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Condom Use Among Heterosexual Couples

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January 2002**



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Condom Use Among Heterosexual Couples
Krista Edgley
University of Ottawa

Abstract

To further understand the predictors of condom use for HIV prevention, this cross-sectional study surveyed 276 heterosexually active couples, between the ages of 16 and 29, who had been dating for less than one year. Each partner completed a self-report, multidimensional survey package and returned it via mail. Study objectives were to examine: 1) whether variables previously associated with condom use in studies of individuals (i.e., communication, attitudes toward condoms, knowledge, relationship variables), were associated with condom use in the context of the couple relationship; 2) whether there were paired-gender differences on the predictor variables; and 3) whether attachment style was associated with condom use among the couples sampled. The unique and innovative aspects of the study were its focus on couples and its exploration of the influence of attachment.

The study yielded several important results. First, congruence of partner scores regarding the perception of need for condoms safe relationships was of particular importance in predicting the likelihood of condom use. Consistent condom use was more likely to occur if both partners held a positive perception; inconsistent or non-condom use was more likely if both partners held a negative view. Second, the variables that had been previously identified as predictors in studies of individuals, taken together, helped to correctly classify inconsistent/no-condom use, but did not do so for consistent use. Third, although females reported asking questions about their partner's sexual history more often than did males, and also reported carrying the burden of the decision to use condoms, their decision was ultimately influenced by their male partner's perception of whether condoms should be used. Finally, although there were no significant relationships between attachment style and condom use, it is not possible to rule out the absence of an association owing to the inadequate representation of all attachment styles in this sample. Furthermore, significant correlations were observed between condom use predictor variables and attachment working models that represent the individual's image of other people, and the individual's image of self. Results are discussed with respect to decision-making heuristics and optimistic bias regarding HIV/STD risk perceptions, and implications for intervention strategies are suggested.

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Condom Use Among Heterosexual Couples

Review Of Background Information

Human Immunodeficiency Virus (HIV) is a blood-borne virus that is typically transmitted through one of three possible means: sexual contact, needle sharing, or blood products and transfusions. About one-half of people infected with HIV develop Acquired Immunodeficiency Syndrome (AIDS)-related symptoms and illnesses ten to eleven years following infection (Frank, 1996). With the onset of AIDS, the body's capacity for combatting disease is diminished, and the infected person becomes susceptible to a variety of infections and illnesses that are life threatening. Behaviour is the primary route for HIV transmission, and modification of behaviour is the primary mode of prevention.

In the total population, the rate of AIDS and deaths due to the disease is relatively low, however, the annual number of AIDS diagnoses among adults continues to grow (Frank, 1996). In Canada, a total of 16,236 cases of AIDS and 43,347 confirmed diagnoses of HIV have been identified since the early 1980's to the end of 1998 (Health Canada, 1999). By the end of 1998, of the confirmed diagnosed cases of AIDS, 589 were diagnosed among youth aged 10 to 24 years. In addition, 11,541 youth aged 10 to 29 years had been diagnosed with HIV (Health Canada, 1999). Individuals aged 30 to 34 years have consistently been shown to have the highest percentage of reported AIDS cases, representing over 40% of the AIDS cases reported in Canada (Health Canada, 1999). However, the estimated median age of people infected with HIV is declining. Prior to 1982, the estimated median age of people infected with HIV was 32 years; during 1983-84 the median age dropped to 27 years; during 1985 to 1990, 23 was the median age

of people infected with HIV. Heterosexual contact is reported to be the primary mode of infection for youth aged 10 to 29 years (Health Canada, 1999).

Late-adolescents and young adults, including heterosexual college students, have been shown to be at increased risk of HIV transmission due to high levels of sexual experimentation involving behaviours which place them at risk including having unprotected sex, multiple sexual partners, and using drugs and alcohol prior to/during sexual activity (Catania, Coates, Greenblatt, & Dolcini, 1989; Fisher & Miscovich, 1990; Hansen, Hahn, & Wolkenstein, 1990; Hobart, 1992). Gender has also been shown to be associated with differences in high-risk behaviours. Men engage in intercourse more frequently, and report having more sexual partners than women (Biggar & Melbye, 1992; Kegeles, Adler, & Irwin, 1988; Oliver & Hyde, 1993). Other results indicate that women are more likely to engage in safer behaviours, and worry more about contracting HIV (Baldwin & Baldwin, 1988; Biggar & Melbye, 1992).

Studies examining demographic factors associated with sexual activity have reported an increase in the rate of sexual intercourse among young people, with most youth engaging in sexual intercourse before finishing high school (Galambos & Tilton-Weaver, 1998; Herold & Marshall, 1996).

Next to celibacy and long-term mutual monogamy (as opposed to serial monogamy), condom use has been shown to be the most effective HIV preventive measure (Moore & Barling, 1991). However, a recent Canadian survey found that a substantial percentage of youth and young adults do not use condoms on a consistent basis (Galambos & Tilton-Weaver, 1998). Among sexually active 15- to 19-year-olds, 51% of females, and 29% of males, reported having

had sex without a condom in the past year. For young adults between the ages of 20 to 24, there was a higher prevalence of non-condom use, with 53% of females and 44 % of males indicating that they had had sex without a condom in the past year. A recent study examining adolescent sexual behaviour and use of protection in a sample of Ontario adolescents found that by age 17 years, 36% of males and 33% of females reported not using protection during sexual intercourse (Thomas et al., 1998). As noted by Misovich, Fisher and Fisher (1997), engaging in HIV-associated risk behaviours over extended periods of time leaves many individuals unaware of their actual HIV status. Having unprotected sexual intercourse when both partners have not been tested for HIV is a major and unrecognized source of HIV risk.

Young heterosexual adults are at risk for HIV transmission. There is a clear need to better understand the determinants of condom use decision-making and behaviour. To develop effective HIV preventive intervention programs, it is necessary to understand why some young adult couples use condoms during sexual intercourse whereas others do not.

Variables Associated with Heterosexual Condom Use

Many studies have been conducted to try and identify factors associated with condom use. A recent review and meta-analysis by Sheeran, Abraham & Orbell (1999) examined 121 studies conducted between 1984 and 1996 examining psychosocial correlates specifically related to heterosexual condom use. Many additional studies have been conducted during the last fifteen years examining HIV prevention among various other high-risk populations including homosexual males and injection drug users. The review by Sheeran and colleagues (1999) found that the

majority of studies were conducted in the United States ($k=79$, 65%). Only two studies included in the meta-analysis were Canadian-based, emphasizing the limited research being done in this country (however interest in this topic has increased in the past decade). In that review, university students were the most frequently studied population (35%), and only 25% of studies used random, quota, or household probability sampling techniques to access community samples. The remainder of the studies employed location sampling (e.g., health clinics, secondary schools, and convenience samples). Thus, many studies have focused on samples considered to be at higher risk (e.g., university samples).

Researchers have examined an extensive array of psychosocial variables and their association with HIV/AIDS preventive behaviour. These have included factors such as knowledge about HIV/AIDS and how HIV/AIDS is transmitted; motivation and intentions to engage in HIV/AIDS preventive behaviour, perceived risk and threat appraisal of contracting HIV/AIDS and sexually transmitted diseases (STDs), and attitudes toward condom use; behavioural skills associated with the initiation of HIV/AIDS preventive behaviour such as communication skills; relationship status and condom use; as well as demographic variables such as age, gender, marital status, education level, and socioeconomic status. As noted by Sheeran and colleagues (1999), the observed relationships between these variables and condom use among heterosexual populations has varied.

Knowledge, Attitudes and Motivation: The Impact on Condom Use

HIV-related information and educational programs have been widely introduced to try and

delay the age of first intercourse and to encourage the use of condoms (Caceres, Rosasco, Mandel, & Hearst, 1994; Hobfall, Jackson, Lavin, Britton, & Shephard, 1994; Kegeles, Adler, & Irwin, 1988; Kriby, Waszak, & Ziegler, 1991; Romer, Black, Ricardo, Feigelman, Kaljee, Galbraith, Nesbit, Hornik, & Stanton, 1994). However, as noted by Aggleton and colleagues (1994), interventions restricted to the simple communication of information has proven to have a very limited effect on behaviour change.

Orr and colleagues (1992) conducted a study to identify factors associated with condom use in 390 sexually active female adolescents, aged 12 through 19, who were recruited during visits for reproductive health care. Each participant was asked to complete a questionnaire probing frequency of and reasons for condom use, and about participation in high-risk sexual activities. In addition, questions were also included regarding subjects' knowledge, attitudes, and beliefs regarding STD and condoms. Finally, standard measures of self-esteem, global social cognitive maturity, self-motivation, socioeconomic status, and behavioral and emotional risks were also included. Condom practices were assessed regarding frequency of use (always, sometimes, never) for the prevention of STD, AIDS, and pregnancy; another question asked whether a condom had been used at the most recent intercourse.

There was no direct relationship between knowledge about STD/AIDS and condom use. Increases in condom use were associated with lower rates of other risk behaviors (i.e. using marijuana, alcohol), lower rates of emotional risk (i.e., feeling lonely, nervous, sad) and lower rates of STD risk (i.e., number of sexual partners; avoiding intercourse with strangers). In addition, higher rates of condom use were associated with more positive condom attitudes (i.e.,

feelings that “condoms improve a relationship”; “using condoms is responsible”). The investigators noted that the measure of attitude toward condom use in the current study differed from those used in similar studies (e.g., Kegeles et al, 1988; 1989). For this study, attitudes toward condom use reflected a sense of responsibility, caring and personal choice, whereas more negative aspects of condom use (e.g., “side effects”; “make sex seem dirty”) were included in a scale on attitudes about STD. The measure of attitudes about STDs was not significantly associated with condom use. These results suggest that attitudes which are more interpersonal or relationship-oriented are more directly related to condom use than are intrapersonal variables such as knowledge or experience-related attitudes about condom use.

Kegeles, Adler and Irwin (1988) examined changes in attitudes, intentions, and condom use in a sample of sexually active adolescents, aged 14-19 years, in San Francisco, over a one-year period. During the year, information about AIDS prevention (including condom use) via television, newspapers, billboards, and on buses, some aimed specifically at teenagers, increased. The sample comprised 234 females and 91 males seen at a university or adolescent health clinic, who were sexually active at baseline. The study assessed: a) knowledge that condoms prevent STDs; b) value placed on using a contraceptive that prevents one from getting STDs; c) importance of using a contraceptive that prevents one from getting STDs; d) perceptions of their partner's wishes regarding condom use; e) intentions ever to use condoms; and f) intentions to use condoms most of the time.

During the year between the two surveys, 40.3% of the females and 69.4% of the males reported more than one sexual partner. Overall, both males and females had high levels of

knowledge that condoms prevent STDs. Paired t-tests were conducted separately for males and females to examine changes in variables between baseline and follow-up. Females showed an increasingly strong belief that condoms prevent STDs by the time of the second survey. However, for both males and females, the majority of respondents at both timepoints indicated that they had not used condoms during the month preceding the survey. Of the females, 73% indicated that their partners had not used condoms in the month prior to the first survey, and 77% prior to the second survey. For males, 59% reported no condom use in the month prior to the first survey and 51% prior to the second survey. Both males and females agreed that using a contraceptive that prevents STDs was of great value and importance, however, importance ratings decreased over the year among females. This finding may be related to the fact that a lower percentage of females were involved with multiple partners over the course of the study, suggesting that commitment to relationship may be associated with relevance of condom use. At both time-points, females were uncertain about their partners' desires regarding condom use, and were themselves indecisive with respect to their intentions to use condoms. In contrast, males indicated at both time-points that they believed that their partners wanted them to use condoms, and also had intentions to use them, although the strength of the intention decreased during the year between surveys. Again, these results suggest that gender and relationship dynamics may play an integral role in determining whether or not individuals decide to use condoms.

Jadack, Shibley Hyde, and Keller (1995) suggest that gender differences in knowledge about HIV, risky sexual behaviour, and safer sexual practices need to be taken into consideration when developing HIV-risk preventive programs. Previous research provides support that young

women tend to view sex in emotional rather than physical terms (Carroll, Volk, & Hyde, 1985), and regard sexuality in the context of relationships (Brown & Gilligan, 1992). In comparison, males tend to be more willing to take risks (Eagly & Crowley, 1986), and are more resistant to being influenced by others (Eagly, 1987). Jadack et al. (1995) believed that gender roles may influence attitudes and behaviours related to HIV infection, and conducted a study on whether there were gender differences in knowledge, attitudes, and behaviours related to the spread of HIV.

The study included 272 participants (141 women and 131 men) who were enrolled in introductory psychology courses. One hundred and ten of the participants reported being in an ongoing relationship, of whom 23.6% (20% of women; 28% of men) reported that they had sexual intercourse with someone else during the relationship, and 73.1% of these persons (50% of women; 93% of men) stated that intercourse outside of the relationship had occurred without using a condom. Respondents completed an extensive survey that contained items regarding knowledge of HIV transmission and prevention, risk-taking behaviours with respect to HIV infection, and comfort with safer sex activities.

Overall, respondents demonstrated accurate knowledge of transmission from various sexual behaviours and intravenous needle use. However, men were significantly more likely than women to downplay the likelihood of transmission via sexual and intravenous routes. Both men and women were knowledgeable about the effectiveness of latex condoms in preventing HIV transmission. Although the sample displayed accurate knowledge regarding transmission and prevention of HIV, 85.3% of respondents reported having had intercourse without the use of a

condom. Only 29 respondents (14.7%) reported always having used a condom when engaging in intercourse.

Men engaged in risk-taking behaviours significantly more often than women. No significant gender differences were found on types of sexual risk-taking behaviours. Significantly more men than women reported that intercourse without a condom occurred in spontaneous, unplanned situations, or while under the influence of alcohol or other drugs. In addition, significantly more men than women reported that intercourse without a condom occurred with a person they had just met or did not know well. Significantly more women than men reported that sexual intercourse without a condom occurred in a long-term relationship. To explain why condoms were not used during their last incident of unprotected intercourse, a large proportion of respondents gave reasons such as “I just knew it was safe/assumed partner was not infected with HIV”; “I was more concerned about pregnancy”; or “It was unplanned, spontaneous”). Three gender differences were found concerning reasons for failure to use condoms. More women than men reported that intercourse without a condom occurred because they considered the relationship to be “long-term”; more men than women reported being under the influence of alcohol or drugs, and not having a condom available.

These findings suggest several issues related to gender differences in safer sex practices. First, it is possible that women may engage in similar levels of risky behaviour when compared to men, yet the definition of what constitutes “risky behaviour” actually differs for males and females. For example, men tend to engage in risky behaviours which can be classified as individually- oriented, and place themselves at higher risk. Women, on the other hand, may tend

to consider the relationship to be “exclusive”, “long-term”, and “committed” earlier than men, and thus feel that the relationship is therefore “safe” and this reduces perceived risk of contracting STDs. Additional research is needed to explore in more detail the attitudes and perceptions of men and women within new dating relationships toward condom use.

Miller Campbell, Peplau and Chapman Debro (1992) examined differences in condom attitudes of male and female college students. In addition, the study examined the link between condom use and condom attitudes in male and female college students. Participants were 393 unmarried, heterosexual undergraduate students (213 women and 180 men) at a university in California. Students ranged in age from 18 to 24, with a mean age of 18.6 years. Participants completed an anonymous 16-page questionnaire that included questions regarding demographic characteristics, dating experiences, and sexual history. Measures of condom attitudes and past condom use were also included. Condom attitude items comprised four domains including comfort and convenience, efficacy, interpersonal, and sexual sensation. A separate single-item measure of general condom attitudes was also included.

Students’ overall attitude toward condoms was generally neutral to slightly positive. Women were generally more positive about condoms than were men. Post-hoc t-tests revealed that women were significantly more positive than men about the comfort and convenience of condoms, while men were more concerned than women about the effects of condoms on sexual sensation and believed condoms to be marginally more effective than did women. With respect to interpersonal aspects of condom use (e.g., “Discussing the use of a condom with a partner can improve communication”; “The use of a condom might be embarrassing to me or my partner.

(R)”), women were more positive than men, suggesting that men were more concerned than women that condom use could create embarrassing or negative interpersonal exchanges. It has been noted by previous investigators (Kinnick, Smart, Bell, Blank, Gray, & Schober, 1989) that, even though women have generally been more open to discussing personal issues, concerns about sex, and reproduction, many women still do not follow safe sex guidelines. Thus, even though women express more positive attitudes toward engaging in safe sex behaviours, it is possible that the findings relate to future intentions as opposed to actual behaviour. Research should examine factors related to current condom use among young adults in relationships, as opposed to their intentions for future sexual encounters.

In their meta-analysis, Sheeran and colleagues (1999) report that knowledge of HIV/AIDS was examined in one fifth of the studies reviewed. The average correlation between knowledge of HIV/AIDS and heterosexual condom use was significant but small in substantive terms ($r = .06$). Similarly, approximately one third of the studies examined perceived susceptibility to HIV/AIDS and its relation to condom use and observed a small positive correlation ($r = .06$). To some degree condom use is associated with the belief that one is personally at risk of contracting HIV. The perception that condom use has a negative consequence for self or partner was negatively associated with condom use ($r = -.10$). Intention to use condoms and attitudes about condoms had stronger associations with heterosexual condom use. Attitudes toward condom use were examined in approximately one third of the studies, and the average correlation was $r = .32$. Similarly, reported intentions to use a condom were strongly correlated with condom use measures ($r = .43$). These results suggest that variables associated with motivation and

commitment to use condoms are more strongly related to HIV preventive behaviour than are factors involving the awareness of the threat of HIV/AIDS and the recognition that one's sexual behaviour could put one at risk of HIV infection (Sheeran et al., 1999).

Communication: A Powerful Correlate of Heterosexual Condom Use

Communication between sexual partners, whether it be general or about safer sex in particular, has surfaced as one of the strongest predictors of consistent condom use (Kelly & Kalichman, 1995). The predictive power of communication skills is greater than such variables as condom attitudes, efficacy beliefs, AIDS anxiety, and HIV serostatus testing history (Catania, Coates, Kegeles, et al., 1992; Sheeran et al., 1999). Sheeran et al. (1999), found that the largest effect size for any variables included in the meta-analysis was obtained for communication about condoms ($r = .46$). Communication about condom use was operationalized in terms of whether condom use had been discussed with a sexual partner or whether there was agreement to use a condom. Communication about STDs or AIDS had a small positive relationship with condom use ($r = .11$).

It has been found that communication about AIDS is largely superficial. For example, Michal-Johnson and Perlmutter Bowen (1989) found that the level of talking about AIDS reported by college students did not involve discussion about issues related to AIDS and the current relationship; in fact, the talk which occurred was most often externally referenced, initiated in casual ways or in a joking manner, and often prompted by a media account of AIDS. There was little evidence to suggest that talk about AIDS was related to the subjects' own

relationships. Some students seemed to be aware that talking about AIDS would change their relationships. Reasons given for not talking about AIDS with a partner were that it would “violate trust” or “ruin the relationship”, or that the topic was “too serious”.

Attempts have been made to profile how sexual partners attempt to gain information from partners. Edgar and colleagues (1992) examined the ways in which potential sexual partners attempt to seek information about one another and the strategies they use to persuade their partners to use condoms. Two hundred and four college students participated in the study, all of whom indicated that they had had sexual intercourse with a new partner of the opposite sex in the previous 12 months. Descriptive data did not indicate whether the participants were in a relationship at the time of the study. Participants were surveyed on: 1) their communication behavior during their most recent experience of having sex for the first time with a new partner; 2) hypothetical scenarios of barriers to condom use to which the participants had to respond; and 3) questions about their perceptions of their risk for AIDS and about their past sexual experience. Forty-three percent of the participants indicated that a condom was used the last time they had sex with a new partner.

Several questions in this study related to information seeking. The first research question identified the types of information that individuals want to know about their partners as they enter sexual interactions. For both males and females, results concerning information seeking were fairly consistent. The most commonly cited question was “the number of previous sexual partners she or he had before me”. Others were when the partner last had a new partner, and whether or not the partner currently was involved with someone else. Both groups expressed little concern

about asking about their partners' homosexual activities, AIDS symptoms, experience with anal sex, or IV drug use. Thus, salient topics for participants to communicate about tended to be relational in nature as opposed to health risk related. As noted by Edgar et al. (1992), the desire for individuals to know about a partner's past sexual involvements may not be an attempt to assess the likelihood of disease transmission, but may actually be related to the individual's ability to gauge the current relationship potential (i.e., whether the relationship has the potential to be short-lived and casual, or may be characterized by commitment and exclusivity). The need for such information may be dependent on the individual's attachment style. Feeney and Raphael (1992) note that attachment style is related to relationship ideals, and thus, may moderate the emphasis which an individual places on a partner's past and current sexual involvements.

The second research question examined the relationship between the types of information individuals wanted to know about their partners and their use of condoms. Cross-tabulations were performed between participants' indication of condom use (i.e., used vs. not used during last sexual encounter with a new partner) and participants' concern about each of the information-seeking questions (i.e., whether the question had crossed participant's mind vs. did not cross mind). For women and men, only one statistically significant relationship emerged. Women who gave thought to their partners' feelings about using condoms tended to use condoms more often than men. These results provide further support that interpersonal perceptions are more important than perception of health risk when decisions are being made to introduce condoms in sexual relationships.

A third question asked about the types of strategies individuals employed to gain the

information they desired. Three broad classes of information-seeking strategies were used: passive, active, and interactive. A passive strategy was defined as one in which a person obtains knowledge about someone else without him or her knowing that the information is being gathered (e.g., direct observation); an active strategy involves the accumulation of information in such a way that the observer and target have no direct contact, but the observer manipulates some factor to affect the response of the actor (e.g., asking others about the person); finally, an interactive strategy uses direct contact between the observer and the target. Respondents relied primarily on interactive strategies, with the most frequently used strategy being to “ask the partner directly”. This strategy was employed most often for all questions except one: the question about the partner having AIDS symptoms. Overall, very few participants claimed to be concerned with this issue. Of those who did cite this question as a concern, the majority indicated using a passive approach (i.e., “could tell from the partner’s appearance”) as the information-seeking strategy of choice. These results suggest that if a sexual topic is perceived to be important enough, individuals will directly seek out the information from a partner. However, it is difficult to know, based on the results of this study, to what extent individuals typically or consistently seek information from their partners.

An additional question addressed by this study concerned the types of influence strategies used to persuade a sexual partner to use a condom? Participants were first asked about whether or not a condom was used the last time they had their first sexual experience with a new partner. If the response was negative, they were subsequently asked a series of questions about any condom-related communication that did occur and were asked to identify reasons why a condom

was not used. If a participant indicated that a condom was used, they were asked to describe the interaction, focusing on the messages about condom use that were exchanged.

Results showed that 57% of participants reported that a condom was not used the last time they had sex with a new partner. Only 1/3 of the nonusers indicated that they had wanted to use a condom. Female nonusers who indicated that they had wanted to use a condom, were less likely to communicate their wishes to their partners than were males. The most often cited reasons for lack of communication were embarrassment or discomfort about asking, fear of ruining the moment, and feeling that the issue was irrelevant because other forms of birth control were used. The strategy most often employed by nonusers to communicate their preference was a direct request. For participants who indicated that they had used a condom the last time they had sex with a new partner, 45% indicated that the male partner had initiated condom use, 51% indicated female partner initiation of condom use, and 4% reported joint initiation. In describing the strategies employed to communicate their preference for condom use, women were more likely to use a power (punishment) strategy (e.g., “no condom, no sex”) or demand or request directly that a condom be used. In contrast, men indicated that their strategies were nonverbal (i.e., using a condom without consulting partner). Finally, participants who had used condoms were asked to describe their partners’ reactions to the strategies used to initiate condom use. Results revealed that in 83% of the interactions, the response to initiate condom use was compliance (i.e., immediate verbal agreement or actually putting the condom on). Even though a request to use a condom is likely to be met without resistance by partners, a large proportion of individuals still do not insist on their use.

It has been suggested that many people avoid discussion of AIDS and condom use because they are unaware of their partners' thoughts about the issue and are wary of the relational implications of such discussions (Baffi, Schroeder, Redican, & McCluskey, 1989). Locke, Ferguson and Wise (1998) conducted a study to describe how males and females in late adolescence perceive communication about sexual risk behaviour with their sexual partners. A grounded theory approach was used to explore the communication process between male and female sexual partners about sexual risk behaviour. Participants included 14 men and 18 women from a public university in the southeastern United States. Participants were required to complete one semistructured interview, lasting approximately 30 to 90 minutes in length. Participants were matched with same-gender interviewers.

The interview guide was composed of open-ended questions focused on characteristics of communication about sexual risk behaviour (i.e., having multiple sexual partners; having sexual intercourse without using a condom; having sex with someone infected with an STD or HIV; having sexual intercourse with someone who uses or has used IV drugs). The study focused on participants' recollections and perceptions of communication with their sexual partners, not the actual communication that took place, and thus may not have been representative of the actual discussions with their sexual partners.

Key results were that the more participants trusted their sexual partners, the more likely they were to talk with their partners about sexual risk behaviour. Factors associated with building trust in a relationship included how well and how long individuals knew their partners. In addition, women tended to build their trust in a partner by indirect assumptions (e.g., assuming

that partner did not have HIV because he was an athlete and was tested for drugs through his involvement in sports; because he was in the military or had donated blood; knowing who he hung around with); whereas men indicated that they could instinctively trust their partners. Women were more likely to initiate safe sex talk, but dialogue often broke down if her partner was not willing to continue the discussion. Male participants indicated that they were willing to engage in safe-sex talk, but were unlikely to initiate it. Several intervening factors made it easier for women to engage in safe-sex talk including having increased knowledge about reproduction, contraception, and sexual risk behaviour, and having previous sexual experiences (i.e., greater number of previous sexual partners). Women admitted that they were less likely to engage in safe-sex talk with a partner if under the influence of alcohol. Although trusting their partners led to the ability to engage in safe-sex talk, it often did not lead to safe sex practices. Many participants demonstrated trust in their partners by engaging in unsafe sexual practices. These results suggest that, by the time individuals feel like they can discuss the issue of safe-sex with partners, they believe they are at a point in the relationship where trust, however determined, overrides the perceived necessity for AIDS risk-reduction behaviour.

In summary, communication has been shown to be one of the strongest correlates of condom use in heterosexual couples. If an individual requests a partner use condoms in the relationship the partner will usually comply with the request. However, it is apparent that little communication happens. Relationship factors likely play an important role in whether an individual actually communicates with a partner about HIV and condom use but these have been less-well explored. Factors such as trust and commitment appear to act as deterrents to

discussion as they may be associated with threats to the relationship. In addition, there is a suggestion that by the time individuals feel comfortable enough in their relationship to discuss safer-sex, they have already had unprotected sexual intercourse and believe they have sufficient basis to trust the partner enough to not use condoms. Although communication about condoms has been shown to be strongly associated with condom use, simply teaching communication skills is not in itself sufficient. Interactional patterns and aspects of the relationship, such as trust and commitment, and moderate communication are likely to be necessary targets for intervention.

Use of Knowledge and Communication in Interventions To Modify Condom Use

Although provision of knowledge is an ineffective means to increasing condom use, programs focused on altering behavior have proven more beneficial. For example, Wenger and colleagues (1992) evaluated the effectiveness of education about AIDS and of HIV antibody testing in reducing the risk behaviours associated for HIV transmission in heterosexual college students. To evaluate the effect of education alone and of education plus HIV testing, the investigators randomly assigned students to one of three groups: no intervention, education alone, and education plus HIV antibody testing. Participation in the study involved completing a baseline questionnaire, participating in an intervention, and completing a follow up questionnaire. Four hundred and thirty-five students, with a mean age of 23 years ($\pm$ 5 years), who attended a health outpatient clinic at a major university in the United States completed the baseline questionnaire and were randomly assigned to one of the intervention or control groups. Three hundred and seventy participants completed the follow up questionnaire. Seventy-two percent of

the sample was female, with 96% being unmarried, and 63% having had vaginal or anal intercourse without the use of a condom with last sexual partner. The self-administered questionnaires included items to elicit demographic information; knowledge about AIDS; mental health status; worry about general health; and information about their last sexual partner. Communication with sexual partners was evaluated by determining if participants had asked their most recent partner whether he or she had been tested for HIV and, if so, what the result was; whether that partner had used intravenous drugs; and how many previous sexual partners that partner had had. Sexual behaviour was measured as the number of sexual partners participants had had in the past month and the number of sexual acts participants had with and without condoms in the past month with all sexual partners and with their most recent sexual partner.

At follow-up, knowledge of AIDS had increased significantly ($p < .001$) in all groups, with no difference being found between participants in the control group versus the two intervention groups who had received education. In addition, no significant differences were found at follow-up for rate of condom use among the three groups. However, communication about a sexual partner's chance of carrying HIV improved during the study period and was different among groups. The increase in "question-asking" about HIV status observed in participants receiving the combined intervention of education plus HIV testing was significantly greater than that in controls. The increase in question-asking observed among participants receiving education alone did not differ significantly from that observed in controls. Combining education programs with HIV antibody testing may stimulate health communication which takes place between an individual and his/her partner, but is not sufficient to influence HIV risk-preventive behaviour.

