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# Condom Use at First Intercourse with a New Partner in Female Adolescents and Young Adults: The Role of Cognitive Planning and Motives for Having Sex

**Winifred A. Gebhardt, Ph.D.,[1,4] Lisette Kuyper, M.Sc.,[2] and Elise Dusseldorp, Ph.D.[3]**

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This study examined the extent to which cognitive planning and motives for sex can explain condom use at first intercourse with young females' most recent partner. A total of 133 female adolescents completed a questionnaire on cognitive planning (i.e., mentally preparing oneself for discussing condom use and for managing condoms), motives for having sex (i.e., having sex to express love, to experience pleasure, to enhance mood, and to please others), and condom use at this particular occasion. Logistic regression analyses showed that condom use was positively related to cognitive planning with respect to discussing condom use and negatively related to the motive for having sex to enhance mood. Cognitive planning for the management of condoms did not have a significant overall effect on condom use, but it did appear to be very effective for those adolescents who had a low score on the motive for having sex to express love. It thus appears useful to strengthen the skills of adolescents to discuss the use of condoms. Furthermore, stressing the negative affective consequences of unsafe sex may be particularly effective for those who are inclined to have sex to enhance mood, while encouraging adolescents to make plans for the management of condoms is likely to positively affect the use of condoms among those who are not primarily motivated to express love by having sex.

**KEY WORDS:** adolescence; females; condom use; cognitive planning; sex motives.

## INTRODUCTION

In the United States, it is estimated that 19 million sexually transmitted infections (STIs) occur annually. Almost half of the people infected are under the age of 24 (Centers for Disease Control and Prevention, 2004). In the Netherlands, which has a total population of 16 million, about 100,000 individuals contract an STI annually. Both in 2000 and in 2002, a 15% increase in newly diagnosed STI patients was observed in Dutch municipal health services and STI clinics, as compared to the percentages in the previous year. Forty percent of the newly diagnosed patients were under the age of 25 (Van de Laar, Haks, & Coenen, 2001; Van de Laar, Van Veen, & Coenen, 2003).

Adolescents and young adults have a high risk of acquiring STIs as compared to those above the age of 25 (National Center for HIV, STD and TB Prevention, 2002). Young people's sexual encounters are often unplanned, sporadic, and are sometimes the result of social pressure or coercion (Kelly & Kalichman, 1995; Lear, 1995). They tend to be insufficiently aware of the health risks of sexual intercourse (Buysse, 1996; Minichello et al., 1996). In addition, young women have a physiologically based increased susceptibility to chlamydia trachomatis, gonorrhea, and HIV (Centers for Disease Control and Prevention, 2004).

During the last three decades, young people in the Netherlands, as in other Western countries, have become sexually active at an earlier age (Vanwesenbeeck et al., 2003). The number of sexual partners during

[1]Section of Clinical and Health Psychology, Leiden University, Leiden, The Netherlands.
[2]Research Department, Rutgers Nisso Group, Utrecht, The Netherlands.
[3]Data Theory Group, Department of Education, Leiden University, Leiden, The Netherlands.
[4]To whom correspondence should be addressed at Section of Clinical and Health Psychology, Leiden University, P.O. Box 9555, 2300 RB Leiden, The Netherlands; e-mail: gebhardt@fsw.leidenuniv.nl.

adolescence has also increased (Bakker, 2004). Many of these adolescents do not use condoms consistently. In 2002, a large population study in the Netherlands showed that among 15- to 35-year-old participants 22% regarded acquiring an STI as an acceptable risk. Over two-thirds of the sample reported using a condom when having sex with a casual partner. Consistent use of condoms with a steady partner was reported by only 17% of the participants (Bakker & Vanwesenbeeck, 2002). Particularly, young females who tend to have sexual relationships with older men are likely to have unprotected intercourse (Vanwesenbeeck et al., 2003; Vogels, Brugman, & Van Zessen, 1999).

