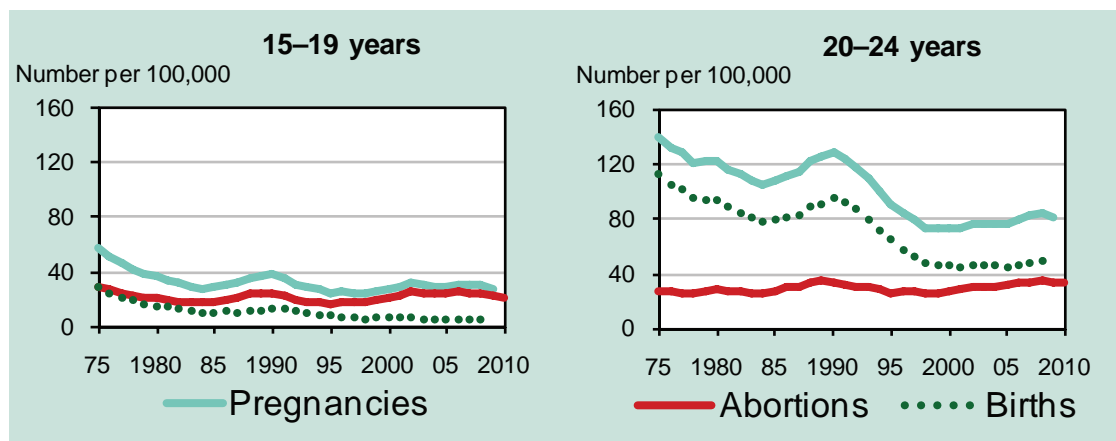
More young people also suffer from neck and shoulder pain than was the case in the early 1980s. Forty per cent of women aged 16–24 report pains in

Table I. Most common forms of cancer in the 16–24 age group

Average annual number of cancer diagnoses (2002–2006) and average number of deaths from cancer (2001–2005) among women and men aged 16–24. Number of cancer diagnoses and deaths from cancer per 100,000 in this age group, and percentage of all cancer diagnoses and of all cancer deaths by type of cancer.

Women	Lymphoma	Malignant skin tumours, excl. melanoma	Brain and spinal cord	Thyroid gland	Leukemias	All cancers
Number						
Cancer diagnoses	25	18	17	12	7	126
Deaths from cancer	1	0.2	4	0.2	4	17
Per cent of total						
Cancer diagnoses	20	14	14	10	6	100
Deaths from cancer	7	1	23	1	21	100
Number per 100,000						
Cancer diagnoses	5	4	4	3	2	27
Deaths from cancer	0.3	0.0	1	0.0	1	4
Men	Testicular	Lymphoma	Brain and spinal cord	Leukemias	Malignant skin tumours, excl. melanoma	All cancers
Number						
Cancer diagnoses	39	23	15	10	7	134
Deaths from cancer	0.4	2	4	5	1	20
Per cent of total						
Cancer diagnoses	29	17	11	8	5	100
Deaths from cancer	2	11	19	26	4	100
Number per 100,000						
Cancer diagnoses	8	5	3	2	1	27
Deaths from cancer	0.1	0.5	1	1	0.2	4

Source: Cancer Register, Swedish National Board of Health and Welfare

**Figure 9. Number of pregnancies, abortions and births**

Number of pregnancies, births and abortions per 1,000 women. 15–19 and 20–24 age groups, 1975–2010.

Source: Abortion Statistics, Swedish National Board of Health and Welfare, and Population Statistics, Statistics Sweden

the neck and shoulder area – and just under a quarter of respondents rated the pain as severe. In addition, a third of women in this group suffer from lumbar (lower-back) pain, as do a quarter of all men. The percentage affected has not increased appreciably since the 1980s, nor is this type of pain as closely correlated to stress symptoms as neck and shoulder pain (see Chapter 6, Psychosocial Stresses and Stress-related

Problems). Pain and impaired mental wellbeing are significantly more prevalent among women than men.

The great majority of people in the 16–24 age group describe their state of health as good or very good. In 2004–2005, however, 14 per cent of women and 10 per cent of men in this group felt they were not in good health. Figure 10 shows the percentage of young people who between 1988 and 2005 did not regard their

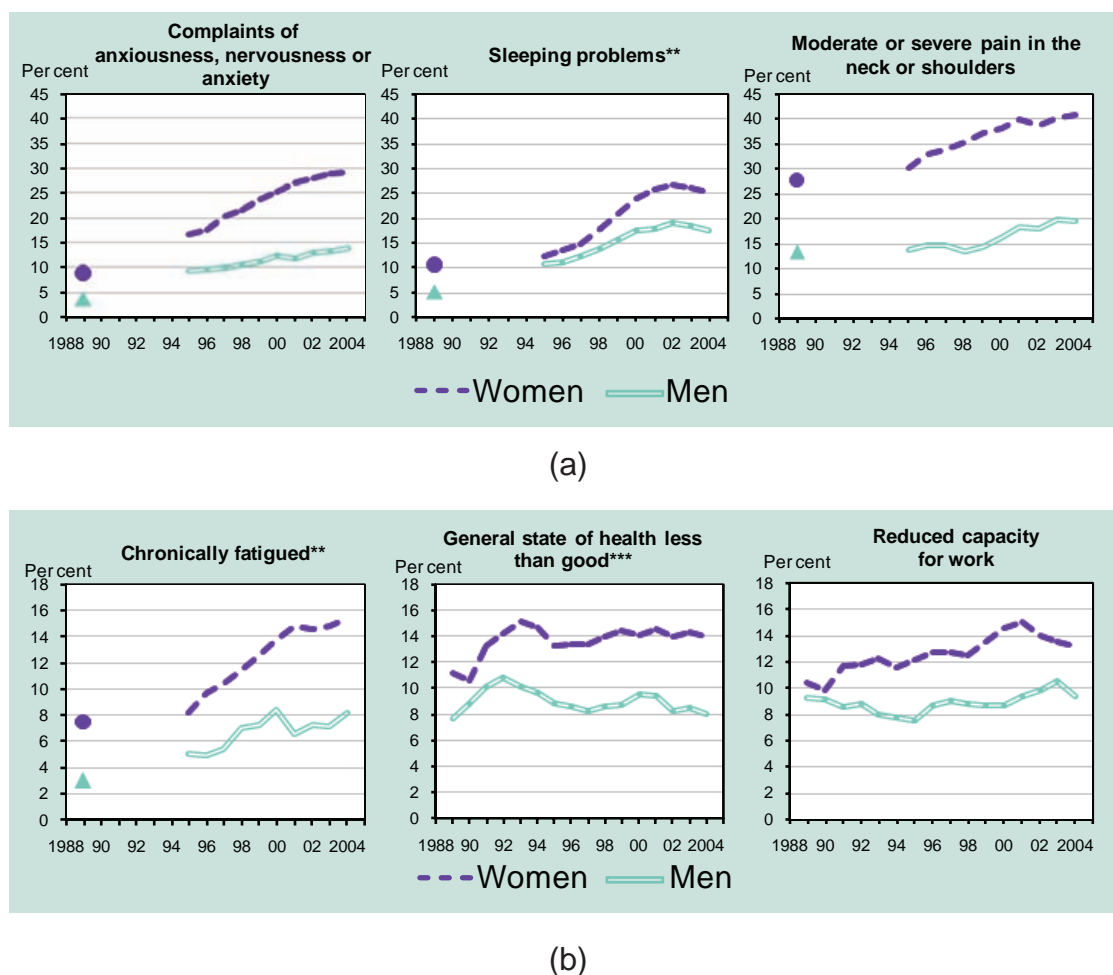


Figure 10. Self-reported problems

Percentage of young people reporting various complaints. Women and men aged 16–24, 1988–2005*.

(a) Moderate or severe complaints of anxiousness, nervousness or anxiety (angst); difficulty sleeping**; moderate or severe pain in the shoulders, neck or shoulder blades.

(b) Constant fatigue**; general health less than good***; impaired mobility.

*Three-year moving averages.

**During the previous two weeks.

***Respondents were asked: “How would you rate your general state of health: Good or very good; fair; poor; very poor?”

Points represent averages for 1988–1989.

Source: Survey of Living Conditions (ULF), Statistics Sweden.

general health as good in the Statistics Sweden Survey of Living Conditions (ULF). This percentage increased for a time in the early 1990s. Since then, however, the figure has remained relatively unchanged among young women, while young men rate their state of health as somewhat better than previously.

In 2004–2005, nearly 30 per cent of women and men aged 16–24 reported having a prolonged illness. The proportion has risen somewhat over time in this and other age groups. Young people often have less serious conditions that do not affect their ability to fend for themselves or work. However, approximately 14 per cent of women and 9 per cent of men reported that their ability to work was impaired, at least to some extent, due to illness. Just over 3 per cent of both

women and men reported that their work capacity was seriously reduced, and 1.5 per cent of women and 0.5 per cent of men reported impaired physical mobility.

Mental ill-health

In addition to the Statistics Sweden Survey of Living Conditions (ULF), a number of other interview and questionnaire surveys point to the growing prevalence of impaired mental wellbeing among young people since the beginning of the 1990s. Figure 11 assembles the findings of several studies, some based on a nationally representative sample, others drawn from regionally representative samples. Together, these studies indicate that self-reported mental health

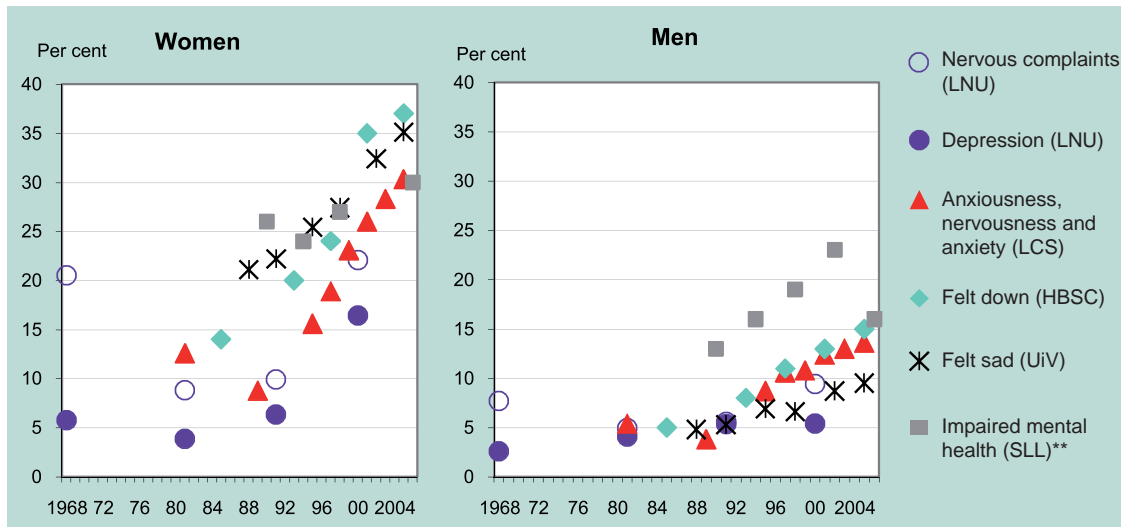


Figure 11. Mental ill-health among young people

Percentage of young people who, in various studies since 1968, report mental ill-health. Women and men in various age groups*.

*Age groups in different studies:

Anxiousness, nervousness and anxiety (16–24-year-olds), according to the Survey of Living Conditions (ULF), Statistics Sweden

Nervous complaints and depression (18–24-year-olds), according to the Swedish Level of Living Survey (LNU).

Felt down (15-year-olds), according to the Health Behaviour in School-aged Children survey (HBSC). Felt sad (15-year-olds), according to the Young in Värmland survey.

Impaired mental health wellbeing (21–24-year-olds), according to Stockholm County Council's Public Health Survey (SLL).

**The figure for women in 2002 given in the Stockholm County Council's Public Health Survey is not included in the illustration, since the figure for that year was exceptionally high (51 per cent).

problems have become more prevalent among young people since the 1990s, and that impaired mental wellbeing is considerably more frequent among women than men.

Table II shows the prevalence of anxiousness, nervousness and anxiety (angst) among young people from various backgrounds. Young people who live with their parents have fewer problems than young people who have left home and live on their own. This difference is more apparent among young men than young women. Young women living in sparsely populated areas have significantly fewer complaints than women in metropolitan cities. In contrast, young men living in sparsely populated areas have more problems, but the disparities are smaller. Whether the parents are blue- or white-collar workers appears to be of marginal relevance.

Women who are studying, or who are both studying and working, tend to have more problems than women who are working or are looking for work. On the other hand, men looking for work have more complaints than men who are studying and working. Those in permanent, full-time employment report fewer problems than other employees.

The deterioration in mental wellbeing is not associated with any particular social background identifiable in the Survey of Living Conditions (ULF). Table II shows that the number of complaints of anxiousness, nervousness and anxiety has increased among young people, irrespective of their origins, family

circumstances, socioeconomic status, employment conditions or labour-market status, and regardless of whether they live in sparsely populated areas or cities. Feelings of anxiousness, nervousness and anxiety are now three times more prevalent both among upper-secondary school pupils and young people who have recently entered adult life.

Gender disparities in mental ill-health greatest during teenage years

A slightly larger number of girls than boys in the 5th grade of compulsory school report feeling depressed or anxious, or complain of headaches. However, the gender disparities here are minor (see Figure 12 Chapter 2, Children's Health). Although these complaints are more prevalent among both boys and girls in the 9th grade than in the 5th grade, the increase is much larger among girls. Thus the gender differences are significantly greater in the 9th grade, where almost three times as many girls as boys feel depressed.