Increased communication may occur after the individual and his/her partner have engaged in intercourse and decided that condom use is unnecessary.

Hobfoll and colleagues (1994) examined behavioral change associated with an intervention program focused on AIDS-specific knowledge and skills. Two hundred and six single, pregnant, inner-city women were randomly assigned to a 4-session AIDS-prevention group or to one of two controls, a health-promotion group or a no-intervention group. For the two intervention groups, the central theme of the sessions was to formulate and apply a sound health action plan. Videotaped segments were used to illustrate a set of competencies including assertiveness, negotiation skills, planning skills, and specialized skills (e.g., cleaning drug works), and to promote role-playing and discussion within the groups. However, the content of the videotaped segments differed according to intervention group. For example, when the competency of focus was assertiveness, the AIDS-prevention group viewed models presenting assertiveness for refusing sex without a condom, whereas the health-promotion group viewed segments presenting assertiveness to turning down alcohol. Outcome variables included safer sex knowledge, discussion of AIDS with partners, safer sex intentions and behaviors, condom and spermicide usage in vaginal sex, condom and spermicide usage in anal sex, condom acquisitions, spermicide acquisitions, and number of partners in the past year. Women in the study completed instruments and items related to the outcome variables at pre-group involvement, post-group involvement, and six-month post group involvement.

At post-test the AIDS-prevention group had significantly higher levels of safer sex knowledge than did the no-intervention group, initiated discussion of AIDS-related behavior with

their partners significantly more than the no-intervention group, displayed a significantly greater level of safer sex intentions and behaviors than either the health-promotion group or the no-intervention group, had significantly higher rates of condom and spermicide usage for vaginal sex than did the no-intervention group, and had significantly higher rates of condom and spermicide acquisition than did the no intervention group. Overall, an intervention program focused on AIDS-specific knowledge and skills, in conjunction with enhancing relationship skills such as communicating with a partner and being assertive with a partner, can increase AIDS preventive behaviour. However, it is difficult to ascertain the extent to which the relationship context was influential. For example, it is not possible to delineate the extent to which the introduction of AIDS risk reduction expectations were met with partner acceptance or resistance between the various groups. In addition, stability of the relationship may have been related to changes in safer sex behaviours. Investigators noted that the present sample was at a stage in life (i.e., pregnant) when changes in partners was lower than at other times.

Horn and Brigham (1996) investigated the effectiveness of a self-management skills training program in modifying at-risk sexual behaviors among a group of 51 college-aged heterosexual, sexually active, multiple partnered, males and females. Participants ranged in age from 18 to 28 years, with a median age of 20 years. Thirty participants were female and 21 were male. All participants in the study received the same self-management skills training program in a group format where both males and females were present; thus, there was no control group included in the study. The self-management skills training program stressed three fundamental determinants of AIDS risk-reduction: Providing information about AIDS transmission and

prevention, providing motivation to reduce the risk, and providing the behavioral skills for performing acts involved in risk reduction. The investigators noted that a major difference between the intervention in this study and previous interventions was that the present intervention required participants to develop their own set of behavioural expectations (i.e., their own Individual Action Plan(IAP)), as opposed to being given a procedure to follow. The IAP required the individual to consider his/her own situation and behaviour patterns, his/her own values and goals, and his/her own behaviour/environment interactions. The analysis focused on self-reported changes related to condom use and other "safer sex" practices measured before, during, and after participation. The assessment instruments surveyed sexual history and behavior, specific attitudes towards AIDS risk and condom use, and sexual communication skills. It was hypothesized that by participating in the self-management skills training program participants would increase the frequency of condom use and condom-use dialogue.

Mean condom use reported was 0.40 times during the month prior to the study, compared to a mean intercourse frequency of 10.80 times. Discussion of condom use was limited. Over the course of the three-week training program, significant increases were observed in the number of times condoms were used, the number of times participants reported discussing condoms with his/her partner, the number of times participants purchased or picked up free condoms, and the ratio of condom use to intercourse frequency. There were no significant gender differences.

On instruments examining attitudes and beliefs, low pre-test scores were noted with regard to self-control, effect of condoms on sexual experience, relationship safety, and intent to use condoms. The authors noted that low post-test subscale scores for effects of condoms on

sexual experience and intent to use condoms were consistent with prior research showing that this population had a negative attitude towards condom use, believing that it decreases sexual pleasure. The subscales examining self-control and relationship safety had the largest percentage change from pre-test to post-test. The self-control subscale included items related to whether the participant would use a condom in situations of sexual impulse control (e.g., “I’m concerned about catching AIDS (or other sexually transmitted diseases), but there might be some situations when I wouldn’t be as careful as I ought to be). Participants became more positive about their self-control after participating in the intervention. The Relationship Safety subscale contained items concerning whether the participant felt condoms are needed in committed relationships (e.g., “A condom is not necessary when you know enough about the person to trust his/her word about his/her past”). Again, the increase in subscale scores from pre-test to post-test indicated that, following participation in the intervention, participants felt more strongly about using condoms even in committed relationships.

Providing education about HIV in conjunction with a self-management skill training program may be an effective means of increasing condom use. Although the investigators suggest that the difference in the effectiveness of the current program relates to the individual action plan, and thus, the tailoring of the intervention, it is impossible to determine the extent to which relationship factors may have influenced outcomes. For instance, participants had the opportunity to engage in discussions and role plays in co-ed groups. It provided the opportunity for participants to practice new skills (e.g., discussing safe sex practices) in a safe, but realistic setting; receive feedback from members of the opposite sex with respect to revising and

improving these skills; and then finally to transfer the skills to real-life partners and potential partners. Interacting with a partner may have an impact on attitudes toward condom use within relationships. Without a control group, it is difficult to determine what might account for the apparent success of this program.

Overall, when HIV preventive information is included within a program which enhances relationship skills, condom use increases. In addition, gender differences in attitudes and motivation have also been shown to be associated with condom use. However, despite these results, intervention studies have addressed developing individual skills for condom use. No study was found that attempted to address relationship factors or skills in the context of a dyadic partnership, where both male and female differences need to be accounted for. Considering that the decision of whether to use a condom or not takes place within a relationship, it would seem imperative to examine factors associated with condom use from a dyadic perspective.

Relationship Variables

Duration of relationship and commitment to relationship have been shown to be related to condom use, with higher levels of condom use being observed early in a relationship or in casual relationships (Ku, Sonenstein, & Pleck, 1992; Metts & Fitzpatrick, 1992; Santelli, Kouzis, Hoover, Polacsek, Burwell, & Celentano, 1996). Ku, Sonenstein, and Pleck (1992) found that, in a United States national probability sample of 19-to 22-year-old men, 53% of respondents used a condom at first intercourse with a sexual partner but decreased the use of condoms in subsequent episodes of sex with the same partner. More frequent sex with a partner has also been shown to

be related to higher incidence of unprotected sexual intercourse. Eich-Hochli and colleagues (1998) examined predictors of unprotected sexual contacts among 117 HIV-infected heterosexual or gay persons who reported sexual intercourse at least once (vaginal and/or anal) in the 6 months preceding the study. Twenty-six percent indicated that they had had at least one unprotected vaginal and/or anal contact (i.e., no condom use) during the six month pre-interview period. The main predictor for unprotected sexual behaviour with regular partners was a higher number of sexual contacts.

In a review of the literature, Misovich and colleagues (1997) indicate that people hold incorrect HIV prevention heuristics which are the basis for decisions that result in unsafe sex in their relationships. For instance, the concept of “monogamy” within a relationship is often taken as evidence of low risk- that their sex is safe (Maticka-Tyndale, 1992; Misovich, Fisher, & Fisher, 1993). For example, Thompson, Anderson, Freedman and Swan (1996) found that, among a sample of undergraduate students, a significant negative correlation was found between being in a “monogamous or committed relationship” and both past condom use and future condom use.

Unfortunately, the relationship pattern which usually occurs is not one of true monogamy, rather serial monogamy. Serial monogamy occurs when two individuals enter into a sexual relationship, are faithful to each other until the relationship ends, and then proceed to the next sexual relationship (Locke, Ferguson, & Wise, 1998). During each relationship where the partners remain monogamous, the exclusivity of their relationship permits a perception of low or no risk, which results in the decision that condom use is not warranted. Any relationship where one or both partners have had previous sexual partners confers some degree of risk if precautions

are not used. Precautions would include abstaining from sex altogether, having HIV tests on each partner, or using a condom (Roper, Peterson, & Curran, 1993).

In addition to the *monogamous-relationships-are-safe-relationships* heuristic, other incorrect heuristics (i.e., decision rules that are automatically invoked to decide whether or not HIV prevention is necessary with a particular partner) have been related to reduced preventive behaviours in couples (Misovich, Fisher & Fisher, 1996). These include: 1) the *known-partners-are-safe-partners* heuristic (i.e., sex with someone you know is not risky); 2) the *trust* heuristic (i.e., trusted partners are safe partners); and 3) the *it's-too-late* heuristic (i.e., if unsafe sexual contact has already happened, it is too late to protect oneself).

Condom use in a committed relationship is often construed as representing distance/formality rather than intimacy, or may raise suspicions of infidelity (Fullilove, Fullilove, Bowser & Gross, 1990; Mays & Cochrane, 1988; Sacco, Levine, Reed, & Thompson, 1991). It has been found that college students base their decisions to practice safer sex with a potential partner on characteristics such as likability, warmth, and kindness, domains which are irrelevant to actual risk (cf. Kelly & Kalichman, 1995). They note it is possible that when an individual develops feelings of trust toward a partner, those feelings negate the perceived need to practice safer sex because the partner is not viewed as a potential risk.

A study by Santelli, Kouzis, Hoover, Polacsek, Burwell and Celentano (1996) also suggests that factors related to relationship appear to be central to women's use of condoms with their main partner. This study examined the influence of relationship factors, pregnancy intentions, contraceptive behaviour and other psychosocial characteristics on readiness to use

condoms. Data were obtained from 625 women in a 1993 street survey from two inner-city neighborhoods in Baltimore. The analyses compared women who were not contemplating condom use versus women who were attempting to use condoms or had used them consistently for short periods of time, and those who had been able to maintain long-term consistent use. Predictors of readiness for condom use were divided into five conceptual groupings including: demographic variables (e.g., age; education); social factors concerning the woman's relationship with her main partner (e.g., cohabitation with main partner; length of relationship) and perceived social support (e.g., partner's support for condom use); items related to pregnancy intentions and contraception (e.g., trying to get pregnant); outcome expectancies (e.g., it is unpleasant to use condoms; use of condoms builds trust), HIV risk (e.g., worried about HIV; could get HIV from main partner if condoms not used) and receipt of HIV testing (e.g., ever tested); and items concerning response efficacy (e.g., belief that condoms build trust) and self-efficacy (e.g., easy to talk to partner about condoms; was able to refuse sex when no condom available).

In terms of condom use with their main partner, most women (50%) were in the precontemplation stage of readiness (i.e., using a condom less often than "almost every time" and "unsure" or "unlikely" to use condom in next 6 months); only 14% were in the maintenance stage (i.e., using condoms at every act of intercourse for more than 6 months). Among women with other types of partners, relatively fewer were in the precontemplation phase (18%), but more were in maintenance (41%). Among women who had both a main partner and other partners, only 6% were in precontemplation for condom use with other partners, while 37% were in maintenance. The predictors which had the greatest impact on the transition to consistent

condom use with the main partner, were 1) cohabiting with the main partner; 2) believing that condoms build trust with the main partner; and 3) having used oral contraceptives at last intercourse. Belief about condoms building trust was related to a higher level of readiness; cohabitation and pill use were associated with a lower level of readiness. Other, less important, predictors of a higher level of readiness included being older, believing that condoms do not slip or break, and reporting having refused sex because of fear of getting an STD. Risk factors, both personal- and partner-related, were only associated with the first transition (i.e., risk factors were associated with greater intentions to use condoms), as opposed to the second transition (i.e., risk factors were poorly associated with long-term behaviour change). For women reporting partners other than a main partner, having a concurrent main partner was associated strongly with developing intentions to use condoms with other partners.

These results provide support that type of partner is an important influence on condom use. Women were much less likely to be contemplating condom use with a main partner, and much more likely to be using condoms if in a casual relationship or a non-monogamous relationship (i.e., main partner plus other). Interventions which are directed at increasing male support, or the support of both partners, for condom use might have a much more powerful effect on condom use than those directed at women alone. However, little data is available to suggest what exactly should be included in an intervention focused on the dyadic relationship.

Misovich, Fisher, and Fisher (1997) note that over the course of a relationship, motivation to engage in AIDS-preventive behaviours may be reduced because of psychological processes associated with the couple's increasing interdependence and investment. For example, within an

intimate relationship it is expected that there will be a shift in focus from individual self-enhancement and self-protection to relationship enhancement and relationship maintenance. Hammer, Fisher and Fisher (1996) conducted same-gender focus groups to identify why individuals in intimate relationships engage in higher levels of HIV risk behaviour than do individuals engaging in casual sex. Participants included 34 male and 45 female college students who were involved in intimate heterosexual relationships (i.e. monogamous dating situation). The modal reported duration of relationship was approximately 5 months. Participants were questioned about their feelings and their partner's feelings concerning condoms and HIV testing, and about how their intimate relationship had affected, or been affected by, initiating or not initiating condom use or HIV testing.

Preliminary analyses revealed that all participants were familiar with condoms and HIV testing, and were able to discuss their reasons for using or not using these methods of HIV prevention. In addition, overall, participants revealed higher levels of knowledge regarding HIV transmission and prevention of HIV. However, as has been found in other studies, knowledge did not translate into actual risk-reduction behaviour; only about 10% of participants had been tested for HIV, and only 52% reported using condoms consistently.

Results were organized according to various themes, including *Beliefs About Condoms, Switching From Condoms to Oral Contraceptives, Perceptions of Risk, Communication, Trust in Intimate Relationships, HIV Testing, and Gender Issues*. Generally, individuals in relationships generally considered themselves to be relatively safe. In addition, although issues regarding communication, concerns about gender roles, and beliefs about the safety of monogamous

relationships were relevant to the practice of risky sexual behaviour, issues concerning relationship maintenance and interpersonal trust seemed to be dominant. More specifically, participants felt that HIV-relevant topics such as condom use and HIV testing would violate the trust they and their partners achieved and would threaten their relationships. These results support previous findings that continued condom use in a developed relationship is often construed as representing distance/formality rather than intimacy, or may raise suspicions of infidelity (Fullilove, Fullilove, Bowser & Gross, 1990; Mays & Cochran, 1988; Sacco, Levine, Reed, & Thompson, 1991). In order to protect their relationship from conflict and disruption, partners are unlikely to introduce condom use or HIV testing into their relationship, even if it means exposing themselves to increased risk of HIV infection (Hammer, Fisher, & Fisher, 1996).

Misovich, Fisher, and Fisher (1997) describe unpublished data examining the tendency of heterosexual college student couples to switch from safer to unsafe sexual practices across the development of a relationship, but without HIV testing. Ninety-five couples in long-term monogamous relationships were asked to describe in detail the history of preventive behaviour within their relationship. Safe sexual practice was referred to as the couple reporting consistent condom use, or if both members of the couple had been tested for HIV and were HIV negative. Two-thirds of the couples initially reported behaviour that was safe, but fewer than 1/3 reported safe practices at the time of the study. A pattern of switching from condom use to birth control pills (without being tested for HIV) as the relationship became more "serious" was found. The investigators noted that common explanations related to unsafe behaviour were knowing the partner better, trusting the partner more, and knowing each others' sexual histories. Again, this

study provides support that interpersonal relationship factors such as perceived trust are more influential in decision-making than are factors which confer risk.

Studies examining HIV risk behaviours in close relationships suggest that, although people may consider sex with casual partners to be risky, and take precautions in the context of casual or transient relationships, it is much less likely that a partner toward whom one feels (or wants to feel) close, affectionate, or has loving feelings will be viewed as a health threat (cf. Kelly & Kalichman, 1995). To initiate condom use is often equated with a lack of trust in one's sexual partner (Sacco, Levine, Reed, & Thompson, 1991). In addition, although communication between partners with regard to condom use is a powerful predictor, by the time partners feel comfortable enough in the relationship to discuss the issue of sexual risk behaviours, the trust within the relationship overrides the "felt" need to actually communicate about it. Thus, although health-risk communication has been shown to be one of the strongest correlates of heterosexual condom use, studies of intimate relationships suggest an inverse relationship between level of trust within the relationship and condom use. Unfortunately, the majority of the studies examining HIV risk behaviour in relationships have sampled individuals who may or may not be in close relationships. Many studies ask individual participants' about his/her own views and/or behaviours, without associating the information to a current relationship. It is plausible that dyadic factors such as differing partner perceptions in trust, relationship satisfaction, and commitment to current relationship may be influential in determining condom use.

Models Explaining Condom Use

Belief and attitude change have been shown to be important to the promotion of safer sexual behaviour (Abraham and Sheeran, 1993). Over the past two decades, several models have been used to try and explain why individuals engage in behaviours which place them at risk for STDs and HIV. Models such as the Health Belief Model (HMB; Rosenstock, 1974), the Theory of Reasoned Action (TRA; Fishbein & Ajzen, 1975; Fishbein, 1976), the Theory of Planned Behaviour (TPB; Ajzen & Madden, 1986), and Protection Motivation Theory (Rogers, 1975, 1983) focus on the cognitive components of decision making and the relationship between cognitions and behaviour. More specifically, these models propose that factors associated with individuals' health-related beliefs and attitudes can predict whether or not the individual will engage in preventive action (Abraham & Sheeran, 1993). Critics of these models suggest that social-cognitive models are too individualistic and do not take into account the issue that sexual behaviours such as condom use are shaped by negotiation between people (Abraham & Sheeran, 1993; Davis & Weatherburn, 1991; Fitzpatrick et al., 1990; Salt, Boyles, & Ives, 1990). Furthermore, while many of the studies reviewed earlier have used constructs drawn from these models, none was developed specifically to account for HIV preventive behaviour.

A recent model which has tried to overcome some of the limitations imposed by social-cognitive models by incorporating negotiation skills is the Information-Motivation-Behavioral Skills (IMB) model of AIDS risk behaviour change (Fisher & Fisher, 1992; Fisher & Fisher, 1993). This model proposes that AIDS risk reduction information, motivation, and behavioral skills are the fundamental determinants of AIDS risk behaviour change (Fisher & Fisher, 1992;

Fisher & Fisher, 1993).

As described by Fisher and colleagues (1996), the IMB specifies that AIDS risk reduction information and motivation work through AIDS risk reduction behavioural skills to influence AIDS. According to the model, there are 3 determinants of AIDS risk behaviour change. The first is information that is directly related to AIDS transmission and AIDS prevention; the second is the motivation to engage in AIDS preventive behaviour. Motivation is described as a function of attitudes toward performance of AIDS preventive acts, social norms regarding performance of such acts, and perceptions of personal vulnerability to HIV. The third determinant is a set of behavioural skills for performing specific preventive acts. These include objective skills for performing such acts, and the perception of self-efficacy for completing preventive acts.

According to the IMB model, it is hypothesized that information and motivation are thought to affect the use of risk reduction behavioural skills that are necessary for initiating and maintaining patterns of AIDS risk reduction behaviour change (Fisher et al., 1996). Aids risk reduction information and motivation are regarded as independent constructs, such that one is not necessary for the other to affect the use of risk reduction behavioural skills. An additional component of this model proposes that risk reduction information and motivation may also each have direct effects on AIDS risk reduction change when behavioural skills are unnecessary to effect change. Sheeran et al., (1999) note that the results obtained from the meta-analysis examining psychosocial determinants of heterosexual condom use provide some support for conceptualizing condom use as proposed in the IMB model.

However, like previous models, the IMB addresses condom use at the level of the

individual rather than viewing condom use as a negotiated behaviour between two partners. It does not address relationship factors such as trust, dyadic communication, relationship satisfaction, and differences of opinion between partners has on decision-making. For instance, Fisher, Fisher, Misovich, Kimble, and Malloy (1996) used the IMB model as the basis for an AIDS risk reduction intervention program with college students. A total of 744 predominantly heterosexual undergraduate dormitory residents (362 males and 383 females) were randomly assigned to either the intervention program or a control condition. All participants completed a premeasure assessing their baseline levels of AIDS risk reduction information, motivation, behavioural skills, and AIDS preventive behaviour. Participants assigned to the intervention component participated in a workshop that addressed deficits in these areas. Each intervention consisted of three, 2-hr sessions held 1 week apart. At one month follow-up, all participants (intervention and control) completed postmeasures that assessed AIDS risk reduction information, motivation, behavioural skills, and AIDS preventive behaviour. At 2 months follow-up, they again completed a follow-up measure that assessed AIDS preventive behaviour. The intervention consisted of: 1) an information component- showing participants a slide show targeting information deficits identified as directly relevant to college students' performance of AIDS preventive behaviour; 2) a motivation component- participation in small and large group discussions, as well as watching a video, designed to influence students' attitudes toward performing AIDS preventive behaviours, their perceptions of normative support for performing them, and their perceptions of personal vulnerability to HIV; and 3) behavioral skills component- through the use of a video and enactment of scripts as well as homework assignments, focused on

teaching how to effectively initiate and maintain safer sexual behaviour in their own social milieu and on influencing perceptions of self-efficacy and response efficacy. The intervention occurred within a mixed-sex context, whereby groups included residents who had significant social interaction.

With respect to pre-post effects of treatment on information, motivation, and behavioral skills, the IMB model-based intervention produced significant increases in AIDS prevention information, attitudes toward the performance of AIDS preventive behaviour and intentions to engage in such behaviour, but had no reliable effect on social norms. Finally, the intervention significantly increased participants' perceptions of the effectiveness and ease with which they could engage in AIDS preventive behaviour. In examining the effects of treatment on AIDS risk behaviour change, at both 1-month post-test and 2-month follow-up, the intervention resulted in sustained increases in buying condoms and keeping them accessible, sustained increases in condom use during intercourse at both one-month post-test and two-month follow-up. With respect to the discussion of AIDS preventive behaviour with a sexual partner, the intervention resulted in significant effects at 1-month post-test, but was not sustained at 2-month follow-up.

Overall, the investigators concluded that the IMB model-based AIDS risk reduction intervention successfully produced increases in multiple indicators of AIDS risk reduction information, motivation, and behavioral skills, and also sustained increases in AIDS preventive behaviour. However, the investigators acknowledged that the IMB model does not directly address factors which are conceptualized as being unique to relationships. For example, the investigators found that participants reported difficulty in getting their partners to change their

risky behaviour, as the intervention was only aimed at individuals, as opposed to dyads. Given the literature suggesting that relationships are associated to a great extent with HIV/AIDS risk behaviour, factors unique to relationships, and couple-based interventions are logical next steps in research.

The study by Fisher et al., (1996) provided some support for the use of the IMB model in developing AIDS risk reduction programs at the level of the individual, however, as noted by Misovich et al. (1996), future research should focus on factors concerning relationships that act to promote and sustain sexual risk behaviour and ultimately inhibit AIDS risk reduction behaviour. Information to guide a new model of AIDS risk reduction, focussing on relationship factors, is now needed to further advances in this area.

Poppen and Reisen (1997) suggest that previous theoretical models postulating a relationship between health-related risk perception and self-protective behaviour have relied on measures of global risk perception. For example, in the case of HIV or STDs, researchers typically ask about perceptions of the probability of becoming infected at some time in life. These investigators suggest that a globalization of risk perception is not pertinent for the threat of an STD because the perceived risk of becoming infected may vary depending on specific factors related to characteristics of a given partner. Thus, they propose that a conceptualization of risk perception based on likelihood of contracting HIV or an STD from a given partner at a given time would enable a more accurate assessment of the impact of risk perception on behaviour than that provided by a global risk perception.

To test this new conceptualization of partner-specific risk perception (PSRP; Poppen &

Reisen, 1997) Reisen and Poppen (1999) conducted two studies. The first attempted to identify domains that were associated with partner-specific risk perception, and also to test whether this type of risk perception motivates individuals to practice safer sex behaviour. This cross-sectional study was undertaken with 151 Introductory Psychology college students from a private, mid-Atlantic, urban university in the United States. All participants were sexually active; sixty-three percent of the sample was female; and ranged from 18 to 25 years. Questions covered sexual behaviours and perceived risk associated with sexual partner(s), partner's sexual history (partner's current STD status; number of previous partners the current sexual partner had had), global risk perception, relationship with partner (i.e., duration; commitment to relationship; exclusivity of relationship), and relationship safety (i.e., consistent condom use; or mutually exclusive relationship with both partners tested and showing negative results for HIV/STDs, or first partners).

Global risk perceptions, the partner's sexual history, and characteristics of the relationship were related to the estimation of risk associated with the partner. More specifically, respondents who perceived greater vulnerability to HIV in general also did so relative to their current partners; partners were perceived as posing more risk if they had had a greater number of previous sexual partners; and lower perceptions of risk were associated with more committed relationships. Results of the study did not support an association of partner-specific risk perception with condom use, and actually found that greater risk perception was associated with unsafe practices. The investigators suggested two possible limitations which may have accounted for this. First, reports of risk perception may have been indicative of the risk perception at the end of the 4 week

time frame questioned as opposed to whole time frame for which the behaviour was assessed.

Second, the wording of the specific risk-perception questions may have biased risk perception because they emphasized the risk posed by the partner instead of the probability that the partner had HIV or an STD. Thus, they conducted a second study to overcome the limitations of the first.

This longitudinal study assessed risk perception 1 month before the assessment of self-protective behaviour, enabling a test of whether risk perception influenced behaviour. Respondents completed two questionnaires, at one-month intervals. Participants again included Introductory Psychology students; 212 completed the first questionnaire; of these, 124 had the same partner at one-month follow up, and thus, were requested to complete the second questionnaire. Questionnaires were similar to those used in the first study, with slight modifications to account for the temporal and causal relationship difficulties found between risk perception and behaviour. Results of the second study supported those found in the first study. Global risk perception was predictive of partner-specific risk perception. In addition, respondents perceived greater risk if their partners had had more previous sexual partners, as well as if their partners had previously had an STD. In addition, lower risk was associated with higher levels of commitment and longer relationships. An important finding of the second study was that PSRP at Time 1 predicted condom use at Time 2 (controlling for condom use at Time 1). This indicates that those respondents who perceived a greater likelihood that their partners were infected with HIV or an STD were more likely to use condoms at Time 2.

The investigators concluded that previous attempts to find a link between risk perception

and self-protective behaviour have been limited because the conceptualization of risk perception has been too broad and has not taken into account partner-specific variations. Although the current studies provide initial empirical support for the conceptualization of the PSRP, the investigators indicated that the results of the studies found that predictive factors of risk behaviour were not solely factors that co-vary with actual risk. Factors such as length of and commitment to the relationship were more reflective of feelings about a partner. Previous research has shown that duration of relationship and commitment to relationship are both factors associated with condom use, and thus, may be associated with whether a partner is considered to be a risk. Thus, although the results of these studies suggest that partner-specific risk was associated with condom use, it is plausible that there is an association between duration and commitment of relationship and partner-specific risk. As duration and commitment in a relationship increase, a partner is less likely to be considered a risk.

Condom Use and Intimate Attachment: The Missing Link?

Although it is apparent that relationship factors are important, no model has been developed to account for these factors. Models such as the IMB attempt to integrate previously identified factors such communication, attitude toward condoms, and knowledge from an individual perspective. The model does not enable testing of the influence of relationship factors such as level of trust, commitment, and cooperation from partner with respect to condom use. A more comprehensive model which includes relationship variables may help to create more effective interventions for HIV/AIDS risk reduction.

As previously described, relationship factors which have been shown to be associated with heterosexual condom use include: level of commitment (such as being in a casual versus on-going relationship), perceptions of personal and partner-specific risk, personal and partner attitudes toward condom use, perceptions of trust within the relationship, and ability of the couple to communicate about AIDS risk-reduction behaviour.

It is not known whether or how the correlates of heterosexual condom use that have been studied previously among individuals influence the use of condoms in couple relationships. To further extend the notion that the concept of being in an attached relationship influences condom use, efforts have been made to link attachment style and sexual attitudes and behaviour (Feeney, 1999). In particular, attachment style differences on relationship variables such as intimacy and commitment have been suggested to have important implications for the expression of sexuality including involvement in high risk activities, attitudes towards safe sex practices, and perceived competence in negotiating sexual encounters (Feeney & Raphael, 1992).

