

Adolescent health and work marginalization

A longitudinal population-based study

Dissertation for the degree philosophiae doctor (PhD)

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“Eg kjem frå ungdomslengt og leitarferd og står ved døra til den vide verd.”

Tor Jonsson

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ABSTRACT

Background: High school dropout and work marginalization are topics of great public concern and constantly on the political agenda. In the past decades about a third of all young Norwegians in every age-cohort have failed to complete high school within expected time and an increasing number of young adults are receiving permanent disability benefits, as well as other types of long-term health related welfare support. To gain knowledge on pathways to work marginalization is important for the continuation of the welfare state and for the individuals involved. Until recent years health-related risks of marginalization in young adults have been less explored.

Objectives: Through this study we aimed to explore the relationship between adolescent health and other health-related factors and educational achievements throughout adolescence and marginalization from work in young adulthood. The specific research questions were:

- Can health care seeking behaviour at age 15–16 predict higher odds of high school dropout five years later? (paper I)
- Is adolescent health, measured by self-reported health complaints, total symptom burden, and self-perceived general health status in 15–16-year-olds associated with work marginalization in young adulthood? (paper II)
- Is mental health problems in parents measured by self-report in 15–16-year-old adolescents a predictor of welfare dependence in young adulthood? Can different social support dimensions act protective and/or moderating in relation to welfare dependence in young adulthood? (paper III)

Materials and Methods: All three papers included in this work are based on studies with a longitudinal, prospective design. The study samples are population-based. Through access to questionnaire data from comprehensive youth health surveys from six Norwegian counties conducted in 1999–2004, which was linked to data from national registries up to 2010, we had the opportunity to follow almost 14 000 15–16-year-olds longitudinally into young adulthood. In paper I we used logistic regression to compute odds ratios for high school dropout based on self-reported use of selected health care services at age 15–16. In paper II and III we used Cox proportional hazard regression analyses to compute hazard ratios for long-term welfare dependence through follow-up from age 18 up to the year 2010, based on selected health measures (paper II), parents' mental health problems and different dimensions of perceived social support (paper III) in 15–16-year-olds.

Results: In the multiple logistic regression analyses in paper I, the crude analyses revealed that adolescent attendees to the school health services, the youth health clinics and the child and adolescent mental health services had higher odds of dropping out from high school. Also girls with frequent contacts with a GP had higher odds of dropout, while boys with moderate use of a GP had lower odds of dropout. When adjusting for selected health indicators and socio-demographic background variables, we found that seeking help from the youth health clinic and consulting mental health services were associated with increased level of high school dropout five years later. Frequent attendees had the highest odds of dropping out. Boys who saw a GP and girls attending the school health services regularly over the previous year were less likely than their peers to drop out from high school.

In paper II we found that during follow-up, 17% of the study population received some sort of long-term social welfare benefit. In the baseline survey 95% of the adolescents reported

one or more health complaints. Mean number of health complaints was 4.8%. Girls reported a significantly higher mean number of complaints than did boys. In girls all the investigated independent health complaints, except reporting eczema, were significantly associated with increased use of long-term social welfare benefits in young adulthood, while in boys, reporting allergy, eczema, feeling faint or dizzy and feeling that everything is a burden, were not associated with the outcome, while the other 11 complaints were. We found an increasing relative hazard of social welfare usage, depending on number of symptoms reported at baseline. The association patterns were similar in girls and boys. Ill self-perceived general health was found to be strongly associated with use of benefits during follow-up.

In paper III we found that of the total study population, 10% (1397) reported having parents who suffered from some level of mental health problems during the 12 months prior to the baseline survey; 3% (420) reported that their parents had frequent mental health problems. Adolescent report of their parents' mental health problems was associated with the adolescents' long-term welfare dependence during follow-up. The associations remained significant after adjusting for socio-demographic factors, although additionally correcting for the adolescents' own health status accounted for most of the effect. Perceived support from family, friends, classmates and teachers was analysed separately and each dimension was associated with a lower risk of later welfare dependence in unadjusted analyses. Family and classmate support remained a protective factor for welfare dependence after correcting for all study covariates. We did not find evidence supporting a hypothesized buffering effect of social support in already burdened individuals.

Conclusions: Our main conclusions are, based on the over-all findings, that ill health, together and in interaction with, other disadvantages and circumstances during childhood

and adolescence contribute on the pathway to work marginalization. In addition, we have documented that parental mental health is a possible predictor of future work marginalization, though the relationship seem to be confounded by the adolescents' own health status. On the other hand, perceived social support, from parents and classmates in particular, seem to be of importance to possibly reduce the risks of marginalization.

INTRODUCTION

The topic of this thesis is work marginalization in young adulthood in relation to health and health-related predictors in adolescence. The topic was studied by following an adolescent population from mid-adolescence into adult life. Access to data from a comprehensive youth health survey of all 10th grade secondary school students living in six Norwegian counties during 1999–2004, including the Young-Hubro survey from Oslo, gave a unique opportunity to a longitudinal approach. Survey data on around 14 000 adolescents aged 15–16 were linked to Norwegian registries and followed into young adulthood. Information from the National Insurance Services (NIS/FD-trygd) and the National Educational Database, in addition to demographic data from Statistics Norway, gave complete, reliable information on educational level and use of welfare benefits of each participant from baseline until end of follow-up.

We examined adolescent health status, measured by self-reported health measures and health care seeking behaviour, and its' influence on work marginalization in young adulthood, measured by non-completion of high school and use of long-term welfare benefits from age 18 up to year 2010. An additional focus was family-related factors, with a special interest in parents' mental health, and the potential moderating role of perceived social support in preventing marginalization. As family background, including parents' educational level and family economy, is of crucial importance when it comes to educational accomplishments and the ability to integrate into the labour market – these variables were included and corrected for in all three papers which my thesis are based on.

When I started working on this topic in 2011, research on the potential influence of adolescent health on work marginalization, was scarce. However, about a third of all young

Norwegians did not complete high school within five years and an increasing number of young adults ended up on permanent disability benefits, as well as other types of long-term health related welfare support – all benefits which require a medical diagnose to achieve. From a medical point of view, it seemed relevant to explore work marginalization from a health-related perspective.

However, the causes of high school dropout and work marginalization are indeed characterized by complexity, where several factors interact, both on an individual and societal level. Hence, several other scientific disciplines are relevant for the study topic. As my main focus is adolescent health in relation to marginalization, though, my scientific approach is a medical and epidemiological one.

LIST OF PUBLICATIONS

This thesis is based on the following publications, which will be referred to by their roman numerals:

- I. Homlong L, Rosvold EO, Haavet OR. Can use of health care services among 15–16-year-olds predict an increased level of high school dropout? A longitudinal community study. *BMJ Open* 2013, **3**(9):e003125.
- II. Homlong L, Rosvold EO, Bruusgaard D, Lien L, Sagatun A, Haavet OR. A prospective population-based study of health complaints in adolescence and use of social welfare benefits in young adulthood. *Scandinavian journal of public health*. 2015.
- III. Homlong L, Rosvold EO, Sagatun A, Wentzel-Larsen T, Haavet OR. Living with mentally ill parents during adolescence: a risk factor for future welfare dependence? A longitudinal, population-based study. *BMC public health*. 2015;15:413.

LIST OF ABBREVIATIONS

1G: folketrygdens grunnbeløp (the National Insurance Base)

CI: confidence interval

GP: general practitioner

HBSC: Health Behaviour in School-aged Children study

HR: hazard ratio

HSCL-10: Hopkins' Symptom Check-list 10-item short version

HUNT: Helseundersøkelsen i Nord-Trøndelag (the HUNT Study – a longitudinal population health study in Norway)

NAV: Ny Arbeids- og Velferdsforvaltning (Norwegian Labour and Welfare Administration)

NEET: person neither in education nor in employment or training

NFR: Norsk forskningsråd (the Research Council of Norway)

NIS: the National insurance services

NUDB: Nasjonal Utdanningsdatabase (Norwegian National Education Database)

OECD: Organization for Economic Cooperation and Development

OR: odds ratio

SSB: Statistisk sentralbyrå (Statistics Norway)

VAM: Velferd, arbeidsliv og migrasjon (Welfare, working life and migration)

1 BACKGROUND

1.1 The concept of marginalization

"It was a great mistake, my being born a man; I would have been much more successful as a seagull or a fish. As it is, I will always be a stranger who never feels at home, who does not really want and is not really wanted, who can never belong, who must be a little in love with death!"

Eugene O'Neill, *"Long Day's Journey into Night"*

In a historical perspective, marginalization can be said to have three roots: 1. incomplete citizenship; 2. cultural division; 3. partial economic integration (1). Individuals and social subgroups can be considered marginalized if they are not integrated in the basic institutions of society and/or have access to basic material resources.

Marginalization has subsequently emerged to become a multidimensional concept; marginalization from work, cultural marginalization, social marginalization, political marginalization, economic marginalization/poverty (2). In line with previous literature, marginalization can be viewed upon as a process, where the individual is pushed out to the edges of society, and which in a worst-case scenario can end up in permanent exclusion (3, 4). I will link this view to the life course perspective on health, which I will account for later.

Literature defines work marginalization in different ways; vulnerable groups in the labour market, groups with no permanent affiliation to the labour market, individuals who involuntarily work part-time, individuals who permanent or on a long-time basis are on the outside of the labour market (3, 5). Work marginalization may be viewed differently according to the individual perspective, in contrary to a collective perspective (5). Individual preferences are not always in concordance with the norms of the society. Especially for young people predefined time perspectives and academic definitions on marginalization can

seem irrational and it can be difficult to see the differences between voluntary and involuntary marginalization (5).

In empirical research it is common to use information on unemployment and dependence on public welfare as indicators of marginalization and social exclusion (6). The term NEET (Not in Employment, Education or Training) is often used in international research literature, to describe marginalized youth, placed on the outside of education and the labour market (7). According to a recent report published by the Norwegian research center Fafo the proportion of registered-based NEETs, i.e. young people registered with some sort of public assistance, in the age group 18–30 in Norway is between 12 and 17% (8). In addition, about 5% is considered to be so-called family-supported NEETs, defined according to an income below the limit of 2G (1G = the National Insurance Base).

High school dropout is documented to be an early risk factor for work marginalization; including unemployment, dependence on basic social support, permanent work disability and use of other long-term health related welfare benefits (9-11). If an individual is already in a process of marginalization during high school, it can possibly have serious consequences for future integration into the labour market, for a social life, the opportunity to invest in a home, establish a family and support of own children (6, 12).

1.2 Adolescence and adolescent health

1.2.1 Adolescence

“Youth are heated by nature as drunken men by wine”

Aristotle

Adolescence is by the World Health Organization (WHO) defined as the period in human growth and development that occurs after childhood and before adulthood from ages 10 to 19 (13). Adolescence starts before the onset of puberty and lasts beyond the termination of growth. The phase is usually divided into three psychosocial developmental phases: (1) early adolescence (ages 10 to 13); (2) middle adolescence (ages 14 to 16) and; (3) late adolescence (ages 17 to 20) (14). There is a wide variability in biological, psychological and emotional growth, and the transition from childhood to adulthood is not a continuous, synchronous process (14). Like early childhood, adolescence is a sensitive period in which both normative and maladaptive patterns shape future trajectories (15). Parts of this sensitivity relates to the social embedding of health risks and the biological changes before, during and beyond adolescence (15).

Mid-adolescence, which is the phase were the baseline data for our studies are collected, is characterized by an increased scope and intensity of feelings, and peer-group values becoming increasingly important (14). Parental relationships are less valued and conflicts more prevalent. For the majority of adolescents pubertal changes have already been experienced and body image concerns may occur. Eating disorders become more prevalent. Intellectual developments contribute to form the identity, while feeling of omnipotence and immortality may lead to risk-taking behaviours (14).

1.2.2 Adolescent health

Adolescence is often referred to as a healthy stage in life and about 80% of adolescents cope well with the rapid developmental changes that take place during this phase (14, 16). The adolescent period may be crucial when it comes to establishing a healthy lifestyle and gives opportunities to educational strategies and preventive efforts to maintain good health (15).

However, adolescence implies an increased risk of mental disorders, psychosocial health problems and unhealthy risk taking behaviours (17, 18). The burden of mental disorders rises sharply throughout adolescence and is the largest contributor to disease burden in young people aged 10–24 years (19). Several musculoskeletal disorders and common pain syndromes, including migraine and tension headache increase in prevalence throughout puberty (18). Also back, facial and stomach pain become more prevalent in early adolescence, indicating pubertal changes in pain awareness and pain perception (18). The hormonal changes during puberty imply development of gender specific changes in health, due to the different effects of estrogen and testosterone (18).

A cross-national study of adolescents in Europe, including Norway, documented an increasing number of reported health complaints throughout adolescence from age 11 to 15, where 15-year-old girls reported the highest symptom load (20). In general, though, a majority of Norwegian adolescents characterize their own health as good or very good (21).

1.2.3 Adolescent health care seeking

The school health services, the youth health clinics and the general practitioners (GPs) are all considered low-threshold parts of the primary health care providers and are in Norway free of charge for children up to 16 years of age (22). A review from 2007 summed up research on primary health-care utilization in developed countries and concluded that 70–90% of all adolescents contact primary health care services at least once a year (23). Adolescent frequent attendees to primary health care report more physical health complaints, more emotional problems and more days off school than do regular primary health care attendees (24). Also, adolescent health care seeking seems to correspond with an increased number of adverse life experiences (25). Previous research supports that adolescents disturbed by

mental health problems more frequently seek help from professional health care services than do their non-disturbed peers (26, 27). A US study found associations between decreasing school connectedness and increasing school nurse visits (28).

In adult populations, frequent attendance to primary health care has been found to be associated with increased sickness absence and disability pensioning (29, 30).

The child and adolescent mental health services in Norway are part of the specialized, health care system and a referral from a GP or another physician is needed (22). A referral to the mental health services normally implies moderate to severe mental health problems in the adolescent. Thus, reported use of child and adolescent mental health services can be regarded as a reliable proxy measure of some sort of mental illness. In 2003 about 3% of the population aged 0-17 received care from the child and adolescent mental health services (31). This was an increase of about 50% since 1998. According to a Norwegian national mental health program from 1998, 5% should be receiving these services by the end of the program period in 2008 (31). Recent statistics on health service use confirms that approximately 5% of children/adolescents now receive treatment in the child and adolescent mental health services every year (32). A Dutch study exploring adult outcomes in children and adolescents referred to mental health services, found strong stability in both internalizing and externalizing problems from youth to adulthood (33).

1.3 Child and adolescent health and work marginalization

Increasing evidence supports that child and adolescent health is related to educational achievements. In a review by Freudenberg from 2007 problems such as substance abuse, psychological, emotional and behavioral issues are mentioned as possible risk factors for high school dropout (12). Another review from 2010 documented strong associations

between a wide range of specific health conditions and subsequent dropout from high school, as well as evidence for associations between health problems and general academic underachievement (34). Evidence regarding potential causal effect was mixed, though. Almost all of the conditions examined were found to be associated with other childhood risk indicators of high school dropout. Maslow and colleagues found associations between chronic non-asthmatic illness, including cancer, epilepsy and diabetes, in childhood and failure to graduate from high school (35). A Finnish study found self-perceived health in 12–16 year-olds to be associated with educational level in adulthood, measured by achieved level of education at ages 27–33 (36).

A retrospective study based on a large survey from a national representative US adult population, found significant associations between early onset mental disorders and failure to attain several educational milestones, including high school (37). Another US study indicated that the proportion of failure to complete high school attributable to psychiatric disorder in the United States is about 46% (38). Some US studies show contradictory results concerning adolescent mental health problems and high school dropout. One study suggested that there were no associations between internalizing mental health problems such as anxiety and depression and high school dropout (39), while another study have documented associations between both internalizing and externalizing mental health problems and high school dropout (37). Two other studies found associations between depressive symptoms and high school dropout, but only in girls (40, 41).

Previous research has documented associations between several early life health problems and work marginalization in adult life. A longitudinal study based on the Norwegian birth registry found associations between low gestational age and a lower educational level and

later use of social security benefits, including receiving a disability pension (42). A Danish study found that gestational age and low birth weight were associated with learning-disabilities in the 10-year-old child (43). Another large population-based Norwegian study found that early receipt of a disability pension was associated with birth weight below mean and chronic childhood disease (44), in accordance with a US study which found that children with chronic non-asthmatic illness were more likely to get unemployed and receiving social assistance in young adulthood (35). Another Norwegian study found associations between chronic childhood disease (age 0–16), measured by receipt of public benefits, and unemployment in adulthood (45). Case and colleagues found lasting impacts of childhood health and economic circumstances on adult health and socioeconomic position, including lower educational attainments (46).

Fewer studies have focused on *adolescent health* and work marginalization. Research on men at conscript (age 18–20) in Norway and Sweden has documented associations between poor self-rated health, psychiatric and musculoskeletal diagnoses and early disability pensioning (47-49). A longitudinal study from New Zealand found associations between adolescent depression and several functional outcomes, such as educational level, unemployment and welfare dependence in young adults aged 21–25 (50). Stoep and colleagues found strong associations between adolescent psychiatric disorders and several adverse outcomes in adulthood, including non-completion of secondary school and unemployment (51).

1.4 Parental mental health and work marginalization

Previous studies have documented a strong relationship between parental depression and negative mental health outcomes in their offspring (52-54). A review from 1998 by Beardslee

and colleagues supports that children of affectively ill parents are at greater risk of psychiatric illness compared to children from homes with non-ill parents (55). Children of depressed parents have in general a substantial greater risk of developing depressive disorders themselves, shown both in clinical samples (56, 57) and in larger population-based studies (58-61). If such adverse effects on children also persist into adulthood is less explored. A 20-year follow-up on offspring of moderate to severely depressed parents, found high risks of future psychiatric disorders and other medical problems, especially in females (62). The results from a recent Norwegian study indicate that parental symptoms of anxiety and depression can predict welfare dependence in young adulthood (63). We also know that mental health problems in parents coexist with several other life adversities which can possibly have long-term consequences on adolescents' future health and adjustments, such as parental unemployment (64, 65), socioeconomic deprivation (66), substance-abuse disorders (67), low education, early parenthood and unstable families (68, 69).

1.5 Social support and work marginalization

The importance of social support from several sources, including, family, peers, classmates and teachers, for adolescents' mental health, general well-being and coping is well established, as outlined in a review by López and colleagues from 2011 (70). Support from family – and primarily the feeling of attachment, acceptance and trust – is considered of major importance for a healthy development throughout childhood and adolescence (71-73).

Social support is a complex and multidimensional construct that can be conceptualized and measured in different ways (74, 75). Operationalization of social support can be divided into three main categories: social embeddedness, enacted support and perceived support (75).

