

Predicting Contraceptive Behaviour among
Adolescents:
Social, Cognitive, and Contextual Influences

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Summary

Reports from Norway and other western countries show that many adolescents do not protect themselves from unintended pregnancies and sexual transmitted infections (STIs). The incidence of STIs such as chlamydia has increased in recent years in Norway and other European countries. The general aim of this thesis was to investigate the social, cognitive, and contextual factors that predict adolescents' decisions about whether or not to use contraception.

The study population in Paper 1 and Paper 2 comprised all of the students in ninth grade at three schools in Oslo ($n=196$). The findings presented in Paper 3 are based on data from a cross-sectional health study (The Norwegian Youth Health Study) among students attending tenth grade in urban and rural regions of Norway, reporting having had at least one coital experience ($n=4467$).

The results from Paper 1 and Paper 2 show that social influence from friends, parents, and partners were the most important predictors among boys and girls for intentions to use contraceptives. In addition, moral norms, a person's own socially validated values attached to a particular behaviour, were one of the most important predictors of boys' intentions to use contraceptives, and for the willingness of girls and boys to have unsafe sex. In addition, perceived health-risk prototype (e.g., a typical boy who do not use condom) was an important predictor for the intention to use contraception and for the willingness to unsafe sex among girls. Likewise, health-risk prototype was important for the decision among boys to use condoms. Furthermore, perceived risk and fear of getting STIs together with the opinions of parents and friends about contraceptive use and their approval of it were the most important factors for girls' decisions to use condoms. The most important predictor for intention to use

contraceptive pills among girls was normative beliefs related to parental opinion about contraceptive use.

The results for contraceptive decisions from Paper 1 and 2 support the Theory of Planned Behaviour among boys and girls, and the Prototype/Willingness model among girls. This indicates that these models provide important information about the psychological processes underlying the decision among young adolescents to use contraceptives.

Paper 3 showed that contraceptive use among adolescents was influenced by different contextual levels (individual, family, community and societal) and thus supported the socio-ecological model (Bronfenbrenner, 1979). The most important predictors of condom use among boys were friend support, visits to youth health services, few episodes of drunkenness and not using doping agents (e.g., anabolic steroids etc.). The most important predictors of condom use among girls were parental monitoring, general self-efficacy, few episodes of drunkenness, not smoking daily, and not living in the rural regions Finnmark and Hedemark. For girls, visits to youth health clinics, parental monitoring, not smoking daily, and living in the rural regions Finnmark, Oppland, Troms and Nordland were most important for their use of contraceptive pills.

The results from this work point to several important practical issues in terms of preventing STIs and unintended pregnancies among adolescents. To devise effective interventions for preventing STIs among adolescent boys, it is necessary to address risk behaviours such as numerous episodes of drunkenness and use of doping agents together with sexual risk behaviour. Easy access to youth health services is important; such access can be achieved by providing, for example, information at school about the service and its location. Effective interventions related to normative influence and social images/prototypes should among others, educate adolescent boys and girls about how many teenagers actually are involved in sexual risk behaviour and promote favourable norms related to contraceptive use.

Programs designed to promote parental monitoring may likely be effective for increasing use of condoms and contraceptive pills among girls. Programs that focus on social skills such as assertiveness and communication training will likely have a positive effect on self-efficacy, an important predictor for condom use among girls.

List of Papers

PAPER I

Myklestad, I., & Rise, J. (2007). Predicting willingness to engage in unsafe sex and intention to perform sexual protective behaviours among adolescents. *Health Education & Behaviour*, Vol. 34 (4): 686-699.

PAPER II

Myklestad, I., & Rise, J. (2007). Predicting intention to perform sexual protective behaviours among Norwegian adolescents. *Sex Education. Sexuality, Society and Learning* (in press).

PAPER III

Myklestad, I., Forsen, L., Rise, J., Valle, A.K., Vangen, S., & Stigum, H. (2007). Contraceptive behaviour among middle- adolescents: its association with youth health services attendance, psychosocial factors, and substance use. *Journal of Youth and Adolescence* (conditionally accepted).

1 Introduction

Sexual behaviour among young people is often unplanned and sporadic and sometimes the result of social pressure (e.g., Johnson, Wadsworth, Wellings, & Field, 1994). For example, a study of young adolescents ages 14 to 15 years in Scotland observed that more than half of the first intercourse events in the sample were unplanned and only 40% were judged to have happened at the right time (Wight et al., 2000). It is of concern that teenagers may not be adequately prepared for these early experiences that can lead to poorly planned sexual encounters, sexually transmitted infections (STIs), and unwanted pregnancies (Wight, Abraham, & Scott, 1998).

1.1 Sexual debut

The reported median age at first intercourse has fallen among Norwegian teenagers, dropping in last 10 years from 17.7 to 16.7 years among girls, and from 18.5 to 18.0 years among boys (Pedersen & Samuelsen, 2003); in addition, 23% of the girls and 19% of the boys reported having had their sexual debut at age 15. Early sexual debut is associated with more contraceptive failure (Sheeran, Abraham, & Orbell, 1999), and some studies have found an association with lower use of contraception (e.g., Wellings et al., 2001).

1.2 Incidence of contraceptive use

In a nationwide study from Norway, 33.5% among young people between 18 to 22 years, reported using no contraception at their first intercourse, and of those who used contraception, 44.8% reported having used a condom, and 13.7% had used contraceptive pills, (Træen,

Stigum, & Magnus, 2003). Likewise, a health survey among young people (ages 15 to 24 years) from the county of Sogn og Fjordane in Norway found that 18% of the boys and 15% of the girls used no contraception at their first intercourse, and only 49% of the boys and 28% of the girls reported using a condom at first intercourse (Breidablikk & Meland, 2004). For comparison, 63% of high-school students in the United States of America (USA) reported using a condom (Center for Disease Control and Prevention, 2004). The results from these studies show that there is the potential to increase condom use among Norwegian adolescents and that national intervention are one approach that could stimulate to more contraceptive use.

1.3 Unintended pregnancies

One severe consequence of unprotected sexual behaviour among adolescents is unwanted pregnancy. Adolescent pregnancy and childbearing are important social concerns with implications for adolescent mothers and their children. Adolescents who give birth are more likely than the average adolescent to have lower educational and occupational attainment and to have lower socio-economic status, and the teenage pregnancy rates are higher in more socially deprived areas (Dickson, Fullerton, Eastwood, Sheldon, & Sharp, 1997; Kleven & Haugen, 2004). Furthermore, the children of adolescent mothers are more likely than other children to have cognitive and behavioural problems and higher teen pregnancy rates when they become adolescents (Hofferth & Hayes 1987; Maynard, 1996).

The rate of teenage (15-19 years) births is low in Norway (8.7 per 1000 teenage women) compared to other western countries such as the USA, where it is 52 per 1000, and the United Kingdom (UK), where it is 33 per 1000 (Klein, 2005; Lederman, Chan, & Roberts-Gray, 2004; Statistics Norway, 2006a). The last years the fertility rate of teenage mothers has continued to fall in Norway. Today it is half as many teenage mothers as in the beginning of the 1990s, and thirty years ago there were five times as many teenage mothers as today

(Statistics Norway, 2006a). Birth rates among teenagers, however, vary across different regions in Norway; the birth rate among teenagers in the more socially deprived parts of Oslo was more than seven times higher than in some of the more prosperous parts of the city (60 per 1000 women versus 8 per 1000 women, 15–19 years old) (Rognerud, & Stensvold, 1998).

The abortion rate in Norway has also decreased in recent years among adolescents. Teenage abortion rates in Norway was 15.8 per 1000 women ages 15-19 years in 2006 (Norwegian Institute of Public Health, 2007). However, differences in teenage abortion rates among geographical regions are still observed. For example the abortion rate for the regions Finnmark and Troms was 24.3 and 22.7 per 1000 women ages 15-19 years, respectively, in comparison the abortion rate was 9.9 per 1000 teenage women in the region Sogn og Fjordane (Norwegian Institute of Public Health, 2007; Statistics Norway, 2006b).

Thus, unwanted teenage pregnancies can have severe consequences, and a national goal in Norway has been to prevent these pregnancies. Although teenage pregnancy rates and abortion rates in Norway have fallen in the last thirty years, indicating the effectiveness of national prevention efforts, large regional differences still persist in the country and more efforts are needed.

1.4 Sexually transmitted infections

The spread of the human immunodeficiency virus (HIV) has highlighted the biological threats inherent in sexual activity. The incidence of HIV has increased in recent years among young people in the western world (British Medical Association, 2002; Nilsen, Blystad, & Aavitsland, 2004). Likewise, the rate of reported Sexually Transmitted Infections (STIs) such as chlamydia infections has increased among young people ages 15 to 25 years in the last seven years in Norway (Nilsen et al., 2004; Norwegian Institute of Public Health, 2006). The prevalence of *Chlamydia trachomatis* among Norwegian women ages 16 to 24 years was

2.4% in 2003 (Bakken, Skjeldestad, Øvreneess, Nordbø, & Størvold, 2004). An increase in *Chlamydia trachomatis* infection among young people was also found in other countries such as Sweden (Nilsen et al., 2004), the UK (British Medical Association, 2002), and the USA (Ford, Jaccard, Millstein, Bradsley, & Miller, 2004).

1.5 Summary of introduction

The rate of STIs has increased in recent years. Many adolescents and young people still do not protect themselves against unintended pregnancies and STIs. Thus, there is a need to understand the mechanisms and predictors of sexual protective behaviours among adolescents to facilitate effective preventive efforts in this field.

2 Theoretical models and concepts

Several theoretical perspectives and concepts have been utilized to explain contraceptive behaviour among adolescents. One approach has been to identify modifiable cognitions and psychosocial factors that characterise individuals who are likely to adopt preventive sexual practices. Another perspective has been to model the influence of different social contexts such as family, peers, community and society to understand more about adolescent contraceptive behaviour.

2.1 Socio-cognitive models

2.1.1 Theory of Planned Behaviour

The Theory of Planned Behaviour (TPB) is one of the most popular socio-cognitive models in the health behaviour arena (Abraham, Sheeran, & Orbell, 1998; Gibbons, Gerrard, & Lane, 2003). One reason for this may be because TPB in terms of prediction of behaviour provides an improvement on related socio-cognitive models such as health belief model, protection motivation theory and social cognitive theory (e.g., Armitage & Conner, 2000; Conner & Norman, 1994).

The TPB states that the proximal determinant of behaviour is the intention to act, which provides a summary of a person's motivation to perform a behaviour and mediate the influence of other variables on behaviour (Ajzen, 1991). The TPB posits three determinants of intentions to use, for example, contraception. First, attitudes towards using contraception refer to a person's positive or negative evaluations of the behaviour, as in the following example: "For me, using contraception the next time I have sex is good/bad". The second component is subjective norms. Subjective norms refers to individual perception of social pressure to use

contraception in terms of what a person believes significant others (such as friends, parents, and partner) think he or she should do. An example of a measure of subjective norms is, “Most people who are important to me think I should use contraception the next time I have sex”. The third component is perceived behavioural control (PBC). PBC refers to the perception of ease and difficulty of performing a behaviour that can affect intentions over and above the effects of attitudes and subjective norms. An example of a measure of PBC is, “I am able to use contraception the next time I have sex”.

Combined, these three constructs (attitudes, subjective norms and perceived behavioural control) lead to the formation of *behavioural intention*, which in turn is the most immediate determinant of subsequent behavioural performance. According to the TPB, the more positive a person's attitudes and subjective norms are and the greater the perceived control regarding a particular behaviour, the more likely a person is to intend to perform that behaviour. Similarly, the stronger a person's intentions, the more likely it is that the individual will perform the behaviour (Ajzen, 1991). In addition, perceived behavioural control can, together with intention, be used to predict behaviour (see Figure 1).

At the most basic level of explanation the TPB posits that behaviour is a function of the accessible beliefs relevant to the behaviour. These beliefs are considered to be the prevailing determinants of a person's intentions and behaviour (Ajzen, 1991). Consistent with an expectancy-value formulation, attitudes towards the behaviour are assumed to be a function of *behavioural beliefs*, i.e. a person's beliefs that performing the behaviour contribute to a number of outcomes (e.g., if I use a condom I will not get STIs) weighted by the person's *evaluations* of these outcomes (e.g., I am afraid of getting STIs). Likewise, subjective norms are a function of *normative beliefs*, i.e. beliefs about normative expectations of significant others (e.g., I believe my girlfriend/boyfriend think I should use condoms) weighted by the *motivation to comply* with these referents (e.g., I want to do as I think my boyfriend/girlfriend

believes I should do). Finally, perceived behavioural control is influenced by *control beliefs*, beliefs about the presence of factors that may facilitate or impede performance of the behaviour (e.g., in the coming three months, I will learn to use condoms at the local health clinic for youth) weighted with the perceived power of these factors (e.g., it will be easier to use condoms at the time of intercourse if I learn how to use them at the local health clinic for youth).

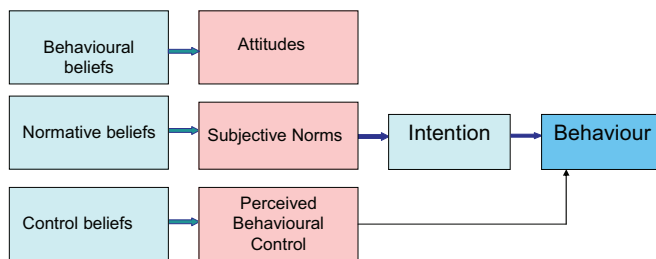


Figure 1: *Theory of Planned Behaviour (Ajzen, 1991).*

Changes in behaviour are according to the TPB brought about by producing changes in beliefs (Ajzen, 1991). The specific underlying beliefs thus provide substantive information about the kinds of considerations guiding the decisions of adolescents (Davis, Ajzen, Saunders, & Williams, 2002). Given the crucial importance of these underlying beliefs, data on beliefs can be used as a guideline for how to construct preventive interventions (Ajzen, 2002; Fishbein & Middlestadt, 1989). In this way, we may be able to point to the kinds of beliefs that are important for designing effective intervention programs that promote sexual preventive measures among adolescents.

2.1.1.1 *Empirical evidence*

The TPB has been quite successful to predict a wide range of health-related behaviours. For example Armitage and Conner (2001) reported in a meta-analysis that the model accounted for 39% and 27% of the variance in intentions and behaviour, respectively. Attitude was the strongest predictor of intention across studies, followed by PBC and subjective norms.

Furthermore, TPB have been used to account for behavioural intention in the context of general contraceptive use, and the results showed that behavioural intentions explained 34% of the variance in general contraceptive behaviour (Fekadu & Kraft, 2001; Richard, de Vries, & van der Pligt, 1998). Condom use is clearly the most studied of the preventive sexual behaviours related to the TPB, and a number of meta-analyses have been performed (e.g., Albarracín, Johnson, Fishbein, & Muellerleile, 2001; Sheeran & Taylor, 1999). The meta-analyses show that the three TPB-components predicted intention to use condoms fairly well in terms of weighted mean correlations, $r = 0.45$ (Albarracín et al., 2001). Attitudes were consistently the strongest predictor of condom intentions in all studies ($r = 0.58$), while subjective norms correlated $r = 0.39$, and PBC correlated $r = 0.45$. Likewise, the weighted mean correlation between attitudes and behavioural beliefs was fairly strong, $r = 0.56$, and the weighted mean correlation between subjective norms and normative beliefs was medium strong, $r = 0.46$ (Albarracin et al., 2001).

In another meta-analysis on condom use the three TPB-components accounted for 42% of the variance in intentions to use condoms (Sheeran & Taylor, 1999). Attitudes was again stronger related to condom intentions than subjective norms. Furthermore, two recent meta-analyses found medium sample-weighted average correlations between condom intentions and condom use: $r = 0.44$ (Sheeran & Orbell, 1998) and $r = 0.45$ (Albarracín et al., 2001).

2.2 Moral norms

A number of researchers have noted shortcomings of the TPB, and the most frequently emphasized is that it does not sufficiently predict behavioural intentions (Conner & Armitage, 1998). However, to the extent that other predictors account for a significant contribution beyond the components of the model, the theory is open to inclusion of additional predictors (Ajzen, 1991). A consistent finding in applications of the TPB is that the subjective norm-intention relation is weaker than the attitude-intention relation (e.g., Armitage & Conner, 2001). An explanation of the weakness of the subjective norm-intention relation might be that subjective norms do not capture the whole range of normative influence. For example, the subjective norm might not encompass the moral norms associated with a particular behaviour. The concept of moral norms is defined as a person's own socially validated values attached to a particular behaviour and is "...a conviction that some forms of behaviour are inherently right or wrong, regardless of their personal or social consequences..." (Manstead, 2000, p. 12). Moral norms may thus reflect an additional form of normative influence. The potential for moral norm to add to the predictive utility of the TPB will be greatest when the individual and social rewards conflict with personally held moral norms (Manstead, 2000). Moral norms have been included as an additional predictor of intentions after controlling for TPB variables, with considerable success across a wide range of behaviours, including sexual and contraceptive behaviour (Boyd & Wandersman, 1991; Godin, Maticka-Tyndale, Adrien, Manson-Singer, Willms & Cappon, 1996; Harland, Staats, & Wilke, 1999; McMillan & Conner, 2003; Moan & Rise, 2005; Nucifora, Gallois, & Kashima., 1993).

2.2.1 The Prototype-Willingness Model

Prototype perception is another source of social influence that the TPB neglects (Rivis & Sheeran, 2003). Prototypes are the social images that adolescents have of the types of people

who engage in certain health-risk behaviours (the typical smoker is “cool”) or health behaviours (the typical athlete boy is attractive). The idea is that acquiring an image's characteristics for one's own self-image could be a goal for a young adolescent engaging in those behaviours (Leventhal & Cleary, 1980). Because young people are strongly image conscious (e.g., Loyd & Lucas, 1998), these social images or prototypes significantly influence their risk or health behaviour. Prototype perception influences behaviour through the process of social comparison (Festinger, 1954) in which individuals compare themselves with the prototype and its attributes. The more positive the evaluations of the prototype and the greater a person's perceived similarity of self to the prototype, the greater the inclination to engage in the health-risk behaviour described in the prototype.

Previous studies have identified that two types of prototypes have been important predictors of safe sex behaviours: a *health-risk prototype* involving images connected to risk behaviours, e.g., “the typical smoker is cool” and a *health-promoting prototype* involving images connected to healthy behaviours, e.g., “the typical condom user is responsible” (e.g., Gerrard, Gibbons, Reis-Bergan, Trudeau, Vande Lune, & Buunk, 2002). Furthermore, studies have observed that prototypes have made significant contributions to the prediction of intentions after controlling for the impact of the TPB-variables (Gibbons, Gerrard, Blanton, & Russell, 1998; Ravis & Sheeran, 2003; Spijkerman, van den Eijnden, Vitale, & Engels, 2004).

The role of prototypes in the health-related decisions of young people has been examined from the perspective of the Prototype/Willingness model (P/W model) (Gibbons & Gerrard, 1995; 1997; Gibbons et al., 1998). The P/W model posits that among adolescents there are two separate pathways to performing risk behaviour, namely a reasoned path as proposed by the TPB and a social reactive path, which reflects the belief that much adolescent risk behaviours are neither planned nor intentional. The idea is that in some circumstances, an adolescent may be willing to perform a risk behaviour that she or he otherwise had not

planned to perform, and this path proceeds through behavioural willingness, an additional and separate predictor of risk behaviours. Willingness has in several cases been found to be a better predictor of adolescent risk behaviours than intentions (Gibbons et al., 1998; Gibbons et al., 2003).

There is empirical support for the relationship between prototypes and behavioural willingness (e.g., Gibbons & Gerrard, 1995; Gibbons, Gerrard, & Boney-McCoy, 1995; Spijkerman et al., 2004). For example several studies of Gibbons et al. (1995) showed that favourability of the risk-behaviour prototype significantly predicted adolescent boys and girls willingness to engage in unprotected sex, independently of intentions to use effective contraception (betas = 0.21 and 0.18, respectively), and thus supported the P/W-model (Gibbons et al., 1995).

2.3 The Problem-Behaviour Theory

Problem-Behaviour Theory (PBT) is a social-psychological theory that sets out to explain adolescents' involvement in a variety of problem behaviours as well as conventional behaviours (Jessor & Jessor, 1977; Jessor, 1987). PBT conceptualizes a system of psychosocial risk factors that relate to the development of a syndrome of interrelations between different problem behaviours or conventional behaviours. The theory has received large empirical support (e.g., Costa, Jessor, Fortenberry, & Donovan, 1996).

Problem behaviours are behaviours that have been defined socially as problems or as a source of concern, for example heavy drinking, illicit drug use and unprotected sexual behaviour. Conventional behaviours are behaviours that are socially approved and normatively expected such as involvement in school and contraceptive behaviour. Problem behaviours relate negatively to involvement in conventional behaviours. Previous studies observed that contraceptive behaviour is seen as part of a larger organized system of a

conventional adolescent lifestyle, and has a positive association with health behaviours, and a negative relationship with problem behaviours (Costa et al., 1996; Donovan, Jessor, & Costa, 1991; Turbin, Jessor, & Costa, 2000). A sample of sexually active adolescents was found to be more unconventional than their virgin peers, but there was nevertheless an association between regular contraceptive use and conventional behaviour within the sample of non-virgins (Costa et al., 1996).

The PBT encompasses three systems of explanatory variables: the personality system (e.g., self-esteem and achievement), the perceived environment system (e.g., quality of schools, neighbourhood resources, family function, interested adults), and the behavioural system (e.g., substance use). Each system is composed of variables that serve either as a risk for involvement in problem behaviours or as a protection against involvement in problem behaviours. The overall level of proneness for problem behaviours across all three systems reflects the degree of psychosocial conventionality-unconventionality characterizing each adolescent (e.g., Jessor, 1987). Contraceptive use has been reflected by personality attributes such as higher value on academic achievement, fewer friends as models for problem behaviour, and more internal health locus of control (e.g., Costa et al., 1996).

2.4 The socio-ecological model

The majority of research targeting an understanding of contraceptive behaviours among adolescents has focused on identifying individual-level risk and protective factors. Research in social psychology in recent years has shown that it is necessary to model the influence of different contextual factors such as family, peers, community and society, in relation to adolescent sexual behaviour (DiClemente, Salazar, Crosby, & Rosenthal, 2005; Jessor, 1993). However, few studies have examined the impact of different contextual factors in relation to contraceptive use among adolescents (DiClemente, et al., 2005).

Understanding contraceptive behaviour within a socio-ecological framework may help us to better understand the complexity of the processes guiding contraceptive use among adolescents (Bronfenbrenner, 1979). A socio-ecological perspective involves examining sexual behaviour within the context of different levels: individual, family, peers/community and societal influences. Individual influences include psychological characteristics and behaviours, and family and community factors include family and peer influence on an adolescent's behaviours. The last level indicates that characteristics of the society at large (e.g., health care policies and accessible youth health services) provide a broader context in which institutions and communities may affect adolescent behaviour. Below is a presentation of empirical findings of the different contextual levels: individual, family, peer/community and societal, in relation to sexual protective behaviour among adolescents.

2.4.1.1 Substance use

As described previously, earlier studies found that different types of risk behaviours such as substance use are associated with sexual risk behaviour (Costa et al., 1996; Jessor & Jessor, 1977). In addition, previous empirical research found that substance use, such as using alcohol and drugs, is positively associated with several adolescent sexual risk behaviours such as engaging in intercourse without contraception (e.g., Fergusson & Lynskey, 1996; Leigh & Stall, 1993; Træen & Kvalem, 1996). Paulin and Graham (2001) observed, for example, that both males and females adolescents who engaged in unplanned sexual intercourse under the influence of a substance, such as alcohol were twice as likely as those who had not done so, to report inconsistent condom use. Furthermore, Rees, Argys and Averett (2001) found that the link between substance use and sexual behaviour was weaker after controlling for socioeconomic and contextual factors (such as age, race, religious affiliation, parental education, living arrangement, county unemployment rate, and rural/urban environment).

However, they found that even after controlling for the socioeconomic and contextual factors, heavy drinking and marijuana use increased the probability that a male youth would have sex without contraception.

2.4.1.2 General self-efficacy

There are two concepts of self-efficacy: one is specific self-efficacy, defined as one's expectation about one's ability to perform a specific behaviour in a specific situation (Bandura, 1986). The other is general self-efficacy (GSE), referring to one's belief in one's competence to cope with a broad range of stressful or challenging demands (Luszczynska, Scholz & Schwarzer, 2005; Schwarzer, 1993; Schwarzer & Jerusalem, 1995). Numerous studies have shown that self-efficacy is one of the main factors in predicting use of contraception such as condom use, among adolescents (Levinson, Wan & Beamer, 1998; Murphy, Stein, Schlenger & Maibach, 2001; Wight et al., 1998). Most of recent studies investigating self-efficacy in relation to safe-sex behaviour have used specific self-efficacy measures (e.g., Murphy et al., 2001). However, a few studies have investigated the general measure of self-efficacy in relation to contraception, and they also found a significant association (Basen-Engquist & Parcel, 1992; Wulfert & Wan, 1993). These results thus indicate that the construct of self-efficacy is a robust predictor of safe-sex outcomes.

2.4.1.3 Educational aspirations

Adolescents' educational level is usually measured by either their parents' education or their own educational aspirations or educational attainment. Educational aspirations are an individual characteristic found to influence several sexual risk behaviours and outcomes among adolescents. High educational aspiration has for example been found to act as a protection against sexual risk behaviour such as early sexual debut (e.g., Valle, Torgersen,

Røysamb, Klepp, & Thelle, 2005). Likewise, positive associations between teenage pregnancy and low educational attainment and aspiration have been found (Allen et al., 2007; Dickson et al., 1997). Some studies found no correlation between contraception use and educational attainment (Santelli, Lowry, Brener, & Robin, 2000). On the other hand, studies from England and Spain found a positive association between use of contraception and higher educational attainment among adolescents (Martin, 2005; Wellings et al., 2001). Likewise, two studies from Sweden found that more adolescents from theoretical (college preparatory) programs compare to practical programs (vocational-technical) had used contraception at their first intercourse (e.g., Edgardh, Lewin & Nilsson, 1999; Haggstrøm-Nordin, Hanson & Tyden, 2002). Several Norwegian studies from the nineties also showed that adolescent educational aspiration predicted contraception use/non-use among adolescents (Kraft & Rise, 1991; Kraft, Træen & Rise, 1990). Thus, these data indicate a relationship between educational attainment/aspirations and contraceptive behaviour among adolescents. This is one of the aspects we intended to explore in this work.

2.4.2 Family level variables

2.4.2.1 Parental monitoring

Parental monitoring is a much-studied family factor in relation to risk behaviour among adolescents. The concept of parental monitoring commonly includes the elements of parent supervision of their children, parent-child communication, and parent knowledge of what their children are doing (e.g., Li, Stanton, & Feigelman, 2000). A number of studies have found that parental monitoring is protective against sexual risk behaviour among adolescents (Hindelang, Dwyer, & Leeming, 2001; Resnick et al., 1997; Wight, Williamson, & Henderson, 2006). Furthermore, some studies have shown that gender moderates the strength of parental monitoring on sexual risk behaviour, thus parental monitoring was found to be a

stronger protection for girls sexual risk behaviour compared to boys (e.g., Jessor, Vandebos, Vanderyn, Costa, & Turbin, 1995).

2.4.3 Peer level variables

2.4.3.1 Social support from friends

The adolescent life stage is marked by a heightened concern about friends and peers. Studies have shown that when parents do not have a close relationship with their teenage children, there is often an increase in peer influence on adolescent sexual risk activity (Metzler, Noell, Biglan, Ary, & Smolkowski, 1994). However, studies have identified a positive association between social support from peers and young people's health behaviour such as exercise, and likewise a negative association between social support from friends and involvement in risk behaviour such as substance use (Steptoe, Wardle, Pollard, Canaan, & Davies, 1996). However, few studies have examined the relationship between social support from friends and use of contraception among adolescents. The few studies that have addressed this issue found that social support of friends was a protective factor against adolescents' sexual risk behavior (Henrich, Brookmeyer, Shrier & Shahar, 2006; Mazzaferro, Murray, Ness, Bass, Tyfus, & Cook, 2006; St. Lawrence, Brasfield, Jefferson, & Alleyene, 1994).