There is also a significant gender disparity in terms of mental wellbeing in the 16–19 age group (Table II): 29 per cent of young women report suffering from anxiousness, nervousness or anxiety (angst), compared with just 7 per cent of men. However, these feelings become more common among men aged 20–24, when many have left home and begun studying or working.

Table II. Anxiousness, nervousness or anxiety (angst) in various population groups

Percentage of young people who reported moderate or severe anxiousness, nervousness or anxiety in various population groups. Women and men aged 16–24. Averages for 1988–1989 and 2004–2005.

Population group	Women		Men	
	1988/89	2004/05	1988/89	2004/05
	Per cent		Per cent	
Age				
16–19 yrs	8	29	2	7
20–24 yrs	9	32	5	18
Country of birth				
Sweden	9	30	4	13
Other country	13	32	9	20
Family type				
Live with one parent	4	31	6	17
Live with both parents	9	27	2	7
Single, living alone	10	37	6	22
Cohabiting	9	27	5	19
Parents socioeconomic group				
Blue-collar workers	7	30	3	16
White-collar workers*	10	30	4	13
Type of municipality**				
1+2+3+4	10	32	4	14
6+7	9	31	4	10
5+8+9	4	17	3	18
Labour market status				
Looking for work	19	27	11	23
Student	9	32	3	12
Employed***	8	26	3	13
Employed and studying	10	36	7	14
Other	9	18	10	26
Employment status				
Unemployed	10	31	4	14
Permanently employed, full time	9	14	2	12
Permanently employed, part time	5	34	7	21
Occasionally employed	7	33	6	11
Total 16–24 years	9	30	4	14

*At least one parent.

**Types of municipalities as defined by the Swedish Association of Local Government (see Fact Box 1 above).

1+2+3+4: Metropolitan municipalities, Suburban municipalities, Large cities and Commuting municipalities.

6+7: Manufacturing municipalities and Other municipalities with over 25,000 inhabitants

5+8+9: Sparsely populated municipalities and Other smaller municipalities

Source: Survey of Living Conditions (ULF), Statistics Sweden.

The percentage of schoolchildren and young people with impaired mental health appears to increase with age. However, schoolchildren and young people are not included in the same studies or asked the same questions. It is thus impossible to determine whether the problems intensify or diminish in the transition from compulsory to upper-secondary school. However, the overall findings of a 2004 study of nearly 10,000 pupils in Stockholm in the 9th grade of compulsory school and the 2nd year of upper-secondary school, showed that mental ill-health was more widespread among upper-secondary school pupils than among compulsory school pupils of both sexes[5]. However, mental wellbeing deteriorates at an earlier age for girls and women than for boys and

men. The proportion girls in the 9th grade with impaired mental wellbeing was already high, while the percentage of men with such problems showed a marked increase after upper-secondary school.

Anxiousness, nervousness and anxiety frequently accompanied by other complaints

Anxiousness, nervousness and anxiety (angst) are frequently accompanied by other health problems (Table III). Most young people who report feelings of anxiousness, nervousness or anxiety state that they also feel depressed. Nearly half have sleeping problems and just over half suffer from neck and shoulder pain. More young people suffering from anxiousness,

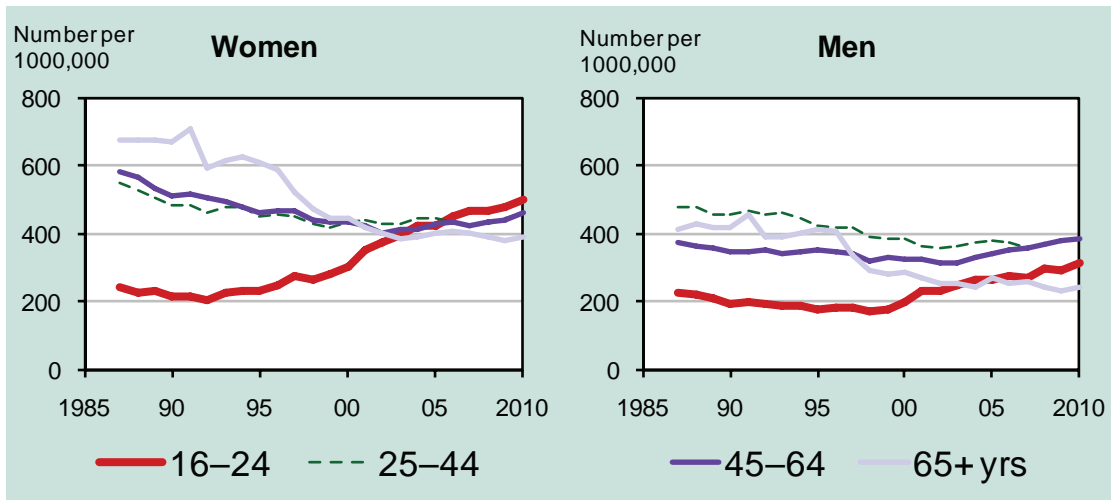


Figure 12. Inpatient psychiatric care

Number of people per 100,000 inhabitants cared for on an inpatient basis* by the general psychiatric or child and youth psychiatric care services. Women and men in various age groups, 1987–2010.

*ICD codes F20–F48.

Source: National Patient Register, Swedish National Board of Health and Welfare

Table III. Other health problems among people suffering from anxiousness, nervousness or anxiety (angst)

Percentage of women and men aged 16–24 with other health problems who also experience – or do not experience – feelings of anxiousness, nervousness or anxiety. Averages for 2004–2005.

	Women		Men	
	Moderate or severe problems of anxiousness, nervousness or anxiety		Moderate or severe problems of anxiousness, nervousness or anxiety	
	Have	Do not have	Have	Do not have
	Per cent		Per cent	
The past two weeks:				
Felt sad or depressed the entire time or part of the time	69	24	64	16
Sleeping problems	45	18	46	14
Constant fatigue	28	10	20	6
Recurrent headaches	38	19	18	8
Pain in the shoulders, neck or shoulder blades	54	35	35	17
Back pains, back ache, hip or sciatic pains	42	27	34	20
No exercise	10	6	15	9
Smoked on a daily basis	22	14	16	10
Overweight or obesity (BMI >= 25)	13	14	23	21

Source: Survey of Living Conditions (ULF), Statistics Sweden

nervousness and anxiety smoke and are physically inactive than young people who do not experience these problems. The prevalence of overweight in both groups is approximately the same.

Hospitalisation with mental ill-health more frequent among young people

The proportion of young people admitted for psychiatric inpatient care has risen steadily since the second half of the 1990s. Figure 12 shows that the increase

in the percentage of referrals for inpatient psychiatric care only applies to young people, not the elderly. The increase has been particularly large among young women. In 2010, approximately 0.5 per cent of women and 0.3 per cent of men in the 15–24 age group were treated on an inpatient basis by the child and youth or general psychiatric care services.

However, most patients suffering from a mental illness were not treated in a hospital but as outpatients. As national psychiatric outpatient care statistics are only available for the most recent years, no

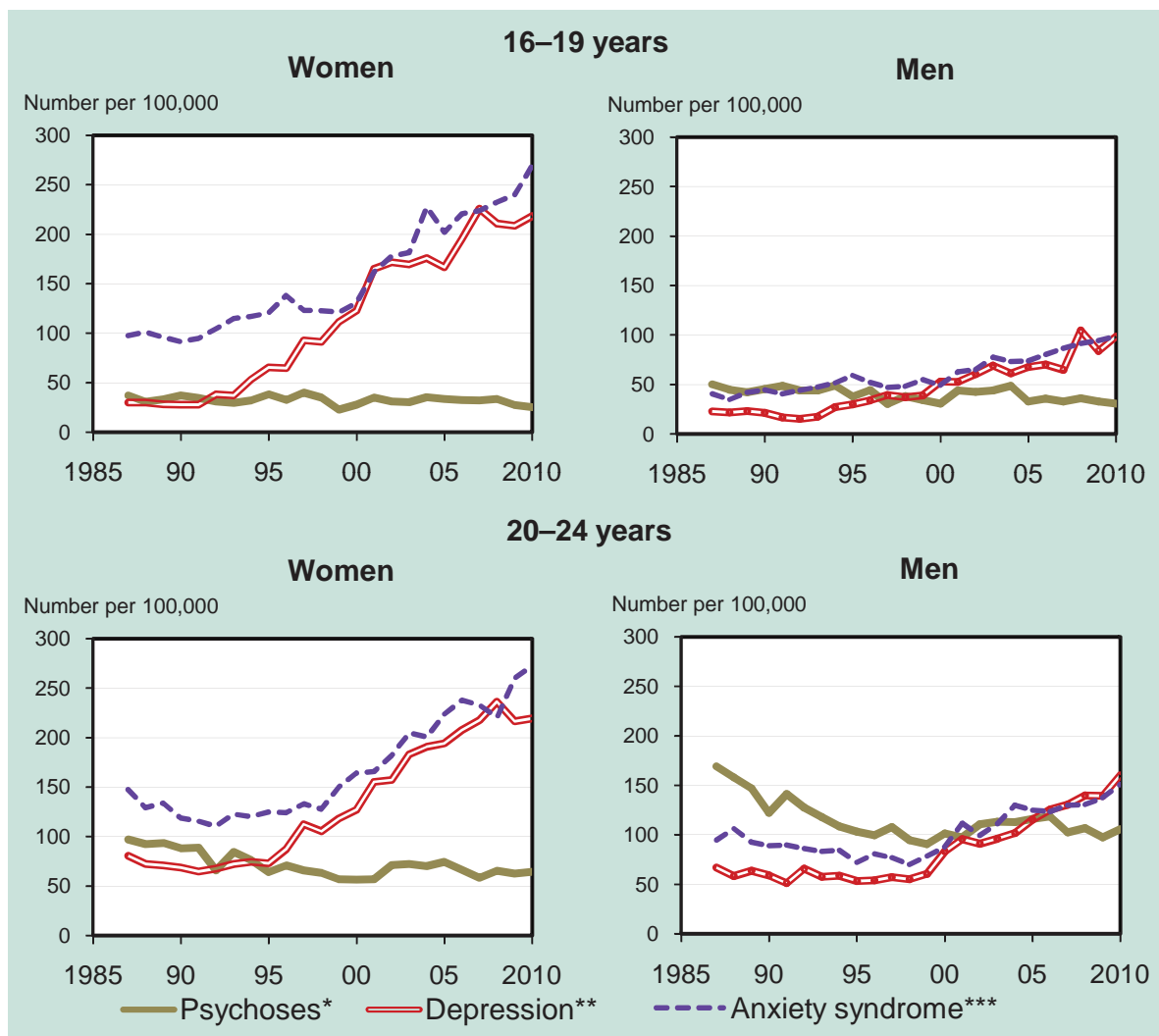


Figure 13. Inpatient care for young people with various mental illnesses

Number of people per 100,000 inhabitants hospitalised with various mental illnesses. Women and men aged 16–19 or 20–24, 1987–2010.

*ICD codes F20–F29. **ICD codes F30–F39. ***ICD codes F40–F48.

Source: National Patient Register, Swedish National Board of Health and Welfare

trends can yet be clearly discerned. However, psychiatric inpatient statistics have been available from Stockholm county council for some time; these show that the number of young patients has increased [6].

Figure 13 shows that it is mainly treatment for depression and anxiety syndrome which has become more frequent. Hospitalisation for psychoses has remained largely unchanged for both sexes. Significantly more women than men are hospitalised with depression and states of anxiety.

Self-injury

The suicide rate among young people has not risen in the last 15 years, but neither has it declined

(Figure 14), as it has in every other age group (see Figure 2 in Chapter, 6, Psychosocial Stresses and Stress-related Problems). Suicide is still less frequent among young people than among older people, and pre-teen suicide is very rare. However, the rate gradually rises during the teenage years, levels out in young adulthood and remains approximately the same up to the age of 30 (Figure 1). Twice as many young men as young women take their own lives.

Suicidal thoughts and suicide attempts are relatively frequent. The 2007 Swedish National Institute of Public Health public health survey found that, 20 per cent of women and 13 per cent of men aged 16–29 reported having had suicidal thoughts at some time in their lives. Six per cent of women and 4 per cent of men have attempted suicide at some point.

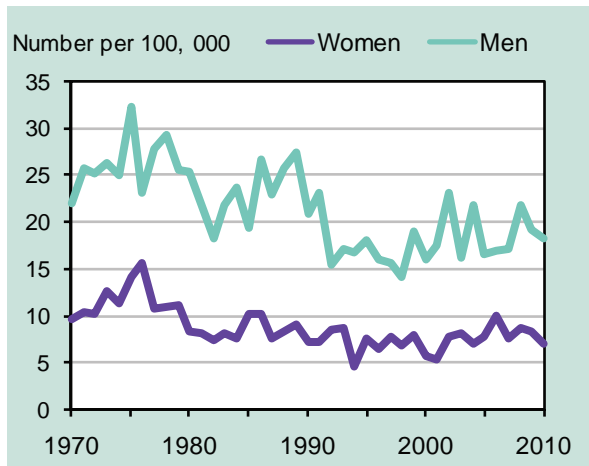


Figure 14. Suicide among young people

Number of people per 100,000 inhabitants who have died by suicide (including inconclusive cases). Women and men aged 16–24, 1970–2010.

Source: *Cause of Death Register, the National Board of Health and Welfare*

The rate of hospitalisation as a result of suicide attempts or other self-destructive behaviour rose significantly among women 16–24-year-olds from the beginning of the 1990s until 2007, but has since declined (Figure 15). Although the number of suicide attempts was also rising among young men, twice as many women as men are hospitalised for suicide attempts in 2010. In the 16–24 age group, 300 young women per 100,000 inhabitants and 150 young men per 100,000 inhabitants were hospitalised. Suicide attempts are much more frequent among young people than among middle-aged and elderly people. Approximately 90 per cent of suicide attempts by women and 80 per cent of attempts by men involve self-poisoning, usually with medical drugs.