Psychological research on the determinants of unsafe sexual behavior has mostly applied a decision-making framework, including theories such as the Health Belief Model (Rosenstock, 1990), the Protection Motivation Theory (Rogers, 1975), the Theory of Reasoned Action (Fishbein & Ajzen, 1975), and the Theory of Planned Behavior (Ajzen, 1985). Within this framework, one assumes that individuals will be motivated to use condoms, once they are convinced that the benefits of doing so outweigh the drawbacks, and that they are able to perform the behavior. Subsequently, the strength of the motivation or intention to use condoms is considered to be the most proximal determinant of having protected sex. However, research indicates that only approximately 19% of the variance in condom use is explained by intentions (Sheeran & Orbell, 1998). Thus, there is a substantial gap between the intention to have safe sex and the actual use of condoms (e.g., De Visser & Smith, 2004).

One of the reasons why young people may fail to act on their intentions and use condoms is their lack of planning. Clearly, the use of condoms is a complex and multifaceted behavior. It needs to be repeated over time to be effective and involves multiple preparatory actions, including the purchasing, discussing, and correct handling of condoms (e.g., Bryan, Fisher, & Fisher, 2002; Sheeran, Abraham, & Orbell, 1999). These preparations, in turn, are complex and require well-defined cognitive strategies. For example, individuals need to deliberate on when and how to discuss condom use with their new partner. Abraham et al. (1999) found that cognitive planning distinguished female university students who did and who did not use a condom the first time they had intercourse with a new partner. In particular, planning for negotiating the use of condoms appeared to be of importance. Thus, thinking of preparations for condom use before having sex appears to enhance safer sexual behavior.

Another explanation for the fact that many adolescents have unprotected sex is that it occurs within a social situation during which other goals besides disease prevention or health promotion may play a major role (Gebhardt, Kuyper, & Greunsven, 2003). For example, sharing intimacy, experiencing belongingness, and increasing one's self-esteem are some of the goals that may be pursued when being physically intimate with a new partner (e.g., Logan, Cole, & Leukefeld, 2002; Rosenthal, Burklow, Lewis, Succop, & Biro, 1997; Weinstein & Rosen, 1991). Mental preparation for condom use does not necessarily imply that preventive measures will be taken, because the individual simply may have other priorities than disease prevention.

Thus, for many individuals, sexual behavior appears to serve a range of psychological functions, which may in turn determine whether protection is practiced. For example, Cooper, Shapiro, and Powers (1998) found in a sample of 1600 sexually experienced adolescents and young adults that having sex to cope with negative emotions or to feel better about oneself was related to risky sexual behaviors (e.g., one-night stands, intercourse in exchange for drugs or money). Browning, Hatfield, Kessler, and Levine (2000) found within a sample of college undergraduates that pursuit of pleasure within sexual relationships was negatively related to condom use. In a study by Gebhardt et al. (2003), it was found that adolescents who had had casual sex were less likely to pursue intimacy in relationships and were more likely to have sex to please others, to enhance mood, or to experience pleasure as compared to adolescents who had never practiced casual sex. Furthermore, the pursuit of intimacy in relationships was negatively related to consistent condom use in steady relationships, but positively associated with consistent condom use in casual relationships.

In this study, we combined the concept of cognitive planning with insights derived from the literature on the functional aspects of sexual behavior. Specifically, condom use by female adolescents and young adults during the first time they had sexual intercourse with their most recent partner was related to cognitive planning and the motives for having sex. We investigated to what extent cognitive planning affects condom use of adolescents and young adults and whether this effect was dependent on their motives for having sex. We hypothesized that young people with higher scores on the motives for having sex would benefit less from cognitive planning than those with lower scores on these scales. That is, we expected that adolescents would be inclined to fulfill strongly held goals, which they were pursuing by having sex, and that these goals may override previously set plans to prepare for condom use. The outcome measure chosen refers to condom use at first intercourse with a new partner, because this is a high-risk situation for which protection

is strongly recommended in all STI prevention campaigns. Furthermore, it has been found that risky sexual behaviors, once initiated, are resistant to change (Sieving et al., 1997).