2.4.4 Community and societal level variables

2.4.4.1 Youth health services

A societal factor such as access to contraception may be an important determinant for use of contraception among adolescents (Furstenberg, Geitz, Teitler, & Weiss, 1997). A number of studies have shown that establishing health clinics for youth and the presence of school health clinics have improved access to contraception, counselling concerning contraception, and

actual use of contraception (Kisker & Brown, 1996; Santelli et al., 2003). Likewise, a literature review on the effectiveness of prevention of unwanted teenage pregnancies showed that youth-oriented clinics were one of the most effective factors in reducing pregnancy rates (Clements, Diamond, Ingham & Stone, 1996; Dickson et al., 1997). However, to our knowledge, no earlier study has examined the influence of visits to youth health clinic and school health clinic on contraceptive behaviour in a large sample of Norwegian adolescents.

2.4.4.2 Geographical regions

Previous research from Norway has shown that factors related to sexual behaviour among adolescents, such as age of sexual debut, prevalence of STIs, and abortion and pregnancy rates, are associated with living in different geographical regions. The northern regions of Norway, Troms and Finnmark, have the highest rate of STIs in the country, the highest rate of teenage abortions, and the lowest reported age of sexual debut (Norwegian Institute of Public Health, 2007; Pedersen, Samuelsen, & Eskild, 2006; Pedersen, Samuelsen, & Wichstrøm, 2003). The same tendency was found in other Nordic countries such as Finland (Vikat, Rimpela, Kosunen, & Rimpela, 2002). Regional differences remained stable in the period from 1992 to 2002 while teenage pregnancy and abortion rates generally decreased in the same period (Vigran & Lappgård, 2003).

There might be several reasons for the differences in sexual risk behaviour of adolescents living in different geographical regions. First, there may be a difference between rural and urban regions in general. Some studies from the USA found, for example, that rural adolescents reported more sexual risk behaviour compared to urban adolescents (Milhausen, Crosby, Yarber, DiClemente, Wingood, & Ding, 2003). One contextual difference between rural and non-rural adolescents could be that a rural adolescent perceives a lesser threat of STI/HIV infections because they do not believe that STIs is a rural issue and therefore are less

engaged in protective behaviour (Yarber & Sanders, 1998). Another explanation might be that there are cultural differences between regions, such as different norms and values concerning family, marriage, and religion that affect sexual behaviour (e.g., Vigran & Lappgård, 2003; Lappgård, 2000). For example, a national youth study from Norway showed that religious involvement delayed sexual debut while socioeconomic background did not have an impact (Pedersen et al., 2003).

2.5 Gender

One particular aspect of contraceptive practices concerns gender differences. Several studies have found gender differences among adolescents related to different processes of sexual behaviours. One example is that gender moderates the strength of parental bonding as a protective factor against risk behaviour. Parental monitoring was found to be a stronger protection for sexual risk behaviour among girls compared to boys (e.g., Jessor et al., 1995). Likewise, self-efficacy was found to affect contraceptive behaviour differently between boys and girls, and several studies have shown that self-efficacy was more important for contraceptive use among girls than among boys (Longshore, Stein & Chin, 2006). However, whether or not the processes underlying sexual behavioural decisions differ between boys and girls have typically not been performed in the context of the TPB and Prototype/Willingness models, although some of the studies have tested whether the components of these theories interact with gender (e.g., Bryan, Fisher, & Fisher, 2002; Conner & Flesh, 2001; Gibbons & Gerrard, 1995; Gibbons et al., 1998). Finally, gender differences related to the processes underlying contraceptive decisions may have critical implications for program interventions concerning prevention of STIs and unwanted pregnancies.

3 Aims of the study

3.1 General aim

The general aim of this thesis was to examine contraceptive behaviours among Norwegian adolescents, and to increase the understanding of the processes underlying why some adolescents choose to use contraception or choose not to use contraception. Answers to these questions are of critical value for the development of effective interventions for the prevention of STIs and unintended pregnancies among youth today.

3.2 Specific aims

The first specific aim was to examine the socio-cognitive processes contributing to intention to use contraception and the willingness to engage in unsafe sex among adolescents. Within this aim, we examined if the TPB-components (attitudes, subjective norms, and perceived behavioural control) would predict intention to use contraception, and if the additional variables, moral norms and prototypes, would significantly improve the predictive utility of the TPB. We also explored if the TPB-components would predict willingness to engage in unsafe sex and if moral norms and prototypes would improve significantly the predictive utility of willingness. Finally, we expected that there would be gender differences related to the predictors on intention to use contraception and willingness to engage in unsafe sexual behaviour.

The second specific aim was to examine the relative contribution of the indirect, belief-based TPB-components, attitudes, subjective norms, and perceived behavioural control, in predicting the intentions to use condoms and contraceptive pills among adolescents. Furthermore, we explored the extent to which risk- and health-promoting prototypes improved

the predictive utility of TPB, and if there were gender differences related to the predictors of intentions to use condoms. The next aim was to test the multiplicative assumption underlying the TPB-components. As described previously, the theory assumes that the different TPB-components are a multiplicative function of the underlying beliefs, e.g., attitudes are a multiplicative function of the behavioural beliefs and outcome evaluations (for further details see introduction, page 16-17). A test of the multiplicative assumption of TPB has only occasionally been carried out (e.g., Rise, 1992; Rise, Åström & Sutton, 1998; Sutton, McVey & Glanz, 1999). Finally, we wanted to explore the predictive power of the individual beliefs in the formation of intentions to use condoms and contraceptive pills.

The third specific aim of the thesis was to examine which individual and environmental factors influence preventive sexual practices among adolescents. Using a socio-ecological framework (Bronfenbrenner, 1979), we investigated contraceptive behaviours of adolescents within the context of individual, family, community, and societal influences. Thus, we examined if adolescents with high general self-efficacy, high perceived parental monitoring, higher support of friends and higher educational aspirations would be more likely to use contraception, such as condoms and hormone contraceptives, compare to those that did not use contraception. Furthermore, we investigated if adolescents attending the health clinic for youth or school health service will be more likely to use contraceptives such as condoms and hormone contraceptives than those who do not attend these institutions. We further examined if gender, and living in rural or urban geographical regions would influence use of condoms and hormone contraception among middle adolescents. Finally, we explored if those adolescents who used contraception would be less likely to be involved in several risk behaviours such as smoking, drinking, and use of doping agents.

4 Methods and materials

4.1 Study population and data collection

4.1.1 Sample I (Paper 1 and Paper 2)

The results presented in Paper 1 and Paper 2 are based on data from a study of ninth-grade students in Oslo. In 2001, a questionnaire was administrated to all students in ninth grade at three schools in Oslo, 196 students answered the questionnaire, and the response rate was 88%. Mean age was 14.5 years (standard deviation, 0.4 years). Forty-five percent of the participants were boys and 55% were girls. These particular schools were selected because of their location in regions of the city with a high rate of teenage pregnancies (60 per 1000 women, 13–19 years old) (Rognerud & Stensvold, 1998).

4.1.2 Sample II (Paper 3)

The findings presented in Paper 3 are based on data from a cross-sectional health study (The Norwegian Youth Health Study) among students in tenth grade (15-16 years old) in urban and rural regions of Norway ($N=19,200$). The study included the capital Oslo, the counties of Hedmark and Oppland in the south-eastern part of Norway, and the counties of Nordland, Troms, and Finnmark in the northern part of Norway. The study described in Paper 3 focused on adolescents reporting having had at least one coital experience ($n=4467$).

The survey was carried out in 2000–2001 in Oslo, during 2001–2002 in Hedmark and Oppland, and during 2002-2004 in Nordland, Troms, and Finnmark. All the surveys were completed in the spring, and all of the tenth-grade classes in the selected counties were invited to participate in the study. Students who were not present during the survey were given the questionnaire at a later time. Those still not responding were mailed the questionnaire at home

to be answered and returned in an already stamped and addressed envelope. The response rate was 87% in Oslo, 88% in Hedmark, 90% in Oppland, 88% in Nordland, 82% in Troms, and 71% in Finnmark. The reason for the lower response rate in Troms and Finnmark could be that 7 of the 74 schools in Troms and 12 of the 52 schools in Finnmark did not participate in the school surveys. Thus, the questionnaires were instead sent home to the students by mail, and they later received one reminder of the survey. Another reason could be that the students not present during the survey at school in Troms and Finnmark did not get a reminder sent home to them, as students did in the other counties.

4.2 Ethical issues and administration of the study

4.2.1 Paper 1 and Paper 2

Permission to carry out the project was given by the Data Inspectorate, as well as headmaster, teacher staff, and school council before the students were approached. The participants had to give their informed consent in writing together with written permission from their parents. Students received no incentives for participating in the study. Project staff handed the questionnaire directly to the participants in the classroom, and students were allowed to use two hours in school to complete the anonymous questionnaire. They had the option to refuse to complete it. The teachers were either passive observers or not present in the classroom during its completion. To ensure confidentiality, students completed the questionnaires under exam conditions, and after completion, the participants sealed their respective questionnaires in an envelope provided by the project staff. The study was further conducted and reported in accordance with the ethical standards of the American Psychological Association (APA).

4.2.2 Paper 3

The Norwegian Youth Health Study was approved by the Research Ethics Committee in Norway, the Data Inspectorate of Norway, and the School Authorities. The Data Inspectorate approved the informed consent form for the student to sign, but under the condition that the signer was 16 years of age by the day of the study and that the parents/guardians were informed about the study. When these criteria were not met, the parents were contacted and asked to provide a separate informed consent form.

The Norwegian Youth Health Study was a collaboration between the Norwegian Institute of Public Health, the Universities of Oslo and Tromsø, and the municipality of Oslo. The study was based on a self-report questionnaire. The adolescents and their parents received written information about the study before the students completed the questionnaire. Participation in the study was voluntary, and participants completed the questionnaire in the classroom during school hours. Specially trained field workers in the classroom provided information about the survey and instructions about how to complete the questionnaire and then collected the completed questionnaires.

4.3 Measures

4.3.1 Paper 1 and Paper 2

A detailed description of the measures is found in Paper 1 and Paper 2, and the full questionnaire is found in Appendix I.

There are standard procedures and methods to measure the concepts in the studies of Paper 1 and Paper 2. In addition, the content for some of the concepts of beliefs, prototypes, and willingness was clarified in a pilot study. Based on five focus group interviews (girls and boys separately) with participants from the target population, ages 14-15 years (N=18), the

most frequently occurring responses formed the basis for the beliefs, prototype, and willingness measures (see Appendix II for the pilot questionnaire).

The study of Paper 1 contained the TPB measures; intention to use contraception, attitude, subjective norms, and perceived behavioural control. In addition, the paper contained P/W-measures, willingness to engage in unsafe sex, the health-risk prototype, the health-promoting prototype, and the measure of moral norms, and the measure gender. Paper 2 contained the TPB measures, intention to use condoms and contraceptive pills, behavioural beliefs, normative beliefs, and control beliefs, the prototype measures, and gender. The measures used in these papers were based on standard procedures and wording recommended for measuring components of the TPB (Ajzen, 1991), the Prototype-Willingness model (Gibbons & Gerrard, 1995, 1997), and moral norms (Manstead, 2000).

4.3.2 Paper 3

A detailed description of the measures in the study is found in Paper 3, and the full questionnaire is found in Appendix III.

The dependent variable addressed use of contraception based on the question: “Did you/your partner use contraception during your last intercourse?” Furthermore, Paper 3 contained independent variables on different contextual levels such as *behavioural variables* (smoking, episodes of drunkenness, and use of doping agents such as anabolic steroids), *individual variables* (general self-efficacy; Schwarzer, 1993; Norwegian version by Røysamb, Scharzer & Jerusalem, 1998, and educational aspirations), *family variables* (parental monitoring), *community variables* (social support from friends), *societal variables* (visits to School Health Service and Youth Health Clinic) and *demographic variables* (geographical region and gender).

4.4 Statistical procedures and analysis

Statistical analyses were conducted using SPSS 12.0 for Windows.

4.4.1 Principal component analysis

Principal component analysis (PCA) constitutes one approach to the investigation of underlying structure or basic dimension in a set of variables. We applied PCA to test whether the items employed to measure the independent variables (e.g., the TPB components, prototypes, moral norms, general self-efficacy, parental monitoring, and friend support) loaded on distinct factors. We used orthogonal rotation in all papers (varimax rotation in SPSS), which is suitable when there are theoretical reasons for considering independent dimensions.

4.4.2 Multiple regression analysis

Multiple linear regression analysis quantifies the extent to which a combination of two or more independent variables has a linear relationship with the dependent variable. The regression is usually estimated by means of least-squares methods, in which the sum of squares of the distances between observed values and those predicted by the fitted model is minimised (Tabachnick & Fidell, 2001). One of the assumptions in multiple regression analysis is that the dependent variable is on interval or ordinal level. In Paper 1 and Paper 2 the dependent variables are on ordinal levels, being ordered categories on a scale from 1 to 7. Hierarchical regression analysis was performed to test the hypothesis in the extended version of the TPB-model used in Paper 1 and Paper 2 (Ajzen, 1991). In Paper 1, this analysis was carried out by entering the TPB variables first in the regression analysis followed by the additional variables, moral norms (in step two), and prototypes (in step three). This approach

was used to test whether the variables “moral norms” and “prototypes” would predict intention to use contraception and willingness to be involved in unsafe sex, independent of the contribution of the TPB components. In Paper 2, a hierarchical regression analysis was carried out by entering the TPB variables first in the regression analysis followed by the additional variable “prototype” in step two. To test the second hypothesis in the study, we ran separate multiple regression analyses for the three types of beliefs to identify the main reasons within the three sets of beliefs.

The moderating effect of gender was assessed by conducting separate regression analyses for male and female respondents (see Paper 1 and Paper 2), followed by comparison of the nonstandardized regression coefficients and testing for significant differences between males and females, as suggested by Baron & Kenny (1986).

4.4.3 Multinomial logistic regression analysis

Logistic regression analysis describes the relationship between a dichotomous dependent variable and a set of explanatory variables. Multinomial logistic regression allows the dependent variable to have more than two categories and was therefore performed in Paper 3 to assess the associations between use of contraception at last intercourse (use of condoms and hormone contraceptives) and the independent variables (visits to youth health services, parental monitoring, friend support, general self-efficacy, geographical region, educational aspiration, smoking, episodes of drunkenness and use of doping agents). Not using contraception was the outcome reference category. The independent variables treated as categorical variables in the analysis were visits to youth health service, smoking, episodes of drunkenness, use of doping agents, educational aspirations, and geographical region.

Boys and girls were analysed separately. The results were presented as unadjusted odds ratios (one cofactor at the time) and adjusted odds ratios (adjusted by all cofactors). The

odds-ratio is a parameter that indicates how many times larger (or smaller) the odds are when the independent variable increases with one unit. An odds-ratio equal to 1 indicates that the odds do not change as a result of an increase in the independent variable (no relationship). When the odds ratio is greater than 1, the increase is a function of an increase in the independent variable (positive relationship). Finally, when the odds-ratio is smaller than 1, the odds decrease as a function of the independent variable.

The interaction between gender and all other variables was tested by the multiplicative model, logistic regression (Rothman, & Greenland, 1998). The method assumes linearity between log odds of the dependent variable and the covariates. This property was examined for all continuous variables by first categorizing the variables and then plotting the estimated coefficients (betas) with confidence intervals against category midpoints. No indications of a curvilinear relationship were found. Other possible pitfalls of regression analysis, such as multicollinearity, were checked for and not found to represent a problem in this study.

5 Results

5.1 Predicting willingness to engage in unsafe sex and intention to perform sexual protective behaviours among adolescents (Paper 1)

The study presented in Paper 1 investigated whether the Theory of Planned Behaviour (TPB) extended with moral norms, health-risk prototypes and health-promoting prototypes predicted intentions to use contraception and the willingness to engage in unsafe sex among middle adolescents. Data were obtained from a questionnaire delivered to all the students in ninth grade ($n=196$) at three schools in Oslo. Hierarchical multiple regression analysis was used to predict intention and willingness. The TPB components accounted for 32% of the variance in intentions to use contraception among boys and 40% among girls. The TPB components did not predict willingness to engage in unsafe sex: only 5% of the variance in willingness was accounted for by the three theoretical components for boys and 1% among girls. The results showed that subjective norms were the most important predictor for intention to use contraceptives; for girls also when additional predictors were accounted for ($\beta=.55$, $p<.001$). The inclusion of moral norms increased the predictive power of the model, in particular for willingness to engage in unsafe sex, but also for intention to use condoms among boys ($\beta=.40$, $p<.001$), and its predictive ability remained in the final step. The inclusion of prototypes increased the predictive power of the model only for girls and in particular for willingness ($\beta=.42$, $p<.001$). Thus, the study showed that different social and psychological processes contributed to the prediction of intentions to use contraception and the willingness among adolescents to engage in unsafe sex.

5.2 Predicting intention to perform sexual protective behaviours among Norwegian adolescents (Paper 2)

The second paper examined the socio-cognitive processes contributing to intentions to use condoms and contraceptive pills in a group of Norwegian adolescents, using the belief based measures of TPB extended with prototypes. The data were derived from a questionnaire study with all the students in ninth grade at three schools in Oslo. Based on hierarchical multiple regression analyses, the results showed that intentions to use condoms were predictable from the belief-based components of the TPB (attitudes, subjective norms and perceived behavioural control) among boys as well as girls ($R^2 = .27$ and $R^2 = .20$, respectively). The predictive power of the TPB in the present study was considerably higher for intentions to use contraceptive pills among girls ($R^2 = .46$). The inclusion of prototypes increased the predictive power of the TPB significantly only for intended condom use among boys ($R^2 = .37$). Furthermore, the results showed that prototypes and normative beliefs were the most important predictors for condom decisions among boys. For condom decisions among girls, normative beliefs and attitudinal considerations were most important.

The perceived risk of acquiring sexually transmitted diseases was the most important predictor for condom intention related to behavioural beliefs for both girls and boys. For boys, partner approval and friends opinion was the most important normative beliefs for the intention to use condoms. For girls, on the other hand, parental opinions were most important for their decisions related to using condoms and contraceptive pills. The results show that there was weak support for the multiplicative model of the TPB, thus the multiplicative model may be useful in some cases and contexts but not in all. Testing the multiplicative assumption may therefore be warranted in future studies.

5.3 Contraceptive behaviour among middle-adolescents: Use of youth health services, psychosocial factors, and substance use (Paper 3)

Using a socio-ecological framework, we examined contraceptive behaviour among adolescents within the contexts of individual, family, community, and societal factors. Participants in this study were all students in tenth grade (ages 15–16) reporting at least one coital experience ($n=4467$) in six urban and rural regions of Norway. The results showed that 20% of the adolescents had not used any kind of contraception at last intercourse; 57% of the adolescents reported that they had used a condom at last intercourse; 20% reported that they had used contraceptive pills/hormone contraception; 0.5% had used another kind of contraceptives/protection; and 1.6% did not know what they had used. With multinomial logistic regression analysis, the results showed that condom use among boys was associated with variables within the contexts of individual, community, and societal levels such as friend support, visits to school health services, few episodes of drunkenness, and not using doping agents. Condom use among girls was associated with variables on the individual, family, and societal contextual levels, such as high general self-efficacy, high parental monitoring, few episodes of drunkenness, not smoking daily, and not living in the rural regions of Finnmark and Hedmark. The most important factors associated with use of contraceptive pills among girls were visits to the youth health clinic and the school health service, parental monitoring, not smoking daily, and living in the rural regions of Finnmark, Nordland and Oppland.

6 Discussion

The focus of the final discussion will first be on the main results as well as some theoretical and methodological issues. Finally, practical implications and suggestions for possible future studies will be discussed.

6.1 Socio-cognitive mechanisms

6.1.1 Social influence

The findings of this thesis show that injunctive norms (perceived social influence from friends, partner and parents) were the most important predictors among adolescents of intention to use contraceptives. This result is at variance with those of most other TPB studies (Ajzen, 1991; Armitage & Conner, 2001). In a recent meta-analysis of studies conducted to predict condom use (Albarracin et al., 2001), attitude was the strongest predictor of intentions ($r = 0.58$), while subjective norms correlated ($r = 0.39$), and perceived behavioural control correlated ($r = 0.45$). Thus, a consistent finding in application of the TPB is that the subjective norm-intention relationship is weaker than the attitude-intention relationship, a finding that has been taken to imply that personal factors are more important than social factors in predicting behavioural intentions (e.g., Ajzen, 1991).

The reason for the stronger prediction of normative influence on contraceptive decisions as compared to attitudinal considerations in our results could be related to the fact that this study concerned a population of young adolescents. A meta-analysis including 58 studies on condom use showed that norms generally had stronger influences among younger individuals and among people with greater access to informational social support, including males and persons of ethnic majority (Albarracin, Kumkale & Johnson, 2004). One reason for

this might be that life stage of adolescents is marked by a heightened concern about social appearance; teens are more concerned with their peers and are more influenced by normative pressure from their in-groups (Kerr, Stattin, Bisecker, & Ferrer-Wreder, 2002), compared to other periods of life. Social consequences may therefore be more important than attitudes for an adolescent's behavioural decisions (Gibbons & Gerrard, 1997). A theoretical implication of these results is the importance of considering the age of a population in relation to contraceptive decisions in the context of TPB.

An additional explanation to our finding, that social influence was more important for adolescents' contraceptive decisions, than personal factors such as attitudes and perceived behavioural control, may be that most of the adolescents in the study of Paper 1 and Paper 2 were not sexually experienced and had not used contraception. Thus, decisions about whether or not to use contraception may have been more based on social expectations than on a personal evaluation of the benefits and costs of using contraception. Lack of personal experience may have led them to base their decisions on information outside themselves such as social influence from parents, partner and friends (subjective norms).

6.1.2 Prototypes/social images

The results from Paper 1 showed that the health-risk prototype "reasonable" contributed significantly negatively to the intention to use contraception among girls. Furthermore, the results from Paper 2 showed that the health-risk prototype "conceited" (e.g., a typical boy who do not use a condom is irresponsible) contributed significantly positively to the intention to use condoms among boys, after the TPB variables had been controlled for. Thus, these results supported the claimed importance of the extension of TPB related to additional social influence measures (e.g., Gibbons & Gerrard, 1995; Gibbons et al., 1995; Ravis & Sheeran, 2003; Spijkerman et al., 2004). The reason for the difference in results between Paper 2 and

Paper 1 could be that we measured general contraception use in Paper 1; in Paper 2, both the outcome variable (intention to use condom) and the health-risk prototype (imagine a typical boy who does not use a condom) were measured by relating to the specific condom use. Thus, the results in Paper 2 are consistent with the principle of compatibility (e.g., Ajzen & Fishbein, 1980), which implies that the predictors of the prototype are assessed on the same level of generality or specificity as the outcome variable, intention to use condoms. The reason for the gender difference related to condom use, could be that it was easier for boys to identify with the prototype “a typical boy who does not use condoms”, than it was for the girls.

The results from Paper 1 and Paper 2 showed that most of the adolescents evaluate a person who engages in unsafe sex as fairly negative. Few adolescents, and especially few girls, evaluate a typical boy who does not use a condom as positive (for example reasonable or smart). Nonetheless, the “reasonable” condom risk prototype influenced teenage girls’ willingness to engage in unsafe sex and their intention to use contraceptives. These results are consistent with the findings in previous studies (Gibbons & Gerrard, 1997; Gibbons et al., 1998), and the reason for this outcome according to the P/W-model is that young people realise that if they engage in the behaviour in public settings or talk about their actions in public settings, they may be identified as members of the group that the image represents. They do not necessarily find the image attractive, but find it acceptable, and are therefore willing to engage in the behaviour, given the opportunity.

The health-risk prototype was a more important predictor for girls’ willingness to engage in unsafe sex as compared to intention to use contraception. Thus, the results for girls were consistent with previous findings and support the P/W-model (Gibbons et al., 1995, 1998, 2003). However, it was not expected that the prototypes would be significant predictors of willingness to engage in unsafe sex among girls and not among boys. This gender

difference could be explained by the fact that girls at this age are more engaged in the topic of using contraceptives in the sense that they have more knowledge and discuss it more often with their friends (Hansen & Skjeldestad, 2003), are more strongly motivated to prevent pregnancies, and have more positive attitudes towards use of condoms than boys at the same age (Mizuno, Kennedy, Seals, & Myllyluoma, 2000; Wight et al., 1998). It might be that boys do not identify with the prototype related to contraception because the behaviour is not yet relevant for them and not common enough among their friends and peers. This idea is consistent with earlier findings and the P/W-model (e.g., Gibbons et al., 2003). Thus, young girls might have been more familiar with the use of contraceptives in general, and contraceptive pills in particular, than most of the boys.

6.1.3 Moral norms

Moral norms were the most important predictor of intentions to use contraception among boys. The results showed that adding moral norms to the TPB-model improved the explained variance significantly in relation to contraceptive intention among boys. However, moral norms were not a significant predictor of girls' intention to use contraception. The results among boys are consistent with previous studies (Beck & Ajzen, 1991; Conner, Graham, & Moore, 1999; Godin et al., 1996; Nucifora et al., 1993). Moral norms are most important for predicting behaviour in situations where individual and social rewards are in conflict with personally held moral norms (Manstead, 2000). Previous studies have shown that adolescent girls were more engaged in using contraceptives and preventing pregnancies and had stronger intentions and more positive attitudes about contraceptive use, as compared to boys (Conner et al., 1999; Mizuno et al., 2000; Wight et al., 1998). This finding indicates that the conflict between individual/social rewards and personally held moral norms may be more salient for boys compared to girls related to contraception use, and might thus explain the gender

difference. Moral norms were, however, an important predictor of willingness to engage in unsafe sex among both boys and girls. Thus, the moral aspects of unsafe sex obviously are more salient for young adolescents when asked, “What are you willing to do?” in a specific social context (for example: met a likeable guy at a party), which requires that they must make an active decision and consider the consequences directly in the present situation. On the other hand, moral considerations may not be so accessible when an adolescent is asked for plans or intentions for future contraceptive use; in particular this was the case for girls.

6.1.4 Parents and partner influence

As already discussed, the results from Paper 1 and 2 showed that the intentions to use condoms and contraceptive pills among boys and girls were primarily under normative influence. In addition, partner’s approval of condom use and the opinions of friends about condom use, were the most important predictors of boys’ normative beliefs applied to condom-use decisions. For girls, on the other hand, parental opinion of their contraceptive pill and condom use was most important. In addition, Paper 3 showed that parental monitoring was significant associated with girls’ use of condoms and hormone contraceptives; however, boys’ condom use was not associated with parental monitoring. Thus, this show that parents opinion and parental monitoring seem to be more important for girls’ contraceptive use, compared to boys’ contraceptive use. Earlier studies found that parent communication with adolescents about sex appears to be one important aspect of the parent-child relationship pertaining to adolescent sexual risk-taking (Hutchinson & Cooney, 1998). Findings based on the same data as presented in Paper 1 and 2 (Myklestad, 2003) showed that more girls than boys would like to talk to their mother, father, and best-friend about sexual topics. On the other hand, slightly more boys than girls would like to talk to their partner about sexual topics. This finding is consistent with the results in this thesis and with previous studies that found

that condom use among boys, compared to girls, was more influenced by social pressure from important others, especially their partner (Mizuno et al., 2000; Sonenstein, Ku, & Pleck, 1997), and furthermore, boys who were in love with their partner were more likely to perceive themselves as capable of communicating with their partner about condom use (Kvalem & Træen, 2000).

6.1.5 General self-efficacy

The results of this thesis showed that general self-efficacy had a stronger relationship with safe-sex behaviour among girls compared to boys. Self-efficacy has also in earlier studies been reported to be more important for protective-sexual behaviour among girls, compared to boys (Longshore, Stein & Chin, 2006; Robertson, Stein & Baird-Thomas, 2006). There might be several reasons for this gender difference. Previous studies (e.g., Robertson et al., 2006) and the results of Paper 3 showed that more boys compared to girls reported to use a condom. Furthermore, earlier studies found that more girls were motivated to use condoms compared to those who actually used one, and more girls than boys were motivated to use condoms (Robertson et al., 2006; Wight et al., 1998). It can be argued that condom use is a negotiated goal rather than a volitional behaviour for females; girls might, for example, need skills to negotiate and communicate with their partner about using condoms. Having high self-efficacy is related to good negotiation and communication skills, being goal-oriented, having high self-esteem, and skills to plan ahead for risky sexual situations, all factors that might be important for girls' condom use (Longshore et al., 2006; Luszczynska et al., 2005; Salazar et al., 2004; Wight & Abraham, 2000).

