Predictors of condom use among university women: An application and extension of the theory of planned behaviour.

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PREDICTORS OF CONDOM USE AMONG UNIVERSITY WOMEN:
AN APPLICATION AND EXTENSION OF
THE THEORY OF PLANNED BEHAVIOUR

by

Anna Fazekas

B.Sc.(Honours), Trent University, 1991

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Faculty of Graduate Studies and Research
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ABSTRACT

The purpose of the present study was to identify the variables that best predict whether or not young women insist that their partners use condoms during their sexual encounters. Once these variables have been identified and understood within the context of the theory of planned behaviour, effective condom promotion programs can be designed and geared toward the unique needs and concerns of young women. One hundred and eighty-seven heterosexually experienced undergraduate women participated in this study. They completed a Background Information Questionnaire, a Sexual Experience Questionnaire, and an Attitudes Toward Condoms Questionnaire. Women who held positive attitudes regarding the effects of condom use on sexual enjoyment and perceptions of responsibility and maturity were more likely to indicate future intentions to use condoms than were women who held more negative attitudes in this regard. Further, women who perceived strong pressures to use condoms and who believed that condom use was under their control were also more likely to indicate intent to use condoms in the future than were women who did not hold such beliefs. These results provide exciting new directions for research using the theory of planned behaviour as applied to condom use. The current findings also provide many practical implications for AIDS prevention programs designed to promote condom use among women.
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CHAPTER I

INTRODUCTION

Acquired Immune Deficiency Syndrome (AIDS) is currently a prominent public health concern for all people, although many continue to mistakenly believe that AIDS is a gay or bisexual male disease. Much research suggests that gay and bisexual men were relatively quick in altering their sexual behaviour after receiving evidence that the Human Immunodeficiency Virus (HIV), the virus that causes AIDS, is sexually transmitted (Martin, 1987; McKusick, Coates, Morin, Pollack, & Hoff, 1990; Stall, Coates, & Hoff, 1988; Winkelstein et al., 1987). In fact, in recent years, rates of HIV-infection have increased more rapidly among heterosexual women than any other segment of the population (Amaro, 1995; Guinan & Hardy, 1987; Patton, 1994; Rodin & Ickovics, 1990; St. Lawrence et al., 1995; Wyatt, 1994; Wyatt & Riederle, 1994). This trend clearly illustrates the need to reduce the risk of HIV-infection among young, heterosexual women. One method of accomplishing this goal is to implement educational and prevention programs tailored specifically toward this group of women.

Within the context of heterosexual transmission, women's behaviour is only one component of risk reduction; the behaviour of men must also be targeted by programs designed specifically for men. Nonetheless, the present study focuses exclusively on women. This choice is not meant to imply that women should be responsible for safe sex practices. Rather, it is meant to emphasize that women need to be empowered with the skills and information necessary to take an active role in the protection of their sexual health. Furthermore, with respect to safe sex practices, the present study focuses
exclusively on condom use, which is only one dimension of safe sex behaviour; safe sex practices can also include non-intercourse acts or abstinence. Nonetheless, because it is naive to expect that young women are immune to social and peer pressures to have sexual intercourse, the promotion of condom use may be the only realistic choice to reduce the risk of HIV-infection among sexually active young women.

Before effective prevention strategies can be designed, we must first assess and understand the various social factors that influence young women's decisions to engage in behaviours that would protect (or not protect) them from the transmission of HIV and other sexually transmitted diseases (STDs). Thus, the purpose of the present study was to identify the variables that best predict whether or not young women insist that their partners use condoms during their sexual encounters. Once these variables have been identified and understood within the context of a particular theoretical framework, we will be better equipped to design and implement effective risk reduction programs that are specifically tailored to meet these women's unique needs and concerns.

**Defining the Scope of the Present Study**

Before one can properly conduct research on a political topic such as women and AIDS, it is important for the researcher to identify how he or she frames the issue. As Patton (1994) states, we gain a different understanding on women and AIDS depending on whether the issue is approached from the perspective of government, gay or racial/ethnic community groups, the women's health movement, or women influenced by AIDS activism. In other words, how the issue is framed shapes the research and subsequently sets the terms for how HIV policy and education are formed for women.
With this in mind, it is imperative that the reader understand that the approach of the current researcher is from the perspective of a young, educated, heterosexual, sexually experienced, White, Canadian woman, and that a similar demographic group will constitute the focus of the ensuing study. Limiting the broad topic of women and AIDS to this rather narrowly defined group excludes other groups of women who may also be at risk for contracting HIV, such as lesbians, elderly women, prostitutes, virgins, hemophiliacs, non-Canadian, non-White, and less well-educated women. However, not only is it necessary to explicitly state this limitation, but the position of the present study is that it is also necessary to impose this limit on women and AIDS research. The vastly different social, cultural, historical, and political dynamics that impact a particular group of women undoubtedly have a profound effect on the reasons why certain women do or do not engage in safe sex. Indeed, many researchers argue that intervention strategies must be specifically tailored to a particular population (e.g., Amaro, 1988; Baum & Nesselhof, 1988; Brooks-Gunn, Boyer, & Hein, 1988; Campbell, Peplau, & DeBro, 1992; Chan & Fishbein, 1993; Flaskerud & Thompson, 1991; Flora & Thoreson, 1988; Gerrard & Warner, 1994; Jemmott & Jemmott, 1992; Maticka-Tyndale, 1991; Mays, 1988; Mays & Cochran, 1988; McCoy & Inciardi, 1993; Moore & Rosenthal, 1991; Morin, 1988; Pelosi, 1988; Rodin & Ickovics, 1990; Sheeran, Abraham, Abrams, Spears, & Marks, 1990; Struckman-Johnson, Gilliland, Struckman-Johnson, & North, 1990; van der Velde, van der Pligt, & Hooykaas, 1994; Wofsy, 1987). Thus, by restricting the present research to heterosexual, sexually experienced, Canadian, university women, the goal is to understand the unique dynamics that influence the condom-use attitudes and behaviours
of this particular group of women so that appropriately tailored prevention programs may be effectively designed.

**Background Information and Statistics**

AIDS was first identified in 1981 (see Shilts, 1988 for a detailed historical account of the early years of the AIDS epidemic). The World Health Organization (WHO) estimates that worldwide, three million women have been infected with HIV, and that over 225,000 women have developed AIDS (Hankins, 1990).

According to the American Center for Disease Control (CDC), between 1981 and 1990, 11,746 women were diagnosed with HIV-infection (Rodin & Ickovics, 1990). By the end of June 1994, 51,235 American women had been diagnosed (Amaro, 1995). The proportion of female cases has increased steadily from approximately 4% of all cases in 1981-1982 to approximately 16.7% in 1993-1994 (Amaro, 1995). Indeed, between 1986 and 1990, the number of AIDS cases among American women increased over 600%. This growth rate is 2.5 times faster for women than it is for men (Rodin & Ickovics, 1990).

Although the absolute numbers are substantially smaller in Canada as compared to America, the trend is consistent. The first case of AIDS in Canada was diagnosed in 1982 (Greig, 1987). Indeed, Canada has one of the highest rates of infection in the developed world, with an estimated 50,000 Canadians infected with HIV (Greig, 1987; Health and Welfare Canada, 1991). By the end of December 1995, 12,670 AIDS cases had been reported in Canada (Health Canada, 1996). According to Health Canada (1996), approximately 94% of these cases were men and 6% were women. Because
women represent only a small percentage of the total number of AIDS cases, we tend to underestimate the extent to which Canadian women are at risk for HIV-infection. Both the absolute number of women with AIDS and the proportion of AIDS cases that are women have been steadily increasing, while the proportion of men with AIDS (and more specifically, gay or bisexual men with AIDS), has been steadily decreasing (Health Canada, 1995).

Not only do men and women differ in terms of the rate of increase in new AIDS cases, but men and women with AIDS also differ with respect to age. Women with AIDS are significantly younger than men with AIDS (Guinan & Hardy, 1987). Indeed, AIDS is the leading cause of death among women between the ages of 20 and 40 in some major American cities (e.g., New York) (Gerrard & Warner, 1994; Hanks, 1990; Mays & Cochran, 1988). According to Health Canada (1996), 28.2% of women with AIDS are between the ages of 20 and 29 and 35.2% are in the 30 to 39 age group. Canadian men with AIDS are substantially older, with 44.5% between the ages of 30 and 39 and 27.2% in the 40 to 49 age group (Health Canada, 1996). The importance of targeting young heterosexual women in AIDS prevention programs is made abundantly clear by such statistics.

There are also gender differences in methods of transmission. The rate of heterosexual transmission among men has remained fairly consistent over the years, while heterosexual transmission is steadily accounting for more and more cases among women (see Amaro, 1995; Brooks-Gunn et al., 1988; Guinan & Hardy, 1987). Recent statistics from Health Canada (1996) indicate that men who have sex with men account
for 79.6% of all AIDS cases among Canadian men. Intravenous drug users account for 2.7% of all cases, gay or bisexual men who also use intravenous drugs account for 4.4%, and heterosexual transmission accounts for 5.8% of all AIDS cases. For Canadian men, these are the most frequent exposure categories. The analogous statistics for Canadian women paint a somewhat different picture. Heterosexual transmission accounts for 59.5% of all AIDS cases, intravenous drug use accounts for 14.1%, and 11.8% of Canadian women with AIDS were recipients of blood products (Health Canada, 1996). Furthermore, while anal intercourse is the most common mode of transmission among gay or bisexual men (Amaro, 1995), heterosexual anal intercourse is not necessary for the transmission of HIV. Women who have engaged exclusively in vaginal intercourse have also become infected (Padian et al., 1987).

Because the overwhelming majority of AIDS cases have been identified among gay and bisexual men, most AIDS prevention strategies have directed their risk reduction programs at these groups. The extent to which such programs can be generalized to the heterosexual female population is questionable (Baum & Nesselhof, 1988). For the most part, heterosexual women do not enjoy the same sort of closely knit supportive group experience that gay and bisexual men share (Brooks-Gunn et al., 1988; Patton, 1994; Rodin & Ickovics, 1990; Wofsy, 1987). Because HIV-infection occurs most frequently among gay and bisexual men, within the gay and bisexual community there exists a relatively open atmosphere in which acceptance and frank discussions of the issues surrounding HIV-infection occur more readily than within the heterosexual community. Furthermore, because men and women with AIDS differ on many variables (e.g., age,
sexual orientation, mode of transmission), the dynamics of AIDS precautionary
behaviours among heterosexual women are likely to be different than among gay men
(Baum & Nesselhof, 1988; Moore & Rosenthal, 1991). For these reasons, it is somewhat
problematic to adapt education programs that were specifically designed for gay men. In
order to be optimally effective, prevention programs must be differentially geared toward
specific target groups (Oskamp, 1984). In other words, AIDS prevention programs for
young, heterosexual women must be designed specifically for young, heterosexual
women. Thus, it is of paramount importance that young women be targeted with
education and prevention programs specifically designed to reduce heterosexual
transmission of the AIDS virus. In order to achieve this goal, we must first explore and
understand the many issues surrounding young women's attitudes toward the safe sex
practice of condom use.

Issues Surrounding Condom Use

Although the promotion of increased condom use is not the only means to reduce
the heterosexual transmission of the AIDS virus, it is the most viable. The alternative is
to encourage young people to refrain from engaging in sexual intercourse until marriage.
or at least until a stable, long-term, monogamous relationship has been established and
both partners have tested negative for HIV. There are many problems associated with
protecting oneself in this way. Young adults tend to engage in serially monogamous
relationships, and one can never be completely certain that one's partner is currently
faithful. Furthermore, there is an estimated twelve year latency from infection with HIV
to a diagnosis of AIDS (Patton, 1994). It is also likely that the majority of young people
who are inclined to become sexually active before marriage will do so, despite messages urging them to abstain. Indeed, late adolescence and early adulthood are periods of development when young people are particularly likely to engage in experimentation with both sexual behaviour and drug use (Amaro. 1988; Baldwin & Baldwin. 1988; Baum & Nesselhof, 1988; Bishop & Lipsitz, 1991; Brooks-Gunn et al., 1988; Campbell et al., 1992; Dolcini & Adler, 1994; Flora & Thoreson, 1988; Jemmott & Jemmott, 1991; Mays. 1988). Thus, the promotion of abstinence is unlikely to control the spread of AIDS. We must accept the fact that many young women are having sex (e.g., Baldwin & Baldwin, 1988; Bishop & Lipsitz, 1991; Catania et al., 1989; DeBuono, Zinner, Daamen, & McCormack. 1990; Fisher, Fisher, & Rye, 1995; Gerrard & Warner, 1994; Maticka-Tyndale. 1991; Whitehead, 1994; Wyatt, 1994; see also Brooks-Gunn et al., 1988; Dyck. 1995; Struckman-Johnson et al., 1990; St. Lawrence et al., 1995) and gear our messages accordingly.

**Birth control versus disease prevention.** For heterosexual women, condoms potentially serve a dual purpose: birth control and disease prevention. There are several reasons why it is important to clearly distinguish between these two functions. In terms of their contraceptive efficacy, condoms alone are not the most reliable method for preventing unwanted pregnancies (Hyde, 1990; Wofsy, 1987), and couples have many alternative options (e.g., pill, I.U.D., diaphragm, contraceptive foam, sponge). Nonetheless, proper use of latex condoms is very effective as a barrier against HIV (Greig, 1987), and in preventing the transmission of other sexually communicable diseases (Hyde, 1990). Essentially, condoms are the only option for sexually active
couples who wish to protect themselves from STDs. Whereas the importance of promoting condom use among women must be understood within a framework of disease prevention, issues of birth control are best addressed by an analysis of the pros and cons of the various contraceptive methods that are available.

Although condoms can serve this dual purpose, young people tend to view condom use as a method of contraception rather than as protection against STDs. For example, among a sample of young heterosexual Canadians, Maticka-Tyndale (1991, 1992) found that the use of oral contraception was the strongest barrier to condom use; condoms were thought not to be necessary when the woman was on the pill. In the present study, the women were asked what method(s) of contraception they use most regularly, and what method(s) of disease prevention they use to protect themselves from STDs.

**Goal versus behaviour.** The use of condoms is a very different issue for females than it is for males. One of the underlying assumptions of the present study is that men and women are influenced by different variables when deciding whether or not to use condoms. Perhaps an even more fundamental difference is the fact that condom use is a *behaviour* for men but a *goal* for women. Although behaviours are typically under the control of the individual, goals often depend upon other people and events. Thus, in order to properly investigate condom use among women, this distinction was considered.

**Incidence of condom use.** Despite the current threat of AIDS and other sexually transmitted diseases, an alarmingly small percentage of young women regularly use condoms (e.g., Allard, 1989; Baldwin & Baldwin, 1988; Bishop & Lipsitz, 1991;
Boldero. Moore. & Rosenthal, 1992; Campbell et al., 1992; Catania et al., 1993; Catania et al., 1989; DeBuono et al., 1990; Dolcini, Coates, Catania, Kegeles, & Hauck. 1995: Fisher et al., 1995; Galligan & Terry, 1993; Gerrard & Warner, 1994; Herold & Mewhinney, 1993; Jemmott & Jemmott, 1991, 1992; Kegeles, Adler, & Irwin. 1988: Maticka-Tyndale, 1991; White. Terry, & Hogg, 1994; see also Breakwell. Millward, & Fife-Schaw, 1994; Brooks-Gunn et al., 1988; Brown, 1984; Dyck, 1995; Flora & Thoreson. 1988; Helweg-Larsen & Collins. 1994; Mays & Cochran. 1988; Struckman-Johnson et al., 1990; St. Lawrence et al., 1995; Wilson, Jaccard, Endias, & Minkoff. 1993; Wyatt & Riederle, 1994). Incidence estimates of consistent condom use among young, heterosexual women range from 2.1% to 45%. This large spread in incidence estimates may be due to variations between samples. For example, although many of the studies cited above were conducted with predominantly White, heterosexual undergraduates (Baldwin & Baldwin. 1988; Bishop & Lipsitz, 1991; Boldero et al., 1992; Campbell et al., 1992; DeBuono et al., 1990; Fisher et al., 1995; Galligan & Terry, 1993; Maticka-Tyndale, 1991; White et al., 1994), others were conducted with Black undergraduates (Jemmott & Jemmott. 1991), Black adolescents (Jemmott & Jemmott. 1992), heterosexuals from the general population (Catania et al., 1993; Dolcini et al., 1995), adolescents attending a family planning clinic (Catania et al., 1989), marine women (Gerrard & Warner, 1994), and patrons of dating bars (Herold & Mewhinney, 1993). Despite variations among samples and inconsistencies among incidence estimates, one trend remains stable; young heterosexual women tend not to use condoms on a regular basis.
Thus, the young heterosexual woman may be at risk of contracting HIV. Many young women are sexually active in serially monogamous relationships, and few use condoms on a regular basis. Before we can design educational interventions to increase the incidence of condom use among sexually active young women, we need to know what particular attitudes and behaviours to target in these programs. Thus, we must identify and analyze the attitudinal and behavioral factors that predict safe sex behaviours.

**Predictors of Condom Use**

As stated earlier, the major purposes of the present study were to identify the variables that best predict whether or not young women make sure that condoms are used during their sexual encounters, and to understand these variables within the context of a particular theoretical framework. A review of the literature on condom use among women reveals that these two purposes are often treated as two distinct goals. For example, one area of the literature tends to focus on the variables that best predict condom use, without regard for placing those variables within the context of a theoretical framework. By contrast, another area of the literature is based on cohesive theoretical frameworks that have been applied to a wide variety of social behaviours, and attempts to situate condom use within the particular theoretical perspective. Because the current study has undertaken both objectives, the main findings from both approaches to the study of condom use among women will be reviewed here.

**General AIDS knowledge and information.** Dissemination of general AIDS knowledge and information seems like the most obvious and simple solution to
increasing condom use among young women. Indeed, AIDS education was once widely considered as the key to AIDS prevention (e.g., Brooks-Gunn et al., 1988; Flaskerud & Thompson, 1991; Pelosi, 1988; Wofsy, 1987). Nonetheless, an individual's level of knowledge concerning the transmission, symptoms, and other facts about AIDS is not predictive of AIDS preventive practices, including condom use (e.g., Allard, 1989; Baldwin & Baldwin, 1988; Breakwell et al., 1994; Jemmott & Jemmott, 1991, 1992; Kegeles et al., 1988; St. Lawrence et al., 1995; Whitehead, 1994; Wyatt & Riederle, 1994; see also Amaro, 1995; Boldero et al., 1992; Cochran, Mays, Ciarletta, Caruso, & Mallon, 1992; Des Jarlais & Friedman, 1988; Dyck, 1995; Flora & Thoreson, 1988; Galligan & Terry, 1993; Helweg-Larsen & Collins, 1994; Herold & Mewhinney, 1993; Kelly, Murphy, Sikkema, & Kalichman, 1993; Mays & Cochran, 1988; Morin, 1988).

This is not to suggest that efforts to inform and educate young people about AIDS should be abandoned. While such knowledge may help young people in other areas (e.g., risk perception accuracy, acceptance of people with AIDS), it does not have a significant impact on safe sex decision making or condom use.

**Sexual enjoyment.** The extent to which condom use is perceived to interfere with sexual pleasure has consistently emerged as a significant determinant of condom use among a wide variety of populations. Greater enjoyment of condoms is significantly associated with more frequent use of condoms among young American women (Catania et al., 1989), American adults (Catania et al., 1994), Scottish undergraduates (Sheeran et al., 1990), Australian undergraduates (Galligan & Terry, 1993), Australian female
undergraduates (Moore & Rosenthal, 1991), and American female sexual partners of injection drug users (McCoy & Inciardi, 1993).