## METHOD

### Participants

The 198 participants were female students attending a vocational secondary school in Leyden, the Netherlands, and were in training to become, for example, doctor's assistants, nursery school assistants, teacher's assistants. Women who had not had any sexual experience ($n = 55$) were excluded as were those for whom the sexual encounter had been the first experience for both partners ($n = 9$). There was one participant who indicated that she and her partner had both been tested for STI, including HIV. She was also omitted from the study. The 133 female participants of the final research sample had a mean age of 18.02 years ($SD = 1.77$; range, 16–26). The majority (90%) of the participants still lived with their parents, 3% lived with their partner, and the remaining 7% lived independently.

Ninety-three percent of the participants were heterosexual and 7% were bisexual. One-third of the sample had had sexual experience with 1 partner, 30% with 2 partners, 12% with 3 partners, 11% with 4 partners, 5% with 5 partners, and the remaining 10% with 6–12 partners. Almost half had had no experience with casual sex, 26% had had one casual partner in the past, 10% had had two casual partners in the past, and the remaining 15% had had between three and nine casual partners in the past.

Sixty percent ($n = 80$) of the participants had used a condom during the first time they had had sexual intercourse with their most recent partner. The most frequently mentioned reasons for not using a condom by the remaining 40% ($n = 53$) of the respondents were as follows: (1) having used birth control pills ($n = 39$); (2) not having a condom available ($n = 17$); (3) not having thought about it ($n = 17$); or (4) having known each other for a long time ($n = 14$).

For 11% of the participants ($n = 14$), the first time they had had sexual intercourse with their most recent partner had occurred within the past week, for 6% ($n = 8$) within the previous 7–30 days, for 21% ($n = 26$) within the previous 1–6 months, for 19% ($n = 24$) within the previous 6–12 months, and for the remaining 43% ($n = 52$) over a year ago. For nine participants, the data for this variable were missing.

### Measures

The items referring to cognitive preparations made before having sexual intercourse (based on Abraham et al., 1999) commenced with the statement, "Prior to having intercourse for the first time with my most recent partner I thought about . . . ." The five response categories ranged from *completely agree* to *completely disagree*. From the set of items, two subscales were constructed on the basis of principal component analysis with varimax rotation. Cognitive planning for *discussing condoms* (Cronbach's $\alpha = .77$) consisted of four items, that is, ". . . how I should mention the use of condoms," ". . . what I should say if my partner prefers not to use a condom," ". . . when I would mention the use of condoms to my partner," and ". . . how I would refuse sex if my partner appeared unwilling to use a condom." Cognitive planning for *condom management* (Cronbach's $\alpha = .81$) consisted of two items, that is, ". . . at what point a condom would have to be put on," and ". . . who would put the condom on the penis."

The items on the specific motivations for having sex (based on Cooper et al., 1998) commenced with, "The first time I had sexual intercourse with my most recent partner, I did this . . . ." Again, the answers were given on a 5-point scale, ranging from *completely agree* to *completely disagree*. Principal component analysis with varimax rotation confirmed an underlying structure of four subscales as found in our previous research (Gebhardt et al., 2003). The motive for having sex to *enhance mood* (Cronbach's $\alpha = .65$) was constructed by adding the scores of three items, that is, ". . . to cheer myself up," ". . . to feel better because I was down," and ". . . to feel better about myself." The motive for having sex to *express love* (Cronbach's $\alpha = .80$) included three items, that is, ". . . to feel emotionally close to my partner," ". . . to express love," and ". . . to feel more connected to my partner." The motive for having sex to *experience pleasure* (Cronbach's $\alpha = .64$) also consisted of three items, that is, ". . . because sex felt good," ". . . to satisfy my sexual desire," and ". . . because sex is exciting." The motive for having sex to *please others* (Cronbach's $\alpha = .88$) encompassed six items, that is, ". . . because I thought that my partner would no longer love me otherwise," ". . . because I was afraid my partner would leave me otherwise," ". . . because I was afraid that my partner would be angry otherwise," ". . . because I was afraid that others would put me down otherwise," ". . . because I was afraid that others would talk about me otherwise," and ". . . because all my friends are already having sex."