6.2 Theoretical considerations

6.2.1 Shortcomings of the models

As mentioned previously, TPB has been successful in predicting health-relevant behaviours (e.g., Armitage & Conner, 2001). Nonetheless, some assumptions of the expectancy value approach limit its applicability for certain kinds of behaviour and populations (Cho, Keller, & Cooper, 1999; Gibbons et al., 2003). In particular adolescents' decision-making strategies often do not follow the planful sequence outlined by the TPB or other expectancy-value theories. TPB has also been criticised as being less effective in explaining behaviours that are irrational or impulsive (Ingham, Woodcock, & Stenner, 1992), or that have an affective component (Eiser, Eiser, & Pauwels, 1993), compared to behaviour that is reasoned and deliberate.

Obviously there are a number of non-rational elements that factor into the decision to have sex and to use contraception (e.g., Gerrard, Gibbons, & Boney-McCoy, 1993). Those elements include that sex involves considerable arousal and emotion (Lipsitz, 1980), as well as risk (Gibbons et al., 1995), and adolescents are apparently often willing to take those risks (Gibbons et al., 1995). The idea of the Prototype/Willingness-model (P/W-model) is that much of adolescent risk behaviour, including sexual risk behaviour, is a reaction to risk-conducive circumstances rather than to a pre-planned event, and in some circumstances an adolescent may be willing to perform a risk behaviour that he or she otherwise had planned not to perform. According to the P/W-model, there are therefore two separate pathways to performance of risk behaviour among adolescents, namely a reasoned path, as proposed in the TPB, and a social reactive path (behavioural willingness), which reflects the belief that much adolescent risk behaviour is neither planned nor intentional (Gibbons & Gerrard; 1995, 1997).

Generally, the TPB emphasize cognitive appraisal processes focusing on the likelihood and evaluation of the consequences of health-related behavioural practices. Thus, the role of

emotions has been neglected within this model (Richard van der Pligt, & de Vries, 1995). Manstead (2000) has argued that it is reasonable to assume that individuals may experience negative feelings such as regret, shame or guilt after having broken internalized moral norms, and they may experience positive feelings such as contentment and pride after behaving consistently with these norms. Anticipated affect have thus been found to have significant effect on contraceptive behaviour (Richard, van der Pligt, & de Vries, 1996). It is therefore reasonable to assume that moral norms do tap some affective aspects. The results of Paper 1 and Paper 2 showed that moral norms significantly predicted adolescents' intention to use contraception and willingness to unsafe sex. Thus, the affective component of moral norms may explain some of the prediction of intention to use contraception and willingness to engage in unsafe sexual behaviour. The influential aspects of these affective components on contraceptive behaviour should therefore be further examined in future studies.

6.2.2 Comparing the theoretical models

The TPB and the P/W-model both explain sexual protective decisions from an individual and a socio-cognitive perspective. The frameworks used in Paper 3, the Problem-Behaviour Theory (PBT) and the socio-ecological model (Bronfenbrenner, 1979), offer a somewhat broader perspective. Behaviour such as contraceptive use is according to PBT, a result of a person-environment interaction (Jessor, 1987). Thus, the personality system variables and the perceived environmental variables in PBT may both influence contraceptive behaviour.

In addition, PBT encompasses distal systems that influence health and risk behaviour. Distal systems are variables that are more distal from the behaviour in a causal sense and more remote in time; for example, demographic social structure (parents' education and background) and socialization variables such as parental beliefs and religion, parental control and interaction, peer influence and media influence. The socio-ecological model also includes

variables that influence contraceptive behaviour on the community and societal contextual levels.

Proximal variables, which are mainly used in Papers 1 and 2, have a more direct relationship with contraceptive behaviour and are closer in time and in the causal chain, compared to the distal variables (Jessor, 1987). According to PBT, distal variables may be linked to the health or risk behaviour indirectly, and may largely be mediated by the more proximal variables (Jessor, 1987). In Paper 3 we have used both proximal and distal variables.

One shortcoming concerning the socio-ecological perspective used in Paper 3 is that the distal variables given in Paper 3, such as living in rural/urban regions, do not explain the underlying psychological processes of contraceptive decisions. The variable “geographical place of living” may indirectly explain contraceptive behaviour via, for example, cultural values. The proximal variables of Paper 1 and Paper 2, on the other hand, may directly explain the social- and cognitive processes of adolescent decisions concerning contraceptive behaviour.

The results from Paper 3 show that a distal variable such as general self-efficacy was a significant predictor for condom use among girls. This finding indicates theoretically that general concepts that are more distal from the behaviour may also influence adolescent condom use. On the other hand, the specific measure of self-efficacy has in earlier studies been found to explain more of health behaviours such as contraceptive use, compared to the general measure of self-efficacy (Luszczynska, et al., 2005; Murphy et al., 2001). Based on previous studies, the specific measure of self-efficacy could therefore have been a better predictor of condom use than the general measure of self-efficacy. Furthermore, previous studies observed a positive association between general self-efficacy and specific self-efficacy (Leganger, Kraft, & Røysamb, 2000; Leganger & Kraft, 2003), and that general self-efficacy

exerted its influence upon specific behaviour, such as contraceptive behaviour via specific self-efficacy (Leganger & Kraft, 2003).

The results from this thesis showed that the proximal variables used in Paper 1 explained more of the variance of intentional contraceptive behaviour than did the distal variables used in Paper 3 (for girls: 31-48% and 19-22%, respectively), and thus support the PBT and the TPB (Ajzen, 1991; Jessor, 1987). One caution, however, is that the outcome variable in Paper 1 was the intention to use contraceptives, while in Paper 3 it was the actual behaviour of contraceptive use; thus, this difference might also have influenced the result.

To summarize, the results from this thesis show that both proximal factors, such as the socio-cognitive variables, perceived parental opinions and friends' approval of contraceptive use (Paper 1 and 2), and distal factors, such as perceived parental monitoring and friend support (Paper 3) were significant predictors of contraceptive decisions and contraceptive use among adolescents. This result is consistent with previous studies (Costa et al., 1996). Thus, the different frameworks used in this thesis will together give a more complete explanation than does each paper separately, of which factors influence adolescent contraceptive behaviour. This work contributes therefore to a more complete knowledge of effective program interventions to target adolescents' protective sexual behaviour.

6.3 Methodological considerations

6.3.1 Reliability

Reliability is “the accuracy of precision of a measuring instrument” (Kerlinger, 1986). Reliability may be measured both in terms of stability and of consistency. To measure reliability (internal consistency) we used coefficient alpha (Cronbach, 1951), which is the most commonly used. Principal component analysis (PCA) was first applied to test whether the indices that were designed to measure the various constructs could be regarded as distinct

factors. The Cronbachs' alphas, reported in all papers, were generally higher than 0.70, or marginally below 0.70; this latter group included subjective norms and PBC (0.69 and 0.66, respectively), indicating a satisfactory level of internal consistency (e.g., Nunnally, 1978). Another aspect concerning reliability is that the alpha coefficients are a function of the number of items in the scale, alpha increases with an increasing number of items in the scale. The numbers of items used to measure subjective norms and perceived behavioural control were 3 and 6, respectively, which partly explains the moderate alphas. If a scale has numerous items (e.g., more than 20), then it can have an alpha of greater than 0.70 even when the correlation among the items is very small (Cortina, 1993). The number of items applied to measure the constructs in this thesis varied from 2 to 8; thus, the number of items should not affect the reliability of the measures.

One item in the study of Paper 1 ("it is completely up to me if I will use contraception") was removed from the scale of PBC because it did not correlate strongly with the other items. This outcome could be attributable to the fact that the adolescents felt that using contraception was not completely up to them, but that the partner also needs to decide. Deletion of items from the scales was done also for the health-promoting prototypes (Reasonable and Desperate), the health-risk prototype (Conceited) and for willingness. These concepts do not have established scales, the number and content of items in the scales vary with context and type of behaviour. Deletion of items from the scales of prototypes and willingness is part of improving the scale (formative index). Before removal of the items from the prototype index, the alphas were stronger than 0.70, indicating a satisfactory level of reliability (e.g., Nunnally, 1978).

6.3.2 Validity

A measure, test, or scale is said to be valid if it measures what it claims to measure (Kline, 1993). Furthermore, a measure may be more valid in some circumstances than in others, reflecting the existence of different forms of validity (Kline, 1993). Kline (1993) made a distinction between content, criterion-related and construct validity. Construct validity refers to the link between psychometric and theoretical properties of a measure, and thus concerns the substantial meaning of a certain measure. As recognised by Kerlinger (1986), factor analysis is a powerful method of construct validation. In this thesis, PCA has been applied to establish the construct validity of social and cognitive constructs in all of the papers. Thus, it is assumed that some evidence of validity has been provided in terms of the constructs used in this thesis.

6.3.3 External validity

External validity refers to generalizability of findings *to* or *across* target populations, settings and times (Cook and Campbell, 1979). The term *generalizing to* concerns validity of generalizations from samples to populations of which the samples are presumably representative. *Generalization across* concerns the validity of generalization across populations. For example, results obtained with a sample from a given population (e.g., females, African-Americans) are generalized to other populations (e.g., males, whites). As Cook and Campbell (1979) pointed out, generalizing across logically presupposes validity of generalization to.

The study of Paper 3 has a large sample of participating adolescents: all tenth graders in six regions of Norway were included. The high response rate (87%) makes the sample representative and the potential for response bias is therefore low. The sample of Paper 1 and Paper 2, on the other hand, was based on data from a relatively small number of ninth graders

in Oslo ($n= 196$), and the sample was selected on the basis that they attended schools in parts of the city with the highest rates of teenage pregnancies. The population was drawn from all ninth graders in three different parts of Oslo, and the response rate was high at 88%. Thus, the sample is representative for the age group in this part of the city and to other samples similar to this. However, because of the selection, the study is not representative for all adolescents in Oslo or all adolescents in Norway.

On the other hand, the aim of Paper 1 and Paper 2 was to study relationships between variables and not to study levels of use of contraception among adolescents. According to Aaberge and Laake (1984), generalizations of relationships are less vulnerable to sample effects than are generalizations of prevalence. Thus, as Paper 1 and Paper 2 focused on psychological mechanisms and processes, indicated by bivariate and multivariate relations, there is reason to expect that the relationships identified in Paper 1 and 2 can be found among other adolescents in Norway and other countries. However, generalizations of prevalence of these results from Paper 1 and Paper 2 should not be made.

Replications of these findings to larger samples and different samples of adolescents are highly recommended to further validate the findings and to get further insight regarding preventive efforts and programs concerning contraceptive use among adolescents.

6.3.4 Limitations and strengths

Several limitations of the study should be acknowledged. First, in Paper 1 and Paper 2 we did not measure behaviour directly, but indirectly through measures as intention and willingness. However, recent meta-analyses have found medium correlations between intention and contraceptive behaviour ($r = 0.44$, Sheeran & Orbell, 1998; and $r = 0.45$, Albarracín et al., 2001), and between willingness to engage in unsafe sex and sexual-risk behaviour ($r=0.65$, Gibbons et al., 1998; Gibbons et al., 2003). The relationship between intention and behaviour

is lower among young people, increasing over time up to about age 19 or 20 (Albarracín et al., 2001; Sheeran & Orbell, 1998). However, among young people with little experience with the behaviour, it was found that willingness was a stronger predictor of behaviour than intention (Gibbons et al., 2003).

A second concern may be that intention to use contraception was measured using one single item, which may lower the reliability of the measure. However, single-item measures of intentions have been found to be reliable predictors for contraception behaviour in other studies among young people ($r = 0.31-0.60$) (see Sheeran & Orbell, 1998 for a review). Furthermore, in Paper 1 and Paper 2 substantial correlations were observed between the measure of intention and the other TPB-measures, which are indicative of a reliable measure.

A third limitation concerned the fact that the study providing the data for Paper 1 and Paper 2 was based on data obtained from a relatively small and selected sample. Future research should attempt to replicate the present findings in a larger sample of adolescents. It should also be noted that the relatively few respondents in this study made it more difficult to obtain significant results.

For Paper 2 in particular, a concern may be that the indirect measures (sum scores of beliefs) and not the direct measures of the TPB-components were used. Because intentions are assessed directly for the sake of consistency, the direct measures of the TPB-components are usually preferred. The results showed that the prediction of the TPB-components on intention to use contraception in general (Paper 1) was stronger than the prediction of the TPB-components on intention to use condoms and contraceptive pills in Paper 2. The reason for this could be as suggested by Manstead and Parker (1995) that the direct measures of attitudes, subjective norms and perceived behavioural control do a better job in predicting intention than the indirect, beliefs-based measures that was used in Paper 2. However, theoretically, both the direct and belief-based measures are alternative ways of assessing the

same underlying constructs. Either measure can therefore be used to predict intentions (Ajzen, 2005).

Next, between 19 and 27% of the participants did not answer all the questions in the study of Paper 2. A comparison of the original sample ($n = 196$), with the sample used in the analysis of Paper 2 revealed no significant differences in demographic characteristics, or in the correlations between the study variables. This outcome provided partial assurance that the results of the sample were not biased by selective attrition.

A particular strength of the study in Paper 3 is the large and representative sample of adolescents participating in the study. The high response rate (87%) makes the sample representative and the potential for response bias is low. The question about contraceptive use is clear and should not suffer from recall bias. However, one limitation of the study is that it was not possible to identify adolescents who had used both condoms and contraceptive pills. It may be assumed that only a few participants may have had this as an option because earlier studies found that few young people in Norway used dual protection (Træen, Stigum, & Eskild, 2002). Second, the data are cross-sectional and it is therefore not possible to establish a temporal order of the relationships. Third, previous research has shown that other contextual variables that were not included in the present study have influenced contraceptive behaviour (for example, family structure, socioeconomic status, relationship to partner and mental health). However, it can be argued that studying all of these variables is beyond the scope of a single investigation.

Finally, all constructs in this thesis is adolescent self-report, which can be biased on items pertaining to sensitive behaviour. However, the high response rate in both studies of this thesis, and the fact that few, 0.4-1.1% of the participants, did not respond to the questions used in the study, indicate that the adolescents did not have a problem answering the questions concerning contraceptive use. Earlier studies did also find that self-report questionnaires gave

a satisfactory reliability when studying adolescents' sexual behaviour (Catania, Gibson, Chitwood, & Coates, 1990; DeLamater, 1974). Likewise, Kvaem (2002, p. 35) argues that sexual and contraceptive behaviour are private topics but no longer highly sensitive for Norwegian adolescents. In addition Shew and colleagues (1997) showed that self-report condom use behaviour was in accordance with absence of test for STIs, and thus shows that self-report condom use was a valid measure.

6.4 Practical implications

The results from this thesis show that effective interventions to increase contraceptive use to prevent STIs and unwanted pregnancies among middle adolescents should emphasize several preventive efforts. First, results from this thesis have showed that interventions should be gender specific. Second, interventions to prevent STIs and increase condom use among boys should in particular emphasize making supportive environments for youths through school and community programs. Third, effective interventions to increase contraceptive use among boys and girls should address several risk behaviours such as heavy drinking and use of doping agents together with sexual risk behaviour. Fourth, interventions to prevent STIs among boys and girls should emphasize reaching regions most at risk, which need more preventive efforts and resources.

Interventions that in particular target increased use of condoms among girls should emphasize school interventions with a focus on social skills such as assertiveness, goal-oriented training, and communication and negotiation skills that might positively affect general self-efficacy (Bandura, 1998; Wight, & Abraham, 2000). Furthermore, the results showed that parental monitoring is an important predictor for condom use and use of hormone contraceptives among girls. Programs designed to promote parental monitoring are thus recommended (DiClemente et al., 2001; Stanton et al., 2000). Interventions aimed at

increasing use of hormone contraceptives among girls and condom use among boys should also emphasize easy access to youth health services by, for example, providing information at school about the service and where it is located. Youth health clinics should pay particular attention to the importance of providing consultations concerning the use of dual protection, e.g., using condoms in addition to contraceptive pills for protection against STIs.

Paper 2 in particular examined a detailed analysis of the three sources of beliefs underlying condom use and use of contraceptive pills. By examining beliefs, the findings can be used to inform which beliefs one may change to influence condom use and use of contraceptive pills in the desired direction. Results from this thesis showed that interventions targeting normative beliefs may be effective in increasing condom use among adolescent boys and girls. Young people often have a common misunderstanding that other teenagers are involved in more risk behaviour than actually is the case (e.g., Gibbons et al., 2003). Effective school interventions may therefore target educating adolescents about how many teenagers actually use contraceptives or are involved in sexual risk behaviour (Crosby et al., 2003), and group discussions that clarifies misunderstandings concerning friends' and classmates' opinions about risky sexual behaviour (Schroeder & Prentice, 1998). For girls in particular, parents' opinions seem to be the most important normative belief to address in an intervention targeting increased use of condoms and contraceptive pills. Thus, an effective intervention may be programs in which parents are encouraged to communicate clearly their opinions about contraceptive use with their teenage girls (Wills, Gibbons, Gerrard, Murry, & Brody, 2003).

Regarding condom use among boys, the most important reason among the normative beliefs for their intention to use condoms was partner approval about condom use. The direct implication is that if young boys could be persuaded that their partners want them to use condoms, this may influence their condom use intentions and hence their actual condom use.

Programs that work with assertiveness training and communication skills in small mixed gender groups may be effective (Wight et al., 1998). Thus, young people can learn what the opposite gender actually wants and think regarding use of condoms (Wight et al., 1998). Targeting normative influence may also be effective for changing unhealthy prototypes among teenage boys and girls. For example, teenagers are shown that the image of “a typical boy who does not use condoms” is more negatively evaluated by their peers than they realized it to be, and thus, they can lower the prescriptive strength of conforming to the group norm (Gibbons & Gerrard, 1995). To address moral considerations, programs may include small-group discussions led by a competent educator, concerning moral responsibility for one’s sex partner as well as oneself (Boyd & Wandersman, 1991). Interventions influencing girls’ attitudes toward condom use are also recommended, as are, interventions influencing condom decisions among girls and boys through risk information about the consequences of not using condoms, especially related to getting STIs and acquiring HIV.

6.5 Suggestions for future studies

First, future studies should further investigate normative influence on contraceptive decisions, also by the extension of different normative measures to the Theory of Planned Behaviour (TPB) and the Prototype/Willingness-model. Second, further investigation should be conducted of the influence of moral norms and related concepts such as the anticipated affective reactions on contraceptive behaviour among adolescents. Thus, more knowledge can be accumulated about how affective reactions and emotions influence adolescent contraceptive decisions. Third, there is a need for further explorations of the gender differences in relation to the influence of prototypes and moral norms on contraceptive behaviour among adolescents. Fourth, further investigations examining the influence of different contextual levels on contraceptive decisions and behaviour among adolescents will

be helpful for achieving new knowledge of practical interventions in this field. Finally, testing the findings of this thesis on practical interventions, such as those recommendations given under "practical implications" above is an important issue for future studies in this field. Likewise is testing different interventions based on the different theoretical implications from this thesis.

7 Conclusions

The first aim of the thesis was to examine the socio-cognitive processes contributing to intention to use contraception and the willingness to engage in unsafe sex among young people, using extended versions of the Theory of Planned Behaviour (TPB) and the Prototype/Willingness model. The second aim was to examine the relative contribution of the belief-based (indirect) measures of the TPB components (attitudes, subjective norms and perceived behavioural control) in predicting adolescents' intentions to use condoms and contraceptive pills, and to explore the extent to which risk- and health-promoting prototypes improved the predictive utility of TPB. The third aim was to investigate contraceptive behaviours of adolescents within a variety of contextual levels, based on a socio-ecological framework. In the following we summarize the main conclusions of this thesis.

1. The predictive power of TPB for contraceptive decisions among girls and boys was relatively strong and thus support the TPB-model. The result indicated that the TPB model may provide important information about the psychological processes underlying the decision among young adolescents to use contraceptives.
2. Normative or social influence variables were more important than personal variables to explain contraceptive behaviour. Thus, subjective norms contributed to the understanding of intentions to use contraception among both boys and girls. In addition moral norms contributed to the intention to use contraception among boys.
3. The results support the claimed importance of the extension of TPB related to additional social influence measures, such as prototypes and moral norms.
4. Prototypes contributed significantly to the prediction of willingness to engage in unsafe sex among girls, and contributed stronger to willingness, compared to intention

to use contraception. Thus, the results supported the Prototype/Willingness model for girls. Moral norms, on the other hand, predicted willingness to engage in unsafe sexual activities for both girls and boys.

5. The results showed that intentions to use condoms were predictable from the components of the TPB among boys as well as girls. The predictive power of the TPB in the present study was considerably higher for intention to use contraceptive pills among girls. The inclusion of prototypes increased the predictive power of the TPB significantly only for intended condom use among boys.
6. The results showed that prototypes and normative beliefs, especially partner's approval and friends' opinions were the most important predictors for boys' condom decisions. For girls' condom decisions, normative beliefs and attitudinal considerations were most important. The perceived risk of acquiring sexually transmitted diseases was the most important predictor for condom intention related to behavioural beliefs for both girls and boys.
7. Contraceptive use among adolescents was influenced by different contextual levels such as, individual, family, community and societal, and is thus consistent with Bronfenbrenners' socio-ecological model.
8. The results support Jessor's Problem-Behaviour Theory (PBT); condom use among boys and girls and use of contraceptive pills among girls were part of a conventional lifestyle, associated with low level of problem behaviours such as heavy drinking, smoking, and using doping agents. Both distal and proximal conceptual variables might influence contraceptive behaviour among adolescents and thus support the PBT.
9. Effective interventions to prevent STIs and unwanted pregnancies should, in addition to individual and family level variables, emphasize environmental factors such as social support from friends, access to youth health services, and geographical region.

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PAPER I

Predicting Willingness to Engage in Unsafe Sex and Intention to Perform Sexual Protective Behaviors Among Adolescents

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This article examines the sociocognitive processes contributing to intention to use contraception and willingness to engage in unsafe sex, using extended versions of the theory of planned behavior (TPB) and the Prototype/Willingness model (Gibbons & Gerrard, 1995, 1997). Data were obtained from a questionnaire delivered to all the pupils in ninth grade ($N = 196$) at three schools in Oslo. Hierarchical multiple regression analysis was used to predict intention and willingness. The results showed that subjective norm was the most important predictor of intentions for girls, whereas moral norm was most important for boys' intentions and willingness. Prototypes were the most important predictor for girls' willingness. Implications of the findings are discussed.

Keywords: *contraceptive behavior; adolescents; theory of planned behavior; Prototypes/Willingness model; moral norm*

Unsafe sexual behavior among teenagers may lead to serious social consequences as unwanted pregnancies and sexual transmitted diseases (STDs). The rate of reported positive chlamydia trachomatis has increased the past 5 years among young people between 15 and 25 years in Norway (Nilsen, Blystad, & Aavitsland, 2004); among Norwegian women aged 16 to 24 years, the prevalence of chlamydia trachomatis was 2.4% (Bakken, Skjeldestad, Øvreneess, Nordbø, & Størvold, 2004). A similar increase among young people has been found in other Western countries as well, for example, in the United Kingdom (British Medical Association [BMA], 2002) and the United States (Ford, Jaccard, Millstein, Bradsley, & Miller, 2004).

In Norway, the birth rate among teenagers (15-19 years) is low compared to the United States, being 8 per 1,000 women (Statistic Norway, 2005) and 52 per 1,000 women (Lederman, Chan, & Roberts-Gray, 2004), respectively. However, pregnancies among teenagers vary across different regions in Norway; the birth rate among

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teenagers in the more socially deprived parts of Oslo was seven times higher than in some of the more well-off parts of the city (Rognerud & Stensvold, 1998). Teenage abortion rates in Norway have been in the middle to high compared to other Western countries (15.7 per 1,000 women aged 15-19 years old in 2004) (Statistic Norway, 2005).

Pedersen and Samuelsen (2003) found that the median age at first intercourse has fallen from 17.7 years in 1992 to 16.7 years in 2002 among girls and from 18.5 years to 18.0 years among boys in Norway. Furthermore, they reported that 23% of the girls and 19% of the boys reported having had their sexual debut at age 15. This is alarming when we know that early sexual debut is associated with lower use of contraception (e.g., Wellings et al. 2001). In the United States, the sexual activity among adolescents has decreased, although rates are still high enough to warrant concern; approximately one fourth of all youths report having had sexual intercourse by age 15 (Klein & the Committee on Adolescence, 2005). A recent nationwide study in Norway found that 33% of people between 18 and 22 years reported not using any contraception at their first intercourse, whereas only 45% reported using a condom at first intercourse (Træen, Stigum, & Magnus, 2003). For comparison, 63% of high school students in the United States reported using a condom the last time they had intercourse (Centers for Disease Control and Prevention, 2004).

In order to increase the use of contraceptives to prevent STDs and unintended pregnancies, there is a need for effective prevention programs for young people. The first step in such an endeavor may be to identify modifiable cognitions that characterize individuals who are likely to adopt preventive sexual practices. Thus, a number of social cognitive models specify a limited set of such determinants of which the most popular model is the theory of planned behavior (TPB; Ajzen, 1991). The TPB states that the most proximal determinant of behavioral performance is the intention to act. Intention provides a summary of the person's motivation to perform the behavior and is mediating the other variables on the behavior. TPB posits three determinants of intention to use, for example, contraception. First, attitudes toward using contraception refer to individuals' positive or negative evaluations of it. Second, subjective norms refer to individuals' perception of social pressure to use contraception in terms of what significant others think you should do. The third component is perceived behavioral control (PBC) and refers to the perception of ease and difficulty of using contraception. The TPB has been successfully applied to a wide range of health-related behaviors, including condom use (Albarracín, Johnson, Fishbein, & Muellerleile, 2001; Armitage & Conner, 2001) and contraceptive use (Fekadu & Kraft, 2001; Richard, de Vries, & van der Pligt, 1998), and has therefore been applied as a starting point for this study.

The present study investigates intention to use contraception as the dependent variable, rather than the more common used intention to use condom. This was partly due to the results of a pilot study in which the participating adolescents reported that several contraceptive measures may be relevant for their protection against unwanted pregnancies and STDs. Findings from a meta-analysis on condom use (Sheeran, Abraham, & Orbell, 1999) also suggested that studying different contraception choices may provide a greater understanding of this topic. In addition, few studies have investigated the intention to use contraception in relation to TPB.

A number of researchers have noted shortcomings of the TPB in that it does not provide a sufficient prediction of behavioral intentions (for a review, see O'Keefe, 2002). However, to the extent that other predictors account for a significant contribution, additional significant predictors may be included (Ajzen, 1991). Thus, we have extended the TPB with moral norm and prototype perception. Moral norms may not be fully captured by subjective norms. Moral norms can have their origins in social norms, but such

norms become internalized and autonomous, exercising influence over the individuals' thoughts, feelings, and behaviors independently of the immediate context (Manstead, 2000). Moral norms have been included successfully as an additional predictor of intentions for health behaviors, including sexual and contraceptive behavior (e.g., Armitage & Conner, 1998; Conner, Graham, & Moore, 1999). Prototypes are the social images that adolescents have of the types of people that engage in certain health risk behaviors or health behaviors. We have employed a health-promoting prototype and a health risk prototype because both kinds are important in safe-sex behaviors (Gibbons & Gerrard, 1995). The role of prototypes in health-related decisions of young people has been examined from the perspective of the Prototype/Willingness (P/W) model (Gibbons & Gerrard, 1995, 1997). In some circumstances an adolescent may be willing to perform a risk behavior which the person otherwise had planned not to perform. Previous studies have found significant relations between prototypes and behavioral intention, and between prototypes and behavioral willingness (e.g., Gibbons, Gerrard, Blanton, & Russell, 1998; Ravis & Sheeran, 2003; Spijkerman, van den Eijnden, Vitale, & Engels, 2004). Thus, behavioral willingness has in several cases been found to be a better predictor than intention of adolescents' risk behavior (Gibbons et al., 1998).

Several studies have found gender differences among adolescents related to different aspects of sexual behaviors like attitudes, self-efficacy and motivation, (e.g., Conner et al., 1999; Sutton, McVey, & Glanz, 1999). It should be noted that these data pertain to the differences in mean level of variables among girls and boys, and whether or not the processes underlying sexual behavioral decisions differ between girls and boys remains quite another matter. Such studies have typically not been performed in the context of the TPB, although some of the studies have tested whether the TPB components interact with gender (e.g., Bryan, Fisher, & Fisher, 2002). The same concerns studies using the P/W model (Gibbons & Gerrard, 1995; Gibbons et al., 1998).