Positive attitudes regarding the effects of condoms on sexual enjoyment also seem to be predictive of intentions to use condoms in the future. Among a sample of Black female undergraduates, women who held such positive attitudes were more likely to report that they intended to use condoms in the next three months than were those women who believed that sex would not be pleasurable if a condom was used (Jemmott & Jemmott, 1991). Similarly, after the implementation of an intervention program designed to increase condom-use intentions among Black adolescent women, Jemmott and Jemmott (1992) found that increases in hedonistic outcome expectancies (e.g., 'Sex can still feel natural and pleasurable with a condom'. 'A condom does not have to ruin the mood') significantly predicted increases in intentions to use condoms.

Furthermore, the belief that condom use does not necessarily decrease sexual pleasure significantly differentiated between both American and Australian university women who intended to ask their partners to always use condoms and those who did not (Chan & Fishbein, 1993; White et al., 1994, respectively). It also successfully discriminated between American university women who reported using a condom during their most recent sexual intercourse and those who did not (Campbell et al., 1992). These results provide fairly convincing evidence that concern regarding decreased sexual enjoyment due to condom use is a significant impediment to regular condom use among women.
Perceived health benefits. Beliefs regarding the efficacy of condoms in preventing pregnancy and the transmission of HIV and other STDs also predict intentions to use condoms and actual condom use. For example, American university women who believed that consistent condom use would protect them from AIDS and unwanted pregnancy were more likely to indicate intent to ask their partners to use condoms than women who did not believe that condoms could protect them from the aforementioned health risks (Chan & Fishbein, 1993). Among a sample of Australian university students, beliefs about the risk reduction effects of condoms significantly predicted both intentions to use condoms and actual condom-use behaviour (Galligan & Terry, 1993). Similarly, young American college women and marine women who usually used condoms were more likely to believe that condoms were effective in preventing pregnancy than were women who did not regularly use condoms (Gerrard & Warner, 1994). Likewise, among a sample of Scottish undergraduates, those who had previously used condoms during sex believed that condoms were more effective than did students who had never used condoms (Sheeran et al., 1990). The belief that condoms prevent pregnancy has also successfully differentiated between intenders to use condoms and non-intenders among a sample of Australian undergraduates (White et al., 1994).

Nonetheless, the perceived ability of condoms to prevent HIV transmission did not emerge as a significant predictor of condom use among a sample of young American women (Catania et al., 1989). Similarly, after an intervention program designed to increase condom-use intentions among Black adolescent women, increases in prevention outcome expectancies regarding condom use (e.g., 'Whether condoms can prevent
pregnancy, STDs and AIDS') were not found to predict increased intentions to use condoms (Jemmott & Jemmott, 1992).

One possible explanation for these discrepancies may be the way in which perceived health benefits were measured. For example, the women in Catania et al.'s (1989) study were asked to indicate the perceived health benefits of using a condom with a guy they were having sex with for the first time. It is quite possible that Catania et al.'s (1989) results concerning the perceived health benefits of condoms were confounded with the perceived health risks of having sexual relations with a new partner. Jemmott and Jemmott's (1992) non-significant results may be because increases in condom-use intentions from pre- to post-intervention were predicted from increases in health benefit beliefs (e.g., that condoms prevent pregnancy, STDs and AIDS) from pre- to post-intervention, rather than predicting absolute intentions from absolute health benefit beliefs. This may have contributed to their apparently contradictory findings. Despite these inconsistencies, the perceived efficacy of condoms may be important in determining whether or not young women consistently insist on condom use during sex.

**Interpersonal implications.** Interpersonal implications of condom use can have a dramatic impact on deciding whether or not to use condoms. Firstly, issues of trust are often used to justify unsafe sexual behaviours. In Fraser's (1994) qualitative investigation into the reasons why young Canadians often engage in risky sexual practices, some participants suggested that they were in a trusting and therefore good relationship, and that unprotected sex was the ultimate affirmation of that trust. Others (primarily females) suggested that the decision to have unprotected sex was the best way to create a trusting
relationship. These young people seemed to believe that placing their health and lives in potential jeopardy was an effective way to demonstrate and/or create trust. Other researchers have noted similar tendencies (e.g., Des Jarlais & Friedman, 1988; Dyck, 1995; Galligan & Terry, 1993; Maticka-Tyndale, 1991, 1992; Patton, 1993, 1994). For example, among a sample of Australian undergraduates, perceived disadvantages of condoms (e.g., 'Suggesting a condom might make my partner think I had AIDS or another STD', 'If my partner suggested that we use a condom, I would think that he/she did not trust me') were negatively associated with condom use (Boldero et al., 1992).

"Ironically, ceasing to use condoms may signal trust and commitment for heterosexuals" (Patton, 1994, p.115, emphasis in original). Couples who initially use condoms often stop once a relationship (however defined) has been established, such that the better one knows one's partner, the less appropriate it is perceived to insist on condom use. It is likely that requesting one's primary partner to use a condom is perceived as tantamount to a confession or an accusation of infidelity (Catania, Coates, & Kegeles, 1994; Catania et al., 1993; Galligan & Terry, 1993).

Suggestion of condom use can also trigger an angry response from one's partner. Anticipating such a reaction may make condom use less likely. For example, women who did not intend to insist on condom use were more likely than intenders to believe that telling their partner to always use a condom would make their partner angry (Chan & Fishbein, 1993).

Thirdly, issues of perceived responsibility regarding condom use also carry with them potential interpersonal implications. Among Fraser's (1994) respondents, both
males and females considered that safe sex was primarily the responsibility of the woman. Because issues of contraception have traditionally been considered a woman's responsibility (Campbell et al., 1992; Galligan & Terry, 1993), it is not surprising that condom use for the purpose of safe sex is also considered the responsibility of the female partner (Amaro, 1995; Wyatt & Riederle, 1994). Another explanation for this finding could be that young people assume that "responsibility falls to those who are perceived to be more at risk of contracting disease" (Fraser, 1994, p.44). With respect to heterosexual transmission of HIV, women are indeed at greater risk than men (de Vincenzi, 1992; Siegel & Gibson, 1988).

Because many young people seem to have strong opinions regarding the issue of responsibility (i.e., that women should be responsible for condom use), it would be interesting to investigate the role that responsibility plays in women's decisions whether or not to use condoms. If one assumes that behaving responsibly is a positive and desirable quality, one might speculate that women who perceive condom use as a responsible and mature behaviour may be more inclined to actually use condoms. For example, compared to women who did not intend to use condoms in the future, intenders were more inclined to hold attitudes indicating that telling their partners to always use condoms was a responsible and desirable way to behave (i.e., 'Will show my partner that I care about myself', 'Is the responsible thing to do') (Chan & Fishbein, 1993).

To reiterate this very important point, the present study's focus on women is not to suggest that women should be responsible for all protection decisions, but rather that if women are better equipped to assume some responsibility for condom use and safe sex,
then they will be in a better position to exercise control in protecting and saving their own lives instead of relying on their male partners.

Finally, the fear of negative implications with respect to one's self-image has also been found to predict condom use and condom-use intentions. For example, the threat of experiencing negative emotion (e.g., anger, guilt, shame) in the future if risk reduction behaviours (e.g., condom use, STD test for partner, sexual history questions) were not practiced was predictive of Canadian university women's decisions to use risk reduction behaviours (Dyck, 1995). Similarly, fear of negative implications (e.g., 'Looks like you were planning to have sex', 'Implication that you have had other sexual relationships') had a direct, negative influence on condom-use behaviour among a sample of Australian undergraduates (Galligan & Terry, 1993). It would therefore appear as though there are a variety of interpersonal implications that young women take into consideration when deciding whether or not to use condoms.

**Comfort and convenience.** Attitudes toward the perceived comfort and convenience of condoms can also influence a person's decision of whether or not to regularly use condoms (e.g., Brown, 1984; Campbell et al., 1992). For example, when condoms are considered uncomfortable, awkward, messy, or offensive, they are less likely to be used. Indeed, among a sample of Scottish undergraduates, those who had previously used condoms found them to be less offensive than those who had not (Sheeran et al., 1990). Similarly, Moore and Rosenthal (1991) demonstrated that female Australian undergraduates who thought that condoms were a nuisance were more likely to engage in risky behaviours than were women who did not hold such negative attitudes.
Thus, the perceived comfort and convenience of condoms were among the attitudinal dimensions considered in the present study.

**Normative pressure.** With respect to condom use, perceived normative pressure has been found to be very influential in the decision making process of the individual (e.g., Chan & Fishbein. 1993; Cochran et al., 1992; Dolcini & Adler. 1994; Ewald & Roberts. 1985; Fisher. 1984; Fisher et al. 1995; Jemmott & Jemmott. 1991; Maticka-Tyndale, 1991, 1992; Trafimow. 1994; White et al., 1994; see also Kelly et al., 1993; Mays & Cochran, 1988; Morin. 1988). Two kinds of normative pressure to use or not use condoms have been identified: interpersonal pressure and social pressure (Fraser. 1994).

The influence of interpersonal pressure on condom-use intentions is demonstrated by the results from Jemmott and Jemmott's (1992) implementation of an intervention to increase intentions to use condoms among Black adolescent women. After the intervention, it was found that an increase in outcome expectancies regarding the women's partners' support of condom use (e.g., 'How much would your partner(s) approve of using a condom'. 'How willing would he be to use a condom') was a significant predictor of increased intentions. Furthermore, many of the women in Fraser's (1994) sample reported situations in which they felt coerced or pressured by their male partners to have unsafe (condomless) sex. This suggests that although safe sex may be seen as the responsibility of the woman, there are a variety of reasons (e.g., oppressive social situation, uncooperative partner) that may render a woman unable to translate that responsibility into action. The need for AIDS prevention programs that specifically address women's issues regarding interpersonal pressure is evident.
Intentions to use condoms and reported condom use have also been found to be influenced by social pressure. For example, among a sample of young Black women, those who perceived a general social stigma toward women who carried condoms were less likely to carry condoms than women who did not hold such perceptions (Wilson et al., 1993). Fraser's (1994) respondents also indicated that there were societal pressures that interfered with their decisions to practise safe sex, but they were unable to identify or describe these pressures. She suggests that without adequate knowledge of the nature of these social forces, the individual is unable to exercise true personal responsibility and control. Some of these social pressures were addressed in the present study.

Stein, Newcomb and Bentler (1994) found that among a community sample of American adult women, past risky AIDS behaviours were significantly negatively correlated with social conformity. These results can be interpreted as support for the fairly common finding that condom use is influenced by normative pressures. If one accepts that in this era of AIDS, it is generally considered socially acceptable to use condoms to protect oneself from HIV and other STDs, then it follows that women who are not strongly motivated to conform to other social norms might also fail to use condoms during sexual intercourse.

Nonetheless, perceived normative standards do not always predict condom use. For example, among a sample of American adults, Catania et al. (1994) found that perceived norms were correlated with condom use for secondary sexual partners (partners not classified as primary sexual partners) but not for primary sexual partners (partners with whom the respondents had a 'primary' relationship and to whom they felt a special
commitment). The authors suggested that among committed couples, trust may outweigh perceived social norms as a determinant of condom use to the extent that condoms are associated with mistrust. Thus, despite some apparently contradictory findings in the literature, the present study investigated the role of perceived normative standards as a possible determinant of condom use among young women.

**Perceived self-efficacy.** Self-efficacy may also have a significant impact on intentions to use condoms and actual condom use. Unfortunately, the relevant studies have yielded less than clear results. For example, among a sample of Australian undergraduates, White et al. (1994) found that self-efficacy was a significant positive predictor of intentions to use condoms. Similarly, Jemmott and Jemmott (1992) demonstrated that Black adolescent women who evidenced the greatest increases in self-efficacy from pre-intervention to post-intervention also demonstrated the greatest increase in intentions to use condoms.

Nonetheless, self-efficacy did not emerge as a significant predictor of condom use among a sample of young American women attending a family planning clinic (Catania et al., 1989). Similarly, Moore and Rosenthal (1991) found that Australian university women's fatalistic attitudes (or attitudes of powerlessness) toward what they can do about AIDS did not predict risky sexual behaviours. These apparent contradictions may be due to the manner in which self-efficacy was measured. For example, both White et al. (1994) and Jemmott and Jemmott (1992) utilized multiple item measures of self-efficacy that specifically addressed the women's efficacious beliefs with respect to condom use. By contrast, Catania et al. (1989) utilized a single item measure that is extremely
problematic when assessing a complex construct like self-efficacy. Moreover, Moore and Rosenthal (1991) assessed fairly general fatalistic attitudes (e.g., 'There is a chance I could get AIDS but there is not much I can do about it') as opposed to more specific efficacious beliefs (e.g., 'If my partner does not want to use a condom there is not much I can do about it'). In the present study, the impact of efficacious beliefs on women's safe sex decisions was examined.

**Theoretical Frameworks**

Much of the research on condom use among young women has failed to use a systematic, theoretical approach. For the most part, the ensuing results lack structure and integration, leaving our broader understanding of the general attitudinal and behavioral factors that influence safe sex choices somewhat lacking. One of the goals of theory driven research is to uncover the general determinants of behaviour for a particular group of individuals. This allows researchers to propose and test causal models of AIDS preventive behaviours, and provides a framework within which to more accurately interpret the results from atheoretical research. Effective design and implementation of AIDS prevention programs are facilitated when approached from within a viable theoretical framework.

Indeed, several researchers have approached the issue from a variety of theoretical perspectives. For example, Becker's (1974) Health Belief Model (HBM) is a classic theoretical framework for health related behaviours. The HBM is a cognitive model of health behaviour that considers an individual's knowledge and feelings about the seriousness of a particular health problem or disease, their personal susceptibility to the
problem, and the perceived benefits and barriers to the appropriate health related action. In recent years this theoretical framework has been modified and applied to an examination of the factors associated with sexual risk taking (e.g., Allard, 1989; Condelli, 1986; Dyck, 1995; Maticka-Tyndale, 1991; Struckman-Johnson et al., 1990; Wilson, Lavelle, Greenspan, & Wilson, 1991; see also Fisher, Fisher, Williams, & Malloy, 1994).

Bandura's (1977a; 1977b) cognitive social learning theory and modifications thereof have also been applied in this context (e.g., Baldwin & Baldwin, 1988; Jemmott & Jemmott, 1992; St. Lawrence et al., 1995; see also Des Jarlais & Friedman, 1988; Fisher et al., 1994; Flora & Thoreson, 1988; Kelly et al., 1993). Social learning theory focuses on the roles that vicarious, symbolic, and self-regulatory processes play in psychological functioning. Human behaviour can be understood within the process of reciprocal determinism whereby the individual and his or her environment are reciprocal determinants of one another. The key components of this theory are perceived self-efficacy (the belief that one can successfully execute the behaviour) and outcome expectancies (the estimate that a behaviour will lead to certain consequences). An application of social learning theory to AIDS prevention could suggest that basic AIDS information is necessary to generate motivation for behavioral change, that the means for behavioral change must be provided, and that new behavioral patterns must be reinforced. Another application might suggest that young people can learn AIDS preventive behaviours by observing a model demonstrate how one can effectively insist on a particular safe sex behaviour.
A recently proposed model for the study of AIDS preventive behaviour is the AIDS Risk Reduction Model (ARRM) (Catania, Kegeles, & Coates, 1990) which is modeled on the principles of both the HBM and cognitive social learning theory. According to this model, there are three stages leading to behavioral change: i) recognition that one's behaviour is placing one at high risk for contracting HIV, ii) taking responsibility for one's behaviour and making a subsequent commitment to change that behaviour, and iii) seeking strategies and taking actions to achieve the goals of behavioral change (see also Breakwell et al., 1994; Catania et al., 1994; Dolcini et al., 1995; Fisher et al., 1994).

A host of other less widely applied theories have also been used in the study of AIDS risk reduction: subjective expected utility theory (Edwards, 1954), protection motivation theory (Rogers, 1975), the stages of change model (Prochaska & DiClemente, 1983), diffusion theory (Rogers, 1983), the precaution adoption process (Weinstein, 1988), the reasons model (Meichenbaum & Fong, 1993, as cited in Rempel & Fong, 1995), and the information-motivation-behavioral skills (IMB) model of AIDS-preventive behavior (Fisher et al., 1994; see also Amaro, 1995; Gerrard & Warner, 1994).

In the present study, two of the more commonly applied theories will be tested directly: the theory of reasoned action (TORA) and the theory of planned behaviour (TOPB), the latter being a modification of the former and arguably the most applicable to the study of condom use.

**Theory of reasoned action.** The theory of reasoned action (TORA) was developed as a general model to provide a conceptual framework within which to examine the
relationship between attitudes and behaviours, emphasizing the roles of behavioral intentions and subjective norms (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975). Strategies for the development of AIDS intervention programs approached from the perspective of the TORA have been most effective when the behaviour of interest is framed in very specific terms (e.g., insisting on condom use) rather than general terms (e.g., insisting on safe sex), and when there is a time reference (e.g., in the next three months) and a relationship reference (e.g., with a new partner) (Boldero et al., 1992; Ewald & Roberts, 1985).

According to the TORA, the immediate antecedent of any given behaviour is the individual's intention to perform that behaviour. There are two conceptually independent determinants of an individual's behavioral intention. The first is the individual's attitude toward the behaviour. This personal factor refers to the individual's positive or negative feelings with respect to performing the intended behaviour. The second determinant is social influence, or the individual's perception of whether or not certain significant others think that he or she should perform the behaviour in question. This variable is often referred to as the subjective norm, or normative factor (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975).

According to the TORA, attitude can be assessed both directly and indirectly. The direct measure assesses how negative or positive the individual's attitudes are toward performing the particular behaviour. The indirect measure of attitude is conceptualized as the function of the interaction between a person's salient behavioral beliefs (their beliefs that the behaviour will lead to certain outcomes) and the evaluative aspects of those
beliefs (the person's evaluations of the behavioral outcomes). Thus, to obtain an estimate of a person's attitude toward a particular behaviour, the score for each behavioral belief is multiplied by the corresponding score for each evaluative outcome and the ensuing products are summed (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975). It is either the direct measure of attitude or this interaction term that is used to predict behavioral intentions. The main effects of behavioral belief and evaluative outcome are not used to predict intentions.

Similarly, normative factor can be assessed both directly and indirectly. The direct measure assesses the individual's perceptions of important people's attitudes toward the individual performing the behaviour. The indirect measure of the normative factor is conceptualized as the function of the interaction between a person's salient normative beliefs that certain specific individuals or groups think that he or she should or should not perform the behaviour and the individual's motivation to comply with those individuals or groups. Thus, to obtain an estimate of the normative factor, the score for each normative belief is multiplied by the score for the individual's motivation to comply with the particular referent and the ensuing products are summed (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975). It is either the direct measure of subjective norm or this interaction term that is used to predict behavioral intentions. The main effects of normative belief and motivation to comply are not used to predict behavioral intentions.

Theory of planned behaviour. The application of the TORA to condom use among women is somewhat problematic, as this theoretical approach assumes that behaviour is under the volitional control of the individual. As was stated earlier, condom
use is a *behaviour* for men, but a *goal* for women. Whereas most behaviours are assumed to be under the volitional control of the individual, goals are often dependent upon other people and events. Thus, when the behaviour in question is not under the individual's direct control, behavioral intentions may predict the attempt to perform the behaviour rather than its actual performance. Although many theoretical frameworks assume that we can predict behaviour from behavioral intentions, prediction of goal attainment depends on variables in addition to behavioral intentions.

In order to address this theoretical issue, Ajzen (1985, 1988) suggested that one should consider the influence of internal and external determinants of control on both behavioral intentions and actual behaviour. Because it would be extremely difficult to measure *actual* behavioral control the concept of *perceived* behavioral control (PBC) was proposed, and it was recommended that the TORA be expanded to include this concept. The TORA was thus modified to the theory of planned behaviour (TOPB) (Ajzen, 1985, 1988). Unfortunately, there remains a lack of conceptual clarity regarding PBC (Chan & Fishbein, 1993; White et al., 1994). In the present study, an attempt was made to clarify this ambiguity.