An attachment is defined as an enduring emotional bond typically characterized by a tendency to seek and maintain proximity to a specific figure (Ainsworth, 1973; Bowlby, {1969} 1982). According to attachment theory, an individual's failure to form a secure attachment to one or more persons in the early years is the prototype for difficulty in developing close personal relationships in adulthood (Bowlby, 1973). As individuals progress through life, they proceed through a hierarchy of attachment relationships. In infancy, attachments are initially formed with the parent or caregiving figure. During childhood, attachment relationships are formed with peers, and subsequent intimate relationships are developed in late adolescence and adulthood.

Sexual relationships are a particular form of attachment between two individuals which characterize differing levels of quality and commitment. The three criteria described by Bowlby (1973) for attachments include: 1) that the person wants to be with the attachment figure, particularly under conditions of stress; 2) that he/she derives comfort and security from the attachment figure; and 3) that he/she protests when the attachment figure becomes or threatens to become unavailable. These factors may be quite relevant to condom use among heterosexual couples. For example, we know condoms are less likely to be used by individuals who are in committed relationships (i.e., by individuals who are in relationships which they find to be comforting and in which they have a high level of security and trust). Also, it has been suggested that the introduction of condoms to an intimate attachment figure is likely to be perceived as stressful. Thus, to maintain comfort and security within the relationship, individuals are less likely to initiate condom use. Finally, individuals who perceive the initiation of condoms within a committed relationship to threaten the availability of the partner, would be less likely to use condoms.

Hazan and Zeifman (1999) outline a model of adult intimate attachment which parallels that proposed for infant-caregiver attachments. The model includes four phases: Preattachment, Attachment in the Making, Clear-cut Attachment, and Goal-Corrected Partnership. The Preattachment phase is characterized by a motivation for social proximity, with flirtatious exchanges acting as the initial attachment-relevant cue. This phase is typically activated by the sexual mating system which is considered to be influenced by the individuals' working models for relationship formation. During this phase, immediate sexual gratification is often the goal, but

also helps to ensure that adults will seek and maintain close proximity to individuals to whom they may become attached (Hazan & Zeifman, 1999). In addition, self-disclosures during this initial phase are usually limited to positive or neutral facts, and are less personal in nature.

The second phase emphasizes the concept of an attachment representing a safe haven for the individual. As an attachment strengthens from attraction to falling in love, behaviours between partners become less arousing and more intimate. Gestures such as hand-holding and placing an arm around a shoulder are more calming and caring gestures, signifying an increasing comfort and safety. Individuals are more likely to begin to share personal information, such as painful stories and fears. During the third phase, the relationship partner becomes an attachment figure whereby a deeper satisfaction is maintained in the relationship. It is during this phase that attachment with a partner tends to be associated with stress reduction and calming, and sexual arousal is no longer enough to maintain the bond between partners. As noted by Hazan and Zeifman (1999), attachment bonds are formed when intense physiological arousal is repeatedly attenuated by the same partner and in the context of close bodily contact, offering an alleviation of distress and sense of comfort. Finally, the fourth phase of adult attachment is reached when a sense of confidence and security with the relationship allows for the partners to shift their attention from the attachment figure and explore external activities which are non-partner related. It is during this phase where partners experience an emotional interdependence which allows them to feel distress when the partner is not present. However, the ultimate trust which has been established in the attachment forms a base of security.

The full process of adult attachment formation takes approximately 2 years (Hazan &

Shaver, 1994). Sexuality peaks in importance relatively early in the relationship (between the first and second year of the relationship), with subsequent fluctuations over time, while attachment and care giving increase in importance and intensity during the early years of the relationship, before leveling off (approximately three years into the relationship). This process of adult attachment may be instrumental to HIV prevention in early attachment formations. As indicated in the literature, condom use decreases in importance as heterosexual relationships transition from being casual to committed, or in other words, as the attachment bond solidifies. The introduction of condoms may thus represent a barrier to ongoing, deepening attachment, not only interfering with close bodily contact, but also representing a source of stress by implying that the partner does not represent a safe haven. In addition, self-disclosure is a component of the phases of attachment, so by the time individuals in intimate relationships are able to communicate about issues concerning safe-sex, they have already been engaging in unprotected sexual intercourse and no longer feel the need for such protective interventions.

One of the central components of attachment theory is the concept of “working models” which guide how an individual forms attachment relationships. Working models are internal prototypes which shape individuals cognitive, emotional, and behavioral responses to others. Bowlby (1973) identifies two key aspects of these models: 1) the individual's image of other people, and 2) the individual's image of self. If a person's internal prototype is that others are psychologically available and also views the self as worthy and competent in situations requiring comfort or support, then the relational prototype is secure (Ainsworth, 1991). Individuals with insecure relational prototypes predict rejection or inconsistent responses from others and define

self in terms of limited efficacy and low self-worth. These internal prototypes may be useful for distinguishing factors associated with HIV preventive risk behaviour.

Bartholomew (1990) proposed a two-dimensional, four-category conceptual scheme to depict how positive and negative models of self and others give rise to four adult attachment patterns (see Figure 1). It has been noted that a negative model of self is closely associated with anxiety about abandonment, and that a negative model of others is closely associated with avoidant behaviour (cf. Brennan, Clark, and Shaver; 1998). As described by Brennan, Clark, and Shaver (1998), and can be seen from Figure 1, the first quadrant represents securely attached individuals (i.e., those individuals who are neither anxious about abandonment nor avoidant in behaviour). The second quadrant represents individuals with a preoccupied attachment style (i.e., those individuals who express a high level of anxiety about abandonment (overly dependent) and low self-worth). The third quadrant represents individuals with a dismissing attachment style (i.e., those individuals who avoid attachment with others and lack anxiety about abandonment). Finally, the fourth quadrant represents individuals with a fearful attachment style (i.e., those individuals who desire intimacy but distrust others and avoid attachment).

		Model of Self	
		positive	negative
Model of Others	positive	Cell I: Secure Comfortable with intimacy and autonomy	Cell II: Preoccupied Preoccupied with relationships
	negative	Cell III: Dismissing Dismissing of intimacy Counterdependent	Cell IV: Fearful Fearful of intimacy Socially avoidant

Figure 1: Bartholomew's (1990) four-category attachment classification system.

Feeney (1999) provides concrete examples of attachment-group differences in working model categories of attachment style. For example, secure individuals tend to be interpersonally oriented, have few self-doubts and are high in self-worth, feel others are generally trustworthy, and dependable, seek a balance of closeness and autonomy in relationships, are able to acknowledge distress and handle negative affect in a constructive manner. Individuals with a fearful attachment style tend to be suspicious of human motives and feel that others are not trustworthy or dependable; they are not interpersonally oriented and tend to limit intimacy in exchange for a greater need of autonomy; and they tend to withhold intimate disclosure. Individuals with a preoccupied attachment style find others complex and difficult to understand, and feel that people in general have little control over their lives; they desire extreme intimacy and lower levels of autonomy; they fear rejection and thus are often solicitous and compliant in order to gain acceptance. Finally, individuals with a dismissing attachment style focus on achievement and self-reliance, are less comfortable with closeness, and avoid intimacy with others.

Collins and Read (1994) contend that the structure of working models form a hierarchical model, going from a more general level to more specific. A generalized model lies at the upper portion of the hierarchy which forms a guide for the overall experience of how an individual views self and others; an intermediate level of working models exist for particular classes of relationships such as family members and peers; and finally, at the lowest level of the hierarchy are models which govern specific relationships, such as mother and spouse. In addition, Collins and Read (1994) suggest that working models consist of four interrelated components: memories of attachment related components; beliefs, attitudes, and expectations of self and others in relation to

attachment; attachment-related goals and needs; and strategies and plans for achieving these goals.

Based on these descriptions of how working models guide experience in intimate relationships, it is possible to anticipate how these could be influential in whether individuals' choose to use condoms in sexual relationships. For example, given factors shown to be associated with condom use, individuals with a dismissing or fearful attachment style may choose to use condoms more often because they are less trusting of others, and like to maintain a distance from others and intimacy. Those with a secure attachment style may choose to acknowledge the need for condoms in a relationship but ultimately opt not to use them given their intrinsic trust and desire for intimacy. Finally, preoccupied individuals would seem the most likely candidates for non-condom use given their extreme desire for intimacy and their fear of rejection.

Although no specific studies have been conducted examining attachment style and condom use, studies have started to link attachment style with relationship factors, attitudes toward sex and sexual behaviours. For example, Simpson (1990) conducted a longitudinal study of 144 heterosexual couples examining personality and relationship differences between people who report each of the three attachment styles. Each dyad had been dating for an average of 13.5 months at the outset of the study, and at least one partner within the dyad was attending university. Data was collected separately from each member of the dyad on a self-report basis. Results showed that secure attachment was associated with greater relationship interdependence, commitment, trust, and satisfaction and fewer negative emotions than were resistant or avoidant attachment. No gender differences were found. There was a tendency for secure individuals to

date other secure individuals. In addition, results showed that an individual's attachment style was useful in predicting the partner's feelings about that individual. For example, partners of avoidant individuals reported less trust and greater insecurity than did other partners.

The finding that secure partners tend to seek out other secure partners has proven consistent across studies (Collins & Read, 1990; Feeney, 1994; Kirkpatrick & Davis, 1994; Senchak & Leonard, 1992). In addition, there is some evidence to suggest that avoidant individuals tend to be paired with anxious-ambivalent partners, and that the relationships of anxious-ambivalent females partnered with either secure or avoidant males are relatively stable (Kirkpatrick & Davis, 1994).

Simpson, Rholes, and Nelligan (1992) examined attachment style and provision of emotional support in 83 college-aged dating couples. Couples were videotaped through a hidden camera in a waiting room while the woman was waiting to participate in a supposedly anxiety-provoking activity. Results found that females with a secure attachment style were able to seek comfort and support more readily from their partners as level of anxiety increased, whereas avoidant women were less able to seek support and comfort from their partners as anxiety level increased. Similar results were found with regard to the emotional support provided by male partners. Based on observers' ratings of physical contact and supportive comments, results found that men with secure attachment styles were more likely to increase the amount of support they gave as partner anxiety increased. However, avoidant males were rated more often as decreasing the emotional support provided to partners as anxiety level for the partner increased.

Individuals with insecure relational working models tend to predict rejection or

inconsistent responses from others, and may ultimately seek out others who fulfil this prediction. In addition, insecure individuals define themselves in terms of limited efficacy and low self-worth. As noted by Ahlemeyer and Ludwig (1996), the ability to talk about condom use with a partner is mediated by both individual and relationship aspects. For instance, increased experience and self-confidence are individual aspects which decrease the difficulty in talking about condom use; confidence in the reaction of the partner to support the proposal to use a condom is a systemic influence. Therefore, it is possible that attachment style may be a link influencing condom use in intimate relationships.

Studies examining attachment and sexuality have shown that individuals with avoidant attachment styles tend to support casual, uncommitted sex, whereas secure individuals are less likely to get involved in "one-night stands" or have sex outside the primary relationship (Brennan & Shaver, 1995; Feeney, Noller, & Patty, 1993). In addition, studies examining attachment style, communication and conflict resolution have found secure individuals to use more constructive strategies in dealing with conflict (Pistole, 1989), more self-disclosure (Mikulincer & Machshon, 1991), report less suppression of negative feelings in response to relationship events involving feelings of anger, sadness, or anxiety (Feeney, 1995), and show a greater ability to problem solve during an interaction task (Cohn, Cowan, Cowan, & Pearson, 1992) than individuals classified with avoidant attachment style. Partners of secure individuals tend to be more supportive and willing to provide comfort in anxiety-provoking situations. Anxious-ambivalent individuals have been shown to report more frequent and intense intimate relationships, have rapid physical and emotional involvement, and reject the view that love grows slowly from a relationship based on

friendship and caring (Feeney and Noller, 1990).

As described by Feeney (1999), Hazan, Zeifman, and Middleton (1994) examined attachment style and expression of sexuality. In this study, 100 adults completed measures of attachment style, as well as measures examining the frequency and enjoyment of various sexual behaviours. Consistent with the three attachment styles, three respective sexual styles were identified. Secure attachment was associated with fewer “one-night stands”, less extrarelationship sex, and more mutually initiated sex and more enjoyment of physical contact. In contrast, avoidant attachment style was associated with low psychological intimacy (i.e., indications of one-night stands, extrarelationship sex, and sex without love), as well as aversion to physical contact. Gender differences were found in association with ambivalent attachment styles. Ambivalent females were characterized by increased involvement in more sexually promiscuous behaviours such as exhibitionism, voyeurism, and domination/bondage, whereas ambivalent males reported more sexual restraint.

Studies examining attachment style, relationship factors and sexuality have reported that different attachment styles are associated with different sexual attitudes and behaviours. Attachment style may therefore serve as a predictor of condom use. Considering that condom use has been shown to be highest during first episodes of sexual intercourse between partners, and then subsequently becomes more inconsistent, it is possible that the adult attachment process influences whether condoms are subsequently used. As attachment develops, the trust and intimacy which accompany the attachment process may decrease the salience of condom use. These variables may be most influential in dating couples in relationships of less than two years in

duration where sexuality is a dominant component of the relationship.

Summary

Given that heterosexual contact is reported to be the primary mode of HIV transmission for youth aged 10 to 29 years (Health Canada, 1999), the need for prevention programs aimed at young heterosexual adults is of utmost importance. Failure to use condoms is one behaviour that confers risk for HIV. Although many studies examining condom use as a means for HIV risk-prevention have been conducted over the last two decades, many have utilized samples of individuals who may or may not have been in sexual relationships at the time of study. In addition, the focus of many studies has been on either past condom use behaviour or future intentions for condom use. As noted by Miller & Rollnick (1991), motivation to change health-relevant behaviour can be understood to fluctuate over time and across situations. Given this, the consistent use of condoms in order to reduce exposure to HIV would be expected to vary according to aspects of the relationships of young heterosexual adults.

Previous research has identified that differences in level of condom use exist between those in casual versus committed relationships, with those in committed relationships using condoms less frequently. Unfortunately, very few studies have sampled young heterosexual adults who are in on-going relationships at the time of study, or studied couple behaviour. Thus, although many studies of heterosexual individuals have identified some variables which predict condom use or distinguish between those who use condoms consistently versus those who do not, much less work has addressed this behaviour among heterosexual couples.

Some approaches (e.g., the IMB model of Aids Risk Reduction, Fisher & Fisher (1992); the Partner-Specific Risk Perception model, Poppen & Reisen (1997)) have been shown to be useful to some degree in identifying correlates of condom use or distinguishing between people who do and do not use condoms. However, these models do not attempt to describe the ways in which qualitative aspects of relationships influence level of condom use. This may limit their ability to more fully explain level of condom use, because the interpersonal context in which it occurs is not taken into account. Consequently, the influential characteristics of couples who vary on level of condom use remains unclear. Interpersonal variables such as sexual communication and a variety of attitudes toward condom use have been related to level of condom use in individuals. In addition, over the last decade, the importance of variables such as trust and commitment in intimate relationships has been hinted at. Thus, the first objective of the present study was to extend the knowledge base by examining whether variables such as communication and attitudes toward condoms are associated with level of condom use among a sample of young adult heterosexual couples (i.e., those in an on-going dating relationship), and to examine the impact of relationship-specific variables such as trust, relationship satisfaction, and commitment to current relationship on the likelihood of level of condom use among young heterosexual dating couples.

Previous research has indicated that gender differences may also influence level of condom use. For example, females tend to report higher levels of knowledge regarding HIV transmission, more positive attitudes toward condom use, and higher levels commitment to relationship, than males. Similarly, males tend to perceive lower risk of contracting HIV if condoms are not used,

and are more concerned that condoms have a more negative effect on sexual experience, than females. These findings suggest that intervention programs may need to address gender-specific variables. However, it is not yet known whether gender differences exist among those who are involved in on-going dating relationships. Thus, the second objective of this study was to examine how young heterosexual males and females in dating relationships differ on communication, attitude, HIV knowledge, and relationship variables.

Finally, research in the area of interpersonal attachment has suggested a connection between individuals' attachment style, and sexual attitudes and behaviour.¹ It is plausible that attachment style may be an additional variable that helps to explain level of condom use in dating relationships. Attachment style has been linked to differences in levels of trust and commitment, to communication, self-disclosure, sexual attitudes and sexual behaviour, which have themselves been shown to differentiate between those who use condoms and those who do not. Thus, the third objective of the current study was to explore whether attachment style was associated with level of condom use among young adult dating heterosexual couples.

Specific Objectives, Hypotheses, and Research Questions

Objective 1: To determine among males, females and couples, the likelihood of level of condom use associated with the variables previously suggested in the literature (i.e., duration of relationship, health communication, sexual communication, global attitude,

¹As discussed in the literature review, sexual relationships are a particular form of attachment between two individuals which can be characterized by differing levels of quality and commitment. Working models of self and others are the two components which give rise to the four adult attachment patterns (see Figure 1, page 45 of literature review for a more detailed explanation.

knowledge of HIV, perceived effects of condoms on sexual experience, perceived risk of contracting HIV, relationship safety and perceived need of condoms), and/or relationship variables (i.e., trust, relationship satisfaction, and commitment to current relationship).

Hypothesis 1.1: It was hypothesized that for each of the following groups, males, females and couples, the likelihood of inconsistent/non-condom use would be significantly *higher* as a function of:

- a) Duration of relationship- as duration of relationship lengthens, likelihood of inconsistent/non-condom use would be higher;

Hypothesis 1.2: It was hypothesized that for each of the following groups; males, females and couples; the likelihood of inconsistent/non-condom use would be significantly *higher* as a function of:

- a) Sexual Communication- lower levels of sexual communication would be associated with increased likelihood of inconsistent/non-condom use;
- b) Global Attitude toward Condoms- negative global attitude toward condoms would be associated with increased likelihood of inconsistent/non-condom use;
- c) Perceived Risk of Contracting HIV- low perceived risk of contracting HIV would be associated with increased likelihood of inconsistent/non-condom use;
- d) Perception of the Effect of Condom Use on Sexual Experience- negative perception of the effect of condoms on sexual experience would be

associated with increased likelihood of inconsistent/non-condom use;

e) Relationship safety and perceived need of condoms- negative perception for need of condom use within safe relationships would be associated with increased likelihood of inconsistent/non-condom use.

Hypothesis 1.3: It was hypothesized that for each of the following groups; males, females, and couples; there would be no significant difference in the likelihood of inconsistent/non-condom use attributed to either knowledge of HIV transmission, or knowledge of the protective effects of condoms protection against HIV.

Hypothesis 1.4: It was hypothesized that for each of the following groups, males, females, and couples, the likelihood of inconsistent/non-condom use would be significantly *higher* as a function of:

a) Commitment to relationship- stronger commitment to current relationship would be associated with increased likelihood of inconsistent/non-condom use;

b) Level of trust- high levels of trust would be associated with increased likelihood of inconsistent/non-condom use;

c) Relationship satisfaction- high satisfaction with current relationship would be associated with an increased likelihood of inconsistent/non-condom use.

Objective 2: To identify whether there were partner² gender differences among variables

²Partner gender differences refers to the comparison of the male and female data within each couple, as opposed to simply comparing unlinked responses.

which have been suggested to be associated with condom use.

Hypothesis 2.1: It was hypothesized that female partners would report higher levels of knowledge regarding HIV transmission than their male partners.

Hypothesis 2.2: It was hypothesized that female partners would report more positive attitudes about condom use than their male partners.

Hypothesis 2.3: It was hypothesized that female partners would report higher levels of commitment to the relationship than their male partners.

Hypothesis 2.4: It was hypothesized that male partners would report lower perceived levels of risk of contracting HIV if condoms were not used than their female partners.

Hypothesis 2.5: It was hypothesized that male partners would report the perception that condoms have a more negative effect on sexual experience than their female partners.

Hypothesis 2.6: It was hypothesized that male partners would report having a greater number of previous sexual partners than their current female partners.

Objective 3: To determine for each of the following groups, males, females and couples, whether: a) significant differences in level of condom use are attributable to differences in attachment; b) the likelihood of level of condom use can be attributed to working models of self and others; c) there is an association between working models of self and others and the twelve variables (i.e., nine previously suggested in condom use literature and three

relationship variables).

Research Question 3.1: Does an individual's attachment style, when classified as either secure, preoccupied, dismissing or fearful, contribute to the likelihood of level of condom use?

Research Question 3.2: Does an individual's working model, defined as model of self and model of others, contribute to the likelihood of level of condom use?

Research Question 3.3: Is there an association between working models of self and others, as measured according to level of anxiety about abandonment and level of avoidance of intimacy (i.e., Anxiety and Avoidance scales of the Multi-Item Measure of Adult Romantic Attachment), and the twelve variables suggested/hinted to be related to level of condom use.

Method

Research Design

A sample of 276 heterosexually active couples between the ages of 16 and 29 were surveyed in a cross-sectional study. The sample included couples who had been sexually active within the last six months, who were not trying to conceive, and who had been in their current sexual relationship for less than 1 year. The inclusion criteria to be in a dating relationship was a unique component of the present study which served as an indicator of relationship status. It has been noted that problems with continued condom use take place within what individuals perceive to be close, on-going, relationships, as opposed to one-night or other uncommitted relationships

(Fisher, Misovich, & Fisher, 1995; Keller, 1993; Ku, Sonenstein, & Pleck, 1994; Simons, 1990).

Thus, for the purpose of the present study, the term “dating relationship” was used to imply a measure of on-going relations with a main partner of the opposite sex. The decision to sample couples who had been dating for less than one year was made for several reasons. In order to examine differences between those couples who use condoms versus those who use them inconsistently or not at all, it was imperative to include couples who were in on-going dating relationships with a main partner for a duration of time which would ensure various levels of condom use activity. Also, previous studies have reported significant negative correlations between duration of the relationship and the percentage of intercourse occasions protected by condom use (e.g., Fisher & Misovich, 1990), with a decrease in condom use occurring in young couples dating for as little as four and six months (Fisher, Misovich, & Fisher, 1995; Zimmerman & Olson, 1994). Finally, serial monogamy is a tendency among young heterosexual dating adults, whereby relationships tend to be shorter in duration and more frequent (Maticka-Tyndale, 1992; Misovich, Fisher, & Fisher, 1993).

Measures

A multidimensional self-report survey instrument was used in this study which included the following background and interpersonal relationship variables (See Appendix 1):

Background:

Demographics: data on age, gender, education, employment, and income level.

History of Current Relationship: Several questions were asked regarding the use of

condoms within the current relationship, including whether condoms had ever been used for vaginal intercourse, who makes the decision to use condoms when having sex, and the reason for condom use within the relationship. In addition, respondents were asked whether they had ever had an HIV test, how many sexual partners they had, and whether they had ever injected drugs with a needle that had been used by someone else.

Condom Use: Rate of condom use was defined by respondents' self-report of the number of times within the past four weeks that they had used condoms during vaginal intercourse divided by the respondents' self-report number of times within the past four weeks that they had vaginal intercourse.

Duration of Sexual Relationship: Duration of sexual relationship was measured in number of months since the couple first engaged in sexual intercourse together.

Psychosocial Variables

1. **Safer Sex Knowledge:** Hobfall and colleagues' (1994) Safer Sex Knowledge questionnaire consisting of 7 items to assess knowledge of HIV transmission and 6 items assessing prevention was used. The knowledge items assess the degree to which participants understand that the HIV virus is transferred by the exchange of body fluids and not by casual contact. The prevention items assess knowledge of ways to prevent HIV infection during sexual contact. The items for each subscale are scored as either correct or incorrect, and total score equals the number of items correctly answered. Higher scores indicate higher degrees of knowledge. Although the two parts were

originally designed separately, Hobfall and colleagues (1988) found that the combination of the two parts into a single scale yielded an internal consistency of .74. For the purpose of the present study, the two scales will be used separately.

2. **Attitude Toward Condom Use: The Condom Attitude Scale (CAS; Sacco et al., 1991)** was used to assess respondents' attitudes about condom use as an AIDS-relevant behavior. This measure consists of 57 items, which may be divided into 8 factors, of which 4 were utilized for the current study (Effect on Sexual Experience; Global Attitude; Perceived Risk; Relationship Safety). Items are scored on a 7-point Likert-type scale (0=*Strongly Disagree*, 6= *Strongly Agree*), with higher scores reflecting more positive attitudes. The total CAS, its subscales, and measures of condom use have been shown to have high internal consistency. The total CAS and the majority of subscales have been shown to explain a substantial amount of variance in condom use. Cronbach alphas for the 4 subscales used in this study were as follows: Global Attitude= .62; Effect on Sexual Experience=.89; Perceived Risk=.84; and Relationship Safety=.79. Test-retest correlations were also available for the various subscales and were as follows (note: all significant at $p<.0001$): Global Attitude= .52; Effect on Sexual Experience= .83; Perceived Risk= .76; and Relationship Safety= .77. The scale has been tested with heterosexual university students.
3. **Health Protective Sexual Communication: The Health Protective Sexual Communication Scale (HPSC; Catania, 1998)** was used to assess how often respondents discussed health protective topics with their current partner before having sex with each other for the first

time. Items address health protective concerns related to safer sex, sexual histories, and contraceptive use. Moreover, the scale assesses communication that has health protective consequences as distinct from sexual communication that may be related to enhancement of pleasure. This is a self-administered scale composed of 10 items. In its original form, the scale was used to assess how frequently the respondent had discussed health related issues with past partners. Each item was rated on a 4-point Likert-type scale (4= *always*, 1= *never*). Total scores are obtained by summing across items, with higher scores indicating a higher level of discussion about health-related issues. Given that the current study was interested in obtaining information about the health communication which had taken place between the respondent and their current main partner, the scale was modified and respondents were requested to answer whether they had (yes) or had not (no) discussed each item with their current main partner. The original scale has been administered to varied populations including adolescents and national urban probability samples, as well as HIV high-risk groups (Catania et al., 1994; Catania et al., 1990; Dolcini et al., 1995). Reliability of the measure has been shown to be good with across a variety of sample types and ages (Cronbach's $\alpha = .67$, Catania et al., 1990; Cronbach's $\alpha = .84$, Catania et al., 1994). High scores on the HPSC have been shown to be associated with more frequent condom use (Catania et al., 1990; Catania et al., 1992). Higher scores on the HPSC have also been shown to be related to greater sexual and condom relations skills, more sexual assertiveness, greater commitment to condom use, and increased testing for HIV (unpublished data from author of scale).

4. **Sexual Communication Between Partners: The Dyadic Sexual Communication Scale** (DSC; Catania, 1998) was used to assess how respondents perceive the discussion of sexual matters with their partners. This is a 6-point Likert-type scale (1= *disagree strongly*, 6= *agree strongly*), composed of 13 items. The scale is scored by summing across items for a total score, with higher scores representing better levels of sexual communication. The DSC scale has been administered to college and adolescent populations, as well as national urban probability samples and high-HIV-risk factor groups (Choi et al., 1994; Dolcini et al., 1995). Internal consistency, test-retest reliability, and factor structure were examined in a pilot study of 144 college students (Cronbach's alpha= .81 total sample, .83 cohabiting couples; test-retest= .89: a single factor was obtained)(Catania et al., 1990). The measure has also been shown to discriminate people reporting sexual problems from those not reporting sexual problems (Catania, 1986).
5. **Partner Dominance Against Condom Use:** Partner dominance concerning condom use was measured through the use of a scale developed by Leonard et al., (1995) in a study examining sexual health. The questionnaire contains 12 items pertaining to degree of partner insistence against the use of condoms. In addition, 4 'filler' items are included in the scale addressing additional reasons why an individual may choose against condom use (e.g., "You got caught up in the heat of the moment"; "You didn't have condoms available"). In a study of 1000 heterosexual males and females, alpha reliability was reported to be .72 (Leonard et al., 1994). It measures the perception that one's partner negatively dominates the decision to use condoms. This is a Likert-type scale where

higher scores indicate that a partner is less likely to dominate against the use of condoms in the during sexual intercourse.

6. **Level of Trust:** The Dating Trust Scale (Boon, & Holmes, 1990) was used to measure level of trust between partners. This measure consists of 13 items developed specifically for use with dating couples. Trust is defined primarily in terms of an evaluative statement about the partner concerning his or her responsiveness, dependability, and caring. Questions are rated on a 7-point Likert scale, with higher scores indicating a higher level of trust for the partner. The alpha reliability of this scale is .91.
7. **Relationship Satisfaction:** Relationship satisfaction was measured with a condensed version of the Dyadic Adjustment Scale proposed by Busby and colleagues (Revised Dyadic Adjustment Scale; RDAS; 1995). This is a fifteen-item measure which is used to classify respondents into high- and low-satisfaction groups. Items are scored on a 6-point Likert scale, with higher scores indicating a greater degree of maladjustment. Item number 15 from this measure was used as an indicator of Commitment to relationship. Item #15 is a 6-point Likert scale item measuring how the individual feels about the future of the relationship ranging from "I want desperately for my relationship to succeed, and would go to almost any length to see that it does", to "My relationship can never succeed, and there is no more that I can do to keep the relationship going". The measure has been shown to have good construct and criterion validity (Busby et al., 1995). Overall reliability for this scale has been shown to be .90 (Busby et al., 1995).
8. **Attachment Style:** Brennan, Clark, & Shaver's (1998) Multi-Item Measure of Adult

Romantic Attachment was used to classify respondent's attachment style. This measure consists of 36 items, which form two higher order scales, Model of Others (i.e., avoidant behaviour) and Model of Self (i.e., anxiety about abandonment), and provide a two-dimensional theme. The Model of Others scale correlates highly with several other scales measuring avoidance and discomfort with closeness (see Brennan, Clark & Shaver, 1998 for list of measures). The Model of Self scale correlates highly with scales measuring anxiety and preoccupation with attachment, jealousy, and fear of rejection (see Brennan, Clark & Shaver, 1998 for list of measures). Cronbach alpha for the Model of Others scale is .94, and for the Model of Self scale is .91. The measure is scored according to a 7-point Likert-type scale where 1 = *disagree strongly* and 7 = *Agree strongly*. A continuous score is derived for each respondent with respect to Model of Self and Model of Others. In addition, respondents receive a classification of secure, fearful, preoccupied, or dismissing, according to the four-category classification developed by Bartholomew and Horivitz (1991), provided with this scale.