Social embeddedness refers to the connections individuals have to significant others in their social environment, while enacted support assesses how the individuals provide support (75). Perceived social support, i.e., an individual's appraisal of the availability and/or adequacy of support, is perhaps the most frequently studied dimension, and has been found to have the strongest relationship with stress reduction and improved well-being (71, 75-77). Several studies have investigated the independent effect of perceived social support irrespective of exposure to stressors, as well as the buffer effect, which emphasizes that social support is especially important when an individual is exposed to life stress (72, 76-80). Some studies have investigated and found evidence for an inverse relationship between perceived support and measures of life events or perceived strain, as accounted for in a review by Barrera (75).

Two main models suggesting the mechanisms for how perceived social support exerts its effects have been proposed. First, the stress prevention model argues that perceived social support reduces the likelihood that events would be perceived as highly stressful (75). A second mechanism that may explain the possible inverse relationship is that stress deteriorates the perceived availability or effectiveness of social support, which in turn, is related to increased psychological distress (75).

Social support has been associated with work marginalization since a lack of social capital or social ties has been shown to make young people vulnerable to unemployment (81). A Norwegian report on living conditions among young people argued that a marginalized youths tend to live by themselves and have weaker social networks (82). During adolescence peers and classmates become increasingly important as sources of support and a positive school climate is found to be associated with school connectedness, higher academic achievements and decreased high school dropout rates (83).

1.6 Health selection or social causation

For adolescents, parental unemployment, family economy and parents' educational level are factors known to be strongly associated with their offspring's educational achievements and an increased risk of work marginalization (3, 44, 81, 84, 85). Also, parental divorce (86), single parenthood (44, 87), parental disability and low educational attainments (i.e. grades, high school completion) in the adolescents themselves are all factors associated with lower educational achievements and an increased risk of future work disability (44, 88).

The social causation theory stresses the effect of the pre-existing socio-economic position and circumstances you are born into, which according to the theory is believed to have a stronger influence on future health and socio-economic position, compared to individual health status per se (89). The social causation theory has been well explored and is supported by a magnitude of research.

The associations between socio-economic status and health, sickness absence and disability are in general well documented in adult populations (90-94). The influence of socio-economic background on childhood health is also well established (95). Some previous studies argue that the socio-economic gradient is less pronounced in adolescent health (96, 97). Recent studies, though, support that socioeconomic inequality has increased in many domains of adolescent health (98, 99).

A social gradient in adolescent health has been documented for several specific health issues; including self-perceived health (100), health complaints in general (101), sleep problems (102), mental health problems (52, 103, 104) and health behaviour (85, 105).

Opposed to the social gradients in health as accounted for above, the theory of health selection postulates that poor health determines social position, rather than the reverse, as first accounted for in the so-called Black-report (1980) (89). The theory implies that unhealthy individuals are less productive and hence they drift down the social ladder, while those with good health climb upwards (89).

In support of the health selection theory, several studies have documented associations between child and adolescent health and future socio-economic position, through education and labour market integration. Huurre and colleagues found associations between educational attainments at ages 22 and 32 and psychosomatic symptoms at age 16 (85). A British cohort study found associations between self-rated health in men aged 16 and social class in adulthood (106). Results from another longitudinal study documented that experiences of poor childhood health were related to substantially diminished labour market earnings over the work career (107). Other studies also indicate that childhood health, measured by a wide range of health indicators, is important for future socio-economic position (46, 108). A Swedish cohort study, though, show contradictory results concerning such health selection processes (109). Overweight in women was the only health indicator at age 16 found to be related to socio-economic position at age 30.

The health selection theory has been less investigated compared to the social causation theory. We can question if such health selection processes may have a stronger impact during sensitive periods of life, like adolescence. Also, if the demands in the educational system and the modern labour market require better health and psychosocial functioning compared to a few decades ago, when it was easier to get labour for low-skilled workers and without a formal education. The results from a study by Haas and colleagues support that a

disadvantaged social background is associated with poor childhood health (110). Poor health in childhood was found to have significant, direct, and large adverse effects on educational attainment and wealth accumulation. In addition, childhood health appeared to have indirect effects on occupational standing, earnings, and wealth via educational attainment and adult health status (110). The results indicate that health and socio-economic position are strongly interconnected throughout the life span.

1.7 Health-related pathways to work marginalization

Ill health during childhood and adolescence can influence on educational attainment and the ability to integrate into the labour market through several mechanisms. First chronic and severe illness can by itself be a direct and just cause, as it incapacitates the individual and reduces chances to get a paid job. Secondly, ill health may lead to absenteeism from school, which in turn can compromise school performances and lead to weaker social bonds to peers and teachers, which may weaken level of social support and feeling of connectedness to the school (111, 112). This may in turn lead to incompleteness of educational milestones. Ill health limitations may also affect the adolescents' own goals and expectations (112).

Parents' and teachers' attitudes and opinions can contribute to such adjustments of goal and expectations (112). Mental illness can influence on cognitive functions and give rise to concentrations difficulties, which in turn affect academic performances (113, 114). In addition, struggling with somatic and mental health problems can contribute to stigmatization and discrimination and thereby lead to work integration problems (111, 115).

As outlined above, in some cases ill health can contribute directly to high school dropout and work marginalization. However, prior to ill health in adolescence you may find a genetic predisposition for illness, as well as adverse life circumstances, such as low parental

education, poverty, single parenthood, broken families, parental somatic or mental health illness, adverse life experiences such as neglect, violence, abuse and bullying – all factors which can contribute to ill health (116, 117). Also, ill health and health-related problems increase the adolescents' vulnerability of other adversities (118), and as such their risk of becoming a high school dropout and in the end, out of work. Such exposures may contribute to a clustering of adverse effects, as well as a "chain-of-risk" pathway to work marginalization where each exposure has an additive and/or a cumulative effect during the life-course (116, 118).

1.8 The Norwegian setting

1.8.1 Education

The majority of schools (approximately 97%) in Norway are public, free of charge and equally accessible for all Norwegian children (119). Primary school (1st to 7th grade) and lower secondary school (8th to 10th grade) constitute the mandatory education, while upper secondary education (high school) is elective. The adolescents have a statutory right to attend in high school, a right that is valid in five consecutive years after finishing 10th grade. A majority (96%) of Norwegian adolescents choose to enrol in high school at age 15–16, immediately after finishing lower secondary school (88). The Norwegian high school system offer generic programmes focusing on theory and mainly academic subjects, which qualifies for higher education, as well as vocational training programmes, including two years of schooling and two years apprenticeship (120).

Students are supposed to complete high school within three years. Failure to graduate within five years after registering as a high school student is a common definition on high school dropout in Norway (88). Few of those registered as dropouts succeed to complete

later. Approximately 30% of each age cohort in Norway do not complete high school within five years, a percentage which has been quite stable the past decades, and generating considerable public attention (120, 121). Boys have considerably higher dropout rates than girls (34%/24%) (121). The dropout rates in Norway are higher compared to the average number in other OECD countries (122). Important factors known to contribute to non-completion of high school are social background (parental educational level in particular), earlier school performances, and academic and social identification (10, 120, 123, 124).

High school dropouts have a higher risk of unemployment in young adulthood and those who succeed in getting a job, have lower incomes (9, 10, 125, 126). A Norwegian study based on the Young-Hunt population found that high school dropouts are at higher risk than their peers of receiving social security benefits five years later (127), a result which is in line with other publications (9, 128). Previous studies have documented strong associations between low educational level and early receipt of a disability pension (44, 92). Among those who complete high school within five years, almost none receive a permanent disability pension in young adulthood (88). Education is a key to participation in the labour market in adulthood, and high school graduation has a major influence on future health and well being (12, 129).

1.8.2 The Labour market

The Norwegian labour market is characterized by a high employment rate compared to a majority of other OECD countries, with approximately 78% of people aged 15–64 years having paid jobs (130). The unemployment rate among adolescents and young adults aged 15–24 years is 8.6%, while the OECD average is 16.2% (130, 131). In spite of a low unemployment rate compared to other OECD countries, Norwegian young adults have a

higher likelihood of unemployment compared to other age groups in Norway. They also have a higher likelihood of receiving social welfare benefits, and compared to other OECD countries, a considerable higher proportion receives health-related benefits (132).

1.8.3 The Welfare system

The Nordic welfare model involves a transfer of funds from the state, to the services provided (i.e. healthcare, education), as well as directly to individuals through benefits. The services and benefits provided are funded through a redistributionist tax system, which is often referred to as a type of "mixed economy" (133). Such taxation includes a larger income tax for people with higher incomes, called a progressive tax. This helps to reduce the income gap between the rich and poor (134). The continuation and development of the welfare state relies on the commitment of the individual in the sense of active participation in work. It is of fundamental importance to the welfare state to keep a large proportion of the working force employed, and of great worry when increases in sick leave, incapacity benefits, or unemployment are observed (135). Active participation in work is considered to enhance integration of minorities and gender equality; it makes young people economically independent and is considered to be beneficial for health (8). At the same time, the Norwegian welfare state is obliged to secure individuals who cannot support themselves through paid work (136).

Political strategies to enhance integration into work, and to reduce exclusion and marginalization from the labour market, are continuously debated.

The Norwegian welfare state is considered generous and residents of Norway are all insured by law by the National Insurance Services (NIS/FD-trygd) and employees can receive sickness benefits for up to one year if they suffer from a medical condition (136). Unemployment

benefits can be allowed and partly compensate for loss of income up to 104 weeks if you are registered as a job seeker and have earned your right to receive an allowance through earlier work participation. During our follow-up period, through February 2010, adults with chronic medical conditions could receive medical or vocational rehabilitation benefits with an aim to restore working ability, or they could be granted a temporary disability benefit if their condition was sufficiently severe, chronic and reducing their working capacity by 50% or more. In March 2010 these three different benefits were collapsed into one single benefit called work assessment allowance (arbeidsavklaringspenger or AAP in Norwegian).

A permanent disability benefit can be granted if a condition is sufficiently severe, permanent and with slim expectations on future ability to work, and if the working capacity is reduced by 50% or more. Additionally, a resident of Norway who is unable to care for him- or herself or for any dependents may receive a basic social security benefit irrespective of medical history.

In Norway the proportion of the working force receiving disability pensions and other long-term health related welfare benefits is among the highest in the OECD region (132). In the adult population aged 18 to 66 about 10% are registered on a permanent disability allowance (137). In the age group 18 to 29 the percentage in 2012 was 1.3%. The rates of young adults receiving other long-term health related benefits have increased the past 20 years, while only the *number* of individuals on permanent disability pensions has increased (not the rates) (8). Norway also has the highest registered sickness absence rates in the OECD (132). Unemployment rates, though, are stable and low, despite the recent European economic crisis (132). Also outside Norway the public debate on youth marginalization is extensive, particularly due to high unemployment rates.

The social welfare scheme in Norway implies that young people, instead of registering themselves as unemployed, may be routed into health related benefits. Compared to other European countries, the social welfare allowances are generous, especially if you have a medical diagnose that gives rights to receive a long-term benefit. In 2007 the Norwegian expenses on health related benefits were 24 times as high as expenses to the unemployed. In the OECD the ratio was 3 to 1 (137).

Young adults in Norway are also less likely supported by their families, a societal trend which has developed with the increasing labour market participation by women (138). The family has no formal economic support responsibility for children beyond age 18 and if you are not able to support yourself through paid work; the welfare state has a responsibility to secure economic support.

1.9 The life course perspective and social determinants of health

1.9.1 Life course epidemiology

Early determinants of health during gestation, childhood and adolescence have influence on health and well being in young adulthood and later in adult life. Life-course epidemiology is defined as the study of long-term effects on health and disease risk of such earlier determinants, including genetics, family environment, peer relationships, school environment, neighbourhood and community (116). The growing research field of epigenetic may also provide knowledge to the shaping of future health and well-being (139). Life course epidemiology is built on a premise that various biological and social factors throughout life independently, cumulatively and interactively influence health and disease in adult life, and has in particular paid attention to how childhood and adolescent risk factors contribute to ill health in adulthood (118). The Lancet launched a series of articles on adolescent health a

few years ago, where Sawyer and colleagues introduced a theoretical framework on how a life course perspective unites with important social determinants in the understanding of adolescent health and development (15) (figure 1).

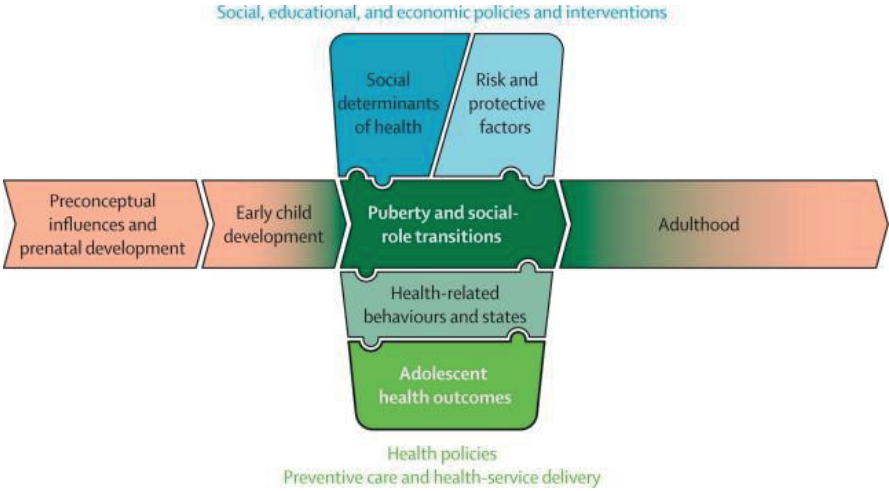


Figure 1: “Conceptual framework for adolescent health based on a life-course perspective and social determinants of health”, as presented by Sawyer and colleagues (15).

1.9.2 Social determinants of health

A life-course perspective on adolescent health emphasizes childhood development and biological and social-role changes during puberty, shaped by social determinants of health that affect the uptake of health-related behaviours (15). Social determinants of health include structural factors such as national wealth, income inequality and access to education, which are of major influence on young people’s health worldwide (117). Furthermore, safe and supportive families and schools, as well as positive peer relationships, are crucial for a healthy adolescent development and transition into adulthood (117). Adverse social determinants of health tend to cluster within individuals.

When studying possible adolescent risk factors for future marginalization, it is important to bear in mind both earlier determinants for health, according to the life course model, as well as how health and vulnerability during adolescence influence future health and adjustment. In a well-developed and economically stable country like Norway, structural factors on the macro-level, have less influence on adolescents' ability to complete education and integrate into the labour market. Proximal predictors, such as the local community, schools, peers and family are considered to have a stronger influence.

In our study the baseline exposure variables are measured at one point only, though for several of the exposures the study participants are asked of the presence of the exposure for the past 12 months. Some of the exposures are measured on occurrence the past week prior to the survey (measures of mental health issues), while other questions have no time-limitations (chronic illnesses like asthma and atopic conditions). Contextual factors such as family economy and parents' education are considered to be more stable, pre-existing measures, as well as the measures on perceived social support. Thus, we have exposure variables covering different time spans, which justify a life-course perspective on the possible influence of the predictors on the outcome. Measuring a future outcome implies a longitudinal perspective on adult marginalization. The outcome measures are flexible, as welfare dependence is measured continuously from age 18 until end of follow up. High school dropout is considered an intermediate outcome measure, on the possible pathway to work marginalization (figure 2).

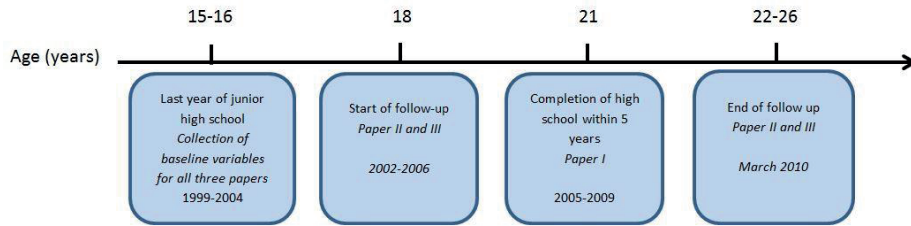


Figure 2: Timeline illustrating the course of our three studies

2 AIM AND OBJECTIVE OF THE THESIS

2.1 General objective

The general objective of the thesis was to explore the relationship between adolescent health and other health-related factors and educational achievement throughout adolescence and marginalization from work in young adulthood. More specifically my thesis focuses on how help seeking towards primary health care and mental health care services, general health status, symptom load, and parents' mental health relate to dropout from high school and later work marginalization, measured by use of long-term welfare benefits. In addition, we aimed to explore the potential moderating and protective effects of different dimensions of perceived social support.

2.1 Specific aims of the separate studies

In paper I we aimed to address the marginalization problem by exploring whether adolescents at risk had made contacts with the health services already at age 15–16 and to

determinate whether health care seeking behaviour at age 15–16 could predict higher odds of high school dropout five years later.

In paper II we aimed to examine associations between work marginalization in young adulthood, measured by use of long-term social welfare benefits, and self-reported health complaints at age 15–16, secondly to explore how total symptom burden in adolescence was related to work marginalization, and third, to find out if self-perceived general health status could be a separate possible predictor of work marginalization.

In paper III we aimed to investigate potential long-term consequences, measured by long-term use of welfare benefits, of living with the burden of parents with mental health problems during the formative years of adolescence. We also aimed to explore the potential protective and moderating effect of different social support dimensions in relation to welfare dependence.

3 MATERIALS

3.1 Data sources

3.1.1 The Youth Studies

Baseline data was collected from a large comprehensive health survey (“The Youth Studies”) of all 10th grade secondary school students (aged 15–16) in six Norwegian counties, conducted between year 1999 and 2004 (140). The youth survey was initiated in Oslo and Hedmark in 1999–2001 and was extended to include four more counties; Oppland, Nordland, Troms and Finnmark, in the following years 2001–2004 (table 1). Originally 18 425 10th graders were invited to the baseline studies, while the overall response rate was 87%

(n=15 966). The study was organised as a classroom survey, where the pupils filled out a written questionnaire during 2 school hours. The public school nurse was in most cases responsible for carrying out the study and an assistant was present in the classrooms to provide information to the participants and administer the questionnaires. Pupils not present at school at the day of the survey were left questionnaires at the schools to be filled out later. Those not responding received a copy by mail to their home address along with a stamped return envelope.

The Youth Studies, 1999–2004		
County	Number of participants	Percentage of invited 10th graders
Oslo 1999–2001	7343	87,4
Hedmark 2001	1939	88,3
Oppland 2002	1877	90,0
Nordland 2004	2657	88,0
Troms 2002–2003	1514	81,7
Finnmark 2003	637	71,1
Total	15 966	86,5

Table 1: Overview of the participants in the six counties included in the Youth Studies

Participation in the survey was voluntary and parents received an information brochure in advance (Appendix III). The pupils (or parents if the pupil was below age 16 by the day of the study) signed an informed consent in advance (Appendix IV). The survey included one main questionnaire that was identical for each county and one supplementary questionnaire with some variation between the six counties, all together a total of eight pages (Appendix I & II).