**Empirical Evidence for the TORA and the TOPB**

Much empirical evidence has been obtained for the TORA and the TOPB as applied to condom use in several populations (e.g., males and females, gay males and heterosexuals, Blacks and Whites, adolescents and adults). Firstly, the TORA has been successfully applied to American college males' intentions to use condoms. More specifically, the hypothesized determinants of attitude toward condom use and subjective
norm were positively associated with the respective attitudinal and subjective normative components of the TORA. Furthermore, attitude and subjective norm were positively associated with intentions to use condoms, and intentions were positively associated with past condom use (e.g., Ewald and Roberts, 1985; Fisher, 1984).

In a related study, Cochran et al. (1992) looked at safe sex practices in a sample of American gay men. Consistent with the TORA, behavioral beliefs predicted attitudes toward the safe sex practices and subjective normative beliefs predicted the subjective norms associated with these practices. Both attitudes and norms were significantly associated with behavioral intentions to practice safe sex. Furthermore, these behavioral intentions were significantly correlated with the enactment of the various measures of safe sex practices.

More recently, Fisher et al. (1995) applied the TORA to an examination of a variety of AIDS preventive behaviours among American gay men, heterosexual male and female university students, and heterosexual male and female high school students. For all three samples of participants, a proportion of the variance in AIDS preventive behaviours was accounted for by behavioral intentions, and a proportion of the variance in behavioral intentions was accounted for by attitudes and norms. Attitudes toward the AIDS preventive behaviours were also positively correlated with the interaction between beliefs about the consequences of those behaviours and the participants' evaluations of those consequences. Finally, subjective norms regarding the AIDS preventive behaviours were positively correlated with the interaction between participants' perceptions of their
referents' (e.g., family, friends, sexual partner) wishes concerning those behaviours and their motivation to comply with those referents.

Moreover, when gay males who intended to always use condoms during insertive anal intercourse during the next two months were compared with those who did not have similar intentions, significant differences emerged in their beliefs, evaluations, perceptions of referent wishes, and motivation to comply with referent wishes. For example, intenders were more likely than non-intenders to believe that condom use during insertive anal sex would reduce the risk of HIV transmission and fear of contracting HIV, and were more likely to have positive evaluations of these consequences. Intenders were also more likely to perceive that their referents would want them to always use a condom during insertive anal sex and were more motivated to comply with their referents' wishes (Fisher et al., 1995). These results lend clear support to the TORA as applied to AIDS preventive behaviours.

Support for the TORA has also been obtained among a sample of Black American university women (Jemmott & Jemmott, 1991). Women who reported more favourable attitudes toward using condoms, more normative support for using condoms, and greater intentions to use condoms in the future also reported more consistent condom use in the previous three months. A proportion of the variance in intentions to use condoms in the next three months was accounted for by the women's positive attitudes toward condom use and perceived normative support toward the use of condoms. Among the attitudes that most influenced intentions were positive evaluations regarding the effects of condoms on sexual enjoyment. These women perceived most subjective normative
pressure toward using condoms from their mother and father, but were most motivated to comply with their partner's wishes, which were perceived as non-supportive of condom use. Overall, intentions were more strongly influenced by attitudes (i.e., toward the effect of condoms on sexual enjoyment) than by subjective norms.

In 1993, Chan and Fishbein applied the TORA and the TOPB to American college women's intentions to tell their partners to use condoms every time they have sexual intercourse. Considerable support for the TORA was obtained; the young women's attitudes toward telling their partners to use condoms and their perceptions of what others would think they should do were significant predictors of the young women's behavioral intentions in this regard. For this particular sample, attitude toward the behaviour was a more important predictor of behavioral intention than was perceived subjective normative pressure.

Contrary to what one would expect, perceived behavioral control (PBC) did not significantly increase prediction of the women's behavioral intentions; thus the study did not lend support to the TOPB (Chan & Fishbein, 1993). As the authors suggested, this finding may be attributed to the way in which PBC was measured. Perceived behavioral control was assessed with two 7-point semantic differential items: the extent to which the behaviour was perceived as easy or difficult, and the extent to which the women felt that the behaviour was under their own control or dependent upon other people or events. Although the women perceived the behaviour as difficult, they also felt that it was under their control. The low internal consistency of the PBC items may have contributed to the variable's failure to significantly predict behavioral intention. Furthermore, the inclusion
of a perceived behavioral control variable was based on the rationale that PBC will increase prediction when the behaviour is not under the volitional control of the individual; these women believed that telling their partners to use condoms each time they had sexual intercourse was a behaviour that was under their own control. Finally, Chan and Fishbein (1993) were examining the behaviour of telling one's partner to use a condom. It is possible that if they had framed the issue as a goal (i.e., getting one's partner to use a condom), then PBC would have emerged as a predictor of women's intentions to reach this goal.

Chan and Fishbein (1993) also compared the behavioral beliefs and subjective normative beliefs of intenders versus non-intenders. Compared to non-intenders, intenders held more positive attitudes toward several aspects of condom use: health benefits of telling their partners to use condoms (i.e., 'Will protect me from AIDS and unwanted pregnancy'), issues of responsibility associated with telling their partners to always use condoms (i.e., 'Will show my partner that I care about myself', 'Is the responsible thing to do'), relationship conflict issues (i.e., 'Will make my partner angry'), and issues of sexual enjoyment (i.e., 'Will make sex less intimate', 'Will decrease my and my partner's sexual pleasure'). Intenders and non-intenders did not differ in terms of their motivation to comply with their referents (e.g., family members, friends, students, partner, religious group), but intenders did perceive more subjective normative pressure from their referents to tell their partners to use condoms.

Partially in response to Chan and Fishbein's (1993) inconclusive results regarding behavioral control, White et al. (1994) conducted a study to further explore the concept of
PBC. They proposed that the concept of control might best be understood with three distinct constructs: self-efficacy (perceptions of the ease or difficulty of performing the particular behaviour), perceived behavioral control (the degree of control the respondent believed that he or she had over performing the behaviour), and planning (whether or not the necessary pre-conditions for performing the behaviour had been satisfied, e.g., deciding who would buy the condoms).

The authors further suggested that the subjective normative component of the TOPB should be expanded to include the influence of group norms, measured as a composite of the individual's perception of his or her referent group's general attitude toward performing the behaviour (group attitude) and the judgement that group members perform the behaviour themselves (behavioral norm). These revisions were tested on a sample of heterosexual, sexually experienced, Australian undergraduates who were asked about their intentions to use a condom on every sexual encounter during a one month period.

Consistent with the TORA, condom-use intentions accounted for a significant proportion of the variance in reported condom use (assessed four weeks later), and attitude and subjective norm accounted for a significant proportion of the variance in condom-use intentions. Furthermore, group norm also emerged as a significant predictor. With respect to the control measures, self-efficacy and planning made significant contributions to the model, while perceived behavioral control failed to predict condom-use intentions (White et al., 1994).
Intender versus non-intender comparisons revealed that intenders were more likely than non-intenders to believe that condom use would protect them from pregnancy and were less likely to believe that condom use reduces sexual pleasure and intimacy. With respect to subjective normative beliefs, intenders were more likely than non-intenders to believe that each of their referents would want them to use a condom and were more motivated to comply with each referent (e.g., parents, other family members, doctor, friends, partner's family). However, this difference was not statistically significant for the referent of 'current partner' (White et al., 1994).

White et al. (1994) found support for their contention that condom-use intentions are influenced not only by the subjective norm or the perceived expectations of other individuals, but also by the group norm (the degree to which the behaviour is perceived as normatively appropriate). Partial support was also obtained for the proposed conceptual clarification of the notion of PBC to the extent that a factor analysis revealed three conceptually distinct factors. Furthermore, self-efficacy and planning made significant and distinct contributions to the revised TOPB. White et al. (1994) offer a possible explanation for the lack of predictive power of the perceived behavioral control component of the PBC; the reliability of this component was relatively low compared to the reliability of the self-efficacy and planning components (Cronbach's alpha = 0.65, 0.83, and 0.84, respectively).

Trafimow (1994) has further suggested that the predictive power of the TORA might be greatly facilitated if the theory considered the influence of the individual's perceived confidence in their perceptions of subjective normative pressure. Male and
female American undergraduates were asked to indicate the likelihood that they intended
to use a condom every time they had sexual intercourse, their attitudes toward condom
use, their perceptions of subjective normative pressure (i.e., what they thought their
sexual partner would want them to do), and their confidence that they knew what their
sexual partner thought they should do. Across all respondents, both attitudes and
subjective normative pressure significantly predicted intentions, with subjective
normative pressure contributing more than attitudes. When the analysis was repeated for
the participants who were extremely confident that they knew what their partners thought
they should do, attitudes no longer influenced intentions and the influence of subjective
normative pressure increased. By contrast, when the analysis was performed for
respondents who were not confident, the reverse findings were obtained: subjective
normative pressure no longer influenced intentions, and the influence of attitudes
remained significant. This pattern of results was identical for males and females, and
Trafimow (1994) concluded that confidence is a mediator of the process by which
perceptions of subjective normative pressure influence condom-use intentions. Thus,
confidence in perceptions of subjective normative pressure was included as a predictor
variable in the present study.

The Present Study

The purpose of the present study was to identify the variables that best predict
condom use among young women, using the theoretical framework provided by the
TOPB. Several issues surrounding condom use among women make prediction of this
behaviour rather unique. The approach of many previous studies and their adopted
theoretical perspectives have often neglected these very important considerations. For example, because condoms potentially serve a dual purpose, women were asked about their birth control and disease prevention practices separately. Further, condom use must be conceptualized as a goal for women rather than a behaviour. Because the TOPB specifically allows for the consideration of behaviours that are beyond the complete volitional control of the individual, this approach was deemed the most appropriate for the present context. It was hoped that the acknowledgement and consideration of these issues, together with the incorporation of the recently proposed reformulations of the TORA and the TOPB (Trafimow, 1994; White et al., 1994), would result in a more thorough and complete model to predict condom use among young women. The results could lead to many recommendations for the effective design and implementation of AIDS risk reduction programs geared toward promoting condom use among young, heterosexual women.

There were several additional purposes to the present study. The TORA and the TOPB consider one's general attitude toward condom use to be predictive of condom-use intentions and actual behaviour. In the present study, several specific attitudes toward condom use were considered (effects of condom use on sexual enjoyment, perceived health benefits, comfort and convenience, issues of trust, anger and conflict, perceived responsibility, and threat to self-image). Further, the influence of group norm pressures (White et al., 1994) was incorporated in the TORA. Confidence in perceptions of subjective normative pressure (Trafimow, 1994) was also considered. A final purpose of the present study was to test the TOPB by determining if the self-efficacy and perceived
behavioral control components of PBC (White et al., 1994) add significant predictive power to the TORA. The planning component of White et al.'s (1994) PBC concept was not included. Although planning to use condoms is undoubtedly an important step toward using condoms, it was argued that planning cannot be conceptualized as a component of perceived control.

At this point, it must be made explicit that the main dependent variable in the present study is future intent to use condoms, and not actual condom-use behaviour. According to the TORA and the TOPB, intentions to perform a particular behaviour are predictive of future behaviour. If one is to assume that one's past behaviour is predictive of one's future behaviour, then past condom use is an acceptable alternative to future condom use. Indeed, previous studies have also used past behaviour as a stand-in for future behaviour (e.g., Ewald & Roberts, 1985; Fisher, 1984; Jemmott & Jemmott, 1991).

It is acknowledged that the most appropriate empirical test of the TORA and the TOPB would involve consideration of the respondents' use of condoms over the next few months, however, practical considerations (i.e., time) in the execution of this research made such a consideration near impossible. Therefore, past condom use was considered instead of future condom use, and intention to use condoms was considered the most appropriate focus of the analyses in order to remain consistent with the main tenets of the TORA and the TOPB.

**Hypotheses.** Firstly, a straightforward test of the TORA was performed. It was expected that the direct measures of attitude and subjective normative pressure would be significant predictors of intentions to use condoms and past condom use, and that a
significant proportion of the variance in past condom use would be accounted for by condom-use intentions. The indirect measure of attitude (derived from behavioral beliefs and outcome evaluations) was expected to be positively correlated with the direct measure of attitude. It was further hypothesized that each of the attitudinal components [sexual enjoyment, perceived health benefits, interpersonal implications (issues of trust, anger and conflict, perceived responsibility, threat to self-image), comfort and convenience] would significantly predict intentions to use condoms and past condom use.

The TOPB was then tested. It was predicted that the self-efficacy and perceived behavioral control components of the TOPB would explain a significant proportion of the variance in condom-use intentions, beyond that which was already accounted for by the attitude and subjective normative pressure components of the TORA. Group norm was also expected to influence condom-use intentions. Further, the effect of subjective norm on intentions to use condoms was predicted to be influenced by confidence in these normative perceptions. It was hypothesized that for confident respondents, subjective norm would be more predictive of condom-use intentions than attitudes. Conversely, it was also hypothesized that for less confident respondents, attitudes would be more predictive of condom-use intentions than subjective norm.

Additional hypotheses were also tested. If condoms are seen as a method of contraception rather than a method of disease prevention, then it would be expected that women who were currently on the birth control pill would be less likely than women who were not on the pill to indicate intentions to use condoms in the future. Finally, it was expected that women who had high intentions to use condoms would differ from women
who had comparatively lower intentions on each of the predictor variables (attitude, subjective normative pressure, self-efficacy, perceived behavioral control, group norm, sexual enjoyment, perceived health benefits, comfort and convenience, threat to self-image, anger and conflict, perceived responsibility, and trust). Specifically, it was hypothesized that intenders would be more likely than non-intenders to have positive attitudes toward condoms, to perceive more subjective normative and group norm pressures to use condoms, and to believe that they could control the use of condoms in sexual situations. With respect to specific attitudes toward condoms, it was predicted that intenders would be more likely than non-intenders to believe that condom use has a positive effect on sexual enjoyment, has many health benefits, is comfortable and convenient, is indicative of a mature attitude toward sex, and does not have an adverse effect on one's self-image or the trust and potential conflict within the relationship.
CHAPTER II

METHOD

Participants

All research participants were recruited in their Introductory Psychology classes at the University of Windsor during the 1995 fall term. Of the 508 women who were contacted, 292 (57.48%) indicated an interest in participating in the study by providing their names and telephone numbers to the researcher. Of the 292 women who provided phone numbers, 202 (69.18%) successfully completed the study. Fifteen of these women indicated that they had not engaged in sexual intercourse. Thus, the final analysis included data from 187 heterosexually experienced women.

The mean age of the sample was 20.93 (SD=4.92). The majority of the participants were White (153 or 81.82%); 11 (5.88%) were Black, 11 (5.88%) were Asian, and 12 (6.42%) were of another race (e.g., Native, West Indian).

Materials

A questionnaire package composed of a Background Information Questionnaire (see Appendix A), a Sexual Experience Questionnaire (see Appendix B), and an Attitudes Toward Condoms Questionnaire (ATCQ) (see Appendix C) was administered to each respondent. The first two components were developed to address the demographic and sexual experience questions. The ATCQ was adapted from a number of existing measures with some original items added, and was composed of a number of subscales tapping different dimensions of condom attitudes. Campbell et al.'s (1992) measure of
condom attitudes was the heart of the ATCQ and was presented in its entirety. The makeup of each ATCQ subscale is discussed below.

**Sexual enjoyment.** Four items were used to assess women's behavioral beliefs regarding the effects of condom use on sexual enjoyment. These items were taken from the sexual sensation factor of Campbell et al.'s (1992) 20-item measure of condom attitudes. The reported reliability for this factor was very good (Cronbach's alpha = 0.75) (Campbell et al., 1992). In the original study, each item was rated on a 5-point scale where 5 indicated strong agreement and 1 indicated strong disagreement, such that higher scores reflected more positive attitudes.

For the purposes of the present study, this subscale was modified from a 5-point to a 7-point scale. The logic behind this change is based on the way in which the indirect measure of attitude is assessed by the TORA: the score on each behavioral belief item is multiplied by the matching evaluation outcome item and the ensuing products are summed. Because each evaluation score was based on a 7-point scale (as indicated below), each corresponding behavioral belief score was converted to a 7-point scale, in order to facilitate interpretation of the indirect measure of attitude. Thus, each of the four items was presented in original form to assess behavioral beliefs (using a 7-point instead of a 5-point scale), and then again in modified form based on Chan and Fishbein's (1993) measure of evaluations which used a 7-point bad-good semantic differential scale.

**Perceived health benefits.** Five items were used to assess women's behavioral beliefs regarding the perceived health benefits of using condoms. Four of these items were taken from the efficacy factor of Campbell et al.'s (1992) 20-item measure of
condom attitudes. The reported reliability for this factor was moderate (Cronbach's alpha = 0.65) (Campbell et al., 1992). In the original study, each item was rated on a 5-point scale where 5 indicated strong agreement and 1 indicated strong disagreement, such that higher scores reflected more positive attitudes. By the same logic as was discussed above, this subscale was modified from a 5-point to a 7-point scale.

For the purposes of the present study, a fifth item was added to this factor. This item assesses the individual's belief that condom use is effective in protecting oneself from the AIDS virus specifically (Chan & Fishbein, 1993). For the present study, respondents were asked to rate the item on a 7-point scale, where 7 indicated strong agreement and 1 indicated strong disagreement.

Each of the five items was also presented in modified form to reflect the evaluations of each respective behavioral belief. These modifications were based on the format of the evaluation items from Chan and Fishbein's (1993) study where a 7-point bad-good semantic differential scale was used.

**Interpersonal implications.** Although several researchers have alluded to various interpersonal implications of condom use (e.g., Boldero et al., 1992; Campbell et al., 1992; Chan & Fishbein, 1993; Dyck, 1995; Fraser, 1994), no standardized subscale for assessing this dimension of condom use exists. Thus, for the purpose of the present study, subscales to assess the interpersonal implications of 1) trust, 2) anger and conflict, 3) perceived responsibility and 4) threat to self-image were devised.

The behavioral beliefs and outcome evaluations for trust were assessed with five items each. One item was drawn from Chan and Fishbein's (1993) item pool ('Using a
condom would result in a loss of trust between me and my partner'). One item was drawn from Boldero et al.'s (1992) study which assessed disadvantages of condoms ('Suggesting condoms with new partners might make them think that I have AIDS or another sexual disease'). Two items were based on Fraser's (1994) findings that young people may not use a condom during sexual intercourse in an attempt to demonstrate trust or to create a trusting relationship. Because these items did not seem to adequately reflect the implications that condom use may have for trust within a relationship, an additional item was generated for the purpose of the present study. ('My partner would think that I didn't trust him if I made sure we used a condom'). The wording for each item was slightly modified when necessary, in order to reflect women's role in condom use. For example, 'My using a condom...' was modified to 'My making sure a condom is used...'.

Each behavioral belief item was assessed on a 7-point scale where 7 indicated strong agreement and 1 indicated strong disagreement. Higher scores reflect the belief that condom use does have negative implications for trust within the particular relationship. The format for the matching outcome evaluation items was based on Chan and Fishbein's (1993) 7-point bad-good semantic differential scale.

A three item subscale to assess anger and conflict was also devised for the present study. Two items were drawn from Chan and Fishbein's (1993) item pool ('My using a condom every time I have sexual intercourse would cause conflict between me and my partner' and 'My using a condom every time I have sexual intercourse would make my partner angry'). Again, these items were modified to 'My making sure a condom is used...'. A third item was formulated in order to improve the probability of obtaining
satisfactory internal consistency for this subscale ('My partner would not be offended if I made sure that we used condoms every time we had sexual intercourse').