Most of the adolescents in the present study (83%) did not have any sexual and contraceptive experience. Hence, it was decided not to measure contraceptive behavior directly but indirectly through the adolescents' intentions to use contraception in the future and through their willingness to engage in unsafe sex. In support of this decision, two recent meta-analyses concerning the TPB have identified relatively strong correlations between intentions to use condoms and actual condom use (Albarracín et al., 2001; Sheeran & Orbell, 1998). The few studies that have used the TPB in relation to contraception in general found that behavioral intentions explained 34% of the variance in contraceptive behavior (Richard et al., 1998). In addition, the relation between willingness and sexual risk behavior (Gibbons et al., 1998; Gibbons, Gerrard, & Lane, 2003) has been found to be even stronger. Finally, the selection of young teenagers for the present study derives from previous findings suggesting that the most adequate age at starting interventions should be before young people have established their sexual behavioral patterns (e.g., Santelli, DiClemente, Miller, & Kirby, 1999). Thus, our result may provide useful information for intervention programs among young adolescents.

HYPOTHESES

We hypothesize the following:

Hypothesis 1: The TPB components, attitudes, subjective norms, and perceived behavioral control will predict intention to use contraceptives. Furthermore, the additional variables, moral norms, and the risk and health-promoting prototypes will improve

the predictive utility of the TPB significantly. Finally, we expect that there are gender differences related to the predictors on intention to use contraception.

Hypothesis 2: The TPB components will predict willingness to engage in unsafe sex. Moral norm and prototypes will improve the predictive utility of the TPB significantly. Furthermore, consistent with the P/W model, the prototypes will predict willingness to a greater extent than intention. Finally, we expect gender differences related to the predictors on willingness.

METHOD

Study Population

A questionnaire was administered to all pupils in ninth grade at three schools in Oslo in 2001; 196 pupils answered the questionnaire (88% response rate). The mean age was 14.5 years, and the standard deviation was 0.4 years. The age range was from 13.8 to 16.0 years; 92% of the participants were 14.0 to 15.0 years, 8% were 15.0 to 16.0 years, and 0.5% were younger than 14.0 years. Eighty-eight of the participants were boys, and 108 were girls. The schools in the study were selected on the basis of belonging to a part of the city with a high rate of teenage pregnancies (60 per 1,000 women, 13- to 19-year-olds; Rognerud & Stensvold, 1998).

Administration of the Survey

Permission to carry out the project was given by the Data Inspectorate, as well as headmaster, teacher staff, and school council, before the individual students were approached. The participants had to give their informed consent in writing, together with a written permission from their parents. The participants did not receive any incentives for participating in the study. The questionnaire was handed out directly to the participants in the classroom by the project staff, and they were allowed to use 2 hours in school to complete the anonymous questionnaire. The participants were allowed to not complete the questionnaire. The teachers were either passive observers or not present in the classroom during the completion of the questionnaire. To protect confidentiality, the participants were placed under exam conditions, and after completion, the participants sealed the questionnaire in a business envelope provided by the project staff.

Measures

There are standard procedures and methods to measure the concepts in the study. Still, the content in the concepts of prototypes and willingness was identified in a pilot study. Based on five focus group interviews with participants from the target population ($N = 18$), prototype adjectives and sexual risk situations were modified to form a prototype measure and a willingness measure more suitable for Norwegian respondents. The most frequently occurring responses formed the basis for the prototype and willingness measure.

Intention to use contraception was measured by asking "If you have sexual intercourse in the forthcoming 3 months, do you intend to use contraception?" on a 7-point scale from 1 (*very unlikely*) to 7 (*very likely*).

Willingness to involve in unsafe sex was measured by a scenario describing a situation where two teenagers at a party want to have intercourse, but they do not have any condoms available or use other kinds of contraception. They were then asked how likely it was that they would do each of the following: "not have sex"; "have sex without using a condom"; and "have sex, but use withdrawal." Each statement was accompanied by a response scale ranging from 1 (*very unlikely*) to 5 (*very likely*). The responses of the first statement were reversed. A principal component analysis (PCA) showed that the three items loaded on one factor. The item "have sex, but use withdrawal" was found to have low reliability and was removed; presumably, the study population of young teenagers had little experience and knowledge of this method. The mean value of the remaining two items was used in the analysis ($r = .75$). A high score reflected stronger willingness to have unsafe sex.

Attitudes toward use of contraception were measured with five items using a semantic differential scale (7-point): "For me to use contraception if I have sexual intercourse in the forthcoming 3 months will be *wrong-right*, *bad-good*, *stupid-smart*, *unreasonable-reasonable*, and *useless-useful*." PCA showed that the five items loaded on one single factor. The mean value of the five items was used in the analysis ($\alpha = .96$).

Subjective norms were measured with three items as follows: "People who are important to me believe that I should use contraception, if I have sexual intercourse in the forthcoming 3 months"; "People who are important to me would wish that I use contraception, if I have sexual intercourse in the forthcoming 3 months"; and "People who are important to me would not like me to use contraception if I have sexual intercourse in the forthcoming 3 months," using the response scale from 1 (*strongly disagree*) to 7 (*strongly agree*). The responses to the last item were reversed. PCA showed that the three items loaded on one factor. The mean value of the three items was used in the analysis ($\alpha = .69$).

Perceived behavioral control was measured with six items: "If I have sexual intercourse in the forthcoming 3 months, (a) it is completely up to me if I will use contraception; (b) there will be no problem for me to use contraception if I really want to; (c) it will be difficult for me to use contraception; (d) I will have full control when using contraception; (e) I would like to use contraception, but I am not sure I am able to do it; and (f) it will be easy for me to use contraception," using the response scale from 1 (*strongly disagree*) to 7 (*strongly agree*). The responses to statements C and E were reversed. PCA with varimax rotation of the six items produced one factor. Furthermore, a reliability analysis indicated that the first item reduced the internal consistency of the construct and was removed ($\alpha = .66$). The mean score of the five remaining items was used in the analysis.

Moral norm was measured by two items: "For me to have sexual intercourse without using contraception will be morally wrong" and "If I have sex without contraception, I will be troubled with bad conscience," using a response scale from 1 (*strongly disagree*) to 7 (*strongly agree*). The mean value of the two items was used in the analysis ($r = .81$).

The health risk prototype was measured by asking the following: "Imagine a typical boy who does not use a condom. How will you describe this boy, using the following characteristics: smart, stupid, clever, mature, attentive, reasonable, irresponsible, boring, prepared, popular, confident, immoral, cheap, desperate, and conceited?" The response scale ranged from 1 (*strongly disagree*) to 5 (*strongly agree*). PCA with varimax rotation of the 15 items produced two distinct factors: *Reasonable* (including smart, clever, mature, attentive, reasonable, prepared, and confident) and *Conceited* (including desperate, conceited, cheap, boring, immoral, popular, stupid, and irresponsible). The item *popular* was removed from the factor *Conceited* because of low reliability. The internal consistency of the factor *Conceited* was $\alpha = .75$. For the factor

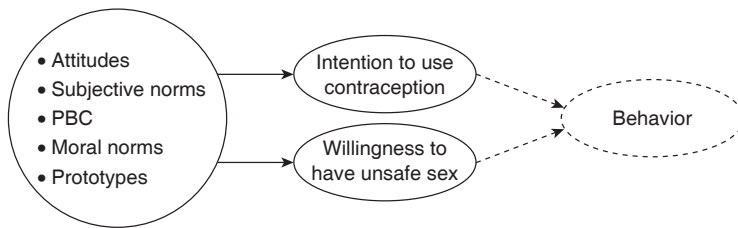


Figure 1. Theoretical model of the study.

NOTE: The part of the theoretical model studied in this work is shown with solid lines. PBC = perceived behavioral control.

Reasonable, all the items were included in the scale ($\alpha = .89$). The mean scores of the items in the respective factors were used.

The *health-promoting prototype* was measured by asking the following: "Imagine a typical girl who uses contraceptive pills. How will you describe this girl, using the following characteristics: smart, stupid, clever, mature, attentive, reasonable, irresponsible, boring, prepared, popular, confident, immoral, cheap, desperate, and conceited?" The response scale ranged from 1 (*strongly disagree*) to 5 (*strongly agree*). PCA with varimax rotation of the 15 items produced two distinct factors: *Reasonable* (including smart, reasonable, clever, prepared and confident, mature and attentive) and *Desperate* (including desperate, cheap, immoral, conceited, boring, stupid, irresponsible, and popular). The items *attentive*, *mature*, and *prepared* were removed from the factor Reasonable because of low reliability ($\alpha = .87$). Furthermore, the items *conceited*, *popular*, and *boring* reduced the internal consistency for the factor Desperate and were therefore removed ($\alpha = .84$). A mean was then calculated for the two subscales.

Strategy for Data Analysis

Hierarchical regression analysis was performed to test for the hypothesis in the extended version of the TPB model, by entering the TPB variables first in the regression analysis followed by the additional variables, moral norm in Step 2 and the prototypes in Step 3. This was done to test whether the variables moral norms and prototypes would predict intention to use contraception and willingness to involve in unsafe sex, in addition to the contribution from the TPB components (see Figure 1).

Given that gender is a dichotomous variable, the moderating effect of gender may be studied by conducting separate regression analyses for male and female respondents, and then compare the unstandardized regression coefficients as suggested by Baron and Kenny (1986). In addition, the standardized beta values are presented separately for boys and girls and thus show the value of differences between them.

RESULTS

Descriptive statistics (means and standard deviation) along with the correlations among the variables of the models are given in Table 1. For girls, the intention to use contraception correlated significantly with all measures except for the risk prototype

Table 1. Correlations, Range for Each Item, Means, and Standard Deviations for the Study Variables

	1	2	3	4	5	6	7	8	9	10	Range	M	SD
1. Intention	—	-.32**	.47***	.64***	.31**	.36***	.20*	-.53***	-.44***	.06	7	6.52	.99
2. Willingness	-.15	—	-.08	-.20*	-.10	-.43***	-.01	.04	.51***	-.28**	5	1.59	.88
3. Attitude	.28**	-.11	—	.61***	.30**	.16	.34**	-.55***	-.30**	.02	7	5.98	1.76
4. Subjective norm	.57***	-.25*	.41***	—	.46***	.34**	.33**	-.49***	-.35**	.11	7	6.31	1.16
5. PBC	.44***	-.001	.24*	.59***	—	.17	.27**	-.22*	-.22*	.10	7	5.49	1.09
6. Moral norm	.52***	-.37**	.15	.37**	.12	—	.06	-.14	-.29**	.26**	7	5.41	1.66
7. Health prototype: Reasonable	.41***	-.01	.19	.31**	.30**	.35**	—	-.69***	-.17	-.06	5	3.90	.88
8. Health prototype: Desperate	-.25*	.03	-.28**	-.38**	-.36**	-.27*	-.63***	—	.33**	.23*	5	2.09	.97
9. Risk prototype: Reasonable	-.21*	.15	-.13	-.30**	-.22*	-.01	-.39***	.43***	—	-.35***	5	1.81	.86
10. Risk prototype: Conceited	.29**	-.19	.12	.36**	.35**	.18	.26*	-.18	-.24*	—	5	3.44	.86
Range for each item	7	5	7	7	7	7	5	5	5	5			
M	6.35	3.01	6.07	5.86	5.37	5.16	4.03	2.23	2.27	3.18			
SD	1.31	1.28	1.39	1.26	.97	1.47	.85	.98	.98	.87			

NOTE: The results for girls ($n = 84$) are above the diagonal, and the results for boys ($n = 72$) are below the diagonal. PBC = perceived behavioral control. * $p < .05$. ** $p < .01$. *** $p < .001$.

Conceited. In contrast, willingness to have unsafe sex correlated significantly only with subjective norm ($r = -.20, p < .05$), moral norm ($r = -.43, p < .001$), and the risk prototypes Reasonable ($r = .51, p < .001$) and Conceited ($r = -.28, p < .01$). For boys, intention to use contraception correlated significantly with all measures except for willingness. Willingness to have unsafe sex correlated significantly only with moral norm ($r = -.37, p < .01$) and subjective norm ($r = -.25, p < .05$). The health-promoting prototypes correlated zero ($r = -.01$ to $r = .04$) with willingness among both boys and girls and was therefore not included in the regression analysis for behavioral willingness.

Prediction of Intention to Use Contraception

Table 2 shows that the TPB components accounted for 32% of the variance in intentions among boys, whereas subjective norms were the only significant predictor ($\beta = .46, p < .01$). The inclusion of moral norms in the second step increased the explained variance significantly ($R^2 = .43, p < .001$), whereas inclusion of the prototypes in the final step did not. Thus, subjective norms and moral norm were the only significant predictors of intentions to use contraception in the final step ($\beta = .26, p < .05$ and $\beta = .40, p < .001$) among boys. For girls, the TPB components accounted for 40% of the variance in intentions, and again subjective norm was the only significant predictor ($\beta = .55, p < .001$). The inclusion of moral norm in the second step did not increase the explained variance significantly. In contrast, the inclusion of the three prototypes in the final step increased the explained variance significantly to 48%. The health-promoting prototype *Desperate* and the risk prototype *Reasonable* added significantly to the understanding of intentions to use contraception among girls ($\beta = -.22, p < .05$ and $\beta = -.20, p < .05$). Thus, two significant gender differences were observed for intention; moral norms were a stronger predictor among boys, whereas the prototype *desperate* was a stronger predictor among girls (see Step 3, Table 2).

To reduce multicollinearity between the two health-promoting prototypes, the same analysis was performed a second time, with the health-promoting prototype *Desperate* replaced by the health-promoting prototype *Reasonable* in Step 3 as recommended by Lewis-Beck (1980). The same significant results were found as in the first analysis (see Table 2), although the health-promoting prototype *Reasonable* did not add significantly for intention for either girls or boys.

Prediction of Willingness to Engage in Unsafe Sex

The results of the hierarchical regression analyses for willingness are also shown in Table 2. In the first step, the TPB components accounted for 5% of the variance in willingness for boys, with only subjective norms ($\beta = -.38, p < .05$) as a significant predictor. Including moral norm in the second step raised the explained variance significantly to $R^2 = .12$ ($p < .05$). Furthermore, moral norm was the only significant predictor of willingness in the final step for boys ($\beta = -.30, p < .05$). For girls, the TPB components in the first step accounted for 1% of the variance in willingness, and none of the variables were significant predictors of willingness. Including moral norm in the second step raised the explained variance significantly to $R^2 = .15$ ($p < .001$). Inclusion of the prototypes in the final step increased the explained variance significant to $R^2 = .31$ ($p < .001$). Moral norm ($\beta = -.30, p < .01$) and the risk prototype *Reasonable* ($\beta = .42, p < .001$) were the only significant predictors of willingness in the final step for girls. Furthermore, no significant gender differences were observed in relation to willingness.

Table 2. Hierarchical Regression Analyses Predicting Intention to Use Contraceptives, and Willingness to Engage in Unsafe Sex

	Intention						Willingness							
	Boys (n = 72)			Girls (n = 83)			Boys (n = 70)			Girls (n = 84)				
	Adjusted R ²	β	B	SE	Adjusted R ²	β	B	SE	t-value	Adjusted R ²	β	B	SE	t-value
Step 1														
Attitude		.06	.05	0.10		.13	.07	0.06			-.01	-.01	0.12	
Subjective norm		.46**	.48	0.13		.55***	.47	0.10			-.38*	-.38	0.15	
Perceived behavioral control		.15	.21	0.17		.02	.02	0.09			.22	.29	0.19	
	.32***				.40***					.05				.01
Step 2														
Attitude		.06	.06	0.09		.14	.08	0.06			-.04	-.03	0.12	
Subjective norm		.29*	.30	0.13		.49***	.41	0.10			-.22	-.22	0.16	
Perceived behavioral control		.20	.28	0.15		.02	.02	0.09			.16	.21	0.19	
	.43***				.42					.12*				.15***
Moral norm		.38***	.34	0.09		.17	.10	0.05			-.30*	-.27	0.11	
Step 3														
Attitude		.08	.07	0.10		.02	.01	0.06	0.07		-.03	-.03	0.12	
Subjective norm		.26*	.27	0.14		.40**	.34	0.10	-0.43		-.17	-.17	0.17	
Perceived behavioral control		.22	.30	0.16		.01	.01	0.08	1.62		.19	.26	0.19	
Moral norm		.40***	.36	0.09		.14	.09	0.05	2.60**		-.30*	-.27	0.11	
Desperate		.11	.14	0.15		-.22*	-.23	0.11	1.98*					
Reasonable		-.10	-.14	0.14		-.20*	-.22	0.11	0.49		.11	.14	0.16	
Conceited		.04	.06	0.15		-.04	-.05	0.11	0.55		-.12	-.17	0.18	
	.43				.48*					.12				.31***

NOTE: Desperate = the health-promoting prototype *Desperate*; Reasonable = the risk prototype *Reasonable*; Conceited = the risk prototype *Conceited*. **p* < .05. ***p* < .01. ****p* < .001.

DISCUSSION

The aim of this study was to explore whether the TPB extended with moral norm and health risk and health-promoting prototypes predicted intention to use contraception and the willingness to engage in unsafe sex among adolescents. As expected, the TPB components predicted intention better than willingness, thus the TPB components accounted for 32% of the variance in intentions to use contraception among boys and 40% among girls. The predictive power of the TPB among girls compares favorably with the results of meta-analysis on health behaviors and condom use, in which the TPB components accounted for 39% and 41%, respectively, of the variance in behavioral intentions (Armitage & Conner, 2001; Sheeran & Taylor, 1999). These findings demonstrate that the TPB provides an important framework for studying contraceptive intentions among young adolescents.

The TPB components did not predict willingness to engage in unsafe sex because only 5% of the variance in willingness was accounted for by the three theoretical components for boys and 1% among girls. In this context, it should be noted that attitudes, subjective norms, and perceived behavioral control are assessed in relation to use of contraceptives and not in relation to involvement in unsafe sex. Hence, the predictive power of the former needs to be higher than the latter in terms of the logic of the principle of compatibility (e.g., Ajzen & Fishbein, 1980). It should also be noted that subjective norms were the most important predictor for intentions to use contraceptives; for girls also when additional predictors were accounted for. This is a noteworthy finding considering the fact that subjective norms are identified as the least important predictor of the three TPB predictors in general reviews and meta-analysis (Ajzen, 1991; Armitage & Conner, 2001), including meta-analyses of condom use (Albarracín et al., 2001; Sheeran & Taylor, 1999). The inclusion of moral norm increased the predictive power of the model, in particular for willingness, but also for intentions among boys, and its predictive ability remained in the final step. Inclusion of prototypes increased the predictive power of the model only for girls and in particular for willingness, a finding that is consistent with the P/W model for girls (Gibbons & Gerrard, 1995, 1997; Gibbons et al., 1998; Gibbons et al., 2003). Finally, the present study showed that different social and psychological processes contributed to the prediction of intentions to use contraception and the willingness to involve in unsafe sex, consistent with the P/W model.

Normative Influence

The role of subjective norms in the intention formation process was noteworthy. This study has shown that social influence, not personal factors, was the most important predictor for contraceptive behavioral intentions among adolescence. The adolescence life stage is marked by a heightened concern about social appearance and peer approval, thus social consequences are often more important for their behavioral decisions than attitudes (Gibbons & Gerrard, 1997). A meta-analysis on condom use showed that norms generally had greater influences on younger than older individuals (Albarracín, Kumkale, & Johnson, 2004), and several earlier studies have found that normative influence was more strongly associated with adolescents' contraceptive use than with attitudes (e.g., Crosby et al., 2003; Fekadu & Kraft, 2001; Jemmott, Jemmott & Villarruel, 2002).

Most of the adolescents in the present study are not sexually experienced and have never used contraception. This might influence the findings, for example, in that decisions to

use contraception may be more distal and less based on their personal experiences. Thus, decisions whether or not to use contraception may be more based on social expectations than a personal evaluation of the benefits and drawbacks of using contraception. Lack of personal experience may lead them to lean on other outside information as social reference groups, such as subjective norm and moral norm.

Moral Norm

Moral norms were the most important predictor of intentions to use contraception for boys, whereas they were not a significant predictor for intention among girls. The results for boys are consistent with earlier studies (e.g., Boyd & Wandersman, 1991; Conner et al., 1999). Furthermore, moral norms are most important for predicting behavior in situations where individual rewards of the behavior are in conflict with personally held moral norms (Manstead, 2000). Earlier studies have shown that girls have more positive attitudes, stronger intentions, and are more engaged in using contraceptives (Conner et al., 1999; Wight, Abraham, & Scott, 1998), compared with boys. Hence, this conflict between personally held moral norms and individual rewards seems to be less salient for girls than for boys. On the other side, moral norms were an important predictor for willingness to engage in unsafe sex among both boys and girls. This suggests that the moral aspects of unsafe sex are more salient for adolescent girls when asked, "What are you willing to do?" in a specific social context (e.g., met a likable guy on a party), which requires that they must take an active decision and consider the consequences directly in the situation. On the contrary, moral considerations may not be so accessible when they are asked for plans or intentions for future contraceptive use.

Prototypes

Prototypes related to contraceptive pills and condom use had considerable impact on intentions to use contraception and willingness to engage in unsafe sex among young adolescent girls; this was not the case for boys. For girls, these results are consistent with earlier studies (e.g., Gibbons & Gerrard, 1995; Spijkerman et al., 2004). The reason for the gender difference could be that girls are more engaged in the topic of contraception in the sense that they have more knowledge, discuss contraception use more often with others, and are more motivated for preventing pregnancies (Hansen & Skjeldstad, 2003; Wight et al., 1998) compare with boys. Likewise, consistent with the P/W model (Gibbons et al., 2003), boys might not identify with the prototype related to contraception because the behavior is not relevant for them yet and not common enough among their friends.

Limitations

A limitation of this study is that we measured behavior indirectly through intention and willingness. As mentioned above, however, recent meta-analyses have found quite strong considerable correlations between intention and contraceptive behavior (Albarracin et al., 2001; Sheeran & Orbell, 1998), and willingness is usually an even stronger predictor for behavior than intention among adolescents (Gibbons et al., 2003). A second limitation is that intention to use contraception was measured using one single item, which might lower the reliability of the measure. However, single-item measures of intentions have been found to be reliable predictors for contraception

behavior in other studies among young people ($r = .31-.60$) (for a review, see Sheeran & Orbell, 1998). Substantial correlations were observed between the measure of intention and the other TPB measures, which are indicative of a reliable measure. Finally, the major limitation of the study concerned the fact that it was based on data obtained from a relatively small sample. Future research should attempt to replicate the present finding in a larger sample of adolescents.

Practical Implications

Findings from the present study indicate that safe sexual programs for adolescents need to emphasize normative influence and be gender specific. Young people often have a common misunderstanding that other teenagers are involved in more risk behavior than actually is the case (e.g., Gibbons et al., 2003). Thus, an effective intervention may be to educate adolescents about how many teenagers actually use contraceptives or are involved in sexual risk behavior (Crosby et al., 2003). Another effective program related to normative influence may be to promote favorable norms for contraceptive use among adolescents (Kennedy, Mizuno, Seals, Myllyluoma, & Weeks-Norton, 2000). In addition, targeting normative influence may also be an effective intervention for changing unhealthy prototypes. For example, teenagers are shown that the unsafe sexual prototype is more negatively evaluated by their peers than they perceive it to be, and thus they are able to lower the prescriptive strength of conforming to the group norm (Gibbons & Gerrard, 1995).

To address moral considerations, programs may include small group discussions led by a competent educator about moral responsibility for one's sex partner as well as oneself (Boyd & Wandersman, 1991). These intervention programs should also focus on educating young people about the differences between intention and willingness, and the fact that much of their risk behavior is not intended. Likewise, interventions should encourage considerations of the adolescents' willingness to put themselves in risk-conductive situations and plan ahead to avoid these kinds of situations (Gibbons et al., 2003).

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PAPER II

II

Predicting Intentions to Perform Sexual Protective Behaviours among Norwegian Adolescents

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Abstract

This paper examines the socio-cognitive processes underlying intentions to use condoms and contraceptive pills, using the Theory of Planned Behaviour (TPB) extended with prototypes in a group of young Norwegian adolescents. The data are derived from a questionnaire survey comprising all pupils in grade 9 at three schools in Oslo (n = 196). Using hierarchical multiple regression analyses, the results showed that prototypes and normative beliefs, especially partner's opinion, were the most important predictors for boys' condom decisions. For girls' condom decisions, normative and attitudinal considerations were most important. Perceived risk of getting sexually transmitted diseases was the most important predictor among behavioural beliefs for condom intention for both girls and boys. Normative beliefs and especially parent's opinions were most important for girls' decisions to use contraceptive pills. Implications of the findings are discussed.

Key words: Adolescents, Theory of Planned Behaviour, Prototypes, Condom use, Contraception, Sexual behaviour

Introduction

The incidence of Sexually Transmitted Infections (STI) has increased during the last years among young people in the western world (British Medical Association (BMA), 2002; Nilsen *et al.*, 2004). For example, in Norway the rate of reported Chlamydia infections among youth between 15 to 25 years has increased during the last five years (Nilsen *et al.*, 2004). The same tendencies are found in other countries including the United Kingdom (UK) (BMA, 2002) and the United States (US) (Ford *et al.*, 2004). The rate of teenage (15-19 years) births is low in Norway compared to other western countries such as the US, being 8 and 52 per 1000 women, respectively (Statistics Norway, 2005; Lederman *et al.*, 2004). Pregnancies among teenagers, however, vary across different regions in Norway; the birth rate among teenagers in the more socially deprived parts of Oslo was seven times higher than in some of the more prosperous parts of the city (Rognerud & Stensvold, 1998). Teenage abortion rates in Norway have been in the middle to high range compared to other western countries, 15.7 per 1000 women aged 15-19 years in 2004 (Statistics Norway, 2005). Still, many young people do not protect themselves from unwanted pregnancies and STIs. In a recent nationwide study among young people (18 to 22 years) in Norway 33% reported that they did not use any contraception at their first intercourse while 45% reported using a condom at first intercourse (Træen *et al.*, 2003).

The above data indicate that there is a need for effective intervention programs to increase the use of contraceptives to prevent STIs and unwanted pregnancies among adolescents. One way of doing this is to identify modifiable cognitions that characterises individuals who are likely to adopt preventive sexual practices. The most widely applied theoretical model in this context is the Theory of Planned Behaviour (TPB) (Ajzen, 1991). The TPB states that the extent to which people use condoms or contraceptive pills is a function of the strength of their intentions to use these preventive measures. In turn, intentions are a function of *attitudes* (i.e.

for me, condom use is good-bad), *subjective norms* (i.e. perceived social pressure to use condoms) and *perceived behavioural control (PBC)* (i.e. the perception of ease or difficulty of using condoms) (Ajzen, 1991). Consistent with an expectancy-value formulation, attitudes towards the behaviour are assumed to be a function of *behavioural beliefs*, i.e. a person's beliefs that performing the behaviour contributes to a number of outcomes weighted by the person's evaluations of these outcomes. Likewise, subjective norms are a function of *normative beliefs*, i.e. the strength of the beliefs that important referents approve or disapprove of the behaviour weighted by the motivation to comply with these referents. Finally, perceived behavioural control (PBC) is influenced by *control beliefs*, beliefs about the presence of factors that may facilitate or impede performance of the behaviour weighted with the perceived power of these factors. In the domain of condom use, meta-analyses have shown relatively strong support for associations in the TPB (Albarracin *et al.*, 2001; Sheeran & Orbell, 1998; Sheeran & Taylor, 1999).

The specific underlying beliefs provide substantive information about the kinds of considerations guiding the decisions of adolescents (Ajzen, 1991; Davis *et al.*, 2002). Thus, the TPB was applied in two ways in the present study. First, condom use intention and intentions to use contraceptive pills was predicted using the indirect belief-based measures to represent the three theoretical components. Secondly, we used the model as a guideline on how to construct preventive interventions by analysing more closely the structure of the considerations underlying contraceptive intentions (Fishbein & Middlestadt, 1989; Ajzen, 2002). In this way we were able to point to the kinds of beliefs that may be important for designing effective intervention programs.