All predictor scales were constructed by adding the scores of the items and dividing the sum score by the number of items. The scores for each scale, therefore,

**Table I.** Intercorrelations Among Scales ($N = 123–130$)

| | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| 1. Cognitive planning for discussing condoms | | | | | |
| 2. Cognitive planning for managing condoms | .42*** | | | | |
| 3. Motive for having sex to enhance mood | −.03 | .17 | | | |
| 4. Motive for having sex to express love | −.12 | −.13 | .24** | | |
| 5. Motive for having sex to experience pleasure | .00 | .05 | .36*** | .20* | |
| 6. Motive for having sex to please others | .04 | .15 | .45*** | −.05 | −.09 |

*$p < .05$. **$p < .01$. ***$p < .001$.

ranged from 1 to 5. The intercorrelations among the determinants were less than .45, indicating a relative independence among the scales (see Table I).

*Condom use* was assessed by a single item (Abraham et al., 1999), requiring participants to indicate whether a condom had been used during the first time they had had sexual intercourse with their most recent partner.

## Procedure

The participants completed a questionnaire in the classroom. It was distributed to them by their teachers during regular school hours. Students were informed that it would take approximately 20 min to complete the questionnaire. It was made clear that participation in the study was on a voluntary basis and that their answers would be treated anonymously. On completion, students dropped the questionnaire in a letterbox, which could not be opened by the students or the teachers. No incentives were offered.

## RESULTS

Table II shows the mean scores on the determinants for those who had used a condom during the first time they had had sexual intercourse with their most recent sexual partner and for those who had not used a condom. In both groups, the participants were more likely to have thought in advance about how to discuss the use of condoms than to have considered issues related to the management of condoms. The motive for having sex with the highest mean score was the motive to express love, followed by the motive to experience pleasure. The motive for having sex to enhance mood, and the motive for having sex to please others both had low average scores (<2). The differences in mean scores between the two scales for cognitive planning as well as between the scales for the motives for having sex to enhance mood or to please others and the scales for the motives for having sex to express love or to experience pleasure were significant according to paired sample $t$ tests, with $p < .05$.

**Table II.** Mean Scores of Condom Users and Non-Condom Users on Cognitive Planning and Motives for Having Sex

| | Condom use | | | Non-condom use | | | |
|---|---|---|---|---|---|---|---|
| | *M* | *SD* | *N* | *M* | *SD* | *N* | *t* |
| 1. Cognitive planning for discussing condoms | 3.02 | 1.08 | 78 | 2.11 | 0.92 | 53 | 5.00* |
| 2. Cognitive planning for managing condoms | 1.81 | 1.00 | 77 | 1.55 | 0.78 | 52 | 1.60 |
| 3. Motive for having sex to enhance mood | 1.76 | 0.71 | 77 | 1.99 | 0.83 | 53 | −1.69 |
| 4. Motive for having sex to express love | 3.78 | 0.97 | 79 | 3.75 | 0.94 | 51 | 0.19 |
| 5. Motive for having sex to experience pleasure | 3.47 | 0.94 | 75 | 3.33 | 0.98 | 52 | 0.77 |
| 6. Motive for having sex to please others | 1.18 | 0.39 | 78 | 1.24 | 0.65 | 52 | −0.65 |

*$p < .001$.

Those who had used a condom had a significant higher mean score on cognitive planning for discussing condoms, $t(129) = 5.00$, $p < .001$. They also had a lower score on the motive for having sex to enhance one's mood, $t(128) = -1.69$, $p < .10$.

Logistic regression analyses were applied to identify the unique contribution of the variables in distinguishing between those who had practiced protected sex and those who had had unprotected sex. Furthermore, the unique contribution of two-way interaction effects (represented by cross-products) between each of the two scales for cognitive planning and each of the four motives for having sex was assessed. Thus, after standardization of the scales ($z$ scores), eight cross-products were computed. In the first step of the logistic regression analysis, the standardized scales for cognitive planning and the motives for having sex were entered to establish the main effects of these determinants on condom use. All main effects were included in this step in order to be able to subsequently estimate (in the second step of the analysis) the effect of an interaction variable over and above the main effects. To increase the power of the test, each cross-product was entered separately within the second step. Hence, eight different models were tested.