The behavioral belief items were assessed on a 7-point scale where 7 indicated strong agreement and 1 indicated strong disagreement. Higher scores reflect the belief that condom use will lead to anger and conflict within the relationship. The corresponding outcome evaluation items were based on Chan and Fishbein's (1993) 7-point bad-good semantic differential scale.

The subscale to assess perceived responsibility was based on four items. Two items were adapted from Chan and Fishbein's (1993) research ('My using a condom every time I have sexual intercourse would show my partner that I care about myself' and 'My using a condom every time I have sexual intercourse would be doing the responsible thing'). Again, the wording of these items was changed to 'My making sure that a condom is used...'. Two additional items were constructed for the purpose of the present study ('My making sure that condoms are used would show my partner that I am concerned for his well-being' and 'Making sure that condoms are used indicates that one has a mature attitude toward sex').

The behavioral belief items were assessed on a 7-point scale ranging from 1 'strong disagreement' to 7 'strong agreement'. Higher scores reflect the belief that condom use is indicative of a responsible attitude. The corresponding outcome evaluation items were based on Chan and Fishbein's (1993) 7-point bad-good semantic differential scale.

The threat to self-image subscale included one item from Chan and Fishbein's (1993) study ('My using a condom every time I have sexual intercourse would make my
partner think I had sex frequently') and one item based on Dyck's (1995) findings ('If I didn't use a condom with a new partner, afterward I would feel very guilty and ashamed'). The wording was modified to 'My making sure that a condom is used...'. One item was specifically constructed for the present study ('If I made sure that we used a condom, my partner might think that I had given the matter a lot of thought and that I was expecting sex').

The behavioral belief items were assessed on a 7-point scale ranging from 1 'strong disagreement' to 7 'strong agreement'. Higher scores reflect the belief that condom use is threatening to one's self-image. The corresponding outcome evaluation items were based on Chan and Fishbein's (1993) 7-point bad-good semantic differential scale.

The four items from Campbell et al.'s (1992) interpersonal factor of their condom attitudes questionnaire were also included in the threat to self-image subscale. Only one of these items was expected to be relevant to the current subscale ('The use of a condom might be embarrassing to me or my partner'). The reported reliability for this factor was moderate (Cronbach's alpha = 0.60) (Campbell et al., 1992). Although each item was originally rated on a 5-point scale where 5 indicated strong agreement and 1 indicated strong disagreement, this scale of measurement was modified to a 7-point scale for the purpose of the present study. Each of these four items were modified to reflect the matching outcome evaluations, based on Chan and Fishbein's (1993) 7-point bad-good semantic differential scale.

Furthermore, within the context of the present study, one item from Campbell et al.'s (1992) comfort and convenience factor (discussed below) was expected to be more
reflective of threat to self-image than comfort and convenience ("It would be embarrassing to be seen buying condoms in a store"). In order to keep Campbell et al.'s (1992) factors intact, this particular item was included in the current comfort and convenience subscale, but its contribution to threat to self-image was also assessed.

**Comfort and convenience.** Eight items were used to assess women's behavioral beliefs regarding the comfort and convenience of condoms. These items were taken from the comfort and convenience factor of Campbell et al.'s (1992) 20-item measure of condom attitudes. The reported reliability for this factor was moderate (Cronbach's alpha = 0.55) (Campbell et al., 1992). In the original study, each item was rated on a 5-point scale where 5 indicated strong agreement and 1 indicated strong disagreement, such that higher scores reflected more positive attitudes. Again, the format for the behavioral belief items was modified to a 7-point scale.

As was mentioned above, it was expected that one of these items ("It would be embarrassing to be seen buying condoms in a store") would contribute more to the threat to self-image subscale than to the comfort and convenience subscale.

Although Campbell et al. (1992) did not assess the evaluations of the comfort and convenience beliefs, each of the eight items was presented again in modified form for the purposes of the present study, based on Chan and Fishbein's (1993) 7-point bad-good semantic differential scale.

**Direct measure of attitude.** Chan and Fishbein (1993) used the mean rating across seven 7-point semantic differential scales as a direct measure of attitude toward telling one's partner to use a condom. Using a rating scale of +3 to -3, the women in their study
indicated a somewhat favorable attitude toward telling their partner to use a condom every time they have sexual intercourse (M=1.00; SD=0.85). The internal consistency of this scale was satisfactory (Cronbach's alpha = 0.73). The same seven 7-point semantic differential scales were used in the present study, using a rating scale of 1 to 7. The wording of these items was modified from 'telling my partner to use a condom every time I have sexual intercourse' to 'using a condom every time I have sexual intercourse' to reflect the behaviour under investigation in the current study. Lower scores reflect more positive attitudes.

In addition, Campbell et al.'s (1992) single-item measure of general condom attitudes was also included as a direct measure of attitudes toward condoms. In the original study, this item was assessed on a 6-point semantic differential scale, where higher scores reflect more positive attitudes. (The scoring for this item was reversed in the present study). Campbell et al. (1992) reported a mean overall rating of 5.04 on this item among the women in their sample. In order to maintain consistency among the items, this item was assessed using a 7-point semantic differential scale in the present study.

**Normative pressure.** The direct measure of subjective normative pressure was assessed with three items, each on a 5-point scale (Ajzen, 1991; Ajzen & Fishbein, 1980; Godin et al., in press). Higher scores reflect higher perceptions of subjective normative pressure. The Cronbach's alpha for this scale ranges from 0.69 to 0.87 (Godin et al., in press). The indirect measure of subjective normative pressure as proposed by the TORA was not used in the present study.
Group norm was measured using six items from White et al.'s (1994) study: three items assessed group attitude and three items assessed behavioral norm. A principal components factor analysis with oblique rotation revealed that the group attitude and behavioral norm items loaded on one factor (White et al., 1994). Because there was no empirical support to distinguish between these two variables, a composite variable (group norm) was computed from an additive combination of the six items. On a 5-point scale, White et al.'s (1994) participants demonstrated a mean group norm score of 3.69 (SD=0.78), indicating that overall, they tended to perceive that their significant others were using condoms. The internal consistency of this scale was high (Cronbach's alpha = 0.87) (White et al., 1994).

Two of White et al.'s (1994) group attitude items were double-barrelled ('To what extent would there be agreement amongst the people who are important to you that to use a condom every time one has sexual intercourse is a good thing to do?' and 'Would you say there is consensus amongst the people who are important to you about whether using a condom every time one has sexual intercourse is a good thing to do?'). In the present study each of these items was further divided into two items: one item reflected the consensus aspect of the question and one item reflected the idea that using a condom is a good thing to do.

**Confidence in perceptions of subjective normative pressure.** Items to assess confidence in perceptions of subjective normative pressure were adapted from Trafimow's (1994) study. As a validity check, Trafimow (1994) asked subjects to indicate their intentions to use a condom on a 7-point extremely likely-extremely unlikely
scale in two scenarios: one where they were absolutely sure that the partner wanted a condom to be used, and one where they were not sure whether the partner wanted a condom to be used. In a between-subjects analysis, Trafimow (1994) found that participants who read the 'sure' scenario were more likely to indicate intention to use a condom than participants who read the 'unsure' scenario (M=2.86 and M=2.29, respectively), t(26)=2.37, p<.05. Similarly, in a within-subjects analysis, subjects in the 'sure' scenario reported greater condom-use intentions than did subjects in the 'unsure' scenario (M=2.89 and M=2.50, respectively) t(26)=3.03, p<.01 (Trafimow, 1994).

The same scenarios were presented in the current study to determine whether or not respondents indicated greater condom-use intentions in the 'sure' scenario as compared to the 'unsure' scenario. For each scenario, an additional question was posed; participants were asked to indicate on a 7-point extremely likely-extremely unlikely scale how likely they think it is that a condom would get used.

In order to assess confidence in perceptions of subjective normative pressure, respondents were asked to indicate on Trafimow's (1994) 7-point extremely confident-extremely not confident scale, the extent to which they believe that they know whether or not their partner thinks a condom should be used every time they have sex. For the purpose of the current study, an additional two items were developed to assess confidence in perceptions of subjective normative pressure among people other than the respondent's sexual partner (i.e., 'most people who are important to me' and 'the person whose opinion means the most to me'). These questions were based on the format used by Trafimow (1994).
Perceived self-efficacy. Four 7-point items from White et al.'s (1994) study were used to assess perceived self-efficacy, where higher scores indicate higher perceived self-efficacy ($M=3.46$; $SD=1.70$; Cronbach's alpha = 0.83). The wording of these items was modified only slightly for the purpose of the present study. While White et al. (1994) phrased their items in the context of condom use every time you have sexual intercourse during the next month, the present study dropped the 'during the next month' portion of the items and added the phrase 'make sure to use a condom' in an attempt to keep all questionnaire items relatively consistent and comparable.

Perceived behavioral control. Perceived behavioral control was assessed with four 7-point items from White et al.'s (1994) study ($M=4.27$; $SD=1.15$; Cronbach's alpha = 0.65). Higher scores indicate higher perceived control. Once again, for the purpose of the present study the items reflected the behaviour of making sure to use a condom and the 'during the next month' portion of the items was dropped from the original wording of the items.

Future intent to use condoms. Eight items were used to assess the respondents' intentions to use condoms in the future. Four of these items were adapted from Campbell et al.'s (1992) study where women were asked to indicate on a 5-point definitely would not—definitely would scale, whether they would suggest, resist, insist on, or reject the use of a condom if they were about to have sex with a new partner. The reliability of this index was 0.81 (Campbell et al., 1992). In addition, three 5-point items were taken from Ajzen's prior work (Ajzen, 1991; Ajzen & Fishbein, 1980). The Cronbach's alpha for this scale ranges from 0.83 to 0.89 (Godin et al., in press). Lastly, Trafimow's (1994) single-
item measure was also used in the present study. In the original study, participants were asked to indicate on a 7-point extremely likely-extremely unlikely scale, the likelihood that they would intend for a condom to be used every time they have sexual intercourse. This item was modified to a 5-point scale in order to be consistent with the other intent items. Future intent was measured as an additive combination of the participants' scores on the above items. Higher scores reflect greater intentions.

**Past condom use.** Past condom use was assessed by an additive combination of the respondents' scores on four items. They were asked to indicate on a yes/no scale, whether or not they had ever used a condom in the past and whether or not they used a condom the last time they had sexual intercourse. A 'yes' response was assigned 5 points and a 'no' response was assigned 1 point. They were also asked to estimate on a 5-point 0%-100% scale, the percentage of times that they had used a condom during all their past sexual encounters, and the percentage of times that they had used a condom with a new sexual partner.

**Procedure**

Research participants were recruited from all undergraduate psychology classes in which bonus points were awarded for research participation during the fall semester of 1995. The students were informed that the researcher was looking for heterosexual women with some sexual experience to participate in a study on sexual attitudes and behaviours. To protect their privacy, each woman was provided with a slip of paper. Those who did not wish to participate were asked to print 'no thank you' and those who did want to participate were asked to print their name and telephone number. A box with
a hole in the lid was circulated around the class and the women were asked to deposit their papers in the box.

The students were contacted by telephone, and arrangements were made to meet them in small groups to fill out the questionnaires. These groups ranged in size from 1 to 15 participants. The seating arrangement was such that each woman could complete her questionnaires in relative privacy.

When they first arrived at the session, students were asked to sign a Consent Form (see Appendix D) that included a brief description of the study. Respondents were informed that they could leave at any time during the questionnaire session and that they were under no obligation to answer questions that they did not wish to answer. Respondents were encouraged to answer all questions if possible, and to respond as honestly as possible. They were asked not to put their name or student number on the questionnaires and were assured of complete confidentiality. Participants were also encouraged to ask any questions that may arise during or after completion of the questionnaires.

All respondents were presented with the questionnaire package containing the three sections in the following order: Background Information Questionnaire, Sexual Experience Questionnaire and Attitudes Toward Condoms Questionnaire. This order was chosen to gradually ease the participants into questions that became more and more personal and sexual in content. Order effects within the Attitudes Toward Condoms Questionnaire were controlled by counterbalancing. Half the participants received the behavioral belief items and corresponding outcome evaluation items followed by the
remaining questions, and half the participants received these sections in the reverse order. It was reasoned that the matching outcome evaluation items should always follow the behavioral belief items in order to keep their relevance apparent, but that the remaining questions should not always come at the end of the questionnaire when participants may be becoming tired.

Most respondents required between 30 and 40 minutes to complete the questionnaires. All participants were awarded course credit in the form of 1 bonus point for their participation.

Before each student departed, she was provided with a Debriefing Form (see Appendix E) indicating the exact nature of the study, and was informed of a number of local organizations that she could contact if she had any health questions concerning HIV and AIDS. She was also provided with ways to contact the researcher and the Ethics Committee should any questions or concerns arise.
CHAPTER III

RESULTS

Sample Characteristics

The respondents in the current study are best described as heterosexual women involved in monogamous sexual relationships that had an average duration of 2.45 years (SD=3.55). The majority of the sample was Catholic but attended church infrequently (see Table 1).

With respect to their sexual practices, these women tended to first engage in sexual intercourse in their late teens, had a total of 3 or 4 sexual partners, and were sexually active at the time of the study (see Table 2).

The majority of women were currently using some form of birth control, and almost half were on the birth control pill. When the respondents used condoms they were used to serve the purposes of birth control and disease prevention. Over one third of the women indicated that in the past they had sexual intercourse with someone they did not know very well, and one seventh indicated that in the past they had sexual intercourse with someone they just met that day or evening. The majority of women reported always using condoms in these situations. The behaviours engaged in by these women for the purposes of birth control and disease prevention are presented in Table 3.

Reliability Analysis

The internal consistency of the groups of items assessing each variable in the Attitudes Toward Condoms Questionnaire (ATCQ) was determined (see Table 4). The Cronbach's alphas ranged from 0.37 to 0.93. Items that contributed little to their
Table 1

**Sexual Orientation, Relationship Status, Religious Affiliation and Religious Attendance of the Current Sample (N=187)**

<table>
<thead>
<tr>
<th>Variable</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sexual orientation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heterosexual</td>
<td>182</td>
<td>97.33</td>
</tr>
<tr>
<td>Bisexual</td>
<td>3</td>
<td>1.60</td>
</tr>
<tr>
<td>Not sure</td>
<td>1</td>
<td>0.53</td>
</tr>
<tr>
<td>Missing</td>
<td>1</td>
<td>0.53</td>
</tr>
<tr>
<td><strong>Relationship status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not dating</td>
<td>44</td>
<td>23.53</td>
</tr>
<tr>
<td>Casually dating</td>
<td>29</td>
<td>15.51</td>
</tr>
<tr>
<td>Seriously dating</td>
<td>98</td>
<td>52.41</td>
</tr>
<tr>
<td>Married/living together</td>
<td>15</td>
<td>8.02</td>
</tr>
<tr>
<td>Missing</td>
<td>1</td>
<td>0.53</td>
</tr>
<tr>
<td><strong>Dating relationship(s)</strong></td>
<td>10</td>
<td>5.35</td>
</tr>
<tr>
<td><strong>Monogamous relationship</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Long-term</td>
<td>105</td>
<td>79.55</td>
</tr>
<tr>
<td>Short-term</td>
<td>2</td>
<td>1.52</td>
</tr>
<tr>
<td>Undecided</td>
<td>25</td>
<td>18.94</td>
</tr>
<tr>
<td><strong>Religious affiliation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Catholic</td>
<td>80</td>
<td>42.78</td>
</tr>
<tr>
<td>Protestant</td>
<td>37</td>
<td>19.79</td>
</tr>
<tr>
<td>Anglican</td>
<td>10</td>
<td>5.35</td>
</tr>
<tr>
<td>Other</td>
<td>39</td>
<td>20.86</td>
</tr>
<tr>
<td>None</td>
<td>20</td>
<td>10.70</td>
</tr>
<tr>
<td>Missing</td>
<td>1</td>
<td>0.53</td>
</tr>
<tr>
<td><strong>Religious attendance</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weekly</td>
<td>28</td>
<td>14.97</td>
</tr>
<tr>
<td>Monthly</td>
<td>41</td>
<td>21.93</td>
</tr>
<tr>
<td>Once or twice a year</td>
<td>80</td>
<td>42.78</td>
</tr>
<tr>
<td>Never</td>
<td>38</td>
<td>20.32</td>
</tr>
</tbody>
</table>
Table 2

**Sexual Practices of the Current Sample**

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age at first intercourse</td>
<td>16.87</td>
<td>1.88</td>
<td>12-23</td>
</tr>
<tr>
<td>Number of sexual partners</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ever</td>
<td>3.57</td>
<td>5.56</td>
<td>1-40</td>
</tr>
<tr>
<td>Last 2 years</td>
<td>1.81</td>
<td>1.47</td>
<td>0-11</td>
</tr>
<tr>
<td>Last 1 year</td>
<td>1.42</td>
<td>1.15</td>
<td>0-9</td>
</tr>
<tr>
<td>Last 6 months</td>
<td>1.01</td>
<td>0.61</td>
<td>0-5</td>
</tr>
<tr>
<td>Last 3 months</td>
<td>0.78</td>
<td>0.50</td>
<td>0-3</td>
</tr>
<tr>
<td>Last 1 month</td>
<td>0.72</td>
<td>0.45</td>
<td>0-1</td>
</tr>
<tr>
<td>Frequency of intercourse</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Last 6 months</td>
<td>26.51</td>
<td>46.56</td>
<td>0-400</td>
</tr>
<tr>
<td>Last 3 months</td>
<td>12.29</td>
<td>23.28</td>
<td>0-200</td>
</tr>
<tr>
<td>Last 1 month</td>
<td>4.40</td>
<td>7.93</td>
<td>0-65</td>
</tr>
</tbody>
</table>
Table 3
Birth Control and Disease Prevention Methods of the Current Sample (N=187)

<table>
<thead>
<tr>
<th>Variable</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Currently using birth control</td>
<td>130</td>
<td>69.52</td>
</tr>
<tr>
<td>Currently on birth control pill</td>
<td>89</td>
<td>47.59</td>
</tr>
<tr>
<td>Primary method of birth control</td>
<td>78</td>
<td>41.71</td>
</tr>
<tr>
<td>Pill</td>
<td>65</td>
<td>34.76</td>
</tr>
<tr>
<td>Condoms</td>
<td>10</td>
<td>5.35</td>
</tr>
<tr>
<td>Pill and condom</td>
<td>5</td>
<td>2.67</td>
</tr>
<tr>
<td>Condom with other</td>
<td>23</td>
<td>12.30</td>
</tr>
<tr>
<td>Other (e.g., sponge, withdrawal, etc.)</td>
<td>4</td>
<td>2.14</td>
</tr>
<tr>
<td>None</td>
<td>2</td>
<td>1.07</td>
</tr>
<tr>
<td>Missing</td>
<td>96.79</td>
<td></td>
</tr>
<tr>
<td>Primary method of disease prevention</td>
<td>88</td>
<td>47.06</td>
</tr>
<tr>
<td>Condoms</td>
<td>37</td>
<td>19.79</td>
</tr>
<tr>
<td>Careful partner selection</td>
<td>33</td>
<td>17.65</td>
</tr>
<tr>
<td>One partner at a time</td>
<td>8</td>
<td>4.36</td>
</tr>
<tr>
<td>Abstinence</td>
<td>23</td>
<td>1.22</td>
</tr>
<tr>
<td>Checked for STDs at clinic</td>
<td>2</td>
<td>1.07</td>
</tr>
<tr>
<td>Other</td>
<td>5</td>
<td>2.67</td>
</tr>
<tr>
<td>None</td>
<td>2</td>
<td>1.07</td>
</tr>
<tr>
<td>Missing</td>
<td>4</td>
<td>2.14</td>
</tr>
<tr>
<td>Ever used condoms</td>
<td>181</td>
<td>96.79</td>
</tr>
<tr>
<td>Condoms used as method of</td>
<td>48</td>
<td>26.52</td>
</tr>
<tr>
<td>Birth control</td>
<td>7</td>
<td>3.78</td>
</tr>
<tr>
<td>Disease prevention</td>
<td>125</td>
<td>69.06</td>
</tr>
<tr>
<td>Both</td>
<td>1</td>
<td>0.55</td>
</tr>
<tr>
<td>Missing</td>
<td>68</td>
<td>36.36</td>
</tr>
<tr>
<td>Ever had intercourse with someone did not know well</td>
<td>16</td>
<td>55.17</td>
</tr>
<tr>
<td>Condoms used</td>
<td>6</td>
<td>8.82</td>
</tr>
<tr>
<td>Always</td>
<td>8</td>
<td>11.76</td>
</tr>
<tr>
<td>Often</td>
<td>6</td>
<td>8.82</td>
</tr>
<tr>
<td>Sometimes</td>
<td>10</td>
<td>14.71</td>
</tr>
<tr>
<td>Rarely</td>
<td>5</td>
<td>17.24</td>
</tr>
<tr>
<td>Ever had intercourse with someone just met</td>
<td>3</td>
<td>10.35</td>
</tr>
<tr>
<td>Condoms used</td>
<td>3</td>
<td>10.35</td>
</tr>
<tr>
<td>Always</td>
<td>5</td>
<td>17.24</td>
</tr>
<tr>
<td>Often</td>
<td>2</td>
<td>6.90</td>
</tr>
<tr>
<td>Sometimes</td>
<td>3</td>
<td>10.35</td>
</tr>
<tr>
<td>Rarely</td>
<td>3</td>
<td>10.35</td>
</tr>
<tr>
<td>Never</td>
<td>5</td>
<td>17.24</td>
</tr>
</tbody>
</table>
Table 4