A significantly higher proportion of women born in the 1980s have been hospitalised for suicide attempts compared with women born in the 1970s (Figure 16). This applies particularly to women in their late teens. In 2005–2007, suicide attempts were most frequent among women aged 19 and among men aged 22.

Lifestyle and living habits

Youth is the period when people's living habits are formed. These habits can be critical for people's health throughout their life. Lifestyle and living habits may mark adherence to a particular group. They may also have an important function in expressing identity [7]. Living habits play an important part in forming one's gender identity.

People's eating and exercise habits are informed among other things by an ideal, aesthetic body image that is often gender-specific. Certain alcohol and

tobacco products, for example, acquire a gender-specific identity – a kind of gender labelling. Men more often choose beer, women are more partial to wine. 'Snoose' tobacco¹ is almost exclusively used by men, etc. However, these patterns and ideals vary over time and can be influenced.

Youth itself often involves a specific lifestyle which in most cases is modified later in life. Living habits also change in the course of a person's life, for instance on moving into one's first own home, making the transition from student life to working life, or having children. For example, women and men consume the most alcohol between the ages of 20 and 24, after which consumption declines with age. The trends affecting various living habits critical to good health are discussed below, along with a section on body weight and eating disorders.

Tobacco use

Smoking has declined sharply among young people and in the population as a whole, while remaining more common among women than men since the 1980s or earlier (Figure 17). At the beginning of the 1980s, 35 per cent of women and 25 per cent of men aged 16–24 smoked on a daily basis. In 2010, the figures had dropped to 11 per cent for women and 14 per cent for men.

More girls than boys smoke in the 9th grade as well, a correspondence that has remained unchanged since the beginning of the 1980s according to classroom studies conducted by the Swedish Council for Information on Alcohol and Other Drugs (CAN) (Figure 18). In 2011, 12 per cent of girls and 8 per cent of boys smoked, compared with 18 and 14 per cent respectively 15 years ago, when the proportion of smokers was highest [8].

However, the period from 2005 to 2010 saw a marked rise in smoking among 9th grade pupils, but in 2011 smoking declined again.

In 2011, 6 per cent of boys used 'snoose' tobacco on a daily or almost daily basis, as did less than 1 per cent of girls [8]. The percentage of 9th grade pupils who use 'snoose' peaked around the turn of the millennium and has subsequently declined.

The study Children's Smoking and Environment in Stockholm County (BROMS) followed tobacco use by a group of school pupils from the 5th grade up to and including three years after leaving compulsory school [9]. The study shows that the largest increment of new smokers occurs in the final two years of compulsory school (Figure 19). After the 9th grade, not many boys take up smoking. However, there is an increase in the percentage of boys who use 'snoose' after leaving compulsory school, while the percentage of girls who smoke continues to increase, even after compulsory school. Girls up to the age of 18 take in

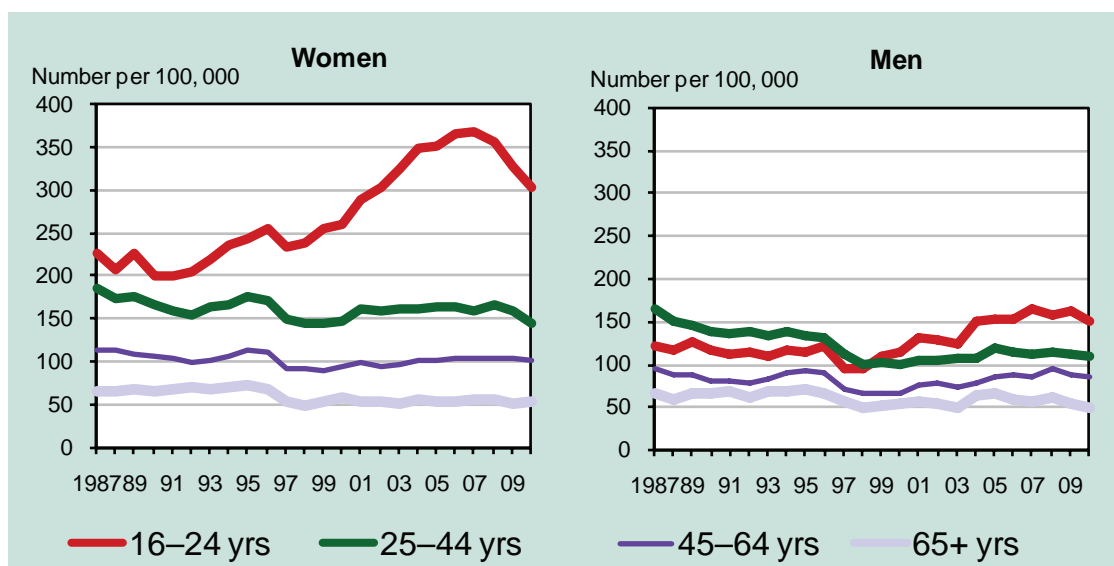


Figure 15. Suicide attempts 1987–2010

Number of people per 100,000 inhabitants hospitalised for suicide attempts and other self-inflicted injuries (including inconclusive cases). Women and men in various age groups, 1987–2010.

Source: National Patient Register, Swedish National Board of Health and Welfare

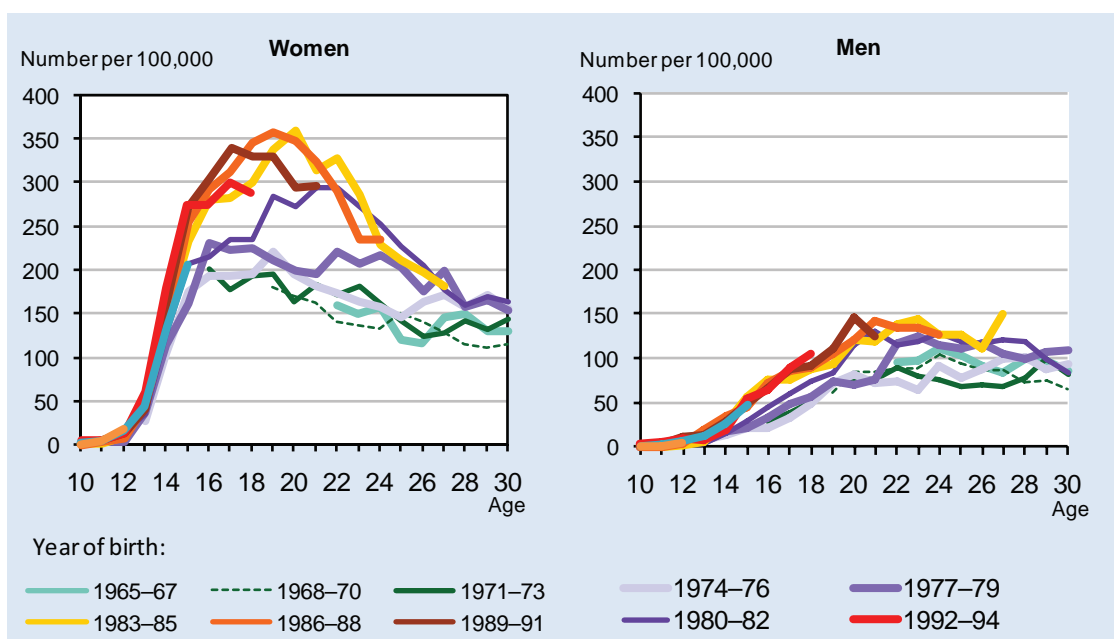


Figure 16. Suicide attempts by age and year of birth

Number of people per 100,000 inhabitants hospitalised for suicide attempts and other self-inflicted injuries (including inconclusive cases). Women and men in various age groups, 1987–2010.

Source: National Patient Register, Swedish National Board of Health and Welfare

less nicotine overall than boys but are exposed to more tobacco smoke.

Alcohol and drugs

Alcohol consumption by schoolchildren in the 9th grade rose during the second half of the 1990s.

Consumption peaked for girls in 2005 and for boys in 2000 but has since declined (see Figure 7 in Chapter 11, Health Consequences of Alcohol and Narcotics Abuse) [8]. Drinking to the point of intoxication in the 9th grade essentially follows the same trend, declining in recent years following a rise in the 1990s. Boys drink somewhat more than

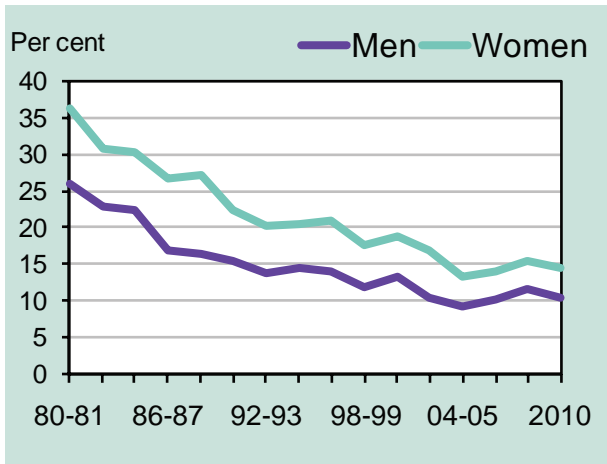


Figure 17. Daily smokers in the 16-24 age group
Percentage of people who smoke on a daily basis. Women and men aged 16-24, 1980-2010*.
Source: *Survey of Living Conditions (ULF)*, Statistics Sweden.

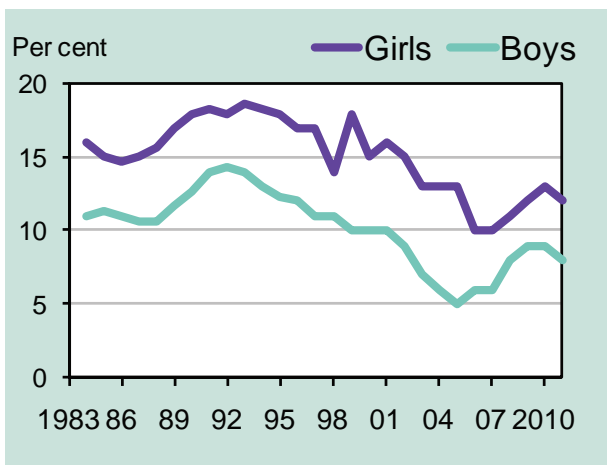


Figure 18. Smoking in the 9th grade of compulsory school
Percentage of girls and boys who smoke on a daily or almost daily basis, 1983-2011*.
*Three-year moving averages.
Source: *Swedish Council for Information on Alcohol and Other Drugs (CAN)* [8]

girls on average and become intoxicated slightly more often.

The alcohol habits of upper-secondary school pupils have also been studied since 2004. The findings show that alcohol consumption among young men in upper-secondary school has declined. Among women the amount of alcohol consumed was on the same level until 2011 when a small decline is seen. Women and men in the 2nd year of upper-secondary school drink more alcohol than pupils in the 9th grade of compulsory school. Gender disparities are significantly greater in upper-secondary school.

The period since the 1970s has seen an increase in the number of school pupils who drink no alcohol at all. In 2011, 41 per cent of girls and 44 per cent of boys in the 9th grade, and 15 per cent of girls and 17

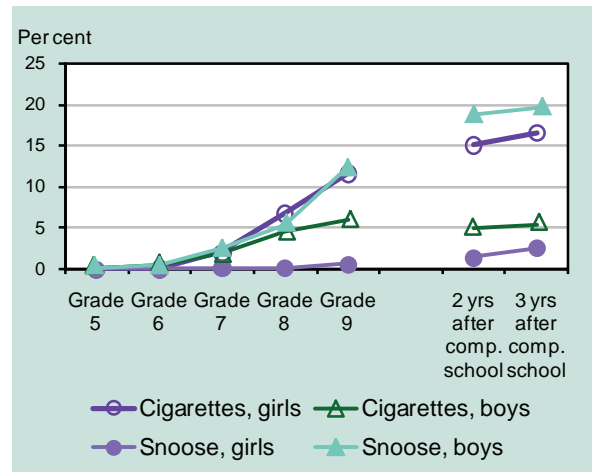


Figure 19. Establishment of tobacco use
Percentage of girls and boys who have smoked or used 'snoose' on a daily basis. A group of boys and girls was followed from the 5th grade of compulsory school until three years after they had left compulsory school, 1998-2005.
Source: *Children's Smoking and Environment in Stockholm County (BROMS)*

per cent of boys in the 2nd year of upper-secondary school respectively reported that they drank no alcohol in the last 12 months.

The alcohol habits of older young people are not as well researched. The market research companies TNS-SIFO and Synovate Sweden, among others, have carried out studies on the 16-24 age group. However, changes in procedures between studies have made it more difficult to assess the trend [8]. It seems, however, that alcohol consumption among 16-24-year-olds rose in the 1990s, as well as among 9th grade pupils. On the other hand, no similar decline could be observed at the beginning of the 2000s, as in the case of children in the 9th grade.

Men aged 20-24 drink more alcohol than all other age groups of women or men. They consume an average of 20 tins of beer weekly. Among women, consumption is also highest in the 20-24 age group, 9 tins per week.

Drug use, too, became more widespread in the late 1990s [8]. In 2011, 6 per cent of girls and 9 per cent of boys in the 9th grade had tried drugs at some point, and 1 and 2 per cent respectively had used drugs in the previous month. In the 2nd year of upper-secondary school 14 per cent of girls and 20 per cent of boys had tried drugs at some point, and 2 and 6 per cent respectively had used drugs in the previous month [8].