**Table III.** Logistic Regression: Predicting Condom Use at First Time Intercourse with Most Recent Partner ($N = 116$)

| | *B* | Wald | OR | 95% CI |
|---|---|---|---|---|
| Step 1: Main effects[a] | | | | |
| Cognitive planning for discussing condoms | .98 | 12.91** | 2.67 | 1.56–4.56 |
| Cognitive planning for managing condoms | −.04 | 0.02 | 0.96 | 0.56–1.65 |
| Motivation for having sex to enhance mood | −.70 | | 0.50 | 0.28–0.90 |
| | | 5.34* | | |
| Motivation for having sex to express love | .13 | 0.29 | 1.14 | 0.71–1.84 |
| Motivation for having sex to experience pleasure | .47 | 3.23 | 1.60 | 0.96–2.68 |
| Motivation for having sex to please others | .26 | 0.51 | 1.29 | 0.64–2.62 |
| Step 2: Interaction effect[b] | | | | |
| Cognitive planning for managing condoms × Motivation for having sex to express love | −.62 | 4.22* | 0.54 | 0.30–0.97 |

*Note*. *B* values are given for the full model (including the interaction effect).
[a] $\chi^2(6) = 22.93, p < .01$, Nagelkerke $R^2 = .24$.
[b] $\chi^2(1) = 5.23, p < .05$, Nagelkerke $R^2 = .05$. Full model: $\chi^2(7) = 28.15, p < .001$, Nagelkerke $R^2 = .29$.
*$p < .05$. **$p < .001$.

The logistic regression analysis yielded a significant regression model, $\chi^2(7) = 28.15, p < .001$, which resulted in a Nagelkerke's $R^2$ of .29 for explaining condom use (see Table III). Cognitive planning for discussing condom use had the largest effect (OR = 2.67, 95% CI 1.56–4.56). The motive for having sex to enhance mood had a negative effect on condom use (OR = 0.50, 95% CI 0.28–0.90). Finally, a significant interaction effect was found between cognitive planning for condom management and the motive for having sex to express love (OR = 0.54, 95% CI 0.30–0.97). The other interaction effects were not significant (with $p < .05$).

To interpret the significant interaction effect in the logistic regression analysis, the participants were divided into four groups based on whether their scores were above or below the median split of the two corresponding variables. A frequency procedure was then performed to establish the percentage of condom use for each of the four groups.

Thinking of condom management was particularly effective for those who had a low score on the motive for having sex to express love (see Table IV). Seventy-one percent of the participants in this group who had thought of condom management had used condoms, whereas only 43% of those who had not thought of it had had protected sex. The difference between these two groups was significant, $\chi^2(1) = 4.76; p < .05$. No other significant differences between the four subgroups were found.

The final logistic regression model led to a significant increase in correct classification percentage from 58% (independence model) to 68%. A total of 72% of those who had used a condom and 63% of those who had not used a condom were correctly classified. Taking into account prior probabilities, these results reflect a similar improvement in classification for both groups.

## DISCUSSION

Sixty-three percent of the participants had used a condom during the first time they had had sexual intercourse with their most recent partner. The most frequently mentioned reason for having unprotected sex was the use of birth control pills (39 out of 53; 74%). This is consistent with earlier findings (e.g., Gebhardt et al., 2003). Research from Kelly and Kalichman (1995) and Cooper, Agocha, and Powers (1999) suggest that within heterosexual relationships condoms are considered to be a contraceptive measure rather than a method to prevent STIs.

We found that cognitive planning for discussing condom use prior to first time intercourse had a positive effect on condom use for all participants. Similarly, Abraham et al. (1999) reported that the cognitive preparation for

**Table IV.** Percentage of Condom Use for High and Low Scorers on the Motive for Having Sex to Express Love and on Cognitive Planning to Manage Condoms

| | Cognitive planning to manage condoms | | | |
|---|---|---|---|---|
| | Above median | | Below median | |
| | % | *N* | % | *N* |
| Motive for having sex to express love | | | | |
| Above median | 63 | 32 | 63 | 35 |
| Below median | 71 | 31 | 43 | 28 |

the negotiation of condom use distinguished intenders who used condoms from those who do not. Sheeran et al. (1999) concluded from their meta-analysis that communication about condoms had the largest effect size on condom use when compared to a broad range of other psychosocial determinants, such as perceived susceptibility, perceived severity, attitude toward condoms, and condom use self-efficacy. Communication about condoms referred to either discussing condoms with a sexual partner or to the extent of agreement between partners on using a condom.