Reliability Analysis for Variables Assessed by the Attitudes Toward Condoms Questionnaire (ATCQ): Before and After Deletion of Selected Items

<table>
<thead>
<tr>
<th>Variable</th>
<th>Before</th>
<th>After</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td># of items</td>
<td>Cronbach's alpha</td>
</tr>
<tr>
<td>Sexual enjoyment</td>
<td>4</td>
<td>0.70</td>
</tr>
<tr>
<td>Perceived health benefits</td>
<td>5</td>
<td>0.57</td>
</tr>
<tr>
<td>Interpersonal implications</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trust</td>
<td>5</td>
<td>0.65</td>
</tr>
<tr>
<td>Anger and conflict</td>
<td>3</td>
<td>0.69</td>
</tr>
<tr>
<td>Threat to self-image</td>
<td>5</td>
<td>0.37</td>
</tr>
<tr>
<td>Perceived responsibility</td>
<td>4</td>
<td>0.66</td>
</tr>
<tr>
<td>Comfort and convenience</td>
<td>8</td>
<td>0.52</td>
</tr>
<tr>
<td>Direct measure of attitude</td>
<td>8</td>
<td>0.83</td>
</tr>
<tr>
<td>Subjective normative pressure</td>
<td>3</td>
<td>0.60</td>
</tr>
<tr>
<td>Group norm</td>
<td>8</td>
<td>0.90</td>
</tr>
<tr>
<td>Confidence</td>
<td>3</td>
<td>0.71</td>
</tr>
<tr>
<td>Perceived self-efficacy</td>
<td>4</td>
<td>0.93</td>
</tr>
<tr>
<td>Perceived behavioral control</td>
<td>4</td>
<td>0.48</td>
</tr>
<tr>
<td>Intent to use condoms</td>
<td>8</td>
<td>0.78</td>
</tr>
<tr>
<td>Past condom use</td>
<td>4</td>
<td>0.68</td>
</tr>
</tbody>
</table>
respective subscales were deleted and were not included in subsequent analyses. The ensuing Cronbach's alphas ranged from 0.48 to 0.93 (see Table 4). Deleted items are denoted by an asterisk (*) in Appendix C.

Descriptive Statistics for the Attitudes Toward Condoms Questionnaire

Means, standard deviations and ranges for each indirect measure of attitude are displayed in Table 5. Overall, as indicated by the mean interaction scores (behavioral belief multiplied by outcome evaluation), respondents indicated favorable attitudes toward the impact that condom use has on conveying a responsible attitude. Respondents tended not to believe that condom use has the potential to threaten one's self-image, nor that it destroys trust or creates conflict within a relationship. These women held neutral attitudes toward the perceived health benefits of condom use, the comfort and convenience of condoms, and the effects of condom use on sexual enjoyment.

Means, standard deviations and ranges for the remaining ATCQ variables are displayed in Table 6. Overall, respondents indicated positive attitudes toward condom use. They perceived strong subjective normative and group norm pressures to use condoms, and were confident in these perceptions. The sample believed that condom use was a goal that was under their own control, and indicated strong intent to use condoms in the future. Past condom use was moderately high.

Simple Correlations Between Variables

The dependent variable future intent to use condoms was significantly correlated with the following predictor variables: sexual enjoyment, perceived responsibility, comfort and convenience, direct measure of attitude, normative pressure, group norm,
Table 5

**Descriptive Statistics for Indirect Measures of Attitude Assessed by the Attitudes Toward Condoms Questionnaire (ATCO)**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Behavioral belief</th>
<th></th>
<th>Outcome evaluation</th>
<th></th>
<th>(Belief by evaluation)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Possible range</td>
<td>M</td>
<td>(SD)</td>
<td></td>
<td>Possible range</td>
<td>M</td>
</tr>
<tr>
<td>SE</td>
<td>4-28</td>
<td>14.23</td>
<td>(4.96)</td>
<td></td>
<td>4-28</td>
<td>18.88</td>
</tr>
<tr>
<td>HB</td>
<td>4-28</td>
<td>20.45</td>
<td>(3.90)</td>
<td></td>
<td>4-28</td>
<td>16.23</td>
</tr>
<tr>
<td>TR</td>
<td>3-21</td>
<td>5.08</td>
<td>(3.39)</td>
<td></td>
<td>3-21</td>
<td>4.69</td>
</tr>
<tr>
<td>AC</td>
<td>2-14</td>
<td>3.24</td>
<td>(2.55)</td>
<td></td>
<td>2-14</td>
<td>3.83</td>
</tr>
<tr>
<td>TH</td>
<td>4-28</td>
<td>10.34</td>
<td>(4.34)</td>
<td></td>
<td>4-28</td>
<td>10.83</td>
</tr>
<tr>
<td>PR</td>
<td>4-28</td>
<td>25.03</td>
<td>(3.39)</td>
<td></td>
<td>4-28</td>
<td>27.48</td>
</tr>
<tr>
<td>CC</td>
<td>5-35</td>
<td>24.16</td>
<td>(4.74)</td>
<td></td>
<td>5-35</td>
<td>21.43</td>
</tr>
</tbody>
</table>

**Note.** SE = sexual enjoyment; HB = perceived health benefits; TR = trust; AC = anger and conflict; TH = threat to self-image; PR = perceived responsibility; CC = comfort and convenience.
Table 6
Descriptive Statistics for Other Variables Assessed by the Attitudes Toward Condoms Questionnaire (ATCO)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Possible range</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct measure of attitude</td>
<td>8-56</td>
<td>16.70</td>
<td>6.72</td>
</tr>
<tr>
<td>Subjective normative pressure</td>
<td>3-15</td>
<td>14.22</td>
<td>1.43</td>
</tr>
<tr>
<td>Group norm</td>
<td>8-40</td>
<td>31.36</td>
<td>6.33</td>
</tr>
<tr>
<td>Confidence</td>
<td>3-21</td>
<td>18.51</td>
<td>2.69</td>
</tr>
<tr>
<td>Perceived self-efficacy</td>
<td>4-28</td>
<td>22.80</td>
<td>6.14</td>
</tr>
<tr>
<td>Perceived behavioral control</td>
<td>4-28</td>
<td>22.57</td>
<td>4.12</td>
</tr>
<tr>
<td>Intent to use condoms</td>
<td>8-40</td>
<td>37.59</td>
<td>3.57</td>
</tr>
<tr>
<td>Past condom use</td>
<td>3-15</td>
<td>10.92</td>
<td>3.72</td>
</tr>
</tbody>
</table>

Note. Lower attitude scores reflect more positive attitudes.
perceived self-efficacy, and perceived behavioral control ($p<.01$) (see Table 7).

Similarly, past condom use was significantly correlated with sexual enjoyment, trust, anger and conflict, threat to self-image, perceived responsibility, comfort and convenience, direct measure of attitude, normative pressure, group norm, perceived self-efficacy, and perceived behavioral control ($p<.01$) (see Table 7).

Prior to performing multiple regression analyses, it was necessary to establish the simple correlations between the predictor variables. Because the self-efficacy and perceived behavioral control variables were theoretically related, positively correlated, $r(184)=0.38, p<.001$ (see Table 7) and yielded a high Cronbach’s alpha (0.80), they were collapsed to form the composite variable perceived control. Thus, for all subsequent analyses perceived control was used as the predictor variable.

As can be seen in Table 7, most of the correlations between the predictor variables were low to moderate, ranging from -0.01 to 0.73. Some of the stronger correlations will be addressed in the sections where the relevant variables are used to predict condom-use intentions.

**Multiple Regression Analyses**

*Theory of reasoned action.* In order to test the theory of reasoned action (TORA) a standard multiple regression procedure was performed. This theory postulates that the direct measures of attitude and subjective normative pressure are predictive of behavioral intentions. Table 8 displays the unstandardized regression coefficients ($B$), the standard error of $B$ ($SE_B$), the standardized regression coefficients (Beta), and the squared semipartial correlations ($sr^2$).
Table 7
Simple Correlations Between Variables Assessed by the Attitudes Toward Condoms
Questionnaire (ATCO)

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. FI</td>
<td>--</td>
<td>.58</td>
<td>.27</td>
<td>-.04</td>
<td>-.16</td>
<td>-.17</td>
<td>-.14</td>
<td>.43</td>
<td>.20</td>
<td>-.56</td>
<td>.36</td>
<td>.48</td>
<td>.65</td>
<td>.25</td>
</tr>
<tr>
<td>2. PA</td>
<td>--</td>
<td>.31</td>
<td>.13</td>
<td>-.35</td>
<td>-.34</td>
<td>-.23</td>
<td>.46</td>
<td>.24</td>
<td>-.63</td>
<td>.23</td>
<td>.45</td>
<td>.62</td>
<td>.21</td>
<td></td>
</tr>
<tr>
<td>3. SE</td>
<td>--</td>
<td>.15</td>
<td>-.22</td>
<td>-.23</td>
<td>-.14</td>
<td>.30</td>
<td>.47</td>
<td>-.50</td>
<td>.29</td>
<td>.22</td>
<td>.40</td>
<td>.05</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. HB</td>
<td>--</td>
<td>-.02</td>
<td>-.14</td>
<td>-.11</td>
<td>.25</td>
<td>.16</td>
<td>-.06</td>
<td>.12</td>
<td>.18</td>
<td>.12</td>
<td>-.04</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. TR</td>
<td>--</td>
<td>.73</td>
<td>.30</td>
<td>-.40</td>
<td>-.27</td>
<td>.34</td>
<td>-.41</td>
<td>-.30</td>
<td>-.29</td>
<td>-.20</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. AC</td>
<td>--</td>
<td>.36</td>
<td>-.50</td>
<td>-.22</td>
<td>.32</td>
<td>-.37</td>
<td>-.34</td>
<td>-.31</td>
<td>-.14</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. TH</td>
<td>--</td>
<td>-.15</td>
<td>-.15</td>
<td>.23</td>
<td>-.17</td>
<td>-.20</td>
<td>-.15</td>
<td>-.01</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. PR</td>
<td>--</td>
<td>.26</td>
<td>-.48</td>
<td>.37</td>
<td>.52</td>
<td>.42</td>
<td>.18</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. CC</td>
<td>--</td>
<td>-.35</td>
<td>.24</td>
<td>.18</td>
<td>.30</td>
<td>.13</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. AT</td>
<td>--</td>
<td>-.26</td>
<td>-.44</td>
<td>-.59</td>
<td>-.11</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. NP</td>
<td>--</td>
<td>.52</td>
<td>.34</td>
<td>.19</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. GN</td>
<td>--</td>
<td>.46</td>
<td>.21</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. PS</td>
<td>--</td>
<td>.38</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. PB</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note.** FI = future intent to use condoms; PA = past condom use; SE = sexual enjoyment; HB = perceived health benefits; TR = trust; AC = anger and conflict; TH = threat to self-image; PR = perceived responsibility; CC = comfort and convenience; AT = direct measure of attitude; NP = subjective normative pressure; GN = group norm; PS = perceived self-efficacy (component of control); PB = perceived behavioral control (component of control). All correlation coefficients equal to or stronger than ±0.19 are significant at p<.01.
Table 8

Summary of Standard Regression Analysis for Variables Predicting Intentions to Use Condoms: The Theory of Reasoned Action (N=183)

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>Beta</th>
<th>$r^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitude</td>
<td>-0.27</td>
<td>0.03</td>
<td>-0.50 ***</td>
<td>0.23</td>
</tr>
<tr>
<td>Subjective normative pressure</td>
<td>0.57</td>
<td>0.15</td>
<td>0.23 ***</td>
<td>0.05</td>
</tr>
</tbody>
</table>

Note. Lower attitude scores reflect more positive attitudes.

*** p<.001
Overall, this model was statistically significant, $R=0.61$, $F(2,180)=52.25$, $p<.001$, accounting for 37% of the variance in condom-use intentions. More specifically, the TORA was supported: both attitudes and subjective normative pressure made significant unique contributions to the prediction of intentions to use condoms. Positive attitudes toward condom use and perceptions of stronger subjective normative pressure to use condoms were associated with greater intentions to use condoms in the future.

According to the TORA, intentions to perform a particular behaviour are predictive of future behaviour. Because the present study used past behaviour as a stand-in for future behaviour, further tests of the TORA were somewhat modified: intentions were used to predict past behaviour, and both the attitude and subjective normative components of the TORA were used to predict past behaviour. It is acknowledged that prediction is supposed to be forward in time and that it is rather unusual to predict past behaviour. Clearly, a proper empirical test of the TORA must include a measure of future condom use although for reasons noted earlier, consideration of future behaviour was not possible in the present study.

If one is to assume that past behaviour is predictive of future behaviour, then past condom use can be considered an acceptable alternative to future condom use in an empirical test of the TORA. Indeed, future intentions to use condoms accounted for 34% of the variance in past condom use, $r(175)=0.58$, $p<.001$. Thus, past condom use was predicted from intent to use condoms in the future.

A standard multiple regression procedure was then used to test the predictive power of attitude and subjective normative pressure on past condom use (see Table 9).
Table 9

**Summary of Standard Regression Analysis for Variables Predicting Past Condom Use:**
*The Theory of Reasoned Action (N=175)*

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>Beta</th>
<th>sr^2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitude</td>
<td>-0.33</td>
<td>0.03</td>
<td>-0.60 ***</td>
<td>0.34</td>
</tr>
<tr>
<td>Subjective normative pressure</td>
<td>0.23</td>
<td>0.15</td>
<td>0.09</td>
<td>0.01</td>
</tr>
</tbody>
</table>

*Note.* Lower attitude scores reflect more positive attitudes.

*** p<.001
Overall, this model was statistically significant. $R=0.63$, $F(2,172)=57.84$, $p<.001$. accounting for 40% of the variance in past condom use. Specifically, positive attitudes regarding the effects of condoms made a significant unique contribution in predicting past use of condoms. Unexpectedly however, when attitudes were held constant, perceptions of subjective normative pressure to use condoms did not make a unique contribution to the prediction of past condom use.

**Indirect measure of attitude.** After supporting the TORA and thereby confirming that attitudes toward condoms are predictive of condom-use intentions, the purpose of the next set of analyses was to identify the particular attitudinal components that are most predictive of condom-use intentions. The indirect measure of attitude was assessed by respondents' attitudes regarding the following aspects of condom use: sexual enjoyment, perceived health benefits, comfort and convenience, trust, anger and conflict, perceived responsibility, and threat to self-image. For each of these subscales, the score on each behavioral belief item was multiplied by the matching evaluation outcome item and the ensuing products were summed. This yielded a single score for each attitudinal component.

The *negative* attitudinal components (trust, anger and conflict, and threat to self-image) were recoded such that higher scores on the sum of the indirect measures of attitude reflect more *positive* attitudes. For the purpose of verifying that the sum of the indirect measures of attitude was correlated with the corresponding direct measure, the direct measure of attitude was also recoded such that higher scores reflect more positive
attitudes. A Pearson correlation verified that the sum of the indirect measures of attitude was correlated with the corresponding direct measure $r(175)=0.46$, $p<.001$.

A standard multiple regression procedure was used to test the predictive power of the individual attitudinal components on intentions to use condoms (see Table 10). Overall, this model was statistically significant, $R=0.49$, $F(7,174)=8.04$, $p<.001$, accounting for 24% of the variance in condom-use intentions. Specifically, perceived responsibility, sexual enjoyment ($p=.0518$), and perceived health benefits made significant unique contributions to the prediction of intentions to use condoms. Positive attitudes regarding the impact of condom use on perceptions of responsibility and sexual enjoyment were significantly associated with greater intentions to use condoms. Unexpectedly, the multiple regression revealed a negative relationship between attitudes regarding the health benefits of using condoms and intentions to use condoms; women who were less inclined to believe that there are health benefits to using condoms were more likely to indicate future intent to use condoms. Because health benefits was weighted negatively in the multiple regression and there was no simple correlation between health benefits and future intent to use condoms, $r(183)=-0.04$, $p=.61$ (see Table 7), health benefits is a suppressor variable. In order to determine which variable it was suppressing, each predictor variable was systematically left out of the multiple regression equation while the ensuing changes in the regression coefficient for perceived health benefits were examined (Tabachnick & Fidell, 1989). These analyses revealed that the health benefits variable was suppressing the error of prediction for the perceived responsibility variable.
Table 10

**Summary of Standard Regression Analysis for Variables Predicting Intentions to Use Condoms: Indirect Measure of Attitude (N=182)**

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>Beta</th>
<th>sr²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sexual enjoyment</td>
<td>0.02</td>
<td>0.01</td>
<td>0.15 *</td>
<td>0.02</td>
</tr>
<tr>
<td>Health benefits</td>
<td>-0.05</td>
<td>0.02</td>
<td>-0.18 **</td>
<td>0.03</td>
</tr>
<tr>
<td>Comfort and convenience</td>
<td>0.01</td>
<td>0.01</td>
<td>0.05</td>
<td>0.00</td>
</tr>
<tr>
<td>Trust</td>
<td>0.01</td>
<td>0.04</td>
<td>0.03</td>
<td>0.00</td>
</tr>
<tr>
<td>Anger and conflict</td>
<td>0.05</td>
<td>0.06</td>
<td>0.09</td>
<td>0.00</td>
</tr>
<tr>
<td>Responsibility</td>
<td>0.06</td>
<td>0.01</td>
<td>0.45 ****</td>
<td>0.14</td>
</tr>
<tr>
<td>Threat to self-image</td>
<td>-0.02</td>
<td>0.02</td>
<td>-0.10</td>
<td>0.01</td>
</tr>
</tbody>
</table>

* p<.10
** p<.05
**** p<.001
A standard multiple regression procedure was then used to test the predictive power of each of the individual attitudinal components on past condom use (see Table 11). Overall, this model was statistically significant, $R=0.54$, $F(7,167)=9.57$, $p<.001$. accounting for 29% of the variance in past condom use. Specifically, positive attitudes regarding the effects of condoms on sexual enjoyment, trust, and perceived responsibility made significant unique contributions to the prediction of past condom use.