Procedure

The study sample was recruited from a variety of locations including the Healthy Sexuality Program at the Ottawa-Carleton Health Department, university and college health services clinics, a variety of classes at local universities, and alternative education programs for individuals who had not completed High School. In addition, recruitment advertisements (see Appendix 2) were posted in bars located in Downtown Ottawa, as well as waiting rooms of Community Health

Clinics. Finally, the advertisement was displayed in a specialty retail outlet in Toronto which sold condoms.

In a pilot study conducted to estimate the questionnaire return rates, to refine the recruitment protocol, and assess acceptability of the questionnaire, fifty participants were recruited from the various sites. A total of thirteen couples completed and returned the questionnaire packages, representing a response rate of 26%. No apparent difficulties were noted in the completion of the questionnaires.

For the pilot study, as well as for the main study, those who were recruited in person were asked the following questions to determine whether he/she and his/her partner were eligible to take part:

- 1. In the current heterosexual relationship for less than 1 year duration.³**
- 2. Sexually active in the present relationship within the last 6 months.**
- 3. Not trying to become pregnant.**
- 4. Both partners were between the ages of 16 and 29 years.**

Those who met these criteria were invited to participate in the study. For those individuals who agreed to participate and thought that their partner would also be willing to participate, a set of questionnaire packages were provided to take away for completion. All participants were asked to complete the questionnaire packages separately from their partners.

For those who were recruited in a group forum (i.e., University Classes) or recruited through the use of posters and advertisements, the above-mentioned eligibility criteria were either

³No couples in the study had been in their current dating relationship for more than twelve months

presented by the Research Assistant or were clearly posted on the advertisement. A telephone number was provided on the advertisement and questionnaires to connect with the study. For university classes, interested participants obtained the set of questionnaires by picking one up as he/she left class. For those recruited by advertisement, participants obtained the set of questionnaires by telephoning a project line and providing a Research Assistant with their address.

Survey packages for both partners were either given to interested participants or mailed to them. Instructions requesting that the questionnaire be completed separately were given to all participants. The estimated time for completion of the questionnaire was 30 to 45 minutes. The survey instruments were identified through the use of an identification number. Identical identification numbers were on partner's packages for the same couple. No questionnaires contained identifying information such as name or addresses. Debriefing and/or information was made available for those participants wishing such services through telephone contact with the project coordinator (see Appendix 3). Each couple was provided with a self-addressed, stamped envelope in which to return the completed questionnaires. The return of the completed questionnaire package was taken to represent the participant's informed consent to take part in the study. Participants who completed the questionnaire packages were given the opportunity to include their name and address, if they so desired, to receive results of the study at its conclusion.

Results⁴

Sample Description

One thousand and seventy-six sets of questionnaires were delivered to various recruitment sites for distribution, or handed out by research assistants at health service clinics and university classrooms. A total of 276 couples completed and returned the questionnaire packages which represents a minimum response rate of 25.6%.⁵ Sixteen couples were not included in the analyses because examination of their questionnaire responses indicated that their duration of relationship exceeded 12 months. Thus, the subject sample consisted of 260 couples.

A breakdown of the locations where respondents were recruited from revealed that 45.3% of the sample was obtained from University classes, 24.6% from University and College Health Service and Promotion Clinics, 14.2% from Community Health Service Clinics, 11.6% from Adult Alternative Education Programs, and 4.3% from various other sources. Thus, approximately 70% of the sample was obtained from post-secondary educational settings, and 30% from Community-

⁴All analyses were performed using Statistical Package for the Social Sciences, Version 10.0 (SPSS-10.0). Specific procedures were followed to ensure integrity of the data entered into SPSS. These included preparation of a coding manual for the data; verification of coding and data input through comparing a 10% random sample of baseline questionnaire responses with the entered data; performance range checks to ensure all values for each variable fell within the expected range; and consistency edits to ensure that responses to questions were consistent with those to other questions.

⁵Although it was not possible to track whether all questionnaire packages distributed to recruitment locations were actually given out, tracking measures were completed by the research assistants who recruited at health service clinics and university classes. Tallies were kept with respect to how many potential respondents were approached, how many were eligible/ineligible (i.e., met criteria for participation), and how many actually agreed to take questionnaires home for themselves and their partner to complete. A total of 707 young adults had a research assistant explain the study, of which 251 individuals (35.5%) met the study criteria, and 201 (28.4%) agreed to take the questionnaires to be completed by themselves and their partner. Given that often only one member of the couple was on-site at the time of recruitment, there was no guarantee that the non-present partner would actually agree to participate, complete and return the questionnaire. Thus, although 201 individuals indicated that they (and their partner) would participate, there was no way of determining whether all of those who initially agreed actually returned completed questionnaires.

based settings. T-tests were conducted, for females and males, to test for significant differences in age, education level, and duration of sexual relationship between respondents from community-based settings versus post-secondary educational settings. As would be expected, both males and females recruited from post-secondary educational settings had significantly higher levels of education than those recruited from community-based settings (females: $t(2, 258) = -4.84, p < .001$; males: $t(2, 257) = -5.274, p < .001$). No significant differences were found for age or duration of sexual relationship between the two settings. A chi-square analysis, conducted separately for females and males, revealed that consistency of condom use did not differ among participants recruited from post-secondary or community-based settings (females: $X^2 = 1.53, df = 2, p = .47$; males: $X^2 = 1.37, df = 2, p = .51$).

Demographic data for the overall sample indicated that the age of females and males who participated in the study was 20 (SD= 2.47) and 21 (SD= 3.06) years respectively. Average number of years of education for females was 13.68 years (SD= 1.8), and 13.81 years (SD= 2.0) for males. Ninety-five percent of couples indicated that they were monogamous, and 82% of couples consisted of partners who lived separately from one another. One hundred and thirty-eight females (50%) and 180 (65.7%) males indicated that they were currently employed in a paid position ($X^2 = 13.88, df = 1, p < .001$). Of those employed, 18.8 % of females and 46.4% of males indicated full-time employment. Average duration of sexual relationship for couples participating in the study was 6 months measured as time since first vaginal intercourse.

Overview of the Descriptive Data

As can be seen graphically in Figure 2, condom use reported by couples over the previous four weeks was characterized by a bimodal distribution, with most respondents reporting either 0% or 100% condom use in the past four weeks. Thus, given that the distribution rate of condom use was not normally distributed, respondents were classified into groups as follows: consistent condom users if they reported using condoms 100% of the time (i.e. self-report of the number of times within the past four weeks that they had used condoms during vaginal intercourse equaling self-reported number of times within the last four weeks that they had had vaginal intercourse), classified as inconsistent/non-condom users if they reported using condoms only some of the time (i.e. self-report of the number of times within the past four weeks that they had used condoms during vaginal intercourse was less than self-report number of times within the last four weeks that they had had vaginal intercourse) or not at all (i.e, self-report of the number of times within the past four weeks that they had used condoms during vaginal intercourse was equal to zero).

Examination of the data revealed that the partners in 199 couples (76%) had agreed on rate of condom use, the partners in 20 couples (8%) reported rates within 10% of each other, the partners in 34 couples (13%) reported rates of condom use which were not similar (i.e., greater than 10% difference) , and the partners in 7 couples (3%) had missing data. When asked whether they were able to afford to buy condoms, 96% of couples indicated yes.

As may be seen in Table 1, descriptive statistics for the factors proposed to be associated with condom use revealed many negatively skewed distributions. On average, the study sample

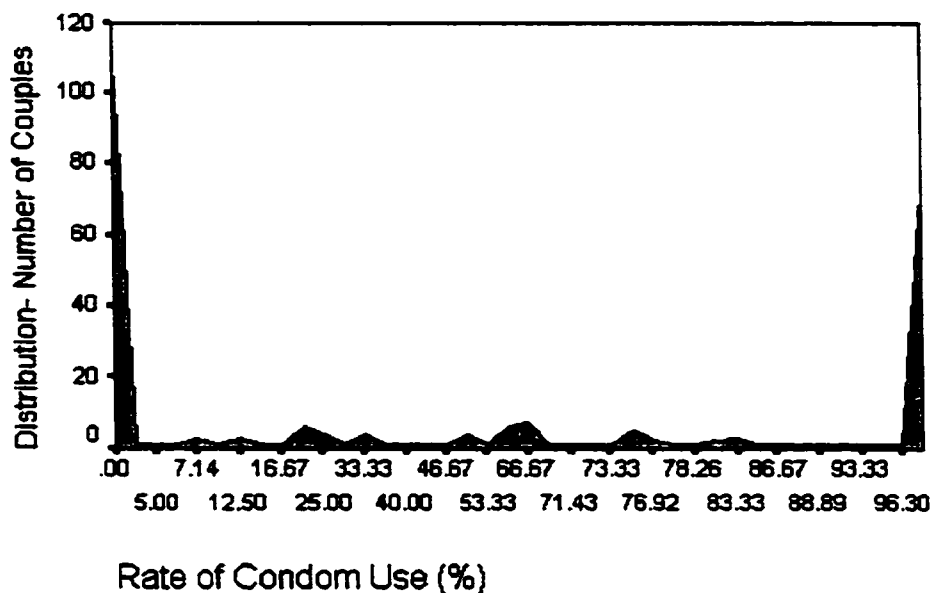


Figure 2:
Distribution- Rate of Condom Use for Couples

comprised males and females who reported scores at the upper end of the sexual communication scale, trust scale, relationship satisfaction scale, and commitment to their current relationship measure. Both male and female participants reported scores that were at the upper end of the scales with respect to knowledge of HIV transmission, and methods of protection against HIV transmission. Both male and female participants also reported predominantly positive global attitudes with respect to condom use, higher perceptions of risk of contracting HIV if condoms were not used, and very little partner dominance against condom use. For both males and females, more normal distributions were observed on the variables concerning perceived relationship safety and need of condom use, perceived effect of condom use on sexual experience,

Table 1: Descriptive Statistics for Females and Males on Variables Associated with Condom Use

Variable	N	Min.	Max.	Skewness	Kurtosis	Mean	Std. Deviation
Communication about past HIV-risk behaviours- Female	254	0	10	0.01	-0.81	5	2.49
Communication about past HIV-risk behaviours- Male	255	0	10	0.17	-0.66	4.58	2.56
Sexual communication with partner- Female	253	26	78	-1.05	0.76	65.42	10.67
Sexual communication with partner- Male	254	31	78	-0.64	-0.13	64.27	10.13
Indication of partner dominance concerning non-condom use- Female	255	21	40	-2.48	6.77	37.86	3.53
Indication of partner dominance concerning non-condom use- Male	256	12	40	-2.11	5.27	36.85	4.62
Knowledge of HIV transmission- Female	256	0	9	-0.47	-0.73	6.13	2.21
Knowledge of HIV transmission- Male	258	0	9	-0.48	-0.48	5.83	2.2
Knowledge of Protection against HIV transmission- Female	260	0	6	-0.76	0.37	4.3	1.27
Knowledge of Protection against HIV transmission- Male	258	0	6	-0.71	-0.06	4.17	1.34
Trust in partner- Female	251	25	91	-1.65	2.77	78.81	13.02
Trust in partner- Male	255	14	91	-1.64	3.1	78.07	13.71
Relationship Satisfaction- Female	258	15	66	-1.11	2.01	51.61	8.11
Relationship Satisfaction- Male	255	23	69	-0.71	0.45	51.51	8.83
Perceived effect of condom use on sexual experience- Female	249	0	60	-0.05	-0.73	37.18	12.97
Perceived effect of condom use on sexual experience- Male	256	0	60	0.24	-0.4	30.26	13.9
Global attitude toward condom use- Female	249	24	54	-0.96	0.92	46.8	5.98
Global attitude toward condom use- Male	252	16	54	-1.22	2.22	44.44	6.66
Perceived risk of contracting HIV if no condom used- Female	256	0	36	-0.66	-0.13	24.37	8.64
Perceived risk of contracting HIV if no condom used- Male	257	0	36	-0.54	-0.11	23.68	8.32
Perceived need of condoms in safe relationship- Female	256	0	30	-0.01	-0.96	17.67	7.87
Perceived need of condoms in safe relationship- Male	256	0	30	0.09	-1.03	16.2	8.28
Commitment to current relationship- Female	257	1	6	-0.73	1.36	4.66	0.92
Commitment to current relationship- Male	258	1	6	-0.67	0.5	4.7	0.96

and communication about past HIV-risk exposure.

Closer examination of scores on the partner dominance scale revealed that approximately 97% of both male and female respondents indicated that *they rarely or never* started out wanting to use a condom but didn't because their partner dominated (in some manner) the decision to do so (i.e., very rarely has a partner influenced them to change their mind if they started out wanting to use a condom). Given the extreme non-normality associated with responses on this scale, the decision was made not to include the overall score of this measure in subsequent analyses. Instead, for the purpose of contributing data which may help in the development of intervention programs, individual scale items were extracted and examined with respect to gender differences (cf. Section on Sample Profile).

Overall, the present sample was composed of young dating couples who reported being in trusting and committed relationships that had developed within a relatively short period of time (less than 12 months). The sample had predominantly higher levels of knowledge with respect to transmission and protection against HIV/AIDS, and higher levels of HIV risk awareness. Thus, variables which were related to concrete, factual information, tended to be negatively skewed. Consistent with previous literature, these results suggest that, in general, the couples in the present study possessed the information regarding HIV risk, transmission and protection needed to guide decision-making process. However, variables which were based more on perceptions and behaviours, such as perceived relationship safety and need of condom use, perceived effect of condoms on sexual experience, and communication about past HIV-risk associated behaviours, tended to have more normal distributions.

Tables 2 and 3 provide a breakdown of attachment styles⁶ for females and males respectively. There was an unequal distribution of attachment styles for both females and males, with the majority of participants reporting either a secure or preoccupied attachment style. A very low proportion of both female and male participants reported dismissing or fearful attachment styles. As may be seen in Table 4, almost half of the couples in the sample were composed of either two securely attached partners (30.5%), or a preoccupied-style female partner paired with a secure-style male partner (15.1%).

Table 2: Distribution of Attachment Styles- Females

Attachment Style	Frequency	Percent
Secure	111	42.7
Fearful	41	15.8
Preoccupied	87	33.5
Dismissing	21	8.1
Total	260	100

⁶Secure individuals tend to be interpersonally oriented, are high in self-worth, seek a balance of closeness and autonomy in relationships. Individuals with a dismissing attachment style tend to feel that others are not trustworthy or dependable; they are not interpersonally oriented and tend to limit intimacy to serve a greater need for autonomy. Individuals with a preoccupied attachment style feel they have little control over their lives; they desire extreme intimacy and lower levels of autonomy; they fear rejection and thus are often compliant in order to gain acceptance by others. Fearful individuals desire intimacy but distrust others and feel discomfort with closeness; they lack self-confidence, and their high need for approval tends to make them preoccupied with relationships (Feeney, 1999). Cf. Figure 1 in literature review for 4-category model of attachment style.

Table 3: Distribution of Attachment Styles- Males

Attachment Style	Frequency	Percent	Valid Percent	Cumulative Percent
Secure	118	45.4	46.1	46.1
Fearful	39	15	15.2	61.3
Preoccupied	69	26.5	27	88.3
Dismissing	30	11.5	11.7	100
Missing	4	1.5		
Total	260	100	100	

Table 4: Distribution of Attachment Style- Couples :Percentage of Total N

	Attachment Style	Females (n) N=256			
		Secure	Fearful	Preoccupied	Dismissive
Males (n) N=256	Secure	30.5% (73)	1.7% (4)	15.1% (36)	2.1% (5)
	Fearful	—	7.1% (17)	—	2.1% (5)
	Preoccupied	8.4% (20)	6.7% (16)	10.5% (25)	3.3% (8)
	Dismissing	4.2% (10)	1.7% (4)	5.9% (14)	0.8% (2)

Condom Use: Sample Profile

Eighty-six percent of the sample reported using condoms at some point in their relationship. However, only 27.0% of couples reported using condoms consistently in the four weeks prior to completing the questionnaire; and 73% reported inconsistent/no-condom (see Figure 3). As may be seen in Figure 4, the greatest number of couples who reported consistent condom use were those who had been dating for 2 months or less. A t-test analysis was used to

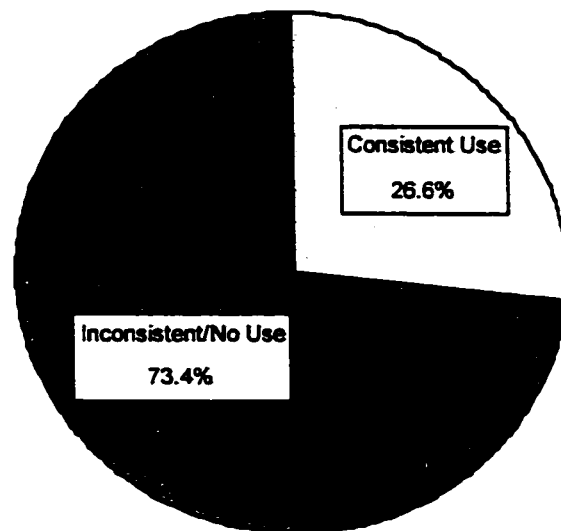
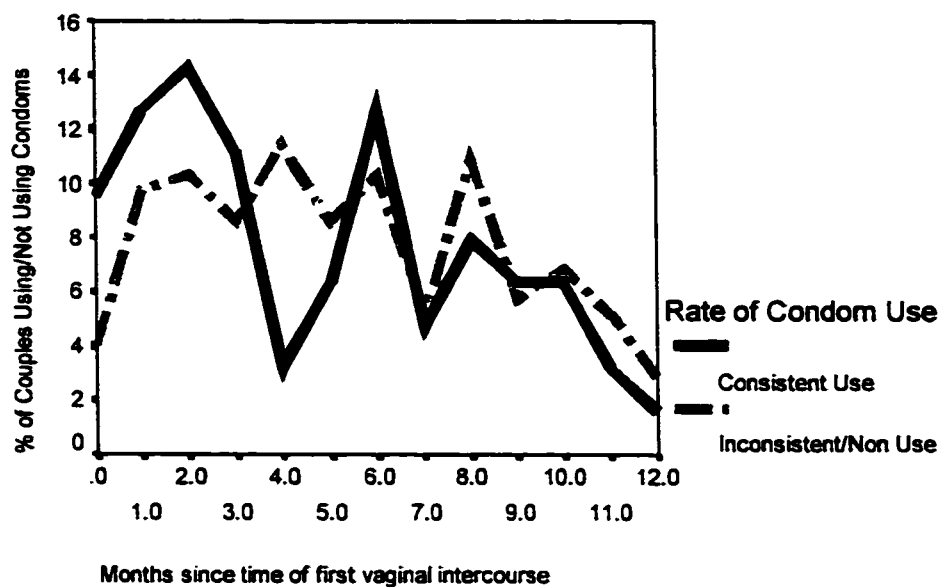


Figure 3:
Breakdown of Couple Rate of Condom Use

examine differences in duration of relationship for the two condom use groups. No significant difference was found ($t(2, 235) = -1.55, p = .122$).

As may be seen in Table 5, when couples who reported using condoms either consistently or inconsistently in the past four weeks were asked specifically “At this point in your relationship, when you have vaginal intercourse with your current main partner, how often do you use a condom in order to prevent HIV/AIDS or Sexually Transmitted Diseases?”, approximately one-third reported using condoms “every time to prevent HIV/AIDS or Sexually Transmitted Diseases”. Similarly, approximately one-third reported never using condoms for HIV/AIDS or STD prevention.



**Figure 4: Cross-Sectional Illustration of Condom Use
According to Time Since 1st Vaginal Intercourse**

Table 5: Frequency of Current Condom Use to Prevent HIV/AIDS or STDs.

Frequency of Current Condom Use to Prevent HIV/AIDS or STDs	Females -% (n)	Males-% (n)
Every Time	19.2 (50)	21.9 (57)
Almost Every Time	6.9 (18)	6.9 (18)
Sometimes	8.1 (21)	5.8 (15)
Almost Never	11.9 (31)	9.2 (24)
Never	38.5 (100)	42.3 (110)
Missing Data	15.4 (40)	13.8 (36)

All respondents were asked whether they had ever used condoms in their current relationship, to which 220 females (84.6%) and 225 males (86.5%) reported 'yes'. When asked about the reasons why they had chosen to use condoms during sexual intercourse with their partner, the majority of both male and female respondents indicated the primary reason was to prevent pregnancy (see Tables 6 and 7 respectively). T-test analyses, conducted separately for males and females, indicated no significant difference between those who used condoms for reasons of pregnancy and those who used condoms for other reasons, on how long they had been engaged in a sexual relationship with current partner (females: $t(2, 209) = -1.95, p = .053$; males: $t(2, 216) = .59, p = .557$)

Table 6: Breakdown of Reason for Condom Use by Duration of Relationship- Female Respondents

		Most Important Reason Reported for Using Condoms- N (%)			
		Prevent Pregnancy	Prevent STD's	Prevent HIV/AIDS	Other
Duration of Relationship (months)	0-3 months	54 (75.0%)	3 (4.2%)	15 (20.8%)	——
	4-6 months	50 (78.1%)	3 (4.7%)	10 (15.6%)	1 (1.6%)
	7-9 months	27 (56.3%)	7 (14.6%)	14 (29.2%)	——
	10-12 months	25 (75.8%)	——	8 (24.2%)	——

Table 7: Breakdown of Reason for Condom Use by Duration of Relationship- Male Respondents

		Most Important Reason Reported for Using Condoms (%)			
		Prevent Pregnancy	Prevent STD's	Prevent HIV/AIDS	Other
Duration of Relationship (months)	0-3 months	56 (73.7%)	4 (5.3%)	14 (18.4%)	2 (2.6%)
	4-6 months	46 (71.9%)	1 (1.6%)	16 (25%)	1 (1.6%)
	7-9 months	32 (65.3%)	4 (8.2%)	11 (22.4%)	2 (4.1%)
	10-12 months	27 (79.4%)	——	5 (14.7%)	2 (5.9%)

Several additional questions assessed additional behaviours that pose risk for HIV transmission, including number of previous sexual partners, condom use with previous partners, HIV status of previous partners, and whether the respondent had ever had an HIV test. Females reported having, on average, 3 previous sexual partners, whereas males reported having, on average, 6 previous sexual partners. Regarding their previous partners, only 18.1% of females and 21.4% of males indicated that they had always used condoms. Fifty-five percent of females and 63% of males indicated that they had never had an HIV test. These results suggest that the sample had been exposed to several risks for HIV/AIDS and/or other STDs. The majority of both females and males in the sample had never injected drugs with a needle that had been used by someone else (98.6% and 97.1% respectively).

As may be seen from Table 8, respondents were questioned whether they had asked their current main partner various risk-relevant questions, prior to having vaginal sex. The most frequently discussed topics for both females and males tended to be those issues associated with a partner's past sexual involvements (which allow the individual to perhaps gauge the current relationship potential) as opposed to topics which were health risk related (i.e., HIV symptoms and high-risk activities).

Several questions focused on reasons why, or situations in which, the respondent started out wanting to use a condom but didn't. In examining data from respondents who reported using condoms inconsistently or not at all; the most common situation reported by females for not using a condom was not having condoms available, and for males, that either he or his partner were too high on drugs or alcohol. Tables 9 and 10 respectively, provide a breakdown of reasons related

to non-condom use for females and males.

Table 8: Number of Respondents Who Reported Specific Health Related Questions Pertaining To Partner's HIV/AIDS Risk Status

HIV/AIDS Risk Assessment Question	Females (%)	Males (%)
1. Ask your partner how he/she felt about using condoms before you had intercourse.	165 (63.7)	162 (62.8)
2. Ask your partner about the number of past sexual partners he/she had.	189 (72.7)	175 (67.6)
3. Tell your partner about the number of sex partners you had had.	187 (71.9)	185 (71.4)
4. Tell your partner that you would not have sex unless a condom was used.	111 (42.9)	82 (31.8)
5. Discuss with your partner the need for both of you to get tested for the HIV/AIDS virus before having sex.	56 (21.6)	49 (18.9)
6. Talk with your partner about not having sex until you had known each other longer.	112 (43.4)	108 (41.9)
7. Ask your partner if he/she had ever had some type of sexually transmitted disease like herpes, clap, syphilis, gonorrhea, or HIV/AIDS.	104 (40.0)	90 (34.7)
8. Ask your partner if he/she had ever shot drugs like heroin, cocaine, or speed.	112 (43.2)	84 (32.4)
9. Talk about whether you or your partner had ever had homosexual experiences, or had a partner who was bisexual.	78 (30.0)	72 (27.7)
10. Talk with your partner about birth control before having sex for the first time.	188 (72.3)	180 (69.5)

Table 9: Reasons Why Females, Classified as Inconsistent or Non-condom Users, Started Out Wanting To Use Condoms But Didn't (N)

Reason For Non-Condom Use	Never N (%)	Rarely N (%)	Sometimes N(%)	Frequently N(%)	Always N(%)
You didn't think about it	9(4.9)	20(10.9)	60(32.6)	28(15.2)	67(36.4)
You got caught up in the heat of the moment	12(6.5)	39(21.2)	56(30.4)	27(14.7)	50(27.2)
You or your partner were too high on drugs or alcohol	3(1.6)	16(8.7)	14(7.6)	22(12.0)	129(70.1)
You didn't have condoms available	8(4.4)	8(4.4)	44(24.0)	38(20.8)	85(46.4)

Table 10: Reasons Why Males, Classified as Inconsistent or Non-condom Users, Started Out Wanting To Use Condoms But Didn't (N)

Reason For Non-Condom Use	Never n (%)	Rarely n (%)	Sometimes n (%)	Frequently n (%)	Always n (%)
You didn't think about it	14 (7.7)	20 (10.9)	48 (26.2)	21 (11.5)	80 (43.7)
You got caught up in the heat of the moment	21 (11.5)	37 (20.2)	46 (25.1)	28 (15.3)	51 (27.9)
You or your partner were too high on drugs or alcohol	5 (2.7)	16 (8.8)	21 (11.5)	24 (13.2)	116 (63.7)
You didn't have condoms available	11 (6.0)	16 (8.7)	41 (22.4)	35 (19.1)	80 (43.8)

Objective 1: Variables Influencing the Likelihood of Level of Condom Use Separately Among Females, Males and Couples

The first objective of the study was to examine, for each of the following groups, females, males, and couples⁷, the likelihood of level of condom use (as an indicator of HIV-risk exposure) attributed to variables previously identified in the literature, as well as relationship variables.

Logistic regression was chosen as the most appropriate method of statistical analysis to address this objective.⁸

Treatment of the data for the female and male groups was straightforward. However, for

⁷For the purpose of the current study, 'couple' is defined as two heterosexual partners in an on-going relationship; examination of couple condom use, refers to examining condom use from the perspective of both partners within an on-going relationship.

⁸Multiple regression was originally planned as the analysis of choice, given its relevance to assessing the relationship between one criterion (dependent) variable and several predictor (independent) variables (Pedhazur, 1982; Stevens, 1992; 1996). Rate of condom use was to represent the dependent variable, and twelve variables (including duration of relationship, health communication, sexual communication, knowledge of aids transmission, knowledge of protection against aids transmission, trust toward partner, relationship satisfaction, perception of effect of condom on sexual experience, global attitude toward condom use, perceived risk of contracting HIV if condoms were not used, perceived safety of the relationship, and overall commitment to current relationship) were chosen to be used as independent variables. However, given the bimodal distribution for rate of condom use as shown in Figure 2, and failure to meet the assumption of multivariate normality, logistic regression was determined to be a more appropriate method for analysis of Objective 1.

the couples analyses, new variables had to be computed. Given that the analysis was to focus on predictors of 'couple' level of condom use, as opposed to individual (male or female) level of condom use, the data from male and female partners had to be computed into a dyadic score. First, the outcome variable (level of condom use) for the couple was defined as inconsistent/non-condom use if both partners reported using condoms less than 100% of the time during the four weeks prior to the study, and defined as consistent condom use if both partners reported using condoms 100% of the time during the four weeks prior to the study.⁹ Second, with regard to the independent variables or predictors, it is common for relationship researchers to use difference scores to index the (dis)similarity of members of two-person relationships (Griffin et. al., 1999). However, in many instances, such as with the current data, difference scores are imprecise in their meaning. It would be impossible to interpret how large or small difference scores on the independent variables were related to condom use. For example, if results indicated that couples with small differences in health communication used condoms more, it could mean that both partners reported low health communication, or that both partners reported high communication. A similar problem would occur with the use of couple mean scores.