Our measure of cognitive planning to discuss condoms also included elements of both categories of communication, that is, mentioning condoms to one's partner and negotiating their use in case the partner would prefer to have unprotected sex. The mean score for this scale was around its mid-point of 3 for those who had used a condom, and a little above 2 for those who had not used a condom. This implies that our participants were reluctant to be mentally prepared for discussing condom use with their new partner. In line with this finding, Edgar and Fitzpatrick (1993) reported that college students could present highly detailed scripts on how to convey sexual interest, but that they had barely any script available for safer sexual practices, such as discussing condoms. Lear (1995) concluded from interviews with young adults that condoms are rarely discussed before having intercourse. The participants were far more likely to talk about past relationship patterns than about previous sexual experiences. Possibly, this is related to a lowered perception of risk. For example, Pilkington, Kern, and Indest (1994) reported that students who felt more positively about their partners and their relationships were both less concerned about AIDS and less likely to regard the prevention of AIDS as a reason for using condoms. Discussing issues related to condom use may well be perceived as an unnecessary disturbance of the romance experienced within the new relationship. It appears that young women do not wish to take any action that may be a potential threat to a relationship in which they have invested emotionally (Kelly & Kalichman, 1995).

In sum, female adolescents are fearful of the possible consequences of discussing condoms, including a possible disruption of the sense of trust and emotional closeness. Preparing oneself to discuss condoms with a new partner is, therefore, a difficult yet important step in the process of adopting safer sexual practices. It appears relevant to strengthen the communication skills of adolescents and to teach them how to discuss and negotiate the use of condoms. Within this context, it becomes clear that specifying intentions for the implementation of behavior (Gollwitzer & Oettingen, 1998; Sheeran, 2002), that is, to plan when, how, and where to discuss these difficult issues, may well enhance the effectiveness of STI-prevention.

In addition, we demonstrated that those who had higher scores on the motive for having sex to enhance mood were less likely to have used condoms at first intercourse with their new partner. In previous work on motivational issues related to sexual intercourse, having sex to cope with negative emotions was also related to high-risk sexual behavior (Cooper et al., 1998; Gebhardt et al., 2003). Apparently, if there is a need to relieve one's negative mood, this interferes with rational reasoning, including the consideration of the longer term consequences of unsafe sex. Interventions that stress the plausible immediate affective consequences of unsafe sex or so-called anticipated regret may therefore be highly effective (Richard, De Vries, & Van der Pligt, 1998). For example, a slogan such as "How will you feel the day after? For longer lasting kicks: Use a condom!" may influence behavior in a positive way, particularly for those who are inclined to have sex to enhance mood.

One significant interaction effect emerged from the logistic regression analysis. Although cognitive planning for condom management did not have a general effect on condom use, it did have a significant positive effect for those low on the motive for having sex to express love. It appeared that females who were less inclined to use sex as a means of expressing emotional connectedness profit from thoughts on who would put the condom on the penis, and at what moment in time this should happen. One could hypothesize that these women may feel relatively independent of their partner, and are, therefore, likely to take an active part in defining the situation in which they are physically intimate. Interventions that emphasize the importance of preparing behavioral scripts for applying condoms during intercourse with a new partner may well be of use for this group of female adolescents.

Some methodological issues need also be considered. The study was based on a retrospective, cross-sectional design. Caution is, therefore, warranted when interpreting the causal direction of the observed associations. Furthermore, for some of the participants, the intercourse they were reporting had taken place a rather long time ago, and a recall bias may have occurred. However, having sexual intercourse with a new partner for the first time is likely to be a salient experience, which is usually well remembered. Nonetheless, events that have occurred later in the relationship may have influenced the responses of the participants. Finally, the sample consisted of adolescents attending vocational high school, which is one of the lower educational levels in the Netherlands. Future studies, including

students from other types of education, and high school dropouts, should establish whether the results can be generalized to the total population of Dutch female adolescents.

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