Finally, with respect to the simple correlations between the attitudinal components, the high correlation between the sexual enjoyment and comfort/convenience variables $r(181)=0.47$, $p<.001$ (see Table 7) was worthy of further investigation. In addition to the statistical association between these two variables, one could argue that they are theoretically linked as well; if condoms are perceived as uncomfortable and inconvenient then it is likely that they will also be perceived as an impediment to sexual pleasure. Indeed, although both sexual enjoyment and comfort/convenience were significantly correlated with future intent and past condom use (see Table 7), only sexual enjoyment significantly predicted future intent and past condom use in the multiple regression analyses. Thus, in order to explore whether sexual enjoyment and comfort/convenience comprise a single construct, a reliability analysis was performed. The Cronbach's alpha for these items treated as a single scale was 0.75.

Similarly, although attitudes regarding the effects of condoms on trust and anger/conflict did not significantly predict condom-use intentions in the multiple regression analysis, both trust and anger/conflict were significantly correlated with intentions ($p<.05$) (see Table 7). Further, while trust emerged as a significant predictor of
Table 11

Summary of Standard Regression Analysis for Variables Predicting Past Condom Use: Indirect Measure of Attitude (N=175)

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>Beta</th>
<th>SE²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sexual enjoyment</td>
<td>0.02</td>
<td>0.01</td>
<td>0.15 *</td>
<td>0.02</td>
</tr>
<tr>
<td>Health benefits</td>
<td>0.00</td>
<td>0.02</td>
<td>0.01</td>
<td>0.00</td>
</tr>
<tr>
<td>Comfort and convenience</td>
<td>0.00</td>
<td>0.01</td>
<td>0.03</td>
<td>0.00</td>
</tr>
<tr>
<td>Trust</td>
<td>-0.08</td>
<td>0.05</td>
<td>-0.17 *</td>
<td>0.01</td>
</tr>
<tr>
<td>Anger and conflict</td>
<td>0.03</td>
<td>0.06</td>
<td>0.04</td>
<td>0.00</td>
</tr>
<tr>
<td>Responsibility</td>
<td>0.05</td>
<td>0.01</td>
<td>0.35 ****</td>
<td>0.08</td>
</tr>
<tr>
<td>Threat to self-image</td>
<td>-0.03</td>
<td>0.02</td>
<td>-0.11</td>
<td>0.01</td>
</tr>
</tbody>
</table>

* p<.10
**** p<.001
past condom use and anger/conflict did not, both predictors were significantly correlated with past condom use (see Table 7). Because the trust and anger/conflict variables were very highly correlated, \( r(181)=0.73, p<.001 \) (see Table 7) it is possible that they comprise a single construct. On a theoretical level, if condom use is perceived to have a negative impact on trust issues, then relationship anger and conflict may be the ensuing consequences. In order to explore whether trust and anger/conflict comprise a single construct, a principal components factor analysis was performed. Using the factor extraction criteria of eigenvalues > 1.00, this analysis revealed that the trust and anger/conflict items loaded on one factor. Factor loadings ranged from 0.60 to 0.91. Further, the Cronbach's alpha for these items treated as a single scale was 0.89.

**Group norm.** In order to determine if group norm explained a significant proportion of the variance in condom-use intentions beyond that which was already explained by the attitude and subjective normative components of the TORA, a hierarchical multiple regression procedure was performed (see Table 12). When group norm was added to the previously tested model, it explained a small but significant proportion of the variance in future intent to use condoms. beyond that which was already explained by the TORA, \( \Delta R^2 = 0.03, F(1,178)=8.90, p<.01 \).

It should be noted that when group norm was entered in the regression equation, the predictive power of subjective normative pressure dropped from \( p=.0003 \) to \( p=.0673 \). Because subjective normative pressure and group norm were highly correlated, \( r(184)=0.52, p<.001 \) (see Table 7), when group norm was entered in the model, the unique contribution of subjective normative pressure became marginally significant. In
Table 12

**Summary of Hierarchical Regression Analysis for Variables Predicting Intentions to Use Condoms: The Theory of Reasoned Action and Group Norm (N=182)**

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>Beta</th>
<th>sr²</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attitude</td>
<td>-0.27</td>
<td>0.03</td>
<td>-0.50 ****</td>
<td>0.23</td>
</tr>
<tr>
<td>Subjective normative pressure</td>
<td>0.57</td>
<td>0.15</td>
<td>0.23 ****</td>
<td>0.05</td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attitude</td>
<td>-0.23</td>
<td>0.03</td>
<td>-0.43 ****</td>
<td>0.15</td>
</tr>
<tr>
<td>Subjective normative pressure</td>
<td>0.31</td>
<td>0.17</td>
<td>0.13 *</td>
<td>0.01</td>
</tr>
<tr>
<td>Group norm</td>
<td>0.13</td>
<td>0.04</td>
<td>0.23 ***</td>
<td>0.03</td>
</tr>
</tbody>
</table>

**Note.** $R^2 = 0.37$ for Step 1; $R^2 = 0.40$ for Step 2 ($p < .001$). Lower attitude scores reflect more positive attitudes.

* $p < .10$

*** $p < .01$

**** $p < .001$
order to explore whether subjective normative pressure and group norm comprise a single construct, a reliability analysis was performed. The Cronbach's alpha for these items treated as a single scale was 0.89.

**Perceived control.** A hierarchical multiple regression procedure was performed to determine if the control component of the theory of planned behaviour (TOPB) explained a significant proportion of the variance in condom-use intentions, beyond that which was already accounted for by the attitude and subjective normative pressure components of the TORA (see Table 13). Indeed, the addition of perceived control to the previously tested TORA significantly improved the fit of the model by 10%, $\chi^2(1,178)=33.58$, $p<.001$. The stronger the women's perception that they could control the use of condoms in sexual situations, the greater their intentions to use condoms in the future, thus lending support to the TOPB.

**Group norm and perceived control.** A hierarchical multiple regression procedure was performed to determine the predictive power of group norm and perceived control on condom-use intentions (see Table 14). The proportion of variance in condom-use intentions increased by 12% over and above the proportion of variance that was accounted for by the attitude and subjective normative pressure components of the TORA, $\chi^2(2,176)=20.71$, $p<.001$. Indeed, both variables made significant unique contributions: group norm explained 2% of the variation, perceived control explained 8%, and they jointly explained 2% of the variance in condom-use intentions.

When group norm and perceived control were entered in the regression equation, the predictive power of subjective normative pressure became non-significant. In the
Table 13

Summary of Hierarchical Regression Analysis for Variables Predicting Intentions to Use Condoms: The Theory of Planned Behaviour (N=182)

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>Beta</th>
<th>sr²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attitude</td>
<td>-0.26</td>
<td>0.03</td>
<td>-0.49</td>
<td>****</td>
</tr>
<tr>
<td>Subjective normative pressure</td>
<td>0.60</td>
<td>0.15</td>
<td>0.25</td>
<td>****</td>
</tr>
<tr>
<td>Step 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attitude</td>
<td>-0.18</td>
<td>0.03</td>
<td>-0.35</td>
<td>****</td>
</tr>
<tr>
<td>Subjective normative pressure</td>
<td>0.39</td>
<td>0.14</td>
<td>0.16</td>
<td>***</td>
</tr>
<tr>
<td>Perceived control</td>
<td>0.15</td>
<td>0.03</td>
<td>0.36</td>
<td>****</td>
</tr>
</tbody>
</table>

Note. R² = 0.37 for Step 1; R² = 0.47 for Step 2 (ps < .001). Lower attitude scores reflect more positive attitudes.

*** p<.01

**** p<.001
Table 14

Summary of Hierarchical Regression Analysis for Variables Predicting Intentions to Use
Condoms: The Theory of Planned Behaviour, and Group Norm (N=181)

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>Beta</th>
<th>sr²</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attitude</td>
<td>-0.26</td>
<td>0.03</td>
<td>-0.49 ****</td>
<td>0.22</td>
</tr>
<tr>
<td>Subjective normative pressure</td>
<td>0.60</td>
<td>0.15</td>
<td>0.25 ****</td>
<td>0.06</td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attitude</td>
<td>-0.16</td>
<td>0.03</td>
<td>-0.31 ****</td>
<td>0.07</td>
</tr>
<tr>
<td>Subjective normative pressure</td>
<td>0.22</td>
<td>0.16</td>
<td>0.09</td>
<td>0.01</td>
</tr>
<tr>
<td>Group norm</td>
<td>0.09</td>
<td>0.04</td>
<td>0.17 **</td>
<td>0.02</td>
</tr>
<tr>
<td>Perceived control</td>
<td>0.14</td>
<td>0.03</td>
<td>0.33 ****</td>
<td>0.08</td>
</tr>
</tbody>
</table>

Note. R² = 0.37 for Step 1; R² = 0.49 for Step 2 (p < .001). Lower attitude scores reflect more positive attitudes.

** p<.05
**** p<.001
final model, positive attitudes toward condoms, perceptions of strong group norm pressures to use condoms, and high perceived control accounted for a significant proportion of the variance in intentions to use condoms in the future. Again, because subjective normative pressure was strongly correlated with both perceived control, $r(184)=0.34$, $p<.001$ and group norm (see Table 7), the unique contribution of subjective normative pressure became non-significant when group norm and perceived control were included in the model.

**Confidence in perceptions of subjective normative pressure.** The final variable to be considered in the prediction of future intent to use condoms was confidence in perceptions of subjective normative pressure. A validity check indicated that when participants read the scenario where they were *absolutely sure* that their partner wanted a condom to be used, they reported significantly greater condom-use intentions than when they read the scenario where they were *not sure* whether their partner wanted a condom to be used ($M=6.62$ and $M=6.22$, respectively) $t(186)=5.25$, $p<.0001$. Similarly, when asked how likely it was that a condom would be used in the same two scenarios, respondents indicated a greater likelihood for the 'absolutely sure' scenario than for the 'not sure' scenario ($M=6.57$ and $M=6.04$, respectively) $t(186)=7.23$, $p<.0001$.

A median split was then used to distinguish those women who were confident in their perceptions of subjective normative pressure from those women who were relatively less confident ($Md=19.0$). It was predicted that for confident women, perceptions of subjective normative pressure would be more predictive of future intent to use condoms than attitudes toward condoms. It was also predicted that for less confident women,
attitudes would be more predictive of future intent than perceptions of subjective normative pressure. In order to test these hypotheses, a standard multiple regression procedure was performed using the confidence by attitude and confidence by subjective normative pressure interaction terms (see Table 15). The hypotheses were not supported.

**The Effect of the Birth Control Pill on Condom-Use Intentions**

An independent t-test was performed to determine whether women who were not taking the birth control pill were more likely to indicate condom-use intentions than women who were taking an oral contraceptive. Indeed, women who were not on the pill were significantly more likely than women who were on the pill to indicate intentions to use condoms in the future ($M=38.49$ and $M=36.59$, respectively) $t(184)=3.75$, $p<.001$.

**Comparison of Intenders and Non-intenders**

In order to facilitate interpretation of the regression analyses and to make comparisons to previous research, women who intended to use condoms in the future were compared to women who had relatively lesser intentions to use condoms, on each of the predictor variables (attitude, subjective normative pressure, control, group norm, sexual enjoyment, perceived health benefits, comfort and convenience, threat to self-image, anger and conflict, perceived responsibility, and trust). A median split on intent scores was used to distinguish those women who had high intentions to use condoms in the future versus those women who had comparatively low intentions ($Md=38$). As was expected, the multivariate analysis of variance (MANOVA) revealed that over all predictor variables, intenders differed significantly from non-intenders, $F(11,162)=11.23$, $p<.001$. Specifically, women who had stronger intentions to use condoms in the future
Table 15

Summary of Standard Regression Analysis for Variables Predicting Intentions to Use Condoms: Confidence in Perceptions of Subjective Normative Pressure (N=179)

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>Beta</th>
<th>sr²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitude</td>
<td>-0.26</td>
<td>0.06</td>
<td>-0.48 ****</td>
<td>0.08</td>
</tr>
<tr>
<td>Subjective normative pressure</td>
<td>0.52</td>
<td>0.21</td>
<td>0.21 **</td>
<td>0.02</td>
</tr>
<tr>
<td>Confidence</td>
<td>0.68</td>
<td>4.83</td>
<td>0.09</td>
<td>0.00</td>
</tr>
<tr>
<td>Confidence by attitude</td>
<td>0.00</td>
<td>0.07</td>
<td>0.01</td>
<td>0.00</td>
</tr>
<tr>
<td>Confidence by subjective normative pressure</td>
<td>0.01</td>
<td>0.31</td>
<td>0.03</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Note. Lower attitude scores reflect more positive attitudes.

** p<.05

**** p<.001
were more likely than women who had relatively weaker intentions to have positive attitudes toward condoms, to perceive more subjective normative and group norm pressures to use condoms, and to believe that they could control the use of condoms in sexual situations. With respect to specific attitudes toward condoms, intenders were more likely than non-intenders to believe that condom use has a positive effect on sexual enjoyment, is comfortable and convenient, is indicative of a mature attitude toward sex, and does not have an adverse effect on one's self-image or the trust within the relationship. Intenders and non-intenders did not differ on the anger and conflict and perceived health benefit subscales (see Table 16).
Table 16
Summary Statistics for Univariate Analyses of Variance of Intenders Versus Non-intenders for Each Predictor Variable

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Univariate E</th>
<th>Intenders</th>
<th>Non-intenders</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitude</td>
<td>67.07 ****</td>
<td>13.41 (3.98)</td>
<td>20.47 (7.17)</td>
</tr>
<tr>
<td>Subjective normative pressure</td>
<td>6.85 ***</td>
<td>14.43 (1.12)</td>
<td>13.85 (1.72)</td>
</tr>
<tr>
<td>Perceived control</td>
<td>54.49 ****</td>
<td>49.13 (5.64)</td>
<td>40.69 (9.34)</td>
</tr>
<tr>
<td>Group norm</td>
<td>39.33 ****</td>
<td>33.88 (5.33)</td>
<td>28.37 (6.15)</td>
</tr>
<tr>
<td>Sexual enjoyment</td>
<td>9.41 ***</td>
<td>71.71 (25.18)</td>
<td>60.68 (23.30)</td>
</tr>
<tr>
<td>Perceived health benefits</td>
<td>0.66</td>
<td>93.30 (13.42)</td>
<td>94.96 (13.25)</td>
</tr>
<tr>
<td>Comfort and convenience</td>
<td>9.20 ***</td>
<td>111.77 (23.16)</td>
<td>101.21 (22.81)</td>
</tr>
<tr>
<td>Threat to self-image</td>
<td>5.12 **</td>
<td>27.00 (14.84)</td>
<td>32.27 (15.44)</td>
</tr>
<tr>
<td>Anger and conflict</td>
<td>2.60</td>
<td>5.59 (5.37)</td>
<td>7.17 (7.29)</td>
</tr>
<tr>
<td>Perceived responsibility</td>
<td>14.19 ****</td>
<td>178.92 (22.10)</td>
<td>164.32 (29.40)</td>
</tr>
<tr>
<td>Trust</td>
<td>5.28 **</td>
<td>7.11 (5.70)</td>
<td>9.89 (9.95)</td>
</tr>
</tbody>
</table>

Note. Lower attitude scores reflect more positive attitudes.

** p<.05
*** p<.01
**** p<.001
CHAPTER IV
DISCUSSION

Using the theoretical framework provided by the theory of planned behaviour (TOPB), the purpose of the present study was to identify the variables that best predict whether or not young women insist that their partners use condoms during their sexual encounters. The results indicate that when applied to condom use among women, both the theories of reasoned action and planned behaviour account for a considerable proportion of the variance in condom-use intentions. Women who held positive attitudes regarding the effects of condom use on sexual enjoyment and perceptions of responsibility were more likely than women who held more negative attitudes to indicate intentions to use condoms in the future. Further, women who perceived strong pressures to use condoms and who believed that condom use was under their control were also more likely to indicate intent to use condoms in the future than were women who did not hold such beliefs.

Theory of Reasoned Action

The theory of reasoned action (TORA) was supported: positive attitudes toward condom use and perceptions of stronger pressure to use condoms were associated with greater intentions to use condoms in the future. Further, women who had stronger intentions to use condoms in the future were more likely than women who had relatively weaker intentions to have positive attitudes toward condoms and to perceive more pressure to use condoms. These results are consistent with the findings from numerous other studies that have empirically tested the TORA as applied to condom use (e.g., Chan

According to the TORA, intentions to perform a particular behaviour are predictive of future behaviour. In previous studies (e.g., Ewald & Roberts, 1985; Fisher, 1984; Jemmott & Jemmott, 1991) and the present study, past behaviour was used as a stand-in for future behaviour. Because a significant proportion of the variance in past condom use was accounted for by future intent to use condoms, further support for the TORA was obtained. Using past behaviour as a stand-in for future behaviour assumes that past behaviour is predictive of future behaviour. In order to properly subject the TORA to an empirical test, future research should include a measure of actual condom use at some point after the respondents have indicated their intentions to use condoms in the future.

Attitude and subjective normative pressure also significantly predicted past condom use. Positive attitudes toward condoms were associated with greater past use of condoms. Unexpectedly however, perceptions of pressure to use condoms were not associated with past condom use. This finding may be attributed to the fact that past behaviour was used instead of future behaviour. On the other hand, it is possible that there are problems with the TORA alone as a model to predict condom use. For example, if the subjective normative pressure component of the TORA were expanded to include a broader concept of normative pressure (i.e., group norm), the predictive power of this variable may be enhanced. Of course, before such modifications are attempted, the TORA should be properly tested with a measure of future condom use.
Thus, as posited by the TORA, positive general attitudes toward condoms (e.g., 'how positive or negative are your feelings about using a condom') predict future intent to use condoms and past condom use. Attitudes are therefore an important target for AIDS prevention programs designed to promote condom use among women. However, if such programs are to be effective, we must know which particular attitudes to target. Therefore, the next step in the current study was to consider the specific attitudes toward condoms that predict condom-use intentions and behaviour.

Specific Attitudes Toward Condoms

Of all the specific attitudes studied (i.e., sexual enjoyment, perceived health benefits, comfort and convenience, trust, anger and conflict, perceived responsibility, and threat to self-image), positive attitudes regarding the effects of condoms on sexual enjoyment and perceived responsibility were consistently associated with greater intentions to use condoms in the future and greater past condom use. Further, women who had stronger intentions to use condoms in the future had more positive attitudes toward the effects of condom use on sexual enjoyment and perceptions of responsibility than women who had relatively weaker intentions. These results are consistent with previous literature (e.g., Campbell et al., 1992; Catania et al., 1989; Catania et al., 1994; Chan & Fishbein, 1993; Galligan & Terry, 1993; Jemmott & Jemmott, 1991, 1992; McCoy & Inciardi, 1993; Moore & Rosenthal, 1991; Sheeran et al., 1990; White et al., 1994).

Programs designed to promote condom use among women could be more effective by stressing that using condoms is a responsible and mature behaviour, and that
behaving responsibly by insisting that one's partner use a condom is a positive and desirable quality. Such programs should also focus on the idea that condoms do not have to diminish the sexual pleasure experienced by either partner. Proper condom use could be demonstrated with an emphasis on the ways in which condoms can be successfully incorporated into a healthy and satisfying sex life.

Unexpectedly, perceptions of the comfort and convenience of condoms did not predict intentions to use condoms or past condom use. However, women who had stronger intentions to use condoms in the future were more likely than women who had relatively weaker intentions to believe that condom use is comfortable and convenient. These equivocal results would suggest that although condom promotion programs should not focus on changing young women's attitudes regarding the comfort and convenience of condom use, it may be beneficial to promote the idea that condoms are reasonably inexpensive and easy to obtain, and do not have to be viewed as an impediment to lovemaking. Comfort and convenience seem intuitively and empirically to be associated with sexual enjoyment. Something that is perceived as uncomfortable and inconvenient is unlikely to be perceived as pleasurable and enjoyable. Thus, it may be most effective for condom promotion programs to address comfort and convenience issues within the context of sexual enjoyment issues.