One concern with the TPB is that it does not provide a sufficient prediction of behavioural intentions. However, to the extent that other predictors account for a significant contribution, the theory is open for the inclusion of additional predictors (Ajzen, 1991). One source of

social influence neglected by the TPB is prototype perception (Rivis & Sheeran, 2003). Prototypes are images that adolescents have of the types of people that engage in certain health behaviours or health-risk behaviours (e.g., the typical smoker is cool) (Gibbons *et al.*, 1998). We employed both a health-promoting prototype and a health-risk prototype because both kinds are found to be important for safe sex behaviours (Gerrard *et al.*, 2002). Previous studies have found significant relations between prototypes and behavioural intention, and prototypes and behaviour (e.g., Gibbons *et al.*, 1998; Rivis & Sheeran, 2003). In a paper derived from the same data set, we observed that among girls prototypes predicted behavioural willingness to practice unsafe sex as well as intentions to use contraception (Myklestad & Rise, 2006). In the present study a TPB model extended with prototypes to predict the intentions to use condoms and contraceptive pills was explored.

A neglected issue in the context of TPB is whether or not the processes underlying sexual behavioural decisions differ between girls and boys, although some of the studies have tested whether the TPB components interact with gender (e.g., Bryan *et al.*, 2002). Finally, young teenagers (14-15 years old) were selected for this study because previous findings suggest that, in the long-term prevention messages may be more effective when delivered to younger, less sexually experienced youth (Santelli *et al.*, 1999).

Research questions

(1) The first aim of this study was to examine the relative contribution of the TPB components in predicting adolescents' intentions to use condoms and contraceptive pills. Further, the extent to which risk- and health-promoting prototypes improved the predictive utility of the TPB was explored. In addition, possible gender differences related to the predictors of intentions to use contraception were investigated.

(2) Second, the predictive power of the individual beliefs in the formation of intentions to use condom and contraceptive pill use, separately for the three categories of beliefs was examined.

Method

Study population

A questionnaire was administered to all pupils in grade 9 at three schools in Oslo during 2001. In total, 196 pupils completed the questionnaire yielding a response rate of 88%. The mean age was 14.5 years with a standard deviation of 0.4 years. The distribution of participants was 88 (45%) boys and 108 (55%) girls. The particular schools were selected because they belonged to a part of the city with a high rate of teenage pregnancies (60 per 1000 women, 13-19 years of age, Rognerud & Stensvold, 1998). This part of the city has more social problems, people with a lower level of education, higher unemployment and a 50 % higher mortality rate than the more prosperous parts of the city (Rognerud & Stensvold, 1998). There is a relatively large population of immigrants, approximately 40 % of the young population have parents from non-western countries (Asia, East-Europe, Africa and South-America), in the part of the city included in this study (Vatne Pettersen, 2003). At the same time, there is a new trend in some of these areas of the city. Young persons with higher education are moving in and rehabilitating some of the neighbourhoods (Vatne Pettersen, 2003).

Administration of the questionnaire

Permission to conduct the project was obtained from the Data Inspectorate as well as the headmasters, teaching staff and school councils before the students were approached. The participants had to provide written informed consent in addition to permission in writing from

their parents. Participation in the study was voluntary and the participants did not receive any incentives. The questionnaire was handed out directly to the participants in the classroom by the project staff, and they were allowed to use two hours in school to complete the anonymous questionnaire. The teachers were either passive observers or not present in the classroom during completion of the questionnaire. To protect confidentiality, the participants were placed under exam conditions and when finished the participants sealed their completed questionnaire in a business envelope provided by the project staff.

Measures

Standard procedures and methods to measure beliefs and prototypes were followed. Behavioural beliefs, normative beliefs, control beliefs and prototypes were identified in a pilot project with participants from the target population ($n = 18$) and the most frequently occurring responses were used as the basis in the study.

Intention was measured by asking, “If you have sexual intercourse in the forthcoming three months, do you intend to use condoms?” and “If you have sexual intercourse in the forthcoming three months, do you intend to use contraceptive pills?”. Responses were given using a seven point scale ranging from very unlikely (1) to very likely (7).

Behavioural beliefs strength concerning condom use was measured by asking, “If I use condoms in the forthcoming three months I will ...”, in terms of five outcomes including “not get pregnant/get someone pregnant”, “not get an STI”, “kill the moment”, “damage the condom” and “be embarrassed”. Responses were given to the first two outcomes using a seven point scale ranging from very unlikely (1) to very likely (7), while responses to the statements: “kill the moment”, “damage the condom” and “be embarrassed” were reversed to: “very likely (1) to very unlikely (7)”. Thus, a high score reflects that the individual has positive beliefs about the consequences of using condoms. *Outcome evaluation* was measured

by responses to the statements, "I am afraid to ..." in terms of five outcomes: "get pregnant/get someone pregnant", "get an STI", "kill the moment", "damage the condom" and "be embarrassed". Responses to the first two outcomes were given using a seven point scale ranging from strongly disagree (1) to strongly agree (7), while responses to the statements: "kill the moment", "damage the condom" and "be embarrassed" were reversed to strongly agree (1) to strongly disagree (7). Thus a high score indicated that the individual was not afraid to "kill the moment", "damage the condom" and "be embarrassed" as result of using a condom.

Behavioural beliefs strength concerning contraceptive pills (girls only) was similarly measured by asking, "If I use contraceptive pills in the forthcoming three months I will..." in terms of three outcomes: "not get pregnant", "gain weight" and "get sick", using a seven point response scale ranging from very unlikely (1) to very likely (7). The responses to the items "gain weight" and "get sick" were reversed using a scale from very likely (1) to very unlikely (7). *Outcome evaluation* was measured by asking the adolescents, "I am afraid of..." in terms of three outcomes: "getting pregnant", "gaining weight" and "getting sick" with responses based on a seven point scale ranging from strongly disagree (1) to strongly agree (7). The responses to "gaining weight", and "getting sick" were reversed, to "strongly agree (1) to strongly disagree (7)". Thus a high score indicated that the individual was not afraid to "gain weight" and "get sick" as a result of using contraceptive pills.

Indirect measure of attitude toward condom use and use of contraceptive pills (or the sum-score of behavioural beliefs) are usually obtained by multiplying the strength of the behavioural beliefs by the corresponding outcome evaluation for each beliefs and then summing the resulting products. However, the multiplicative assumption underlying the TPB is not routinely tested in applications of the model (see Armitage *et al.*, 1999; Rise *et al.*, 1998). Thus we tested the multiplicative assumption using the procedure proposed by Rise *et*

al. (1998). The results from the test showed that the multiplicative version of the model provided a better fit than the additive model. A sum-score based on the multiplicative procedure was therefore used for the indirect measure of attitude towards condom use. A re-scoring of the outcome evaluations as bipolar (i.e., -3 to + 3) did not change the result. A similar procedure to test the multiplicative assumption was followed for behavioural beliefs related to contraceptive pills. The result showed evidence in favour of not using the multiplicative procedure. Thus, a sum-score of adding the behavioural beliefs strength was constructed for the indirect measure of attitudes toward use of contraceptive pills.

Normative beliefs strength was measured by asking, "My friends/parents/boyfriend/girlfriend believe I should use condoms/contraceptive pills". Responses were given using a seven-point scale ranging from strongly disagree (1) to strongly agree (7). *Motivation to comply* was measured by asking, "To what degree will you do as your friends/parents/boyfriend/girlfriend or one you wish as a boyfriend/girlfriend believe you should do?" with responses given using a seven-point scale ranging from very little (1) to very much (7). Using the procedure presented earlier, the result showed evidence for using a sum-score based on the normative beliefs strength to produce an *indirect measure of subjective norm* related to condom use. A re-scoring of normative beliefs as bipolar did not change the result. The test showed the same result for the indirect measure of subjective norm related to intention to use contraceptive pills. Therefore, a sum-score of adding the respective normative beliefs strengths was constructed.

Control beliefs strength concerning condom use was measured by asking, "In the next three months I believe..." in terms of four items, "there will not be condom vending machines at school and youth club, "I will learn to use condoms at the local health clinic for youth", "I will learn to communicate with my boyfriend/girlfriend about condom use" and "it will be too expensive for me to buy condoms" with responses given using a seven-point scale ranging

from very unlikely (1) to very likely (7). Responses to “it will be too expensive for me to buy condoms” and “there will not be condom vending machine at school and youth club” were reversed to: “very likely (1) to very unlikely (7)”. *Control beliefs power* was measured by presenting the same outcomes and asking, “It will be easier for me to use condom if...” in terms of two items including “learn to communicate with my boyfriend/girlfriend about condom use” and “learn how to use condoms at the local health clinic for youth”, using a five-point scale ranging from a little easier (1) to much easier (5). Similarly, participants were asked, “It will be more difficult for me to use condom if...” in term of two items “there are no condom vending machines at school and youth club” and “they are too expensive” using a five-point scale ranging from a little difficult (1) to very difficult (5).

Control beliefs strength related to *contraceptive pills* was measured by asking, “In the forthcoming three months I will...” in terms of four items “get information about contraception from the public health nurse”, “get information about contraceptive pills from the local youth health clinic”, “not get a prescription for contraceptive pills from the local health nurse” and “not get information about contraceptive pills at school” with responses given using a seven-point scale ranging from very unlikely (1) to very likely (7). The responses to “not get a prescription for contraceptive pills from the local health nurse” and “not get information about contraceptive pills at school” were reversed to “very likely (1) to very unlikely (7)”. *Control beliefs power* was measured by asking, “It will be easier for me to use contraceptive pills if...” in terms of two items, “I get information about contraception from the public health nurse” and “I get information about contraceptive pills from the local youth health clinic” using a five-point scale ranging from a little easier (1) to much easier (5). Similarly, participants were asked, “It will be more difficult for me to use contraceptive pills if...”, in terms of two items: “I do not get a prescription for contraceptive pills from the

public health nurse” and “I do not get information about contraceptive pills at school” using a five-point scale ranging from a little difficult (1) to very difficult (5)”.

Indirect measure of perceived behavioural control related to condom use and contraceptive pills were produced by first testing the multiplicative assumption using the same procedure as previously described. The results showed that the multiplicative assumption was upheld for the indirect measure of perceived behavioural control related to intention to use condoms, and a sum-score based on the multiplicative procedure was therefore used. However, the multiplicative assumption was not upheld for the indirect measure of perceived behavioural control related to contraceptive pills, and the control belief power did not result in a significant change of the variance of intention. Hence, a sum score of adding the control beliefs strength was used as an indirect measure of perceived behavioural control related to intention to use contraceptive pills.

The health-risk prototype was measured by asking: “Imagine a typical boy who do not use condom. How will you describe this boy, using the following characteristics: smart, stupid, clever, mature, attentive, reasonable, irresponsible, boring, prepared, popular, confident, immoral, cheap, desperate and conceited?” The response scale ranged from strongly disagree (1) to strongly agree (5). A principal component analysis (PCA) with varimax rotation of the fifteen items produced two distinct factors that we labelled “Reasonable” and “Conceited”. Conceited in this context means “overly confident”. The following items loaded on “Reasonable”: smart, clever, mature, attentive, reasonable, prepared, and confident, while the following items loaded on “Conceited”: desperate, conceited, cheap, boring, immoral, popular, stupid and irresponsible. After removing the item popular from the factor “Conceited” due to low reliability, the internal consistency was $\alpha = 0.75$. For “Reasonable” all items were included in the scale ($\alpha = 0.89$). A mean was then calculated for the two subscales.

The health-promoting prototype related to contraceptive pill use was measured by asking, “Imagine a typical girl who uses contraceptive pills. How would you describe this girl, using the following characteristics: smart, stupid, clever, mature, attentive, reasonable, irresponsible, boring, prepared, popular, confident, immoral, cheap, desperate and conceited?” The response scale ranged from strongly disagree (1) to strongly agree (5). A PCA with varimax rotation of the fifteen items produced two distinct factors that were labelled “Reasonable” and “Desperate”. The following items loaded on “Reasonable”: smart, clever, mature, attentive, reasonable, prepared and confident, while the following items loaded on “Desperate”: desperate, conceited, cheap, boring, immoral, popular, stupid and irresponsible. The items mature, attentive and prepared were removed from the factor “Reasonable” due to low reliability ($\alpha = 0.87$). The items popular, conceited and boring reduced the internal consistency for “Desperate” and were removed ($\alpha = 0.84$). A mean was then calculated for the two subscales.

Data analysis

Hierarchical regression analysis was performed to test the hypotheses of the extended version of the TPB model (e.g. Ajzen, 1991) by entering the TPB variables in the first step of regression analysis followed by the additional variables, prototypes, in step two. The moderating effect of gender was tested by conducting separate regression analyses for male and female respondents. The unstandardised regression coefficients were then compared as suggested by Baron and Kenny (1986). To test the second hypothesis separate multiple regression analyses were conducted for the three types of beliefs to identify the main reasons within the three sets of beliefs.

Missing values

Nineteen to twenty-seven percent of the sample had missing values for the independent variables; behavioural beliefs, normative beliefs, control beliefs and prototypes. In order to increase power by using as much of the information as possible from the final sample, missing values were replaced by means. Individuals with only one or two missing values were included and the missing values were replaced by the mean score. Individuals with three or more missing values were excluded from further analysis.

Results

Descriptive statistics

The results in Table 1 indicate that intention to use condoms correlated significantly with attitudes, subjective norms and the health-risk prototype: “Reasonable” among girls. For boys, intention to use condoms correlated significantly with subjective norm and the health-risk prototype: “Conceited”. Intention to use contraceptive pills correlated significantly with subjective norm and the health-promoting prototypes “Reasonable” and “Desperate”. Only girls answered questions about contraceptive pills.

Predicting intention to use condoms and contraceptive pills with the sum scores of the beliefs

Table 2 shows that the TPB components accounted for 27% of the variance in intention to use condoms among boys. Subjective norm was the only significant predictor of intention to use condoms. The inclusion of the health-risk prototypes in the second step significantly increased the explained variance to 37% ($p < 0.01$). Subjective norm ($\beta = 0.45, p < 0.001$) and the health-risk prototype “Conceited” ($\beta = 0.35, p < 0.01$) were significant predictors of intention in the final step for boys. For girls, the TPB components accounted for 20% of the variance in intention to use condoms. The inclusion of prototypes did not significantly

increase the explained variance. Subjective norm ($\beta = 0.30, p < 0.05$) and attitudes ($\beta = 0.29, p < 0.05$) were the only significant predictors of intention to use condoms among girls in the final step. Two significant gender differences were observed. Attitudes were significantly stronger related to intentions to use condoms among girls than among boys, and the health-risk prototype “Conceited” was significantly stronger for boys’ intention than for girls’ intention to use condoms (see Table 2, step 2). The TPB components accounted for 46% of the variance in intention to use contraceptive pills for girls (see Table 2). Inclusion of prototypes in the second step did not significantly increase the explained variance of intention. Subjective norm ($\beta = 0.60, p < 0.001$) was the only significant predictor of intention to use contraceptive pills in the final step.

Predicting intention to use condoms and contraceptive pills using individual beliefs

Separate multiple regression analyses were performed for the three types of beliefs to predict intention to use condoms and contraceptive pills. Table 3 shows that the variance of the behavioural beliefs (behavioural beliefs strength and outcome evaluation) accounted for 40 % of the intention to use condoms among boys. Two predictors of intention were significant in the expected direction: “If I use a condom...I will not get an STI” and “I am afraid to get an STI”. For girls, the behavioural beliefs accounted for 38 % of the variance in intention to use condoms. The following three predictors of intention were significant in the expected direction: “If I use a condom... I will kill the moment”, “I am afraid to get an STI” and “I am afraid to get embarrassed”. The normative beliefs (normative belief strength and motivation to comply) accounted for 42 % of the variance in intention for boys. The significant predictors of intention were the normative belief strength, “My friends believe I should use condom...” and the motivation to comply, “To what degree will you do as your boyfriend/girlfriend thinks you should do”. For girls, the normative beliefs (normative belief strength and

motivation to comply) accounted for 32% of the variance in intention to use condoms. The normative belief strength, “My parents believe I should use condom...” was the only significant predictor. For boys, the control beliefs (control belief strength and control belief power) accounted for 14% of the variance of intention. The control beliefs, “The next three months...I will learn to use condoms at the local health clinic...”, “more difficult...if there are no condom vending machines at schools and youth clubs” and “more difficult...if it is too expensive to buy condoms” were the significant predictors of intention. For girls, the control beliefs accounted for 6% of the variance in intention to use condoms.

Behavioural beliefs accounted for 3% of the variance in intention to use contraceptive pills, while the normative beliefs accounted for 43% of the variance in intention to use contraceptive pills. Three normative beliefs were significant predictors of intention, “My parents believe I should use contraceptive pills...”, “My romantic partner believes I should use contraceptive pills...” and “To what degree will you do as your parents believe you should do”. The control beliefs accounted for 7% of the variance in intention to use contraceptive pills and the only significant predictor of intention was, “Easier to use contraceptive pills if I get information about contraceptive pills from the local youth health clinic”.

Discussion

The results of the present study indicate that intentions to use condoms were predictable based on the results of the TPB among boys as well as girls (27 and 20% of the variance in intended condom use, respectively). However, these figures compare unfavourably to the results of a recent meta-analysis on the TPB accounting for 39% of intentions across a broad range of behaviours (Armitage & Conner, 2001), and a meta-analysis of condom use in which the TPB components accounted for 47% of the variance in intended condom use (Sheeran & Taylor,

1999). On the other hand, the predictive power of the TPB in the present study was considerably higher when it comes to intentions to use contraceptive pills among girls.

The most consistent finding in the present study was that the intention to use condoms and contraceptive pills were primarily under normative control among both boys and girls. In addition, attitudinal considerations were important for intentions to use condoms among girls. Perceived behavioural control was not significant among either boys or girls. In a recent meta-analysis of TPB studies on condom use (Albarracin *et al.*, 2001), attitude was the strongest predictor of intentions ($r = 0.58$) while subjective norm correlated $r = 0.39$ and perceived behavioural control correlated $r = 0.45$. The fact that subjective norm was the most important predictor of behavioural intentions is in contrast to most other TPB studies (Ajzen, 1991; Armitage & Conner, 2001). The reason for this result may be related to the fact that the present study included a population of young adolescents. A meta-analysis including 58 studies on condom use showed that norms generally had stronger influences among younger individuals and among people with greater access to informational social support, including males (Albarracin *et al.*, 2004). One reason for this could be that teenagers are more concerned about their peers. Teenagers are thus more influenced by normative pressure from their in-groups (Kerr *et al.*, 2002) and may have greater informational support due to their participation in school activities. Another factor influencing these results could be cultural or sub-cultural values in the study population. Previous studies found for example that subjective norm, such as approval from parents in sexual decision making, was more important among Latino youth than among other ethnic groups (e.g., Villarruel, 1998; Jemmott *et al.*, 2002).

It has been noted by several authors that subjective norms may be a too narrow concept in order to fully capture the social forces impinging upon behavioural performances (Rivis & Sheeran, 2003). We predicted two specific behaviours using the TPB extended with prototypes. Thus the image or prototype of a boy who does not use condoms as “Conceited”

contributed independently to the formation of intention to use condoms among the boys. This was not the case for the girls. The results for boys are consistent with earlier findings (e.g. Gibbons *et al.*, 1998; Ravis & Sheeran, 2003). On the other hand, the fact that prototypes were significant predictors of intention to use condoms among boys and not among girls was not expected. The reason for this gender difference could be that it was easier for boys to identify with the prototype “a typical boy that do not use condoms”, than it was for the girls.

The multiplicative assumption

We found weak support for the multiplicative model. This model was not upheld in four out of six cases concerning the three types of beliefs towards use of contraceptive pills and normative beliefs towards condom use. These findings are consistent with earlier studies in which the type of behaviour and belief determined whether or not the multiplicative assumption was upheld (e.g., Armitage *et al.*, 1999; Rise *et al.*, 1998). Thus, the multiplicative model may be useful in some cases and contexts but not in all. Testing the multiplicative assumption may therefore be warranted in future studies.

Prediction of intentions to use condoms and contraceptive pills using individual beliefs

The second purpose of the study pertained to a detailed analysis of the three sources of beliefs underlying the two specific contraceptive behaviours. The rationale for this was twofold. We wanted to provide a better understanding of the underlying reasons for use of condoms and contraceptive pills and, secondly, we wanted to identify which beliefs one may try and change in order to influence the two behaviours in the desired direction.

Regarding condom use among boys, the most important reason for their intention among the normative beliefs was partner approval about condom use. This finding is consistent with earlier studies (e.g. Rise, 1992; Sutton *et al.*, 1999; Sheeran & Taylor, 1999). For girls,

parents' approval seemed to be the most important normative belief to address in an intervention aimed at increasing the use of condoms and contraceptive pills. This result is consistent with some earlier studies (e.g. Villarruel *et al.*, 2004). Using condoms to avoid contracting STI and fear of getting an STI were the most important predictors of the behavioural beliefs for deciding to use condoms among boys and girls. The second most important behavioural beliefs for intention to use condom among girls were "fear of embarrassment" and "kill the moment". These beliefs were, however, not important predictors for intention among boys. The results among girls are consistent with earlier findings (Albarracin *et al.*, 2001; Rise, 1992). The present study was conducted among younger teenagers with less sexual experience than participants in the previous studies. This might be the reason why beliefs such as "kill the moment" were less important for boys in our study as compared to previous studies. Finally, a detailed analysis of control beliefs revealed that availability of condoms and information about how to use condoms plays a crucial role for boys' condom use intentions. Thus, effective interventions might focus on easy available local youth health clinics, information about these clinics in school and visits organized by schools to the clinics (e.g., Dickson *et al.*, 1997; Kisker & Brown, 1996; Santelli *et al.*, 2003).

The TPB-components and the prototype factors explained 37% and 18%, respectively, of the boys' and girls' intention to use condoms. This indicates that other explanatory factors such as structural, cultural and contextual factors might as well have influenced the intention to use condoms and contraceptive pills among the adolescents. For example, sub-cultural values among the study population might have played a role in determining the results. Previous studies have found that cultural background influences decisions concerning contraception (e.g., Villarruel, 1998; Jemmott *et al.*, 2002). In addition, both the current study and previous studies have shown that structural factors such as availability to condoms and

contraceptive pills is an important factor for adolescent's intention and actual use of contraception (e.g., Furstenberg *et al.*, 1997).

Limitations of the study

The major limitation of the present study is that the data were obtained from a relatively small sample. Future research should attempt to repeat the present study in a larger sample of adolescents. Secondly, behaviour was measured indirectly through intention rather than directly. Recent meta-analyses, however, have found relatively strong correlations between intention and contraceptive behaviour such as condom use ($r = 0.44-0.45$) (Albarracín *et al.*, 2001; Sheeran & Orbell, 1998). Thirdly, intention to use condoms was measured using only one item that might lower the reliability of the measure. Single-item measures of intentions have, however, been found to be reliable predictors for condom behaviour in samples of young people ($r = 0.31-0.60$) (see Sheeran & Orbell, 1998 for a review). Fourthly, because intentions are assessed directly for the sake of consistency the direct measures of the TPB components are usually preferred. Theoretically, the direct and belief-based measures are alternative ways of assessing the same underlying constructs. Either measure can therefore be used to predict intentions (Ajzen, 2005). Fifthly, between 19 and 27% of the participants did not answer all of the questions. A comparison of the original sample ($n = 196$) with the sample used in the study (see missing values) revealed no significant differences in demographic characteristics, or in the correlations between the study variables. This suggests that the results of our sample are not biased by selective attrition. Finally, future studies should in addition to the individual socio-cognitive factors, have more emphasis on the structural, cultural and environmental factors that might influence the use of condoms and contraceptive pills among adolescents.

Practical implications

The findings indicate that normative influence is important for both boys' and girls' decisions concerning contraception. However, the normative influences that need to be addressed differ among boys and girls. Romantic partner is the key referent for boys' condom decisions. One way such interventions may work is to encourage young people to tell their partner that they want to use condoms. In contrast, girls' decisions to use contraceptives or not were influenced mostly by the opinions of their parents and friends. Effective school intervention may include group discussions in which misunderstandings concerning friends' and classmates' opinions toward risky sexual behaviour are clarified (Schroeder & Prentice, 1998). Encouraging parents to communicate their opinions about contraceptive use clearly with their teenage girls may be another effective intervention (e.g., Wills *et al.*, 2003). Interventions influencing girls' attitudes toward condom use are also recommended. Likewise, interventions in which risk information about the consequences of not using condoms, especially related to contracting STIs and HIV are indicated. In addition, cultural background and sub-cultural values may influence the adolescent's contraceptive decision and should be considered in future interventions. Finally, easy access to contraception is recommended. Thus, an effective intervention may be easy access to youth health clinics in which adolescents may receive information about contraception, learn how to use condoms and receive free-of-charge contraception.

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Table 1. Correlations, Means and Standard Deviation (SD) for the Indirect Measures of Attitude, Subjective Norms (SN), Perceived Behavioural Control (PBC), Prototypes, and Intention to Use Condoms and Contraceptive Pills

	1	2	3	4	5	6	Mean	SD
Intention to use condoms (n = 154)								
1. Intention	-	.41**	.47**	-.02	-.25*	-.03	6.35	1.28
2. Attitude	.10	-	.34**	.07	-.25*	-.03	114.95	38.96
3. SN	.51**	.10	-	.10	-.35**	.21*	18.24	4.32
4. PBC	.08	.04	.04	-	-.12	.18	47.76	18.39
5. Risk: Reasonable	-.15	-.10	-.23	.21	-	-.41**	1.86	0.91
6. Risk: Conceited	.44**	.12	.24*	.06	-.13	-	3.44	0.89
Mean	6.13	105.12	17.80	50.19	2.32	3.15		
SD	1.46	39.48	4.04	20.44	1.02	0.90		
Intention to use contraceptive pills (n = 83)								
1. Intention	-							
2. Attitude	.16	-						
3. SN	.64**	.26*	-					
4. PBC	-.002	.06	-.04	-				
5. Health:Reasonable	.44**	.34*	.45**	.09	-			
6. Health: Desperate	-.23*	.52**	-.25*	-.10	-.59*	-		
Mean	4.27	14.37	13.90	18.21	3.71	2.26		
SD	2.09	3.20	5.42	4.10	1.00	1.06		

Note. * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$. Risk: Reasonable = Health-risk Prototype: "Reasonable", Risk:

Conceited = Health-risk Prototype: "Conceited", Health: Reasonable = Health-Promoting Prototype:

"Reasonable", Health: Desperate = Health-Promoting Prototype: "Desperate". For condom use, the results for girls can be seen above the diagonal and the results for boys can be seen below the diagonal. Only girls answered the questions concerning use of contraceptive pills.

Table 2. Summary of Hierarchical Regression Analysis for Variables Predicting Intention to Use Condoms and Contraceptive Pills

Variable	<u>Condom</u>								<u>Contraceptive pills</u>		
	<u>Boys (n = 69)</u>				<u>Girls (n = 75)</u>				<u>Girls (n = 78)</u>		
	Adj. R^2	β	B	SE	Adj. R^2	β	B	SE	t-value	Adj. R^2	β
<i>Step 1</i>											
Attitude		-.02	-.001	.004	.30**	.01	.003				.08
SN		.54***	.20	.04	.31**	.09	.03				.67***
PBC		.12	.01	.01		-.05	-.002	.01			.10
	.27***				.20***						.46***
<i>Step 2</i>											
Attitude		-.07	-.002	.004	.29*	.01	.003	-2.17*			-.003
SN		.45***	.16	.04	.30*	.09	.03	1.51			.60***
PBC		.11	.01	.01	-.05	-.002	.01	1.10			.09
Risk:											
Reasonable		-.04	-.06	.14	-.02	-.02	.15	-0.17			
Conceited		.35**	.57	.17	-.01	-.01	.14	2.68**			
Health:											
Reasonable											.14
Desperate											-.09
	.37**				.18						.48

Note. * $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$. Attitude = Indirect Measure of Attitude, SN = Indirect measure of

Subjective Norm, PBC = Indirect measure of Perceived Behavioural Control, Risk: Reasonable = Health-risk

Prototype: "Reasonable", Risk: Conceited = Health-risk Prototype: "Conceited", Health: Reasonable = Health-

promoting Prototype: "Reasonable", Health: Desperate = Health-promoting Prototype: "Desperate". The t-value show

whether there are significant difference between the unstandardised beta values for girls and boys related to intention to

use condom. The column Adj. R^2 show the significant level of R^2 for step 1, and the significant level of change in R^2

from step 1 to step 2. Only girls answered the questions concerning contraceptive pills.