Hospitalisation with alcohol- and drug-related diagnoses

The number of people in the 16-24 age group hospitalised with alcohol- and drug-related diagnoses has grown since the beginning of the 1990s (Figure 20). Hospitalisation with alcohol-related diagnoses was

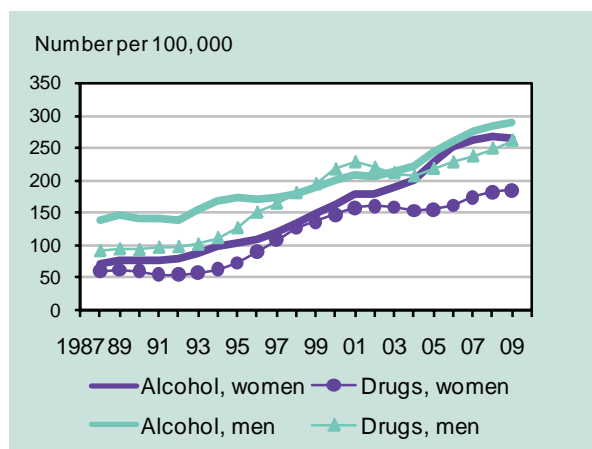


Figure 20. People hospitalised with alcohol- and drug-related diagnoses

Number of people per 100,000 hospitalised at some time during the year as a result of alcohol*- and drug**-related diagnoses. Women and men aged 16–24, 1987–2010***.

*Toxic effect of alcohol (ICD code T51) or mental or behavioral disorders caused by alcohol (ICD code F10). **Compiled by the Swedish National Board of Health and Welfare [10]. ***Three-year moving averages.

Source: National Patient Register, Swedish National Board of Health and Welfare

twice as frequent for men as for women at the beginning of the 1990s, but now it is approximately the same. More men than women are hospitalised with drug-related diagnoses, and the gender disparity is growing. Currently, the gender disparity is considerably greater for drug-related than for alcohol-related diagnoses. Alcohol and drug habits and their health consequences are discussed in greater detail in Chapter 11, The Health Consequences of Alcohol and Narcotics Abuse.

Exercise and eating habits

Two out of every three people aged 16–24 exercise on a regular basis. Women as men now exercise in equal numbers, unlike the 1980s, when men exercised more (Figure 21). The percentage of people who do not exercise at all has declined among women but not among men. More young men than women do not exercise – 11 per cent and 5 per cent respectively.

More young men than women take part in some form of organised training. According to studies by the Swedish National Sports Federation, just over half of all young people aged 13–20 train and compete in a sports club or association [11]. Football and indoor bandy are most popular among boys, while girls tend to prefer football and riding. Organised training is more common among young people who live in the countryside, live in detached homes or live with both parents. Around 80 per cent of those who do not train with a sports club or association do so on

their own. The percentage of young people who train in an organised way declines with age, while the percentage of those who train on their own increases with age. Finally, the National Sports Federation has noted a slight increase in organised sports participation in the 2000s.

Most young people eat lunch very nearly every day. However some skip lunch a few times a week. Among girls aged 16–18, 14 per cent go without lunch several times a week, compared with 7 per cent of boys [12]. Young people with well-educated mothers are more likely to have school lunch than those with less well-educated mothers. Eating fruit and vegetables also has a social gradient: girls with well-educated mothers eat more fruit and vegetables than girls with less well-educated mothers.

Consumption among young people of fruit and vegetables as opposed to sweets and soft drinks may provide an indication of how healthy their eating habits are (Figure 22). According to the Survey of Living Conditions (ULF), more young people of both sexes in the 16–19 age group eat fruit and vegetables than those in the 20–24 age group. Fewer men aged 20–24 eat chocolate and sweets and drink soft drinks compared with teenage men. Among women aged 20–24, however, the percentage who eat sweets is as high as among teenage girls. A total of 20 per cent of women and 40 per cent of men aged 16–24 do not eat fruit and vegetables on a daily basis. Men drink considerably more soft drinks than women, but the differences are smaller in terms of the consumption of chocolate, sweets and chips.

Body weight

Overweight and obesity have become more prevalent among young people, with the highest rate of increase in the first half of the 1990s (Figure 23). Fifteen per cent of all women aged 16–24 are either overweight or obese, while the figure for men is 23 per cent. These percentages are based on self-reported weight and height data and may therefore be an underestimate. Since the end of the 1990s, the increase in overweight among young women has slowed, while the prevalence of overweight among men continued to rise until very recently. Obesity (BMI over 30) is equally prevalent in both sexes, with an occurrence of 4 per cent in 2010.

The prevalence of underweight and overweight among young women in 2004–2005 was approximately the same. Among young men, however, overweight was four times more prevalent than underweight. This disparity may be due to the fact that young women and young men have different

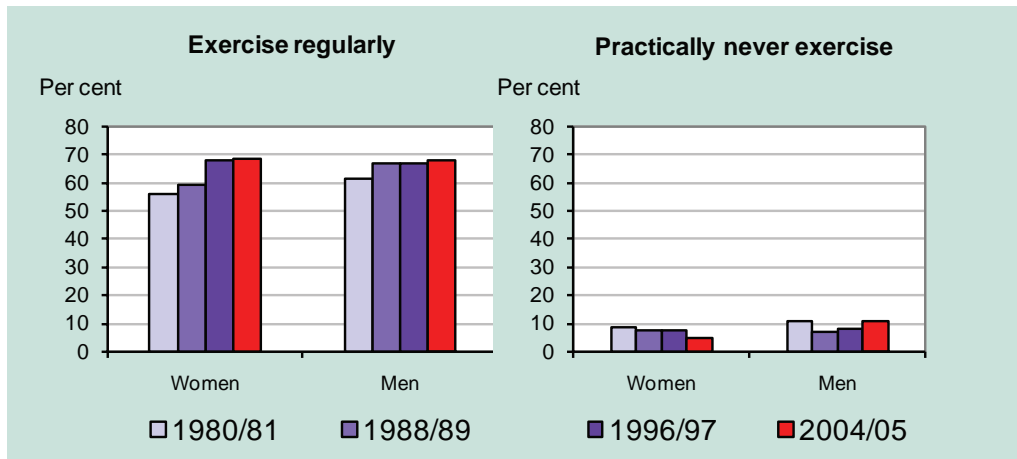


Figure 21. Exercise habits among young people

Percentage of young people who reported exercising on a regular basis, or who reported that they did practically no exercise at all. Women and men aged 16–24, 1980–1981, 1988–1989, 1996–1997 and 2004–2005.

Source: Survey of Living Conditions (ULF), Statistics Sweden.

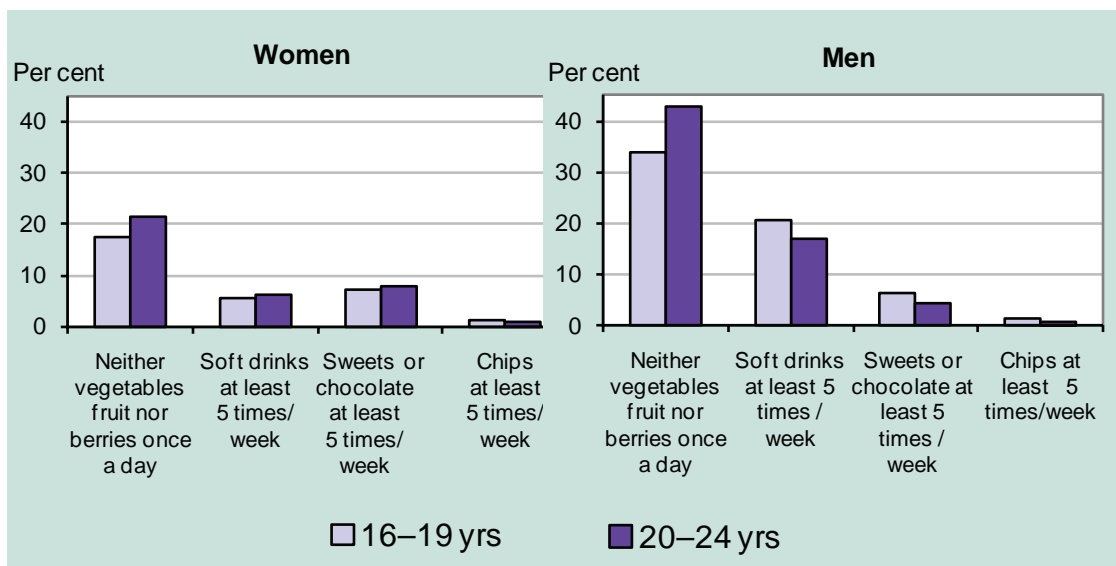


Figure 22. Eating habits among young people

Percentage of young people who ate neither vegetables, fruit nor berries daily, or who drank soft drinks, ate sweets and chocolate, or ate chips at least five times a week. Women and men aged 16–19 or 20–24, 2004–2005.

Source: Survey of Living Conditions (ULF), Statistics Sweden

ideal body images [13] and associated living habits, which can in turn affect body weight.

Underweight (BMI < 18.5) has become more prevalent among young women, rising from 7 per cent in 1996–1997 to just under 10 per cent between 2000 and 2005 [14].

Eating disorders

Weight and body shape are crucial to the way people who suffer from eating disorders view and value

themselves. Attempts to control the body lead to eating disorders which in turn can result in malnutrition, underweight or overweight. However, by no means everyone who is overweight or underweight suffers from an eating disorder.

There are different types of eating disorder. Anorexia nervosa is characterized by self-starvation, while people with bulimia nervosa are compulsive eaters who then try to get rid of the food they have eaten by vomiting. A third type is binge eating. This resembles bulimia nervosa, but the individual does

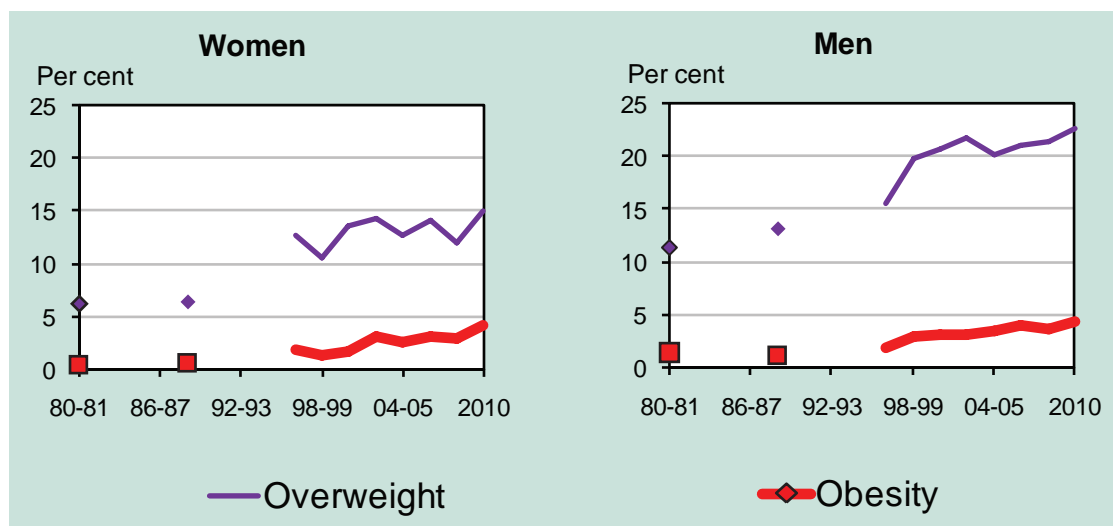


Figure 23. Overweight and obesity among 16–24-year-olds

Percentage of young people suffering from overweight* and obesity**, women and men aged 16–24, 1980–1981 to 2010.

*Overweight: $25 \leq \text{BMI} < 30$. **Obesity: $\text{BMI} \geq 30$.

BMI calculation based on self-reported data on height and weight.

Source: Survey of Living Conditions (ULF), Statistics Sweden.

not try to get rid of the food that she or he has eaten and risks becoming overweight instead. At least 3 per cent of all young women have one of these eating disorders. In addition, there are so-called non-specific eating disorders that do not meet the criteria for anorexia nervosa, bulimia nervosa or binge eating.

Anorexia nervosa is approximately ten times more prevalent among young women than young men [15] and is estimated to occur in 0.2–0.4 per cent of women aged 12–25 [16]. Approximately 1 per cent have bulimia nervosa and binge eating occurs in 2–3 per cent of young people. Anorexia is usually more common than bulimia in the teenage years, whereas bulimia is more frequent in the post-teenage years. Non-specific eating disorders are probably three to four times more common than the specific disorders [16].

Anorexia, the most serious eating disorder, often makes its first appearance in the teenage years [17]. The illness often leads to a number of physical complications, such as *amenorrhea* (absence of menstruation), stomach and intestinal issues, fatigue, etc. If self-starvation continues for a prolonged period, the condition can become life-threatening. The number of girls who are hospitalised with anorexia nervosa has tripled since 1990, while mortality from the disease has declined drastically [18]. This suggests that more people are being provided with care and treatment, as opposed to an increase in the number of people developing the illness. Nor does a review of international research in the field show any clear signs that anorexia has become more common [19].

A follow-up study of just over 6,000 Swedish women hospitalised with anorexia nervosa at some time between 1973–2003 showed that the subjects were six times as likely to die prematurely as other women, with an elevated risk of death for up to 20 years after hospitalisation. Of the 265 women who died, self-starvation was the direct cause in at least 39 cases. The most frequent cause of death was suicide, although many had also died as a result of drug abuse. Most women in the study had developed the disease in their teenage years, but mortality was highest among those who were hospitalised for the first time at the age of 20–30 [20].