The survey comprised questions about relationships with family, friends and school; local environment; physical and mental health; health behaviour; and life events. A more detailed description of the Oslo part of the study and how it was conducted has been published previously (141). In addition, information about the youth studies in general is available on the website of the Norwegian Institute of Public Health (140).

3.1.2 The National Education Database (NUDB)

Each Norwegian citizen's level of education is registered in the NUDB, from primary school to higher education at the universities (up to PhD level) (142). The NUDB is organized as a historical event database that provides information on an individual's educational achievements through the life span. The database is updated in November every year, when each person's highest accomplished education is registered. In our study, we have extracted information on high school graduation from this database (paper I).

3.1.3 The FD-trygd Database (the National Insurance Services/NIS)

FD-trygd includes complete registrations on each Norwegian citizen's use of all social security benefits, including retirement pensions, maternity and single-parent benefits, sickness allowances, unemployment benefits, disability benefits, medical and vocational rehabilitation benefits and basic social security benefits (143). It also supplies information on demographic data, employment status and income. Data in the FD-trygd database are collected from Statistics Norway, the Norwegian Labour and Welfare Organization (NAV) and the Taxation Office (Skattedirektoratet). FD-trygd is a historical event database, where each individual's change in demographic status, employment status, yearly income and reception of any social security benefit are registered. The information is registered on a daily, monthly

or yearly basis. The variables extracted from the FD-trygd, which we used in paper II and III are thoroughly described later.

3.2 Linkage of data from the Youth studies to registry data

Questionnaire data from the baseline studies were linked to detailed information on the entire cohort from the Norwegian population registry data, including NUDB and FD-trygd, up to the year 2010. A precise linkage of records was possible because of the national identification number given to every resident of Norway. Statistics Norway supplied us with the original datasets, after removing the national identification numbers to secure anonymity for each individual. Our study group did the actual linking of the datasets, after patiently restructuring the data from NUDB and FD-trygd. We organized the historical event information into one record per identification number, securing that the information could be merged into SPSS-files and then linked to data from the Youth studies.

3.3 Study population

At baseline, the adolescent contributors to the questionnaires were asked for their consent to link the data from the questionnaires to national registers at a later date; 90% of the 15 966 in our baseline population agreed (n=14 062) (Appendix V).

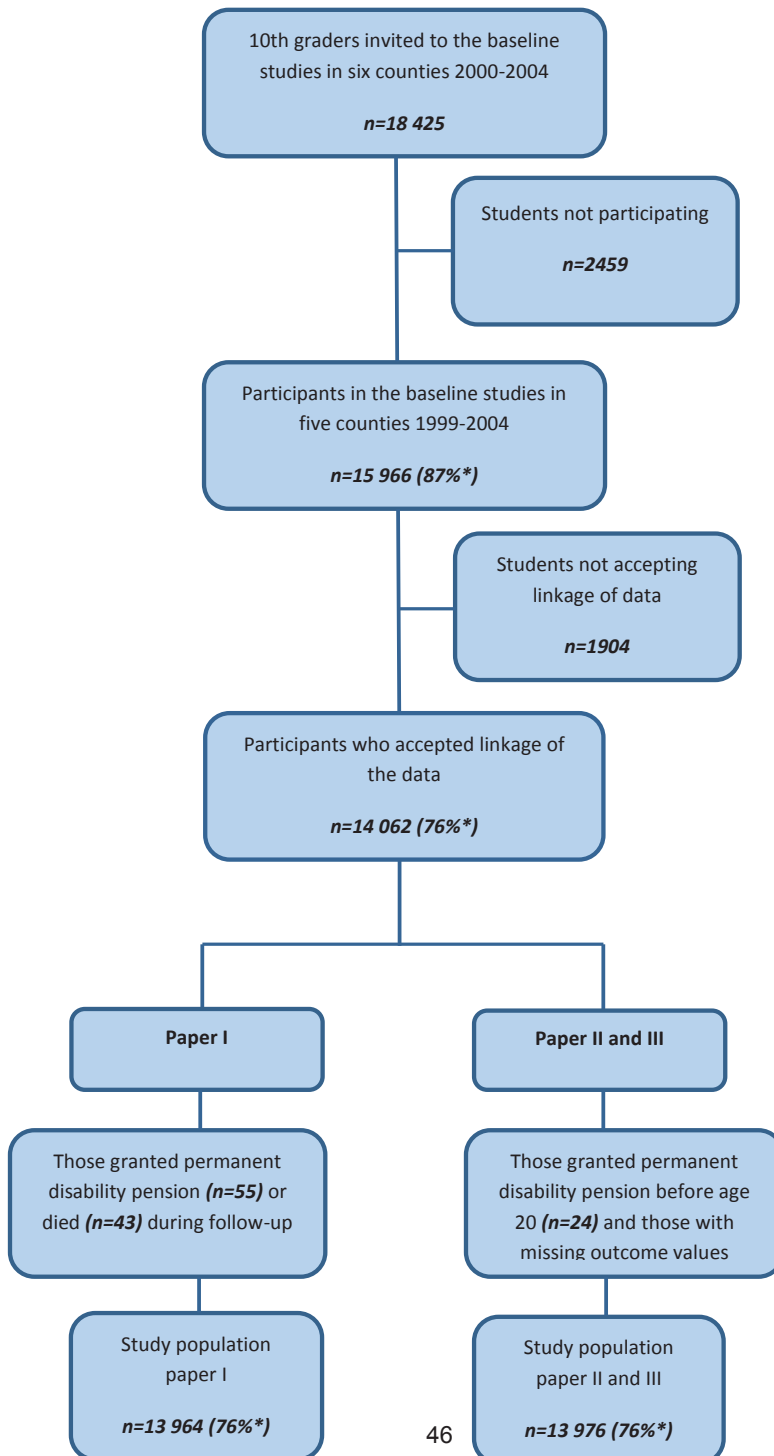
In paper I baseline data from the sample of 14 062 participants were linked to information on high school graduation from the National Education registry. From the FD-trygd database we obtained information on participants who were granted an early permanent disability benefit (n=55) during the follow-up period. We excluded those individuals from the study, as a majority were diagnosed with intellectual disabilities, diagnoses within the autistic

spectrum; or severe psychiatric disorders like schizophrenia – conditions that we considered were not compatible with high-school graduation.

Participants who died (n=43) during follow-up time were also excluded from the analyses, leaving us with a total study sample of n=13 964 in paper I (figure 3).

In paper II and III baseline data from the sample of 14 062 participants were linked to data from FD-trygd which provided information on each participant's use of social welfare benefits from age 18 through march 2010 when they were 21 to 29 years old (median: 25). Participants who were granted a permanent disability benefit before age 20 (n=24) during the follow-up period were excluded from the study. A few participants (n=62) had missing outcome values (individuals who were registered as emigrated or dead after the survey, but prior to age 18 when follow-up started) were also excluded, leaving us with a study sample comprising 13 976 adolescents (figure 3).

Figure 3: Flowchart study populations



3.4 Variables

3.4.1 Dependent variables

3.4.1.1 High-school dropout

From the National Education registry, we gained information on adolescents who had failed to complete high school, which is the outcome variable in paper I (142). In Norway, adolescents normally enrol in high school at age 15–16, immediately after finishing 10th grade, which is the last year of compulsory schooling in Norway. Students are supposed to complete high school within three years. Those who did not graduate within five years after registering as high-school students were defined for the purposes of this study as high school dropouts.

3.4.1.2 Use of long-term social welfare benefits

Use of long-term welfare benefits is the outcome variable in paper II and III. The FD-trygd database provided information on each participant's use of social welfare benefits. In our study, registration for welfare dependence started the calendar year when each adolescent reached 18 years of age. Long-term use of a social welfare benefit was defined as either a 100% sickness benefit received at least 180 days in one year, receipt of medical or vocational rehabilitation, temporary or permanent disability pension, unemployment benefit lasting at least 180 consecutive days in one year, or use of social security support for at least six months during one year (table 2). In paper III we performed separate analysis on receipt of long-term health-related benefits, which included all the above mentioned benefits, except unemployment benefits and social security support, benefits which you do not need a medical diagnose to qualify for.

Welfare benefits	Description	Cut-off used in analyses
Sickness benefits	<i>Sickness benefits compensate for loss of income for employed member of the NIS who are occupationally disabled due to illness or injury</i>	100% sickness benefit received at least 180 days in one year
Social security support	<i>Financial assistance intended to ensure basic needs on a temporary basis</i>	Social security support received at least six months during one year
Unemployment benefits	<i>Unemployment benefits can be allowed and partly compensate for loss of income up to 104 weeks if you are registered as a job seeker and have earned your right to receive an allowance through earlier work participation</i>	Unemployment benefits received at least 180 consecutive days in one year
Medical and vocational rehabilitation benefits*	<i>Up to 2010 adults with chronic medical conditions could receive medical or vocational rehabilitation benefits with an aim to restore working ability</i>	No cut-off
Temporary disability benefits*	<i>Up to 2010 a temporary disability benefit could be granted if the condition was sufficiently severe, chronic and reducing their working capacity by 50% or more, but with possibility for improvement of sickness and work ability</i>	No cut-off
Permanent disability benefits	<i>A permanent disability benefit can be granted if a condition is sufficiently severe, permanent and with slim expectations on future ability to work, and if the working capacity is reduced by 50% or more</i>	No cut-off

*In March 2010 replaced by the work assessment allowance (AAP/arbeidsavklaringspenger)

Table 2: Definitions and cut-offs on use of long-term welfare benefits included in the paper II and III

3.4.2 Independent variables

3.4.2.1 *Use of health-care services*

In paper I use of several health-care services were the main explanatory variables at interest. In the baseline questionnaires, participants answered questions about health care seeking behaviour over the 12 months prior to the survey, whether through school health services, youth health clinics, general practitioners (GPs), or child and adolescent mental health services. To measure the use of health-care services, the contributors were given three response options – ‘none’, ‘1–3’ or ‘4 or more’ – for number of contacts during the past year. In our analyses, we aggregated contacts with the child and adolescent mental health services into two categories: ‘none’ or ‘1 or more’ contacts.

3.4.2.2 *Health indicators*

At baseline, adolescents were asked questions concerning their health, including direct questions on specific conditions and more general symptoms. In paper I we used health measures as adjustment variables, including baseline questions addressing the adolescents’ self-perceptions of the status of their general health, if they had or have had asthma or allergies, and conditions experienced in the 12 months prior to the survey: serious illness or injury; headache, abdominal pain, neck pain or shoulder pain, back pain or pain in extremities. The contributors could answer ‘yes’ or ‘no’ to these health and pain questions. In the baseline questionnaire, self-rated health was categorised into four options: ‘bad’, ‘not good’, ‘good’ or ‘very good’. In our analyses, we dichotomised this variable into two categories: ‘very good or good’ and ‘not good or bad’. We also aggregated the pain variables into a dichotomous variable, in which three or more pain sites indicated a positive pain score and two or fewer indicated a negative pain score. Level of mental health problems were

scored using the Hopkin's Symptom Checklist-10 (HSCL-10), a short-form of the Hopkin's Symptom Checklist-25 (SCL-25), and an instrument designed to diagnose depression in primary health care (144). The HSCL-10 includes ten questions about psychological symptoms experienced over the previous week and is validated for use both in general practice and in epidemiological studies (145). Responses are encoded on a four-point Likert scale from "not troubled" to "heavily troubled". Mean scores were calculated for each scale of 10 items (range 1–4). Records with three or more missing items were excluded from the analyses. A sum score above 1.6 indicates mild, moderate or severe depression among 14–16-year-olds (145).

In paper II health measures were the main explanatory variables. We chose 16 items out of a wider range of health complaints, based on previous studies on self-report of symptoms in adolescents and which we considered clinical relevant and to represent different dimensions of somatic and mental health problems. The following items differed in time range and grading in the questionnaire: Do you have or have ever had: asthma; allergy; eczema? Options: 'yes' or 'no'. Have you during the past 12 months had: ear infection; throat infection (≥ 3 times); bronchitis/pneumonia? Options: 'yes' or 'no'. Have you during the past 12 months several times suffered from: headache (including migraine and other types of headaches); pain in neck or shoulders; pain in arms, legs or knees; abdominal pain; back pain. Options: 'yes' or 'no'. Have you during the last week experienced the following symptoms: feeling afraid or anxious; feeling faint or dizzy; sleeping problems; feeling discouraged or sad; feeling that everything is a burden? Options: 'no', 'slightly', 'much' or 'very much troubled'. We dichotomized the last five dimensions into 'yes' or 'no' categories, where all other categories than a 'no' answer were categorized as 'yes'.

We then made a sum score out of the 16 reported health complaints, representing total symptom burden, where score 0 means that you have answered 'no' to all the questions, while score 16 means that you have answered 'yes' on all the complaints. Individuals who gave an answer on at least one category were included in the analyses, while those who had missing values on all questions were excluded.

We also studied general health by the question on self-perceived health status, described above, but without dichotomization.

In paper III adjustments were done by health measures, including self-perceived general health and mental health, measured by the HSCL-10 score (see descriptions above).

3.4.2.3 Parents' mental health

In paper III the main exposure variable was self-report from the participants on parents' mental health. The adolescents were asked if their parents/caregivers had suffered from mental health problems during the 12 months prior to the survey. They were asked to grade the burden of problems into "no, never", "yes, sometimes", "yes, many times" and "frequently". In the descriptive subgroup analyses, we dichotomized the variable into "yes" or "no".

3.4.2.4 Social support

Social support was used both as an explanatory variable as well as a moderator in paper III and was measured by the students' perception of their relationship to their family, friends, classmates and teachers. The answers were given in a 4-point Likert scale. The scales used in the baseline questionnaires were adapted from a paper by Ystgaard and colleagues from 1999 (146). Ystgaard developed the questions for adolescents in accordance with

corresponding studies on adults and aimed at measuring availability of support, attachment and mutual care (77). Four different dimensions of perceived support were included in the study:

Family support:

Family support included five items: “when you think about your family, would you say: I feel attached to my family; my family takes me seriously; my family values my opinions; I mean a lot to my family; I can count on my family when I need help”. The response format was on a scale of 1 (strongly agree) to 4 (strongly disagree). Mean scores were calculated for each scale of five items from respondents who answered at least two items. Mean scores were reversed so that a high score indicated strong perceived support. Cronbach’s alpha for this scale was 0.87.

Friends’ support:

Friends’ support included four items: “when you think about your friends, would you say: I feel attached to my friends; my friends value my opinions; I can help/support my friends; I can count on my friends when I need help” with responses on a scale of 1 (strongly agree) to 4 (strongly disagree). Mean scores were calculated for each scale of four items from respondents who answered at least two items. Mean scores were reversed so that a high score indicated strong perceived support. Cronbach’s alpha for this scale was 0.83.

Classmates’ support:

Classmates’ support included four items: “I enjoy my classmates; I have much in common with my classmates; I feel attached to my classmates; and my classmates value my opinions” with responses on a scale of 1 (strongly agree) to 4 (strongly disagree). Mean scores were calculated for each scale of four items from respondents who answered at least two items.

Mean scores were reversed so that a high score indicated strong perceived support.

Cronbach’s alpha for this scale was 0.81.

Teacher support:

Teacher support included four items: “my teachers appreciate my opinions; my teachers appreciate me; my teachers help me with my subjects when I need it; and my teachers help me with my personal problems if needed” with responses on a scale of 1 (strongly agree) to 4 (strongly disagree). Mean scores were calculated for each scale of four items from respondents who answered at least two items. Mean scores were reversed so that a high score indicated strong perceived support. Cronbach’s alpha for this scale was 0.82.

	Paper I	Paper II	Paper III
Dependent variables			
High school dropout	x		
Long-term welfare dependence		x	x
Independent variables			
Use of health care services*	x		
Individual health complaints		x	
Symptom burden		x	
Self-perceived health		x	
Mental health problems in parents			x
Social support**			x
Moderator			
Social support**			x

* School health services, Youth health clinics, GP, Child and adolescent mental health services

** Family-, peer-, classmate-, teacher support

Table 3: Schematic overview of the main variables used in the three papers

3.4.3 Gender

Gender was included as a study variable. In paper I and II all analyses were stratified by gender, while in paper III we adjusted for gender and checked for possible interactions by gender.

3.4.4 Socio-demographic background variables

The socio-demographic background variables concerning parents' marital situation and household income were based on self-reports from the baseline questionnaires. The pupils were asked whether their parents' were 'married/living together'; 'divorced/separated'; 'one or both dead'; or 'other'. In paper I we chose to dichotomise these options into 'married/living together' or 'other', while in paper II and III we used all the categories. The question concerning household income were categorised into 'very good'; 'good'; 'mediocre'; or 'poor'. In paper I we chose to collapse 'very good' and 'good' into one category, which we used as the reference category, while we used the full scale in paper II and III. Information on parents' educational level was provided by Statistics Norway. The highest accomplished educational level of one of the parents was used, leaving us with four categories: 'higher college or university degree' (>4 years); 'lower college or university degree'; 'high school'; or 'primary school'.

4 METHODS

4.1 Statistical methods

In paper I gender differences in health service use as well as differences in report of health problems between those who reported use of health services compared to no-seekers, were

investigated using Pearson's Chi-squared tests. Multiple logistic regression analyses were used to investigate associations between high school dropout and the use of health care services at baseline. In a crude model use of health care services were analysed separately, in the adjusted model, adolescent health measures and socio-demographics were added to the model. All analyses were stratified by gender.

In paper II descriptive analyses were performed, as well as Pearson's Chi-squared test to test for gender differences in symptom reporting. Gender differences in the outcome variables were tested using the chi-squared test. To set up survival analyses, multiple imputations were done to account for missing values on all the independent variables. All the exposure and time to event variables were included in the imputation. The imputation procedures were performed using chained equations, creating 200 datasets.

Cox proportional hazard regression analysis was used to calculate hazard ratios (HRs) for use of long-term social welfare benefits by independent health complaints, total symptom burden and self-perceived general health. Cases of death and emigration during follow-up were censored in the time to event analyses. We performed Cox regression analyses on each of the independent health variables and self-perceived general health separately in a crude model. In the adjusted model each health measure was corrected by socio-demographic background factors. Total symptom burden was analysed as a continuous variable, calculating proportional hazards depending on number of symptoms reported, without any confounders included in the model. All the above-described analyses were stratified by gender. We checked for possible interactions between all health measures and socio-economic position, including family economy and parents' educational level. Because of

known problems with interaction analyses on multiply imputed data (147), these investigations were performed on complete cases.

In paper III frequency analyses were performed, as well as Pearson's Chi-squared test to test for differences in general health and socio-demographic factors in exposed individuals compared with the unexposed. Cramer's V was used to evaluate effect size, where the criteria for a small effect =0.01, medium=0.3 and large=0.50 in a 2 by 2 table (for test of gender differences in report of mental health problems). In the tables where we had three categories in the row variable, the criteria for a small effect =0.07, medium=0.21 and large=0.35 (148). Possible gender differences in the outcome variable were tested using Cox regression analyses. Independent-samples t-tests were used to compare perceived social support measures and the mental health measure (HSCL-10 score) between exposed and unexposed groups. Cohen's d was used to evaluate effect size, where the criteria for a small effect =0.2, medium=0.5 and large=0.8 (148).