The usefulness of the trust, anger/conflict, and threat to self-image variables in predicting intentions to use condoms and past condom use was inconclusive. Trust, anger/conflict and threat to self-image reflect potential negative interpersonal implications that may arise from condom use. The results presented here indicate that
fear of these negative interpersonal implications did not impede women's intentions to use condoms in the future. Because the women in the current study tended not to hold beliefs that condom use destroys relationship trust, creates interpersonal conflict, or threatens one's self-image, it is possible that the restricted range of scores on these variables may have attenuated their impact on condom-use intentions. Future research is necessary to determine if fear of negative interpersonal implications would be predictive of condom-use intentions and past condom use among a sample of women who believe more strongly that the destruction of trust, the creation of conflict, and the threat to one's self-image are potential consequences of condom use.

Contrary to expectations, attitudes regarding the health benefits of condom use were not helpful in understanding and predicting condom use. Women who intended to use condoms in the future did not differ from women who had relatively weaker condom-use intentions in the degree to which they believed that there are health benefits to using condoms. The lack of support for the hypothesis that greater belief in health benefits would be related to greater intentions to use condoms and greater past condom use can be explained logically. Knowledge regarding the fact that condoms help protect against unwanted pregnancy and the transmission of HIV and other STDs can be considered general knowledge regarding the transmission of HIV. Because much previous literature indicates that general AIDS knowledge and information are not predictive of condom use (e.g., Allard, 1989; Baldwin & Baldwin, 1988; Breakwell et al., 1994; Jemmott & Jemmott, 1991, 1992; Kegeles et al., 1988; St. Lawrence et al., 1995; Whitehead, 1994; Wyatt & Riederle, 1994; see also Amaro, 1995; Boldero et al., 1992; Cochran et al.,
1992; Des Jarlais & Friedman, 1988; Dyck, 1995; Flora & Thoreson, 1988; Galligan & Terry, 1993; Helweg-Larsen & Collins, 1994; Herold & Mewhinney, 1993; Kelly et al., 1993; Mays & Cochran, 1988; Morin, 1988), it is not surprising that the perceived health benefits of condoms also fail to predict condom use. This logic can also be used to explain why health benefits has not emerged as a significant predictor in some previous studies (e.g., Catania et al., 1989; Jemmott & Jemmott, 1992). It would appear therefore that AIDS prevention programs that try to promote condom use by focussing on the health benefits of using condoms will not be optimally effective.

Social Context

Both the belief that one's peers think condom use is important and that one can control the use of condoms in sexual situations added to the prediction of intentions to use condoms over and above the attitude and subjective normative pressure components of the TORA. Women who reported high intentions to use condoms in the future were more likely than women who had relatively weaker intentions, to perceive group norm pressures to use condoms and to believe that they could control the use of condoms in sexual situations.

These findings lend support to White et al.'s (1994) contention that the component of the TORA based on perceived pressure should be expanded to include the degree to which the behaviour is perceived as normatively appropriate. Further, these results are consistent with previous studies that have also found that self-efficacy is a significant predictor of women's intentions to use condoms (e.g., Jemmott & Jemmott, 1992; White
et al., 1994). Thus, support was also obtained for the TOPB which suggests that perceived behavioral control is an important predictor of behavioral intentions.

On a practical level, the preceding results would suggest that in addition to targeting young women for condom promotion programs, other important people (e.g., parents, educators, doctors, partners etc.) should also be targeted and made aware that their acceptance or disapproval of condom use may have a significant impact on the safe sex choices made by the young women with whom they are in close contact. Further, AIDS prevention programs designed to promote condom use among women should include teaching women how to effectively insist on condom use so that they are able to enter sexual situations with the belief that condom use is under their control and are equipped with the skills necessary to exert that control or leave the situation.

Confidence in Perceptions of Pressure to Use Condoms

Trafimow's (1994) contention that confidence is a mediator of the process by which perceptions of normative pressure influence condom-use intentions was not supported in the present study. Trafimow (1994) had suggested that perceived pressure would be a stronger predictor of condom-use intentions than attitude for people who are confident that they know what others think of condom use, and that attitude would be a stronger predictor for people who are less confident in their perceptions of normative pressure. The present lack of support for this hypothesis is not to say that the concept of confidence should be abandoned as a potential influence on intentions to use condoms. The current results may differ from Trafimow's (1994) findings due to differences in measurement. While Trafimow (1994) assessed confidence with a single item tapping
the respondents' confidence that they knew what their partners thought of condom use. The measure of confidence used in the present study included two additional referents (i.e., important people, and the person whose opinion means the most). Further, because the participants in the present study tended to be very confident that they knew the views of their peers regarding condom use, it is possible that the less confident respondents were not sufficiently lacking in confidence to produce the expected results. Future research should investigate the concept of confidence with a sample of women who indicate greater variability in their confidence scores.

The Effect of the Birth Control Pill on Condom-Use Intentions

Consistent with previous findings (e.g., Maticka-Tyndale, 1991, 1992), women who were not on the pill were significantly more likely than women who were on the pill to indicate intentions to use condoms in the future. Condom promotion programs should stress that women who protect themselves from unwanted pregnancy by taking an oral contraceptive are not protected from HIV or any other sexually transmitted diseases. This message is particularly important given that many young people believe that they are in a monogamous relationship and that their current relationship will be long-term (Moore & Rosenthal, 1991). These assumptions are used to rationalize the belief that AIDS and other sexually transmitted diseases are not a personal threat and that therefore, condoms as a method of disease prevention are unnecessary. Furthermore, the risks associated with serial monogamy are not considered (Baldwin & Baldwin, 1988; Breakwell et al., 1994). "While one may be monogamous with a current partner, the possibility is not addressed that their partner could introduce an STD from a previous (monogamous)
relationship" (Fraser, 1994, p.50). Thus, AIDS prevention programs designed to promote condom use among women should emphasize the importance of condoms as a method of disease prevention.

**Measurement and Methodological Issues**

One of the more serious measurement issues in the present study is that the results are based on a questionnaire (the ATCQ) that in its entirety, has not yet been exposed to rigorous testing and research. Thus the reliability and validity of this measure have not yet been established. Although further research on the ATCQ is needed, the results presented here suggest that the ATCQ produces reliable subscales that could be used in subsequent research.

Overall, respondents indicated generally favorable attitudes toward condom use. They also reported high past condom use and high intent to use condoms in the future. Because the scores on these ATCQ subscales were negatively skewed, it is necessary to consider possible reasons for the apparent ceiling effect. Positive attitudes may be the result of social desirability influences. It may be considered socially undesirable to report negative attitudes toward condoms, low past condom use, and low intentions to use condoms in the future. Future research should include a measure of social desirability such as the Marlowe-Crowne Social Desirability Scale (M-C SDS) (Crowne & Marlowe, 1960) in order to measure and control for potential social desirability influences.

Although it is hoped that AIDS prevention programs based on the results of the present study will be applicable to a wide range of women (e.g., non-White, non-university educated), it is acknowledged that strictly speaking, due to the demographic
characteristics of the present sample, the current results can only be generalized to the population of young, White, Canadian, heterosexual, university women. Further research in this area for more diverse groups of women is still urgently needed.

In order to properly test the central tenets of the TORA and the TOPB, instead of a measure of past condom use, a measure of future condom use should be obtained to determine if condom-use intentions accurately predict condom use behaviour. Although it is expected that the results of such an analysis would lead to the same conclusions presented here, support for this hypothesis needs to be determined empirically.

**Theoretical Implications**

The theories of reasoned action and planned behaviour. The present study provides substantial support for the TORA; positive attitudes toward condom use and perceptions of stronger subjective normative pressure to use condoms were associated with greater intentions to use condoms in the future. The results also indicate that certain specific attitudes (i.e., sexual enjoyment and perceived responsibility) have an impact on both condom-use intentions and past condom-use behaviour. Therefore, further research using the TORA should consider such specific attitudes toward condom use.

In the present study, only the direct measure of subjective normative pressure was used. According to the TORA, an indirect measure of subjective normative pressure can be obtained by assessing the respondents' beliefs that certain individuals or groups (i.e., partner, friend, mother, father, brother, sister, doctor, religious group, etc.) think they should use condoms, and their motivation to comply with each of these individuals or groups. If the indirect measure of normative pressure were used, then perhaps its unique
contribution to the prediction of condom-use intentions would remain significant when other variables (e.g., group norm, perceived control) are added to the model.

The preliminary results presented here have clear implications for both the TORA and the TOPB. At this point, it would appear as though the most useful variables in the prediction of intentions to use condoms include attitudes regarding the effects of condoms on sexual enjoyment and perceived responsibility, subjective normative pressure, group norm, and the additive combination of self-efficacy and perceived behavioral control. Although confidence did not emerge as a mediator of the process by which perceptions of subjective normative pressure influence condom-use intentions, the concept of confidence should also be investigated further. It is hoped that when subjected to rigorous empirical testing, the suggestions presented here will provide exciting new directions for the theories of reasoned action and planned behaviour.

**Specific attitudes toward condoms.** High statistical correlations were observed between the following pairs of variables: comfort/convenience and sexual enjoyment, and trust and anger/conflict. Theoretical associations also exist between these variables. Perhaps something that is perceived as uncomfortable and inconvenient is unlikely to be perceived as pleasurable and enjoyable. Also, if condom use is perceived to have an adverse effect on trust issues, then the natural consequences may be anger and conflict within the relationship. Collapsing some of the specific attitudes toward condoms into single constructs may result in a more simple yet complete model to predict condom-use intentions and behaviour.
Further, can the trust, anger/conflict and threat to self-image variables be collapsed to form a single construct assessing negative interpersonal implications? In addition to these three variables, are there other components to negative interpersonal implications? Are there other components to positive interpersonal implications in addition to perceived responsibility? And are there other additional attitudes toward condom use that have not been considered here? Further research is needed to address these issues. Focus groups could be conducted with heterosexual women to get a better idea of the factors that they perceive as barriers to their consistent use of condoms.

Social context. In order to arrive at the most complete yet simple model to predict condom-use intentions and behaviour, the influence of peer pressures also needs to be investigated further. For example, the analyses presented here suggest that the subjective normative pressure component of the TORA could be expanded to include the influence of group norm. Indeed, the subjective norm items and group norm items are very similar to the extent that they require the respondents to consider the opinions of people who are important to them. The difference between the subjective norm and group norm items is that subjective norm assesses respondents' perceptions of important people's attitudes toward the respondent using a condom, and the group attitude component of group norm assesses respondents' perceptions of important people's attitudes toward someone using a condom. The behavioral norm component of group norm also assesses respondents' judgements that the people who are important to them also use condoms.

The composition of the perceived control variable also requires further investigation. Should the components of self-efficacy and perceived behavioral control
be collapsed into one construct? Finally, does confidence in perceptions of subjective normative pressure influence condom-use intentions and behaviour among women who are not confident in these perceptions? Such questions must be addressed in order to develop optimally effective AIDS prevention programs designed to promote condom use among young women.

**Practical Implications**

On a practical level, the variables that emerged as significant predictors of intentions to use condoms should be incorporated into condom promotion programs for women. With respect to facilitating positive attitudes toward condoms, such programs should focus on the idea that mature and responsible women and men insist on using condoms. Demonstrations and discussions of how condoms can be successfully incorporated into satisfying sexual relations would also be very helpful in removing perceived barriers to young women using condoms.

Women should also be taught that they can control the use of condoms in sexual situations, and should therefore be empowered with the skills necessary to do so. The basic principles of Bandura's (1977a; 1977b) cognitive social learning theory can be applied in this context. For example, women may be able to learn how to exert control over the use of condoms in sexual situations by observing models who demonstrate how they can effectively insist on condom use, and how they can deal with the ensuing resistance and pressures that may arise.

Condom promotion programs should also stress the importance of condoms as a method of disease prevention. Women who use methods of birth control other than
condoms (most especially oral contraceptives) should be made explicitly aware of the risks they are assuming by not also protecting themselves from HIV or any other sexually transmitted diseases.

The results of the present study also suggest that young women should not be the only targets for AIDS prevention programs. Because perceived norms were found to influence condom-use intentions, parents, educators, doctors and male partners should be made aware that the women with whom they are in close contact will be more likely to use condoms if they demonstrate support and acceptance of condom use. Further research should be conducted to determine how such approval and acceptance can be demonstrated most effectively (e.g., discussions, communication skills).

Thus, although the generalizability of the results presented here may be limited to some extent by a rather narrow sample of women and a relatively new measure of attitudes toward condoms, it is hoped that the ensuing suggestions for condom promotion programs and directions for future research will have some applicability on both a practical and theoretical level. The next step is to incorporate the above proposals into AIDS prevention programs and to evaluate their effectiveness in promoting condom use among women.
REFERENCES


APPENDIX A

Background Information Questionnaire

Please respond to each of the following items as indicated. Try to answer each item as honestly and accurately as possible. Complete confidentiality is assured.

1. What is your age?
   _____ years

2. What level of education have you completed: (Check one)
   - high school? _____
   - some university/college? _____
   - completed university/college? _____
   - some graduate school? _____
   - completed graduate school? _____
   - other? (please specify) ________________

3. What is your race: (Check one)
   - White? _____
   - Black? _____
   - Asian? _____
   - Hispanic? _____
   - Native? _____
   - other? (please specify) ________________

4. How often do you attend religious services: (Check one)
   - never? _____
   - once or twice a year? _____
   - monthly? _____
   - weekly? _____

5. What is your religious affiliation: (Check one)
   - none/not applicable? _____
   - Catholic? _____
   - Protestant? _____
   - Jewish? _____
   - Moslem? _____
   - Eastern Orthodox? _____
   - other? (please specify) ________________

6. What is your sexual orientation: (Check one)
   - heterosexual? _____
   - lesbian/gay? _____
   - bisexual? _____
   - not sure? _____
7. What is your marital status: (Check as many as are appropriate)
   - not dating/seeing anyone? ____
   - seriously dating? ____
   - casually dating? ____
   - married/cohabiting with partner? ____

8. Are you presently involved in a **heterosexual, monogamous**
   **(one partner) sexual relationship**? (Check one)
   Yes ____  No ____
   a) What is the approximate length of this relationship?
      - _____ years _____ months
      - not applicable ____
   b) Would you consider this relationship to be: (Check one)
      - long-term? ____
      - short-term? ____
      - undecided at this point? ____
      - not applicable? ____

9. Are you presently involved in 1 or more **heterosexual, dating**
   **(not necessarily one partner) sexual relationship(s)**? (Check one)
   Yes ____  No ____
   a) How many partners are you currently dating?_____
   b) If you are presently involved in 1 or more sexual
dating relationships, what are the approximate
lengths of these relationships? (answer for as many
as are indicated above)
   - _____ years _____ months
   - _____ years _____ months
   - _____ years _____ months
   - _____ years _____ months
   - _____ years _____ months
   - not applicable _____
   c) Do you expect that any of these sexual dating
relationships will turn into a monogamous sexual
relationship? (Check one)
   Yes _____  No _____
   - not applicable _____
APPENDIX B

Sexual Experience Questionnaire

Please respond to each of the following items as indicated. Try to answer each item as honestly and accurately as possible. Complete confidentiality is assured.

1. Have you ever engaged in sexual intercourse? (Check one)
   Yes _____  No _____

2. At what age did you first engage in sexual intercourse?
   _____ years

3. How many sexual partners have you had: (please put a number for each time period)
   - ever? _____
   - in the last 2 years? _____
   - in the last 1 year? _____
   - in the last 6 months? _____
   - in the last 3 months? _____
   - in the last 1 month? _____

4. How many times have you had sexual intercourse: (please put a number for each time period)
   - in the last 6 months? _____
   - in the last 3 months? _____
   - in the last 1 month? _____

5. Do you currently use birth control? (Check one)
   Yes _____  No _____

6. Are you currently taking the birth control pill? (Check one)
   Yes _____  No _____

7. What method(s) of birth control do you use: (Check all that apply)
   - birth control pill? _____
   - diaphragm? _____
   - I.U.D.? _____
   - sponge? _____
   - condoms? _____
   - contraceptive foam or jelly? _____
   - withdrawal? _____
   - calendar method? _____
   - abstinence? _____
   - none? _____
   - other? (please specify) ________________________
8. What is your **primary** method of birth control? (one from above list)

9. Have you ever used a condom during sexual intercourse? (Check one)
   Yes _____  No _____

10. If you use or have ever used condoms, did you use them as a method of: (Check one)
    - birth control? _____
    - disease prevention? _____
    - both? _____
    - not applicable (never used a condom)? _____

11. What method(s) of disease prevention do you use to protect yourself from sexually transmitted diseases: (Check **all** that apply)
    - careful partner selection? _____
    - only have one partner at a time? _____
    - condoms? _____
    - abstinence? _____
    - none? _____
    - other? (please specify) ____________________________

12. What is your **primary** method of disease prevention? (one from above list)

13. Have you ever had sexual intercourse with someone that you just met that day or evening? (Circle one)

   1 2 3 4 5
   never rarely sometimes often always

14. Did you use condoms in these situations? (Circle one)

   1 2 3 4 5
   never rarely sometimes often always
   Not applicable _____

15. Have you ever had sexual intercourse with someone that you didn't know very well (not necessarily just met)? (Circle one)

   1 2 3 4 5
   never rarely sometimes often always

16. Did you use condoms in these situations? (Circle one)

   1 2 3 4 5
   never rarely sometimes often always
   Not applicable _____
APPENDIX C

Attitudes Toward Condoms Questionnaire (ATCO)

The items contained in this questionnaire are about a variety of sexual attitudes, beliefs and behaviours. Please read each item very carefully, and answer as honestly as possible. There are no right or wrong answers. Please respond to the questions as they pertain to your heterosexual (straight) relationships only.

<table>
<thead>
<tr>
<th>Please answer the following statements according to your personal beliefs. Mark each statement according to how much you agree or disagree with it by circling the appropriate number.</th>
<th>strongly disagree</th>
<th>moderately disagree</th>
<th>slightly disagree</th>
<th>neither disagree nor agree</th>
<th>slightly agree</th>
<th>moderately agree</th>
<th>strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Condoms are easy to * obtain. (CC)</td>
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<td>2. The use of a condom is an effective method of birth control. (HB)</td>
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<td>3. Discussing the use of a * condom with a partner can improve communication. (TH)</td>
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<td>4. Condoms are expensive. (CC)</td>
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<td>5. A problem with condoms is that they reduce sexual stimulation. (SE)</td>
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<td>6. An advantage of * condoms is that you don't need a prescription from a physician. (CC)</td>
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<td>7. Condoms are not effective because they often break easily. (HB)</td>
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<td>8. The use of a condom might be embarrassing to me or my partner. (TH)</td>
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<td>9. It would be embarrassing to be seen buying condoms in a store. (CC/TH)</td>
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<td>10. The use of a condom can actually enhance sexual pleasure for both myself and my partner. (SE)</td>
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<td>11. Modern condoms are reasonably comfortable for the man to wear. (CC)</td>
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<td>12. The use of a condom is a good way to prevent getting sexually trans-mitted diseases. (HB)</td>
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<td>13. The peace of mind gained from using a condom can improve a sexual relationship. (TH)</td>
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<td>14. Condoms are messy and awkward to dispose of. (CC)</td>
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<td>15. Sex doesn’t feel as natural with a condom. (SE)</td>
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<td>16. Condoms are convenient and easy to carry. (CC)</td>
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<td>17. Condoms do not offer reliable protection. (HB)</td>
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<td>18. Interrupting lovemaking to use a condom spoils the mood. (TH)</td>
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<td>19. Condoms are difficult for a man to wear. (CC)</td>
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<td>20. The thinking ahead that is needed when using a condom adds excitement to lovemaking. (SE)</td>
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<td>21. My making sure a condom is used every time I have sexual intercourse would protect me from AIDS. (HB)</td>
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<td>22. My partner would think that I didn’t trust him if I made sure we used a condom. (TR)</td>
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<td>23. My making sure a condom is used every time I have sexual intercourse would cause conflict between me and my partner. (AC)</td>
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<td>24. My making sure that condoms are used would show my partner that I am concerned for his well-being. (PR)</td>
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<td>25. My making sure a condom is used every time I have sexual intercourse would make my partner think I had sex frequently. (TH)</td>
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<td>26. My making sure a condom is used every time I have sexual intercourse would result in a loss of trust between me and my partner. (TR)</td>
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<td>27. My making sure that a condom is used every time I have sexual intercourse would make my partner angry. (AC)</td>
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<td>28. Making sure that condoms are used indicates that one has a mature attitude toward sex. (PR)</td>
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<td>29. If I didn't make sure that a condom was used with a new partner, afterward I would feel very guilty and ashamed. (TH)</td>
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<td>30. Not using a condom is a good way to create a trusting relationship. (TR)</td>
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<td>31. My partner would not be offended if I made sure that we used condoms every time we had sexual intercourse. (AC)</td>
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<td>32. My making sure that a condom is used every time I have sexual intercourse would show my partner that I care about myself. (PR)</td>
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<td>33. If I made sure that we used a condom, my partner might think that I had given the matter a lot of thought and that I was expecting sex. (TH)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>34. My making sure condoms are used with new partners might make them think that I have AIDS or another sexual disease. (TR)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>35. My making sure that a condom is used every time I have sexual intercourse would be doing the responsible thing. (PR)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>36. Not using a condom is the ultimate affirmation or demonstration of trust for your partner. (TR)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>
Please answer the following statements according to your personal beliefs. Place a checkmark at the point along the scale which best fits your personal beliefs (either toward the bad or good pole).