Why growing numbers of young people suffer from impaired mental wellbeing

The reasons for the increase in mental health problems among young people remain unclear. As reported above, not only self-reported problems has increased among young people; more young people have received inpatient psychiatric care. The diagnoses which have increased the most in inpatient psychiatric care are depression and states of anxiety, and suicide attempts. This trend accords with what one would expect assuming a correlation between self-reported mental ill-health and psychiatric morbidity. Thus the increase in self-assessed mental ill-health in questionnaires and interviews cannot be explained solely in terms of efforts by young people to find other means of responding to and expressing mental health problems. Rather, the findings show that trends in

self-reported complaints and medically diagnosed mental ill-health mirror one another.

The explanation of why so many more young people report having impaired mental health must be sought in changes affecting large segments of the young population. These may be cultural or other radical changes at societal level affecting a very large number of people. Another possibility is that there have been changes closely associated with certain environments where many young people spend their time, for example the home, school or recreational environment. It could also be a matter of numerous smaller changes which taken individually may not affect the majority of young people but which together could help explain changes in the group as a whole. A combination of these explanations is probably at the root of the increase in mental health problems among young people. Some major changes which in recent years may have affected the mental health of young people are examined below. This does not preclude the existence of other potentially significant changes in the living habits of young people. However, there is insufficient knowledge about the effect of most living habits on young people's mental health as well as a lack of statistics showing how these habits may have changed.

Increasing individualisation among young people

There is evidence of growing individualisation among today's young people. The term refers to the prioritisation of a person's own aims in life over, for example, tradition, religion or the interests of the nation or group. The scientific literature provides some support for the idea that individualisation and other kindred cultural changes may have contributed to the increase in the prevalence of mental health problems [19]. The World Value Study undertakes periodic questionnaire-based surveys of attitudes of adults in nearly 100 different countries [21]. The attitudes that differ the most between countries are summarised for two dimensions. In the first dimension, a positive attitude towards traditional authorities such as God, country and parents is set against a more sceptical, secular attitude. In the second dimension, the emphasis on survival and material conditions is contrasted with the striving for individual self-realisation. According to the study, Swedes score highest on scepticism and secular values, and aspire most strongly to self-realisation. The SOM Institute studies (SOM = society, opinion, mass media) found that the percentage of 15–29-year-olds in Sweden who value, for example, a "life full of pleasure" or a "comfortable life" has increased since the 1980s [22]. Depression and anxiety syndrome have also been linked with

individualisation at the national level in one study [23], while in other studies suicide has been shown to have a negative correlation with religiosity; the higher the degree of religiosity, the lower the incidence of suicide [22–24].

However, studies showing more direct links between changing attitudes among individuals and the development of mental ill-health are lacking. Nor has it been established that greater individualisation is wholly detrimental to mental health. The process of individualisation has been underway for many years now, during which time human beings have secured greatly enhanced opportunities to influence their own situation, a development usually associated with better mental health.

It is conceivable that individualisation has contributed to a gradual international trend towards more mental health problems in the past 60–70 years [24]. However, it is unlikely to be the main cause of a doubling – or even tripling – of the percentage of young people with mental health problems in Sweden since the end of the 1980s. Moreover, the rise in the number of persons with complaints has been less pronounced in Denmark, Finland and Norway, despite the close similarity in socioeconomic development in all four countries [19].

Fewer job opportunities for young people

The economic crisis of the 1990s had an adverse impact on the labour market for young people and may have involved changes affecting a large segment of the young population. These may have contributed both to a decline in well-being and to increasing mental ill-health. Figure 24 shows that the percentage of young people employed full time fell sharply between 1990 and 1993. Nor did the labour market for young people recover as well following the crisis as it did for other groups of gainfully employed people (see Chapter 4, Health in the Working-Age Population). Employment among 16–19-year-olds had already begun to decline in the 1970s. The rising incidence of mental health problems has been confined to people of working age. The fact that pensioners have not been affected suggests that the increase in the incidence of mental health problems may have been due to changes in the labour market.

More 16–19-year-olds neither work nor study

A quarter of young women and nearly a third of men in the 16–19 age group had a full-time job in 1990. Three years later, just under 10 per cent had a full-time job (8 per cent of women and 11 per cent of

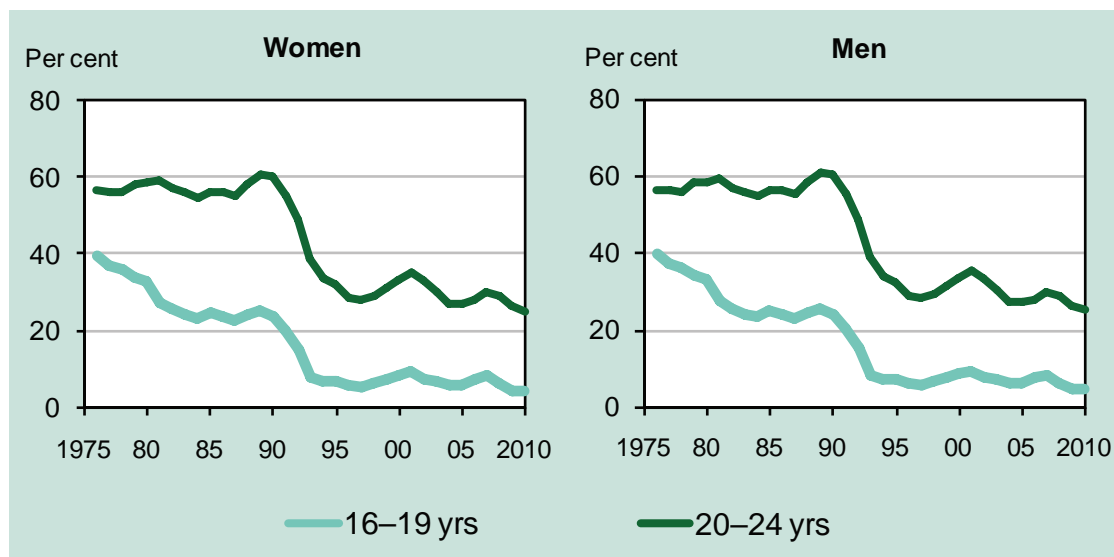


Figure 24. Percentage of young people employed full time

Percentage of women and men aged 16–19 or 20–24 who worked full time* in 1976–2010.

*People with a full-time employment contract. The percentage who actually worked full time during the week in which measurements were conducted is even lower. Since 2008 15-year-olds are included in the 16–19 age group in the figure.

Source: *Labour Force Studies, Statistics Sweden*

men). The loss of full-time jobs meant in practice that young people went on to upper-secondary school after compulsory school. In 2007 over 99 per cent went on to upper-secondary school, compared with 85 per cent at the end of the 1980s.

The upper-secondary school reform introduced at the beginning of the 1990s abolished the one- and two-year educational programmes and replaced them with three-year programmes. Grades became goal-oriented and everyone is now eligible for admission to an upper-secondary school irrespective of their grades in compulsory school. Those who do not have passing grades in Swedish, mathematics and English are referred to the individual programme, in which approximately 9 per cent of young people in a given pupil batch are enrolled.

Dropping out of school has become more frequent among young people. One in every three pupils now finishes upper-secondary school without having obtained the basic qualifications for admission to an institution of higher education [25]. Most dropouts occur late in the 3rd year. Swedish B is the core subject course which most pupils fail to get passing grades in. In the first half of the 1990s, there was a significant rise in the percentage of young people with a three-year upper-secondary school education, and thus also in the percentage of those qualified for higher education. In the second half of the 1990s, however, the trend reversed, with a decline in the percentage of pupils with basic university entrance

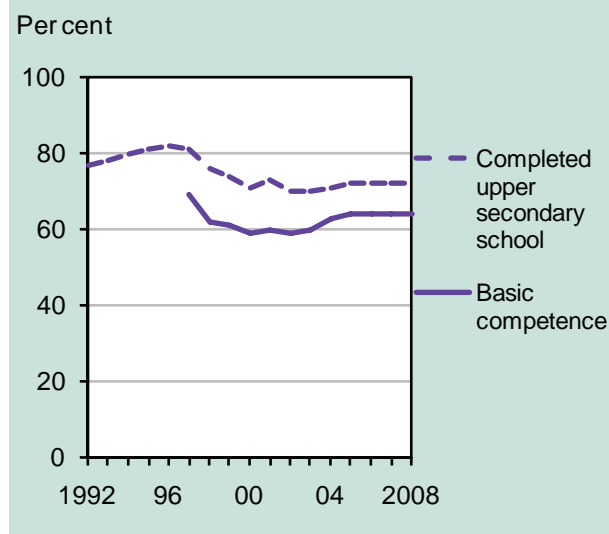


Figure 25. Pupils who completed upper-secondary school education with basic qualifications

Percentage of 20-year-olds who completed upper-secondary school education and obtained basic qualifications for admission to university or other institution of higher education, 1992–2008.

Source: *Swedish National Agency for Education*

qualifications. The reason was that more pupils dropped out of upper-secondary school or finished the third year without obtaining a leaver's certificate (Figure 25). Two in every three pupils who failed to obtain a certificate remained in upper-secondary school for the entire third year. The percentage of

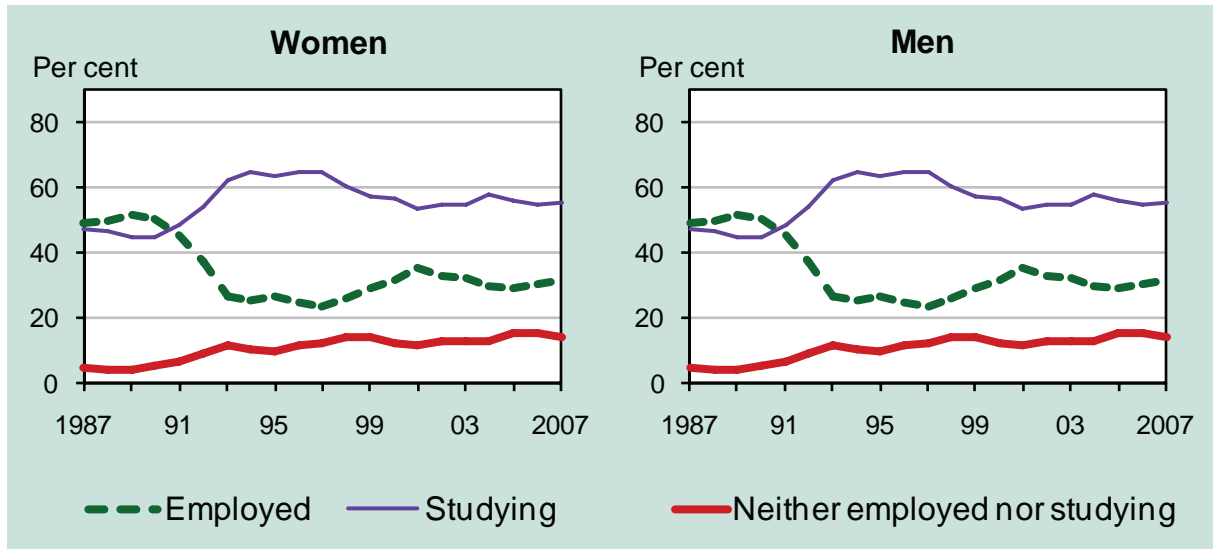


Figure 26. Employment and studies among 16–19-year-olds

Percentage of employed, studying, and neither employed nor studying. Young women and men aged 16–19, 1987–2007.

Source: Labour Force Studies, Statistics Sweden²

pupils who complete upper-secondary school and obtain a leaver's certificate varies considerably from one municipality or urban district to another [26].

The upper-secondary school system has been unable to fully make up for the lack of employment opportunities for 16–19-year-olds. The percentage of unemployed young people who do not study, do military service or work in the home began to rise in 1990 (Figure 26), from 3–4 per cent to over 15 per cent when the group was at its largest in the mid-2000s. Since the mid-1980s, the municipalities are required to follow up young people who neither study nor work.

Labour market prospects for young people who have completed the greater part of their upper-secondary school education are the same as for those who have obtained a leaver's certificate, according to a study by the Swedish National Agency for Education [25]. However, it is more difficult for pupils who have never attended upper-secondary school, or who have dropped out in the 1st or 2nd years, to enter the labour market.

A Statistics Sweden study also showed that dropping out of upper-secondary school led to greater difficulty in accessing the labour market [27]. Young dropouts were also more likely to need financial assistance (social security benefit) and take early retirement. Some 45 per cent of those who had not completed upper-secondary school lived for a time during the following five years in a household receiving social security benefit, compared with 13 per cent of those who had completed upper-secondary school. Four per cent of young people who lacked a leaver's certificate lived in households receiving disability

pensions or sickness benefits, compared with 0.5 per cent of young people who received final certificates. A third of the women reported that they had dropped out of upper-secondary school because of school fatigue, as did half the men. A fifth of the women and one out of every ten men reported that they had dropped out due to a mental or physical illness.

Anxiousness, nervousness and anxiety most frequent among 16–19-year-old girls who neither work nor attend upper-secondary school

There are major disparities in the prevalence of impaired mental wellbeing between women and men in the 16–19 age group (Table IV). Among young people who study, 28 per cent of women and 8 per cent of men report that they suffer from anxiousness, nervousness or anxiety (angst). As the table shows, the percentage is lowest among young people in employment.

Table IV. Anxiousness, nervousness or anxiety (angst) in various groups of 16–19-year-olds

	Women		Men	
	1988/89	2004/05	1988/89	2004/05
	Per cent		Per cent	
Studying	9	28	2	8
Employed	5	19	2	4
Neither employed nor studying	11	37	7	8
Total	8	29	2	7

Source: Survey on Living Conditions (ULF), Statistics Sweden.