A congruence method of treating the data is an alternative approach (e.g., Murray, Holmes, & Griffin, 1996), whereby continuous variables are transformed and the data treated in a categorical manner (e.g., high and low), and the congruence between a partner's score and one's own score is related to the dependent variable. As described in the introduction, previous

⁹Given the bimodal distribution of condom use, it was decided to include couples who used condoms inconsistently within the same category as non-condom users given the possible risk of HIV exposure associated with inconsistent use.

research on predictors of condom has shown that higher levels of communication and more positive attitudes toward condom use bear a positive relationship to condom use. This suggests that creating categories from the predictor data would be a reasonable course of action to follow when attempting to create a score that reflects a characteristic of the couple. The questionnaires used in this study, for the most part, used Likert scales with a neutral division separating qualitatively higher versus lower responses. This provides a rational option for transforming the continuous independent variable scores into categorical scores which represent degree of partner congruence. Consequently, partner congruence scores (high, low, and mixed) were calculated for eleven out of the twelve predictor variables (excluding duration of relationship). Table 11 provides an summary of the mean value or frequencies of the independent variables.

Because the data were not characterized by multivariate normality, and level of condom use was being treated as a categorical variable, logistic regression was the most appropriate statistical analysis to employ (cf. Addy, 1992; Cleary & Angel, 1984; Davis & Offord, 1997; Everitt, 1996; Polit, 1996; Stevens, 1996; Tabacknick & Fidell, 1989).¹⁰ Two sequential logistic regression analyses were performed, for each of the following groups; females, males, and couples. The first regression for each group examined the likelihood of condom use attributable to 9 variables previously suggested to be associated with condom use: duration of relationship, health communication, sexual communication, knowledge regarding the transmission of HIV,

¹⁰Logistic Regression is a variant of multiple regression, but is based on an estimation procedure that has less restrictive assumptions than multiple regression (which is based on least-squares estimation criteria). In Logistic Regression, the criterion variable is categorical and the predictor variables usually include both categorical and continuous variables. Logistic regression analysis allows for the estimation of the odds of an event (i.e., one level of the criterion variable) occurring on the basis of the values for the predictor variables.

Table 11: Mean Values or Frequencies for Congruent Couple Predictor Variables

Variable	Mean	Low n (%)	High n (%)	Mixed n (%)
Duration of Relationship	5.31 (SD 3.41)			
Health Communication		116 (46.2)	68 (27.1)	67 (26.7)
Sexual Communication		3 (1.2)	225 (86.5)	20 (8.1)
Knowledge re HIV Transmission		56 (22.0)	105 (41.3)	93 (36.6)
Knowledge re HIV Protection		23 (8.9)	153 (59.3)	82 (31.8)
Trust in Partner		7 (2.8)	211 (85.8)	28 (11.4)
Relationship Satisfaction		16 (6.3)	212 (83.8)	25 (9.9)
Perceived Effect of Condoms on Sexual Experience		59 (24.0)	97 (39.4)	90 (36.6)
Global Attitude Toward Condom Use		1 (.4)	237 (97.5)	5 (2.1)
Perceived Risk of Contracting HIV if Condoms Not Used			240 (94.5)	14 (5.5)
Perception of Need for Condoms in Safe Relationship		18 (7.1)	133 (52.6)	102 (40.3)
Commitment to Current Relationship		20 (7.8)	48 (18.7)	189 (73.5)

knowledge regarding protection against HIV, perceived risk of contracting HIV if condoms not used, perceived need of condoms in safe relationships, global attitude toward condom use, and perceived effect of condom use on sexual experience. The second regression for each group examined the likelihood of condom use attributable to 3 relationship variables; trust, relationship satisfaction, and commitment to current relationship. For all analyses, the dependent variable was condom use (consistent condom use versus inconsistent/no condom use).

Logistic Regression Examining Likelihood of Level of Female Condom Use Attributable to 9 Previously Identified Variables

The first regression for females included 227 of the original 260 female respondents. Thirty-three cases were excluded due to missing data on some of the predictor variables. One

hundred and sixty-two females were classified as inconsistent/non-condom users (71.3%), and 65 were classified as consistent users (28.6%). As shown in Table 12, the first predictive model examining the likelihood of level of condom use attributable to the 9 variables yielded a statistically significant model ($X^2 = 66.84$, $p < .001$). Nagelkerke R^2 was equal to .37, suggesting that the model accounted for an approximated 37% of the variance in level of condom use.

Table 12: Logistic Regression Analysis Of Level of Condom Use as a Function of Communication Knowledge, and Attitudinal Variables for Females

Predictor Variable	B	Wald	Odds Ratio
Duration of Relationship	-.02	.17	.98
Knowledge re transmission of HIV	.09	1.18	1.10
Knowledge re protection against HIV	.18	1.33	1.20
Global Attitude toward condom use	-.05	2.20	.95
Perceived Risk of contracting HIV if condoms not used	.04	2.68	1.04
Relationship Safety and Perceived need of condoms	.16	33.12***	1.17
Perceived effect of condoms on sexual experience	.03	3.52	1.03
Health communication (discussion of sexual history)	.05	.56	1.05
Sexual Communication (discussion of sexual issues)	.01	.17	1.01
Constant	-5.58	9.15	.00
-2 Log Likelihood	205.04		
Model Chi-square (df=9)	66.83		
p	.000		
Overall rate of correct classification	81.1%		

*** $p < .001$

Examination of the unique effect of individual variables (i.e., controlling for the effect of other variables), only one variable, perceived need of condoms in safe relationships, reliably predicted condom use (Wald criterion, $\chi^2 = 33.12$, $p < .001$). However, the odds ratio of 1.17 shows little change in the likelihood of consistent condom use on the basis of a one unit change in perceived need of condoms in safe relationships. Put another way, the odds are 1.17 higher of belonging to the consistent group as the score on the perceived need of condoms in safe

relationships scale increases by one unit. Overall correct classification for females was moderate (81.1%)¹¹. On the basis of these 9 variables, correct classification rates were 58.5% for women reporting consistent condom use, and 90.1% for women reporting inconsistent/no condom use. These results indicate that the variables previously suggested in the literature are, taken together as a group, useful in the prediction of level of condom use for young adult heterosexual women in new on-going dating relationships. In particular, for females, the 9 variables as a group were useful in the classification of inconsistent/no-condom use, but did not add to the classification of consistent condom use.

Logistic Regression Examining Likelihood of Level of Male Condom Use Attributable to 9 Previously Identified Variables

The first logistic regression for males included 234 of the original 260 male respondents. Twenty-six cases were excluded due to missing data on some of the predictor variables. One hundred and seventy males were classified as inconsistent/non-condom users (72.6%), and 64 were classified as consistent users (27.4%). As shown in Table 13, the first predictive model examining the likelihood of level of condom use attributable to the 9 variables yielded a statistically significant model ($X^2 = 38.88, p < .001$), accounting for an approximated 22% of the variance in level of condom use (Nagelkerke $R^2 = .22$). As was the case for females, examination of the unique effect of individual variables (i.e., controlling for the effect of other variables), only one variable, perceived need of condoms in safe relationships, reliably predicted condom use

¹¹ Given the uneven distribution between the two levels of condom use (i.e., 73% inconsistent/non-users; 27% consistent users), the overall classification must be compared to a higher cut point of 60.58% (i.e., $((.73 \times .73) + (.27 \times .27)) = .6058$)

Table 13: Logistic Regression Analysis Of Level of Condom Use as a Function of Communication Knowledge, and Attitudinal Variables for Males

Predictor Variable	B	Wald	Odds Ratio
Duration of Relationship	-.04	.82	.96
Knowledge re transmission of HIV	-.11	1.94	.90
Knowledge re protection against HIV	-.18	2.03	.84
Global Attitude toward condom use	.02	.63	1.02
Perceived Risk of contracting HIV if condoms not used	.05	4.88	1.05
Relationship Safety and Perceived need of condoms	.09	16.22***	1.09
Perceived effect of condoms on sexual experience	-.01	.33	.99
Health communication (discussion of sexual history)	.03	.16	1.03
Sexual Communication (discussion of sexual issues)	-.01	.19	.99
Constant	-2.58	3.35	.08
-2 Log Likelihood	235704		
Model Chi-square (df=9)	38.88		
p	.000		
Overall rate of correct classification	67.5%		

***p<.001

(Wald criterion, $\chi^2 = 16.22$, $p < .001$). However, similar to that found for females, the odds ratio of 1.09 shows little change in the likelihood of condom use on the basis of a one unit change in perceived need of condoms in safe relationships. Put another way, the odds are 1.09 higher of belonging to the consistent group as the score on the perceived need of condoms in safe relationships scale increases by one unit. Overall correct classification for males was again moderate (75.6%). On the basis of these 9 variables, correct classification rates were 29.7% for men reporting consistent condom use, and 92.9% for men reporting inconsistent/no condom use. As was the case for females, these results indicate that the variables previously suggested in the literature are, taken together as a group, useful in the prediction of level of condom use for young adult heterosexual men in new on-going dating relationships. In particular, for males, the 9 variables as a group were useful in the classification of inconsistent/no-condom use, but did not add to the classification of consistent condom use.

Logistic Regression Examining Likelihood of Couple Condom Use Attributable to 9 Previously Identified Variables

For couples, the first predictive model examining the likelihood of consistent condom use predicted from the 9 variable set was performed with data from 191 of the original 260 couples. Sixty-nine couples were excluded due to missing data. One hundred and forty-one couples were classified as inconsistent/non-condom users (73.8%), and 50 were classified as consistent users (26.2%). As shown in Table 14, the overall model was statistically significant (model $X^2 = 39.35$, $p < .001$), accounting for an approximated 27% of the variance in level of condom use (Nagelkerke $R^2 = .27$). An examination of the unique effect of individual variables (i.e., controlling for the effect of other variables), revealed again that only one variable, perceived need of condoms in safe relationships, reliably predicted condom use for couples (Wald criterion, $z = 17.20$, $p < .001$).

As may be seen in Table 14, the contrasts for each independent variable were between: 1) the couple mixed category (i.e., one partner with high/positive score on variable, and one partner with low/negative score on the variable) and the couple high category (i.e., both partners with high/positive scores on the variable); and 2) the couple mixed category and the couple low category (i.e., both partners with low/negative score on variable). There was a significant contrast between the mixed and low categories (Wald criterion, $z = 7.13$, $p = .008$). Examination of the odds ratio showed that the odds of belonging to the inconsistent/no-condom use group are 5.28 (1 ÷ .189) higher when both partners of the couple report low perceived need of condoms in safe relationships, than when one partner reports high perceived need and the other reports low perceived need. A subsequent contrast was computed, contrasting couples with low perceived

Table 14: Summary of Logistic Regression Analysis Predicting Level of Couple Condom Use

Predictor Variable		B	Wald	Odds Ratio
Duration of Relationship		-.04	.45	.96
Health communication-	Mixed		2.88	
	Low	-.80	2.83	.45
	High	-.37	.58	.69
Sexual Communication-	Mixed		.42	
	Low	-.88	.09	.00
	High	.43	.32	1.54
Knowledge re transmission of HIV-	Mixed		1.34	
	Low	.56	1.28	1.75
	High	.30	.47	1.35
Knowledge re protection against HIV-	Mixed		1.19	
	Low	.42	.28	1.52
	High	-.33	.60	.72
Perceived effect of condoms on sexual experience	Mixed		3.77	
	Low	-1.08	3.55	.34
	High	-.56	1.62	.57
Global Attitude toward condom use	Mixed		.37	
	Low	7.79	.05	2404.35
	High	.88	.33	2.41
Perceived Risk of contracting HIV if condoms not used	Low	.647	.53	1.91
Relationship Safety and Perceived need of condoms	Mixed		17.20	
	Low	-1.66	7.13***	.19
	High	.89	4.52	2.45
Constant		-1.96	.94	.14
-2 Log Likelihood		180.26		
Model Chi-square (df=16)		39.35		
p		.013		
Overall rate of correct classification		75.9%		

*p=.01

need and high perceived need. Again, a significant contrast was found (Wald criterion, $\chi^2 = 16.62$, $p < .001$). The odds of belonging to the consistent condom use group are 12.5 higher when both partners in the couple report high perceived need of condoms in safe relationships than when both partners report low perceived need. Overall correct classification for couples was moderate (75.9%). On the basis of these 9 variables, correct classification rates were 93.6% for couples reporting inconsistent/no-condom use, and 26.0% for couples reporting consistent condom use.

Thus, these results again indicate that the variables previously suggested in the literature are, taken together as a group, moderately useful in the prediction of level of condom use for young adult heterosexual couples in new on-going dating relationships. In particular, for couples, the 9 variables as a group were useful in the classification of inconsistent/no-condom use, but did not add to the classification of consistent condom use.

Logistic Regressions Examining Likelihood of Level of Condom Use Attributable to 3 Relationship Variables (conducted separately for Females, Males and Couples)

The second logistic regression for females included 244 of the original 260 female respondents. Sixteen cases were excluded due to missing data on some of the predictor variables. One hundred and seventy-eight females were classified as inconsistent/non-condom users (73.0%), and 66 were classified as consistent users (27.0%). As shown in Table 15, the predictive model examining the likelihood of level of condom use attributable to the 3 relationship variables yielded a non-significant model ($X^2 = 2.71$, $p = .439$, Nagelkerke $R^2 = .02$). A similar regression for males (as shown in Table 16), including 246 of the original 260 male respondents (176 inconsistent/non-users; 70 consistent users), also yielded non-significant results (model $X^2 = .67$, $p = .880$, Nagelkerke $R^2 = .004$). Similarly, the regression for couples, including 214 of the original 260 couples (158 inconsistent/non-users; 56 consistent users), found that the predictive model also yielded non-significant results (model $X^2 = 3.92$, $p = .688$, Nagelkerke $R^2 = .03$). These results indicate that the models comprising relationship variables do not significantly predict condom use for heterosexual males, females or couples in on-going dating relationships.

Table 15: Logistic Regression Analysis Of Level of Condom Use as a Function of Relationship Variables for Females

Predictor Variable	B	Wald	Odds Ratio
Trust	-.00	.02	1.00
Relationship Satisfaction	.01	.11	1.01
Commitment to Current Relationship	-.27	2.54	.77
Constant	-.02	.000	.99
-2 Log Likelihood	282.16		
Model Chi-square (df=3)	2.71		
p	.439		
Overall rate of correct classification	73.0%		

Table 16: Logistic Regression Analysis Of Level of Condom Use as a Function of Relationship Variables for Males

Predictor Variable	B	Wald	Odds Ratio
Trust	-.00	.10	1.00
Relationship Satisfaction	-.01	.02	.99
Commitment to Current Relationship	-.04	.16	.96
Constant	-.13	.02	.88
-2 Log Likelihood	293.15		
Model Chi-square (df=3)	.67		
p	.880		
Overall rate of correct classification	71.5%		

Table 17: Logistic Regression Analysis Of Level of Condom Use as a Function of Relationship Variables for Couples

Predictor Variable		B	Wald	Odds Ratio
Trust-	-Mixed		.44	
	Low	.58	.28	1.79
	High	-.13	.05	.88
Relationship Satisfaction	-Mixed		.43	
	Low	-.10	.01	.90
	High	.30	.24	1.35
Commitment to Current Relationship	-Mixed		3.54	
	Low	1.05	3.24	2.87
	High	-.14	.11	.87
Constant		-1.24	2.96	.29
-2 Log Likelihood				
Model Chi-square (df=6)		282.16		
p		2.71		
Overall rate of correct classification		.439		
		74.3%		

Overall, the results of the logistic regressions examining the 9 communication, attitudes towards condom, and knowledge variables, conducted separately for females, males, and couples, yielded overall significant models for likelihood of condom use. The variables, when taken together, are moderately useful in predicting the likelihood of level of condom use. However, the only unique variable to significantly predict likelihood of level of condom use was the perception of whether condoms were needed in safe relationships. This likelihood was particularly clear in the couples analysis, where it was observed that the odds of belonging to the inconsistent/no-condom use group were significantly higher if both partners reported low perceived need for condoms in safe relationships, than when partner perceptions regarding need for condoms in safe relationships were mixed. Similarly, the odds of belonging to the consistent condom use group were significantly higher when both partners reported high perceived need for condoms in safe

relationships, than when both partners reported low perceived needs. In comparison, the odds ratios for males and females showed little change in the likelihood of condom use on the basis of a one unit change in perceived need of condoms in safe relationships.

These results also suggest that although the nine variables, when taken together as a group, significantly predict level of condom use, the variables together are of particular use in classifying inconsistent/no-condom use. Results of the logistic regressions examining relationship variables, conducted separately for females, males and couples, revealed no significant model for likelihood of condom use. Thus, although it has been suggested that relationship variables such as trust and commitment are related to whether condoms are used during sexual intercourse, the present results did not bear this out.

Objective 2: Partner Gender Differences Among Variables Associated With Condom Use

Paired t-tests were calculated to determine if there were partner gender differences on the variables hypothesized to be related to condom use.¹² Given the large number of paired t-tests required, in order to avoid a higher risk of Type 1 error, a Bonferroni correction factor of $\alpha = .003$ was employed.¹³ Mean scores and standard deviations were calculated for male and female respondents on the explanatory variables, and appear in Table 18.

¹²Partner gender differences refers to the comparison of the male and female data within each couple, as opposed to simply comparing unlinked responses.

¹³The correction involves revising the significance level such that the desired α is divided by the number of pairs being compared. In the present example, to test for differences between the fourteen pairs at the .05 significance level, the α would be $.05 \div 13$, or .003. This means that for a difference between pairs to be significant at $\alpha = .05$, the computed value for the t statistic would be compared to the critical value for $\alpha = .003$.

Table 18: Mean Scores and Standard Deviations for Male and Female Respondents on the Explanatory Variables

Measure	t(df)	p	Male Respondents M (SD)	Female Respondents M (SD)
Health Communication	t(250)= 3.01	.003*	4.59 (2.55)	5.02 (2.48)
Sexual Communication	t(247)= 1.56	.112	64.36 (10.00)	65.38 (10.67)
Knowledge Re HIV Transmission	t(253)= 1.88	.061	5.83 (2.31)	6.15 (2.20)
Knowledge Re HIV Protection	t(257)= 1.48	.141	4.17 (1.35)	4.32 (1.25)
Perceived Effect of Condom on Sexual Experience	t(245)= 7.49	.000*	30.42 (13.92)	37.14 (13.02)
Global Attitude Toward Condoms	t(242)= 4.41	.000*	44.68 (6.37)	46.70 (6.00)
Perceived Risk of Contracting HIV if Condoms Not Used	t(253)= 0.89	.373	23.74 (8.32)	24.31 (8.65)
Perceived Need of Condoms in Safe Relationships	t(252)= 2.77	.006	16.20 (8.31)	17.61 (7.86)
Number of Previous Sexual Partners	t(248)= -3.45	.001*	5.65 (10.16)	3.84 (6.45)
Trust for Partner	t(245)= 1.03	.304	78.09 (13.80)	78.94 (12.90)
Relationship Satisfaction	t(252)= -0.22	.828	51.67 (8.68)	51.57 (8.13)
Commitment to Current Relationship	t(256)= -0.58	.563	4.69 (0.96)	4.66 (0.92)

*significant at Bonferroni adjusted $\alpha < .003$.

Results supported several of the hypotheses. Female partners had significantly more positive global attitudes about using condoms ($p < .003$) than their male partners (c.f. hypothesis 2.2). Females also reported significantly more positive attitudes about the effect of condoms on sexual experience ($p < .003$) than their male partners (c.f. hypothesis 2.5). Also, when taking into account number of previous sexual partners (c.f. hypothesis 2.6), female partners tended to have significantly fewer previous partners than did males ($p < .003$).

Although it was hypothesized that male partners would be significantly more likely than their female partners to report lower perceived risk of contracting HIV if condoms were not used

(c.f. hypothesis 2.4), no significant difference was found ($p=.373$). In addition, regarding knowledge of HIV transmission and commitment to the current relationship (c.f. hypothesis 2.1 and 2.3 respectively), no significant differences were observed between female and male partners ($p=.061$; $p=.563$ respectively).

Although hypotheses were not made regarding gender differences on some other variables, one additional significant partner gender difference was found. Females indicated they communicated about health related issues significantly more often than their male partners ($p<.003$). Finally, although it approached significance, there was not a significant difference between female and male partners responses with respect to perception of the need for condoms in safe relationships ($p=.006$).

Given that some HIV-risk interventions have focused on increasing levels of health communication, it was felt that the significant difference between female and male communication about health related issues warranted further attention. Examination of Table 8 (question #4) indicated that female respondents reported more often than males that they told their current partner they would not have sex unless a condom was used. A paired t-test on this scale question indicated that this gender difference was significant ($t(257)=3.32$, $p=.001$). Two additional questions included in the questionnaire package relate to the topic of who makes (or influences) the decision to use condoms; these include "When you have sex with your partner, who makes the decision whether to use condoms or not?", and "Indicate how often you have started out wanting to use a condom, but didn't because your partner believed you should not use condoms". Paired t-tests on both of these questions also revealed significant differences, where female partners reported significantly more often than their male partners that they decide more often whether a

condom will be used during sex ($t(255)=3.49, p=.001$), and females reported significantly more often than their male partners that they had started out wanting to use a condom but didn't because their partner believed that a condom should not be used ($t(257)=4.06, p<.001$). These results imply that, although young heterosexual females report carrying the burden of condom use decision-making, they are vulnerable to the influence of a male partner who wishes to forego condom use.

Objective 3: Likelihood of Level of Condom Use Attributable to Attachment Style

The third objective was to determine, among male and female respondents, whether there was a relationship between attachment style and condom use as indicated by consistent and inconsistent/no-condom use. Given the small number of cases for the dismissing and fearful attachment styles, the significance of the relationship between condom use and attachment style was examined by dichotomizing attachment style and creating secure and insecure categories which represent the higher order dimensions of the attachment model. The 'insecure' group comprised respondents who reported Preoccupied, Fearful, or Dismissing attachment styles, and the 'secure' attachment group comprised respondents reporting a Secure attachment style. Frequency data revealed that, for females, 149 (57.3%) respondents composed the secure group and 111 (42.7%) composed the insecure group. For males, 138 (53.1%) composed the secure group, 118 (45.4%) were classified as insecure, and 4 (1.5%) were missing data.

Tables 19 and 20 provide the results of a 2 X 2 chi square analysis, conducted separately for females and males, to examine whether there were attachment style differences in condom use. Results of the chi square analyses, for both males and females, revealed no significant differences

(females: $p=.274$; males: $p=.129$).

Table 19: Prevalence (%) of Level of Condom Use Among Female Respondents Classified as Secure and Insecure Attachment

Consistency of Condom Use	Secure Attachment ($n=111$)	Insecure Attachment ($n=146$)	$\chi^2 (1)$
Consistent	31.5	25.3	1.2
Inconsistent/No-Condom Use	68.5	74.7	

Table 20: Prevalence (%) of Level of Condom Use Among Male Respondents Classified as Secure and Insecure Attachment

Consistency of Condom Use	Secure Attachment ($n=111$)	Insecure Attachment ($n=146$)	$\chi^2 (1)$
Consistent	31.5	25.3	1.2
Inconsistent/No-Condom Use	68.5	74.7	

Likelihood of Condom Use Attributable to Working Models of Self and Others

The second research question, addressed whether an individual's working model, defined as model of self and model of others, was associated with consistency of condom use. As described earlier, working models are internal relational prototypes which shape individuals cognitive, emotional, and behavioral responses to others. Working models have two components; one reflects the individual's image of other people, and the other comprises the individual's image of self. If a person's internal relational prototype is that others are psychologically available and also that the self is worthy and competent in situations in which they require comfort or support, then the relational prototype is secure (Ainsworth, 1991). Individuals with insecure relational

prototypes anticipate rejection or inconsistent responses from others and define the self in terms of limited efficacy and low self-worth. The Multi-item Measure of Adult Romantic Attachment used in this study provides a measure of "Model of Self" (anxiety about abandonment) where higher scores represent a more negative model of self and fear of abandonment, and a measure of "Model of Others" (i.e., avoidance of intimacy) where higher scores represent a more negative model of others and avoidance of intimacy.

To examine whether working models of self and others were associated with condom use, logistic regression analyses were run, separately for males and females. Working Model of Self, and Working Model of Others represented the predictor variables used in the analysis, and condom use (consistent versus inconsistent/no condom use) was the dependent variable.

As shown in Table 21, the overall predictive model for females was not statistically significant (model $X^2 = 4.25$, $p = .120$). A similar non-significant result, as shown in Table 22, was observed for males (model $X^2 = .62$, $p = .735$).

Table 21 : Summary of Logistic Regression Analysis for Working Model Variables Predicting Level of Female Condom Use

Predictor Variable	B	Wald	Odds Ratio
Model of Self	.23	3.26	1.26
Model of Others	-.17	1.93	.84
Constant	.55	1.22	1.73
-2 Log Likelihood	300.61		
Model Chi-square (df=2)	4.25		
<i>p</i>	.12		
Overall rate of correct classification	72%		

Table 22: Summary of Logistic Regression Analysis for Working Model Variables Predicting Level of Male Condom Use

Predictor Variable	B	Wald	Odds Ratio
Model of Self	-.05	.17	.95
Model of Others	-.08	.37	.92
Constant	1.30	5.79	3.66
-2 Log Likelihood	300.91		
Model Chi-square (df=2)	.62		
<i>p</i>	.74		
Overall rate of correct classification	71.4%		

Association Between the 12 Variables and Working Models of Self and Others

Pearson product moment correlations were calculated, separately for females and males, to determine the degree of relationship among the 12 variables (i.e., the previously identified 9 variables and the 3 relationship variables) and models of self and others. Due to the large number of correlations needed, as well as the large sample size included in the study, a more conservative significance level was adopted. Only correlations where Pearson's *r* was equal to or greater than .30 (approximately 10% of the variance) were considered to be significant.

As can be seen from Table 23, for both females and males, four variables were significantly correlated with models of self and others. For both males and females, there was a significant negative correlation found between sexual communication and models of self and others. Given that higher scores on models of self and others correspond to increased levels of anxiety over abandonment (model of self) and increased avoidance of others (model of others), the significant negative correlation reveals that more negative models of self and others are related to decreased communication with partner about sexual topics.

Table 23: Correlation Coefficients of Model of Self and Others, and 12 Variables Suggested to Associated with Level of Condom Use, Separately for Female and Male Respondents

12 Variables		Females		Males	
		Model of Others	Model of Self	Model of Others	Model of Self
Duration of sexual relationship	<i>r</i>	-.05	.07	.04	.14
	<i>Sig</i>	.404	.240	.580	.023
	<i>N</i>	260	260	258	256
Health Communication	<i>r</i>	-.10	.05	-.15	.14
	<i>Sig</i>	.097	.440	.015	.032
	<i>N</i>	254	254	253	251
Sexual Communication	<i>r</i>	-.52***	-.31***	-.47***	-.34***
	<i>Sig</i>	.000	.000	.000	.000
	<i>N</i>	253	253	252	250
Knowledge re transmission HIV	<i>r</i>	-.18	-.02	-.06	-.17
	<i>Sig</i>	.004	.743	.346	.008
	<i>N</i>	256	256	256	254
Knowledge re protection HIV	<i>r</i>	-.08	.01	-.12	-.09
	<i>Sig</i>	.222	.844	.061	.173
	<i>N</i>	260	260	256	254
Perceived Effect Condoms On Sexual Experience	<i>r</i>	.01	-.16	-.18	-.18
	<i>Sig</i>	.828	.011	.004	.005
	<i>N</i>	249	249	254	252
Perceived Risk of Contracting HIV if Condoms not used	<i>r</i>	.21***	.15	.07	.13
	<i>Sig</i>	.001	.015	.298	.046
	<i>N</i>	256	256	255	253
Perceived Need of Condoms in Safe Relationships	<i>r</i>	.08	-.11	-.02	-.13
	<i>Sig</i>	.222	.068	.776	.040
	<i>N</i>	256	256	254	252
Global Attitude Toward Condom Use	<i>r</i>	-.17	-.07	-.25***	-.12
	<i>Sig</i>	.006	.275	.000	.056
	<i>N</i>	249	249	250	248
Trust for Partner	<i>r</i>	-.47***	-.34***	-.46***	-.24***
	<i>Sig</i>	.000	.000	.000	.000
	<i>N</i>	251	251	253	251
Relationship Satisfaction	<i>r</i>	-.40***	-.32***	-.54***	-.18
	<i>Sig</i>	.000	.000	.000	.005
	<i>N</i>	258	258	253	252
Commitment to Current Relationship	<i>r</i>	-.30***	-.00	-.46***	.02
	<i>Sig</i>	.000	.978	.000	.748
	<i>N</i>	257	257	256	255

*** $p < .001$

With respect to trust and relationship satisfaction, significant negative correlations, for males, were found for both model of self and model of others. However, for females, a significant negative correlation was only found between model of others and trust and relationship satisfaction. These results indicate that, for males, trust and relationship satisfaction significantly increase as males become more comfortable with intimacy and autonomy; for females, trust and relationship satisfaction significantly increase as females become more comfortable with intimacy. Significant negative correlations were found, for both males and females, between commitment to current relationship and models of others. This result suggests that commitment to the current relationship significantly increase as males and females become more comfortable with intimacy.