To set up for survival analyses, we performed multiple imputations to account for missing values in the independent variables. All the exposure and the time to event variables were included in the imputation. The imputation procedures were performed using chained equations, creating 200 datasets.

Cox proportional hazard regression analysis was used to calculate hazard ratios (HRs) for use of long-term welfare dependence, by parents' mental health problems and social support measures. We first performed crude analyses on each of the exposure variables separately. In model 1, each exposure was adjusted for socio-demographic background variables; in model 2, we adjusted for adolescents' health status (general health and mental health) as well. In model 3, we included all background variables described above. In addition, the main

exposures, i.e. parents' mental health and social support, were adjusted for each other.

Because of small sample sizes in the groups reporting mental health problems in parents in preliminary gender-stratified analyses, we chose to present unstratified results. Instead, in models 1–3, we adjusted for gender.

Finally, we checked for interactions between parents' mental health problems and each social support dimension independently. Possible independent interactions between parents' mental health problems and gender were also assessed, as well as interactions in the fully adjusted model. Because of known possible problems with interaction analyses on multiply imputed data (147), these investigations were also performed on complete cases.

The Cox proportional regression model is based on the assumption of proportional hazards, i.e. that the hazard ratio is constant over time. The hazard ratio can be interpreted as a relative instantaneous risk. In paper II and III the proportional hazard assumption was checked by Schoenfeld residuals (147).

In paper I the analyses were done in IBM SPSS Statistics V.19.0, while version 20.0 was used in paper II and III. Time to event analyses were performed using the R package rms for regression analyses (R Foundation for Statistical Computing, Vienna) and Hmisc (function aregImpute) for generating multiply imputed data.

Ethics

As an overall ethical principle, the studies were performed in accordance with Declaration of Helsinki (149), to secure the respect of the individual and his/her rights, assessment of risks and benefits and to gain an informed consent from the participants.

All participants and their parents received a written information brochure about the survey in advance and gave their written consent according to Norwegian law (appendix IV). The consent also included acceptance of linking the questionnaires with different registers/databases. The participation was voluntarily and the participants were informed that they could withdraw from the study at any time by contacting the Norwegian Institute of Public Health. Information on the possibility of withdrawal is also published on the Norwegian Institute of Public Health's website (140).

The baseline youth surveys were originally approved by the Regional Committees for Medical and Health research Ethics, the Norwegian Data Inspectorate, and the local school authorities.

For linking of the questionnaire with the described registers, approval were given from the Regional Committee for Medical and Health research Ethics, Statistics Norway, the National Insurance Services, the Ministry of Education and Research and the Norwegian Tax Inspectorate. We had only access to anonymous data files, as the national identification numbers were removed from the datasets by Statistics Norway before they were released for research.

We consider the risks for the participants in epidemiological research like ours to be quite modest, compared to the benefits. The classroom survey setting can be troublesome for some individuals, though, as answering questions about private and possibly sensitive issues can be stressful. The results from the current study may also imply risks of stigmatization of vulnerable groups. Gaining knowledge on health and health related risk factors for future marginalization, however, is of great individual and public interest, and using already

available research resources, without bothering the participating adolescents, is cost-effective and gives minimal risk for the study subjects.

5 RESULTS

5.1 Paper I

Can use of health care services among 15–16-year-olds predict an increased level of high school dropout? A longitudinal community study.

The study aimed to investigate associations between health care seeking in 15–16-year-olds and high school dropout five years later. Data from a comprehensive youth health survey conducted in 1999–2004 was linked to data from national registries up to 2010. 13 964 10th grade secondary school students in six Norwegian counties were included in the study. The associations were investigated using logistic regression to compute odds ratios for high school dropout.

The total proportion of students not completing high school five years after registering was 29% (girls 24%, boys 34%). At baseline, 70% of the study population attended one or more health care services over the previous 12 months: school health services (girls 32.4%, boys 7.8%), youth health clinic (girls 21.1%, boys 16.4%), GP (girls 59.5%, boys 46.5%), child and adolescent mental health services (girls 3.7%, boys 0.9%). A smaller percentage reported four or more contacts; while girls reported significantly more contacts than did boys. In general, adolescents who reported use of health care services also reported significantly more health problems, compared to those who reported no use of health care services. Frequent attendees to school health services and youth health clinics at age 15–16 had a

higher dropout rate (37/48% and 45/71%), compared with those with no or moderate use. Adolescents referred to mental health services were also more likely to drop out (47/62%). Boys with moderate use of a general practitioner (GP) had a lower dropout rate (30%).

In the multiple logistic regression analyses, where we adjusted for selected health indicators and socio-demographic background variables, we found that seeking help from the youth health clinic and consulting mental health services, were associated with increased level of high school dropout five years later. Frequent attendees (≥ 4 contacts) had the highest odds of dropping out. Yet boys who saw a GP and girls attending the school health services regularly over the previous year were less likely than their peers to drop out from high school.

Our main conclusions were that adolescents who seek help at certain health care services could be at risk of dropping out of high school later. Health workers should pay particular attention to frequent attendees and offer follow-up when needed. On the other hand, boys who attended a GP regularly and girls attending the school health services were more likely to continue to high school graduation, which may indicate a protective effect of having a regular and stable relationship with these services.

5.2 Paper II

A prospective population-based study of health complaints in adolescence and use of social welfare benefits in young adulthood.

The aim of this study was to study work marginalization in young adulthood, measured by use of long-term social welfare benefits, and its' associations with health complaints, total

symptom burden and self-rated general health in adolescents aged 15–16. We linked data from a youth health survey conducted during 1999-2004 to data from compulsory Norwegian registries that followed each participant through February 2010. Cox proportional hazard regression analyzes was used to compute hazard ratios for use of long-term social welfare benefits in young adulthood based on health measures in 15–16-year-olds.

During follow-up, 17% of the study population received some sort of long-term social welfare benefit. If only censoring the health related benefits, the percentage added up to 10. More boys than girls received benefits (18.5%/15.6%, $p < 0.001$). In the baseline survey 95% of the adolescents reported one or more health complaints. Mean number of health complaints was 4.8%. Girls reported a significantly higher mean number of complaints (5.7) than did boys (3.8) ($p < 0.001$). In girls all the independent health complaints, except reporting eczema, were significantly associated with increased use of long-term social welfare benefits in young adulthood, while in boys, reporting allergy, eczema, feeling faint or dizzy and feeling that everything is a burden, were not associated with the outcome, while the other 11 complaints were. We found an increasing relative hazard of social welfare usage, depending on number of symptoms reported at baseline. The association patterns were similar in girls and boys. Ill self-perceived general health was found to be strongly associated with use of benefits during follow-up, in girls we found hazards ratios (HR) of 1.41(CI 1.21–1.65), 2.76(2.29–3.31) and 2.77(1.51–5.07) for good, not so good and bad health respectively, compared to very good health - a dose-response association. The corresponding numbers in boys were 1.41 (1.25–1.59), 1.93(1.60-2.32) and 1.31 (0.72–2.38).

Our main conclusions were that several health measures during adolescence are related to future work marginalization in young adulthood. The associations between health measures and work marginalization remained significant even after correcting for such strong predictors as parents' education and family economy. Even though exact causal pathways are difficult to establish, we argue that ill health is one of several factors that can contribute in the process of marginalization. Total symptom burden and self-perceived general health are health measures which can give additional knowledge on how adolescent' health is related to work marginalization in a longitudinal perspective.

5.3 Paper III

Living with mentally ill parents during adolescence: a risk factor for future welfare dependence? A longitudinal population-based study.

The aim of this study was to investigate the potential long-term consequences of living with the burden of parents with mental health problems during the formative years of adolescence. We studied the relationship between parents' mental health problems reported by their 15–16-year-old adolescents, the potential protective and moderating effect of social support and long-term dependence on public welfare assistance in young adulthood.

The study linked data from a youth health survey conducted during 1999–2004 among approximately 14 000 15–16-year-olds to data from high-quality, compulsory Norwegian registries that followed each participant through February 2010. Cox proportional hazard regression analyses were used to compute hazard ratios for long-term welfare dependence in young adulthood based on parents' mental health problems and several dimensions of perceived social support in 15–16-year-olds.

Of the total study population, 10% (1397) reported having parents who suffered from some level of mental health problems during the 12 months prior to the baseline survey; 3% (420) reported that their parents had frequent mental health problems. Girls reported significantly more trouble than did boys ($p < 0.001$). Adolescent report of their parents' mental health problems was associated with the adolescents' long-term welfare dependence during follow-up, with hazard ratios (HRs) of 1.49 (CI 1.29–1.71), 1.82 (1.44–2.31) and 2.13 (CI 1.59–2.85) for some trouble, moderate trouble and frequent trouble, respectively, compared with report of no trouble with mental health problems in parents. The associations remained significant after adjusting for socio-demographic factors, although additionally correcting for the adolescents' own health status accounted for most of the effect. Perceived support from family, friends, classmates and teachers was analysed separately and each dimension was associated with a lower risk of later welfare dependence in unadjusted analyses. Family and classmate support remained a protective factor for welfare dependence after correcting for all study covariates (HR 0.84, CI 0.78–0.90 and 0.80, 0.75–0.85). We did not find evidence supporting a hypothesized buffering effect of social support in already burdened individuals.

Our main conclusions were that exposure to parents mental health problems during adolescence may represent a risk for future welfare dependence in young adulthood. Perceived social support, from family and classmates in particular, seems to be a protective factor against future long-term welfare dependence.

6 DISCUSSION

6.1 Methodological considerations

6.1.2 Register-based populations

The present study is based on data from extensive population-based youth surveys linked to national databases that encompass complete follow-up registry data on the entire study population. The size of the baseline studies gave us sufficient statistical power to examine our hypotheses, and the baseline questionnaires used to collect information from the adolescents included a wide range of health and health related measures. However, such epidemiological studies have strengths and limitations (150). Measurement errors and how they may impact on the study results must be accounted for. The accuracy of a measured parameter in a study is dependent on the degree of error in the measurement. In epidemiological research, errors are classified as either random or systematic.

6.1.2 Precision

A random error is caused by fluctuation around a true value because of variability in either sampling or measurement (150). An estimate with little random error is a precise estimate of the true value. The confidence interval reflects the precision: a narrow confidence interval reflects a precise estimate. A usual procedure to increase precision and reduce the risk of random errors is to increase the study size. In this study we had the opportunity to use a large study sample, and such reduce the risk of random errors and accomplish a high level of precision. Preliminary power considerations estimated approximately 9% of the population on medical benefits during follow-up, as well as a somewhat larger group on unemployment

and social security allowances. These analyses indicated sufficient power to perform the study. We used a 95% confidence interval in all our analyses.

Random error is also influenced by the prevalence of the outcome and number of individuals included in the different explanatory variables. In all three papers a fairly large proportion of the study population was registered as high school dropouts or received some sort of long-term welfare benefit during follow-up. In some of the exposure groups in our baseline measures quite few individuals were included, which may have lead to inaccurate measurements, reflected by the width of their confidence intervals. Consequently, we chose to collapse some of our exposure measures to increase sample sizes. In paper III we performed analyses on the total study sample, instead of stratifying by gender, because few individuals reported high load of mental health problems in their parents.

Overall, we consider lack of precision as a minor problem in our studies.

6.1.3 Validity

Systematic errors, or bias, occur when there is a not-random difference between the true value in the population and the observed or measured value in the study (150). An estimate with little systematic error is a valid estimate. Internal validity refers to what degree scientific inferences can be drawn within the study population; while external validity refers to what degree the results apply on a general population. Systematic errors include selection bias, information bias and confounding (150).

6.1.3.1 Selection bias

Selection bias is a common challenge in epidemiological studies. Factors that influence study participation may result in selection bias. If the associations between exposure and outcome

are different in those who participate in the study, compared to those who choose not to participate, the effect estimates from the study will differ from that in the general population. Thus, external validity is reduced (150).

In our prospective population-based study, the study subjects were selected from school registries if they attended 10th grade in their respective counties. Selection bias may be a problem due to the following facts: Not all of the invited 10th graders participated in the survey (13%). Some chose not to take part or were not present at the day of the survey; others had moved or quit school after the invitation was accepted. A few were excluded because they did not answer at least one question in the questionnaire. 12% of the participants did not accept linkage of the questionnaire to national registries later on, and were thus excluded from our analyses. Previous studies have indicated that the most disadvantaged individuals are lost in epidemiological studies like ours (151) (152).

Adolescents with ill health and other health related problems may be overrepresented in the group not participating, due to absence from school, inability to fill out the questionnaire and some of them may have already quit school. Pupils with such school-related problems already in 10th grade are likely to be at higher risk of high school dropout and possibly work integration problems later on. Although the response rate in the baseline studies were high (76%), this may have lead to an underestimation of the effect measures found in our study.

Loss to follow-up due to missing outcome measures is a negligible problem, as we could rely on complete follow-up registry data.

6.1.3.2 Information bias

Information bias is caused by erroneous measurements of exposures or outcome variables in the study. When we study categorical variables, we use the term misclassification, which can

be either differential or non-differential (150). Differential misclassification occurs when incorrect classification of a variable depends on the value of other variables. Such misclassification can either exaggerate or underestimate the effects in a study. Recall bias is a common example of differential misclassification and may occur when the respondent is asked about an event a long time after it occurred. Most of our exposure items occurred during the past 12 months prior to the survey, and should not be suspect to recall bias.

A typical case, though, is when study objects recall exposure information differently according to disease status. As our study has a prospective design, marginalization status does not affect exposure information, and vice versa. In paper I, however, information on health service use may have been affected by the adolescents' health status, e.g. adolescents with chronic illnesses or severe health problems may be susceptible to recall their use of health services better than healthier individuals. This could possibly give an overestimation of the effect measures found. Several health problems that might have occurred in childhood and early adolescents are not addressed in the survey. This could lead to "false negative responses" on health problems in individuals who were at risk of marginalization. An underestimation of the effect measures may be a consequence.

Non-differential misclassification arises when incorrect classification of a variable is unrelated to other variables and is identical for all respondents. Such misclassification tends to dilute the true differences between groups in a study. Non-differential misclassification might have occurred when we chose to dichotomize or collapse some of our study variables, as we did with the HSCL-10 score and the self-rated health variable paper I. This could lead to a less nuanced effect measure, e.g. when four response alternatives on the question

about self-rated health question were collapsed into two categories. In paper III the HSCL-10 score was treated as continuous.

Non-differential misclassification might also have occurred when the study participants were to interpret and choose between different response categories in the exposure variables. This could have biased the grading of mental health problems in parents, the main exposure in paper III. Self-report on mental health in parents may represent an imprecise measurement of the actual problems. Thus our effect measures may be altered. It can be argued, though, that the adolescents' own perception of the problem has a greater impact compared to a more objective clinical measure of mental illness.

The social support variables used in paper III were all treated as continuous in the main analyses, to avoid misclassifications. Their validity is also supported by high Cronbachs' alpha scores (153).

Information on high school dropout is collected from the national educational database NUDB, which comprises information on all Norwegian citizens (142). Some individuals, however, may be categorized as dropouts, even if they accomplished to complete high school after the 5-year limit we used in paper I. A few individuals were never registered as high school students, consequently not registered as completers or dropouts later on, and as such lost to follow-up. Errors due to misclassification of dropout, though, should be minimal.

Operationalization of work marginalization, the outcome measure used in paper II and III, could be influenced by misclassification. We chose to classify long-term use of different welfare benefits according to pre-defined cut-offs. For example, we classified long-term unemployment as six months consecutive unemployment during one year, while we classified long-term social security dependence as six months dependence out of the 12 past

months. Consequently, a person with 5 ½ months on a benefit or several short-term registrations on welfare benefits during several years was not classified as marginalized. We can question if a 6 months limit on use of basic social security is too strict. When we choose to include long-term sick-leave as a marginalization category, we include individuals who are employed. Being sick-listed for six months or more, though, implies a high risk of future welfare dependence (154).

Other trajectories than welfare dependence can represent a risk of marginalization, as we did not include marginalized individuals who are not registered in the welfare systems, for example those who are supported by their families. Overall, our estimated number of marginalized individuals is probably too low. As this must be considered a non-differential misclassification, it is unlikely that it would affect our effect measures.

6.1.3.3 Confounding and effect modification

Confounding is a term that describes the situation when a factor that is both related to the exposure and the outcome, explains all or part of the association between the two (150). Confounding is also called confusion of effects. Three conditions must apply to a confounding factor; one, that the association between the factor and the outcome must come from another causal pathway than the main exposure; two, the factor must also be associated with the exposure; and three, the factor must not be an intermediate step in the causal pathway between the exposure and the outcome. Randomization, multivariate adjustment, stratification, subject restriction and matching are common methods used to control for potential confounding factors in studies. Double-blinded randomized trials are considered to be the golden standard when it comes to avoid confusion of effects, as the method gives the opportunity to compare groups with common background characteristics.

In an epidemiological study like ours randomization is not possible, hence other methods to avoid confounding must be applied, e.g. controlling for confounders in multivariate analyses.

If you choose to control for multiple possible confounders, overadjustments may be the result. Spurious associations can occur if you forget to adjust for important confounding factors. It can be challenging to select appropriate confounders. In our study, where we explored possible pathways to work marginalization, several explanatory factors may affect the outcome. In all three papers included in the study we performed multivariate regression analyses where we controlled for important confounders that we found relevant for the objectives of the studies. A priori, socio-demographic background characteristics were considered to be the most important confounders, as their associations with our outcome measures are well established (3, 44, 81, 84, 85). In all three papers we controlled for parents' education, family economy and parents' marital status. In paper I adjusting for socio-demographics caused some of our crude effect measures to become insignificant, while some were attenuated, but still strong. In paper II and III such adjustments did not attenuate the associations substantially between exposures and outcome. In paper I and III we also performed analyzes without and with adjustments for the adolescents' health status. Confounding by other relevant factors, though, cannot be ruled out, in light of the complexity of our study topic. Experiences of adverse life events, resilience and self-efficacy are all factors that may be of importance.

Effect modification occurs when the effect-measure varies across levels or strata of another variable. This is not a bias, but an important finding that should be reported and not corrected for. In this study effect-modification by sex was avoided by stratified analyses and by interaction analyses where we found it appropriate. In paper II analyses were performed

to account for possible interactions between parents' educational level, family economy and health measures, as we considered that health might affect marginalization differently in different socioeconomic strata's. The results indicated that that the relationship between health problems and future use of welfare benefits is somewhat different according to parents' education.