While the highest percentage (37 per cent) of young women experiencing feelings of anxiousness, nervousness and anxiety is found among those who neither study nor work, nervousness among young men is, on the other hand, no more prevalent among those who neither study nor work than among other men. Furthermore, other studies show that mental ill-health may be more common among young people who are not part of the workforce, i.e. either do not work or are openly unemployed [29, 30].

Thus the growing prevalence of mental ill-health among 16–19-year-olds is due in part to the decline in the number of people in this age group who work. This means that fewer people belong to the group with the smallest number of mental health problems. At the same time, more people are studying or neither studying nor working. However, the primary reason is that impaired mental wellbeing has become more prevalent in all groups. The increase among students is nevertheless the most important, since most 16–19-year-olds study.

Fewer 20–24-year-olds in employment, more university students, and more who are neither employed nor study

The labour market for 20–24-year-olds was hard-hit by the 1990s crisis (Figure 24). In 1990, before the crisis occurred, approximately 60 per cent of all women aged 20–24 and 75 per cent of all men of the same age – i.e. 412,000 people – had a full-time job. In 1993, 250,000 people in the same age group, or 39 per cent of women and 47 per cent of men, were in full-time employment.

Thus the labour market that awaits young people after their upper-secondary school years has changed. In addition to the sharp decline in the number of full-time jobs, the qualification requirements in many occupational sectors have risen. This means that more young people are compelled to continue studying even after upper-secondary school. The proportion of 20–24-year-olds who study has doubled since 1990 (Figure 27). More women than men have acquired a higher education. According to the Statistics Sweden Education Register, over 40 per cent of all 24-year-old women in 2007 had a post-secondary school education, compared with just over 30 per cent of men of the same age. The percentage of young people who qualify for university has also risen. Despite this, one in every three pupils leaves upper-secondary school without a university entrance qualification. For them, the situation in the labour market has become increasingly difficult.

Impaired mental wellbeing among men is significantly more common in the 20–24 age group than in the 16–19 age group. Twenty-one per cent of 20–24-year-old male students report experiencing problems with anxiousness, nervousness or anxiety (angst), compared with only 8 per cent of 16–19-year-olds. Thirty-nine per cent of female aged 20–24 report having these problems, compared with 28 per cent in the 16–19 age group. Disparities between women and men are thus significantly smaller among studying 20–24-year-olds than among 16–19-year-olds (Table V).

Like employed 16–19-olds, employed 20–24-year-olds experience fewer problems with anxiousness, nervousness and anxiety than young people in other

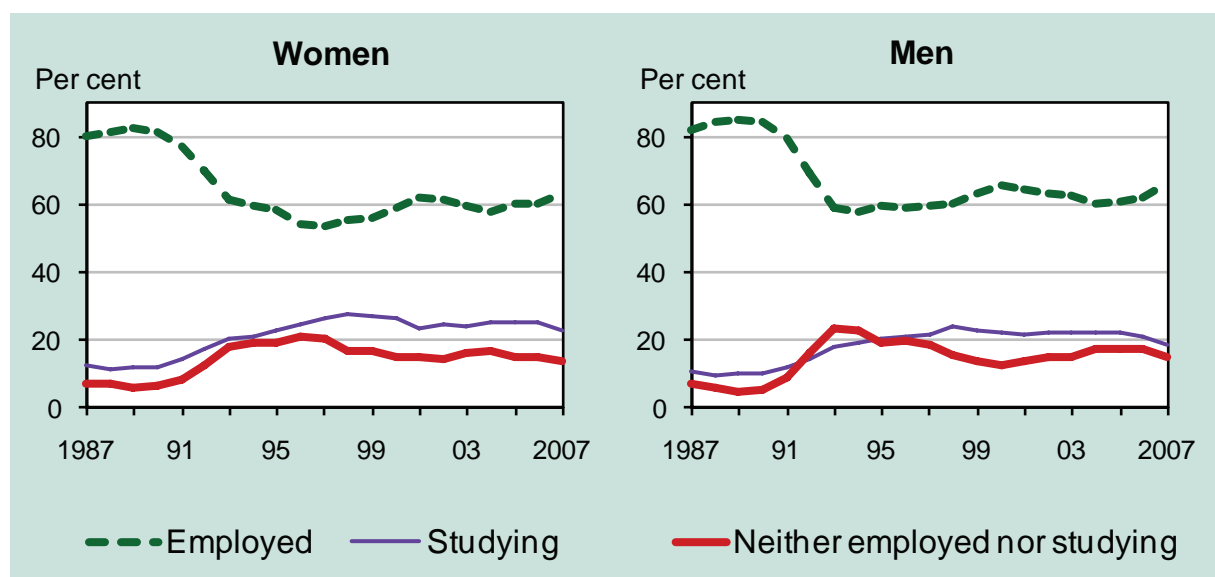


Figure 27. Employment and studies among 20–24-year-olds

Percentage of young people employed or studying, or who were neither employed nor studying. Women and men aged 20–24, 1987–2007.

Source: Labour Force Studies, Statistics Sweden

Table V. Anxiousness, nervousness or anxiety (angst) among 20–24-year-olds, various groups

Percentage of young people (employed or studying and neither employed nor studying) who experience anxiousness, nervousness or acute anxiety. Women and men aged 20–24, 1988–1989 and 2004–2005.

	Women		Men	
	1988/89	2004/05	1988/89	2004/05
	Per cent		Per cent	
Studying	9	39	8	21
Employed	8	27	3	15
Neither employed nor studying	14	30	13	24
Total	9	32	5	18

Source: Survey of Living Conditions (ULF), Statistics Sweden.

groups. As this group naturally comprises many more 20–24-year-olds than 16–19-year-olds, a decline in the percentage of employed people will have a greater impact on the mental health of 20–24-year-olds than on that of 16–19-year-olds.

The incidence of anxiousness, nervousness and anxiety has risen both among 20–24-year-olds (all groups) and among 16–19-year-olds. Mental health problems have also become much more frequent among students, especially among female students, the group of 20–24-year-olds with the highest prevalence of anxiousness, nervousness and anxiety (Table V).

A study targeting university students conducted in the spring of 2007 found that seven in ten respondents reported feeling stressed several days a week. Three in ten had difficulty sleeping and one in four had headaches or stomach aches every week. Women experienced more problems than men [28].

Other countries also subject to changing labour market conditions

The same trend towards fewer young people in employment, more students and more young people who are neither employed nor studying also obtain in other countries. The percentage of employed 15–24-year-olds in eight OECD countries fell from 54 to 46 per cent between 1970 and 2006, while the rise in the proportion of those excluded from the workforce was approximately equal to the decline in the percentage of those employed [29].

However, the above trend is considerably more pronounced in Sweden, which may explain the higher prevalence of mental ill-health among young people. Sweden has remained significantly above the OECD average since the early 2000s in terms of the percentage of young people who are studying rather than working, whereas Sweden previously ranked below average [30]. A comparison across different countries

has shown that the biggest rise in the proportion of young people with mental health problems is in countries with the highest increase in the percentage of young people excluded from the labour force [19].

Study conditions

International research findings indicate that young people are mainly worried about three things: job opportunities, their educational performance and their personal relationships [31–36]. Much of this research is based on studies of 15-year-olds, i.e. young people still at school. As competition in the labour market intensifies, work and education are likely to become a greater worry. Young people in Sweden also believe that studies-related stress is the principal cause of the rise in mental ill-health [19].

Students' work environment may have also deteriorated. Changing conditions in the labour market have meant that upper-secondary school has suddenly become responsible for almost the entire group of young people, compared to the previous figure of approximately 80 per cent. Educational institutions have assumed responsibility for approximately 60 per cent of older young people, compared to the previous figure of around 30 per cent. This rapid expansion may have resulted in teaching problems, and newly incorporated young people may be more disadvantaged and less motivated. These problems, which confront schools at various levels could ultimately affect all young people.

The fact that young people now study longer than ever gives rise to many other changes which may be connected with the increase in mental health problems but about which we know little. For example, more young people are moving to metropolitan areas to study, and it will take them longer to establish themselves in the labour market, find a home and start a family. In many cases, their financial situation limits their ability to leave home and manage on their own [14, 37]. In the 1970s, more than half of all women and a quarter of all men aged 25 had already become parents [38]. Today, only about 20 per cent of women and about 10 per cent of men in the same age bracket have children.

The work environment of young people

Gainfully employed young people generally enjoy better mental health than other young people. However, the percentage of employed young people with mental health problems has also risen since the end of the 1980s. Changes in working conditions for young people may have contributed to this increase. Part-time work, for example, has become more widespread. As Table II shows, part-time employees experience more problems than full-time workers. Monotonous work

and hectic and mentally stressful jobs have also become more common (Figure 28), particularly among men. This deterioration in the work environment may be due to stiffer competition in the labour market. People are probably more inclined to tolerate a poor work environment when the labour market becomes tighter and unemployment is on the rise. In addition, young people often have a worse work environment than other workers.

The Survey of Living Conditions (ULF) has shown that anxiousness, nervousness and anxiety (angst) are linked, along with chronic fatigue, to a person's psychosocial work environment (Table VI). Anxiousness, nervousness and anxiety, along with chronic fatigue, are twice as prevalent among people who state that they have hectic and mentally stressful jobs as among those not exposed to these strains. Monotonous jobs are associated with mental health problems to almost the same degree. Deterioration in the work environment of young people may therefore have contributed to the growing prevalence of mental ill-health.

More alcohol ...

Alcohol consumption among young people has risen sharply since the beginning of the 1990s. It has long been known that mental health problems can lead to increased alcohol consumption, and conversely, that higher alcohol consumption can cause or exacerbate mental health problems [39] (see also Chapter 11, The Health Consequences of Alcohol and Narcotics Abuse). It is therefore probable that increased

alcohol consumption has contributed to the growing prevalence of mental health problems.

... and less sleep

Although many of the changes that have taken place since the 1980s cannot be followed statistically, the picture of young people's leisure activities that emerges from two studies: the Survey of Living Conditions (ULF) and the the Health Behaviour of School-aged Children (HBSC), is fairly unequivocal: young people today are more actively engaged in a very wide range of pursuits. Television viewing appears to be on the rise, as is the use of computers and the internet. The studies also show increases in the percentages of young people who are physically active, feel they are doing well at school, and meet relatives, friends and acquaintances several times a week.

It is difficult to determine whether these changes merely denote a richer, more varied life or whether they, too, could have negative repercussions. One possible effect is that young people's sleeping habits may have been adversely affected. A recent English study suggests that TV viewing and computer games increase the incidence of severe fatigue, but that regular physical activity also does so [40]. Unfortunately, there is no Swedish data to show whether or not young people's sleeping habits have in fact changed. However, a Finnish study has found that the percentage of 15-year-olds who go to bed after 11 pm has risen significantly, from around 20 per cent in 1984 to between 50 and 70 per cent in 1998–2002 [41]. It

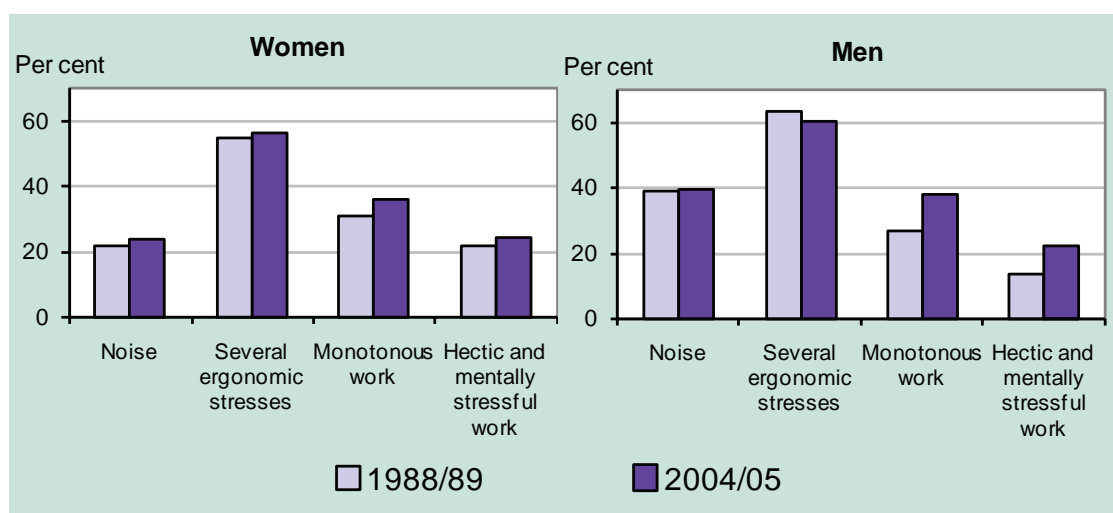


Figure 28. Young people's work environment

Percentage of employed people who experience problems with noise*, ergonomic stresses**, monotonous work and hectic and mentally stressful work. Women and men aged 16–24, 1988–1989 and 2004–2005.

*Noise refers to either continuous noise or occasional deafening noise.

**At least two of the following five types of stress: inappropriate work positions (contorted or otherwise inappropriate work positions); heavy lifting; constant daily sweating due to physical exertion; repetitive and monotonous movements; shaking or vibration.

Source: Survey of Living Conditions (ULF), Statistics Sweden.

Table VI. Work environment and illness among young people

Percentage of people with moderate or severe pain in the neck, shoulders or shoulder blades; pain in the lower back (lumbar region); anxiousness, nervousness or anxiety (angst); and chronic fatigue. Women and men aged 16–24, averages for 2000–2005.