Discussion

In the absence of a vaccine against HIV, behavioral prevention is the most effective strategy to control HIV transmission ((Centers for Disease Control, 1988). Next to celibacy and long-term mutual monogamy, condom use has been shown to be the most effective means to preventing HIV exposure (Moore & Barling, 1991). Although young heterosexual couples in ongoing relationships have been shown to be at higher risk for HIV exposure, given inconsistent or non-use of condoms (Ku, Sonenstein, Pleck, 1992; Metts & Fitzpatrick, 1992; Santelli, et al., 1996), to date, little research has been conducted specifically examining variables related to the condom use decision-making process among young dating couples.

The current study examined consistency of condom use in a sample of young heterosexual dating couples who had been in their current relationship for less than one year. The sample

consisted primarily of individuals from post-secondary education settings, although approximately 30% of the sample was obtained from community-based settings. Consistency of condom use did not differ among participants recruited from post-secondary or community-based settings. The average age of participants in the study was 20-21 years, and the average length of time since first vaginal intercourse was 6 months.

The major goals of the study were: 1) to determine whether there was an association between 9 previously identified variables (i.e., duration of relationship, health communication, sexual communication, global attitude, knowledge of HIV, perceived effects of condoms on sexual experience, perceived risk of contracting HIV, relationship safety and perceived need of condoms), 3 relationship factors (i.e., trust, relationship satisfaction, and commitment to current relationship), and the criterion variable level of condom use; 2) to examine whether there were partner gender differences on the variables believed to be associated with level of condom use; and 3) among male and female respondents, to determine whether there were associations between attachment style and level of condom use.

Can the Current Sample Be Considered "At Risk"?

Results of the present study concerning the prevalence of condom use in the current sample are consistent with previous findings that young adult heterosexual couples are at risk of contracting and transmitting HIV by virtue of their failure to use condoms consistently. On average, males had 5.65 previous sexual partners and females had 3.84 previous partners. Less than 25% of both males and females had used condoms consistently with previous partners, and over half of the sample (both males and females) had never had an HIV test. Although couples

reported a high level of knowledge with respect to HIV/AIDS (i.e. how it is transmitted, and how to protect oneself from contracting HIV), and over 86% indicated that they had used condoms at some point in their relationship, only 24.2% of couples were using condoms consistently at the time of the study. No significant difference in duration of sexual relationship was found for those who reported using condoms consistently than for those who reported using condoms inconsistently/not-at-all, however, couples who had been dating for less than 2 months had the highest rate of consistent condom use, while couples who had been dating for four months or longer had the lowest rate of consistent condom use.

Despite high levels of knowledge about HIV transmission and protection against contracting HIV, as well as high perceived risk of contracting HIV if condoms were not used, 38% of females and 42.8% of males indicated that they never used condoms to prevent against HIV/AIDS or STDs. Among those who used condoms, the overwhelming majority reported that their main reason was for the prevention of pregnancy. Clearly this descriptive data suggests that the motivation for condom use is for pregnancy prevention, as opposed to protection from HIV and STDs. In other words, pregnancy is the risk that is most immediately associated with sex, and one that, therefore, influences decision-making.

It has been proposed that individuals in on-going relationships tend to perceive the risk of pregnancy as being more salient than risk of STDs or HIV because they ascribe low levels of risk to those whom they believe they know well and trust; and they do not view their dating partner as a potential transmission source (Offir, Fisher, Williams, & Fisher, 1993; Williams et al., 1992). This would suggest that, at the beginning of a new relationship, when partners are not as familiar with each other, they may hold different reasons for using condoms, such as protection against

STDs and HIV. Bearing in mind the cross-sectional nature of the current study, it was interesting to note that the main reason cited by respondents for using condoms, namely contraception, was not associated with duration of the relationship. Irrespective of how long the couples had been dating, the main reason cited for using condoms was pregnancy prevention.

Current results suggest that respondents in the current sample were not worried about partner health risks, given that the most frequently discussed topics for both females and males tended to be those issues associated with a partner's past sexual involvements (which allow for an individual to gauge the current relationship potential) as opposed to topics which were health risk related (i.e., HIV symptoms and high-risk activities). As previously described in the literature, many people tend to assume that others whom they like are free from sexually transmitted diseases (Lear, 1997; Middleton, Harris, & Hollely, 1994). Furthermore, even when provided with information which may suggest that a partner may pose a sexual risk, individuals may engage in thought patterns to reduce the cognitive dissonance associated with the aspect of risk (Gold, Karmiloff-Smith, Skinner, & Morton, 1992). By doing so, conclusions about risk are made which support the decision to not practice safe sex. Thus, in many relationships, individuals typically conclude that their partners are safe by the time they decide to engage in sexual intercourse (Affi, 1999). This helps to explain why, even at the beginning of a sexual relationship, couples tend to use condoms for contraception, as opposed to protection against STD/HIV transmission.

Objective 1: Predictors of Condom Use in On-going Relationships

As discussed previously, much of the research examining variables associated with condom use has focused on individuals. Given that condoms are being promoted as a means to

reduce risk of disease, but that individuals in steady/on-going relationships apparently do not perceive themselves to be at risk (Affi, 1999), it is plausible that variables previously identified as being associated with condom use in individuals may not be operating in the context of relationships.

Given the bimodal distribution of rate of condom use in the sample, condom use was transformed into a categorical variable. Two groups, representing risk of exposure to HIV by virtue of level of condom use, were created (i.e., consistent and inconsistent/non-condom use). Scores from 9 variables representing duration of relationship, communication, attitudes towards condoms, and knowledge of HIV transmission and protection, were first used as predictor variables. Subsequent analyses used 3 relationship variables, trust, relationship satisfaction, and commitment to current relationship, as predictors. Variable scale scores were computed for females and males, and congruent partner score (high, low, and mixed) were computed for couples.

Logistic regressions, conducted separately for females, males, and couples, using the 3 relationship variables yielded non-significant results. Thus, the likelihood of condom use was not associated with trust, relationship satisfaction, and commitment to current relationship. However, analyses using the 9 previously suggested variables, did yield overall significant models for likelihood of level of condom use. Examination of the Nagelkerke R^2 for females, males, and couples, suggested an approximation of the variance accounted for by the models to be between 22% and 37%. This suggests that the likelihood of level of condom use is associated with variables previously suggested in the literature to be related to condom use, when taken together as a group. Examination of the classification tables revealed that the 9 variables as a group were

useful in the classification of inconsistent/no-condom use, but did not add to the classification of consistent condom use.

The only unique variable to significantly predict likelihood of condom use was the perception of whether condoms were needed in safe relationships. Questions which comprised this variable defined the 'safety' of the relationship from subjective beliefs, including

- ▶ A condom is not necessary when you and your partner are monogamous.
- ▶ A condom is not necessary when you know enough about the person to trust his/her word about his/her past.
- ▶ A condom is not necessary when you plan to marry the person.
- ▶ A condom is not necessary when you're pretty sure the other person doesn't have a sexually transmitted disease.
- ▶ A condom is not necessary when you are with the same person for a long time.

Lower scores on these questions represented a view that the respondent agree with these statements. Given that a majority of respondents in the current study reported that they had never had an HIV test, and reported having several previous sexual partners, those respondents who endorsed agreement with the statements representing the "perceived safety" variable may have done so based on subjective data (i.e., formed an opinion on speculation) as opposed to concrete evidence, thus placing themselves at increased risk for contracting HIV.

The effect of perceived need of condoms in safe relationships was particularly clear in couples, where the odds of belonging to the inconsistent/no-condom use group were significantly higher if both partners reported low perceived need for condoms in safe relationships, than when partner perceptions regarding need for condoms in safe relationships were mixed. Similarly, the odds of belonging to the consistent condom use group were significantly higher when both partners reported high perceived need for condoms in safe relationships, than when both partners

reported low perceived needs. The odds ratios for individual males and females showed little change in the likelihood of condom use on the basis of a one unit change in perceived need of condoms in safe relationships.

These findings suggest that, although perceived need of condoms in safe relationships emerged as the most important variable within the group of nine included in the logistic analyses, it is not an overly influential variable for changing the odds of condom use for individual male and female respondents. Perceived need of condoms in safe relationships was, however, an influential variable for changing the odds of condom use in couples. Thus, the current results reveal that it is congruence in partner perceptions of the need for condoms in safe relationships which is associated with condom use.

Although previous studies observed that health communication and global attitudes about condom use were related to whether condoms were used by individuals, results of the present study did not replicate these unique findings. As noted previously by Misovich, Fisher, and Fisher (1997), when couples discuss HIV/AIDS, the discussions tend to be vague, self enhancing, or deceptive in nature. Results of the current study were that the most salient topics discussed by respondents (both females and males) tended to be relational in nature (i.e., number of past sexual partners) or regarding opinions about condom use and birth control, as opposed to health risk related (i.e., past HIV-risk behaviours; discuss the need for HIV testing before having sex). Therefore, although the current sample had a normal distribution of health communication scores, the majority of the questions being asked did not pertain to HIV risk issues. This lack of focus on health-risk related questions in general may have contributed to the non-significant association between consistency of condom use and health communication.

The communication which took place between partners regarding opinions about condom use may also be related to why the likelihood of condom use was not uniquely associated with global attitudes toward condom use. Over 60% of both males and females in the current sample indicated that they had asked their current partner how he/she felt about using condoms before having intercourse. As noted by Misovich, Fisher and Fisher (1997), within an intimate relationship, it is expected that there will be a shift in focus from individual self-enhancement and self-protection to relationship enhancement and relationship maintenance. Thus, if, within the confines of an intimate relationship, partners discuss how they feel about using condoms, these opinions may supersede an individual's personal attitudes in order to foster relationship enhancement. Sheeran et. al., (1999) indicate that both overall attitudes of condom use, and perceptions of partner's attitude toward condoms, were both moderately associated with condom use. Given the relationship context, it is possible that perceptions of partner's attitude toward condoms, and thus relationship enhancement, proved more influential than individual attitudes themselves.

The non-significant unique association between likelihood of level of condom use and knowledge regarding HIV transmission and protection was not surprising given past research findings. In addition, the non-significant association between likelihood of level of condom use and perceived risk of contracting HIV if condoms were not used was also not surprising. As noted by Afifi (1999), many individuals have typically concluded that their partners are safe by the time they decide to engage in sexual intercourse. Therefore, even if they hold a general perception that there is a higher risk of contracting HIV if condoms are not used, the fact that they feel that their partner is safe overrides the general perception.

Although prior studies have suggested that trust, relationship satisfaction, and the commitment of being involved in an on-going relationship are believed to serve as a substitute for condom use or HIV testing (Misovich, Fisher, & Fisher, 1997), no significant association was found between trust and consistency of condom use in the current study. One explanation for these results may be sampling bias whereby couples who showed extreme negative models of self and others (i.e., avoidant attachment styles) were not represented in the current sample. In other words, couples who chose not to participate in the current study may differ from those who chose to participate, on variables which would interact with the criterion variable (i.e., condom use) or some of the predictor variables chosen (i.e., trust, relationship satisfaction, commitment, communication, attitudes). The distribution patterns of the predictor variables tend to bear this out, with the current sample reporting high levels of trust, relationship satisfaction and commitment, regardless of the duration of the sexual relationship.

An alternative explanation is that trust and relationship satisfaction may be expectations which individuals hold prior to becoming involved in an on-going relationship. In other words, those individuals who seek out a steady relationship may automatically attribute trust and relationship satisfaction as being synonymous with the concept of being in an on-going committed relationship; in contrast, those who seek out uncommitted relationships, may not be inclined to attribute the same requirements for trust and relationship satisfaction. If so, this would imply that consistency of condom use was not significantly associated with trust, relationship satisfaction and commitment because individuals enter into different relationship contexts (i.e., uncommitted versus committed) with relationship-specific heuristics which guide their conceptualization of trust and commitment.

A third explanation may be that the trust and commitment to relationships themselves represent heuristics which may be used to justify sexual risk-taking. For example, Willig (1997) links between conceptualizations of trust and sexual risk taking. In examining constructions of trust and sexual risk taking, Willig identified three discursive constructions of trust which were used by respondents to justify sexual risk taking, including trust-as-security (argued that they were safe *because* they trusted their partner; i.e., trust was outside the problem of HIV vulnerability), trust-as-symbolic practice (acknowledged deliberate risk taking in the interest of relationship maintenance), and trust-as-social regulation (maintained taking risks in the interest of a greater social good, namely the maintenance of trust among individuals within society). Willig notes that those who use such constructions of trust and risk taking, or are positioned by their partners to adopt them, may find it difficult to challenge professions of trust by requesting safer sex practices such as condom use.

Trust may not have distinguished degree of condom use in the current sample because it was measured in a global manner, which reflected respondents' abstract positive expectations that they can count on their partner for care and responsiveness to their needs. By using such a scale, trust was ultimately epitomized as positive and confident attributions of attachment and commitment to one's partner, as opposed to examining trust with respect to the context surrounding sexual risk-taking. The measure used in the current study is limited because it does not acknowledge the immediate interpersonal context within which trust is negotiated or the manner in which individuals may discuss trust in order to achieve particular objectives within a particular interaction sequence (Willig, 1997). Thus, future studies should examine on a longitudinal basis constructions of trust and how they are used to justify risk-related behaviour

such as the decision to use condoms.

Overall, although variables previously suggested in the literature to be associated with condom use, in combination, were moderately successful in predicting the likelihood of level of condom use, the decision about whether young heterosexual dating couples use condoms or not appears to be more related to arbitrary judgements based on a prototype of what a “safe” partner is, then to concrete “here and now” information regarding the HIV-risk status of the partner. In other words, regardless of their perceptions that there is an increased risk of contracting HIV if condoms are not used, regardless of their increased risk of contracting STDs or HIV, and despite the lack of specific information on which to base their judgement, it is the arbitrary perception of whether condoms are actually needed in ‘safe’ relationships which has the greatest impact.

Given these results, it is plausible that the images and beliefs which individuals hold about “safe” partners and the need for condom use are formed prior to entering into the sexual relationship with their partner. Individuals enter into relationships with different prototypes of what a “safe” versus “unsafe” relationship is. Tversky and Kahneman (1974) suggest that when trying to process social information and determine whether an individual matches a cognitive prototype, cognitive strategies known as heuristics are often used. Heuristics are principles which reduce the complex tasks of assessing probabilities and predicting values in everyday situations to simpler judgmental operations (Tversky & Kahneman, 1974). Two types of heuristics are common and have been linked to how people form judgements about those with and without HIV (Triplet, 1992). These include the representativeness heuristic and the availability heuristic.

The representativeness heuristic is said to be descriptive of a person’s cognitive processes when the person makes a judgement by deciding whether an object or person is representative of a

category or prototype (Garb, 1994). For example, a person drives up to a diner and in the parking lot sees a motorcycle. On entering the diner, the person scans the room for a seat. In scanning the room, the person sees a man sitting at the counter who has long hair and a leather jacket. The person may automatically assume that the person at the counter owns the motorcycle in the parking lot because of his appearance. This judgement is made based on the rule that the more similar an individual is to a “typical” member of a given group, the more likely it is that he/she belongs to that group. Thus, a quick assumption is made based on the representativeness of the traits which typically are associated with a preconceived prototype.

When someone chooses a partner with whom he/she considers safe, it is plausible that they have a preconceived prototype of what the “typical” person with HIV/AIDS is like, and if the current partner does not “fit” with the characteristics associated with that preconceived prototype, the degree of perceived risk diminishes. Triplet (1992) provided support for this supposition. When respondents examined case descriptions of hypothetical patients, descriptions of individuals who were homosexuals were more likely perceived to have AIDS regardless of symptoms, whereas heterosexuals were more likely perceived to have other diseases. Thus, on the basis of incomplete information and previously formed judgments, decisions were made about the risk-status of patients in the hypothetical descriptions.

Misovich, Fisher, and Fisher (1997) describe that when presented with the decision of whether to engage in sex with a new partner, individuals will use heuristics such as *known-partners-are-safe-partners*, and *trusted partners are safe partners* in order to guide their decision-making process. The pattern of findings in this study can be viewed as representing these heuristics, and can be interpreted to reflect respondent behaviour being influenced by the illusion

of controllability over potential risk. For example, respondents in the current study may have felt that, because they were in a steady relationship with a heterosexual partner whom they knew and trusted, they were at decreased risk for contracting HIV. They may have formed this “optimistically biased” (Weinstein, 1989) risk perception based on previously formed judgements as to “who” it is that “usually” has HIV, or what would have to happen for them to “get it”. Unfortunately, based on the data collected in the present study, it was not possible to examine whether this actually occurred, and thus, examination of this warranted in future studies.

The availability heuristic suggests that the easier it is to bring instances of some group, category, or event to mind, the more prevalent or important these are judged to be (Baron & Byrne, 1997). For example, symptoms associated with ailments which are common (e.g., influenza) or are highly publicized (e.g., HIV/AIDs) are much more likely to be recalled than those which are not common or highly publicized (Triplet, 1992). Although HIV/AIDS has received tremendous attention in the media over the last decade, many individuals may not be able to identify someone that they know who has HIV, thus providing the heuristic that HIV is not highly prevalent. Similarly, because symptoms associated with HIV have been widely portrayed in movies and news programs, individuals may lower their perception of risk-potential when they cannot readily see in a new partner, symptoms associated with HIV/AIDS.

Thus, availability heuristics may also support optimistic bias regarding the risk or consequences of having sexual intercourse without using condoms. In other words, individuals form judgements about who are “safe” partners based on the availability of information. Again, given the significant association found in the current study between consistency of condom use and perceived need for condoms in safe relationships, it is plausible that availability heuristics are

guiding decisions about whether condoms are needed in steady relationships, which are often considered “safe”.

The present results may also be partly explained by optimistic bias regarding susceptibility to HIV infection. Although respondents in the study had the necessary information, including knowledge about HIV protection and HIV transmission, and health related information regarding partner sexual history, on which to base an informed decision regarding condom use, the majority apparently believed they had reasons to not apply this information in their own current relationship. Given that individuals who are in “steady” relationships tend to engage in higher levels of HIV risk-related behaviour than those who are in casual dating relationships (Bowen & Michal-Johnson, 1989; Misovich, Fisher & Fisher, 1997), it is possible that the former attribute control over susceptibility to HIV to the relationship context (i.e., they have controlled the risk of HIV simply because they are in a steady relationship versus a casual relationship).

Although it would appear, based on levels of trust, relationship satisfaction, commitment to current relationship, and actual level of condom use, that individuals in the current sample considered their partners to be safe, this question was not asked directly. The results, however, suggest that the perception of partner safety and need for condom use goes beyond the current relationship, to a more general level. The significant finding that likelihood of level of condom use is attributable with congruent partner perceptions of the need for condoms in safe relationships provides specific support for this. Those couples where both partners perceived a need for condom use even within the context of a safe relationship were more likely to be using condoms consistently. This implies that, whether couples use condoms or not goes beyond heuristics regarding the safety of the relationship itself (i.e., “known-partners-are-safe-partners” and

“trusted-partners-are-safe-partners”), to a more generalized heuristic regarding the actual perceived need of condoms regardless of whether the relationship is safe or not. In addition, not only is the perception of need of condoms important, but also whether partners hold the same perception. For those with mixed perceptions, it is possible that cognitive dissonance takes place when partner perceptions do not match, and other variables intervene and mediate the final decision.

These results are important for prevention programs aimed at changing condom use behaviour in young heterosexual dating couples. As noted previously, condoms have been marketed as a device used to protect against disease. In addition, young heterosexual adults in newly-formed on-going relationships have cognitive biases which lead them to conclude that condoms are not needed when their partners are considered to be safe from disease. Results from the current study suggest that the heuristics which guide this cognitive bias appear to happen prior to forming on-going relationships. When these results are combined with those of previous studies suggesting negative relational consequences associated with the introduction of condoms (e.g., Afifi, 1999; Galligan & Terry, 1993), it is obvious that campaigns promoting condom use need to change the meaning of condom use.

For example, an emphasis must be made on reshaping the meaning of the behaviour (condom use). One suggestion has been that, rather than focusing on the need for condoms to protect an individual from contracting diseases from a partner (a message which denotes an imminent threat from one’s partner, or may imply that the individual themselves is promiscuous), programs could emphasize the need for condoms to promote personal health and safety (Afifi, 1999). Although this refocus may be beneficial for individuals in casual or uncommitted

relationships, given the evidence that there may be a shift in focus from individual self-protection to relationship enhancement and maintenance in on-going relationships, it is unlikely that this emphasis may provide the desired results with couples.

Alternatively, results of the current study suggest that prevention programs need to focus on reshaping the heuristics which young heterosexual adults hold, from subjective ones to more objective ones. For example, rather than stressing subjective heuristics such as “known-partners-are-safe-partners” or “trusted-partners-are-safe-partners”, the emphasis needs to be changed to more objective heuristics such as “tested-partners-are-safe-partners”. In other words, interventions are needed which address directly the beliefs that monogamy and taking a history of past relationships are sufficient protection against exposure to HIV, and attempt to change them to reflect more concrete estimates of a partner’s risk.

Interventions must also be developed at the level of the couple which focus on the relational significance associated with condom use. Although Horn and Brigham (1996), suggest that self-management skills training may be an appropriate method of helping individuals change their perceptions of the need for condoms in safe relationships, as found in the current study, simply providing individuals with the skills needed to change perceptions may not be sufficient. Given the dyadic nature of the decision to use condoms, and the need for congruency between partner perceptions, interventions are needed which address clear communication between partners, as opposed to superficial exchanges of information which only touch on the topic of HIV risk-factors. The ultimate goal of these interventions is to help partners develop a shared view regarding the context in which condoms are needed. It is possible that couples in the current study, in which partners held the same perceptions regarding the need for condoms even in safe

relationships, were able to communicate on a level which allowed shared views, and denoted the ability to put aside one's own view without loss or threat to perceptions of self. Teaching partners the ability to suspend one's own view for a time, to enable fact-based versus emotional communication about HIV, would be a possible focus for couple-based intervention programs.

From a primary prevention standpoint, the results of this study suggest that prevention programs are needed which shape young people's perceptions regarding the circumstances which require condom use. For example, rather than promoting a connection between condom use and partner safety, it would be beneficial for programs to promote the context for which condom use is necessary (i.e., condom use is needed at all times, unless a partner has been tested for HIV/STDs). Given that optimistic biases often prevail which lead individuals to come to the conclusion "it can't happen to me", rather than simply disseminating information about the consequences of sexual risk-taking, a more concrete approach of disseminating the information could be taken. For example, similar to prevention campaigns for spinal injuries, it may be more effective to have spokespersons with HIV/AIDS (i.e., young adults who have contracted HIV/AIDS) act as messengers. These programs must also focus on the need for clear communication prior to engaging in sexual acts, which denotes not only concern for personal safety, but concern for partner safety as well.

Objective 2: Gender Differences Among Variables Suggested To Be Related to Condom Use

Previous studies have found that males and females differ with regard to variables related to condom use (Catania, Coates, & Kegeles, 1994; Catania, Dolcini, Coates, Kegeles, Greenblatt, Puckett, Corman, & Miller, 1989; Jadack, Shibley Hyde, & Keller, 1995; Kegeles, Adler, & Irwin,

1988; Sheeran, Abraham, & Orbell, 1999). Acknowledging and understanding gender differences is important from an intervention standpoint. Although the final decision of whether to use condoms or not depends on the couple as a unit, the contribution each partner makes to the decision is important. Thus, understanding gender differences on variables which differentiate between those who use condoms consistently and those who use them inconsistently or not at all, may lead to a better understanding of sexual decision-making. This understanding can ultimately be used for the development of interventions geared toward reducing inadvertent risk-taking.

Paired t-test analyses supported several of the gender differences regarding attitudinal variables previously cited in the literature. Even when in an ongoing relationship, females tend to maintain a significantly more positive attitude with respect to condom use in general, and with respect to the effects that condoms have on the sexual experience, than their male counterparts. In addition, the results suggest that young adult heterosexual females ask health related questions pertaining to their partner's HIV/AIDS risk status significantly more often than young adult heterosexual males. Finally, the results provide support that young heterosexual males tend to, on average, have a significantly greater number of previous sexual partners, than do young adult heterosexual females. Overall, these results provide a picture of young adult heterosexual males being at higher risk for non-condom use than their female counterparts.

Several differences were not found between males and females. Although, based on previous literature, it was hypothesized that gender differences would be found with regards to perceived risk of contracting HIV if condoms not used, knowledge regarding HIV transmission, and commitment to current relationship, no significant differences between male and female partners were found. Several explanations may account for these findings. First, the sample

consisted of primarily young adults with higher levels of education, which may have accounted for increased knowledge regarding HIV transmission, and greater perception for risk of contracting HIV if condoms were not used. Second, although results of previous studies have suggested differences in male and female commitment to relationships, this data was gathered from samples who were not necessarily engaged in on-going relationships. It is plausible that those in relationships may well share some attitudes or attributes, making commitment to relationships similar. This possibility bears out when examining the attachment styles of respondents in the current study. Those with avoidant attachment styles were not overly represented in the current sample.

One interesting finding which emerged was the significant difference between female and male partners' communication about health related questions pertaining to partner's HIV/AIDS risk status. The data indicate that female respondents reported significantly more often than males that they told their current partner they would not have sex unless a condom was used. In addition, female partners reported significantly more often than their male partners that: 1) they make the decision regarding whether a condom will be used during sex, and also 2) that they had started out wanting to use a condom but didn't because their partner believed that a condom should not be used. Thus, although females feel they have the primary responsibility for determining whether condoms will be used, their decision is apparently influenced by male perceptions of whether condoms should be used.

These results support those reported in the literature review by Edgar and colleagues (1992), which found that females tended to use power strategies (i.e., "no condom, no sex") or request directly that a condom be used, and also tended to initiate condom use more often than

men. Although a request to use a condom was likely to be met without resistance, similar to current findings, a large proportion of individuals still did not insist on their use.

The results imply that, although young heterosexual women in new dating relationships may start the relationship by being assertive and insisting that a condom be used (i.e., possibly accounting for the high percentage of couples who reported using condoms at some point in their relationship), it is possible that interaction with a partner regarding a partner's perception of the need for condoms may interfere with the woman's initial choice. Although women may be assertive regarding condom use at the beginning of the relationship, very early on, as noted in the present study, the use of condoms is forgone. Thus, it is evident that the context of the relationship itself may actually alter the woman's assertiveness toward condom use.

Current findings indicated that females asked their male counterparts about sexual health-related issues significantly more often, which may have led female partners to assess their level of risk at a higher level. Although this is a plausible explanation, no significant difference was found between male and female partners regarding perceived risk if condoms were not used.

Examination of the distribution of responses by males and females on the perceived risk factor found that both genders held greater perceptions of increased risk of contracting HIV if condoms were not used. Thus, male partners were just as likely as their female partners to acknowledge increased risk of contracting HIV if condoms were not used. Unfortunately, although the current study examined respondents' perception of risk for HIV if condoms were not used, the study did not ask the questions "Do you feel that you are currently at risk of contracting HIV?" and "If you do feel that you are at risk of contracting HIV, for what reason(s) do you feel at risk?". Answers to these questions may have provided useful insight into the thoughts of respondents regarding

their personal perception of risk, as opposed to examining a perception of risk in general.