Table 3. Summary of Regression Analysis Predicting Intentions to use Condoms and Contraceptive pills, Separately for the Three Categories of Beliefs

	Intention to use condom						Intention to use contraceptive pills					
	Boys			Girls			Girls					
	Adj. R ²	r	β	Adj. R ²	r	β	Adj. R ²	r	β	Adj. R ²	r	β
<i>Behavioural beliefs</i>	(n=78)			(n=81)			<i>Behavioural beliefs</i>					
If I use a condom I will...							If I use contraceptive pill I will...					
Not get pregnant /get someone pregnant	.09		-.22*	.18*		.06	Not get pregnant					
Not get an STI	.35**		.31**	.25*		.15	Gain weight					
"kill the moment"	.05		.17	.33**		.20*	Get sick					
Damage the condom	-.08		-.09	.07		.001	I am afraid of...					
Get embarrassed	-.02		.003	.28**		-.08	Getting pregnant					
I am afraid to...							Gaining weight					
Get pregnant/get someone pregnant	.53***		.21	.32**		-.26*	Getting sick					
Get an STI	.56***		.37**	.53***		.67***						
"kill the moment"	-.32**		-.13	.01		.13						
Damage the condom	-.29**		-.03	-.29**		-.06						
Get embarrassed	.10		.04	.38***		.20*						
	.40***			.38***			.03					
<i>Normative beliefs</i>	(n=73)			(n=83)			<i>Normative beliefs</i>					
My friends believe...	.49***			.24*			.59***					
My parents believe...	.49***			.09			.62***					
My boyfriend/girlfriend believes...	.47***			.19			.58***					
To what degree will you...							To what degree will you...					
do as your friends believe	.36**			.13			do as your friends believe					
do as your parents believe	.20*			-.01			do as your parents believe					
do as your boy/girlfriend believes	.54***			.33**			do as your boy/girlfriend believes					
	.42***			.32***			.43***					
<i>Control beliefs</i>	(n=76)			(n=88)			<i>Control beliefs</i>					
In the next three months ...							In the next three months I will...					
There will be no condom vending machine at school/youth club	-.05			-.05			get information about contraception from the public health nurse					
I will learn to use condoms at local health clinic for youth	.30			.36**			get information about contraceptive pills from the local youth health clinic					
I will learn to communicate with boy/girlfriend about condom use	.10			.06			not get a prescription for contraceptive pills from the public health nurse					
It will be too expensive to buy condoms	.24			.19			not get information about contraceptive pills in school					
Easier to use condoms if...							It is easier for me to use contraceptive pills if...					
I learn to communicate with boy/girlfriend about condom use	.15			.19			I get information from the public health nurse					
I learn how to use condoms at local health clinic	.01			-.01			I get information about contraceptive pills from the local youth health clinic					
More difficult if...							More difficult if...					
There is no condom vending machine at school/ youth clubs	-.18*			.24*			I do not get a prescription for contraceptive pills from the public health nurse					
It is too expensive to buy condoms	-.26*			-.27*			I do not get information about contraceptive pills in school					
	.14*			.06			.07					

Note. * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$.

PAPER III

III

Contraceptive behavior among middle-adolescents: its association with visits to youth health services, psychosocial factors, and substance use

Running head: Contraceptive behavior among middle- adolescents

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Abstract

Based on a socio-ecological framework, we examined contraceptive behavior among middle-adolescents within the contexts of individual, family, community, and societal influences. Participants were 4,467 (2,503 girls, 1,958 boys; 15-16 years of age) students from six urban and rural regions of Norway who reported coital experience. All students were attending tenth grade. Multinomial logistic regression analysis, indicated that condom use among middle-adolescent boys was associated with individual, community, and societal variables, such as support of friends, few episodes of drunkenness, less use of doping agents, and visits to school health services. Condom use among middle-adolescent girls was associated with individual, family, and societal variables, such as general self-efficacy, less smoking, few episodes of drunkenness, parental monitoring, and geographical region. The factors most associated with the use of oral contraceptives among girls were attendance at youth health clinics and school health services, parental monitoring, geographical region, and less smoking.

Key words: Contraceptive behavior, Adolescents, Condom use, Youth health services, STIs, Safe-sex interventions

Introduction

Lack of sexual protective behaviors among middle-adolescents may have serious consequences, including sexually transmitted infection (STI) and unwanted pregnancy. The reported rate of STIs, such as Chlamydia, has increased among 15- to 25-year-olds in Norway during the previous 7 years (Nilsen, Blystad, and Aavitsland, 2004). The incidence of STIs has also increased in other western countries, including the United Kingdom (UK; British Medical Association, 2002) and the United States (US; Ford, Jaccard, Millstein, Bradsley, and Miller, 2004). During the previous 10 years, the median age at first intercourse in Norway decreased from 17.7 to 16.7 years among girls and from 18.5 to 18.0 years among boys (Pedersen and Samuelsen, 2003). The decreased age of sexual debut is an important observation, considering that studies have reported an association between early sexual debut and low use of contraception (Wellings, Nanchahal, Macdowall, McManus, Erens, Mercer, et al., 2001). In a recent nationwide Norwegian study of 18- to 20-year-olds, 33.5 % reported that they did not use any contraception at their first intercourse. Of those that did use contraception, 45% used a condom (Traeen, Stigum, and Magnus, 2003). Increased incidence of STIs among young persons, decreased age of sexual debut, and low use of contraception indicates a need to develop effective intervention programs to increase the use of sexual protective methods among adolescents. The first step in such an endeavor will be to understand the reasons that some adolescents choose to use contraception and some choose not to use contraception.

The majority of earlier research aimed at understanding contraceptive behaviors focused on identifying individual risk- and protective factors among adolescents. However, as recent psychological research has shown, it is necessary to model the influence of different social variables, such as family, peer/community, and society, in relation to adolescents' behavior (Jessor, 1993; DiClemente, Salazar, Crosby, and Rosenthal, 2005). Still, few studies

have included those factors when examining contraceptive use among adolescents (DiClemente, *et al.*, 2005).

Understanding adolescents' contraceptive behaviors within a socio-ecological framework may lead to a better understanding of the complex processes that guide their decisions about contraceptive use (Bronfenbrenner, 1979). A socio-ecological perspective involves examining sexual behavior at the level of the individual, the family, peers/community, and society. Individual variables include psychological characteristics and behavior. Family and peer/community variables include the influence of family and peer/community, such as parental monitoring and support from friends on adolescents' behavior. Societal influence refers to the characteristics of a particular society (e.g., health care policies and accessible health services) and provides a broader context in which institutions and communities effect adolescents' behavior. Thus, a socio-ecological framework served as a point of departure for organizing and selecting variables of adolescents' contraceptive use in the present study. Below follows a detailed description of the variables at the different levels that may influence contraceptive behavior among adolescents.

Individual and behavioral influences

Problem-Behavior Theory (PBT) is a social-psychological framework that attempts to explain adolescents' participation in a variety of problem and conventional behaviors (Jessor and Jessor, 1977; Jessor, 1987). PBT describes a pattern of interrelations among problem behaviors, such as sexual risk behavior, heavy drinking, drug use, and cigarette smoking. PBT also describes a pattern of interrelations among different conventional behaviors, such as school involvement, church attendance, and contraceptive behavior. Conventional behaviors relate negatively to involvement in problem behaviors. Contraceptive behavior is part of a larger organized system of a conventional adolescent lifestyle and was negatively associated

with problem behaviors (Costa, Jessor, Fortenberry, and Donovan, 1996; Turbin, Jessor and Costa, 2000).

Another individual determinant that is important for contraceptive behaviors among adolescents is self-efficacy (Levinson, Wan, and Beamer, 1998; Murphy, Stein, Schlenger, and Maibach, 2001). Self-efficacy is usually understood to be task specific or domain specific. However, general self-efficacy refers to the belief in one's ability to cope with a broad range of stressful or challenging demands (Bandura, 1986; Schwarzer and Jerusalem, 1995). Most recent studies investigating self-efficacy in relation to safe-sex behavior have used specific measures of self-efficacy (e.g., Murphy *et al.*, 2001). The measure of general self-efficacy has not been as thoroughly investigated in relation to contraception, but some studies reported an association between general self-efficacy and sexual risk behavior among young persons (Basen-Engquist and Parcel, 1992; Wulfert and Wan, 1993).

Educational aspirations are another individual factor that has been found to be associated with sexual risk behavior or sexual protective behavior among adolescents. For example, high educational aspirations protected against sexual risk behavior, such as early sexual debut (Valle, Torgersen, Røysamb, Klepp, and Thelle, 2005). However, observations have been mixed regarding the relationship between contraceptive use and educational aspirations among adolescents. For instance, higher educational aspirations and/or educational attainment predicted use of contraception among adolescents (Kraft, Traeen, and Rise, 1990; Kraft and Rise, 1991; Wellings *et al.*, 2001; Haggstrom-Nordin, Hanson, and Tyden, 2002; Martin, 2005), while other studies did not report an association between the two variables (Santelli, Lowry, Brener, and Robin, 2000).

Family influence

Parental monitoring is a much studied family variable in relation to risk behavior among adolescents. Parental monitoring is primarily defined as supervision, parent-child communication, and parents' knowledge of their children's activities (Li, Stanton, and Feigelman, 2000). A number of previous studies reported that parental monitoring was a protector against adolescents' sexual risk behavior (Resnick, Bearman, Blum, Bauman, Harris, Jones, *et al.*, 1997; Hindelang, Dwyer, and Leeming, 2001).

Peer/community influence

Earlier studies have observed that among adolescents, social support from peers was a protective factor against mental health problems and risk behaviors, such as substance use (e.g., Steptoe, Wardle, Pollard, Canaan, and Davies, 1996; Ystgaard, Tambs, and Dalgard, 1999). To our knowledge, few studies have investigated the relationship between social support of friends and contraceptive use among adolescents. However, a recent clinical study of young women (14- 25 years), showed that the participants were significantly less likely to report condom use if they had lower levels of social support, and this relationship was stronger among the teenage group (14-19 years) compared to the older age group (20-24 years) (Mazzaferro, Murray, Ness, Bass, Tyfus, and Cook, 2006). In addition, in a study of African American adolescents it was observed that those who perceived higher social support from peers reported that they were less engaged in sexual risk behavior (St. Lawrence, Brasfield, Jefferson, and Alleyene, 1994). Finally, in a longitudinal study from the US it was observed that social support of friendship and parent connectedness interacted to predict reduced likelihood of sexual risk behavior among adolescents (Henrich, Brookmeyer, Shrier, and Shahar, 2006).

Societal influence

Access to contraception is an important determinant for use of contraception among adolescents (Furstenberg, Geitz, Teitler, and Weiss, 1997). A number of studies have shown that the establishment of youth health clinics and school health services has improved access to contraception and increased contraceptive use among adolescents (Kisker and Brown, 1996; Santelli, Nystrom, Brindis, Juszczak, Klein, Bearss, *et al.*, 2003). Likewise, a review of the literature on the effectiveness of prevention of unwanted teenage pregnancies showed that youth-oriented clinics were one of the most effective factors in reducing pregnancy rates (Clements, Diamond, Ingham, and Stone, 1996; Dickson, Fullerton, Eastwood, Sheldon, and Sharp, 1997).

Geographical region

Previous studies have observed significant differences in sexual risk behavior and outcomes, such as STI and unwanted pregnancy, among adolescents living in different geographical regions. Northern regions of Norway had the highest incidence of STIs and abortions and the lowest age of sexual debut (Pedersen, Samuelsen, and Wichstrøm, 2003; Pedersen, Samuelsen, and Eskild, 2006; Statistics Norway, 2006; Norwegian Institute of Public Health, 2007). The average abortion- and teenage pregnancy rates in Norway decreased from 1992 to 2006, however, the regional differences remained stable, and northern Norway still had the highest abortion rates in 2006 (Vigran and Lappegård, 2003; Statistics Norway, 2006; Norwegian Institute of Public Health, 2007).

There might be several reasons for the differences in sexual risk behavior of adolescents living in different geographical regions. Some US studies reported that rural adolescents were significantly more likely to report sexual risk behaviors compared to their urban counterparts (Milhausen, Crosby, Yarber, DiClemente, Wingood, and Ding, 2003). One explanation for

this might be that there are contextual differences between adolescents living in rural regions and those living in urban regions. For example, rural adolescents perceive less threat of STIs and human immunodeficiency virus (HIV) infection because they do not believe them to be rural issues and therefore engage in fewer protective behaviors (Yarber and Sanders, 1998).

In Norway, the regional differences in sexual behavior and its outcomes might also reflect a center-periphery dimension. The northern regions of Norway are sparsely populated and primarily rural. Southern Norway is more densely populated, as many of the largest cities, including Oslo, are located in that region. Thus, there may be southern (center) and northern (periphery) regional differences in sexual risk behaviors and outcomes.

Regional differences in sexual behavior may also be influenced by cultural values. A Norwegian national youth study showed that religious involvement delayed sexual debut; while other factors, such as socioeconomic background, did not (Pedersen *et al.*, 2003). Northern regions of Norway have traditionally housed fewer religious persons, and housed more persons with more liberal views concerning marriage, family life, and sex compared to southern rural regions. Such cultural differences across geographical regions in Norway could explain the differences in sexual risk behavior in rural regions in the south and rural regions in the north (e.g., Vigran and Lappegård, 2003).

Gender differences

Earlier studies found that decision-making processes regarding contraceptive behaviors differed between adolescent boys and girls (Myklestad and Rise, 2006), that gender modified the strength of parental monitoring as a protective factor against sexual risk behavior, and that parental monitoring was a stronger protector against sexual risk behavior of adolescent girls compared to adolescent boys (Jessor, Vandebos, Vanderryn, Costa, and Turbin, 1995). Likewise, self-efficacy had a different impact on contraceptive behavior of boys and girls, and

several studies reported that self-efficacy was more important for girls' contraceptive use compared to that of boys (Longshore, Stein, and Chin, 2006).

Shortcomings of previous studies

As mentioned previously, the importance of individual variables in adolescent sexual risk and protective behaviors is well established (e.g., DiClemente and Crosby, 2003). However, family, peer/community, and societal factors are less studied (DiClemente et al., 2005). Understanding the complex influences of those variables will be important for developing effective safe-sex intervention programs. Furthermore, most previous studies of adolescent sexual risk and protective behavior have examined clinical samples or groups representing one behavior, ethnicity, or gender. Thus, few studies of adolescents' sexual risk and protective behaviors are based on population data (Cohen, Farley, Mason, and Ridgeway, 2006).

Research questions and hypotheses

Based on a socio-ecological framework (Bronfenbrenner, 1979) we examined the influences of the individual, family, peers/community, and society on adolescents' contraceptive use, according to the following hypotheses:

- (1) The outlined variables predict the use of condoms and contraceptive pills among adolescents. Thus, individual, family, peers/community, and societal influences are associated with contraceptive use among adolescents. Adolescents that report high levels of self-efficacy, high parental monitoring, greater support of friends, and high educational aspirations are more likely to use contraception.
- (2) There is a negative association between the use of contraceptives and problem behaviors, such as smoking, episodes of drunkenness and use of doping agents. Thus, adolescents who

report fewer problem behaviors, such as occasional smoking, few episodes of drunkenness, and no use of doping agents, are more likely to use condoms and hormone contraceptives.

(3) Adolescents who attend youth health clinics and/or school health services are more likely to use condoms and hormone contraceptives than those who do not attend these facilities.

(4) Adolescents from rural regions will use condoms and hormone contraceptives less frequently than adolescents in urban regions. Furthermore, adolescents from northern rural regions are less likely to use condoms and hormone contraceptives than adolescents from southern rural and urban regions.

(5) There are gender differences in the variables that influence contraceptive use among adolescents. For instance, parental monitoring will be more strongly associated with contraceptive use among girls, and self-efficacy will be more important for girls' use of contraceptives.

Method

Study population

The study examined data from The Norwegian Youth Health Study, a cross-sectional health survey of 19,200 tenth-grade students (9,815 males; 9,385 females; 15-16 years of age) attending schools in urban and rural regions of Norway. These included students from Oslo; Hedmark and Oppland counties in southeastern Norway; and Nordland, Troms, and Finnmark counties in the northern part of Norway. All of the tenth-grade classes in the selected counties were invited to participate in the study. The surveys were carried out during the 2000-2001 school year in Oslo, during the 2001-2002 school year in Hedmark and Oppland, and during the 2002-2004 school years in Nordland, Troms, and Finnmark. All surveys were completed during the Spring. Students who were not present at school during the survey period were given the questionnaire at a later time. The questionnaire and a stamped, return-addressed

envelope were mailed to students who did not complete the survey at school. The response rate was 84% for boys and 88% for girls.

The current study focused on the 4,467 adolescents who reported having had at least one coital experience and included 2,503 (56%) girls and 1,958 (44%) boys. Ninety percent of the participants were ethnic Norwegians, 3.3% were African or Middle Eastern, 4.7% were European or North American, and 2.0% were Asian.

Questionnaire

The Norwegian Youth Health Study was a collaboration between the Norwegian Institute of Public Health, the Universities of Oslo and Tromsø, and the municipality of Oslo and was approved by the Research Ethics Committee in Norway and the Norwegian Data Inspectorate. The study was based on a self-report questionnaire. Participating adolescents and their parents received written information about the study before the adolescents completed the questionnaire. Participation in the study was voluntary. Participants completed questionnaires in the classroom during school hours. Information about the survey and instructions on how to complete the questionnaire was provided in the classroom by specially trained field workers. The completed questionnaires were collected by field workers.

Measures

Dependent variable

The dependent variable that addressed use of contraception was participants' response to the question, "Did you/your partner use contraception at your last intercourse?" Participants answered with one of five provided responses: (1) No; (2) Yes, condom; (3) Yes, oral contraceptives/contraceptive injection; (4) Yes, other; or (5) Do not know. For the multinomial logistic regression analysis, the response "No" was used as the reference

category, and compared with the other responses. The results of the regression analysis for the responses “Yes, other” and “Do not know” are not reported because few participants answered with those responses (0.5% and 1.6%, respectively, see Table 1).

Independent variables

Use of Youth Health Clinic/School Health Service

To measure “Use of School Health Service” and “Use of Youth Health Clinic,” participants were asked whether they had used these health services during the previous 12 months. Responses were provided using a 3 point scale of (1) Never, (2) 1-3 times, and (3) 4 times or more. Participants who never used the school health service or the youth health clinic (reference group) were compared to those who had used one of the health services and those who had used both of the services.

General self-efficacy

General self-efficacy (GSE) (Schwarzer, 1993; Norwegian version by Røysamb, Schwarzer & Jerusalem, 1998), was measured by participant responses to five statements, including “I can always manage to solve difficult problems if I try hard enough;” “If someone opposes me, I can find the means and ways to get what I want;” “I can remain calm when facing difficulties because I can rely on my coping abilities;” “If I am in trouble, I can usually think of a solution;” and “I am confident that I can deal efficiently with unexpected events.” Participants responded to each statement on a scale that ranged from (1) “Not at all true”, (2) “Hardly true”, (3) “Moderately true”, to (4) “Exactly true.” Principal component analysis (PCA) showed that all five items loaded on a single factor (Cronbach's alpha=0.76), indicating satisfactory reliability. The mean value of the five items was used in the analysis.

Parental monitoring

Parental monitoring was measured by responses to the following four statements: "My parents know where I am and what I am doing at weekends", "My parents know where I am and what I am doing during the week", "My parents know who I am together with in my spare time", and "My parents like the friends I am together with in my spare time". Participants responded to the statements on a scale that ranged from (1) "Completely agree," (2) "Partly agree," (3) "Partly disagree," to (4) "Completely disagree." PCA indicated that all five items loaded on a single factor (Cronbach's alpha = 0.78). We reversed the scale so that a high score on the index indicated a high level of parental monitoring.

Support of friends

Support of friends was measured according to responses to the statements: "I can rely on my friends when I need help," "I feel closely attached to my friends," "I can help/support my friends," and "My friends value my opinions." Participants responded to the statements on a scale that ranged from (1) "Completely agree," (2) "Partly agree," (3) "Partly disagree," to (4) "Completely disagree." PCA indicated that the five items loaded on a single factor (Cronbach's alpha = 0.83). We reversed the score so that a high score indicated a high level of support by friends.

Smoking

Smoking behavior was measured according to responses to the question "Do you presently smoke or have you ever smoked?" Participants responded to the question with one of the following four responses: (1) No, never; (2) Yes, but I have stopped; (3) Yes, occasionally; and (4) Yes, daily. For analysis, the "Never;" "Yes, but I have stopped," and "Yes, occasionally" responses were combined to form the "never or occasionally" reference group,

which was compared to the “daily smoking” group. The purpose of combining the different substance use behaviors (i.e., smoking, episodes of drunkenness, and doping agents) was to categorize risky/problem behavior and non-risky/moderate behavior. For instance, daily smoking was categorized as a risky behavior, and never or occasionally smoking was categorized as a moderate behavior.

Episodes of drunkenness

Episodes of drunkenness were measured according to responses to the question, “Have you ever consumed so much alcohol that you got drunk?” Response categories were (1) No, never; (2) Yes, once; (3) Yes, 2-3 times; (4) Yes, 4-10 times; and (5) Yes, more than 10 times. For the logistic analysis the response options 1, 2, 3, and 4 were grouped together to form the “Less than 10 times” (reference group) and compared to the “More than 10 times” group. Categorization was based on the assumption that adolescents who have been drunk more than 10 times comprise a risky behavior group.

Doping agents

Use of doping agents was measured by responses to the question, “Have you ever used doping agents?” Response categories were (1) No, never; (2) Yes, once; (3) Yes, several times; and (4) Yes, regularly. For analysis, “No, never” and “Yes, once” responses were combined to form the “Never/once” reference group, and “Yes, several times” and “Yes, regularly” responses were combined to form the “Several times/regularly” group.

Educational aspirations

Educational aspirations were measured by responses to the question, “What is the highest education you have considered attaining?” The participants responded (1) University/College

advanced degree, (2) University/College regular degree, (3) High school, (4) Vocational study program, (5) One year of high school, (6) Other, and (7) Have not decided. For analysis, response categories 1, 2, and 3 were grouped to form the “High school /University/College” reference group, and compared to the groups “Vocational study program” and “Not decided/other.”

Geographical regions

The participants resided in six geographic regions in Norway, including urban and rural regions. Oslo (southeastern/urban); Hedmark and Oppland (southeastern/rural); and Nordland, Troms, and Finmark (northern/rural). For the logistic analysis, we compared Oslo (reference group) to the other regions.

Statistical analyses

Multinomial logistic regression analysis was performed to assess the associations between the dependent variable, use of contraception (condoms, hormone contraceptives) at last intercourse, and the independent variables, use of youth health services, parental monitoring, support of friends, general self-efficacy, geographical region, educational aspirations, and substance use (smoking, episodes of drunkenness, use of doping agents). The variables use of youth health services, smoking, episodes of drunkenness, use of doping agents, educational aspirations, and geographical region, were treated as categorical variables. Multinomial logistic regression analysis allows the dependent variable to have more than two categories. The outcome reference category was “not using contraception.” Boys and girls were analyzed separately. Results were presented as unadjusted odd ratios (OR; one cofactor at a time) and as adjusted OR (adjusted by all cofactors). It is important to note that with a frequent outcome, such as in the present analyses, OR may be larger (i.e., further away from 1) than

the corresponding relative risks. The interaction between gender and all other variables was tested with the multiplicative model, logistic regression (Rothman and Greenland, 1998). This method assumes linearity between log odds of the dependent variable and the covariates. This was examined for all continuous variables by first categorizing the variables and then plotting the estimated beta coefficients with confidence intervals (CI) against category midpoints. No indications of curvilinear associations were found. Other threats to regression analyses, including multicollinearity, were examined and not found in this study.

Missing data

Of the participating adolescents, 4,467 (27%) reported having at least one coital experience. Forty-two (0.9%) of those did not answer the question about contraceptive use. Six participants (0.1%) did not answer the question about gender and was not included in the gender-specific analysis. In general, 0.4-1.1% of the participants did not respond to independent variable items. However, 5.1% of the participants did not respond to the episodes of drunkenness item. The reason for that magnitude of missing data was that 4.5% of those participants had responded that they never drank alcohol to a previous question. Therefore, they did not answer the question about how many times they had been drunk. Data from 11.9% of the male respondents, and 6.9% of the female respondents were missing from the adjusted regression analysis because data from participants who failed to respond to one or more items were excluded from the adjusted analysis.

Results

Descriptive statistics

As reported in Table 1, 18.2% of boys with a coital experience reported that they did not use any contraception at last intercourse; 66.5% used a condom at last intercourse; 10.0% had a

partner who used oral contraceptives or other types of hormone contraception, such as injection; 0.8% used other kinds of contraception; and 3.1% did not know if they had used contraception. Furthermore, 20.9% of the girls reported that they did not use any kind of contraception at their last intercourse; 50.3% used a condom, 27.4% used oral contraceptives or other types of hormone contraception, such as injection, 0.3% used other types of contraception, and 0.4% did not know if they had used contraception (see Table 1, column 3).

Means, standard deviations, and correlations of study variables

Means, standard deviations, and correlations of the study variables are given in Table 2. For girls, use of condoms correlated significantly with all study variables except educational aspirations, visits to the school health service, and geographical region. Use of hormone contraceptives among girls correlated significantly with all study variables except educational aspirations, and support of friends. For boys, use of condoms was negatively correlated with smoking, episodes of drunkenness, and use of doping agents. Furthermore, condom use among boys correlated significantly and positively with parental monitoring and friend support. Use of oral contraceptives among the boys' partners correlated significantly only with visits to youth health clinics and school health services.

Study variables associated with use of condoms among boys and/or oral contraceptives by their partners

In the first phase of the logistic regression analysis, each variable was analyzed separately. Boys who used a condom at last intercourse were significantly more likely to report high parental monitoring and high friend support than boys who did not use contraception at last intercourse (unadjusted OR = 1.3 and 1.5, respectively; see Table 3, column 1). Furthermore, boys that used a condom at last intercourse were significantly less likely to smoke daily, have

many episodes of drunkenness and use doping agents compared to boys that did not use any contraception (unadjusted OR = 0.7, 0.6, 0.4, respectively). In the second set of analysis (Table 3, column 2), friend support, fewer episodes of drunkenness, and less use of doping agents were significantly associated with condom use, after adjusting for all independent variables in the study. In addition, boys who had visited the school health service reported more condom use (adjusted OR = 1.4). Educational aspirations were not significantly associated with condom use among boys. Visits to the school health service and/or youth health clinic were significantly associated with the boys' partners' use of hormone contraception after adjusting for all the study variables (adjusted OR=2.9). In addition, living in the rural region of Finnmark was significantly associated with more frequent use of hormone contraception than living in the other regions studied (adjusted OR=2.4).

Variables associated with use of condoms and hormone contraceptive among girls

In the first phase of the logistic regression analysis for girls, each of the study variables was analyzed separately. Girls with a high level of self-efficacy and who were monitored more extensively by their parents used condoms more often (unadjusted OR = 1.7 and 1.8 per unit increase on the respective scales; see Table 4, column 1) than girls who reported less self-efficacy and parental monitoring. For girls, daily smoking, more than 10 episodes of drunkenness, and use of doping agents were associated with lower condom use (unadjusted OR = 0.4, 0.5, 0.5, respectively). Girls who aspired to vocational study programs were significantly less likely to use a condom at last intercourse (unadjusted OR = 0.7) compared to girls who aspired to high school and college/university degrees. Self-efficacy and parental monitoring were significantly associated with condom use after adjusting for all the independent variables in the study (adjusted OR = 1.5 and 1.4, respectively). Daily smoking, more than 10 episodes of drunkenness and living in the rural regions of Hedmark and

Finnmark were associated with less condom use among girls after adjusting for all the independent variables in the study (adjusted OR = 0.6, 0.6, 0.6 and 0.6, respectively; see Table 4, column 2). Unexpectedly, visits to youth health clinics were associated with less condom use among girls (adjusted OR = 0.7).

Girls who had visited the youth health clinic and the school health service, or had visited only the youth health clinic, were much more likely to use hormone contraceptives, such as oral contraceptives after adjusting for all of the independent variables (adjusted OR = 5.1 and 4.3, respectively; see Table 5, column 2). After adjusting for all measured variables, visits to the school health service and high parental monitoring were also associated with more hormone contraceptive use among girls (adjusted OR = 2.2 and 2.0, respectively), and daily smoking was significantly associated with less hormone contraceptive use (adjusted OR=0.6). Finally, girls who lived in rural regions (Nordland, Troms, Finnmark and Oppland) were significantly more likely to use hormone contraceptives than girls living in Oslo (adjusted OR = 1.6, 1.6, 2.4 and 2.2, respectively).