Work environment problems	Moderate or severe pain in the neck or shoulders		Moderate or severe pain in the lower back		Moderate or severe anxiousness, nervousness or anxiety		Always tired	
	Women	Men	Women	Men	Women	Men	Women	Men
	Per cent		Per cent		Per cent		Per cent	
No noise	47	20	35	26	24	14	13	9
Occasional noise, not deafening	61	28	37	31	26	11	17	6
Continuous noise and/or deafening noise	61	31	60 ^h	31	32	14	22 ^h	7
No ergonomic stress*	36 ^l	16 ^l	29 ^l	18 ^l	25	5 ^l	13	6
1 ergonomic stress	44	21	33	23	25	19	14	11
2–3 ergonomic stresses	54	21	41	27	25	10	17	6
4–5 ergonomic stresses	65 ^h	36 ^h	55	41 ^h	30	18	16	10
Not hectic, not mentally stressful	45	18	35	19	23	10	11	7
Hectic or mentally stressful	48	26	37	31	20 ^l	12	14	6
Both hectic and mentally stressful	56	26	44	34	36 ^h	21 ^h	21	13 ^h
Monotonous work	51	25	44	29	35	16	23	10
Varied work	49	23	36	28	21	12	11	7
Unemployed	44	22	32	19	35	21	14	7

*Inappropriate work positions, heavy lifting, constant daily sweating due to physical exertion, shaking or vibration, repetitive movements.

^lThe lowest prevalence of problems.

^hThe highest prevalence of problems.

Source: *Survey of Living Conditions (ULF)*, Statistics Sweden.

is likely that young Swedish people are also going to bed later in the evening.

In 1979–2005, the percentage of young people with sleeping problems rose from 10 to 24 per cent of women aged 16–24 and from 8 to 16 per cent of men of the same age, according to the Survey of Living Conditions (ULF). The percentage of 16–24-year-olds who were often tired also increased during the same period, from 33 to 57 per cent of women and from 25 to 41 per cent of men. Sleep is essential to recovery and thus also to people's physical and mental health. Disrupted sleep is not only a symptom that something is wrong; it can also cause other illnesses (see Chapter 6, Psychosocial Stresses and Stress-related Problems).

Why is impaired mental wellbeing more prevalent among young women?

There are major gender disparities in mental health among young people. Table VII provides a compilation of some important indicators of mental ill-health. The column on the far right shows the differences in relative prevalence of the various indicators among women and men respectively. Roughly twice as many women as men are treated for suicide

attempts, have problems with anxiousness, nervousness or anxiety, and take antidepressants. More than twice as many women as men are hospitalised with depression. On the other hand, suicide and hospitalisation for alcohol and drug abuse are more common among men. Gender disparities are now greater for the most common mental ill-health outcomes among women, but have decreased for the most common outcomes for men. The trend has thus been more negative for women than men.

During childhood, mental ill-health disparities between boys and girls are smaller than during the teenage years. A change comes about among girls in their early teens: self-reported illness increases substantially, and a growing number are treated for suicide attempts, eating disorders, psychiatric diagnoses and drug and alcohol abuse. Mental ill-health among men also becomes more frequent with increasing age, but generally not until the age of 20. Nor is the trend as pronounced as it is among women.

Why then do teenage girls fare worse than teenage boys? Gender disparities in the mental ill-health of adults are usually discussed in the context of hypotheses about gender roles [42, 43], willingness to report [42–49], living habits, socioeconomic conditions

Table VII. Gender disparities associated with various mental ill-health outcomes.

Gender disparities in the prevalence of different types of mental ill-health. Women and men aged 16–24.

Different types of mental ill-health	Prevalence		Absolute difference in the prevalence between women and men	Relative difference in the prevalence between women and men
	Women	Men		
	Number per 100,000		Women–Men	Ratio Women/Men
Depression inpatient care in 2007	192	82	110	2.35
Anxiety conditions inpatient care in 2007	232	116	116	1.99
Suicide deaths in 2006	10	17	-7	0.59
Suicide attempts in 2007	368	165	203	2.23
Alcohol inpatient care 2007	275	286	-11	0.96
Drugs inpatient care 2007	176	244	-68	0.72
	Women	Men	Women–Men	Ratio Women/Men
	Per cent		Percentages*	Times**
Antidepressant medication in 2007	6.8	3.4	3.4	2.00
Anxiousness, nervousness, anxiety in 2003–05	29.0	14.0	15.0	2.10
Sleeping problems in 2003–05	25.0	18.0	7.0	1.42

*Negative numbers indicate a higher percentage of men than women. **Numbers under 1.0 indicate a higher incidence among men.

**Numbers less than 1.0 mean that the incidence is higher among men.

Sources: The Swedish National Board of Health and Welfare Cause of Death Register, Patient Register and Prescribed Drug Register, and the Statistics Sweden Survey of Living Conditions (ULF)

[50–53], vulnerability to assault [54–58] and biology [42, 43, 59–63]. The same kinds of discussion tend to arise in studies of teenagers, although certain explanations are more specific to youth, for example the growing demand in recent years for higher education and the greater focus on personal appearance.

The substantial rise in the percentage of young people who are studying has already been cited as a conceivable cause of the increase in mental ill-health in this group. A Scottish study [64] conducted among 15-year-olds found that girls were more concerned than boys about their school performance. This was cited as the main reason why mental stress had become more prevalent among girls than boys in the period 1987–1999 [36]. A Northern Irish [31] and a Slovenian study [35] both found that girls were more concerned than boys about their school performance, whereas other studies showed either that boys worried more about their academic progress than girls [32] or that there was no appreciable difference [33]. Common to both genders, however, is the fact that worry about school ranks high on a scale of causes for concern among young people [31, 35, 36, 40, 41].

A growing focus on personal appearance may also have been a factor in the growing prevalence of mental ill-health among women. Several studies show that girls worry more about their appearance and weight than boys. The Scottish study, for example, found that greater concern among girls about their appearance were partly responsible for the gender

disparity in mental ill-health, although it did not explain why these differences had become more pronounced in the 1990s. Almost as many girls were as worried about their weight as about not performing well in school. Among boys, weight concerns ranked below concerns about not doing well in school, health, unemployment, being unable to cope with a job, and family relationships [36]. Other research confirms this picture. Young women are more worried about diet, weight and appearance than young men, according to studies of European or American students [65–67]. Two studies have found that girls' body image and self-confidence deteriorate with advancing puberty [68, 69]. One of these also suggests that self-confidence among boys improves during puberty [68]. These gender disparities in self-confidence trends among young people have been borne out by subsequent studies [70–72]. A Swedish study found particularly large gender disparities in the connection between self-esteem and body image [73]. These differences appear to be unique to young people [74]. In addition, girls seem to worry more than boys about their relationships with friends and family members [31, 32, 35, 36].

A number of studies have also examined gender disparities in coping strategies, i.e. methods for managing stress [70, 75–85]. Active, targeted efforts to solve the problems that cause stress have been shown to be most effective [81]; a Finnish study showed that boys used coping strategies to a somewhat greater

extent than girls [84]. Several studies also show that women are more likely to seek social support when dealing with mental stress [70, 75, 80, 82, 83, 85], while more men than women use alcohol as a means of coping with stress [75, 84].

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Note

1. Swedish 'snus', a moist powder tobacco product originally derived from a variant of dry snuff in the early 19th century in Sweden. It is consumed by placing it under the upper lip.
2. Employed, as defined in the Labour Force Survey (LFS), Statistics Sweden refers to people who performed at least one hour of work during the reference week, either as paid employees, self-employed persons (including freelance professionals) or unpaid assistants in a business belonging to a spouse or other member of the same household. Also included in this category are people who were temporarily absent during the entire reference week, but otherwise belonged to the categories above. People taking part in certain types of labour-market policy programs count as employed.

References

- [1] Mäkelä P. Alcohol-related mortality by age and sex and its impact on life expectancy. *European Journal of Public Health*. 1998; 8:43–51.
- [2] Johansson P. ed. The social costs of alcohol in Sweden 2002. Stockholm: 2006. SoRAD Report Series.
- [3] Vägverket (Swedish Road Administration). Barn & ungdom / Ungdom [Children & Youth / Youth]. 04–05–2007 [cited in 2009]; Available from: http://www.vv.se/templates/page3_6439.aspx.
- [4] Vägverket (Swedish Road Administration). Mopedolyckor efter EU-mopedens införande [Moped Accidents Following the Introduction of the EU-Moped]. Vägverket; 2007 [updated 04–05–2007; cited]; Available from: http://publikationswebbutik.vv.se/shopping/ShowItem_3557.aspx.
- [5] Ekstrand A. Hur mår Stockholms ungdomar? En studie av risk- och skyddsfaktors betydelse för psykisk ohälsa [How Healthy Are Stockholm's Young people? A Study of the Importance of Risk and Safety Factors in Mental Illness]. Forsknings- och Utvecklingsenheten, Stockholms stadsledningskontor, 2006.
- [6] Stockholms läns landsting (Stockholm County Council). Folkhälsofar rapport 2007 [Public Health Report 2007]. Stockholm: 2007.
- [7] Chaney D. Lifestyles. London and New York: Routledge; 1996.
- [8] CAN [The Swedish Council for Information on Alcohol and Other Drugs] Skolevers drogvanor 2011 [The Drug Habits of Schoolchildren in 2011], Stockholm.
- [9] Galanti MR, Rosendahl I and Wickholm S. The development of tobacco use in adolescence among "snus starters" and "cigarette starters": an analysis of the Swedish "BROMS" cohort. *Nicotine & Tobacco Research*. 2008 10(2): 315–323.
- [10] Socialstyrelsen (The Swedish National Board of Health and Welfare). Dödsorsaker 2005 [Causes of Death in 2005]. Stockholm: Socialstyrelsen, 2007. Statistik: Hälsa och sjukdomar 2007:15.
- [11] Riksidrottsförbundet. Ungdomars tävlings- och motionsvanor. En statistisk undersökning under våren 2005 [Competitive and Exercise Habits of Young people. A Statistical Study in the Spring of 2005]. 2005. FOU-rapport 2005:6.
- [12] Barnombudsmannen (The Ombudsman for Children in Sweden). Upp till 18 – fakta om barn och ungdom [Up to the Age of 18 – Facts About Children and Youth]. Stockholm: 2007. BR 2007:4.
- [13] Sweeting HN, West PB and Der GJ. Explanations for female excess morbidity in adolescence: evidence from a school-based cohort in the West of Scotland. *BMC Public Health*. Oct 22 2007; 7(1):298.
- [14] Socialstyrelsen (The Swedish National Board of Health and Welfare). Folkhälsa och sociala förhållanden 2008 [Public Health and Social Relationships 2008]. Lägesrapporter 2007.
- [15] Lindblad F, Lindberg L and Hjern A. Anorexia Nervosa in young men: A cohort study. *International Journal of Eating Disorders*. Dec 2006; 39(8):662–666.
- [16] Statens Folkhälsoinstitut (The Swedish National Institute of Public Health). Prevention av ätstörningar – Kunskapsläget idag [The Prevention of Eating Disorders – The Current State of Knowledge]. 2004 [cited. R 2004:40.] Available from: <http://www.fhi.se/upload/PDF/2004/rapporter/r200440preventionavatstorningar.pdf>.
- [17] Hjern A, Lindberg L and Lindblad F. Outcome and prognostic factors for adolescent female in-patients with anorexia nervosa: 9 to 14 year follow-up. *The British Journal of Psychiatry*. Nov 2006; 189:428–432.
- [18] Lindblad F, Lindberg L and Hjern A. Improved survival in adolescent patients with anorexia nervosa: a comparison of two Swedish national cohorts of female inpatients. *The American Journal of Psychiatry*. 2006; 163(8):1433–1435.
- [19] Integrations- och jämställdhetsdepartementet (Ministry of Integration and Gender Equality). Ungdomar, stress och psykisk ohälsa – Analyser och förslag till åtgärder [Young people, Stress and Mental Illness – Analyses and Proposed Measures]. Stockholm: Fritzes; 2006. Slutbetänkande av Utredningen om ungdomars psykiska hälsa. SOU 2006:77. SOU 2006:77.
- [20] Papadopoulos FC, Ekblom A, Brandt L and Ekselius L. Excess mortality, causes of death and prognostic factors in anorexia nervosa. *The British Journal of Psychiatry*. Jan 2009; 194(1):10–17.
- [21] World Values Survey. World Values Survey. The most comprehensive Investigation of Political and Sociocultural change. 2006 [cited 01–16–2001]; Available from: <http://www.worldvaluessurvey.org/>.
- [22] Holmberg S and Weibull L, ed. Lyckan kommer, lyckan går: trettio kapitel om politik, medier och samhälle. SOM-undersökningen 2004 [Luck Comes and Goes: Thirty Chapters on Politics, the Media and Society. The SOM study 2004]. Göteborg: Göteborgs universitet, SOM-institutet; 2005. SOM-rapport nr 36.
- [23] Maercker A. Association of cross-cultural differences in psychiatric morbidity with cultural values: a secondary data analysis. *German Journal of Psychiatry* 2001; 4:17–23.
- [24] Rutter M and Smith D, ed. Psychosocial disorders in young people: time trends and their causes. Chichester: Wiley for Academia Europaea; 1995.