It is possible that high levels of knowledge regarding protection against HIV reported by both male and female partners contributed to the similarities in perceived risk of contracting HIV if condoms were not used. It is again interesting to note, however, that this increased perception of risk did not translate into couples using condoms more consistently. These results suggest that, although both males and females are able to identify the risks associated with contracting HIV/AIDS and STDs if condoms are not used, they may believe that they themselves are less susceptible to contracting HIV/AIDS, and thus, do not need to protect themselves against the risk. Support for this explanation may be found in the literature examining unrealistic optimism, which suggests that individuals have the tendency to view their own risk as lower than the risk experienced by others (Harris & Middleton, 1994; van der Pligt, Otten, Richard, & van der Velde, 1993; Weinstein, 1982; Weinstein, 1989; Weinstein & Klein, 1996; Whaley, 2000). Or, in more simplistic terms, to be guided by the thought "It may happen to others, but it won't/can't happen to me". This means of cognitive comparison has been defined as "optimistic bias" or "unrealistic optimism". It has been argued that optimistic bias is one factor that undermines preventive behaviour (Whaley, 2000). In other words, individuals are less likely to engage in preventive behaviour if they believe their probability of contracting HIV is lower than would be expected in the general public. Support for this belief of lower susceptibility has been documented throughout literature related to health-protective behaviour and stems from a larger body of research focused on self-serving or self-enhancing biases (e.g., Goethals, Messick, & Allison, 1991; Hoorens, 1993).

Several explanations have been proposed as to why people perceive themselves to be at

lower susceptibility to health problems such as HIV. These include motivation to protect self-esteem through cognitive distortions, that distortions are used to project a positive self image, or that distortions are used to reduce anxiety about risk (Gerrad, Gibbons, & Warner, 1991; Hoorens, 1993; Taylor et al., 1992; Weinstein, 1980). Harris and Middleton (1994) have suggested that the perceived controllability of a risk is associated with the amount of unrealistic optimism it elicits. In other words, people may believe "if HIV can be prevented, it can't be that much of a risk for me". As noted by Harris (1996), there has also been evidence to suggest that people's judgments of the control that they have over events can be exaggerated and even illusory (Colvin & Block, 1994; Langer, 1983; Taylor & Brown, 1994). For example, people may make statements such as "there's no way I would ever let myself get HIV". Thus, optimistic biases regarding perceptions of risk may ultimately be formed on distorted information about the controllability and actual implementation of the control of the event associated with the risk.

It is interesting to note that, if females are ultimately being given the responsibility of making the decision regarding condom use, why aren't they doing so? It is possible that gender differences in the expectations concerning the development and expression of intimacy help to explain the current results. For example, it has been suggested that males' derive meaning from experiences by identifying their separateness from others, whereas females interpret experiences within a framework of connectedness and caring involvement (Belenky, Clinchy, Goldberg, & Tarule, 1986; Dinnerstein, 1976; Gilligan, 1982). Thus, if females interpret their sexual relationship within a framework of connectedness, the use of condoms may be perceived as a component which interferes with the connectedness of the relationship. Although many intervention programs have been developed which focus on teaching women assertiveness skills,

in the context of an on-going relationship, these skills may not be used because asserting that condoms be used may not actually coincide with the context of being in a relationship.

Taken one step further, it is possible to speculate that gender differences in attitudes or heuristics regarding intimacy and attachment may be related to condom use. Males and females may enter into relationships with different expectations concerning what the use of condoms means to the intimacy of the relationship. If the expectations of the male and female differ, conflict could result, leading to uncomfortable anxiety about what the “right” thing to do is. Unfortunately these postulations could not be tested with the current data, but are interesting for future study.

Overall, results of Objective 2 suggest that, although females maintain a significantly more positive attitude with respect to condom use, indicate to their partner significantly more often that they will not have sex without the use of a condom, and ultimately are noted to make the decision regarding condom use significantly more often than their male partners, it is obvious from the current study that the decision to use condoms is being thwarted very early in on-going relationships. Thus, although programs are being focused on supplying women with the communication and assertiveness skills needed to insist on condom use, these skills may not actually be employed in the context of on-going relationships. Given this information, it may be beneficial for interventions to address gender specific attitudes and judgements regarding the implied meaning which condom use implies in the context of the relationship. If women denote condom use as interfering with the expression of intimacy, teaching assertiveness skills would be meaningless, because they are likely not to use these skills if the outcome is detrimental to the intimacy desired from the context of the relationship.

Objective 3: Attachment Style and Condom Use

Only 8% of females and 11% of males in the present sample of dating couples were classified as having a dismissing attachment style according to their responses on the attachment questionnaire. This representation of dismissing attachment style corresponds to what would be expected given that the current study included only couples. It has been noted in the literature that those with dismissing attachment styles have difficulty maintaining committed relationships, and tend to forego commitment (cf. Feeney, 1999). Thus, the representation of attachment styles in the current study may be a representation of that which would typically be found in a general population sample of couples.

Given the small number of cases for the dismissing and fearful attachment styles, attachment style was examined by dichotomizing it into two categories, secure and insecure. When examining attachment style in this manner with the use of chi square analysis, attachment style did not significantly distinguish level of condom use for either males or females. Similarly, logistic regression, conducted separately for females and males, examining the likelihood of level of condom use attributed to working models of self (i.e. anxiety over abandonment) and others (i.e., avoidance of intimacy), did not reveal a significant association.

To examine whether working model of self and working model of others was associated with variables related to condom use, both those previously identified in the literature, as well as proposed relationship variables, correlations were conducted, separately for males and females. For both males and females, more negative models of self and others were related to decreased communication with partner about sexual topics. Likewise, for both males and females, trust significantly increased as they become more comfortable with intimacy and autonomy. In

addition, for both males and females commitment to current relationship significantly increased as they became more comfortable with intimacy. For males, a positive global attitude toward condom use was associated with greater comfort with intimacy. For females, less comfort with intimacy was associated with a higher perceived risk of contracting HIV if condoms not used. It is possible that females who avoid intimacy perceive themselves to be at higher risk for HIV contraction.

Although it is disappointing that a relationship between level of condom use and attachment (either attachment style, or working models) was not supported, the relationship between working model and variables associated condom use and the context of the relationship itself, intuitively makes more sense. The current results support previous findings which have linked attachment style with quality of the relationship (cf. Feeney, 1999). Given that women have been described as tending to act as the emotional caretakers of close relationships (Feeney, 1999), the current results showing that relationship variables (i.e., relationship satisfaction and commitment) were associated with female model of self (i.e., anxiety over abandonment), is expected. In addition, variables associated with specific perceptions of condom use (i.e., perceptions of risk, effect of condoms on sexual experience) use tended to be associated with female model of others, indicating a connection between specific attitudes toward condom use and comfortableness with intimacy. The opposite was found for males, whereby relationship variables were associated with model of others, and perception of risk was associated with model of self. This suggests that for males, aspects of the relationship are directly related to desires for intimacy, whereas aspects of HIV risk and perceived need for condoms, is more directly related to issues of abandonment.

These differences in gender attachment styles, and how they relate to variables associated with condom use, suggest that there may be a connection between heuristics formed as part of working models, and heuristics which individuals hold regarding intimate relationships, and issues regarding perceptions of condom use. Collins and Read (1994) believe working models affect cognitive responses by guiding people's attention to certain aspects of stimuli that confront them, by creating biases in memory encoding and retrieval, and by affecting explanation processes. In other words, working models serve to shape individuals' views and responses to others, and ultimately the behaviours which stem from these responses. Thus, the views and responses to others which are a direct result of the individual working model, may form heuristics which then guide additional variables associated with individual behaviours such as sexual risk taking and, ultimately, condom use.

Research examining attachment and sexuality has shown that secure individuals tend to be involved in more lasting relationships, and are more likely to be involved in mutually initiated sex and enjoy intimate physical contact (Hazan, Zeifman, & Middleton, 1994). Given the current finding of a significant relationship between perceived safety of relationship and condom use, it could be postulated that those characterized by secure attachment may feel that relationships were safer, and thus, would not perceive the need for condoms. In contrast, avoidant individuals (i.e., those with negative models of others) have been shown to report activities which show more acceptance toward uncommitted sex, such as engaging in one-night stands and expressing that sex without love is acceptable (Brennan & Shaver, 1995; Hazan, Zeifman, & Middleton, 1994). In addition, these individuals have been shown to limit the amount of intimacy gained from a relationship, in order to satisfy their need for independence (Collins & Read, 1990).

Although intuitively appealing, the data from the current study did not support an association between perceived need of condoms in safe relationships and attachment working models. This lack of connection may be associated with the fact that differences in attachment working models themselves are characterized by perceived “safety” of the relationship, which would negate any differences which would be found concerning perceptions of need for condoms in safe relationships. If individuals with avoidant attachment styles do not perceive relationships to be safe, the concept of the need for condoms in safe relationships would not technically be considered as necessary.

Although the findings of the current study did not support a direct link between individual attachment style or working model and condom use, the possibility still exists that when partners with differing working models form a relationship attachment, pre-conceived heuristics regarding relationship safety may change. The literature on attachment working models suggests that working models are prone to change if one is presented with stimuli which contradict or challenge encoded heuristics guiding relationship attachment (Collins & Read, 1990). This suggests that, for example, individuals with avoidant attachment style (i.e. negative working models of self and others) may have formed particular heuristics regarding the relative safety of relationships. If paired with a secure partner, these perceptions or heuristics may be challenged, resulting in different perceptions of risk, and different decisions regarding the need for condom use; if paired with an avoidant partner, or a fearful or preoccupied partner who are more compliant to gain acceptance (Collins & Read, 1990), the heuristics regarding risk perception may not be challenged and preconceived heuristics regarding relationship safety may remain intact. A longitudinal study would be needed to test this.

Individuals with preoccupied or fearful attachment styles (i.e., negative models of self) may be particularly vulnerable to discursive constructions of trust (justification for sexual risk taking discussed earlier; i.e., trust-as-security; trust-as-symbolic practice; trust-as-social regulation; Willig, 1997), because their need for partner acceptance makes it difficult for them to challenge declarations of trust by requesting safer sex practices such as condom use. There is some support for this view. For example, according to Belsky and Cassidy (1994), women with ambivalent (preoccupied) attachment styles are often paired with avoidant (fearful) men. In the present study, only 11 couples were composed of females with a preoccupied attachment style (i.e., negative model of self, and positive model of others) and males with a fearful attachment style (i.e., negative model of self, and negative model of others). Examination of condom use for these couples indicated that 88% used condoms inconsistently or not at all during the four weeks prior to the study.

Although these findings hint at a relationship between couple attachment style and condom use, unfortunately the small number of couples with a preoccupied female partner and fearful partner made it impossible to test rigorously. Another explanation for why couples with these combined attachment styles may not use condoms is the level of implied intimacy. As previously discussed, condom use in an on-going relationship is often construed as representing distance/formality rather than intimacy (Fullilove et al., 1990; Mays & Cochrane, 1988; Sacco et al., 1991). As reviewed by Feeney (1999), individuals with both fearful and preoccupied attachment styles have been described as desiring intimacy, however those with fearful attachment styles tend to distrust others. In addition, fearful individuals have been described as needing approval and being preoccupied with relationships; and preoccupied individuals tend to be

solicitous and compliant in order to gain acceptance.

It is possible that the combination of these two attachment styles leads to non-condom use out of a desire to ensure intimacy, facilitate the approval needed by the fearful individual, and counter the rejection expected by the preoccupied individual. In other words, couples with these combined attachment styles use condoms less often because they are guided by a heuristic which suggests that condoms interfere with intimacy and thus threatens the safety of the relationship. Coupled with results from Objective #1, showing that partner congruency regarding perception of the need for condoms in safe relationships is significant to the likelihood of condom use, it would be beneficial to examine the association between attachment style, perceived relationship safety, and condom use in more detail for preoccupied/fearful attached couples. It would also be beneficial to examine whether other combined attachment styles are related to condom use as well.

On a final note, one interesting correlation that was found for both females and males, was the positive correlation between sexual communication and model of others. This correlation suggests that an increase in sexual communication is associated with increased comfort with intimacy. This finding is important in the examination of attachment and sexuality because it suggests that attachment style is related to more than the physical expression of sexuality, but is also linked to more interpersonal aspects of the sexual relationship (i.e., being able to communicate with a partner about sexual issues).

The results examining attachment style and condom use do not show a direct association between attachment style and condom use. However, working models are associated with relationship variables such as sexual communication, trust, relationship satisfaction, and

commitment to current relationship. As noted by Collins and Read (1994) working models represent views and responses which may form heuristics which guide individual behaviour. Thus, working models may be associated within a larger context of cognitive patterns which influence the relationship attachment which is associated with the decision-making process which governs condom use.

Although attachment styles, and ultimately working models, were not shown to be associated with level of condom use, given the dyadic nature of condom use behaviour, an alternative explanation is that possibly the stage (or level) of adult attachment formation may actually be related to level of condom use, as opposed to the attachment style itself. For example, as noted by Hazan and Zeifman (1999), during the Pre-Attachment phase, immediate sexual gratification is often the goal. Thus, the implications of using condoms at the start of the relationship may not interfere with the attachment formation because the “attachment worthiness” of the partner may still be under consideration. As the relationship progresses to the ‘Attachment in the Making’ phase, interaction within the new couple are described as becoming more intimate. Given that results of the current study suggest that females are more often responsible for decisions regarding condom use, plus that female tend to be the caretakers of the relationship, it is possible that as the attachment phase progresses to one of more intimacy and a measure of “safe haven”, the use of condoms becomes irrelevant.

Conclusions and Future Directions

Tables 24 and 25 present an over view of the hypotheses which were and were not supported in the current study. In summary, models which included 9 variables, previously

suggested in the literature to be associated with individual condom use, were moderately successful in predicting the likelihood of level of condom use in the current sample of young adult heterosexual couples. One major variable was shown, for males, females and couples, to have a unique contribution in the prediction of level of condom use, perception of need for condoms in safe relationships. The findings suggest that individuals enter into sexual relationships with perceptions regarding the need for condom use within safe relationships, which may support an optimistically biased risk perception, which may ultimately influence the decision of whether to use condoms. For example, the results suggest one heuristic to be “short-term/casual relationship=unsafe relationship=HIV risk=condom use; extended/committed relationship=safe relationship=no/little HIV risk=no condom use”. These perceptions ultimately represent heuristics which have been formed on previous pre-relationship information. In addition, as suggested in the current study, at approximately 4 to 5 months into the relationship, heuristics regarding the need for condoms in safe relationships may be altered to account for the dissonance associated with

Table 24: Summary of the Hypotheses Supported in the Current Study

Objective	Hypothesis Supported
#1: To determine among males, females, and couples, the likelihood of condom use associated with the variables previously suggested in the literature and/or relationship variables	1.2 e) Relationship safety and perceived need of condoms- negative perception of the need for condom use within safe relationships would be associated with increased likelihood of inconsistent/non-condom use
#2: To identify whether there were partner gender differences among the variables which have been suggested to be associated with condom use	2.2 Female partners would report more positive attitudes about condom use than their male partners 2.5 Male partners would report the perception that condoms have a more negative effect on sexual experience than their female partners 2.6 Male partners would report having a greater number of previous sexual partners than their current female partners

Table 25: Summary of the Hypotheses Not Supported in the Current Study

Objective	Hypothesis Not Supported
#1: To determine among males, females, and couples, the likelihood of condom use associated with the variables previously suggested in the literature and/or relationship variables	1.1 a) Duration of relationship- as duration of relationship lengthens, likelihood of inconsistent/non-condom use would be higher; 1.2 a) Sexual Communication- lower levels of sexual communication would be associated with increased likelihood of inconsistent/non-condom use; 1.2 b) Global Attitude toward Condoms- negative global attitude toward condoms would be associated with increased likelihood of inconsistent/non-condom use; 1.2 c) Perceived Risk of Contracting HIV- low perceived risk of contracting HIV would be associated with increased likelihood of inconsistent/non-condom use; 1.2 d) Perception of the Effect of Condom Use on Sexual Experience- negative perception of the effect of condoms on sexual experience would be associated with increased likelihood of inconsistent/non-condom use; 1.3: There would be no significance difference in the likelihood of inconsistent/non-condom use attributed to either knowledge of HIV transmission, or knowledge of the protective effects of condoms protection against HIV. 1.4 a) Commitment to relationship- stronger commitment to current relationship would be associated with increased likelihood of inconsistent/non-condom use; b) Level of trust- high levels of trust would be associated with increased likelihood of inconsistent/non-condom use; c) Relationship satisfaction- high satisfaction with current relationship would be associated with an increased likelihood of inconsistent/non-condom use.
#2: To identify whether there were partner gender differences among the variables which have been suggested to be associated with condom use	2.1: That female partners would report higher levels of knowledge regarding HIV transmission than their male partners. 2.3: Female partners would report higher levels of commitment to the relationship than their male partners. 2.4: That male partners would report lower perceived levels of risk of contracting HIV if condoms were not used than their female partners.

perceptions and behaviour.

Although males and females may enter into relationships with certain heuristics, it is possible that these heuristics are prone to change as the relationship progresses. Unfortunately these heuristics or beliefs can result in risk exposure. The results of the present study suggest that future research should examine what type of heuristics males and females have when entering into and developing their sexual relationships, and how the congruence of partners' heuristics interact on the decision-making process regarding condom use behaviour. In addition, future studies need to examine how heuristics are related to optimistic bias regarding HIV-risk. Finally, intervention

programs need to focus on changing the heuristics which guide how individuals view the safety of steady relationships, especially as new relationships progress. Further information is needed in order to change existing heuristics such as "*known-partners-are-safe-partners*" to new heuristics such as "*tested-partners-are-safe-partners*".

Several findings of the current study may support a link between heuristics and the decision to use condoms in young heterosexual dating couples. First, when examining variables associated with condom use in young heterosexual dating couples, the only variable that was significantly associated with whether couples used condoms consistently versus inconsistently/not-at-all was the perception of whether condoms were needed in the context of a 'safe' relationship. Congruent low perceived need for condoms in safe relationships was more likely to predict inconsistent/non-condom use in couples; congruent high perceived need for condoms in safe relationships was more likely to predict consistent condom use in couples. Given that this was the only variable found to significantly predict the likelihood of condom use, the implications (as discussed) are that the concept of being in an on-going relationship may, in-and-of-itself, imply differing heuristics and cognitive biases with respect to the perceived safety of the relationship and decision process regarding need for condom use to prevent HIV exposure. In addition, research is needed which examines in more depth variables which may predict consistent condom use. The results of the current study suggest that the variables previously suggested in the literature, are moderately useful in the classification of inconsistent/non-condom use, but did not increase the classification of those who use condoms consistently.

The second major finding of the current study which supports the significance of heuristics in the condom use decision-making process is the connection found between working models of

attachment and relationship variables which have been previously suggested to be associated with condom use, including trust, relationship satisfaction, sexual communication, and commitment. It is possible that many of the variables previously shown to be correlated with heterosexual condom use may be premised on, or reflections of, heuristics formed prior to, and during, the relationship.

Relationship attachments are governed by working models, which, in essence, represent previously formed heuristics based on personal experiences of responses from others during development. Based on working models which are associated with concepts such as trust and commitment, individuals enter relationship attachments with preconceived notions about who and what represents a “safe partner”. Based on these preconceived prototypes and heuristics, individuals evaluate whether the partner “fits” the definition of “safe”. As noted by Edgar and colleagues (1992), this decision is based on information typically gathered to help gauge the partner’s relationship potential, as opposed to reflecting the likelihood of disease transmission. If the partner “fits” the prototype of a “safe relationship partner”, the relative risk of the partner decreases. Even though the perceived risk of the partner having HIV or an STD diminishes, the risk of pregnancy prevails. Thus, couples begin the relationship using condoms to prevent against pregnancy. As the relationship attachment becomes more secure, other forms of birth control may be opted for, and thus condom use ceases. At this point in the relationship, individuals may engage in dissonance reduction that lead to conclusions about the partner’s HIV/STD status which are more consistent with the decision to not use condoms.

The individuals comprising a couple bring to the relationship their own attitudes regarding self and others. It is important to note that the attitudes brought to relationships are not only based on attachment formations, but also have social connotations which are gender-specific. The

function of working models is to mold individuals' cognitive, emotional and behavioral responses to others (Collins & Read, 1994).

Although the working models which guide how males and females characterize self and others are believed to be relatively stable, changes in working models can occur especially when significant events in the social environment recant preexisting biases in expectations (Feeney, 1999). For example, forming a relationship with an individual who characteristically does not match the biases which have been encoded to represent the "prototype" of what partners are typically like, may lead to a change in the working model. Based on the working models, judgements are made as to the "attachment-worthiness" of the partners (Hazan & Zeifman, 1999). As discussed by Altman and Taylor (1973), as the relationship between two partners advances, there is a strong likelihood that revelations of experiences may be forthcoming to test the commitment and future reliability of the relationship. Thus, although communication about condom use may be correlated with the likelihood that individuals use condoms, once in an on-going relationship, it is not apparent that HIV risk is a topic of conversation.

The current data support that couples appreciate the risk of pregnancy from the beginning of the sexual relationship, and use condoms to decrease the risk of pregnancy. Although it was not tested directly in the current study, there is substantial evidence that condom use decreases with duration of sexual relationship because couples choose alternative means of pregnancy prevention (Misovich, Fisher, & Fisher, 1997; Santelli, et al., 1996). This is an important variable which needs to be included in intervention programs aimed at increasing condom use for HIV prevention. A focus of such prevention programs needs to consider changing preconceived heuristics which suggest that being in an on-going relationship exposes the partners to only risk of

pregnancy, as opposed to risk of disease.

For those who do not use condoms, a base-rate fallacy may be present, where individuals look at the frequency and pattern of HIV transmission in the populations and use representativeness heuristics or availability heuristics to conclude that they themselves are not at risk. Another possibility is that individuals enter into new relationships with an optimistic bias with regard to the possibility of themselves being susceptible to contracting HIV. These heuristics may be represented as perceptions and attitudes regarding risk and condom use, and act as a motivator in the decision-making process with respect to condom use.

Although information programs aimed at educating youth and the public in general have advocated limiting the number of sexual partners and avoiding casual sex encounters, these messages may have fostered heuristics such as “known partners are safe partners”. The findings of the current study suggest that these types of heuristics are risky given the perception of partners to be of “no risk” very early in the relationship. More work is needed in trying to develop means for changing the heuristics and prototypes which influence the decision making process regarding condom use. More information with respect to how changes in partner attachment style may evolve and guide heuristics regarding perceived safety of the relationship is needed to provide a framework on which to build.

Justification of Methodology and Limitations of the Study

The cross-sectional design of the study was chosen because it is an efficient manner in which to obtain an overall view of the key issues in a relatively new area of research. Due to the paucity of information focusing on dyadic relational factors related to condom use as an HIV-risk

preventive strategy, a cross-sectional design provided the necessary groundwork on which to base future longitudinal studies. In addition, given that the duration of relationships among young dating couples is often short, conducting a longitudinal study would present with follow-up difficulties. For example, couples may have changed partners between surveys, thus interfering with information regarding condom use over duration of sexual relationship.

One of the major limitations of the study concerns the sample. The results of the study are limited by the age of the respondents, by the locations from which the sample was collected, as well as by the fact that only couples were included in the present study. The chosen age range was based on the empirical literature indicating risk of contracting HIV within late-adolescents and young adults. In addition, the lower age limit of 16 years was chosen in order that participants could provide informed consent for participation in the study. Although the sample may be considered one of convenience given the large representation of respondents from post-secondary educational settings, attempts were made to gain access to locations which would provide a more heterogeneous sample of young heterosexual adults (i.e., senior classes of high school; movie theaters; youth drop-in centers). Unfortunately many of these requests were met with reluctance given the sexual nature of the study. Finally, only respondents who were in a committed relationship for less than 12 months duration were included in the study. This duration time frame was chosen given the relative importance placed on sexuality early in the scope of relationships. Thus, results may not be generalizable.

Another limitation of the study concerns the inability to ensure that respondents completed the questionnaire packages separately. Unfortunately, given that the study relied on both partners to complete the questionnaire package, and in most instances access to only one of the partners

was available, it was necessary to allow respondents to complete the questionnaire packages in an uncontrolled environment. To try and control for this limitation, respondents were given verbal as well as written instructions, requesting that partners complete the packages separately. In addition, respondents were provided with separate envelopes in order to try and eliminate the chances of partners viewing completed documents.

Finally, as previously noted, the study results may have been limited due to the measures used to represent the predictor variables. For example, the measures employed assumed that the entities being measured were specific to the individual and were stable over time. These measures tend not to capture the fact that within the context of the close relationship many of the cognitions associated with these factors may evolve as the relationship develops.

Implications and New Research Questions

The results suggest several areas for future consideration. Perception of need for condoms in safe relationships needs to be explored in more detail, both with casual and steady relationships. For example, what leads some individuals and couples to believe that condoms are needed within the context of a steady relationship, whereas others feel condoms are not needed in steady relationships? Is this perception based on attitudes and perceptions formed after the relationship has begun, or is this a pre-conceived perception which accompanies an individual across relationships? In addition, how do partner attitudes and perceptions of risk change over the course of the relationship? Also, at what stage of development do youth develop pre-conceived attitudes and perceptions with respect to condom use, and are these contingent on the context of a relationship? Answers to these questions would help to distinguish at what stage of

sexual relationship different types of intervention programs can be introduced.

Further research is also needed to examine the relationship between attachment style and HIV-risk preventive behaviour. Research questions may include whether there is an association between the phase of attachment as proposed by Hazan and Zeifman (1999) (i.e., Preattachment; Attachment in the Making; Clear-cut Attachment, and Goal-Corrected Partnership) and HIV-risk preventive behaviour, such as condom use. Also, how do different combinations of partner attachment styles influence HIV-risk preventive behaviour?

Finally, studies need to be conducted examining condom use within a longitudinal framework. In order to fully understand the processes involved in making decisions regarding condom use, couples need to be followed from the inception of the relationship onward. It would be beneficial to conduct a study which includes adolescents in the 15 to 18 year age range. Qualitative work may be conducted to try and gain a better understanding of heuristics.

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Appendix 1: Condom Use Questionnaire

CONDOM USE QUESTIONNAIRE

Site # 2

Couple # 1116

This questionnaire asks different kinds of questions about condoms and your relationship with your current main sexual partner. This is the person you consider to be your main and most important sexual partner.

Please answer each question in the booklet.

It is essential that you and your partner complete the questionnaire package separately and return both of your packages at the same time in the large envelope provided. Please do not discuss your answers with your partner until after you have mailed the questionnaire packages back to the research office.

It is very important that we receive your complete questionnaires as soon as possible. Please try to complete and return them within the next couple of days. Thank you.

Part #1

1. Date (day/mo/yr): _____/_____/_____

2. Gender: Female ☐ Male ☐

1. Age (in years) _____

2. Education level (# of years of education):

(Please circle or insert the highest level of education completed. For example, if you completed some courses in Grade 11, but did not finish the year, circle the "10"; if you completed 2 years of college, insert the number 2 on the line following "college/CEGEP".)

Grade school: 1 2 3 4 5 6 7 8

High school: 9 10 11 12 13

College/CEGEP Number of years: _____

University Number of years: _____

3. Are you currently employed in a position for which you are being paid? YES ☐ NO ☐

If YES, please check which of the following represents your main source of income:

full-time employment _____
part-time employment _____
temporary work _____
self-employed _____

If NO, please check which of the following represents your main source of income:

unemployment insurance _____
unemployed with no income _____
welfare _____
pan handling _____
partner, relative or parent _____
grants/ scholarships _____
savings _____
other (specify) _____

4. What type of relationship do you have with your main sexual partner?
(Please check one)

Living separately from partner _____
Living with partner _____

5. Does your current living arrangement provide you with private couple space (i.e., space to be alone with your partner)?

YES ☐ NO ☐

6. How long have you been in a sexual relationship with your current main sexual partner? (Please fill in the number of months and weeks since time of first vaginal intercourse.)

and _____ Months
_____ Weeks

7. Please check the box beside the statement that best describes the kind of relationship you and your partner have now, and answer the question that goes with that statement.
- ☐ Mutually monogamous (both you and your current main partner do not have sex with other people).
 ➤ For how long have you had this kind of relationship with your current partner? _____ Months and _____ Weeks
- ☐ I do not have sex with other people but my partner does.
 ➤ Does your partner use condoms every time he/she has sex with other people? YES ☐ NO ☐ DON'T KNOW ☐
- ☐ My partner doesn't have sex with other people but I do.
 ➤ Do you use condoms every time you have sex with other people? YES ☐ NO ☐
- ☐ Both my partner and I have sex with other people.
 ➤ Do you and your partner use condoms every time you have sex with other people? YES ☐ NO ☐ DON'T KNOW ☐
8. Are you and your main sexual partner, as a couple, able to afford to buy condoms? YES ☐ NO ☐
9. Do you and your main sexual partner have access to free condoms? YES ☐ NO ☐
10. Some dating couples feel that using condoms reduces the spontaneity of sex. To what extent you agree or disagree with this feeling.
(Please circle the number that best describes how you feel.)
- Strongly Agree.....1
 Mostly Agree.....2
 Somewhat Agree.....3
 Neither Agree or Disagree....4
 Somewhat Disagree.....5
 Mostly Disagree.....6
 Strongly Disagree.....7
11. How many times during the past 4 weeks have you and your current main partner had vaginal intercourse? _____ Times

14. When you and your main partner talk about sex, who usually starts the discussion? *(Please circle the number that best describes what happens.)*

My partner does most of the time.....1

We both do, but my partner does more often.....2

We both do equally.....3

We both do, but I do more often.....4

I do most of the time.....5

15. When you have sex, who usually makes the decision on what you will actually do during sex?
(Please circle the number that best describes what happens.)