6.1.3.4 External validity

The external validity, or generalizability, of a study refers to the extent the results of a study can be generalized to people outside the study population (150). To achieve a high external validity, it is important that the study sample is representative of the general population. The baseline studies involved the total adolescent population aged 15–16 across geographically diverse areas, including both urban and rural districts. The response rates were high and missing data few. The adolescent study sample should thus be fairly representative for a general youth population in Norway. Local variations and cultural differences cannot be ruled out, though. Different regions of Norway, as well as the other Scandinavian countries are relative homogenous when it comes to health, health care systems, education and welfare (155), hence our results are considered to be relatively representative for these countries. The labour market situation and the welfare systems in several other European countries have greater variations and our results may not be generalizable all over Europe. High school dropout and youth marginalization, however, is a common challenge across Europe, and associations between adolescent ill health and marginalization are likely to be comparable between countries.

6.2 Discussion of the results

This project emerged as a consequence of the fact that an increasing number of young adults between the ages 18 to 30 years have become dependent on health related welfare benefits in Norway in recent years (8, 132). Though the magnitude of permanent worklessness due to health related disabilities in the young is quite small, the number of young adults on permanent disability pensions doubled during the last decade (8). In addition, the dropout rates from high school have been constantly debated the past 20 years. Low educational attainments and failure to integrate into the labour market early in adult life imply higher risks of work marginalization and permanent work exclusion.

We found that about 17% of our study participants were marginalized from work at some point during follow-up, according to our definitions on long-term welfare benefit dependence. About 10% received a medical benefit as their first registered long-term benefit. Almost 30% of the study population were registered as high school dropouts five years after first registering as high school students. Significantly more boys dropped out from high school and boys used welfare benefits to a higher degree than girls.

The three papers, which constitute this work, all investigate potential adolescent predictors for high school dropout and future work marginalization. We have tried to identify predictors during adolescence for future work marginalization, primarily through a health-related perspective. As accounted for in the introduction the significance of adolescent health in relation to work marginalization must be viewed in a life-course perspective and on the background of the theories of social causation and health selection. Our findings support that adolescent health is one of several factors that can contribute to high school dropout and work marginalization. Mental health problems in parents may negatively affect

adolescents and increase the risk of marginalization, while a high level of perceived social support, from family and classmates in particular, seem to lower the risk of work marginalization. The results have already been discussed briefly in the three papers included in the thesis. In the following paragraphs I will discuss and perspective the results more thoroughly, in light of other publications in the research field.

6.2.1 Adolescent health care seeking and high school dropout

In paper I we found a strong association between use of child and adolescent mental health services and later high school dropout. The association remained strong after adjustments for socio-economic factors and other health indicators. We consider report of use of child and adolescent mental health services as a robust measure of moderate to severe mental health problems. To our best knowledge no previous studies have investigated educational outcomes in children referred to child and adolescent mental health services. A longitudinal study conducted in the Netherlands, though, with mean follow-up time of 10.5 years documented a high likelihood of future behavioural problems and psychopathology in adolescents referred to mental health services (33). Our finding is also supported by several previous studies that have documented associations between early-onset mental disorders and lower educational attainment: A study by Fergusson and colleagues following a birth cohort in New Zealand for 21 years, found educational underachievement, measured by school leaving age, academic performances and data on enrolment in tertiary education, among adolescents suffering from depression during adolescence (age 14–16) (156). A cross-national cross-sectional epidemiological study including above 40 000 respondents from 16 different countries found associations between mental disorders, such as anxiety, depression, substance abuse disorders and externalizing disorders and later non-completion

of secondary education (157). Measures on mental health were here collected retrospectively and based on personal interviews. A Norwegian cohort study from 2013 using similar methods as in our study, found significant associations between adolescent psychological distress and concentration difficulties and later high school dropout (158). In a study based on the same baseline material as ours, Sagatun and colleagues found that adolescents not completing high school reported more externalizing problems and girls more internalizing problems at age 15–16 (159). The mediated effect of grades in junior high school was about 30%. A recent review documented associations between mental disorders during childhood and adolescence and secondary school dropout, especially strong for externalizing disorders, but also significant for anxiety and mood disorders, though for the latter internalizing disorders, they were reported to develop also as a consequence of dropout (160). The review included studies with both cross-sectional and longitudinal designs. Important mediating factors in the relationship between mental health and dropout were also identified in this review, such as socioeconomic background, academic achievement and social support. Overall, the magnitude of research supporting that mental illness in adolescence affects educational outcomes negatively, underlines the robustness of our finding; moderate to severe mental illness, measured by self-reported use of child and adolescent mental health services, is strongly associated with high school dropout.

The associations we found between reported use of youth health clinics and high school dropout were also strong, supported by a “dose-response” effect, as frequent use implied higher odds for dropout. The interpretations of these findings are not as clear-cut, though, as with use of the mental health services, as attendance to youth health clinics can have several motivations and explanations. These services are low-threshold, free-of-charge clinics for advice and prescriptions of birth control and diagnosing and treatments of sexually

transmitted diseases (161). The clinics also offer counselling concerning mental health issues, as well as psychosocial problems. Attendance to the youth health clinic multiple times at age 15–16, though, may indicate sexual debut at an early age. Early adolescent pregnancy is a well-known risk factor for lower educational achievements, supported by several longitudinal studies (162-165). Another longitudinal study of adolescents aged 13–15 found associations between several adverse circumstances, such as low academic achievement, poor parental relationships, high level of externalising behaviour and early sexual debut, in both genders (166). A prospective study following adolescents from 13 to 18 years of age found relationships between ecological and familial stress factors and early sexual debut and sexual risk taking behaviour (167). A US study on adolescents receiving mental health treatment indicated associations between both externalising and internalising psychiatric disorders and sexual risk-taking behaviour (168). A cross-sectional study from Oslo based on parts of the same baseline material as ours; found higher odds for use of youth health clinics, among other health care providers, for adolescents reporting symptoms of anxiety and depression (27). The study also documented a dose-response association between symptom load and help seeking. We have not found specific research on attendees to youth health clinics or similar services though, neither from Norway or other countries. Based on the previous research outlined above we can question if frequent attendees to youth health clinics to a higher degree are burdened with health risk behaviours, mental health problems and a set of adverse circumstances, which put them at risk of high school dropout.

Adolescent attendance to the school health services was generally associated with a somewhat higher degree of high school dropout in our study. However, after adjustments for socio-demographic background factors and health measures, girls with moderate attendance to the school health services turned out to have slightly lower odds for dropout.

Furthermore, frequent attendees to the school health services did not have higher odds for dropout, after adjustments, indicating that confounding factors explained the crude results. A Norwegian doctoral thesis based on qualitative methods found that adolescents contact the school health services for counselling of a variety of reasons, including somatic and psychosomatic symptoms, concentration difficulties, stress, familial difficulties and after experiencing adverse life events (169).

Two longitudinal US studies have found associations between low to moderate use of school-based health centres and academic improvement over time and reduction of dropout for high school students (170, 171). The American school-based health centres, however, offer a wider range of health services than do school health services in Norway, and are therefore not directly comparable (172). A report from the Norwegian Knowledge Centre for the Health services from 2010 concluded that due to current knowledge little evidence existed on possible effects of school health services on young people's health and growing-up conditions (173). It would be interesting to explore the potential protective effect of school based health services on academic performances and high school dropout, but the nature of our study did not allow us to investigate this in a methodologically robust way.

Use of GP services showed mixed results, though in general our findings indicate that GP attendees are not particularly at risk of dropout. This result is supported by a recent Dutch study that explored associations between adolescents' health, measured by contacts with their GP for different reasons, and future high school careers (174). In our study, boys who saw a GP regularly were more likely to graduate from high school than their peers. We found no such statistically significant relationship for girls. In the paper we suggested that one interpretation could be that for boys, having a stable relationship with a GP in their

adolescent years can have a positive impact. Given the underlying premise that health service use is a proxy for health problems and that we could correct for all thinkable confounders, this may be a reasonable interpretation. However, with the study methods applied, we now consider that conclusion somewhat speculative. Another possible explanation could be that the boys using the GP services have resources and certain personal qualities that enable them to recognise and cope with their problems – individual resources that may explain their better outcome. Since girls attend the GP service more frequently than boys do, for a wider range of health problems, such an effect may be “neutralized” in the girls.

Our descriptive analyses in paper I confirmed that adolescents who reported use of different health care services during the past 12 months, in general reported more health problems, compared to those who reported no use of health services. This is in line with a previous study on parts of the same baseline population as ours (27). Another study from the Young-Hubro population (the Oslo part of the baseline studies) documented an increased level of adverse life experiences among frequent attendees to the health care services (25). Simultaneously, health care providers are in position where they can offer help and potentially reduce the risk of dropout and marginalization. Hence, it is methodologically challenging to investigate how the health services could act as a protective agent, as use of health care services is both a proxy for several risk factors for dropout and marginalization, and a potential risk reducing agent.

Apart from the US studies on school-based health centres, we have not found other studies that have explored the potential preventive effect of health care services on high school

dropout, though we hypothesize that in high-risk individuals the health care services could play a crucial role.

6.2.2 Adolescent health and future welfare dependence

In paper II we found significant associations between several health dimensions, including individual health problems, ill self-perceived health and symptom burden, and increased use of long-term welfare benefits. Separate analyses where we included only long-term health related benefits in the outcome variable, gave comparable hazards for an adverse outcome (results not published, see table 1 in thesis supplement). Similar associations have also been found in other longitudinal studies, investigating health during adolescence: Two Norwegian studies based on the Young-Hunt population have explored associations between adolescent health and future risk of receiving long-term social welfare benefits. One of the studies found increased risk of welfare dependence in adolescents reporting poor self-perceived health (127), while a study published recently found associations between several independent health problems, including somatic illnesses and symptoms, sleeping problems and symptoms related to anxiety and depression, and increased risk of future welfare dependence (175). Both studies support that ill health is a relevant factor in a marginalization process, in line with our findings. A British study documented five times the odds of long-term sickness absence at age 34 in individuals reporting poor self-perceived health at age 16 (176). Associations between poor self-perceived health in childhood/adolescence and disability pensioning and long-term sickness absence have also been documented in two Swedish studies, in women and men separately (49, 177). Only the study in men had a longitudinal design.

Self-perceived health status is a measure widely used as a health indicator in epidemiological research. Studies on adolescent populations have found self-perceived health to be a relative stable construct, which deteriorates according to general well being, disability, healthcare attendance and health-compromising behaviour (178). Also, ill self-perceived health in adolescence has been found to be associated with increased allostatic load in early adulthood (179).

De Ridder and colleagues have also documented associations between several adolescent health problems and later high school dropout (158). Other studies have documented increased risks of disability pensioning, unemployment and receiving other sorts of public assistance in children suffering from chronic illness (35, 44, 45).

The associations between individual health complaints and future welfare dependence were still significant after adjusting for such strong predictors as parents' education and family economy, indicating that the associations between health and work marginalization are partly independent of important socio-demographic factors. The interaction analyses indicated that some of the health complaints had a stronger impact in adolescents from families where the parents had higher education. We find this interesting, as we may assume that these families have better resources to cope with illness. A possible interpretation of the result could be that health problems imply a greater stigma in the more socially advantaged classes. On the other hand, the effect of ill health was not modified by family economy.

In Norway the most common diagnoses for long-term sick leave and disability pensions are related to mild to moderate mental health conditions and musculoskeletal problems (180-182). These are diagnoses which more often are based on the patient's own reports of

symptoms and distress, as well as self-evaluation of function loss (183, 184). Previous studies have launched the concept of symptom counting as a relevant measure for ill health and as a predictor for functional status in adults (185-187). A longitudinal study following an adult population for 14 years found a strong association between number of musculo-skeletal pain-sites and future disability pensioning (188). A US general practice study found a decline in self-reported functional status, increased health care utilization and number of sick-leave days according to an increase in symptom count (189).

As accounted for in paper II, adolescents frequently report multiple symptoms. Our results show that an increase in symptom burden is related to an increasing risk of receiving a benefit; a finding, which supports that symptom burden can be relevant when investigating adolescent health and marginalization. The international Health Behaviour in School-Aged Children (HBSC) Study of 2009/2010 found that 44% of the girls aged 15 and 26% of the boys reported multiple health complaints more than once a week (190). This is consistent with the findings in our study. Previous research also supports that girls report more health complaints than boys, possibly indicating that girls have more health problems, but also that they report differently compared to boys (191, 192). The associations we found between symptom count and work marginalization were similar in girls and boys, though.

Research has indicated that report of one symptom increases the probability of reporting others (192, 193). There seems to be a clustering of complaints, indicating underlying dimensions of health problems, rather than individual illnesses (191, 193). Due to the nature of our study, where we collected a set of rather heterogeneous health complaints from a general youth survey, we chose to investigate the potential effect of total symptom burden, rather than a clustering of symptoms.

In adult populations a more linear relationship between symptom count and adverse functional outcomes has been documented (185, 188). Our study did not show a similar pattern. This may be explained by the nature of multiple symptoms, which might be somewhat different in adolescents compared to in adults. Also, there are few studies using welfare dependence as a functional outcome, with adolescent symptom reporting as a possible predictor. Neither did we have access to a validated symptom score instrument.

Though our findings on associations between individual health complaints and later dependence on welfare benefits are quite moderate, we have found significant associations between several health dimensions during adolescence and future welfare dependence. Supported by several other studies, as outlined above, it is reason to believe that ill health in adolescence influences the ability to integrate into the labour market in young adulthood, partly independently by socio-economic factors. It is difficult, though, with our study methods, to account for direct causal effects and to determine who is at risk and through which mechanisms. However, receiving a medical benefit requires a medical diagnose, a fact which calls for including health as a possible predictor when exploring possible mechanisms for ending up on long-term social welfare benefits in young adulthood.

6.2.3 Parental mental health and long-term welfare dependence

In paper III we found increased use of long-term welfare benefits in adolescents who reported mental health problems in parents. We also found independent associations between several dimensions of perceived social support and reduced use of welfare benefits. We did not find evidence to support a predicted buffering effect of social support in adolescents already burdened with mentally ill parents.

Parental mental illness frequently co-exists with several other disadvantages, such as parents' own work disability, unemployment and economic problems (52, 194, 195).

Furthermore, having parents with mental illness is a well-known risk factor for psychological problems and mental health problems in children and adolescents (52, 55, 62, 196, 197).

As accounted for in the paper, parents' mental health problems can affect adolescents' psychological development and adjustment through several mechanisms. Mental illness in families is frequently associated with other adversities, such as family conflicts and divorce, domestic violence, alcohol- and drug-abuse and poverty (198). A contextual model explaining adverse effect on children includes socio-economic factors and adverse life experiences, including living in a stressful home environment, which can explain both mental illness in parents and maladjustments during childhood (198-200). Thus, a clustering of life adversities may explain an unfortunate outcome. Offspring of parents with mental illness also have a genetic predisposition for mental illness (201, 202), which in turn increases the risk of marginalization. Inherited epigenetics may also play a role (139).

Several studies support that adolescent mental health affects educational attainments and future labour market participation, as outlined previously in the section discussing the results from paper I. In line with our results, one other Norwegian study found that adolescents from families in which parents suffered from symptoms of anxiety and depression were at risk of medical welfare dependence in young adulthood, as well as an increased risk of suffering from anxiety and depression themselves during adolescence (63). Few other studies, though, have investigated the possible long-term effect of living with mentally ill parents, independently of their children's' own health. Our results support that the association between parents' mental health problems and welfare dependence is partly

independent of well-known confounders such as parent's educational level, family income, and parent's marital status. However, the fact that adjustment for health attenuated the associations may indicate that a substantial part of the effect on welfare dependence is explained by ill health in the adolescents themselves.

6.2.4 The role of social support

We are not familiar with other longitudinal studies, which have examined adolescents' perceived social support in relation to welfare dependence in adulthood or other similar outcomes. Our results, though, are supported by previous longitudinal studies showing that perceived social support is strongly related to reduced stress and psychological distress, as well as improved health and well-being (76, 146, 203). A review by Kidger and colleagues indicates that students' perception of teacher support and school connectedness is associated with better emotional health (204). A recent Norwegian study found associations between low support from classmates and emotional, conduct and co-morbid problems for adolescents in 5th to 8th grade (205). A study among senior high school students in Ghana found that perceived social support from family and friends was negatively related to stress and predictive of health and well being (206). Also, lack of social capital or social ties has been shown to make young people vulnerable to unemployment (81). A longitudinal study from Norway found that being popular during adolescence protected at-risk youth against later marginalization, measured by high school dropout, unemployment and receiving basic social security benefits (207). Good social networks seem to increase the chances of getting hired and receiving information on job possibilities (6, 208). Also, marginalized individuals tend to live by themselves and are in general burdened by weaker social networks (209).

Family support and positive classmate relationships are considered to strengthen self-esteem and contribute to school connectedness, which in turn may improve general coping and school achievements. Previous studies have found correlations between the different sources of social support, possibly indicating a common, underlying personality factor affecting how an individual perceives support (72). The experience of social support in one domain, may also affect the experience in another (72).

Previous studies show mixed results concerning a potential buffering effect of social support. Ystgaard and colleagues documented a protective effect on mental distress by social support from family and peers in boys exposed to stressors, while they found no such effect in girls (146). Another cross-sectional Norwegian study found negative associations between support from parents, friends and teachers and emotional problems in both genders aged 14–15 (210). In addition, the study indicated that support from parents could moderate the relationship between negative events and emotional problems among girls (210). The importance of parental support in particular, for prevention of emotional distress has been stressed (80). A Canadian study found that a negative home environment placed adolescents at risk for engagement in health risk behaviours and associated negative physical health outcomes. A positive school environment, though, could possibly moderate this relationship (211). A recent Australian study indicated benefits from teacher support in 1st year high school students with average and high numbers of stressful life events, on emotional well being and depressive symptomatology, while such support may have iatrogenic effects on students experiencing low numbers of stressful events (212). A Norwegian study based on the same baseline material as ours, found a protective effect of family support and positive classmate relationships in reducing the likelihood of receiving long-term welfare benefits in adolescents exposed to violence, bullying and multiple types of abuse (213).

In our study we did not find evidence supporting the buffering hypothesis, i.e. that social support is especially important when an individual already is exposed to some sort of stressful circumstances. Our statistical model, though, may have simplified reality too much. A model including the adolescents own mental health status as a mediator, could possibly allow us to explore the buffering effect of social support more extensively, and also to assess to which extent the effect of parents' mental health on marginalization was mediated through their offspring's own mental illness.

7 IMPLICATIONS

“Anyway, I keep picturing all these little kids playing some game in this big field of rye and all. Thousands of little kids, and nobody's around - nobody big, I mean - except me. And I'm standing on the edge of some crazy cliff. What I have to do, I have to catch everybody if they start to go over the cliff - I mean if they're running and they don't look where they're going I have to come out from somewhere and catch them. That's all I do all day. I'd just be the catcher in the rye and all. I know it's crazy, but that's the only thing I'd really like to be.”

J.D. Salinger, *The Catcher in the Rye*

When suggesting possible implications of the results found, it is important to bear in mind that this is an epidemiological study where we have examined trends on a group level. When exploring individual trajectories into work marginalization, epidemiological research needs to be supplemented by other research methods. Epidemiology is traditionally defined as *“the study of the distribution and determinants of disease frequency”* (150), and is as such an observational discipline. Though modern statistical methods seek to overcome the concerns due to causality, we still need to be cautious to claim causal pathways, also due to the complexity of the study topic and the methodological limitations already accounted for. In addition, my thesis has a health related perspective, which has consequences for what I choose to include as possible implications of the study.