For example, if you believe that a particular situation is very good, you should place your checkmark as follows:

bad _____:____:____:____:____:____:____:X__ good

Or, if you believe that the situation is quite bad, you should place your checkmark as follows:

bad _____:____:X_:____:____:____:____:____ good

Make sure you place your checkmark over a line and not over a colon.

1. Something that is easy to obtain is _____ (CC) *

bad _____:____:____:____:____:____:____:____ good

2. An effective method of birth control is _____ (HB)

bad _____:____:____:____:____:____:____:____ good

3. Improving communication is _____ (TH) *

bad _____:____:____:____:____:____:____:____ good

4. Something that is expensive is _____ (CC)

bad _____:____:____:____:____:____:____:____ good

5. Reducing sexual stimulation is _____ (SE)

bad _____:____:____:____:____:____:____:____ good

6. Not needing a prescription from a physician is _____ (CC) *

bad _____:____:____:____:____:____:____:____ good

7. Condoms breaking easily is _____ (HB)

bad _____:____:____:____:____:____:____:____ good

8. Embarrassing me or my partner is _____ (TH)

bad _____:____:____:____:____:____:____:____ good
9. My getting embarrassed is _____. (CC*/TH)
   bad _____:_____:_____:_____:_____:_____:_____ good

10. Enhancing sexual pleasure for both myself and my partner is _____. (SE)
    bad _____:_____:_____:_____:_____:_____:_____ good

11. Something that is comfortable for my partner to wear is _____. (CC)
    bad _____:_____:_____:_____:_____:_____:_____ good

12. Preventing getting sexually transmitted diseases is _____. (HB)
    bad _____:_____:_____:_____:_____:_____:_____ good

13. Improving a sexual relationship is _____. (TH)
    * bad _____:_____:_____:_____:_____:_____:_____ good

14. Something that is messy and awkward to dispose of is _____. (CC)
    bad _____:_____:_____:_____:_____:_____:_____ good

15. Sex that doesn’t feel as natural is _____. (SE)
    bad _____:_____:_____:_____:_____:_____:_____ good

16. Something that is convenient and easy to carry is _____. (CC)
    bad _____:_____:_____:_____:_____:_____:_____ good

17. A lack of reliable protection is _____. (HB)
    bad _____:_____:_____:_____:_____:_____:_____ good

18. Spoiling the mood is _____. (TH)
    * bad _____:_____:_____:_____:_____:_____:_____ good

19. Something that is difficult for a man to wear is _____. (CC)
    bad _____:_____:_____:_____:_____:_____:_____ good
20. Adding excitement to lovemaking is _____. (SE)
   
   bad _____:____:____:____:____:____:____:____
   good

21. Protecting myself from AIDS is _____. (HB)
   *
   
   bad _____:____:____:____:____:____:____:____
   good

22. My partner thinking that I didn’t trust him is _____. (TR)
   
   bad _____:____:____:____:____:____:____:____
   good

23. Causing conflict between me and my partner is _____. (AC)
   
   bad _____:____:____:____:____:____:____:____
   good

24. Showing my partner that I am concerned for his well-being is _____. (PR)
   
   bad _____:____:____:____:____:____:____:____
   good

25. My partner thinking that I had sex frequently is _____. (TH)
   
   bad _____:____:____:____:____:____:____:____
   good

26. A loss of trust between me and my partner is _____. (TR)
   
   bad _____:____:____:____:____:____:____:____
   good

27. Making my partner angry is _____. (AC)
   
   bad _____:____:____:____:____:____:____:____
   good

28. Having a mature attitude toward sex is _____. (PR)
   
   bad _____:____:____:____:____:____:____:____
   good

29. Feeling guilty and ashamed is _____. (TH)
   *
   
   bad _____:____:____:____:____:____:____:____
   good

30. Creating a trusting relationship is _____. (TR)
   *
   
   bad _____:____:____:____:____:____:____:____
   good
31. Not offending my partner is _____. (AC)
   *  
   bad ___:___:___:___:___:___:____ good

32. Showing my partner that I care about myself is _____. (PR)

   bad ___:___:___:___:___:___:____ good

33. My partner thinking that I was expecting sex is _____. (TH)

   bad ___:___:___:___:___:___:____ good

34. New partners thinking that I have AIDS or another sexual disease is _____. (TR)

   bad ___:___:___:___:___:___:____ good

35. Doing the responsible thing is _____. (PR)

   bad ___:___:___:___:___:___:____ good

36. Demonstrating trust for your partner is _____. (TR)
   *

   bad ___:___:___:___:___:___:____ good

37. My making sure a condom is used every time I have sexual intercourse is _____. (AT)

   enjoyable ___:___:___:___:___:___:____ unenjoyable

   wise ___:___:___:___:___:___:____ foolish

   correct ___:___:___:___:___:___:____ incorrect

   pleasant ___:___:___:___:___:___:____ unpleasant

   good ___:___:___:___:___:___:____ bad

   beneficial ___:___:___:___:___:___:____ harmful

   moral ___:___:___:___:___:___:____ immoral

38. How positive or negative are your personal feelings about you and your partner using a condom? (AT)

   negative ___:___:___:___:___:___:____ positive
Please answer the following statements according to your personal beliefs. Mark each statement by circling the appropriate number.

1. Do most of the people who are important to you believe that using a condom every time one has sexual intercourse is a good thing to do? (GA)

   1  2  3  4  5  
   no probably not maybe/probably yes 
   maybe not

2. To what extent would there be agreement amongst the people who are important to you about whether or not a condom should be used every time one has sexual intercourse? (GA)

   1  2  3  4  5  
   to a large degree to a moderate degree to a small degree

3. For the people who are important to you, what percentage would think that using a condom every time one has sexual intercourse is a good thing to do? (GA)

   1  2  3  4  5  
   0% about 25% about 50% about 75% 100%

4. Would you say there is consensus amongst the people who are important to you about whether or not a condom should be used every time one has sexual intercourse? (GA)

   1  2  3  4  5  
   very likely neither likely nor unlikely very unlikely

5. Would you say that most of the people who are important to you believe that using a condom every time one has sexual intercourse is a good thing to do? (GA)

   1  2  3  4  5  
   very likely neither likely nor unlikely very unlikely

6. How likely is it that the people who are important to you use a condom while having sexual intercourse? (BN)

   1  2  3  4  5  
   very likely neither likely nor unlikely very unlikely
7. How many of the people who are important to you do you think use a condom while having sexual intercourse? (BN)

1  2  3  4  5
none  few  some  most  all

8. What do you think is the percentage of times people who are important to you use a condom while having sexual intercourse? (BN)

1  2  3  4  5
0%  about 25%  about 50%  about 75%  100%

9. If a condom was used the next time I had sexual intercourse with a new partner, most of the people important to me would: (NP)

1  2  3  4  5
strongly moderately neither moderately strongly disapprove disapprove disapprove approve approve
nor approve

10. Within my social circle, the people important to me think it is a good idea to use a condom when having sexual intercourse with a new partner. (NP)

1  2  3  4  5
strongly moderately neither moderately strongly disagree disagree disagree agree approve
nor agree

11. Most of the people who are important to me would suggest that I make sure a condom is used when I have sex with a new partner. (NP)

1  2  3  4  5
no probably not maybe/ probably yes maybe not

12. Suppose you were about to have sexual intercourse. In addition, suppose that you were absolutely sure that your partner wanted a condom to be used. How likely is it that you would intend for a condom to get used? (CO)

1  2  3  4  5  6  7
extremely likely quite likely slightly likely neither slightly likely quite unlikely extremely unlikely
13. In the above situation, how likely do you think it is that a condom would get used? (CO)

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>extremely likely</td>
<td>quite likely</td>
<td>slightly likely</td>
<td>neither likely</td>
<td>slightly unlikely</td>
<td>quite unlikely</td>
<td>extremely unlikely</td>
</tr>
</tbody>
</table>

14. Suppose you were about to have sexual intercourse. In addition, suppose that you were **not sure** about whether your partner wanted a condom to be used. How likely is it that you would intend for a condom to get used? (CO)

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>extremely likely</td>
<td>quite likely</td>
<td>slightly likely</td>
<td>neither likely</td>
<td>slightly unlikely</td>
<td>quite unlikely</td>
<td>extremely unlikely</td>
</tr>
</tbody>
</table>

15. In the above situation, how likely do you think it is that a condom would get used? (CO)

<table>
<thead>
<tr>
<th></th>
<th>1</th>
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<th>3</th>
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<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>extremely likely</td>
<td>quite likely</td>
<td>slightly likely</td>
<td>neither likely</td>
<td>slightly unlikely</td>
<td>quite unlikely</td>
<td>extremely unlikely</td>
</tr>
</tbody>
</table>

16. I am _____ that I know whether my sexual partner thinks a condom should be used every time I have sex. (CO)

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>extremely confident</td>
<td>quite confident</td>
<td>slightly confident</td>
<td>neither confident</td>
<td>slightly unconfident</td>
<td>quite unconfident</td>
<td>extremely unconfident</td>
</tr>
</tbody>
</table>

17. I am _____ that I know whether most people who are important to me think a condom should be used every time I have sex. (CO)

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>extremely confident</td>
<td>quite confident</td>
<td>slightly confident</td>
<td>neither confident</td>
<td>slightly unconfident</td>
<td>quite unconfident</td>
<td>extremely unconfident</td>
</tr>
</tbody>
</table>

18. Think of the person whose opinion means the most to you. What relationship does *this person have to you?* ____________________________ (CO)

a) I am _____ that I know whether this person thinks a condom should be used every time I have sex. (CO)

<table>
<thead>
<tr>
<th></th>
<th>1</th>
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<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>extremely confident</td>
<td>quite confident</td>
<td>slightly confident</td>
<td>neither confident</td>
<td>slightly unconfident</td>
<td>quite unconfident</td>
<td>extremely unconfident</td>
</tr>
</tbody>
</table>
19. For me, to make sure that a condom is used every time I have sexual intercourse will be: (PS)

<table>
<thead>
<tr>
<th>1</th>
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<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>very difficult</td>
<td>very easy</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

20. How confident are you that you will be able to make sure that a condom is used every time you have sexual intercourse? (PS)

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>not at all confident</td>
<td>extremely confident</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

21. How difficult will it be for you to make sure that a condom is used every time you have sexual intercourse? (PS)

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>not at all difficult</td>
<td>extremely difficult</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

22. How certain are you that you will be able to make sure a condom is used every time you have sexual intercourse? (PS)

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<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>not at all certain</td>
<td>extremely certain</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

23. It is mostly up to me whether or not I make sure to use a condom every time I have sexual intercourse. (PB)

<table>
<thead>
<tr>
<th>1</th>
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<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>completely false</td>
<td>completely true</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

24. How much control do you have over whether you make sure to use a condom every time you have sexual intercourse? (PB)

<table>
<thead>
<tr>
<th>1</th>
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<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>no control</td>
<td>complete control</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
25. How much will factors outside your control influence whether you make sure to use a condom every time you have sexual intercourse? (PB)

<table>
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<th></th>
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<th>2</th>
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<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>not at all</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>completely</td>
</tr>
</tbody>
</table>

26. How much do you feel that whether you make sure to use a condom every time you have sexual intercourse is beyond your control? (PB)

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<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>not at all</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>a great deal</td>
</tr>
</tbody>
</table>

27. I intend for a condom to be used every time I have sexual intercourse. (FI)

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
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<th>5</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>extremely likely</td>
<td>2</td>
<td>quite likely</td>
<td>3</td>
<td>neither</td>
</tr>
</tbody>
</table>

28. I intend to make sure a condom is used the next time I have sexual intercourse with a new partner. (FI)

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<thead>
<tr>
<th></th>
<th>1</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>no</td>
<td>probably not</td>
<td>3</td>
<td>maybe/ probably not</td>
<td>4</td>
</tr>
</tbody>
</table>

29. I will make sure a condom is used the next time I have sexual intercourse with a new partner. (FI)

<table>
<thead>
<tr>
<th></th>
<th>1</th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>no</td>
<td>probably not</td>
<td>3</td>
<td>maybe/ probably not</td>
<td>4</td>
</tr>
</tbody>
</table>

30. My chances of making sure that a condom is used the next time I have sexual intercourse with a new partner are: (FI)

<table>
<thead>
<tr>
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<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>very low</td>
<td>low</td>
<td>neither low nor high</td>
<td>high</td>
<td>very high</td>
</tr>
</tbody>
</table>

31. Out of all the times that I have had sexual intercourse in the past, I used a condom approximately _____% of the time. (PA)

<table>
<thead>
<tr>
<th></th>
<th>1</th>
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<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0%</td>
<td>50%</td>
<td>100%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
32. Out of all the times that I have had sexual intercourse in the past with a new partner, I used a condom approximately ____% of the time. (PA)

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>50%</td>
<td>100%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

33. Have you ever used a condom during sexual intercourse? (PA)
* Yes ____ No ____

34. Did you use a condom the last time you had sexual intercourse? (PA)
* Yes ____ No ____

| Imagine you are going to have sexual intercourse with a new partner. Please respond to the following statements by circling the appropriate number. |
|---|---|---|---|---|
| 1. Would you suggest the use of a condom? (FI) | 1 | 2 | 3 | 4 | 5 |
| 2. Would you resist the use of a condom? (FI) | 1 | 2 | 3 | 4 | 5 |
| 3. Would you insist on the use of a condom? (FI) | 1 | 2 | 3 | 4 | 5 |
| 4. Would you reject the use of a condom? (FI) | 1 | 2 | 3 | 4 | 5 |
Do you have any comments or suggestions regarding these questionnaires? For example, was there anything that you think is relevant to this study that you were not asked about?


Thank you very much for your help!

Note. SE = sexual enjoyment; HB = perceived health benefits; TR = trust; AC = anger and conflict; TH = threat to self-image; PR = perceived responsibility; CC = comfort and convenience; AT = direct measure of attitude; GA = group attitude (component of group norm); BN = behavioral norm (component of group norm); NP = subjective normative pressure; CO = confidence in perceptions of normative pressure; PS = perceived self-efficacy (component of control); PB = perceived behavioral control (component of control); FI = future intent to use condoms; PA = past condom use.

Note. Items not included in the analyses are denoted by an asterisk (*).
APPENDIX D

Consent Form

Predictors of Condom Use Among University Women: An Application and Extension of the Theory of Planned Behaviour

Researcher: Anna Fazekas
Faculty Advisor: Charlene Y. Senn, Ph.D.

The purpose of this study is to identify the variables that affect young women's sexual attitudes and behaviours. Participating students who are currently enrolled in a Psychology course where bonus points are awarded for research participation, will receive bonus credit toward their final grade.

You will be asked to fill out a number of questionnaires that pertain to your sexual attitudes and behaviours. Many of these questions are very personal in nature and may be considered offensive to some. Although it is preferable to respond to all questions, you do not have to answer any questions that you do not want to. Your responses are completely confidential, and you will not be identifiable by your responses. You may ask questions at any time before, during, or after the study. You can withdraw from the study at any time for any reason, without explanation, and without penalty.

To indicate that you have understood the information contained on this form, and that you voluntarily consent to participate in this study, please sign and detach the bottom of this form and return it to Anna Fazekas (principal investigator).

This study has been reviewed by the Psychology Department Ethics Committee. Any ethical concerns about this study should be addressed to Dr. Sylvia Voelker, Department of Psychology Ethics Committee, University of Windsor, Windsor, Ontario, N9B 3P4. (519) 253-4232 ext. 2249. Any further questions or concerns should be directed to Anna Fazekas or Charlene Y. Senn, Ph.D. (ext. 2255). Thank you for your participation.

Date: ____________________________

Name: ____________________________

Student number: ____________________________

Signature: ____________________________

Course and section: ____________________________

Instructor: ____________________________
APPENDIX E

Debriefing Form

Predictors of Condom Use Among University Women:
An Application and Extension of the Theory of Planned Behaviour

The purpose of this research is to uncover the factors that predict why young women regularly use or do not use condoms. Once these factors have been identified we will be better equipped to design AIDS risk reduction programs that promote condom use, and that are specifically geared toward the unique needs and concerns of women.

Based on previous research, one of the variables that is expected to be predictive of condom use among university women is attitudes toward condoms. For example, it is predicted that women who believe that condoms do not have an adverse effect on sexual enjoyment or the interpersonal aspects of the relationship will be more likely to use condoms than women who do not hold these beliefs. Women who believe that there are many health benefits to condom use and that condoms are convenient to use are also expected to be more likely to regularly use condoms. It is predicted that women who perceive that condom use would be supported among the people who are important to them will be more inclined to use condoms than women who do not report such normative support. Furthermore, the degree of control that a woman feels she is able to exercise over whether or not a condom will be used is also expected to be a predictor of condom use. Taken together, these results will help direct the efforts of programs designed to promote condom use among women.

The HIV virus cannot be transmitted through casual contact (e.g., shaking hands, hugging, sharing eating utensils). HIV can be transmitted when bodily fluids (e.g., blood, semen, vaginal secretions) from an infected individual enter the bloodstream of another individual. If you have sex or use IV drugs, you can significantly reduce your chances of contracting HIV by always using a latex condom and by always using new or sterilized needles. If you have any unanswered health questions or concerns about HIV and AIDS, there are several local organizations that can help you. You can contact the AIDS Committee of Windsor, 2090 Wyandotte St. E., (519) 973-0222, the Teen Health Centre - Windsor, 1585 Ouellette, (519) 253-8481, or the University of Windsor Health Services, (519) 973-7002.

Thank you very much for your time and participation in this research. If you have any questions or concerns regarding the study, or are simply interested in the results, please feel free to contact me.
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VITA AUCTORIS

Anna Fazekas was born to Margaret and Michael Fazekas on January 6, 1968, in Oshawa, Ontario. In 1986 she graduated from G. L. Roberts Collegiate in Oshawa. In 1991, she received the degree of Honours Bachelor of Science in Psychology from Trent University, Peterborough. Since 1993, she has been a graduate student in the Applied Social Psychology programme at the University of Windsor.