Combining groups of substance use

To investigate combinations of substance use (daily smoking, more than 10 episodes of drunkenness, and use of doping agents); the group that did not use any of these substances (reference group) was compared with the group that used one, two or all three of the substances. Table 6 shows that girls who reported use of all three substances were less likely to use condoms and hormone contraceptives (adjusted OR = 0.2 and 0.4, respectively) than girls who used none of the substances. Furthermore, girls who used all three substances were less likely to use condoms and oral contraceptives than girls who used one or two substances. Likewise, boys who used all three substances were less likely to use condoms than boys who used one or two of the substances (see Table 6).

Interaction effects

The estimated effects of the covariates on condom use appeared to be different for boys and girls. To determine if the differences were significant, gender interactions were examined in a common model. Tests for gender interactions regarding condom use versus non-use of contraception showed significant interactions of gender and general self-efficacy ($p = 0.007$), gender and parental monitoring ($p = 0.005$), and gender and daily smoking ($p = 0.002$). Thus, general self-efficacy, parental monitoring, and daily smoking were significantly more important for girls' condom use than for boys' condom use. There was no significant interaction effect of smoking with episodes of drunkenness, or use of doping agents or of episodes of drunkenness and use of doping agents.

Discussion

The results of the present study are consistent with a socio-ecological framework and support the hypothesis that variables at the level of individual, family, peers/community, and society influence contraceptive use among middle-adolescents. As expected, we found gender differences in the variables that influence contraceptive use among adolescents. Individual, family, and societal variables were associated with use of condoms and hormone contraceptives among girls. The most important predictors for girls' condom use were the individual variables general self-efficacy, fewer than 10 episodes of drunkenness, and not smoking daily; the family variable, parental monitoring; and the societal variable, geographical region. Among boys, individual, peers/community, and societal variables were associated with condom use. The most important predictors for condom use among boys were support from friends, fewer than 10 episodes of drunkenness, no use of doping agents, and visits to youth health clinics.

As expected, low levels of substance use were associated with use of condoms and hormone contraceptives. In addition, the results indicated that adolescents who used several substances were less likely to use contraceptives. These results are consistent with Jessor's PBT and show that contraceptive use, as part of a conventional lifestyle, had a negative association with problem behaviors, such as substance use (Jessor, 1987; Costa *et al.*, 1996; Turbin *et al.*, 2000).

General Self-Efficacy

Consistent with our hypothesis, general self-efficacy was significantly associated with condom use among girls. Earlier studies reported that specific self-efficacy was more strongly related to girls' safe-sex behavior compared to that of boys (Longshore *et al.*, 2006; Robertson, Stein, and Baird-Thomas, 2006). The significant effect of general self-efficacy on safe-sex behavior indicates that the construct of self-efficacy is a robust predictor of safe-sex outcomes for girls.

The reason that general self-efficacy was a significant predictor for girls' condom use but not for boys' condom use might be that girls have to cooperate with their male partners for condom use and may encounter objections (Robertson, et al., 2006). Thus, they need skills to negotiate with their partner concerning the use of condoms. High self-efficacy is related to effective negotiation and communication skills, being goal-oriented, having high self-esteem, and having skills to plan ahead for risky sexual situations, all factors that may be important for girls' condom use (Wight and Abraham, 2000; Luszczynska, Scholz, and Schwarzer, 2005; Salazar, Crosby, DiClemente, Wingood, Lescano, Brown *et al.*, 2005; Longshore *et al.*, 2006). Previous studies reported that girls were more strongly motivated than boys to use contraception and that boys were more willing to have unprotected sex than girls (e.g., Wight, Abraham, and Scott, 1998; Myklestad and Rise, 2006). Nevertheless, our results indicated

that more boys than girls reported condom use. An earlier study reported that boys reported more condom use, while girls were more motivated to practice sexual protective behavior, such as use of condoms (Robertson, et al., 2006). Thus, it appears that more girls are motivated to use condoms than actually use them, and self-efficacy may be an important predictor in this matter.

Family factors

Parental monitoring was found to be significantly associated with girls' use of condoms and hormone contraceptives, supporting our hypothesis. This result is in accordance with previous studies that observed an association between high parental monitoring and safe-sex behavior (e.g., DiClemente, Wingood, Crosby, Sionean, Cobb, Harrington *et al.*, 2001; Huebner and Howell, 2003). Similarly, our finding that parental monitoring was a more important protective factor against sexual risk behavior among girls than among boys is in agreement with the majority of previous research in this field (e.g., Jessor, *et al.*, 1995; Henrich *et al.*, 2006; Wight, Williamson, and Henderson, 2006).

Peer/community factors

Support of friends was found to be a significant predictor for condom use among boys, in accordance with our hypothesis. The present study showed that support of friends was not significantly associated with condom use among girls, and therefore not in accordance with our hypothesis. To our knowledge, this gender difference concerning support of friends and contraceptive use has not been previously reported. However, previous studies have found that boys' substance use was primarily influenced by support from peers while girls' substance use was influenced by peers and parents (Steinberg, Fletcher, and Darling, 1994). Few previous studies have investigated the relation between support of friends and sexual risk

behavior among adolescents. However, a recent study found that supportive friendship was a protective factor for sexual risk behavior in conjunction with parental support (Henrich *et al.*, 2006).

Use of youth health clinics and school health services

The association between visits to youth health services and use of hormone contraceptives among girls was strong and significant after controlling for all study variables. Part of the reason for the association may be that public health nurses working at youth health clinics in Norway in recent years are permitted to prescribe hormone contraception to adolescent girls between the ages of 16 and 19 years, and the hormone contraceptives have been free of charge or subsidized for this age group since 2002 (Austveg and Sundby, 2005).

The association between condom use and visits to youth health services was much weaker than the association between hormone contraceptive use and visits to youth health clinics. One reason for this finding may be that adolescents obtain condoms from sources other than youth health clinics. Among girls, there was a negative association between use of condoms and visits to youth health clinics. One explanation for this may be that girls visited youth health clinics for purposes other than obtaining condoms, such as obtaining oral contraceptives or speaking with a health professional about other health or psychosocial issues. Previous studies have found that visiting a youth health clinic to obtain condoms is associated with greater condom use (Parkes, Henderson, and Wight, 2005). Visits to youth health clinics for other purposes, such as obtaining oral contraceptives, was associated with lower use of condoms. These findings imply that youth health services could provide more information to their clients and emphasize the need for dual protection (i.e., condoms and hormone contraception) against STIs and pregnancy.

Geographical regions

Living in the rural regions of Finnmark and Hedmark was associated with lower condom use than living in the other regions among middle-adolescent girls and boys, supporting the hypothesis that adolescents from rural regions used condoms less frequently than adolescents in urban regions. Finnmark is among the Norwegian regions with the highest incidence of Chlamydia infections (Norwegian Institute of Public Health, 2006). Low condom use may have a role in this. Previous studies from the US found that adolescents living in rural regions were more involved in sexual risk behaviors than adolescents living in urban regions (Milhausen *et al.*, 2003). One reason for the difference in sexual risk behavior between rural and urban adolescents might be contextual. For example, adolescents living in rural regions may believe that STIs and HIV are not rural issues and therefore exhibit fewer protective behaviors (Yarber and Sanders, 1998).

Furthermore, our results showed that hormone contraceptives are more likely to be used by adolescents living in northern and southern rural regions of Norway than adolescents living in urban Oslo. Thus, the hypothesis that adolescents from rural regions will use hormone contraceptives less frequently than adolescents in urban regions is not supported. Likewise, the hypothesis that adolescents from northern rural regions are less likely to use hormone contraceptives and condoms than southern rural and urban adolescents are not supported. The reason for this result might be related to national efforts that have been carried out in the last years to prevent teenage pregnancies and decrease abortion rates. One of those efforts allows easier access to, and better counseling about, oral contraceptives for young persons. For instance, local youth health clinics were established during the early 1990s in Norway, and presently, 50% of Norwegian local authorities/councils have established local youth health clinics (Statistics Norway, 2003). As mentioned previously, nurses working at youth health clinics are able to prescribe hormone contraception to 16- to 19-year-old girls,

and contraception is free of charge or subsidized for this age group (Austveg and Sundby, 2005).

Teenage pregnancy and abortion rates have decreased during recent years in regions of Norway that previously had the highest rates (Statistics Norway, 2006; National Institute of Public Health, 2007). Our results indicate that efforts to increase the use of oral contraceptives in regions with high rates of teenage pregnancy and abortion have been successful. Nevertheless, preventive efforts regarding condom use and STI prevention among adolescents remains an important issue.

Limitations

The present study has several limitations. First, it was not possible to identify adolescents that had used both condoms and oral contraceptives. It may be assumed that only a few participants have had this option, as earlier studies found that few young people in Norway used dual protection (Traeen, Stigum, and Eskild, 2002). Second, our data is cross-sectional. Therefore, it was not possible to establish a chronological order of variables. Third, previous research has shown that variables that were not included in the present study influence contraceptive behavior, including family structure, socioeconomic status, relationship to partner, and mental health. Studying each of those variables was beyond the scope of our study.

Strengths

A particular strength of the study is the large and representative sample of adolescents, which included all 10th graders in six regions of Norway that reported at least one coital experience. The high response rate suggests that our sample was representative, and the potential for

response bias was low. The questions about contraceptive use were clear and not subject to recall bias.

Practical implications

Interventions aimed at increasing contraceptive use among middle-adolescent boys and girls to prevent unwanted pregnancies and STIs should address several points. First, our results indicate that the factors that influence contraceptive behavior are themselves influenced by gender. Therefore, safe-sex interventions should be gender specific. Second, our results indicate that effective safe-sex interventions should address several risk behaviors, including substance use and sexual risk behavior such as not using contraceptives. Third, interventions designed specifically to address condom use by boys should provide supportive environments through schools and the community. Fourth, interventions aimed at increasing use of oral contraception among girls should emphasize easy access to youth health clinics by providing information at school about available health services and where they are located. Fifth, to increase condom use among adolescents, youth health clinics should emphasize the importance of using dual protection (e.g., condoms in addition to oral contraceptives) for protection against STIs. Sixth, to increase condom and hormone contraceptive use among girls, interventions emphasizing parental monitoring should be developed, as evidence exists that programs designed to promote parental monitoring might be effective in preventing unwanted pregnancy and STIs (Stanton, Li, Galbraith, Cornick, Feigelman, Kaljee et al., 2000). Seventh, interventions to increase condom use should be accessible in vulnerable regions that require special focus and resources. Finally, interventions that are aimed particularly to increase girls' condom use should emphasize programs with focus on social skills, including assertiveness and goal-oriented training, in addition to communication and

negotiation skills that may have a positive effect on perceived self-efficacy (Bandura, 1998; Wight and Abraham, 2000).

Conclusion

The results of the present study indicate that individual, family, peer/community, and societal variables influence adolescents' use of condoms and hormone contraceptives. The results suggest that, to prevent STIs and unwanted pregnancies among adolescents, interventions should emphasize peer/community and societal factors in addition to individual and family variables.

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Table 1 Use of contraception at last intercourse among Norwegian middle-adolescents

Use of contraception	All (<i>N</i> = 4467)	%	Boys (<i>N</i> = 1958)	%	Girls (<i>N</i> = 2503)	%
No	881	19.7	357	18.2	523	20.9
Yes, condom	2566	57.4	1302	66.5	1254	50.6
Yes, hormone contraceptive	882	19.7	196	10.0	686	27.6
Yes, other	24	0.5	16	0.8	8	0.3
Do not know	72	1.6	61	3.1	11	0.4
Missing	42	1.6	26	1.3	16	0.6

Table 2 Correlations, means, and standard deviations (SD) of studied variables

	1	2	3	4	5	6	7	8	9	10	11	12	Range	Mean	SD
1. Condom use	-	a.	-.20**	-.18**	-.11**	.13**	.04	.16**	.06*	-.09**	-.02	.01	2	1.71	0.46
2. Hormone contraceptives	a.	-	-.11**	-.07*	-.09**	.07*	.03	.21**	-.002	.26***	.14**	-.13**	2	1.57	0.50
3. Smoking	-.08**	-.02	-	.34***	.28***	-.12**	-.09**	-.18**	.02	.12**	.07**	.04*	2	1.38	0.49
4. Drunkenness	-.10**	.04	.26***	-	.25***	.01	-.04*	-.16**	.06**	.09**	.05*	.02	2	1.42	0.49
5. Doping agents	-.11**	-.07	.27***	.21***	-	-.02	.02	-.24**	.004	.05*	.03	.22**	2	1.11	0.31
6. Self-efficacy	.04	.02	-.05*	.01	-.01	-	.13**	.16**	.22**	-.01	-.03	.02	4	2.88	0.52
7. Educational plans	.002	.02	-.09**	-.04	-.02	.05*	-	.05*	.04	.03	.04*	.03	3	2.29	0.78
8. Parental monitoring	.07**	.08	-.20**	-.13**	-.23**	.14**	.06*	-	.14**	-.05*	-.08**	.004	4	3.27	0.60
9. Friend support	.09**	.08	.05*	.04	-.01	.18**	.03	.22***	-	-.002	-.07**	.04*	4	3.71	0.44
10. Youth health clinic	-.004	.10*	.10**	.04	.07**	.01	.02	-.03	-.01	-	.25***	-.05*	2	1.48	0.50
11. School health service	.04	.15**	.05*	.02	.02	-.03	.02	-.06*	-.02	.29***	-	-.05**	2	1.46	0.50
12. Geographical region	-.02	-.06	.02	.02	.15**	-.01	.15**	-.04	.04	.05*	.09**	-	6	4.00	1.67
Mean	1.78	1.35	1.33	1.47	1.11	3.08	2.20	3.15	3.56	1.15	1.22	4.25	-	-	-
SD	0.41	0.48	0.47	0.50	0.32	0.58	0.75	0.68	0.53	0.36	0.41	1.72	-	-	-

Note. The results for girls ($N = 2503$) are above the diagonal, and the results for boys ($N = 1958$) are below the diagonal. * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$. a.=could not be computed because at least one of the variables was constant.

Table 3 Unadjusted and adjusted odds ratios (OR) for condom use compared to no contraceptive use at last intercourse among adolescent boys

Condom use	Unadjusted OR (95% CI) (N = 1659)	Adjusted OR (95% CI) (N = 1461)
Smoking		
<i>Never/occasionally (reference)</i>	1.0	1.0
<i>Daily</i>	0.7 (0.5 – 0.9)**	0.8 (0.6 - 1.0)
Episodes of drunkenness		
<i>Less than 10 times</i>	1.0	1.0
<i>More than 10 times</i>	0.6 (0.5 – 0.8)***	0.7 (0.6 - 0.9)*
Doping agents		
<i>Never/one time (reference)</i>	1.0	1.0
<i>Several times/regularly</i>	0.4 (0.4 – 0.7)***	0.6 (0.4 - 1.0)*
Self-efficacy	1.2 (0.9–1.4)	1.0 (0.8 – 1.3)
Parental monitoring	1.3 (1.1 – 1.5)**	1.1 (0.9 - 1.3)
Friend support	1.5 (1.2-1.8)***	1.5 (1.2 - 1.9)**
Use of youth health service		
<i>Never (reference)</i>	1.0	1.0
<i>Visit to school health service</i>	1.2 (0.7 – 1.9)	1.4 (1.0 - 2.1)
<i>Visit to youth health clinic</i>	1.0 (0.6 – 1.5)	1.0 (0.6 - 1.6)
<i>Visit to school health service and youth health clinic</i>	1.1 (0.9 – 1.9)	1.2 (0.7 - 2.0)
Geographical region		
<i>Oslo (urban) (reference)</i>	1.0	1.0
<i>Hedmark (rural-south)</i>	0.7 (0.5 – 1.0)	0.7 (0.5 - 1.1)
<i>Oppland (rural-south)</i>	0.9 (0.6 – 1.3)	0.8 (0.5 - 1.3)
<i>Nordland (rural-north)</i>	1.2 (0.9 – 1.7)	1.1 (0.8 - 1.6)
<i>Troms (rural-north)</i>	1.1 (0.8 – 1.6)	1.2 (0.8 - 1.8)
<i>Finnmark (rural-north)</i>	0.6 (0.4 – 1.0)	0.8 (0.5 - 1.4)

Note. * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$. Adjusted OR, OR adjusted for all independent variables.

Educational aspirations were included in the analysis but were not significantly associated with condom use and are not presented in Table 3. CI, confidence interval.

Table 4 Unadjusted and adjusted odds ratios (OR) for use of condoms compared to no contraceptive use at last intercourse among adolescent girls

Condom use	Unadjusted OR (95% CI) (N= 1777)	Adjusted OR (95% CI) (N= 1692)
Smoking		
<i>Never or occasionally (reference)</i>	1.0	1.0
<i>Daily</i>	0.4 (0.3–0.5)***	0.6 (0.4 – 0.7)***
Episodes of drunkenness		
<i>Less than 10 times</i>	1.0	1.0
<i>More than 10 times</i>	0.5 (0.4–0.6)***	0.6 (0.5 – 0.7)***
Doping agents		
<i>Never/one time (reference)</i>	1.0	1.0
<i>Several times/regularly</i>	0.5 (0.4–0.7)***	0.9 (0.6 – 1.3)
Self-efficacy	1.7 (1.4-2.1)***	1.5 (1.2 – 1.8)**
Educational aspirations		
<i>High school</i>	1.0	1.0
<i>Vocational study program</i>	0.7 (0.6- 0.9)*	1.0 (0.7 – 1.3)
<i>Not decided/other</i>	0.9 (0.7- 1.1)	1.0 (0.8 – 1.3)
Parental monitoring	1.8 (1.5–2.1)***	1.4 (1.2 – 1.7)***
Friend support	1.3 (1.1–1.7)*	1.2 (0.9 – 1.6)
Use of youth health service		
<i>Never (reference)</i>	1.0	1.0
<i>Visit to school health service</i>	1.0 (0.7-1.3)	1.0 (0.8-1.4)
<i>Visit to youth health clinic</i>	0.7 (0.5-0.9)**	0.7 (0.5-0.9)*
<i>Visit to school health service and youth health clinic</i>	0.7 (0.5 -0.9)**	0.9 (0.6 – 1.1)
Geographic region		
<i>Oslo (urban)(reference)</i>	1.0	1.0
<i>Hedmark (rural -south)</i>	0.7 (0.5-1.0)*	0.6 (0.4-0.8)**
<i>Oppland (rural -south)</i>	1.2 (0.8-1.7)	0.9 (0.6-1.3)
<i>Nordland (rural -north)</i>	1.0 (0.8-1.4)	0.9 (0.6-1.2)
<i>Troms (rural -north)</i>	1.0 (0.8-1.4)	1.0 (0.7-1.3)
<i>Finmark (rural –north)</i>	0.6 (0.4-1.0)*	0.6 (0.4-1.0)*

Note. * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$. Adjusted OR, OR adjusted for all independent variables. CI, confidence interval.

Table 5 Unadjusted and adjusted odds ratio (OR) for hormone contraception compared to no contraceptive use at last intercourse among adolescent girls

Contraceptive pill use	Unadjusted OR (95% CI) (N= 1209)	Adjusted OR (95% CI) (N= 1126)
Smoking		
<i>Never or occasionally (reference)</i>	1.0	1.0
<i>Daily</i>	0.6 (0.5-0.8)***	0.6 (0.5 – 0.8)**
Episodes of drunkenness		
<i>Less than 10 times</i>	1.0	1.0
<i>More than 10 times</i>	0.8 (0.6–1.0)*	0.9 (0.7 – 1.2)
Doping agents		
<i>Never/once (reference)</i>	1.0	1.0
<i>Several times/regularly</i>	0.6 (0.4–0.8)**	1.0 (0.7 – 1.5)
Self-efficacy	1.3 (1.0–1.6)*	1.2 (0.9 – 1.5)
Parental monitoring	2.0 (1.6–2.4)***	2.0 (1.6 – 2.5)***
Use of youth health service		
<i>Never (reference)</i>	1.0	1.0
<i>Visit to school health service</i>	2.2 (1.5-3.3)***	2.2 (1.5 – 3.2)***
<i>Visit to youth health clinic</i>	3.9 (2.7-5.5)***	4.3 (3.0 – 6.2)***
<i>Visit to school health service and youth health clinic</i>	4.3 (3.1-5.9)***	5.1 (3.6 – 7.2)***
Geographic region		
<i>Oslo (urban region)(reference)</i>	1.0	1.0
<i>Hedmark (rural region-south)</i>	1.3 (0.9- 1.9)	1.2 (0.8 – 1.9)
<i>Oppland (rural region-south)</i>	2.2 (1.5-3.3)***	2.2 (1.4 – 3.4)**
<i>Nordland (rural region-north)</i>	1.7 (1.3- 2.4)**	1.6 (1.1 – 2.4)**
<i>Troms (rural region-north)</i>	1.7 (1.2- 2.4)**	1.6 (1.1 – 2.3)*
<i>Finnmark (rural region-north)</i>	2.5 (1.5-4.0)***	2.4 (1.4 – 4.0)**

Note. * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$. Adjusted OR, OR adjusted for all the independent variables studied. Educational aspirations and friend support were included in the analysis but were not significantly associated with use of hormone contraceptives among girls and are not presented in Table 5. CI, confidence interval.

Table 6 Combinations of groups of substance behavior and use of condoms and hormone contraceptives compared to no contraceptive use, among boys and girls separately

	Boys (<i>N</i> =1659)		Girls (<i>N</i> =1777)		Girls (<i>N</i> = 1209)	
	Condom use OR (95 % CI)	N	Condom use OR (95% CI)	N	Hormone contraceptives OR (95% CI)	N
Substance behavior		1186		1229		657
<i>No substance behavior (reference)</i>	1.0		1.0		1.0	
<i>Only daily smoking</i>	0.8 (0.5–1.2)	135	0.5 (0.4-0.8)***	181	0.7 (0.5 – 1.1)	125
<i>Only drunkenness</i>	0.6 (0.5–0.9)*	285	0.6 (0.4- 0.8)**	235	0.9 (0.6 – 1.3)	167
<i>Only doping agents</i>	0.3 (0.1–0.8)*	22	0.5 (0.2– 1.2)	26	0.7 (0.3 – 1.9)	18
<i>Daily smoking and drunkenness</i>	0.6 (0.4-0.9)**	179	0.3 (0.2-0.5)***	208	0.7 (0.5–1.0)*	192
<i>Daily smoking and doping agents</i>	0.5 (0.3 – 0.8)**	64	0.4 (0.2–0.7)**	69	0.4 (0.2-0.8)**	43
<i>Drunkenness and doping agents</i>	0.5 (0.3 – 0.9)*	74	0.5 (0.3–0.8)**	56	0.7 (0.4 – 1.4)	43
<i>Smoking, drunkenness and use of doping agents</i>	0.4 (0.3–0.6)***	142	0.2 (0.2–0.3)***	195	0.4 (0.3- 0.6)***	178

Note. * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$. OR, odds ratio. CI confidence interval.

Appendix I

The questionnaire for the adolescents in the Oslo study.

Spørreskjema for niende klassinger

Kjære 9nde. klassing!

Vi arbeider med et prosjekt om tenåringssvangenskap og prevensjonsbruk blant 9. klassinger i Oslo. Vi er svært glade for at du vil være med på dette prosjektet ved å fylle ut dette spørreskjemaet. Det er viktig at du leser instruksjonene underveis nøye og at du besvarer spørsmålene så ærlig som mulig.

Noen spørsmål kan virke veldig like. Prøv likevel å svare så godt du kan. Alle svar er hemmelige/ånonyme. Hvis det er noen spørsmål du ikke vil svare på, så hopp over disse.

Nederst skal du fylle inn en personlig kode. Denne koden er det bare du som kjenner og derfor kan ingen finne ut hvem som har besvart dette skjemaet.

Takk for hjelpen!

Før du begynner med spørsmålene skal du lage en personlig kode som består av 2 tall og 4 bokstaver.

I de to første rutene skal du skrive dagen du har bursdag. Hvis du har bursdag 10 august skriver du **10** i de to første rutene.

I de to neste rutene skriver du inn de to første forbokstavene i din mormors fornavn. Eksempel, hvis mormor heter Olga, skriver du **OL** i de to neste rutene.

I de to siste rutene skal du skrive de to første bokstavene i din farmors fornavn. Hvis farmors navn er Grethe, skriver du **GR** i de to siste rutene.

Eksempel. Hvis du har bursdag 2. august og mormor heter Olga og farmor heter Grethe blir din kode slik:

0	2	O	L	G	R
---	---	---	---	---	---

Din spesielle kode skal du skrive inn her:

--	--	--	--	--	--	--	--

Først ber vi deg svare på noen spørsmål om deg selv.
Sett kun ett kryss ved det svaret som passer best for deg.

a. Er du gutt eller jente?

- Gutt
 Jente

b. Hvor gammel er du?

.....årmåned

c. Er mor født i Norge?

- Ja
 Nei

d. Er far født i Norge?

- Ja
 Nei

e. Hvem bør du sammen med til daglig? Sett kun ett kryss.

- Mor alene
 Far alene
 Mor og far
 Mor og stefar
 Far og stemor
 Veksler mellom mor og far
 Fosterforeldre
 Andre

f. Hva gjør din mor til daglig?

Sett kun ett kryss.

- Jobber heltid
 Jobber deltid
 Husmor på heltid
 Arbeidsledig
 Student
 Syk/arbeidsufør
 Pensjonert
 Vet ikke
 Har ikke mor

Hvis mor jobber, hva gjør hun? (eks: sykepleier, bussjåfør, industriarbeider, lærer etc.)

g. Hva gjør din far til daglig?

Sett kun ett kryss.

- Jobber heltid
 Jobber deltid
 Arbeidsledig
 Student
 Syk/arbeidsufør
 Pensjonert
 Har ikke far
 Vet ikke

Hvis far jobber, hva gjør han? (eks: bussjåfør, sykepleier, industriarbeider, lærer etc.)

h. Hva tror du at du kommer til å gjøre når du er ferdig med ungdomsskolen? Sett kun ett kryss.

- Jobbe/læring
 Yrkesfaglig studieretning
 Allmennfaglig/økonomisk administrativ studieretning
 Annen utdanning
 Være arbeidsledig
 Ta en pause
 Skaffe meg familie og barn
 Vet ikke

Vi vil nå stille deg noen spørsmål om seksualitet og prevensjon.

1. Prevensjonsmidler brukes for å unngå graviditet, skriv opp navnet på alle prevensjonsmidlene du kjenner?

2. På hvilket klassetrinn bør etter din mening skolen begynne å gi informasjon om prevensjon?

_____ klassetrinn

3. Vi du spørre følgende personer om seksuelle spørsmål?	Svært gjerne	Gjerne	Muligens	Helst ikke	Aldri
Mor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Far	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bror	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Søster	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kjæreste	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bestevenn	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Helsesøster	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lærer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4. Hvor mye har du lært om følgende tema på skolen?

Hvor du kan få råd om seksualitet og prevensjon.	Svært mye	Noe	Middels	Lite	Svært lite
Hvor du kan få råd om seksualitet og prevensjon.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Prevensjon.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hvordan du kan unngå kjønnssykdommer.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Samliv og seksualitet

De aller fleste på din alder har ikke hatt samleie eller hatt noen seksuell erfaring med en gutt eller jente, men noen kan ha hatt det. De følgende spørsmålene vil for de fleste av dere være aktuelt først når dere er blitt eldre. Du svarer på hva du mener og tror du ville gjort i disse situasjoner i framtiden.

Spørsmål 1. Her følger noen påstander om bruk av prevensjon. Kryss av der du mener passer best. Sett kun ett kryss for hver linje.

Hvis jeg bruker kondom ved et eventuelt samleie, eller i løpet av de neste tre måneder...	Svært sannsynlig	Sannsynlig	Litt sannsynlig	Verken Sannsynlig eller usannsynlig	Litt Usannsynlig	Usannsynlig	Svært usannsynlig
... blir jeg ikke gravid eller gjør noen gravid.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... vil jeg unngå kjønnssykdommer.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... vil jeg ødelegge stemningen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... kan kondomet sprekke.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... kan det bli flaut.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Spørsmål 2. Her følger flere påstander. Kryss av der du mener passer best. Sett kun ett kryss for hver linje.

Jeg er redd for:	Helt enig	Enig	Litt enig	Verken enig eller uenig	Litt uenig	Uenig	Helt uenig
... å gjøre noen gravid eller å bli gravid.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... å få en kjønnssykdom.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... å ødelegge stemningen under et samleie.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... at kondomet skal sprekke.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... at det kan bli flaut å bruke kondom.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Spørsmål 3. De følgende påstander skal bare jentene svare på.
Kryss av det du mener passer best. Sett kun ett kryss for hver linje.