In general, the public debate has focused less on young people's health in the on-going discussion on youth marginalization. Our results, supported by two recent doctoral theses from the Young-HUNT cohort with similar research agendas (214, 215), suggest that ill health in adolescence is a risk factor for high school dropout and future work marginalization. Efforts to promote adolescent health should therefore be a priority. Such efforts could be population-based or targeted on high-risk groups or individuals. Research supports that several health interventions can contribute to improved school completion rates (12), such

as coordinated school health programs, school-based health clinics, mental health programs, substance abuse prevention and treatments programs, pregnancy prevention programs, violence prevention programs and efforts to enhance the school climate. Similar interventions could also be relevant in a Norwegian setting – evaluation studies assessing the impact of school dropout rates and youth marginalization are rare, though.

As discussed earlier in my thesis, our results confirm that adolescents have frequent encounters with the primary health-care services every year. As our studies also support that health status is related to high school dropout and future work marginalization, these contacts provide golden opportunities to uncover somatic health problems and mental illness, as well as psychosocial disturbances and life adversities. Health workers in the primary health-care services should pay particular attention to adolescents with multiple health service encounters and offer treatment and follow-up when needed. However, the health services in general should avoid medicalization of non-medical problems.

Based on our results we will suggest one group where direct prevention efforts should be considered; the child and adolescent mental health services should target strategies to secure that high-risk adolescents attending their services manage to complete secondary education and thus strengthen their chances to integrate into the labour market later on. In addition, it would be relevant in future studies to document long-term outcomes in terms of educational achievements and labour market integration among adolescents in this vulnerable group.

The school health services are in a particular position to identify and help adolescents who struggle with ill health and life adversities. A policy document from the Norwegian health authorities from 2010 stressed the importance of the school health services in preventing

dropout. The report called for a strengthening the services and to increase intersectional and interdisciplinary co-operation (216). We would suggest that future research focuses on developing evidence-based strategies to improve the quality and the availability of the services provided and effect studies with school dropout rates as an outcome.

As our results indicate that living with parents with mental health problems can have long-term consequences, preventive efforts must be considered. Also, according to the Norwegian Health Personnel Act (217), health workers in Norway are obliged to provide necessary information and help to under-aged children of parents suffering from serious chronic somatic or mental illness and drug or alcohol addiction. Health care providers are in a good position to identify children with special needs in this context and should offer help and follow-up. Co-operation with the burdened family by strengthening support and coping may help the child.

That all the dimensions of social support independently show strong positive associations with lower use of long-term welfare benefits supports a call for a broader approach when caring for both exposed and unexposed children. The potential beneficial effect of teacher and classmate support, calls for focusing on the classroom climate, and one should encourage teachers to work with the class environment and in general act supportive.

Demographics and pre-existing social characteristics among high school students cannot be changed, the school authorities and teachers, though, can change their practices towards students at risk (120).

Welfare policies in Norway have a long tradition in priorities in efforts targeting young people at risk of marginalization and work exclusion. Currently, three different guarantee schemes for young people exist; *“Ungdomsgarantien”* (“the Youth Guarantee Scheme”)

from 1979 is meant to secure work or vocational initiatives in young people below age 20 who are unemployed or not in education (218). In 2013 two additional guarantee schemes replaced previous efforts, in securing young adults aged 20–24 follow-up from NAV (the Norwegian Labour and Welfare Administration) if they were unemployed and needed assistance to get a paid job, either from health issues or other causes (8, 219). Also co-operations between NAV and the high schools, such as the “*Ny GIV*” initiative and “*the LOS*” project, are interventional efforts which seek to help young people in a marginalization process (8, 220). The first initiative targets the high school dropout problem, while the latter involves advisors from NAV who work with seniors at risk in secondary school and high school. The health care services are usually not involved in these efforts. Studies evaluating the effect of these efforts are few, though. Continuing to develop, strengthen and evaluate these already existing efforts would be suggested. A potential risk if efforts to reduce work marginalization focus too much on health is medicalization of labour market problems. In the Norwegian setting where the current unemployment rates are low and the medical welfare allowances are generous, risk of medicalization is of particular concern. Efforts must be balanced with this in mind.

A report from the Nordic Centre for Welfare and Social Issues from 2012 indicated that among the most successful initiatives implemented to prevent high school dropout and unemployment in the young, were intersectional and interdisciplinary efforts made among schools, labour market services, health and social services, indicating that complex efforts are needed in prevention of work marginalization (221).

Longitudinal, register-based studies as ours are well suited to investigate health related predictors of marginalization. Causal inference and propensity score matching are

established and well-known methods, which can be used to partly overcome the causality problem. Studies that evaluate efforts to prevent health-related marginalization and work exclusion are lacking, though, and should be a priority in future research.

Also, quantitative research methods must be supplemented by other types of studies.

Qualitative interview studies aiming to reveal attitudes toward public welfare, educational goals and expectations towards the labour market, could add important knowledge to the research field. A considerable proportion of adolescents who are burdened with health problems, manage well, they are able to graduate from high school and they integrate into the labour market. What distinguishes individuals who succeed compared to those who fail in this process? Qualitative research with a longitudinal approach, to identify processes that lead to marginalization and factors that may act supportive, can add knowledge on individual trajectories into work marginalization.

8 CONCLUSIONS

Through our study we have gained knowledge on the relationship between health and health-related factors in adolescents and work marginalization in a prospective, longitudinal perspective. Although causal pathways are difficult to document, self-perceived health, high general symptom load, mental illness and frequent use of certain health care services seem to be relevant predictors of work marginalization. Serious illness can be a sufficient factor to explain un-ability to complete education and integrate into the work force, while individuals with less serious illnesses or health problems may have potential to participate in work. Among these, the interconnection between ill health, personal resources and contextual factors probably plays a substantial role.

Our findings support that ill health, together and in interaction with, other disadvantages and circumstances during childhood and adolescence contribute on the pathway to work marginalization. In addition, we have documented that parental mental health is a possible predictor of future work marginalization, though the relationship is confounded by the adolescents' own health status. On the other hand, perceived social support, from parents and classmates in particular, seem to be of importance to possibly reduce the risks of marginalization. In the introduction I touched upon the concept of health selection, as opposed to theory of social causation – both approaches which are relevant for the interpretation of our results.

Our studies also confirm that high school dropout and long-term welfare dependence in young adulthood are substantial problems in Norway, both risk factors for permanent work exclusion. Work marginalization is a burden both for the individual and the society, and for the society a large number of years are potentially lost to work, which imply huge costs. If we manage to reduce dropout and delay in high school education with about a third, we can potentially save 6 thousand millions kroner (NKR) per age cohort (88). Additionally, the economic consequences of permanently ending up outside the labour market at age 20, is estimated to be about 1 million Euros per case (222).

Future research and policies concerning prevention of youth marginalization should focus on a life course perspective, where childhood and adolescent health in interaction with other relevant predictors are included. Both qualitative research and intervention studies could be relevant to supplement to the knowledge in the area.

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Thesis supplement

Figure 1: The associations between self-rated health and use of long-term welfare benefits following follow-up, visualized in Kaplan-Meier survival plots.

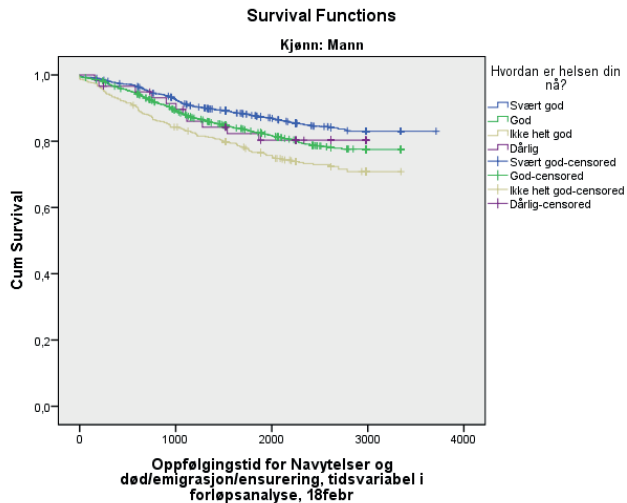
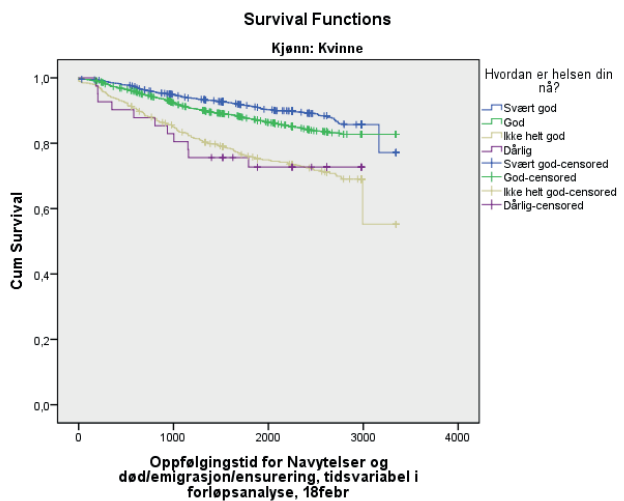


Figure 2: The associations between adolescent report of mental health problems in parents and use of long-term welfare benefits during follow-up, visualized in a Kaplan-Meier survival plot.

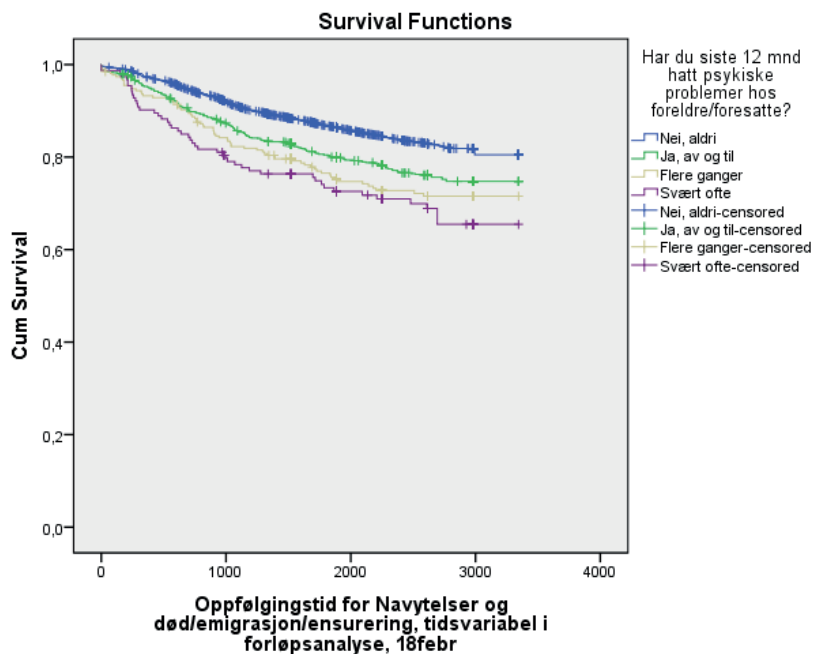


Table 1: Associations between self-reported health complaints, self-perceived health and later use of long-term *health-related* welfare benefits, investigated using Cox regression analysis, associations expressed in hazard ratios (HR) with 95% confidence intervals (CI)

	Crude model†			Adjusted model††			
	Girls		Boys	Girls		Boys	
	HR (CI)	P	HR (CI)	HR (CI)	P	P	
Individual health complaints							
<i>Asthma</i>	1.28 (1.01–1.62)	0.04	1.11 (0.85–1.46)	1.15 (0.90–1.47)	0.26	1.07 (0.81–1.42)	0.64
<i>Allergies</i>	1.26 (1.06–1.51)	0.01	1.01 (0.83–1.23)	1.23 (1.03–1.48)	0.02	0.99 (0.80–1.21)	0.88
<i>Eczema</i>	1.28 (1.06–1.53)	0.01	1.16 (0.93–1.44)	1.31 (1.09–1.57)	0.004	1.20 (0.96–1.51)	0.11
<i>Ear infection</i>	1.45 (1.10–1.90)	0.01	1.33 (0.97–1.83)	1.31 (0.99–1.72)	0.06	1.26 (0.90–1.75)	0.17
<i>Throat infection</i>	1.33 (1.06–1.67)	0.01	1.53 (1.19–1.98)	1.19 (0.94–1.50)	0.15	1.19 (0.94–1.50)	0.15
<i>Bronchitis or pneumonia</i>	1.45 (1.08–1.95)	0.01	1.38 (1.00–1.91)	1.35 (1.01–1.81)	0.046	1.39 (0.99–1.95)	0.06
<i>Back pain</i>	1.50 (1.25–1.79)	<0.001	1.43 (1.17–1.74)	1.34 (1.12–1.61)	0.002	1.28 (1.04–1.57)	0.02
<i>Pain in neck or shoulders</i>	1.45 (1.21–1.73)	<0.001	1.67 (1.37–2.04)	1.38 (1.15–1.65)	0.001	1.51 (1.23–1.86)	<0.001
<i>Limb pain</i>	1.27 (1.06–1.53)	0.01	1.36 (1.11–1.66)	1.26 (1.04–1.52)	0.002	1.25 (1.02–1.54)	0.03
<i>Headaches</i>	1.46 (1.20–1.77)	<0.001	1.36 (1.13–1.65)	1.36 (1.11–1.67)	0.003	1.25 (1.03–1.53)	0.03
<i>Abdominal pain</i>	1.42 (1.19–1.70)	<0.001	1.55 (1.24–1.92)	1.30 (1.08–1.56)	<0.001	1.46 (1.14–1.80)	0.002
<i>Sleeping problems</i>	1.54 (1.30–1.84)	<0.001	1.26 (1.04–1.53)	1.46 (1.23–1.75)	<0.001	1.22 (1.00–1.50)	0.05
<i>Feeling afraid or anxious</i>	1.60 (1.35–1.91)	<0.001	1.39 (1.08–1.78)	1.48 (1.23–1.76)	<0.001	1.24 (0.95–1.62)	0.11
<i>Feeling discouraged or sad</i>	1.44 (1.21–1.71)	<0.001	1.58 (1.28–1.95)	1.34 (1.12–1.60)	0.001	1.53 (1.23–1.91)	<0.001
<i>Feeling faint or dizzy</i>	1.48 (1.23–1.78)	<0.001	1.13 (0.93–1.38)	1.48 (1.23–1.78)	<0.001	1.11 (0.90–1.35)	0.33
<i>Feeling that everything is a burden</i>	1.22 (1.02–1.46)	0.03	1.07 (0.89–1.30)	1.17 (0.97–1.40)	0.10	1.06 (0.87–1.29)	0.55
Self-perceived health							
<i>Very good</i>	Ref.		Ref.	Ref.		Ref.	
<i>Good</i>	1.51 (1.19–1.90)	0.001	1.50 (1.21–1.84)	1.43 (1.13–1.82)	0.003	1.48 (1.19–1.85)	<0.001
<i>Not so good</i>	2.99 (2.28–3.92)	<0.001	1.76 (1.26–2.45)	2.68 (2.02–3.55)	<0.001	1.57 (1.09–2.24)	0.01
<i>Bad</i>	4.62 (2.24–9.51)	<0.001	1.75 (0.72–4.29)	4.99 (2.41–10.33)	<0.001	1.41 (0.51–3.86)	0.51

† Each variable analyzed separately

†† Each variable adjusted for family economy, parents' educational level and parents' marital situation

APPENDICES

- I. Main questionnaire, the Youth studies**
- II. Supplementary questionnaire, the Youth studies**
- III. Information brochures, the Youth studies**
- IV. Declaration of consent form, the Youth studies**
- V. Flowchart, the Youth studies:**

U4. RØYKING, RUSMIDLER OG DOP

4.1 Røyker du, eller har du røykt? (Sett bare ett kryss)

Nei, aldri 1 Ja, men jeg har sluttet 2 Ja, av og til 3 Ja, hver dag 4

Hvis du har svart «NEI, ALDRI»; hopp til pkt. 4.3

4.2 Hvor gammel var du da du begynte å røyke? år

4.3 Bruker du eller har du brukt snus, skrå eller lignende? (Sett bare ett kryss)

Nei, aldri 1 Ja, men jeg har sluttet 2 Ja, av og til 3 Ja, hver dag 4

4.4 Røyker noen av de du bor sammen med? (Sett ett eller flere kryss)

Ja, mor Ja, far Ja, søsken Ja, andre Nei JA NEI

4.5 Har du noen gang drukket alkohol? (f.eks. alkoholfri øl, rusbrus, vin, brennevin eller hjemmembrent)

Hvis du svarte «NEI»; hopp til pkt. 4.8

4.6 Har du noen gang drukket så mye alkohol at du har vært beruset (full)? (Sett bare ett kryss)

Nei, aldri 1 Ja, en gang 2 Ja, 2-3 ganger 3 Ja, 4-10 ganger 4 Ja, mer enn 10 ganger 5

4.7 Omtrent hvor ofte har du i løpet av det siste året drukket alkohol? (Sett bare ett kryss) (Letta og alkoholfritt al regnes ikke med)

4-7 ganger i uka 1 2-3 ganger i uka 2 ca. 1 gang i uka 3 2-3 ganger pr. måned 4

Omtrent 1 gang i måneden 5 Noen få ganger siste år 6 Har ikke drukket alkohol siste år 7 Har aldri drukket alkohol 8

4.8 Har du noen gang prøvd dopingmidler? (Sett bare ett kryss)

Nei, aldri 1 Ja, en gang 2 Ja, flere ganger 3 Ja, jeg bruker det regelmessig 4

U5. MAT, DRIKKE OG SPISEVANER

5.1 Hvor ofte spiser du vanligvis disse matvarene? (Sett ett kryss for hver linje)

	Sjelden /aldri	1-3 g. pr.mnd	1-3 g. pr.uke	4-6 g. pr.uke	1-2 g. pr.dag	3 g. eller mer pr.dag
Frukt, beer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ost (alle typer)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Poteter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kokte grønnsaker	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rå grønnsaker/salat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fett fisk (f.eks. laks, orret, makrell, silde)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sjokolade/smågodt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chips, potetgull	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

U5. Mat, drikke og spisevaner (fortsettelse)

5.2 Hvor mye drikker du vanligvis av følgende? (Sett ett kryss pr. linje) (1/2 liter = 3 glass)

	Sjelden /aldri	1-6 glass pr.uke	1 glass pr.dag	2-3 glass pr.dag	4 glass eller mer pr.dag
Helmelk, kefir, yoghurt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lettmelk, cultura, lettyoghurt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Skummet melk (sur/søt)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cola/brus med sukker	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cola/brus «light»	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fruktjuice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Saft	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vann	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5.3 Hva slags fett bruker du oftest på brødet? (Sett bare ett kryss)