- [25] Skolverket (The National Agency for Education). Skolverkets aktuella analyser 2008. Studieresultat i gymnasieskolan – en statistisk beskrivning av ofullständiga gymnasiestudier [The National Agency for Education's Current Analyses for 2008. Student Results in the upper-secondary school – A Statistical Description of Incomplete upper-secondary school Studies]. Stockholm: 2008.
- [26] Sveriges kommuner och landsting, SKL (Swedish Association of Local Authorities and Regions, SALAR). Öppna jämförelser 2008: Gymnasieskola [Open Comparisons for 2008. The upper-secondary school]. Stockholm: 2008.
- [27] Statistiska centralbyrån, SCB (Statistics Sweden). Ungdomar utan fullföljd gymnasieutbildning [Young people With An Incomplete upper-secondary school Education]. Stockholm: 2007. Tema: Utbildning 2007:04.
- [28] Statistiska centralbyrån, SCB (Statistics Sweden). Högskolestuderandes levnadsvillkor. Enkätundersökning bland högskolestuderande våren 2007 [The Living Circumstances of University and College Students. A Questionnaire Survey of University and College Students in the Spring of 2007]. 2007. Sveriges officiella statistik. Statistiska meddelanden.
- [29] (OECD) OfEC-oad. Labour Force statistics. [cited 01–16–2009]; Available from: <http://webnet.oecd.org/wbos/index.aspx>.
- [30] Statistiska centralbyrån, SCB (Statistics Sweden). Svensk utbildning i internationell statistik 2005 [Swedish Education in International Statistics 2005]. Stockholm: 2005.
- [31] Gallagher M and Millar R. Gender and age differences in the concerns of adolescents in Northern Ireland. *Adolescence*. Winter 1998; 33(132):863–876.
- [32] Gibson JT, Baker CE, Showalter SM, Al-sarraf Q, Atakan SA, Borgen WA, et al. Gender and culture: reported problems, coping strategies and selected helpers of male and female adolescents in 17 countries. *International journal for the advancement of counseling*. Sep 1992; 15(3):137–149.
- [33] Hankin BL, Mermelstein R and Roesch L. Sex differences in adolescent depression: stress exposure and reactivity models. *Child Development*. Jan–Feb 2007; 78(1):279–295.
- [34] Shih JH, Eberhart NK, Hammen CL and Brennan PA. Differential exposure and reactivity to interpersonal stress predict sex differences in adolescent depression. *Journal of Clinical Child and Adolescent Psychology*. Feb 2006; 35(1):103–115.
- [35] Tomori M, Zalar B and Plesnicar BK. Gender differences in psychosocial risk factors among Slovenian adolescents. *Adolescence*. Autumn 2000; 35(139):431–443.
- [36] West P and Sweeting H. Fifteen, female and stressed: changing patterns of psychological distress over time. *The Journal of Child Psychology and Psychiatry*. Mar 2003; 44(3):399–411.
- [37] Persson G, Danielsson M, Rosen M, Alexanderson K, Lundberg O, Lundgren B, et al. Health in Sweden: the National Public Health Report 2005. *Scand J Public Health Suppl* 2006 Jun;67.
- [38] Persson L. Hur många barn får jag när jag blir stor? Barnafödande ur ett livsperspektiv [How Many Children Will I Have When I Grow Up? Childbearing from a Life Perspective]. Stockholm: Statistiska centralbyrån, 2002. Demografiska rapporter 2002:5.
- [39] Malmgren L, Ljungdahl S and Bremberg S. Psykisk ohälsa och alkoholkonsumtion – hur hänger det ihop? En systematisk kunskapsöversikt över sambanden och förslag till förebyggande insatser [Mental Illness and Alcohol Consumption – How Are They Related? A Systematic Knowledge Review of the Connections and Proposals for Preventive Interventions]. Östersund: Statens folkhälsoinstitut, 2008.
- [40] Viner RM, Clark C, Taylor SJ, Bhui K, Klineberg E, Head J, et al. Longitudinal risk factors for persistent fatigue in adolescents. *Archives of Pediatrics & Adolescent Medicine*. May 2008; 162(5):469–475.
- [41] Tynjälä J and Kannas L. Koululaisten nukkumistottumukset, unen laatu ja väsyneisyys vuosina 1984–2002 [Skolbarns sovnor, sömnens kvalitet och trötthet åren 1984–2002 (Schoolchildren's Sleeping Habits, Quality of Sleep, and Fatigue in 1984–2002)]. I: Kannas L, ed. Koululaisten terveys ja terveystähtäytyminen muutoksessa: WHO-Koululaistutkimus 20 vuotta [Skolelevers hälsa och hälsobeteende i förändring: 20 år av WHO:s skolbarns hälsovanor]. Jyväskylä: Jyväskylän yliopisto; 2005.
- [42] Piccinelli M and Wilkinson G. Gender differences in depression. Critical review. *The British Journal of Psychiatry*. Dec 2000; 177:486–492.
- [43] Kuehner C. Gender differences in unipolar depression: an update of epidemiological findings and possible explanations. *Acta Psychiatrica Scandinavica*. Sep 2003; 108(3):163–174.
- [44] Salokangas RK, Vaahera K, Pacriev S, Sohlman B and Lehtinen V. Gender differences in depressive symptoms. An artefact caused by measurement instruments? *Journal of Affective Disorders*. Apr 2002; 68(2–3):215–220.
- [45] Kendler KS, Gardner CO and Prescott CA. Are there sex differences in the reliability of a lifetime history of major depression and its predictors? *Psychological Medicine*. May 2001; 31(4):617–625.
- [46] Mirowsky J and Ross CE. Sex Differences in Distress: Real or Artifact? *American Sociological Review*. Jun 1995; 60(3):449–468.
- [47] Sigmon ST, Pells JJ, Boulard NE, Whitcomb-Smith S, Edenfield TM, Hermann BA, et al. Gender Differences in Self-reports of Depression: The Response Bias Hypothesis Revisited. *Sex Roles*. September 2005; 53:401–411.
- [48] Beyer S. Gender Differences in Self-Perception and Negative Recall Biases. *Sex Roles*. 1998; 38:103–133.
- [49] Wilhelm K and Parker G. Sex differences in lifetime depression rates: fact or artefact? *Psychological Medicine*. Feb 1994; 24(1):97–111.
- [50] Hemström Ö, Krantz G and Roos E. Changing gender differences in musculoskeletal pain and psychological distress. I: J Fritzell and O Lundberg, red. Health inequalities and welfare resources: continuity and change in Sweden. Bristol: Policy Press; 2007. p. 43–66.
- [51] Klose M and Jacobi F. Can gender differences in the prevalence of mental disorders be explained by sociodemographic factors? *Archives of Women's Mental Health*. Apr 2004; 7(2):133–148.
- [52] Statistiska centralbyrån, SCB (Statistics Sweden). Sammanräknad förvärvsinkomst 2005 [Total Earned Income in 2005]. Stockholm: SCB; 2007 [cited 092707]; Available from: http://www.scb.se/templates/tableOrChart_159837.asp.
- [53] Statistiska centralbyrån, SCB (Statistics Sweden). Disponibel inkomst för hushåll efter hushållstyp [Disposable Household Income Classified by Type of Household]. Stockholm: SCB; 2007 [cited 092707]; Available from: http://www.scb.se/templates/tableOrChart_163552.asp.
- [54] Hagquist C, Nilsson T and Forsberg E. Ung i Värmland 1988–2002: en undersökning bland niondeklassare [Young in Värmland 1988–2002: A Study of Grade 9 Pupils]. Karlstad: Karlstad universitet; 2004.
- [55] Arbetsmiljöverket (Swedish Work Environment Authority). Statistiska centralbyrån, SCB (Statistics Sweden). Arbetsmiljön 2005 [The Work Environment in 2005]. Stockholm: 2006. Statistiska meddelanden AM 68 SM 0601.
- [56] Nemeroff CB, Bremner JD, Foa EB, Mayberg HS, North CS and Stein MB. ePosttraumatic stress disorder: a state-of-the-science review. *Journal of Psychiatric Research*. Feb 2006; 40(1):1–21.
- [57] Fergusson DM, Swain-Campbell NR and Horwood LJ. Does sexual violence contribute to elevated rates of anxiety and depression in females? *Psychological Medicine*. Aug 2002; 32(6):991–996.

- [58] Gådin KG and Hammarström A. A possible contributor to the higher degree of girls reporting psychological symptoms compared with boys in grade nine? *European Journal of Public Health*. Aug 2005; 15(4):380–385.
- [59] Kendler K.S, Gatz M, Gardner C.O and Pedersen N.L. A Swedish national twin study of lifetime major depression. *The American Journal of Psychiatry*. Jan 2006; 163(1):109–114.
- [60] Altemus M. Sex differences in depression and anxiety disorders: potential biological determinants. *Hormones and Behaviour*. Nov 2006; 50(4):534–538.
- [61] Angold A, Costello EJ, Erkanli A and Worthman CM. Pubertal changes in hormone levels and depression in girls. *Psychological Medicine*. Sep 1999; 29(5):1043–1053.
- [62] Goldberg D. The aetiology of depression. *Psychological Medicine*. Oct 2006; 36(10):1341–1347.
- [63] Noble RE. Depression in women. *Metabolism*. May 2005; 54 (5 Suppl 1):49–52.
- [64] West P and Sweeting H. Fifteen, female and stressed: changing patterns of psychological distress over time. *Journal of Child Psychology and Psychiatry*. Mar 2003; 44(3): 399–411.
- [65] Bellisle F, Monneuse MO, Steptoe A and Wardle J. Weight concerns and eating patterns: a survey of university students in Europe. *International journal of obesity and related metabolic disorders*. Oct 1995; 19(10):723–730.
- [66] Rozin P, Bauer R and Catanese D. Food and life, pleasure and worry, among American college students: gender differences and regional similarities. *Journal of Personality and Social Psychology*. Jul 2003; 85(1):132–141.
- [67] Rozin P, Fischler C, Imada S, Sarubin A and Wrzesniewski A. Attitudes to food and the role of food in life in the U.S.A., Japan, Flemish Belgium and France: possible implications for the diet-health debate. *Appetite*. Oct 1999; 33(2):163–180.
- [68] Benjet C and Hernandez-Guzman L. Gender differences in psychological well-being of Mexican early adolescents. *Adolescence*. Spring 2001; 36(141):47–65.
- [69] Meland E, Haugland S and Breidablik HJ. Body image and perceived health in adolescence. *Health Education Research*.
- [70] Aalto-Setälä T, Poikolainen K, Tuulio-Henriksson A, Marttunen M and Lonnqvist J. Predictors of mental distress in early adulthood: a five-year follow-up of 709 high school students. *Nordic Journal of Psychiatry*. 2002; 56(2): 121–125.
- [71] Bergman MM and Scott J. Young adolescents' well-being and health-risk behaviours: gender and socio-economic differences. *Journal of Adolescence*. Apr 2001; 24(2):183–197.
- [72] Bolognini M, Plancherel B, Bettschart W and Halfon O. Self-esteem and mental health in early adolescence: development and gender differences. *Journal of Adolescence*. Jun 1996; 19(3):233–245.
- [73] Råty LK, Larsson G, Söderfeldt BA and Larsson BM. Psychosocial aspects of health in adolescence: the influence of gender, and general self-concept. *The Journal of Adolescent Health*. Jun 2005; 36(6):530.
- [74] Feingold A. Gender differences in personality: a meta-analysis. *Psychological Bulletin*. Nov 1994; 116(3):429–456.
- [75] Angst J, Gamma A, Gastpar M, Lepine JP, Mendlewicz J and Tylee A. Gender differences in depression. *Epidemiological findings from the European DEPRES I and II studies*. *European Archives of Psychiatry and Clinical Neuroscience*. Oct 2002; 252(5):201–209.
- [76] Schlenger WE, Caddell JM, Ebert L, Jordan BK, Rourke KM, Wilson D, et al. Psychological reactions to terrorist attacks: findings from the National Study of Americans' Reactions to September 11. *Journal of the American Medical Association*. Aug 7 2002; 288(5):581–588.
- [77] Silver RC, Holman EA, McIntosh DN, Poulin M and Gil-Rivas V. Nationwide longitudinal study of psychological responses to September 11. *Journal of the American Medical Association*. Sep 11 2002; 288(10):1235–1244.
- [78] Aksaray G, Kortan G, Erkaya H, Yenilmez C and Kaptanoglu C. Gender differences in psychological effect of the August 1999 earthquake in Turkey. *Nordic Journal of Psychiatry*. 2006; 60(5):387–391.
- [79] Bleich A, Gelkopf M and Solomon Z. Exposure to terrorism, stress-related mental health symptoms, and coping behaviors among a nationally representative sample in Israel. *Journal of the American Medical Association*. Aug 6 2003; 290(5):612–620.
- [80] Solomon Z, Gelkopf M and Bleich A. Is terror gender-blind? Gender differences in reaction to terror events. *Social Psychiatry and Psychiatric Epidemiology*. Dec 2005; 40(12):947–954.
- [81] Penley JA, Tomaka J and Wiebe JS. The association of coping to physical and psychological health outcomes: a meta-analytic review. *Journal of Behavioral Medicine*. Dec 2002; 25(6):551–603.
- [82] Tamres LK, Jenicki D and Helgeson VS. Sex Differences in Coping Behavior: A Meta-Analytic Review and an Examination of Relative Coping. *Personality and Social Psychology Review*. 2002; 6(1):2–30.
- [83] Vulic-Prtoric A and Macuka I. Family and coping factors in the differentiation of childhood anxiety and depression. *Psychology and Psychotherapy*. Jun 2006; 79(Pt 2): 199–214.
- [84] Hanninen V and Aro H. Sex differences in coping and depression among young adults. *Social Science & Medicine*. Nov 1996; 43(10):1453–1460.
- [85] Pitkanen T. Problem drinking and psychological well-being: a five-year follow-up study from adolescence to young adulthood. *Scandinavian Journal of Psychology*. Sep 1999; 40(3):197–207.