My partner does most of the time.....1

We both do, but my partner does more often.....2

We both do equally.....3

We both do, but I do more often.....4

I do most of the time.....5

16. When you have sex with your partner, who makes the decision whether to use condoms or not? *(Please circle the number that best describes what happens.)*

My partner does most of the time.....1

We both do, but my partner does more often.....2

We both do equally.....3

We both do, but I do more often.....4

I do most of the time.....5

17. How many times during the past 4 weeks have you and your current main partner used condoms during vaginal intercourse?

_____ Times

(Continue to next page)

Please give careful attention to the directions in this part of the questionnaire and follow the instructions that guide you to the next question you are to answer.

18. Have you and your main sexual partner ever used condoms during vaginal intercourse? YES ☐ Go to question 19a
NO ☐ Go to question 21

- 19a. The following is a list of reasons why couples choose to use condoms in their relationship. Please check the reason why you and your main sexual partner have used condoms during vaginal intercourse. If you have used condoms for more than one reason, rank the importance of each to you, with 1= the most important reason, and 4= the least important reason.

- a) To prevent pregnancy _____
b) To prevent sexually transmitted diseases _____
c) To prevent HIV/AIDS _____
d) Other (specify) _____

- 19b. When you and your partner use condoms, is the condom always put on before vaginal penetration? YES ☐ NO ☐

20. At this point in your relationship, when you have vaginal intercourse with your current main partner, how often do you use a condom in order to prevent HIV/AIDS or Sexually Transmitted Diseases?
(Please circle one number)

- Every time.....1 Go to question 20a
Almost every time.....2 Go to question 20b
Sometimes.....3 Go to question 20b
Almost never4 Go to question 20b
Never.....5 Go to question 21

- 20a. How long have you been using a condom, **every time** you have vaginal intercourse with your current main partner, to prevent HIV/AIDS or Sexually Transmitted Diseases?
(Please specify how long you have been using a condom for this reason.) _____ Months
and _____ Weeks

- 20b. Are you thinking about starting to use condoms within the next six months, **every time** you have vaginal intercourse with your current main partner, to prevent HIV/AIDS or Sexually Transmitted Diseases? YES ☐ Go to question 20c
NO ☐ Go to question 22

20c. Are you planning to start using condoms within the next 30 days, **every time** you have vaginal intercourse with your current main partner, to prevent HIV/AIDS or Sexually Transmitted Diseases?

YES ☐ Go to question 22
NO ☐ Go to question 22

21. Do **you** want to use condoms during vaginal intercourse with your main sexual partner to prevent HIV/AIDS or Sexually Transmitted Diseases?

YES ☐ Go to question 21a
NO ☐ Go to question 22

21a. Are you thinking about starting to use condoms within the next six months, **every time** you have vaginal intercourse with your current main partner, to prevent HIV/AIDS or Sexually Transmitted Diseases?

YES ☐ Go to question 21b
NO ☐ Go to question 22

21b. Are you thinking about starting to use condoms within the next 30 days, **every time** you have vaginal intercourse with your current main partner, to prevent HIV/AIDS or Sexually Transmitted Diseases?

YES ☐ Go to question 22
NO ☐ Go to question 22

22. Is this your first sexual relationship?

YES ☐ Go to question 23
NO ☐ Go to question 22a & b

22a. If No, how many previous sexual partners have you had? _____

22b. If you have had previous sexual partners, how often did you use condoms to prevent HIV/AIDS or Sexually Transmitted Diseases when having sexual intercourse with previous partners?
(Please circle one number)

Every time.....1
Almost every time.....2
Sometimes.....3
Almost never.....4
Never.....5

22c. Have any of your previous sexual partners been HIV positive?

YES ☐ NO ☐ DON'T KNOW ☐

23. Have you ever injected drugs with a needle that had been used by someone else?
(Please check one answer) YES ☐ NO ☐ DON'T KNOW ☐
24. Have you ever had an HIV test? YES ☐ NO ☐
- 24a. If yes, are you HIV positive? YES ☐ NO ☐ DON'T KNOW ☐
25. Who asked you to fill out this questionnaire package?
(Please check one) My current, main partner _____
Research Assistant _____

Part #2

The following statements concern how you feel in romantic relationships. We are interested in how you generally experience relationships, not just in what is happening in a current relationship. Respond to each statement by circling the number that indicates how much you agree or disagree with it. Please circle only one number per question.

	<i>Strongly Disagree</i>	<i>Moderately Disagree</i>	<i>Slightly Disagree</i>	<i>Neutral/Mixed</i>	<i>Slightly Agree</i>	<i>Moderately Agree</i>	<i>Strongly Agree</i>
1. I prefer not to show a partner how I feel deep down.	1	2	3	4	5	6	7
2. I worry about being abandoned	1	2	3	4	5	6	7
3. I am very comfortable being close to romantic partners.	1	2	3	4	5	6	7
4. I worry a lot about my relationships.	1	2	3	4	5	6	7
5. Just when my partner starts to get close to me I find myself pulling away.	1	2	3	4	5	6	7
6. I worry that romantic partners won't care about me as much as I care about them.	1	2	3	4	5	6	7
7. I get uncomfortable when a romantic partner wants to be very close.	1	2	3	4	5	6	7
8. I worry a fair amount about losing my partner.	1	2	3	4	5	6	7
9. I don't feel comfortable opening up to romantic partners.	1	2	3	4	5	6	7
10. I often wish that my partner's feelings for me were as strong as my feelings for him/her.	1	2	3	4	5	6	7
11. I want to get close to my partner, but I keep pulling back.	1	2	3	4	5	6	7

	<i>Strongly Disagree</i>	<i>Moderately Disagree</i>	<i>Slightly Disagree</i>	<i>Neutral/Mixed</i>	<i>Slightly Agree</i>	<i>Moderately Agree</i>	<i>Strongly Agree</i>
12. I often want to merge completely with romantic partners, and this sometimes scares them away.	1	2	3	4	5	6	7
13. I am nervous when partners get too close to me.	1	2	3	4	5	6	7
14. I worry about being alone.	1	2	3	4	5	6	7
15. I feel comfortable sharing my private thoughts and feelings with my partner.	1	2	3	4	5	6	7
16. My desire to be very close sometimes scares people away.	1	2	3	4	5	6	7
17. I try to avoid getting too close to my partner.	1	2	3	4	5	6	7
18. I need a lot of reassurance that I am loved by my partner.	1	2	3	4	5	6	7
19. I find it relatively easy to get close to my partner.	1	2	3	4	5	6	7
20. Sometimes I feel that I force my partners to show more feeling, more commitment.	1	2	3	4	5	6	7
21. I find it difficult to allow myself to depend on romantic partners.	1	2	3	4	5	6	7
22. I do not often worry about being abandoned.	1	2	3	4	5	6	7
23. I prefer not to be too close to romantic partners.	1	2	3	4	5	6	7

	<i>Strongly Disagree</i>	<i>Moderately Disagree</i>	<i>Slightly Disagree</i>	<i>Neutral/Mixed</i>	<i>Slightly Agree</i>	<i>Moderately Agree</i>	<i>Strongly Agree</i>
24. If I can't get my partner to show interest in me, I get upset or angry.	1	2	3	4	5	6	7
25. I tell my partner just about everything.	1	2	3	4	5	6	7
26. I find that my partner(s) don't want to get as close as I would like.	1	2	3	4	5	6	7
27. I usually discuss my problems and concerns with my partner.	1	2	3	4	5	6	7
28. When I'm not involved in a relationship I feel somewhat anxious and insecure.	1	2	3	4	5	6	7
29. I feel comfortable depending on romantic partners.	1	2	3	4	5	6	7
30. I get frustrated when my partner is not around as much as I would like.	1	2	3	4	5	6	7
31. I don't mind asking romantic partners for comfort, advice, or help.	1	2	3	4	5	6	7
32. I get frustrated if romantic partners are not available when I need them.	1	2	3	4	5	6	7
33. It helps to turn to my romantic partner in times of need.	1	2	3	4	5	6	7
34. When romantic partners disapprove of me, I feel really bad about myself.	1	2	3	4	5	6	7
35. I turn to my partner for many things, including comfort and reassurance.	1	2	3	4	5	6	7
36. I resent it when my partner spends time away from me.	1	2	3	4	5	6	7

Part #3

Please read the following list of things that people could talk about before they have sex with each other for the first time. Please indicate whether or not you talked about the issue before having vaginal sex for the first time with your current main partner.

Did you.....

1. Ask your partner how he/she felt about using condoms before you had intercourse. Yes ☐ No ☐
2. Ask your partner about the number of past sexual partners he/she had. Yes ☐ No ☐
3. Tell your partner about the number of sex partners you had had. Yes ☐ No ☐
4. Tell your partner that you would not have sex unless a condom was used. Yes ☐ No ☐
5. Discuss with your partner the need for both of you to get tested for the HIV/AIDS virus before having sex. Yes ☐ No ☐
6. Talk with your partner about not having sex until you had known each other longer. Yes ☐ No ☐
7. Ask your partner if he/she had ever had some type of sexually transmitted disease like herpes, clap, syphilis, gonorrhea, or HIV/AIDS. Yes ☐ No ☐
8. Ask your partner if he/she had ever shot drugs like heroin, cocaine, or speed. Yes ☐ No ☐
9. Talk about whether you or your partner had ever had homosexual experiences, or had a partner who was bisexual. Yes ☐ No ☐
10. Talk with your partner about birth control before having sex for the first time. Yes ☐ No ☐

Part #4

Please read the following list of statements different people have made about discussing sex with their main partner. Please indicate how much you agree or disagree with the statement. Please circle only one number per statement.

	<i>Strongly Disagree</i>	<i>Mostly Disagree</i>	<i>Somewhat Disagree</i>	<i>Somewhat Agree</i>	<i>Mostly Agree</i>	<i>Strongly Agree</i>
1. My partner rarely responds when I want to talk about our sex life.	1	2	3	4	5	6
2. Some sexual matters are too upsetting to discuss with my sexual partner.	1	2	3	4	5	6
3. There are sexual issues or problems in our sexual relationship that we have never discussed.	1	2	3	4	5	6
4. My partner and I never seem to resolve our disagreements about sexual matters.	1	2	3	4	5	6
5. Whenever my partner and I talk about sex, I feel like he or she is lecturing me.	1	2	3	4	5	6
6. My partner often complains that I am not very clear about what I want sexually.	1	2	3	4	5	6
7. My partner and I have never had a heart-to-heart talk about our sex life together.	1	2	3	4	5	6
8. My partner has no difficulty in talking to me about his or her sexual feelings and desires.	1	2	3	4	5	6
9. Even when angry with me, my partner is able to appreciate my views on sexuality.	1	2	3	4	5	6
10. Talking about sex is a satisfying experience for both of us.	1	2	3	4	5	6
11. My partner and I can usually talk calmly about our sex life.	1	2	3	4	5	6

	<i>Strongly Disagree</i>	<i>Mostly Disagree</i>	<i>Somewhat Disagree</i>	<i>Somewhat Agree</i>	<i>Mostly Agree</i>	<i>Strongly Agree</i>
12. I have little difficulty in telling my partner what I do or don't do sexually.	1	2	3	4	5	6
13. I seldom feel embarrassed when talking about the details of our sex life with my partner.	1	2	3	4	5	6

Part #5

Please read the following items and circle the number that indicates how often you have started out wanting to use a condom, but didn't because:

	<i>Never</i>	<i>Rarely</i>	<i>Sometimes</i>	<i>Frequently</i>	<i>Always</i>
a) You wanted to please your partner.	1	2	3	4	5
b) Your partner believed you should not use condoms.	1	2	3	4	5
c) You were worried that if you insisted, your partner might make fun of you.	1	2	3	4	5
d) You were worried that if you insisted, your partner might leave you.	1	2	3	4	5
e) Your partner refused to use a condom.	1	2	3	4	5
f) You were afraid that your partner might hurt you.	1	2	3	4	5
g) Your partner forced you to have sex without a condom.	1	2	3	4	5
h) You didn't think about it.	1	2	3	4	5
i) You got caught up in the heat of the moment.	1	2	3	4	5
j) You or your partner were too high on drugs/alcohol.	1	2	3	4	5
k) You didn't have condoms available.	1	2	3	4	5
l) Your partner was mostly interested in getting what he/she wanted out of sex, rather than pleasing you.	1	2	3	4	5

Part #6

The following questions ask about your knowledge of AIDS. Read each one and circle the number on the scale that indicates how likely or unlikely you think it is that a person will get AIDS in the following ways.

How likely do you think it is that a person will get AIDS or the AIDS virus from.....

	<i>Very Likely</i>	<i>Likely</i>	<i>Don't Know</i>	<i>Unlikely</i>	<i>Very Unlikely</i>
1. Working near someone with the AIDS virus?	1	2	3	4	5
2. Eating in a restaurant where the cook has the AIDS virus?	1	2	3	4	5
3. Shaking hands, touching, or kissing on the cheek someone who has the AIDS virus?	1	2	3	4	5
4. Sharing plates, forks, or glasses with someone who has the AIDS virus?	1	2	3	4	5
5. Using public toilets?	1	2	3	4	5
6. Sharing needles for drug use with someone who has the AIDS virus?	1	2	3	4	5
7. Being coughed on or sneezed on by someone who has the AIDS virus?	1	2	3	4	5
8. Mosquitoes or other insects?	1	2	3	4	5
9. Having unprotected sex with someone who has the AIDS virus?	1	2	3	4	5

(Continue to next page)

(Part #6 continued)

Next you will read a list of things that people use to keep from getting the AIDS virus while having sex. Please read each sentence and circle the number which indicates how effective or good each one is in preventing AIDS.

How effective is:

	<i>Very Effective</i>	<i>Somewhat Effective</i>	<i>Not Effective At All</i>	<i>Don't Know</i>
1. Being abstinent (not having sexual intercourse at all)?	1	2	3	4
2. Using a condom?	1	2	3	4
3. Using a diaphragm?	1	2	3	4
4. Using spermicidal jelly, foam, or cream alone (Spermicide is a product that prevents pregnancy)?	1	2	3	4
5. Having a vasectomy?	1	2	3	4
6. Having sex with only one partner who does not have the AIDS virus?	1	2	3	4

Part #7

Please read each of the following statements carefully and decide whether or not you agree that it is true for your relationship with your **current main sexual partner**. Indicate how strongly you agree or disagree by circling the appropriate number on the scale beside each statement. Circle only one number for each statement.

	<i>Strongly Disagree</i>	<i>Moderately Disagree</i>	<i>Mildly Disagree</i>	<i>Neutral</i>	<i>Mildly Agree</i>	<i>Moderately Agree</i>	<i>Strongly Agree</i>
1. I feel that my partner can be counted on to help me.	1	2	3	4	5	6	7
2. When we are dealing with an issue that is important to me, I feel confident that my partner will put my feelings first.	1	2	3	4	5	6	7
3. My partner is truly sincere in his/her promises.	1	2	3	4	5	6	7
4. I often wonder if my partner is trying to manipulate me in order to gain his/her own ends.	1	2	3	4	5	6	7
5. My partner and I are compatible enough that my personal needs can be realized in our relationship.	1	2	3	4	5	6	7
6. In our day-to-day interactions, my partner consistently acts in ways that are very positive.	1	2	3	4	5	6	7
7. There are times when my partner cannot be trusted.	1	2	3	4	5	6	7
8. My partner treats me fairly and justly.	1	2	3	4	5	6	7
9. I feel that I can trust my partner completely.	1	2	3	4	5	6	7
10. My partner typically behaves in ways that are very rewarding to me.	1	2	3	4	5	6	7
11. My partner has not always proven to be a trustworthy person in the past.	1	2	3	4	5	6	7

	<i>Strongly Disagree</i>	<i>Moderately Disagree</i>	<i>Mildly Disagree</i>	<i>Neutral</i>	<i>Mildly Agree</i>	<i>Moderately Agree</i>	<i>Strongly Agree</i>
12. My partner has always been responsive to my needs and feelings.	1	2	3	4	5	6	7
13. At times I am uncomfortable when I think about how much I have invested in my relationship with my partner.	1	2	3	4	5	6	7
14. I am sometimes hesitant to engage in activities with my partner which make me feel insecure.	1	2	3	4	5	6	7

Part #8

Most people have disagreements in their relationships. For each item on the following list, circle the number which indicates the extent of agreement or disagreement between you and your main partner. Please circle only one number for each statement.

	<i>Always Agree</i>	<i>Almost Always Agree</i>	<i>Occasionally Disagree</i>	<i>Frequently Disagree</i>	<i>Almost Always Disagree</i>	<i>Always Disagree</i>
1. Religious matters	5	4	3	2	1	0
2. Demonstrations of affection	5	4	3	2	1	0
3. Making major decisions	5	4	3	2	1	0
4. Sex relations	5	4	3	2	1	0
5. Conventionality (correct or proper behavior)	5	4	3	2	1	0
6. Career decisions	5	4	3	2	1	0
	<i>All the Time</i>	<i>Most of the Time</i>	<i>More Often Than Not</i>	<i>Occasionally</i>	<i>Rarely</i>	<i>Never</i>
7. How often do you discuss or have you considered terminating your relationship?	0	1	2	3	4	5
8. How often do you and your partner quarrel?	0	1	2	3	4	5
9. Do you ever regret that you started dating your partner?	0	1	2	3	4	5
10. How often do you and your partner "get on each other's nerves"?	0	1	2	3	4	5

(Continue to next page)

	<i>Every Day</i>	<i>Almost Every Day</i>	<i>Occasionally</i>	<i>Rarely</i>	<i>Never</i>
11. Do you and your partner engage in outside interests together?	4	3	2	1	0

How often would you say the following events occur between you and your partner?

	<i>Never</i>	<i>Less Than Once a Month</i>	<i>Once or Twice A Month</i>	<i>Once or Twice A Week</i>	<i>Once A Day</i>	<i>More Often</i>
12. Have a stimulating exchange of ideas:	0	1	2	3	4	5
13. Work together on a project:	0	1	2	3	4	5
14. Calmly discuss something:	0	1	2	3	4	5

15. Which of the following statements best describes how you feel about the future of your relationship?
(*Please check only one response.*)

- _____ I want desperately for my relationship to succeed, and would go to almost any length to see that it does.
- _____ I want very much for my relationship to succeed, and will do all I can to see that it does.
- _____ I want very much for my relationship to succeed, and will do my fair share to see that it does.
- _____ It would be nice if my relationship succeeded, but I can't do much more than I am doing now to help it succeed.
- _____ It would be nice if it succeeded, but I refuse to do any more than I am doing now to keep the relationship going.
- _____ My relationship can never succeed, and there is no more that I can do to keep the relationship going.

Part #9

Please read each of the following statements carefully and decide whether or not you agree that it is true for your relationship with your current main partner. Indicate how strongly you agree or disagree by circling the appropriate number on the scale beside each statement. Circle only one number for each question. Please answer as accurately and honestly as you can.

	<i>Strongly Disagree</i>	<i>Moderately Disagree</i>	<i>Neutral</i>	<i>Moderately Agree</i>	<i>Strongly Agree</i>
1. With respect to condom use, my partner has always been responsive to my needs and feelings.	1	2	3	4	5
2. I sometimes have concerns that my personal feelings about condom use must be compromised to make our relationship work.	1	2	3	4	5
3. I can't always rely on my partner to consider condom use within our relationship.	1	2	3	4	5
4. I feel confident that my partner loves me, no matter what my views regarding condom use are.	1	2	3	4	5
5. I feel confident that my partner will put my feelings about condom use first.	1	2	3	4	5
6. If we have differing views about condom use, my partner might consider leaving our relationship.	1	2	3	4	5
7. My partner is honest and truthful with me about his/her feelings toward condom use.	1	2	3	4	5
8. At times I am uncomfortable when I think about how much I have invested in a relationship with my partner without considering the issue of condom use.	1	2	3	4	5
9. I worry that my partner may not care for me unless I agree with his/her opinions about condom use.	1	2	3	4	5

(Continue to next page)

	<i>Strongly Disagree</i>	<i>Moderately Disagree</i>	<i>Neutral</i>	<i>Moderately Agree</i>	<i>Strongly Agree</i>
10. There are times when I can't trust my partner to follow through with a plan to use condoms.	1	2	3	4	5
11. My partner is not a role-model for condom use.	1	2	3	4	5
12. My partner is committed to using condoms to safe-guard our health.	1	2	3	4	5
13. If a problem surfaces about condom use, we can work through it successfully.	1	2	3	4	5
14. My partner does not show enough consideration to my opinions about condom use.	1	2	3	4	5
15. I can trust my partner to support my view regarding condom use within our relationship.	1	2	3	4	5

Part #10

Please read the following statements carefully and indicate how much you agree or disagree using the scale below. Please answer according to how you actually feel, not how you think you should feel or would like to feel. Please circle only one number for each question. Thank you.

	<i>Strongly Disagree</i>	<i>Mostly Disagree</i>	<i>Somewhat Disagree</i>	<i>Neither Agree Nor Disagree</i>	<i>Somewhat Agree</i>	<i>Mostly Agree</i>	<i>Strongly Agree</i>
1. I am concerned about catching catching AIDS or some other sexually transmitted disease.	0	1	2	3	4	5	6
2. People who use condoms are “wimps”.	0	1	2	3	4	5	6
3. Condoms reduce the spontaneity of sex.	0	1	2	3	4	5	6
4. Using a condom takes the “wonder” out of sex.	0	1	2	3	4	5	6
5. A condom should be used when one’s partner is a woman who has had sex with a bisexual male.	0	1	2	3	4	5	6
6. A condom is <u>not necessary</u> when you and your partner are monogamous.	0	1	2	3	4	5	6
7. A condom should be used when you don’t know your partner too well.	0	1	2	3	4	5	6
8. Condoms are messy.	0	1	2	3	4	5	6
9. I dislike condoms because they decrease sensitivity during intercourse.	0	1	2	3	4	5	6
10. A condom should be used when you have anal sex.	0	1	2	3	4	5	6
11. A condom is <u>not necessary</u> when you know enough about the person to trust his/her word about his/her past.	0	1	2	3	4	5	6

	<i>Strongly Disagree</i>	<i>Mostly Disagree</i>	<i>Somewhat Disagree</i>	<i>Neither Agree Nor Disagree</i>	<i>Somewhat Agree</i>	<i>Mostly Agree</i>	<i>Strongly Agree</i>
12. A condom is not necessary when you plan to marry the person.	0	1	2	3	4	5	6
13. Condoms are a hassle to use.	0	1	2	3	4	5	6
14. A condom is <u>not necessary</u> when you're pretty sure the other person doesn't have a sexually transmitted disease.	0	1	2	3	4	5	6
15. If I'm not careful, I could catch a sexually transmitted disease.	0	1	2	3	4	5	6
16. I wouldn't mind if my partner brought up the topic of using a condom.	0	1	2	3	4	5	6
17. If I'm not careful, I could definitely catch AIDS.	0	1	2	3	4	5	6
18. A condom should be used when the other person is promiscuous.	0	1	2	3	4	5	6
19. Condoms are disgusting.	0	1	2	3	4	5	6
20. Condoms take away the pleasure of sex.	0	1	2	3	4	5	6
21. I think people worry too much about catching AIDS.	0	1	2	3	4	5	6
22. Condoms are clean.	0	1	2	3	4	5	6
23. Other people should respect my desire to use a condom.	0	1	2	3	4	5	6
24. If I engage in sexual intercourse without the use of a condom, I could definitely catch AIDS.	0	1	2	3	4	5	6
25. I worry that I could catch a sexually transmitted disease.	0	1	2	3	4	5	6

	<i>Strongly Disagree</i>	<i>Mostly Disagree</i>	<i>Somewhat Disagree</i>	<i>Neither Agree Nor Disagree</i>	<i>Somewhat Agree</i>	<i>Mostly Agree</i>	<i>Strongly Agree</i>
26. Using condoms interrupts the pleasure of sex.	0	1	2	3	4	5	6
27. A condom is <u>not necessary</u> when you are with the same person for a long time.	0	1	2	3	4	5	6
28. Using condoms takes time out of foreplay.	0	1	2	3	4	5	6
29. Condoms protect against sexually transmitted diseases.	0	1	2	3	4	5	6
30. If I engage in sexual activity without the use of a condom, I could definitely catch a sexually transmitted disease.	0	1	2	3	4	5	6

Thank you for completing this questionnaire. Please place it in the small envelope provided, and seal the envelope. Ask your partner to do the same. Then place both envelopes into the larger, self-addressed, pre-stamped envelope and mail it back.

Appendix 2: Recruitment Advertisement



Sexual Health Project

...Have you been in this relationship for less than 1 year?

...Have you and your partner had sex within the past 6 months?

If you answered yes to each of these questions, you and your partner can help us by being part of our sexual health project. You and your partner would each complete a questionnaire on your views about the sexual aspects of your relationship. You will not be asked to identify yourself by name on the questionnaire and all of the information is confidential. Couples who participate will receive \$20.00 for the 45 minutes that it takes to complete the questionnaire.



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Simply call 562-5800 extension 4473 and leave your name and telephone number. We will call you back with more information, answer any questions and arrange for you and your partner to get the questionnaire packages.

Appendix 3: Participant Information Form



Université d'Ottawa • University of Ottawa

Faculté de médecine
Épidémiologie et médecine sociale

Faculty of Medicine
Epidemiology and Community Medicine

Participant Information Form

We are a group of investigators at the University of Ottawa and we are asking for your cooperation in a study attempting to better understand why some young adult dating couples use condoms during vaginal intercourse while others do not. The research team consists of Krista Edgley, a Ph.D. Candidate with the Department of Clinical Psychology, and Dr. Stephen Hotz, an Assistant Professor with the Department of Epidemiology and Community Medicine. The information provided in the study will help health professionals to better understand what leads young adult couples to decide whether condom use is necessary or not in their relationships. This information will help to provide more effective health programs for youth and young adults.

We want to have young adult heterosexual dating couples, who are currently sexually active, who are not currently trying to have a baby, who are between the age of 16 and 29 years, and who have been dating for less than 1 year, answer a variety of questions about their sexual relationship, attitudes, and condom use practices, as well as knowledge about HIV/AIDS.

Your participation would involve completing a questionnaire package. The questionnaire package takes approximately 45 minutes to complete. Each participant will receive \$10 compensation for the time needed to complete the questionnaire package. The questionnaires will ask a variety of questions, some which are more general in nature, some which address issues regarding your relationship, while others will focus more explicitly on your sexual relationship and condom use. A self-addressed stamped envelope is included to mail the completed questionnaire packages back to us. We ask that you and your partner complete the questionnaire packages separately to ensure accuracy of the individual information provided. After you complete your questionnaire package, place it in the small envelope provided and seal the small envelope. Then place your small envelope, plus your partner's, into the larger self-addressed stamped envelope. Fill out the separate identification sheet with your name and address so that the compensation can be mailed back to you. Your name and address will only be used for compensation purposes and will be destroyed following issue of your compensation. After including both your questionnaire package, your partner's questionnaire package, and the identification sheet, seal the large envelope and place it in the mail to us. Once we receive both you and your partner's questionnaires, we will provide you with your compensation.

Participation in this study is strictly voluntary. The questionnaires are completely confidential. Only members of the research team will have access to the information provided. Only a code number will be used on the questionnaire itself to allow us to match your questionnaire to your partner's questionnaire. No one will be able to link your answers to you. You can refuse to answer any question and you can discontinue completion of the questionnaire at any time and withdraw from the study. However, your participation is very important to the success of the study.

All the information gathered in the study will be reported on a large group basis or anonymously, so that no one will know what you have answered or even that you have participated. All questionnaires will be destroyed according to protocol governing research studies. All participants are eligible to receive a summary of the results by mail when the study is completed by providing their name and address with the completed questionnaire package. Please indicate on the identification sheet whether or not you would like to receive results of the study. If so, your name and address will be kept until after results have been mailed to you. Following the mailing of results, record of your name and address will be destroyed.

If you are interested in helping us with this study, we ask that you complete the enclosed questionnaire package and return it to us in the self-addressed stamped envelope. If you prefer to receive your compensation in person, you may telephone Krista Edgley at 562-5800 extension 4473 to arrange a meeting time at the recruitment site where you may provide the completed questionnaire package in exchange for the compensation. If you have any questions, please contact Krista Edgley at 562-5800 extension 4473, or Dr. Steve Hotz, Assistant Professor at 233-1630. For information relating to healthy sexuality, please call the Sexual Health Information Line at 563-2437.

We very much appreciate honest and accurate answers to the questions asked. Thank you for helping us with this study.

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