	Svært sannsynlig	Sannsynlig	Litt sannsynlig	Litt usannsynlig	Usannsynlig	Svært usannsynlig
Hvis jeg bruker p-piller...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... vil jeg legge på meg.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... kan jeg bli syk.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... unngår jeg å bli gravid.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... unngår jeg å få kjønnssykdommer.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Helt enig	Enig	Litt enig	Litt uenig	Uenig	Helt uenig
Jeg er redd for...						
... å bli gravid.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... å få en kjønnssykdom.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... å legge på meg.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... å bli syk.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Dette spørsmålet svarer både gutter og jenter på:

Spørsmål 4. Å bruke prevensjon ved ett eventuelt samleie i løpet av de neste tre måneder, vil for meg være:

Sett kryss i den ruten som passer best for deg mellom de to motsatte ytterpunktene. Sett kun ett kryss for hver linje.

Riktig	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Galt
Bra	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Dårlig
Smart	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Dumt
Fornuftig	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ufornuftig
Nyttig	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Unyttig

Spørsmål 5. Hvor enig eller uenig er du i disse påstandene? Sett kun ett kryss for hver linje.

	Helt enig	Enig	Litt enig	Verken enig eller uenig	Litt uenig	Uenig	Helt uenig
Mine venner synes at jeg skal bruke kondom, hvis jeg har samleie i løpet av de neste tre måneder.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mine foreldre synes at jeg skal bruke kondom, hvis jeg har samleie i løpet av de neste tre måneder.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Min kjæreste synes at vi skal bruke kondom hvis vi har samleie i løpet av de neste tre måneder.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Her skal bare jenter svare:

	Helt enig	Enig	Litt enig	Verken enig eller uenig	Litt uenig	Uenig	Helt uenig
Mine venner synes at jeg skal bruke p-piller, hvis jeg har samleie i løpet av de neste tre måneder.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mine foreldre synes at jeg skal bruke p-piller, hvis jeg har samleie i løpet av de neste tre måneder.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kjæresten min synes at vi skal bruke p-piller, hvis vi har samleie i løpet av de neste tre måneder.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Her skal både gutter og jenter svare:

	Svært liten grad	Liten grad	Noe liten grad	Verken enig eller uenig	Noe høy grad	Høy grad	Svært høy grad
I hvor stor grad ønsker du å gjøre ...							
... som venner synes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... som foreldre synes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... som kjæresten/en du ønsker som kjæreste synes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Helt enig	Enig	Litt enig	Verken enig eller uenig	Litt uenig	Uenig	Helt uenig
Mennesker som betyr noe for meg...							
... synes at jeg skal bruke prevensjon, hvis jeg har samleie i løpet av de neste tre måneder.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... ville ønske at jeg skal bruke prevensjon, hvis jeg har samleie i løpet av de neste tre måneder.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... ville mislike at jeg skal bruke prevensjon, hvis jeg har samleie i løpet av de neste tre måneder.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Spørsmål 6. Her skal du svare på ulike påstander som handler om prevensjonsbruk.
Kun ett kryss per linje.

	Svært sannsynlig	Sannsynlig	Litt sannsynlig	Verken sannsynlig eller usannsynlig	Litt usannsynlig	Usannsynlig	Svært usannsynlig
I løpet av de neste tre måneder...							
... tror jeg ikke at det vil være kondomautomater på fritidsklubben og på skolen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... tror jeg det blir mulig å lære om bruk av kondomer på helsestasjon for ungdom.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... tror jeg det blir mulig å lære om å bli bedre til å snakke med en eventuell kjæreste om bruk av kondom.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... tror jeg at det vil bli dyrt å kjøpe kondomer.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... tror jeg at vi vil få bedre informasjon om prevensjon fra helsestøper på skolen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... tror jeg det er mulig å få informasjon fra helsestøstene om p-piller.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... tror jeg ikke det er mulig å få resept på p-piller fra helsestøstere.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... tror jeg ikke det er mulig å få informasjon om p-piller på skolen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Mye lettere	Lettere	Litt lettere	Endel lettere	Noe lettere
Det blir lettere for meg å bruke kondom hvis:					
... jeg lærer å snakke om å bruke kondom med en eventuell kjæreste.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... jeg får opplæring i bruk av kondom på helsestasjon for ungdom.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Det blir vanskeligere for meg å bruke kondom hvis...	Litt Vanskelig	Noe vanskeligere	Vanskelig	Mye vanskeligere	Svært vanskelig
... det ikke er kondomautomater på skolen og på fritidsklubben.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... det er dyrt å kjøpe kondomer.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

De følgende påstander skal bare jenter svare på:

	Mye lettere	Lettere	Litt lettere	En del lettere	Noe lettere
Det blir lettere for meg å bruke p-piller hvis ...					
... jeg får informasjon om p-piller fra helsestøstene.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... jeg får informasjon om prevensjon fra helsestøstere på skolen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Det blir vanskeligere for meg å bruke p-piller hvis...					
... jeg ikke får resept på p-piller fra helsestøstere.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... jeg ikke får informasjon om p-piller på skolen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Spørsmål 7. Her kommer en del påstander. Kryss av dem som viser best hva du synes. Sett kun ett kryss for hver linje.

	Helt enig	Enig	Litt enig	Verken enig eller uenig	Litt uenig	Uenig	Helt uenig
Hvis jeg har samleie i løpet av de neste tre måneder...							
... er det først og fremst opp til meg selv om jeg vil bruke prevensjon.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... vil jeg ikke ha noen problemer med å bruke prevensjon hvis jeg virkelig vil.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... vil det bli vanskelig for meg å bruke prevensjon.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... vil jeg selv ha full kontroll når det gjelder å bruke prevensjon.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... vil jeg ønske å bruke prevensjon, men jeg er ikke sikker på om jeg får det til.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... vil det være lett for meg å bruke prevensjon.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Spørsmål 8. Tenk deg at du er i den situasjonen som er beskrevet nedenfor. Hva tror du at du vil gjøre? *Sett ett kryss ved det som passer best for deg.*

Du er sammen med venner og andre bekjente på en hjemmealene fest. Noen har med alkohol og det drikkes en del øl. Du og partnern din går litt bort fra de andre på festen, til et eget rom og du skjønner at han/hun ønsker å ligge med deg. Ingen av dere har imidlertid kondom, eller bruker annen form for beskyttelse/prevensjon.

Hva vil du gjøre? *Sett ett kryss ved det som passer best for deg.*

	Svært sannsynlig	Sannsynlig	Verken sannsynlig eller usannsynlig	Usannsynlig	Svært usannsynlig
Ikke ligge sammen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ligge med gutten/jenta uten kondom	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ligge sammen, men avbryte samleie/hoppe av.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Spørsmål 9. Her kommer noen spørsmål om bruk av prevensjon ved samleie. *Sett kun ett kryss for hver linje.*

	Svært sannsynlig	Litt sannsynlig	Verken sannsynlig eller usannsynlig	Litt usannsynlig	Svært usannsynlig
Hvis du har samleie i løpet av de neste tre måneder...					
... har du tenkt å bruke noen form for prevensjon?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... kommer du til å bruke kondom?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... kommer du/eller jenta du er sammen med til å bruke P-piller?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... kommer du/eller jenta du er sammen med til å bruke P-sprøyte?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Spørsmål 10. Her kommer noen spørsmål om dine erfaringer med kjærester.

1. Har du hatt kjæreste?

- Ja
 Nei

2. Har du kysset noen på munnen?

- Ja
 Nei

3. Har du klint med noen?

- Ja
 Nei

4. Har du tatt noen på overkroppen eller selv blitt tatt på?

- Ja
 Nei

5. Har du tatt på noen nedentil (kjønnsorganene)?

- Ja
 Nei

Spørsmål 11. Hvis du har hatt samleie, brukte du da prevensjon ved sist samleie. *Sett kun ett kryss.*

- Ja, P-pille
 Ja, P-sprøyte
 Ja, kondom
 Ja, annen prevensjon
 Nei, angrepille
 Nei, brukte ikke prevensjon
 Har ikke hatt samleie

Spørsmål 12. Her kommer noen spørsmål du bare skal svare på hvis du har hatt samleie.
Sett kun ett kryss for hver linje.

Hvis du har hatt samleie, tenk på ditt siste samleie...	Nei, i svært liten grad	I liten grad	Verken ja eller nei	I høy grad	Ja, i svært høy grad
...angret du på dette etterpå?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...ble du bekymret etterpå?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...med bruk av prevensjon, angret du på dette?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...uten bruk av prevensjon, angret du på dette?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...uten bruk av prevensjon, ble du bekymret?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...var dette samleie planlagt på forhånd?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...hadde du samleie med en som er din faste kjæreste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...Var din partner eldre enn deg?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...presset du din partner til å ha samleie?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...ble du presset til å ha samleie?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...hadde dere drukket alkohol på forhånd?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Spørsmål 13. De følgende spørsmålene vil for de fleste av dere være aktuelt først når dere er blitt eldre. Nå skal dere svare hva dere tror dere vil gjøre i fremtiden hvis disse spørsmål kom opp. *Sett ett kryss for hver linje.*

Hvor vanskelig eller lett vil det være for deg å:	Svært lett	lett	Middels	Vanskelig	Svært Vanskelig
... si nei til noe seksuelt du ikke ønsker å være med på.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...snakke åpent med kjæresten din om sex.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... få tak i en kondom.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...bruke kondom korrekt.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...foreslå for en kjæreste å bruke kondom.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...foreslå for en kjæreste å bruke p-piller.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...finne fram til en helsestasjon eller legekontor for å få informasjon om prevensjon og bruk av prevensjon.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Spørsmål 14: Her kommer noen spørsmål om ditt forhold til dine venner. *Sett kun ett kryss for hver linje.*

	Helt enig	Enig	Litt enig	Usikker	Litt uenig	Uenig	Helt uenig
Mine venner er svært viktige for meg.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg har sterke bånd til mine venner.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg har mye til felles med mine venner.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg er mye sammen med mine venner.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Spørsmål 15. Her kommer noen påstander, kryss av om du er enig eller uenig. *Sett kun et kryss for hver linje.*

	Helt enig	Enig	Litt enig	Verken enig eller uenig	Litt uenig	Uenig	Helt uenig
Det er moralsk galt av meg å ha samleie med en gutt/jente.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg føler meg skyldig hvis jeg skulle ha samleie med noen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Det er moralsk galt av meg å ligge med en gutt/jente uten prevensjon.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg får dårlig samvittighet hvis jeg skulle ha samleie uten prevensjon.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Spørsmål 16. Tenk på en typisk jente som bruker p-piller. Hvordan vil du beskrive denne jenta? *Sett ett kryss for hver linje ved det svaret som passer best for deg.*

	Stemmer helt	Stemmer ganske godt	Usikker	Stemmer ikke særlig godt	Stemmer ikke i det hele tatt
Smart	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ansvarsløs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Flink	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dum	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Moden	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kjædelig	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Billig	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fornuftig	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Påpasselig	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Desperat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Forberedt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Umoralsk	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Innbliksk	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Populær	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Trygg	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Bare jentene svarer på dette: hvor mye ligner du på en typisk bruker av p-piller?

	Ganske ulik	Noe ulik	Verken enig eller uenig	Noe lik	Ganske lik	Svært lik
Ikke i det hele tatt lik	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Spørsmål 17. Tenk på en typisk gutt som ikke bruker kondom. Hvordan vil du beskrive denne gutten?

	Stemmer helt	Stemmer ganske godt	Usikker	Stemmer ikke særlig godt	Stemmer ikke i det hele tatt
Smart	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ansvarsløs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Flink	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dum	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Moden	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kjædelig	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Billig	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fornuftig	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Påpasselig	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Desperat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Forberedt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Umoralsk	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Populær	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Innbliksk	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Trygg	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Til guttene: Hvor mye ligner du på en typisk gutt som ikke bruker kondom?

	Ikke i det hele tatt lik <th>Ganske ulik <th>Noe ulik <th>Verken/ Eller <th>Noe lik <th>Ganske lik <th>Svært lik </th></th></th></th></th></th>	Ganske ulik <th>Noe ulik <th>Verken/ Eller <th>Noe lik <th>Ganske lik <th>Svært lik </th></th></th></th></th>	Noe ulik <th>Verken/ Eller <th>Noe lik <th>Ganske lik <th>Svært lik </th></th></th></th>	Verken/ Eller <th>Noe lik <th>Ganske lik <th>Svært lik </th></th></th>	Noe lik <th>Ganske lik <th>Svært lik </th></th>	Ganske lik <th>Svært lik </th>	Svært lik
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Spørsmål 18. Her kommer noen påstander, svar om du er enig eller uenig:

	Helt enig	Enig	Litt enig	Usikker	Litt uenig	Helt uenig
Skolen bør ikke gi informasjon om prevensjon.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tenåringer på vår alder trenger ikke å lære om hvordan man bruker kondom.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Det burde komme kondomaautomater på skolen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Heisesøster på skolen bør dele ut gratis kondomer.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Det burde bli lettere for tenåringer å få resept på p-piller.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Helt enig	Enig	Litt enig	Usikker	Litt uenig	Uenig	Helt uenig
De aller fleste forenåringar angrenar på sitt første samleie.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Man bør ikke få seksualundervisning på skolen før man er 18 år.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
En har det ikke fint uten å ha kjæreste.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hvis jeg skulle bruke kondom i fremtiden tror jeg det vil være flaut.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tenåringar bør ikke bruke angrepiller eller nødprevensjon.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Noe av det jeg er mest redd for er å bli gravid eller gjøre noen gravid.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hvis jeg ikke bruker kondom i løpet av de neste 10 år er det sannsynlig at jeg får en kjønnssykdom.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P-piller er effektive til å hindre graviditet.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
De fleste ungdommer har hatt samleie før de fyller 15 år.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A ikke ligge med noen er den eneste prevensjonsmetoden som er 100% sikker.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
En jente kan bli gravid før hun har hatt sin første menstruasjon.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
En jente kan ikke bli gravid hvis hun har samleie under menstruasjonen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P-pillen er 100 % sikker som beskyttelse mot graviditet.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Det er ulovlig for en voksen person å ha samleie med en 15 åring.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kondom er det beste prevensjonsmidlet man kan bruke for å beskytte seg mot graviditet.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Det er mulig å få en kjønnssykdom ved å kysse noen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hver måned er det en periode hvor kvinnen kan være absolutt sikker på at hun ikke blir gravid.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bare seksuelt aktive tenåringar og voksne kan bli smittet av en seksuelt overførbart sykdom.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Spørsmål 19. Noen sykdommer smitter først og fremst ved samleie. Nedenfor er det en liste over flere ulike sykdommer. Hvilke av dem tror du smitter først og fremst ved samleie?

Sett ett kryss for hver linje ved rett svar.

	Ja	Nei	Vet ikke
Klamydia	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bronkitt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Gonore	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kysseyske	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HIV/AIDS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Syfilis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lumbago	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Munn- og klovsyke	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Spørsmål 20. Her følger noen spørsmål om helsestasjon for ungdom.

	Ja	Nei	Ikke aktuelt
Kjenner du til helsestasjon for ungdom?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Har du besøkt helsestasjon for ungdom?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hvis du har vært der, fikk du den hjelp som du ønsket?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Spørsmål 21: Her kommer noen spørsmål om hva du ville gjort i visse situasjoner. Noe av dette har du kanskje opplevd og andre ting vil du kanskje oppleve i fremtiden. Sett ett kryss ved det svaret som passer best for deg. Sett bare ett kryss per linje.

	Svært lett	lett	Middels	Vanskelig	Svært vanskelig
Hvor vanskelig eller lett vil det være for deg å:					
... å si nei hvis moren din spør om du kan passe lillebror, hvis du har planlagt å gjøre lekserne til i morgen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... snakke åpent med foreldre om det som du opplever som urettferdig.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... ha venner som er av motsatt kjønn.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... si tydelig ifra hvis noen sniker seg foran deg i køen du står i.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... si ifra til de andre i klassen om at de må være greie mot den nye jenta.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... si ifra til en kjæreste at du ikke ønsker å ha sex.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... velge hva du skal gjøre etter ungdomsskolen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Helt enig	Enig	Litt enig	Verken/ eller	Litt uenig	Uenig	Helt uenig
I fremtiden...							
... er det først og fremst opp til meg selv når jeg skal ha sex med noen første gang.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... vil jeg selv ha full kontroll når det gjelder å bestemme når jeg skal ha samleie.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... vil det bli vanskelig for meg å bestemme selv om jeg skal bruke prevensjon.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... vil ikke ha noen problemer med å bruke prevensjon hvis jeg virkelig vil.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... vil jeg ønske å bruke prevensjon, men jeg er ikke sikker på om jeg får det til.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... vil det være lett for meg å bruke prevensjon.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Spørsmål 22: Her kommer noen påstander om hva du mener om deg selv.

Sett kun ett kryss for hver linje

	Helt enig	Enig	Litt enig	Verken enig eller uenig	Litt uenig	Uenig	Helt uenig
Jeg er som oftest fornøyd med meg selv.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg har det bra med meg selv	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg har ingenting å være stolt over.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg er ikke god til noe.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg kan gjøre det meste like bra som andre.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg føler meg ofte som en mislykket person.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Spørsmål 23: Her kommer noen flere påstander om hva du mener om deg selv.

Sett kun ett kryss for hver linje

	Helt enig	Enig	Litt enig	Verken enig eller uenig	Litt uenig	Uenig	Helt uenig
Jeg klarer alltid å løse vanskelige problem hvis jeg prøver hardt nok.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hvis noen motarbeider meg, finner jeg måter og veier for å få det jeg vil.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Det er lett for meg å holde meg til planene mine og nå målene mine.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg er sikker på at jeg kan mestre uventede hendelser.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Takket være ressursene mine, vet jeg hvordan jeg skal takle uforutsette situasjoner.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg kan løse de fleste problem dersom jeg bare går inn for det.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg er rolig når jeg møter vanskeligheter, fordi jeg stoler på min evne til å mestre ulike situasjoner.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Helt enig	Enig	Litt enig	Verken enig eller uenig	Litt uenig	Uenig	Helt uenig
Når jeg møter et problem, finner jeg vanligvis flere løsninger.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Samme hva som hender meg er jeg som regel i stand til å takle det.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hvis jeg er i en knipe, finner jeg vanligvis en vei ut.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Appendix II

Pilot study: group interview guide

Pilot undersøkelse

- Smågruppe interjuv med ungdom

1. Kan du gi oss noen eksempler på situasjoner hvor og når tenåringer på deres alder kommer opp i en seksuell situasjon som de ikke hadde planlagt på forhånd? De må ta et viktig valg i denne situasjonen. Situasjonen innebærer en viss grad av risiko for dem. Hva skjer i denne situasjonen?
2. Kan dere gi noen eksempler på hva ungdom på deres alder gjør for å beskytte seg mot graviditet?
3. Kan dere gi noen eksempler på hva ungdom på din alder gjør for å ikke beskytte seg mot graviditet?
4. Hva er positivt med kondom bruk?
5. Hva er positivt med bruk av p-piller?
6. Hva er negativt med bruk av kondom?
7. Hva er negativt med bruk av p-pille?
8. Hvilke personer er viktig for om du velger å bruke kondom?
9. Hvilke personer er viktig for om du velger å bruke p-pille?
10. Hvilke ting tror du gjør det lettere å velge å bruke kondom?
11. Hvilke ting tror du gjør det lettere å velge å bruke p-pille?
12. Hvilke ting hindrer dere fra å velge å bruke kondom?
13. Hvilke ting hindrer dere fra å velge å bruke p-pille?
14. Hvordan vil du beskrive/hva synes du om en ungdom som ikke bruker kondom?
15. Hvordan vil du beskrive en ungdom som bruker kondom?
16. Hvordan vil du beskrive en jente som ikke bruker p-piller?
17. Hvordan vil du beskrive en jente som bruker p-piller?

Appendix III

Questionnaire: The Norwegian Youth Health Study

Dato for utfylling: T

Dag	Måned	År
<input type="text"/>	<input type="text"/>	<input type="text"/>

U1. EGEN HELSE

1.1 Hvordan er helsen din nå? (Sett bare ett kryss)

Dårlig	Ikke helt god	God	Svært god
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4

1.2 Har du, eller har du hatt? (Sett ett kryss for hver linje) JA NEI

Astma	<input type="checkbox"/>	<input type="checkbox"/>
Hoysnue (pollenallergi, allergisk reaksjon, rennende nese, svie i øynene)	<input type="checkbox"/>	<input type="checkbox"/>
Eksem	<input type="checkbox"/>	<input type="checkbox"/>
Diabetes (sukkersyke)	<input type="checkbox"/>	<input type="checkbox"/>

1.3 Har du de siste 12 mnd hatt? (Sett ett kryss for hver linje)

Ørebetennelse	<input type="checkbox"/>	<input type="checkbox"/>
Halsbetennelse (minst 3 ganger)	<input type="checkbox"/>	<input type="checkbox"/>
Bronkitt eller lungebetennelse	<input type="checkbox"/>	<input type="checkbox"/>
Psykisk plage som det er søkt hjelp for	<input type="checkbox"/>	<input type="checkbox"/>
Alvorlig skade eller sykdom	<input type="checkbox"/>	<input type="checkbox"/>

Hvis du svarte «JA»; hva slags alvorlig skade eller sykdom var dette:

1.4 Har du følgende funksjonshemming? (Sett ett kryss for hver linje)

	Nei	Ja, litt	Ja, mye
Bevegelsehemming	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nedsatt syn	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nedsatt hørsel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

1.5 Har du i løpet av de siste 12 mnd flere ganger vært plaget med smerter i? (Sett ett kryss for hver linje) JA NEI

Hode (hodepine, migrene e.l.)	<input type="checkbox"/>	<input type="checkbox"/>
Nakke/skuldre	<input type="checkbox"/>	<input type="checkbox"/>
Armer/ben/knær	<input type="checkbox"/>	<input type="checkbox"/>
Mage	<input type="checkbox"/>	<input type="checkbox"/>
Rygg	<input type="checkbox"/>	<input type="checkbox"/>

Hvis du svarte «NEI» på alle spørsmålene under 1.5: Hopp til U2

1.6 Har disse smertene ført til at du har vært hjemme fra skolen?

Oppgi også ca. antall skoledager de siste 12 mnd: (Sett bare ett kryss)

Nei	Ja, 1-2 dager	Ja, 3-5 dager	Ja, 6-10 dager	Ja, mer enn 10 dager
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

1.7 Har smertene ført til redusert aktivitet i fritida? JA NEI

<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------

Ikke skriv her: 1.3 (skade)

8.1 (utdanning - annet)

9.5 (far født)

(mor født)

9.7 (far - yrke)

9.7 (mor - yrke)

12.5 (prevensjon)

12.6 (p-pille merke)

U2. TANNHELSE

2.1 Mener du at du har bedre eller dårligere tenner enn andre ungdommer på din alder? (Sett bare ett kryss)

Bedre	Som de fleste	Dårligere	Vet ikke
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4

2.2 Bryr du deg om at du har fine tenner? (Sett bare ett kryss)

Ja, mye	Ja, litt	Nei
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3

2.3 Hvor ofte pusser du tennene dine? (Sett bare ett kryss)

Flere ganger om dagen	En gang om dagen	Annenhver dag	Sjeldnere enn annenhver dag
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4

2.4 Har du hatt tannverk på grunn av hull? (Sett eventuelt flere kryss)

Ja, men før jeg begynte på skolen	Ja, etter at jeg begynte på skolen	Nei, aldri	Vet ikke
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

U3. MOSJON OG FYSISK AKTIVITET

3.1 Utenom skoletid: Hvor mange

ganger i uka driver du idrett/mosjon slik at du blir andpusten eller svett? ganger pr. uke

3.2 Omtrent hvor mange timer pr. uke bruker du på dette?

0 timer	1-2 timer	3-4 timer	5-7 timer	8-10 timer	11 timer eller mer
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6

3.3 Driver du med konkurranseidrett? JA NEI

(Individuelt eller på lag)

3.4 Bruker du naturen (skog og mark) til turer?

	Aldri	Ja, mindre enn 1 gang i måneden	Ja, 1 gang i måneden eller mer
Sommer:	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3
Vinter:	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3

3.5 Utenom skoletid: Hvor mange timer pr. skoledag

(mandag til fredag) sitter du i gjennomsnitt foran TV, video og/eller PC (spill og internett)?

Inntil 1 time	1-2 timer	3-5 timer	Mer enn 5 timer
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4

3.6 Hvordan kommer du deg normalt til skolen

i sommerhalvåret? (Sett bare ett kryss)

Med buss/tog e.l. (offentlig transport)	<input type="checkbox"/> 1
Med bil/moped	<input type="checkbox"/> 2
På sykkel	<input type="checkbox"/> 3
Til fots	<input type="checkbox"/> 4

3.7 Hvor lang skolevei har du? T

Mindre enn 2 km	2-4 km	Over 4 km
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3

Ikke skriv her: 1.3 (skade)

8.1 (utdanning - annet)

9.5 (far født)

(mor født)

9.7 (far - yrke)

9.7 (mor - yrke)

12.5 (prevensjon)

12.6 (p-pille merke)

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 oppjaget	<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"/>
Nedtrykt, 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	Nokså galt	Nokså 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 moter 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"/>
Dødsfall hos noen som sto deg nær	<input type="checkbox"/>	<input type="checkbox"/>
Seksuelle overgrep (f.eks. blotting, befaling, 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)

Aldri	Av og til	Omtrent en gang i uka	Flere ganger i uka
<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
Skohehelsetjenesten	<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, politi, ingeniør, journalist)	
Videregående allmennfaglig/økonomisk administrative fag	<input type="checkbox"/> 3
Yrkesfaglig utdanning på videregående skole	<input type="checkbox"/> 4
(kokk, frisør, byggfag, elektrofag, helse- og sosialfag 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. musikkanlegg o.l.)

JA NEI

8.3 Har du lønnet arbeid i løpet av skoleåret?

Hvis du svarte «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 hele tallkarakterer)

Matte Norsk skriftlig Engelsk Samfunnsfag

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

1 2 3 4

9.4 Mine foreldre er: (Sett bare ett kryss)

Gift/samboere Ugift Skilt/separert En eller begge er døde Annet

1 2 3 4 5

9.5 Hvor er dine foreldre født?

Norge Annet land Hvilket land:

Far: Far:

Mor: Mor:

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?

Ja, heltid 1 Ja, deltid 2 Arbeidsløs/trygdet 3 Hjemmeværende 4 Går på skole/studierer 5 Død 6

Far: 1 2 3 4 5 6

Mor: 1 2 3 4 5 6

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

Far: _____
Skriv kort hva han gjør på jobben:

Mor: _____
Skriv kort hva hun gjør 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 1 Bare mor 2 Bare far 3 Omtrent like mye hos mor og far 4

Mor el. far og ny samboer el. ektefelle 5 Fosterforeldre 6 Andre 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	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg blir tatt på alvor i familien min	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Familien legger vekt på mine meninger	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg betyr mye for familien min	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg kan regne med familien min når jeg trenger hjelp	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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 gjør i helgene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Foreldrene mine vet hvor jeg er og hva jeg gjør på hverdagene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Foreldrene mine vet hvem jeg er sammen med i fritida	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Foreldrene mine liker vennene jeg er sammen med på fritida	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vennene mine legger vekt på mine meninger.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg kan bidra/være til støtte for vennene mine.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeg kan regne med vennene mine når jeg trenger hjelp	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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 Antall personer

Har praktiske problemer (f.eks. m/ skolearbeidet) Antall personer

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 3 Ja, av både ungdom og voksne 4

U11. SEKSUELL ADFERD OG PREVENSJON

11.1 Har du noen gang hatt samleie? Ja, med en partner Ja, med flere partnere Nei

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? JA NEI Vet ikke

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	Daglig	Hver uke, men ikke daglig	Sjeldnere enn hver uke	Ikke brukt siste 4 uker
Smertestillende uten resept	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Smertestillende på resept ...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Allergi-medisin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Astma-medisin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sovemedisin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Beroligende medisin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Medisin mot depresjon	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Annen medisin på resept ...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

12.2 Skriv navnet på medisinen som du har krysset 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»)? JA NEI

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 Før, men ikke nå Aldri

P-pille/minipille/ p-sprøyte

Annen prevensjon

Hvilken type prevensjon?:

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