Smer/hard margarin 1 Myk/lett margarin 2 Oljer 3 Bruker ikke 4

5.4 Hvor ofte spiser du disse måltidene en vanlig uke? (Sett ett kryss for hver linje)

	Sjelden /aldri	1-2 ganger pr.uke	3-4 ganger pr.uke	5-6 ganger pr.uke	Hver dag
Frokost	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Formiddagsmat/matpakke	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Middag	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5.5 Hvor mye penger bruker du LUKA på snop, snacks, cola/brus og gatekøkkenmat? (Sett bare ett kryss)

0-25 kr 1 26-50 kr 2 51-100 kr 3 101-150 kr 4 151-200 kr 5 over 200 kr 6

5.6 Bruker du følgende kosttilskudd: Ja, daglig Iblandt Nei

Tran, trankapsler, fiskeoljekapsler Vitamin- og/eller mineraltilskudd

5.7 Har du noen gang prøvd å slanke deg? (Sett bare ett kryss)

Nei, aldri 1 Ja, tidligere 2 Ja, nå 3 Ja, hele tiden 4

Hvis du svarte «NEI, ALDRI»; hopp til pkt. 5.9:

5.8 Hva har du gjort for å slanke deg? (Sett ett kryss for hver linje)

	Aldri	Sjelden	Ofta	Alltid
Jeg spiser mindre	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg fastler	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg trener mer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg kaster opp	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg bruker avføringspiller eller vanndrivende midler	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg tar mettende eller sult-dempende piller	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5.9 Hva veide du sist du veide deg? hele kg

5.10 Hvor høy var du sist du målte deg? hele cm

5.11 Hva synes du om vekten di? (Sett bare ett kryss)

Vekt er OK	Veier litt for mye	Veier alt for mye	Veier litt for lite	Veier alt for lite
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

5.12 Jeg bryr meg mye om vekt mi. (Sett bare ett kryss)

Enig Litt enig Ikke enig

5.13 Hvilken vekt ville du vært tilfreds med nå (din «trivselsvekt»)? hele kg

5.14 Har du noen gang vært til behandling for spiseforstyrrelser?

Nei 1 Nei, men jeg burde vært 2 Ja 3

U6. PÅKJENNINGER OG MESTRING

6.1 Under finner du en liste over ulike plager. Har du opplevd noe av dette den siste uken (til og med i dag)?
(Sett ett kryss for hver linje)

	Ikke plaget	Litt plaget	Ganske mye	Veldig mye
Plutselig frykt uten grunn.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Føler deg redd eller engstelig.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Matthet eller svimmelhet.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Føler deg anspent eller oppgjet.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lett for å klandre deg selv.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Søvnproblemer.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nædtrykt, tungsindig (trist).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Følelse av å være unyttig, lite verd.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Følelse av at alt er et slit.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Følelse av håpløshet mht. framtida.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	1	2	3	4

6.2 Under finner du noen påstander.

(Sett ett kryss for hver linje)

	Helt galt	Nok så galt	Nok så riktig	Helt riktig
Jeg klarer alltid å løse vanskelige problemer hvis jeg prøver hardt nok.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hvis noen motarbeider meg, så kan jeg finne måter og veier for å få det som jeg vil.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hvis jeg har et problem og står helt fast, så finner jeg vanligvis en vei ut.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg føler meg trygg på at jeg ville kunne takle uventede hendelser på en effektiv måte.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg beholder roen når jeg møter vanskeligheter, fordi jeg stoler på mine evner til å mestre/få til ting.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	1	2	3	4

6.3 Har du i løpet av de siste 12 mnd selv opplevd noe av følgende?

(Sett ett kryss for hver linje)

	JA	NEI
Foreldre (foresatte) har blitt arbeidsløse eller uføretrygdet.....	<input type="checkbox"/>	<input type="checkbox"/>
Alvorlig sykdom eller skade hos deg selv.....	<input type="checkbox"/>	<input type="checkbox"/>
Alvorlig sykdom eller skade hos noen som står deg nær.....	<input type="checkbox"/>	<input type="checkbox"/>
Deadstall hos noen som sto deg nær.....	<input type="checkbox"/>	<input type="checkbox"/>
Seksuelle overgrep (f.eks. blotting, beføling, ufrivillig samleie m.m.).....	<input type="checkbox"/>	<input type="checkbox"/>

6.4 Har du opplevd noe av følgende?

(Sett ett kryss for hver linje)

	Nei	Ja, av og til	Ja, ofte
Stort arbeidspress på skolen.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Stort press fra andre for å lykkes/gjøre det bra på skolen.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Store vansker med å konsentrere deg i timen....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Store vansker med å forstå læreren når hun/han underviser.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6.5 Har fagpersonell sagt at du har eller har hatt lese- og skrivevansker.

(Sett bare ett kryss)

Ja, store	Ja, middels	Ja, lette	Nei
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4

6.6 Har du i løpet av de siste 12 mnd, opplevd problemer med mobbing på skolen/skoleveien?

(Sett bare ett kryss)

Adri	Av og til	Omtrent en gang i uke	Flere ganger i uke
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4

U7. BRUK AV HELSETJENESTER

7.1 Har du de siste 12 mnd, selv brukt?:

(Sett ett kryss for hver linje)

	Ingen ganger	1-3 ganger	4 ganger eller mer
Skoolehelsestjenesten.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Helsestasjon for ungdom.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vanlig lege (Allmennpraktiserende lege).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PP-tjenesten.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Psykolog eller psykiater (privat eller på poliklinikk).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Familierådgivning.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Annen spesialist (privat eller på poliklinikk).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Legevakt (privat eller offentlig).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sykehusinnleggelse.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sosialtjenesten i kommunen.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fysioterapeut.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tannlege/skoletannlege.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternativ behandler.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

U8. UTDANNING OG UTDANNINGSPLANER

8.1 Hva er den høyeste utdanning du har tenkt å ta?

(Sett bare ett kryss)

Universitet eller høyskoleutdanning av høyere grad.....	<input type="checkbox"/> 1
(F.eks. lektor, advokat, sivilingeniør, tannlege, lege, psykolog, siviløkonom)	
Universitet eller høyskoleutdanning på mellomnivå.....	<input type="checkbox"/> 2
(F.eks. cand.mag., lærer, sosionom, sykepleier, polit, ingeniør, journalist)	
Videregående allmennfaglig/økonomisk administrativt fag....	<input type="checkbox"/> 3
Yrkesfaglig utdanning på videregående skole.....	<input type="checkbox"/> 4
(kokk, insar, byggtag, elektrotag, helse- og sosialag o.l.)	
Ett år på videregående skole.....	<input type="checkbox"/> 5
Annet:.....	<input type="checkbox"/> 6
Har ikke bestemt meg.....	<input type="checkbox"/> 7

8.2 Hvor mye egne penger brukte du siste uke?kr

(Småinnkjøp pluss større gjenstander som f.eks. musikkarlegg o.l.)

JA	NEI
<input type="checkbox"/>	<input type="checkbox"/>

8.3 Har du lønnet arbeid i løpet av skoleåret?

Hvis du svarer «JA»:

Hvor mange timer i uka arbeider du? ca. hele timer

Hvor mye tjener du i gjennomsnitt pr. måned på dette arbeidet? kr

8.4 Hvilken karakter fikk du siste gangen i karakterboken?

(Sett bare inn to karakterer)

Matte	Norsk skriftlig	Engelsk	Samfunnsfag
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

U9. OPPVEKST OG TILHØRIGHET

9.1 Hvor lenge har du bodd i Norge?

hele år

9.2 Hvor lenge har du bodd der du bor nå?

hele år

9.3 Har du flyttet i løpet av de siste 5 årene?

(Sett bare ett kryss)

Nei	Ja, en gang	Ja, 2-4 ganger	Ja, 5 ganger eller flere
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4

9.4 Mine foreldre er:

(Sett bare ett kryss)

Gilt/samboere	Ugift	Skilt/separert	En eller begge er døde	Annet
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

9.5 Hvor er dine foreldre født?

Norge	Annet land	Hvilket land:
Fær: <input type="checkbox"/>	Fær: <input type="text"/>	
Mor: <input type="checkbox"/>	Mor: <input type="text"/>	

U9. Oppvekst og tilhørighet (fortsettelse)

9.6 Jeg tror vår familie, sett i forhold til andre i Norge, har:

(Sett bare ett kryss)

Dårlig råd 1 Middels råd 2 God råd 3 Svært god råd 4

9.7 Er far og/eller mor i arbeid nå?

Jå, heilid 1 Jå, deltid 2 Arbeidslos/trygdet 3 Hjemmeværende 4 Går på skole/studier 5 Dod 6

Mor: 1 2 3 4 5 6 8

Hvis far og/eller mor er i arbeid, hvilket yrke har de?

Far: _____

Skriv kort hva han gjer på jobben: _____

Mor: _____

Skriv kort hva hun gjer på jobben: _____

U10. FAMILIE OG VENNER

10.1 Hvem bor du sammen med nå? (Sett bare ett kryss)

(Ta ikke med søsken og halvsøsken.)

Mor og far Bare mor Bare far Omtrent like mye hos mor og far

1 2 3 4

Mor al. far og ny samboer el. ektefelle Fosterforeldre Andre

5 6 7

10.2 Hvor mange søsken eller halvsøsken bor du sammen med?

Antall søsken

10.3 Hvor mange av disse er like gamle eller eldre enn deg?

Antall søsken

10.4 Når du tenker på familien din, vil du si at:

(Sett ett kryss for hver linje)

Helt enig Delvis enig Delvis uenig Helt uenig

Jeg føler meg knyttet til familien min

Jeg blir tatt på alvor i familien min

Familien legger vekt på mine meninger.

Jeg betyr mye for familien min

Jeg kan regne med familien min når jeg trenger hjelp

1 2 3 4

10.5 Hvilket forhold har du til dine foreldre?

(Sett ett kryss for hver linje)

Stemmer meget godt Stemmer ganske godt Stemmer ikke særlig godt Stemmer ikke i det hele tatt

Foreldrene mine vet hvor jeg er og hva jeg gjer i helgene

Foreldrene mine vet hvor jeg er og hva jeg gjer på hverdagene

Foreldrene mine vet hvem jeg er sammen med i fritida

Foreldrene mine liker vennene jeg er sammen med på fritida

1 2 3 4

10.6 Når du tenker på vennene dine, vil du si at:

(Sett ett kryss for hver linje)

Helt enig Delvis enig Delvis uenig Helt uenig

Jeg føler meg nært knyttet til vennene mine.

Vennene mine legger vekt på mine meninger.

Jeg kan bidra/være til støtte for vennene mine.

Jeg kan regne med vennene mine når jeg trenger hjelp

1 2 3 4

10.7 Hvor mange personer utenfor din nære familie står deg så nær at du kan regne med å få hjelp hvis du:

Har personlige problemer

Har praktiske problemer (f.eks. m/ skolearbeid)

10.8 Har du selv vært utsatt for vold (blitt slått, sparket e.l.) de siste 12 mnd.? (Sett bare ett kryss)

Aldri 1 Ja, bare av ungdom 2 Ja, bare av voksne ungdom og voksne 3 Ja, av både 4

U11. SEKSUELL ADFERD OG PREVENSJON

11.1 Har du noen gang hatt samleie?

Hvis du svarte «NEI»; hopp til U12

11.2 Alder første gang? Jeg var år

11.3 Brukte du/dere prevensjon ved siste samleie?

Nei 1 Ja, kondom 2 Ja, p-pille/p-sprøyte 3 Ja, annet 4 Vet ikke 5

11.4 Har du noen gang blitt gravid/gjort ei jente gravid?

Hvis du svarte «JA»:

Hvor gammel var du da dette skjedde? Jeg var år

Ble det utført abort? JA NEI Vet ikke

U12. BRUK AV MEDISINER M.M

12.1 Hvor ofte har du i løpet av de 4 siste ukene brukt følgende medisiner? (Sett ett kryss for hver linje)

Med medisiner mener vi her medisiner kjøpt på apotek. Kosttilskudd og vitaminer regnes ikke med her.

Aldri 1 Daglig 2 Hver uke, men ikke daglig 3 Sjeldnere enn hver uke 4 Ikke brukt de siste 4 ukene 5

Smertestillende uten resept

Smertestillende på resept ...

Allergi-medisin

Astma-medisin

Sovemedisin

Beroligende medisin

Medisin mot depresjon

Annen medisin på resept 1 2 3 4 5

12.2 Skriv navnet på medisinen som du har krysset av for ovenfor, og hva grunnen var til at du tok medisinen

(Sykdom eller symptom):

(Kryss av for hvor lenge du har brukt medisinen)

Hvor lenge har du brukt medisinen?

Navn på medisinen: (ett navn pr. linje):	Grunn til bruk av medisinen:	Inntil 1 år	Ett år eller mer
		<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>

Dersom det ikke er nok plass her, kan du fortsette på eget ark som du legger ved.

SPØRSMÅL TIL JENTENE

12.3 Har du fått menstruasjon («mensen»)?

Hvis du svarte «NEI»; hopp til 12.5

12.4 Hvor gammel var du da du fikk din første menstruasjon?

Jeg var år

12.5 Bruker du, eller har du brukt:

(Sett ett kryss for hver linje)

Nå For, men ikke nå Aldri

P-pille/minipille/ p-sprøyte

Annent prevensjon

Hvilken type prevensjon?: _____

12.6 Til deg som bruker p-pille/minipille: Hvilket mørke bruker du nå?: _____

II. Supplementary questionnaire, the Youth studies

Edikott

Utdanningsforvaltningen i Oslo kommune
 Helseundersøkelsen i Oslo
 Helseundersøkelsen i Oslo kommune
 Helseundersøkelsen i Oslo kommune

U/T

Helse-
undersøkelsen
i Oslo

Dato for utfylling:

Dag

Måned

År

HER KOMMER FLERE SPØRSMÅL!!!

Du synes kanskje vi allerede har spurt deg om det meste - men enda er det mer vi gjerne vil vite. Dette skjemaet har blant annet spørsmål om de sterke og svake sidene dine, om skolesituasjonen, om kultur og kontakt og om idrett og aktivitet.

Vi håper du tar deg tid til å tenke gjennom det vi spør om og at du svarer det du mener er riktig for deg.

Lykke til!

T

U/T1. DINE STERKE OG SVAKE SIDER

1.1 Svar på grunnlag av slik du har hatt det de siste 6 månedene. (Sett ett kryss for hver linje)

	Stemmer ikke	Stemmer delvis	Stemmer helt		Stemmer ikke	Stemmer delvis	Stemmer helt
Jeg prøver å være hyggelig mot andre. Jeg bryr meg om hva de føler.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Jeg er ofte lei meg, nedfor eller på gråten.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg er rastløs. Jeg kan ikke være lenge i ro	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Jeg blir som regel likt av andre på min alder...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg får ofte hodepine, vondt i magen eller kvalme.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Jeg blir lett forstyrret. Jeg synes det er vanskelig å konsentrere meg.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg deler gjerne med andre (mat, spill, blyanter osv.).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Jeg blir nervøs i nye situasjoner. Jeg blir lett usikker.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg blir veldig sint og har et hissig temperament.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Jeg er snill mot de som er yngre enn meg.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg er vanligvis for meg selv. Jeg gjør som regel ting alene.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Jeg blir ofte beskyttet for å lyve eller jukke.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg gjør vanligvis det jeg får beskjed om.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Andre barn eller unge ertes eller pleger meg...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg bakyrmer meg mye.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Jeg tilbyr meg ofte å hjelpe andre (foreldre, lærere, andre barn/unge).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg er hjelpsom hvis noen er såret, oppskåret eller føler seg dårlig.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Jeg tenker meg om før jeg handler (gjør noe)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg er stadig urolig, det kribler i kroppen.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Jeg tar ting som ikke er mine, hjemme, på skolen eller andre steder.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg har en eller flere gode venner.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Jeg kommer bedre overens med voksne enn de på min egen alder.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg slåse mye. Jeg kan presse andre til å gjøre det jeg vil.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Jeg er redd for mye. Jeg blir lett skremt.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	1	2	3	Jeg fullfører oppgaver. Jeg er god til å holde på oppmerksomheten.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
					1	2	3

U/T2. BEKYMRINGER OG PROBLEMER

2.1 Har du i løpet av de siste 12 månedene hatt noen av disse problemene? (Sett ett kryss for hver linje)

	Nei, aldri	Ja, av og til	Fåere ganger	Svært ofte
Krangler, eller konfliktler med foreldrene dine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bekymringer i forhold til seksualitet.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Psysiske problemer hos foreldre/foresatte	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Problemer i forhold til venner	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Økonomiske problemer hos foreldre/foresatte	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rusproblemer hos foreldre/foresatte	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Andre problemer.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	1	2	3	4

U/T3. SKOLESITUASJONEN DIN

3.1 Hvordan har du det på skolen? (Sett ett kryss for hver linje)

	Helt enig	Delvis enig	Delvis uenig	Helt uenig
Jeg trives i klassen.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg har mye til felles med andre i klassen.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg føler meg knyttet til klassen.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Klassen legger vekt på mine meninger.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lærerne legger vekt på meningene mine.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lærerne mine setter pris på meg.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lærerne hjelper meg med fagene når jeg trenger det.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lærerne hjelper meg med personlige problemer hvis jeg trenger det.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	1	2	3	4

3.2 Hvor lett er det for deg å få nye venner på skolen? (Sett ett kryss for hver linje)

	Alltid lett	Som regel lett	Som regel vanskelig	Alltid vanskelig
Blant ungdom med norsk bakgrunn	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Blant ungdom med innvandrerbakgrunn	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	1	2	3	4

U/T4. FORHOLDET TIL FAMILIEN DIN

4.1 Hvor viktig er det for deg? (Sett ett kryss for hver linje)

	Megst viktig	Ganske viktig	Litt viktig	Ikke viktig i det hele tatt
Å tilfredsstille behovene til familien din, selv om dine egne behov er forskjellige fra deres.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Å unngå krangel med andre medlemmer av familien.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Å sette familiens behov foran dine egne.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Å dele tingene (eiendelene) dine med andre i familien.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Å dele pengene dine med familien din.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Å leve opp til forventningene fra familien din.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	1	2	3	4

U/T5. KULTUR OG KONTAKT

5.1 Hvordan er det å ha kontakt med folk fra forskjellige kulturer? (Sett ett kryss for hver linje)

	Helt enig	Delvis enig	Delvis uenig	Helt uenig
Jeg liker meg like godt blant nordmenn som blant folk fra andre land og kulturer.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg foretrekker å være sammen med folk fra det landet jeg kommer fra.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg synes at folk fra andre land og kulturer burde tilpasse seg norske kulturtradisjoner og ikke holde på sine egne.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg har like godt forhold til nordmenn som til folk fra andre land og kulturer.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Siden jeg bor i Norge, er det best jeg lever helt som nordmenn.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg synes at folk fra andre land og kulturer skal leve som de gjør i hjemlandet sitt, selv om de bor i Norge.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg synes det er vanskelig å velge om jeg skal leve som nordmenn, eller som folk fra andre land og kulturer.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Det er ofte vanskelig for ungdom med norsk og innvandrers bakgrunn å være sammen på fritida, fordi vi har ulike regler vi må følge.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Foreldrene mine har godt kjennskap til hva ungdommene her i Norge gjør på fritida.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg synes det er vanskelig å bestemme om jeg skal leve som nordmenn, eller som folk fra andre land og kulturer.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	1	2	3	4

5.2 Du kan føle deg som medlem av ulike etniske eller kulturelle grupper, som pakistansere, vietnamesere, eller andre, og du kan føle at du er en del av et større samfunn som for eksempel Norge.

Hvordan ser du på deg selv?

(Sett ett kryss for hver linje)

	Helt enig	Delvis enig	Delvis uenig	Helt uenig
Jeg ser på meg selv som norsk.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg ser på meg selv som pakistanser/ vietnameser/ chilener/ iraner/ annet.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg føler jeg er en del av kulturen til pakistansere/ vietnamesere/ chilanere/ iranere/ annet.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg er glad for å være norsk.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg er stolt av å være pakistanser/ vietnameser/ chilener/ iraner/ annet.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg føler at jeg er en del av den norske kulturen.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg er glad for å være pakistanser/ vietnameser/ chilener/ iraner/ annet.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg er stolt av å være norsk.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	1	2	3	4

5.3 Når folk med forskjellig bakgrunn er sammen, kan noen føle seg urettferdig behandlet. Følgende utsagn handler om dette.

(Sett ett kryss for hver linje)

	Helt enig	Delvis enig	Delvis uenig	Helt uenig
Jeg synes at andre har oppført seg urettferdig eller negativt overfor folk fra min kultur.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg føler meg ikke akseptert av folk fra andre kulturer.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg føler at folk fra andre kulturer har i mot meg.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg har blitt enet og fornærmet på grunn av min kulturelle bakgrunn.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg har blitt truet eller angrepet på grunn av min kulturelle bakgrunn.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	1	2	3	4

UT6: KRIGSOPPLEVELSER

- 6.1 Har noen av foreldrene dine opplevd krig og følgene av krig på nært hold? JA NEI Vet ikke
- 6.2 Har du noen gang opplevd krig og følgene av krig på nært hold?

UT7: SORG

- 7.1 Har du opplevd sorg, som har eller har hatt betydning for din helse? (Sett bare ett kryss)

Ja, en gang for 1
 Ja, flere ganger for 2
 Ja, har nå 3
 Nei 4

- 7.2 Hvilke helseplager fikk du i så fall av hendelsen? (den siste, hvis du har opplevd flere)

Mest kroppslige 1
 Mest følelsesmessige 2
 Begge omtrent like mye 3 T

- 7.3 Omtrent hvor lenge varte/ har helseplagene vart? (den siste, hvis du har opplevd flere)

uker eller måneder eller år

- 7.4 Hvis du har opplevd slik sorg, var den en følge av? (den siste, hvis du har opplevd flere) (Sett ett kryss for hver anse)

Dødsfall av: JA NEI

Foreldre.....

Besteforeldre.....

Søsken.....

Annen nær slektning.....

Venn.....

Andre.....

Alvorlig sykdom:..... JA NEI

Kjærlighetsorg:.....

Annet:.....

Hvis «JA» på annet, spesifiser:

- 7.5 Har du fått profesjonell hjelp etter hendelsen? (den siste, hvis du har opplevd flere)..... JA NEI

Hvis «JA»:
 Kryss av for hvem som har gitt denne hjelpen: (Sett ett kryss for hver farge)

Allmennpraktiker.....

Psykiater.....

Psykolog.....

Terapeut.....

Annen rådgiver.....

Prest.....

Sorggruppe.....

Annet.....

Hvis «JA» på annet, spesifiser:

- 7.6 Fikk du medisiner på resept som en del av behandlingen? (siste gang, hvis du har opplevd flere sorger)..... JA NEI

UT8: TANNHELSE

- 8.1 Dersom du skulle til tannlegen i morgen, hva ville du da føle?
 (Mest tannlege menes også skoletannlege)
 (Sett kryss ved det alternativet som passer best)

Jeg ville se fram til det som en ganske hyggelig opplevelse..... 1
 Ville ikke føle noe, det ville være det samme for meg..... 2
 Det ville gjøre meg litt urolig..... 3
 Jeg ville bli redd for at det skulle bli ubehagelig og vondt..... 4
 Jeg ville bli svært redd med tanke på hva tannlegen skulle gjøre..... 5

- 8.2 Når du venter på tannlegens venteværelse, eller venter på å bli hentet til tannlegen, hvordan føler du deg da? (Sett kryss ved det alternativet som passer best)

Avslappet..... 1
 Litt urolig..... 2
 Anspent, nervøs..... 3
 Redd, engstelig..... 4
 Så redd at jeg av og til begynner å svette eller nesten føler meg syk..... 5

- 8.3 Når du sitter i tannlegestolen og venter på at tannlegen skal begynne behandlingen, hvordan føler du deg da? (Sett kryss ved det alternativet som passer best)

Avslappet..... 1
 Litt urolig..... 2
 Anspent, nervøs..... 3
 Redd, engstelig..... 4
 Så redd at jeg av og til begynner å svette eller nesten føler meg syk..... 5

- 8.4 Tenk deg at du sitter i tannlegestolen og skal få tennene rnsøt og pusset. Mens du sitter og venter på at tannlegen skal finne instrumentene som brukes til å pusse og skrape med, hvordan føler du deg da? (Sett kryss ved det alternativet som passer best)

Avslappet..... 1
 Litt urolig..... 2
 Anspent, nervøs..... 3
 Redd, engstelig..... 4
 Så redd at jeg av og til begynner å svette eller nesten føler meg syk..... 5

- 8.5 Hvor redd er du for å få utført tannbehandlingen, alle forhold tatt i betraktning? (Sett kryss ved det alternativet som passer best)

Ikke i det hele tatt..... 1
 Litt..... 2
 Noe..... 3
 Mye..... 4
 Veldig mye..... 5

T

UT9. FOREBYGGING AV SKÅDE

9.1 Når du er passasjer i bil, bruker du bilbelte når du sitter? (Sett ett kryss for hver linje)

Foran:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Aldri	Sjelden	Ofta	Alltid
Bak:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	1	2	3	4

9.2 Hvis du har slått slalåm / utfor i løpet av de siste 12 måneder, har du da fått kontrollert bindingene i forhold til din vekt? (Sett bare ett kryss)

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ja	Nei	Har ikke slått på ski	T
1	2	3	

9.3 Brukte du legg-/knebeskytter ved dine aktiviteter i løpet av de siste 12 måneder? (Sett ett kryss for hver linje)

	Aldri	Sjelden	Ofta	Alltid	Ikke aktuelt
Rulleskøyter/ rullebrett	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Håndball	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fotball	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Annen ballspport	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Slalåm/ utfor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Snebrett	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ishockey	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Annen aktivitet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	1	2	3	4	5

Hvis "Annen aktivitet" - hvilken:

9.4 Brukte du håndledd-/ albuebeskytter ved dine aktiviteter i løpet av de siste 12 måneder? (Sett ett kryss for hver linje)

	Aldri	Sjelden	Ofta	Alltid	Ikke aktuelt
Sykkell	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rulleskøyter/ rullebrett	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Håndball	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Annen ballspport	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Snebrett	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ishockey	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Annen aktivitet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	1	2	3	4	5

Hvis "Annen aktivitet" - hvilken:

9.5 Brukte du hjelm ved dine aktiviteter i løpet av de siste 12 måneder? (Sett ett kryss for hver linje)

	Aldri	Sjelden	Ofta	Alltid	Ikke aktuelt
Sykkell	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rulleskøyter/ rullebrett	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Slalåm/ utfor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Snebrett	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ishockey	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ridning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Annen aktivitet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	1	2	3	4	5

Hvis "Annen aktivitet" - hvilken:

UT10. FYSISK AKTIVITET

10.1 Hvor ofte har du drevet med følgende aktiviteter i løpet av de siste 12 måneder?

Vinter er fra oktober til mars. Sommer er fra april til september. (Sett ett kryss for hver linje)

	T	Aldri	1-5	1-3	1	Flere
		gang	gang	gang	gang	gang
		sesongen	i midt	ukke	ukke	ukke
Sykling	vinter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	sommer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rulleskøyter/ rullebrett	vinter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	sommer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Håndball	vinter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	sommer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fotball	vinter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	sommer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Annen ballspport	vinter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	sommer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ishockey	vinter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	sommer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ridning	vinter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	sommer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Turn	vinter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	sommer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kampspport	vinter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	sommer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Frilidrett	vinter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	sommer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Svømming i basseng	vinter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	sommer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Slalåm/ utfor	vinter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Snebrett	vinter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Telemark	vinter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Langrenn	vinter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Annen aktivitet	vinter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	sommer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		1	2	3	4	5

Hvis "Annen aktivitet" - hvilken:

Ikke skriv her:

7.4 (Annen sorg)

7.5 (Annen hjelp)

9.3

9.4

9.5

10.1

III. Information brochures, the Youth studies

Hei!

Hvordan har du det?
Hvordan er **helse** di for tida?
Hvordan synes du det er å være ungdom i Oslo?

Dette er noe av det vi håper å få svar på gjennom denne helseundersøkelsen. Opplysningene som samles inn skal bl.a. brukes til å finne ut hva som er viktig for ungdommens helse og trivsel - både i din bydel og i hele Oslo. Resultatene skal brukes til å planlegge en bedre helsetjeneste, og til å finne ut mer om årsaker til sykdom.

Nå har du sjansen til å være med å planlegge framtida! Dere som er 15 og 16 år er de eneste ungdommene som blir spurt om å være med.

Det er første gang vi inviterer ungdom i Oslo til en helseundersøkelse!

Flere voksne aldersgrupper vil også bli invitert til Helseundersøkelsen i Oslo, til sammen ca. 50.000 personer.

Hvordan foregår undersøkelsen?

Undersøkelsen blir gjort i skoletiden, og vi ber deg svare på to spørreskjemaer. Vi spør om sykdom og helse, kosthold, idrett, nærmiljø, og hvordan du har det. Du skal ikke gjennom en helse sjekk.

Hvordan skal resultatene brukes?

Før du fyller ut skjemaene, ber vi deg skrive under en godkjenning (samtykkeerklæring). Der sier du deg enig i at vi kan bruke svarene fra spørreskjemaene til planlegging og forskning. Vi ber også om muligheten til

å kontakte deg senere for å gi deg tilbud om å være med i eventuelle nye undersøkelser.

Dataene blir behandlet strengt fortrolig. Det er ikke noen spesiell tidsbegrensning for hvor lenge opplysningene kan lagres. Du kan når som helst trekke deg fra undersøkelsen. Dette må i såfall gjøres skriftlig. Opplysningene kan kobles opp mot andre registre hvis Datatilsynet gir tillatelse til det. Dette kan for eksempel være andre helse-, trygde- og sykdomsregistre, eller data fra for eksempel folketellinger. Det er ikke navn og personnummer på spørreskjemaene, men en kode som bare kan leses av en datamaskin.

Undersøkelsen er frivillig.

Undersøkelsen er frivillig. Vi håper at du vil delta. Det er veldig viktig at flest mulig er med. De som ikke ønsker å delta, vil få vanlig skolearbeid mens undersøkelsen pågår.

Hvem står bak undersøkelsen?

Vi i Statens helseundersøkelser (SHUS) samarbeider med Oslo kommune og Universitetet i Oslo. Datatilsynet har godkjent undersøkelsen. Skolesjefen i Oslo har anbefalt undersøkelsen.

Du skal vite at:

- alle som jobber med helseundersøkelsen har taushetsplikt
- resultatene skal brukes i planlegging og forskning og blir behandlet helt fortrolig
- dine foreldre/foresatte er informert om undersøkelsen
- det er viktig at nettopp du deltar

Helseundersøkelsen i Oslo er et samarbeid mellom:

Oslo kommune
Byrådsavdeling for eldre og bydelene
Rådhuset, 0037 OSLO.
Tlf. 22 86 16 00



Universitetet i Oslo
Institutt for allmenntilleggs- og samfunnsmedisin
Postboks 1130 Blindern, 0317 OSLO.
Tlf. 22 85 05 50.



Statens helseundersøkelser
Postboks 8155 Dep., 0033 OSLO
Tlf. 22 24 21 00 (9-15)
e-post: post@shus.no

Du finner også informasjon om helseundersøkelsen på
hjemmesidene våre www.shus.no

Kontaktperson for ungdomsundersøkelsen:
tove Eie Tlf. 22 24 21 22
E-mail: tove.eie@shus.no

Ønsker du å snakke med noen etter at du har svart
på spørsmålene, kan du kontakte skolehelsetjenesten
på skolen din, eller du kan ringe til:

Barn og unges Kontaktelefon: Tlf. 80 03 33 21
Kontaktelefonen er åpen mellom kl. 14.00 og 20.00
alle ukedager, fra mandag til fredag.

Helse-undersøkelsen i Oslo

UNGDOM
Informasjon til dere som
fyller 15/16 år i 2000

Til foreldre/foresatte til ungdom som fyller 15/16 år i 2000

Nå skal Oslo helseundersøkes.
Hvordan står det egentlig til i hovedstaden?
Hvordan har ungdommen i Oslo det i dag?
Hvordan vurderer ungdommen sine egne problemer, vaner og situasjon?

Dette er noe av det vi håper å få svar på gjennom denne helseundersøkelsen.
Data som samles inn skal bl.a. brukes til å finne ut hva som er viktig for
ungdommens helse og trivsel, både i den enkelte bydel og i hele Oslo.
Resultatene skal brukes til å planlegge en bedre helsetjeneste, og til å finne
ut mer om årsaker til sykdom.

I tillegg til ungdomsprosjektet inviterer vi utvalgte voksne aldersgrupper til
Helseundersøkelsen i Oslo, til sammen ca. 50.000 personer.

Dette er første gang vi inviterer ungdom til en slik undersøkelse!

*Hvorfor bør ungdommene være med i denne helseundersøkelsen?
Hva vil vi med ungdomsundersøkelsen?*

- finne ut hvordan helsa til ungdommene er
- finne ut hvordan de trives
- finne ut hva som bidrar til god helse og trivsel
- bedre helsetjenesten og det forebyggede helsevesen for ungdom
- avklare, for å finne ut mer om forskjeller mellom bydelene
- finne ut hva som kjennetegner et godt oppvekstmiljø

! Hvordan foregår undersøkelsen?

Helseundersøkelsen (utfylling av to spørreskjemaer, ingen helsesjekk)
foregår på skolen i skoletiden, og finner sted i løpet av våren og høsten 2000.

! Hva spør vi om?

Vi spør bl.a. om sykdom og helse, kosthold, idrett, nærmiljøet og hvordan
ungdommen selv synes de har det.

! Må alle være med?

Undersøkelsen er frivillig. Vi håper at alle deltar. De som ikke deltar i
undersøkelsen, bruker tiden til vanlig skolearbeid.

! Hvordan skal resultatene brukes?

Elever som er 15 år og eldre skriver selv under på samtykke om bruk av data
til planlegging og forskning. Vi ber også om muligheten til å ta ny kontakt
for å gi tilbud om eventuelle nye undersøkelser senere. Spørreskjemaene
inneholder ikke navn eller personnummer, men skal merkes med en kode
som bare kan leses av en datamaskin. De utfylte skjemaene blir samlet inn
av en person fra Statens helseundersøkelser. Dataene blir behandlet strengt
fortrolig.

Etter godkjenning fra Datatilsynet kan svarene kobles mot andre
helse-trykkel- og sykdomsregistre og mot registre fra for eksempel
folketellinger. Dataene kan lagres uten noen spesiell tilkobling. Det er
likevel fullt mulig når som helst å trekke seg fra undersøkelsen, og be om å
bli slettet fra registret. Dette må i så fall gjøres skriftlig.

! Hvem godkjenner undersøkelsen?

Undersøkelsen er forelagt Den regionale komite for medisinsk
forskningsetikk, og den er godkjent av Datatilsynet.

! De som står bak undersøkelsen.

Statens helseundersøkelser har i over 50 år drevet store
befolkningsundersøkelser i hele landet. Denne undersøkelsen gjennomføres
i samarbeid med Oslo kommune og Universitetet i Oslo.
Skolesefen i Oslo har anbefalt undersøkelsen.

Undersøkelsen er tilknyttet Oslos 1000-års jubileum.

Helseundersøkelsen i Oslo er et samarbeid mellom:

Oslo kommune
Byrådsavdeling for eldre og bydelene
Rådhuset, 0037 OSLO.
Tlf. 22 86 16 00



Universitetet i Oslo
Institutt for allmennmedisin og samfunnsmedisin
Postboks 1130 Blindern, 0317 OSLO.
Tlf. 22 85 05 50.



Statens helseundersøkelser
Postboks 8155 Dep., 0033 OSLO
Tlf. 22 24 21 00 (9-15)
e-post: post@shus.no

Du finner også informasjon om helseundersøkelsen på
hjemmesidene våre
www.shus.no

Kontaktperson for ungdomsundersøkelsen:
Tove Eie
Tlf. 22 24 21 22
tove.eie@shus.no

Helse- undersøkelsen i Oslo

UNGDOM

Informasjon til
foreldre/foresatte til ungdom
som fyller 15/16 år i 2000

IV. Declaration of consent form, the Youth studies

*Lim inn etikett med
navn og personnummer*

SAMTYKKEERKLÆRING for deltakelse i Helseundersøkelsen i Oslo

UNGDOM

Jeg har mottatt informasjon om ungdomsdelen av Helseundersøkelsen i Oslo. Jeg er informert om formålet med undersøkelsen. Jeg er også kjent med at opplysninger om meg blir behandlet strengt fortrolig og at undersøkelsen er godkjent av Datatilsynet. Undersøkelsen er forelagt Den regionale komité for medisinsk forskningsetikk. Jeg er videre kjent med at det ikke er satt noen spesiell tidsbegrensning for hvor lenge opplysningene om meg kan lagres. Jeg kan på et senere tidspunkt be om å bli slettet fra registeret uten å oppgi noen grunn. Dette må i så fall sendes skriftlig til Statens helseundersøkelser.

1. Jeg samtykker i at svarene mine kan brukes til planlegging og forskning.
2. Jeg samtykker i at jeg på et senere tidspunkt kan bli kontaktet og få tilbud om å være med i nye undersøkelser.
3. Jeg samtykker i at dataene, etter godkjenning fra Datatilsynet, kan kobles med opplysninger om meg i andre registre. Dette kan for eksempel være andre helse-, trygde- eller sykdomsregistre, eller data fra for eksempel folketellinger.

Du kan stryke det eller de punkter som du vil reservere deg mot.

Elevens underskrift

Dato

VI. Flowchart, the Youth studies:

