

Electronic Thesis and Dissertation Repository

7-31-2013 12:00 AM

He Says, She Says: A Dyadic Approach to Understanding Safer Sex Behavior in Intimate Heterosexual Relationships

Corey Isaacs, *The University of Western Ontario*

Supervisor: Dr. William Fisher, *The University of Western Ontario*

A thesis submitted in partial fulfillment of the requirements for the Doctor of Philosophy degree in Psychology

© Corey Isaacs 2013

Follow this and additional works at: <https://ir.lib.uwo.ca/etd>



Part of the [Health Psychology Commons](#), [Personality and Social Contexts Commons](#), [Quantitative Psychology Commons](#), and the [Social Psychology Commons](#)

Recommended Citation

Isaacs, Corey, "He Says, She Says: A Dyadic Approach to Understanding Safer Sex Behavior in Intimate Heterosexual Relationships" (2013). *Electronic Thesis and Dissertation Repository*. 1432.
<https://ir.lib.uwo.ca/etd/1432>

This Dissertation/Thesis is brought to you for free and open access by Scholarship@Western. It has been accepted for inclusion in Electronic Thesis and Dissertation Repository by an authorized administrator of Scholarship@Western. For more information, please contact wlsadmin@uwo.ca.

HE SAYS, SHE SAYS: A DYADIC APPROACH TO
UNDERSTANDING SAFER SEX BEHAVIOR IN
INTIMATE HETEROSEXUAL RELATIONSHIPS

(Thesis format: Monograph)

by

Corey Isaacs

Graduate Program in Psychology

A thesis submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy

The School of Graduate and Postdoctoral Studies
The University of Western Ontario
London, Ontario, Canada

© Corey Isaacs 2013

Abstract

This study examined the utility of a dyadic approach to the study of condom use in intimate relationships. The vast majority of research regarding risky or safer sexual behavior has focused on individual-level models for the prediction of behavior without considering the interpersonal context in which sexual decision-making and sexual behavior occur. A consideration of HIV/STI preventive behavior in the context of relationships is essential, as intimate relationships represent an often unrecognized source of HIV/STI risk. Traditional theories of health behavior such as the theory of reasoned action and the theory of planned behavior have proven fairly successful in predicting HIV/STI preventive behavior among individuals, but when considering decisions made or influenced by two partners who may have differing attitudes or beliefs, more complex analyses are necessary. The structural model under investigation allows assessment of influences of relationship partners' characteristics on their own and their partners' condom-use intentions, as well as the moderating influences of individual and relationship characteristics on these relations. Both partners from 124 heterosexual couples independently completed an online questionnaire assessing a variety of sex- and relationship-relevant variables. Data were analyzed using structural equation modeling and dyadic data analysis. Results demonstrated the superiority of a dyadic approach to the study of couples' condom-use intentions and behavior over traditional, individual-level approaches. Dyadic analyses allowed for the simultaneous modeling of both partners' influences on their own and each other's condom-use intentions and on couples' shared condom-use behavior. Implications for safer sex intervention efforts targeted to men and women are discussed.

Keywords

condom use, safer sex, relationships, HIV prevention, STI prevention, theory of reasoned action, theory of planned behavior, dyadic data analysis, actor-partner interdependence model

Acknowledgments

I would like to thank my advisor, Dr. William Fisher, for his direction and constructive feedback at every stage of the dissertation and for his support and guidance throughout my graduate training. I would also like to thank my dissertation committee for their helpful feedback, particularly Dr. Lorne Campbell for his invaluable statistical advisement. Finally, I would like to thank my friends and family for their love and support throughout this entire process.

Table of Contents

Abstract	ii
Acknowledgments.....	iii
Table of Contents	iv
List of Tables	vi
List of Figures	vii
List of Appendices	viii
Chapter 1: Introduction	1
1.1 Overview and Objectives	1
1.2 HIV/STI Risk	2
1.3 Safer Sex in Intimate Relationships	5
1.4 Theoretical Models of HIV/STI Risk and Preventive Behavior	10
1.5 Analysis of Relationship Data	16
1.6 Current Research.....	20
Chapter 2: Method	23
2.1 Participants.....	23
2.2 Materials	26
2.2.1 Background and Relationship Information.....	26
2.2.2 Measures of Theoretical Constructs.....	27
2.2.3 Condom Use with Primary Partner	29
2.2.4 Relationship Power	29
2.3 Procedures	30
Chapter 3: Results	32
3.1 Data Screening and Preparation	32
3.2 Descriptive Statistics.....	32

3.3 Model Analyses	35
3.3.1 Theory of Reasoned Action	38
3.3.2 Theory of Planned Behavior	43
3.4 Moderator Analyses	48
3.4.1 Sexual Decision-Making Power	50
3.4.2 Relationship Duration	55
Chapter 4: Discussion	64
4.1 Research Hypotheses and Model Analyses	65
4.2 Moderating Relationship Factors	69
4.3 Limitations and Future Directions	71
References	76
Appendices	86
Curriculum Vitae	156

List of Tables

Table 1. Tests of Sex Differences for Condom-Use Variables.....	33
Table 2. Correlations among Condom-Use Predictor and Outcome Variables	34
Table 3. Variance-Covariance Matrix of Variables in Model-Comparison Analyses	36
Table 4. Unstandardized (SE in Parentheses) and Standardized Parameters for Figure 4	40
Table 5. Unstandardized (SE in Parentheses) and Standardized Parameters for Figure 5	44
Table 6. Unstandardized (SE in Parentheses) and Standardized Parameters for Figure 6	46
Table 7. Unstandardized (SE in Parentheses) and Standardized Parameters for Figure 7	49
Table 8. Variance-Covariance Matrix of Variables in Sexual Decision-Making Power Moderation Analyses	52
Table 9. Unstandardized (SE in Parentheses) and Standardized Parameters for Figure 8	53
Table 10. Unstandardized (SE in Parentheses) and Standardized Parameters for Figure 9 ...	57
Table 11. Variance-Covariance Matrix of Variables in Relationship Duration Moderation Analyses (Shorter-Duration Couples).....	59
Table 12. Variance-Covariance Matrix of Variables in Relationship Duration Moderation Analyses (Longer-Duration Couples).....	60
Table 13. Unstandardized (SE in Parentheses) and Standardized Parameters for TRA Model (Shorter-Duration Couples)	61
Table 14. Unstandardized (SE in Parentheses) and Standardized Parameters for TRA Model (Longer-Duration Couples).....	62

List of Figures

Figure 1. The theory of reasoned action and theory of planned behavior	14
Figure 2. Model used by Campbell et al. (2001) to test actor and partner effects of attachment avoidance and relationship dependence on men's and women's behavior in a stressful situation	19
Figure 3. Dyadic TRA model of condom use in intimate relationships	21
Figure 4. TRA model of condom use in intimate relationships (actor effects only)	39
Figure 5. TRA model of condom use in intimate relationships (actor and partner effects) ..	42
Figure 6. TPB model of condom use in intimate relationships (actor effects only)	45
Figure 7. TPB model of condom use in intimate relationship (actor and partner effects).....	47
Figure 8. TRA model of condom use in intimate relationships with relationship power variable included	51
Figure 9. TRA model of condom use in intimate relationships with power differential variable included	56

List of Appendices

Appendix A: Study Advertisement.....	87
Appendix B: Letter of Information and Debriefing Form	89
Appendix C: Intimate Relationships Survey.....	95
Appendix D: Description of Additional Measures	148

Chapter 1: Introduction

1.1 Overview and Objectives

The purpose of this study was to examine a dyadic approach to studying safer sex behavior in intimate relationships. HIV/STI risk and preventive behavior have been the focus of a large body of research over the past two decades (Albarracin, Johnson, Fishbein, & Muellerleile, 2001; Albarracin et al., 2005; Noar, Benac, & Harris, 2007; Ross & Kelly, 1999; Semaan, Jarlais, & Malow, 2006; Sheeran, Abraham, & Orbell, 1999). The specific issues of HIV/STI prevention for individuals in intimate relationships and the dynamics of safer sex within couples, however, have received relatively little attention in the research literature (J. D. Fisher & W. A. Fisher, 2000; Harman & Amico, 2009; Misovich, J.D. Fisher, & W. A. Fisher, 1997). In the context of intimate relationships, we note that many individuals feel invulnerable to HIV/STI infection and perceive that the costs to the relationship of introducing or maintaining safer sexual practices outweigh the benefits (Crowell & Emmers-Sommer, 2001; Exner, Seal, & Ehrhardt, 1997; Krahe & Reiss, 1995; Misovich et al., 1997) and are unlikely to engage in safer sexual behavior with their relationship partner (Bolton, McKay, & Schneider, 2010; Hammer, Fisher, Fitzgerald, & Fisher, 1996; Phillips, 1993). Research consistently shows that individuals are less likely to engage in safer sexual behavior with their primary partner than with casual or extra-relationship partners (Comer & Nemeroff, 2000; Lescano, Vazquez, Brown, Litvin, & Pugatch, 2006; Misovich et al., 1997).

Within the limited extant literature on the topic, gender and power are two variables that have been commonly examined in relation to safer sex decision making in relationships. The question of which partner has the most influence on safer sex decision making is an empirical one, and findings have been mixed (e.g., Agnew, 1999; Harvey, 2006; Pulerwitz, Amaro, De Jong, Gortmaker, & Rudd, 2002; Tschann, Adler, Millstein, Gurvey, & Ellen, 2002). Moreover, the influence of gender and power as related to safer sex decision making is rarely studied on a dyadic level, despite the conceptual appropriateness and presumed improved prediction afforded by considering both dyad members simultaneously in the prediction of interdependent safer sexual behavior

(Agnew, 1999; Catania, Binson, Dolcini, Moskowitz, & van der Straten, 2001; Grady, Klepinger, Billy, & Cubbins, 2010).

In view of the fact that safer or risky sex is a dyadic outcome that is likely to be influenced by characteristics of both couple members and of their relationship, it would seem necessary to develop models of HIV/STI risk and prevention capable of examining the influence of both partners, as well as the characteristics of their relationship, to understand the dynamics underlying safer or risky sexual behavior in intimate relationships. Such consideration is currently lacking in the safer sex literature, however, where conceptual and empirical research over the first three decades of the AIDS epidemic have focused on either individual factors (e.g., attitudes toward condoms) or relationship factors (e.g., casual vs. committed relationships), generally to the exclusion of the other, and generally relying on assessments of individuals as opposed to couples. The current research adopts a dyadic perspective on safer sexual behavior to allow estimation of the mutual contributions of each partner's characteristics (e.g., attitudes and norms concerning condom use) on a couple's outcome (e.g., consistency of condom use), as well as incorporation of additional independent or predictor variables that vary within or between dyads (e.g., sexual decision-making power, relationship duration). Dyadic analysis is commonly used in relationship research to model interdependent data from dyads and groups, but has rarely been applied to the study of individual and dyadic factors underlying safer sexual behavior. The current study contributes to the existing literature by applying this innovative relationship research methodology to the equally innovative study of safer sex in relationships, to better understand the factors that influence safer sexual behavior in the context of intimate relationships.

1.2 HIV/STI Risk

Incidence rates of sexually transmitted infections (STIs), including chlamydia, gonorrhea, and syphilis, have been increasing steadily in Canada since their lowest point in 1997, and are especially high among adolescents and young adults (Public Health Agency of Canada, 2011). The annual incidence rate of chlamydia, the most commonly reported STI in Canada, more than doubled between 1997 and 2009 (from 113.9 to 258.5 per 100,000), with adolescents and young adults aged 15 to 29 accounting for 82 percent of

new infections. The national incidence rate of gonorrhoea also more than doubled between 1997 and 2009 (from 14.9 to 33.1 per 100,000), and young people account for approximately two thirds of new cases (69 percent). The rate of new infections of syphilis has increased more than ten-fold since 1997 (from 0.4 to 5.0 per 100,000), with individuals between the ages of 15 and 29 accounting for 29 percent of new infections (Public Health Agency of Canada, 2011). Adolescents and young adults also accounted for approximately 23 percent of new cases of HIV in Canada in 2008, and represent 27 percent of people living with HIV (Public Health Agency of Canada, 2010). Given that HIV is often diagnosed some time after infection, it is likely that these statistics are in fact underestimates of the number of adolescents and young adults infected with HIV.

The number of HIV infections in Canada has been increasing steadily over the past two decades, reaching an estimated 67,000 HIV-infected Canadians in 2009 (UNAIDS, 2010). Whereas HIV transmission among men who have sex with men has reached a plateau in recent years, and transmission attributed to IV drug use has been steadily decreasing over the past decade in Canada, the incidence of HIV infection from heterosexual sexual contacts has been increasing steadily since the beginning of the HIV epidemic, accounting for 36 percent of new HIV infections in this country in 2008 (Public Health Agency of Canada, 2010) and 31 percent of new cases in the United States (CDC, 2011) in 2009. Reflecting this pattern, the Canadian incidence of HIV infection among women has been steadily increasing during this time from 22 percent of new cases in 1999 to 26 percent in 2008. Almost three quarters (71%) of these women contracted HIV through heterosexual sex, as opposed to intravenous drug use, compared with 46 percent of women infected via heterosexual transmission in 1999 (Public Health Agency of Canada, 2003, 2010). These patterns of infection are reflected in other parts of the world, where heterosexual sex is the primary mode of HIV infection for women. In the United States in 2009, women accounted for 24 percent of all new cases of HIV, 85 percent of which were attributed to heterosexual contact (CDC, 2011).

Despite widespread knowledge about HIV/AIDS and the effectiveness of condoms in preventing the transmission of many STIs, a large proportion of sexually active individuals still report engaging in unprotected sexual intercourse (W. A. Fisher &

Boroditsky, 2000; W. A. Fisher, Boroditsky, & Morris, 2004; Rotermann, 2005). Short of abstinence from intercourse, consistent condom use, defined as using a condom every time one engages in sexual intercourse, is the most effective method of reducing risk for HIV and other STI infections (Stone, Timyan, & Thomas, 1999), more so than simply limiting one's number of sexual partners (Reiss & Leik, 1989). Unfortunately, consistent condom use seems to be the exception rather than the rule among young people in North America. Shearer and colleagues reported that 82 percent of their sample of college students reported having had unprotected intercourse in their lifetime, and 50 percent had not used a condom at last intercourse (Shearer, Hosterman, Gillen, & Lefkowitz, 2005). Similarly, Bolton, McKay, & Schneider (2010) reported that more than half of their sample of Canadian heterosexual women aged 18 to 24 did not use a condom the last time they engaged in sexual intercourse with their relationship partner. W. A. Fisher and Boroditsky (2000) reported that the rates of consistent condom use among a nationally representative sample of Canadian females aged 15 to 29 were between 19 and 33 percent of those who were sexually active. These data are consistent with previous reports (e.g., Cates, 1990; Maticka-Tyndale, 1997; see also Boyce et al., 2006), and indicate that adolescents and young adults use condoms infrequently and inconsistently, putting them at high risk for sexually transmitted infections.

Contrary to the belief that being in a monogamous relationship is a protective factor against HIV and other STIs, individuals who perceive their relationship to be monogamous are less likely to discuss past risk or safer sex (Bowen & Michal-Johnson, 1989; Cline, Freeman, & Johnson, 1990) and less likely to use condoms during sexual intercourse (Crowell & Emmers-Sommer, 2000; Ishii-Kuntz, Whitbeck, & Simons, 1990; Misovich et al., 1997), compared to individuals who do not perceive their relationship to be monogamous. Moreover, it has repeatedly been observed that individuals in relationships are less likely to use condoms than are individuals having sexual contact with casual or secondary partners. Misovich et al. (1997) reported that the likelihood of safer sex was greater in casual than in committed relationships across a number of diverse populations, including heterosexual adolescents and young adults, gay men, injection drug users, and commercial sex workers. Individuals typically perceive main partners and serious relationships as relatively safe in terms of STI risk compared to sexual

contacts with casual partners; this finding has been reported among urban minority adolescents (Overby & Kegeles, 1994), heterosexual university students (Comer & Nemeroff, 2000), gay men (Offir, Fisher, Williams, & Fisher, 1993), and even HIV-serodiscordant couples (Dublin, Rosenberg, & Goedert, 1992). Further, research shows that despite perceptions of monogamy in heterosexual relationships, as many as one third to half of young adults report having engaged in extradyadic sex (Berman & Frazier, 2005; Wiederman & Hurd, 1999). Moreover, many people lie to their current partner about their past risky behavior (Cochran & Mays, 1990; Lucchetti, 1999), further reducing a couple's likelihood of engaging in safer sexual behavior.

Compounding the issue of risky sex within relationships is the fact that many adolescents and young adults today practice *serial monogamy*, characterized by relationships that are exclusive but not permanent, with one such monogamous relationship succeeding another in serial form. Data from the Canadian Contraception Study, a large-scale national survey of female adolescents' and young adults' sexual and contraceptive behavior, reveal that 82 percent of unmarried 18- to 24-year-old women had engaged in sexual intercourse, and 59 percent of these women had had two or more sexual partners within the previous two years (W. A. Fisher & Boroditsky, 2000). Further, the gap between age of first intercourse and age of first marriage has been steadily increasing over the past several decades—recent data indicate that the median age of first intercourse in Canada is 17 for both males and females (Maticka-Tyndale, Barrett, & McKay, 2000), whereas the average age of first marriage in Canada is approximately 31 years for men and 29 years for women (Statistics Canada, 2007). In other words, many young people are engaging in sexual intercourse with multiple partners, across a period of a number of years, without an accurate assessment of their or their partners' STI risk and without consistent practice of safer sex, inadvertently putting themselves at continued risk of sexually transmitted infections.

1.3 Safer Sex in Intimate Relationships

Given that heterosexual intercourse is an increasingly prominent mode of transmission of HIV and other STIs, consideration of the dynamics of dyad members with regards to safer sex decision-making may be a crucial factor in efforts to decrease rates of

transmission (Harvey et al., 2006; Pulerwitz et al., 2002). One reason for couples' lack of safer sexual behavior may be that individuals feel that trust translates into safety from STIs (Crowell & Emmers-Sommer, 2001; Pilkington, Kern, & Indest, 1994; Williams et al., 1992). In this connection, Comer and Nemeroff (2000) conducted a study to assess individuals' perceptions of risk in casual versus monogamous relationships. Participants were asked to evaluate the level of risk in three scenarios: sex with a casual partner, sex with a main partner who was emotionally safe but for whom no risk information was given, and sex with a main partner who was described as low risk (i.e., information was given about previous partners, HIV negative status, etc.). As expected, these investigators found that individuals rated the casual partner scenario as more risky than the two main partner scenarios. Surprisingly, however, individuals did not report a difference in terms of perceived risk or intention to use a condom in response to the two main partner scenarios. It appears that individuals may not differentiate between emotional safety and physical safety, and may perceive monogamous relationships as more or less automatically safe. In addition, suggesting condom use in a close relationship may arouse mistrust and suspicions of cheating (Oncale & King, 2001; Overby & Kegeles, 1994; Wingood & DiClemente, 1998), especially if condoms were not regularly being used by the couple (Hammer et al., 1996). Indeed, simply talking about STI risk may be seen as a violation of trust in relationships (Bowen & Michal-Johnson, 1989; Cline et al., 1990). Cline and colleagues reported that few college-age couples talked about HIV/AIDS risk, and when they did, it tended to be very general rather than specifics about potential risk or how to reduce risk in the relationship. Given this lack of discussion and practice of safer sex in intimate relationships, it has been suggested that long-term romantic relationships represent an unrecognized risk of STI infection in both industrialized and developing countries (Emmers-Sommer & Allen, 2005; Misovich et al., 1997).

Of particular interest in connection with understanding issues of safer and risky sex within relationships are the potential influences of gender and power on safer sex decision-making (Agnew, 1999; Harvey et al., 2006; Pulerwitz et al., 2002; Tschann et al., 2002). The question of who has more influence over sexual decisions in relationships has been examined for decades (e.g., Agnew, 1999; Gerard, Breda, & Gibbons, 1990;

Peplau, Rubin, & Hill, 1977), yet the answer remains unclear. Given that condom use is an act that is performed by males, this behavior may be best predicted by male rather than female characteristics. On the other hand, women may exercise power over condom use by limiting sexual access of male partners who do not want to use a condom. Both hypotheses seem plausible, and indeed empirical evidence exists that supports both the male- and the female-dominated perspective (e.g., Agnew, 1998, 1999; Miller & Pasta, 1996). Interestingly, in their examination of the theory of reasoned action as applied to AIDS-preventive behavior, W. A. Fisher, J. D. Fisher, and Rye (1995) reported that heterosexual university and high school males' condom-use intentions were solely influenced by their own attitudes toward using condoms, with no influence of social norms. Heterosexual university and high school females' intentions to use condoms, on the other hand, were predicted by both attitudes and social norms. These results suggest that whereas females tend to consider others' attitudes when forming condom-use intentions, males may form intentions to use condoms independently, with little consideration of the attitudes or preferences of others, including romantic partners.

In the past, researchers have reported that women may act as "sexual gatekeepers" and hold the most influence over sexual decision making within heterosexual relationships (see, for example, Peplau et al., 1977; Fisher & Gray, 1988). Peplau et al. (1977) reported that whether or not a couple had engaged in sexual intercourse, and the timing of a couple's first intercourse, were almost exclusively predicted by the female partner's characteristics (e.g., religiosity, conservatism). Similarly, Fisher and Gray (1988) found that female partners' characteristics exerted greater influence than male partners' characteristics in relation to the maintenance of sexual activity during pregnancy and the resumption of sexual activity postpartum. In related fashion, Gerrard, Breda, and Gibbons (1990) reported that while male partners tended to be more influential than their female partners in general decision making, women held the most power over contraceptive decision making. It may be the case that men tend to hold the most power in general decision-making domains but women tend to be more influential than men when it comes to sexual and contraceptive decision making (e.g., Miller & Pasta, 1996). However, research has also revealed either an opposite effect or no effect for gender on sexual decision making. Agnew (1999), for example, reported that male partners had the

most influence over both condom-use intentions and condom-use behavior among heterosexual couples, whereas women had relatively little influence (see also Amaro, 1995; Felmlee, 1994; W. A. Fisher, J. D. Fisher, & Rye, 1995).

Based upon such heterogeneous evidence, it would appear that the question of gender and sexual decision making is more complex than originally thought, and that sexual decision making among couples may in fact be more an issue of power than of gender per se. Relative power in a relationship has been found to be a significant predictor of condom-use decision-making dominance regardless of gender. Tschann et al. (2002), for example, reported that in a sample of heterosexual adolescents, gender was not predictive of which partner's condom-use desires were enacted. Rather, emotional intimacy power (defined as having less desire for emotional intimacy than one's partner) was related to whether adolescents got their way regarding condom use. While overall, male partners reported greater emotional intimacy power and decision-making power than female partners, there was no effect of gender and no interaction between gender and power in predicting whether one's condom-use desires were enacted. Agnew (1999) similarly reported that regardless of gender, couple members with the least amount of interest in their relationship relative to their partners had more power over couples' condom-use intentions and behavior.

Power in a relationship is an especially strong predictor of women's condom-use intentions and actual condom use (Mantell, as cited in Bowleg, Belgrave, & Reisen, 2000; Pulerwitz et al., 2002; Tschann et al., 2002). Unlike men, women cannot use a male condom independently, but rather they must negotiate condom use with male partners (Amaro, 1995; Bird, Harvey, Beckman, Johnson, & The PARTNERS Project, 2001; Salazar et al., 2004). Women who perceive greater power in their romantic relationships are more likely than women who perceive little power to report engaging in safer sexual practices. Pulerwitz et al. (2002), for example, reported that perception of one's power in a relationship was a key factor influencing condom use in a sample of primarily Latina women, and that reported relationship power was associated with a five-fold increase in reporting consistent condom use. Other researchers have documented an association between power and safer sex behavior as well. Amaro and Gornemann

(1992) reported that a relative lack of relationship power was a significant barrier to HIV risk reduction in their sample of heterosexual Latina women. Unfortunately, however, the ability to exert power in a relationship has been studied only at an individual level and research concerning relationship power has ironically not been conducted on dyads, despite recognition of the importance of incorporating variables from beyond the individual level to understand the dynamics of power among couples (Catania et al., 2001).

Existing research clearly suggests the necessity of exploring the influence of partner and relationship factors on safer sex decision making and couple-level safer sex outcomes. There can be little doubt that condom-use intentions and behavior are influenced by important others in an individual's environment and by the nature of the individual's intimate relationship and the distribution of decision-making power within it. Our understanding of relationship influences on safer sex decision making is exceedingly limited, however, by virtue of the fact that in the vast majority of studies conducted, conceptual and empirical analyses have occurred at the level of the *individual*, not the couple. Measurement of relationship-related variables has typically involved an *individual's perceptions* of his/her partner or relationship (e.g., de Visser & Smith, 2001; Harvey et al., 2006; Pulerwitz et al., 2002), as opposed to direct assessment and analysis of the additive or interactive influence of both couple members' characteristics and relationship perceptions on safer sex occurring in the dyad. Likewise, studies that have considered both partners in a relationship to assess the influence of partner or relationship variables on safer sex often have had as the unit of analysis couples rather than the examination of individual-level attributes and perceptions on couple-level outcomes (e.g., Kordoutis, Loumakou, & Sarafidou, 2000). Despite identical means, couples in which both partners report moderate attitudes toward condoms are likely quite different from couples in which one partner possesses positive attitudes and one possesses negative attitudes toward condoms. Summing or averaging data from relationship partners reduces multiple data points to a single score, masking heterogeneity among couples and making examination of the unique or interactive effects of relationship partners impossible.

There exists considerable research evidence that demonstrates the utility of collecting and analyzing data from both partners in a relationship, relative to assessing only one partner. For example, in a study of a variety of independent and interdependent behaviors, Agnew (1994) reported that the strength of the intention–behavior relationship depended on the relative interdependence of a behavior, and that interdependent behavior was better predicted from couple-derived data than from data from just one partner. Likewise, and not surprisingly, Agnew (1999) reported that prediction of condom use from female partners’ intentions was significantly improved by adding male partners’ intentions to the regression model. Ezeh (1993) also reported that background and attitudinal variables from *both* spouses predicted contraceptive behavior better than variables from either spouse alone. Butzer and Campbell (2008), employing dyadic data analytic techniques, described various ways in which spouses’ attachment anxiety and avoidance are related to their own and their partner’s sexual and marital satisfaction. It has been demonstrated that reproductive health interventions targeting both relationship partners are more effective than the same interventions targeting only one partner (Becker, 1996; El-Bassel et al., 2003; Kelly & Kalichman, 1995; Williams et al., 2000). Similarly, some evidence exists to suggest that couple-focused as opposed to individual-focused interventions may more effectively promote safer sexual behavior. El-Bassel and colleagues, for example, reported a significant reduction in risk behavior as a result of an intervention for women or couples that addressed relationship factors, compared to a standard educational intervention for women only. While these findings are encouraging and clearly indicate the utility of incorporating data from both partners to predict shared behavior, there remains a paucity of conceptual models and empirical research aimed at understanding the mutual influence of relationship partners’ characteristics on what is clearly a joint behavioral outcome—the safer or risky sexual experience of both partners.

1.4 Theoretical Models of HIV/STI Risk and Preventive Behavior

One reason for the nearly exclusive focus on individuals and individual-level analysis in the area of safer sexual behavior may be the fact that virtually all psychological models for the prediction of safer sex focus on individual-level predictors of these outcomes

without considering the interpersonal context and relationship dynamics in which sexual decision making and sexual behavior occur (for a review, see J. D. Fisher & W. A. Fisher, 2000). Kenny, Kashy, and Cook (2006) note this general trend in the social sciences of focusing exclusively (and often inappropriately) on individuals, and suggest a number of reasons why this may be the case. These include the predominantly individualistic focus of North American culture in general and psychology in particular, as well as the ubiquity of statistical methods such as analysis of variance and multiple regression that rely on the assumption of independence of data. Further, the majority of theories of health behavior (e.g., Ajzen, 1991; Fishbein & Ajzen, 1975; Rosenstock, 1974) and HIV-related behavior (e.g., Catania, Kegels, & Coates, 1990; J. D. Fisher & W. A. Fisher, 1992; W. A. Fisher & J. D. Fisher, 1993; Kelly & Kalichman, 1995) include only individual-level variables and do not directly consider the influence of relationship characteristics and processes in predicting risky sexual behavior. While many of these models have proven successful in predicting safer sex behavior (e.g., Albarracin et al., 2001; J. D. Fisher, W. A. Fisher, & Shuper, 2009), when considering decisions made by two partners who may have differing attitudes or beliefs, more complex conceptualizations and empirical and statistical approaches that reflect the dyadic context of such behavior clearly merit attention and may improve understanding and prediction of such outcomes beyond that of current efforts (Becker, 1996; Catania et al., 2001). The goal of the current study was to assess a dyadic model of safer sexual behavior that simultaneously incorporates data from both partners to better understand the dynamics of safer sexual behavior in intimate relationships, taking into account as well the roles of gender and power in safer sex decision making.

A number of individual-level health behavior models have been applied to the study of HIV/STI risk and preventive behavior, including the health belief model (HBM; Rosenstock, 1974), the theory of reasoned action (TRA; Fishbein & Ajzen, 1975; Ajzen & Fishbein, 1980), the theory of planned behavior (TPB; Ajzen, 1991), the AIDS risk reduction model (ARRM; Catania, Kegels, & Coates, 1990), the information–motivation–behavioral skills (IMB) model (J. D. Fisher & W. A. Fisher, 1992; W. A. Fisher & J. D. Fisher, 1993) the transtheoretical model (TM; Prochaska & Velicer, 1997), and social cognitive theory (SCT; Bandura, 1997). While these models have proven

useful to varying extents in predicting a variety of health behaviors, their utility may be inherently limited regarding couple-level and highly interdependent behaviors such as condom use. Current models of safer sexual behavior have as their core feature the view that what may be essentially a couple-level outcome—condom use—can be sufficiently explained and predicted by modeling an *individual's* constellation of attitudes, beliefs, and so on, and as such fail to take into account the influence of relationship factors such as characteristics of one's relationship partner or one's sexual decision-making power in a relationship.

Of particular interest in the current research are the theory of reasoned action (Fishbein & Ajzen, 1975; Ajzen & Fishbein, 1980) and the theory of planned behavior (Ajzen, 1991). The TRA focuses on attitudes, subjective norms, and behavioral intentions as determinants of behavior, and states that behavior is a function of intentions to perform a health-related behavior, which are in turn a function of attitudes toward the behavior in question and/or subjective norms regarding the behavior. One's attitude toward a given behavior is a function of one's belief that performing the action will lead to particular outcomes and one's evaluations of those outcomes. Subjective norms are conceptualized as one's perception of support from specific referents for performing a given behavior and one's motivation to comply with those referents. According to this model, an individual who holds positive attitudes toward condom use and/or who perceives support for condom use among important others is likely to form intentions to use condoms and to actually use condoms during sexual intercourse.

In addition to the roles of attitudes and subjective norms, the theory of planned behavior (Ajzen, 1991) adds the construct of *perceived behavioral control* to the prediction of intentions and behavior. Similar to Bandura's (1997) concept of self-efficacy, perceived behavioral control is conceptualized as the extent to which an individual feels that he or she possesses the ability or opportunity to perform a given behavior. According to the TPB, an individual will only engage in safer sexual behavior, or form an intention to engage in such behavior, to the extent that the individual perceives that the behavior is under his or her control and that he or she is capable of performing the behavior. For example, a woman may have very positive attitudes toward condoms and perceive

support from others for practicing protected intercourse, but if she does not have sufficient sexual decision-making power in her relationship she may not feel capable of insisting that her partner use a condom during sex, and therefore may not form the intention to do so and may not ask her partner to use a condom, despite her own positive attitudes toward condoms and safer sexual behavior. Figure 1 provides a graphic illustration of the relations proposed by the TRA and TPB.

The predictive utility of the TRA and TPB have been demonstrated with regard to a variety of health behaviors, including breast and testicular self-examination (e.g., McCaul, Sandgren, O'Neill, & Hinsz, 1993), medication adherence (e.g., Cvengros, Christensen, & Lawton, 2004), cigarette smoking cessation (e.g., Bledsoe, 2006), and condom use (e.g., Albarracin et al., 2001). In this connection, Albarracin et al. (2001) reported a meta-analytic study of the relations between the elements of the TRA and TPB and the models' predictive power regarding condom use. The authors reported an average correlation of .45 for the prediction of condom use from intentions and average correlations of .58, .39, and .45 for the prediction of intentions from attitudes, subjective norms, and perceived behavior control, respectively, but found no association between perceived behavioral control and behavior. In their test of the TRA, Albarracin et al. reported an average multiple correlation of .70 for the prediction of intentions from attitudes and social norms, which was similar to those found in previous meta-analyses of the TRA regarding non-HIV/STI related health behaviors (e.g., Sheppard, Hartwick, & Warshaw, 1988; van den Putte, as cited in Albarracin et al., 2001). However, the correlation between intentions and behavior reported by Albarracin et al. was somewhat lower than those reported by Sheppard et al. (1988) or van den Putte, .53 and .62, respectively, for the intention-behavior relation outside the domain of condom use.

Albarracin et al. (2001) suggested that the diminished relation between intentions and behavior in the domain of condom use may be due to the fact that individuals, especially women, may have less volitional control over condom use than they do over other behaviors. It is also evident that condom use, as noted, is dyadic behavior and very likely subject to the influence of two partners—TRA- and TPB-based efforts to predict condom use essentially always assess only individual-level predictors of this behavior, potentially

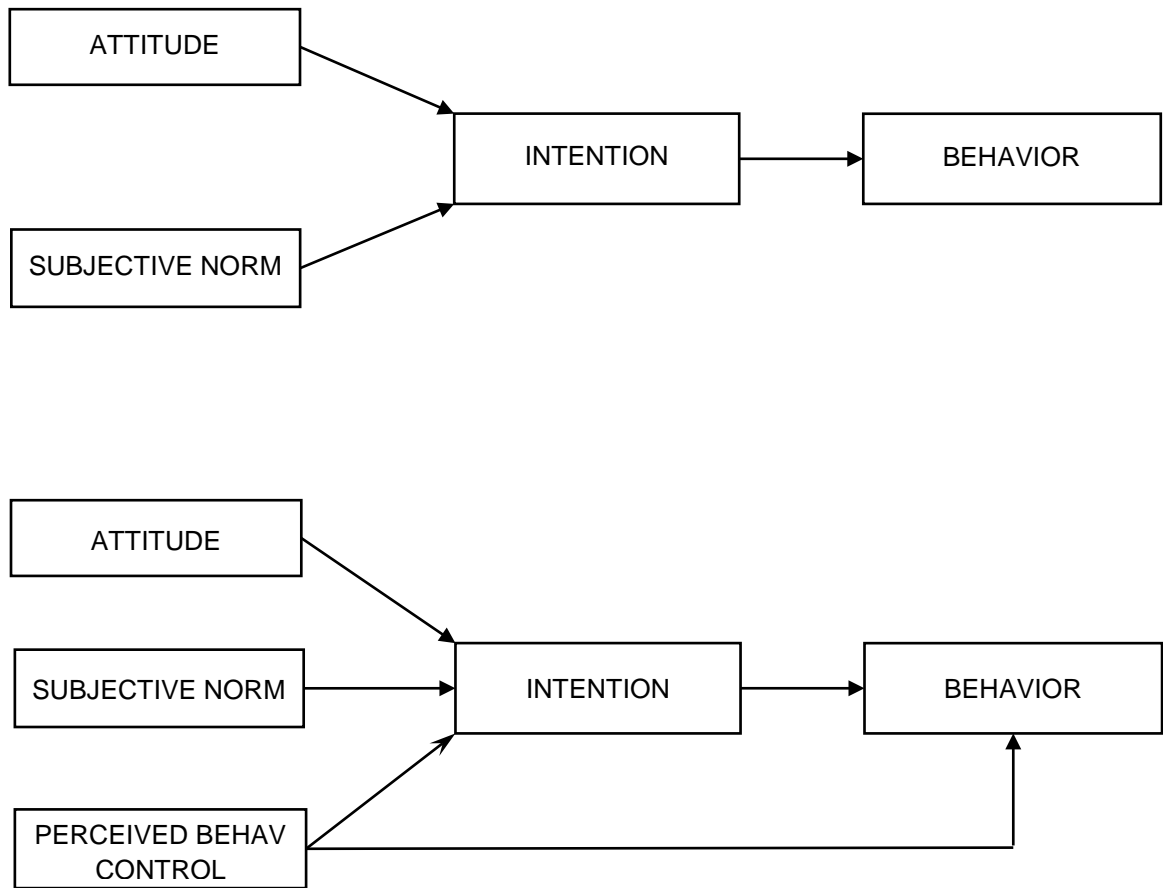


Figure 1. The theory of reasoned action (top) and theory of planned behavior (bottom).

attenuating intention–behavior relations. Albarracin et al. reported that the strength of associations among the components of the TPB model varied as a function of type of partner: behavior was more highly correlated with intentions and intentions were more highly correlated with attitudes and social norms and had a lower correlation with perceived behavioral control for sex with a steady partner versus a casual partner. These results provide additional support for the development of relationship-specific theoretical models of safer sexual behavior that take into account partner attitudes, norms, and intentions as well as relationship variables such as gender and power.

More than three decades into the worldwide HIV/AIDS epidemic, and in the context of alarming increases in a range of other STIs, there is a pressing need for theoretical models that incorporate couple-level variables into the prediction of safer sexual behavior and explore the unique influence of each partner on couples' shared safer sexual behavior outcomes. In this connection, Misovich et al. (1997) outlined a variant of the Information–Motivation–Behavioral Skills (IMB) model that was tailored to individuals in intimate relationships in terms of HIV preventive information, motivation, and behavioral skills that are sensitive to relationship factors, but this model has not been explored empirically nor does it provide for the direct assessment and analysis of contributions of each couple member. In addition, this application of the IMB model to couples did not include assessment of relationship variables such as power or commitment. Nonetheless, this extension of the IMB model is perhaps the only theoretical model of safer sexual behavior to date that attempts to incorporate both partners' characteristics in the prediction of couples' safer sexual behavior. Harvey and colleagues (2006) also recognized the importance of incorporating relationship variables and dynamics into a theoretical model of safer sexual behavior. They reported that variables such as power, commitment, and relationship duration directly or indirectly influence intentions to use condoms, adding to the predictive utility of the basic TPB model of condom use as a function of attitudes, norms, and self-efficacy. Unfortunately, once again, this model incorporated only *individuals'* perceptions of their relationship, maintaining the individualistic focus of existing research and models rather than allowing for assessment of relationship dynamics or partner influences in predicting condom-use intentions or behavioral outcomes.

Empirical research and theoretical models that fail to consider the characteristics of relationship partners and their independent and interdependent impact may be limited in their ability to contribute to our understanding of HIV/STI risk and preventive behavior in relationships. It is important to study the impact of such factors to fully understand what happens in relationships to affect safer and risky sexual behavior. It may very well be the case that factors that affect individuals' likelihood of using a condom do not predict their behavior in an intimate relationship as well as in casual encounters, in which relationships as such do not exist with much intensity and individuals are freer to act unilaterally and in a fashion less sensitive to or affected by partner and relationship characteristics. Within relationships, however, negotiations and conversations regarding safer sex may be bidirectional, with partners influencing one another and the shared behavior of the couple, and such interactions cannot be examined directly if only one partner's characteristics or perceptions are considered (Laursen, 2005). Further, gender and power differences in relationships may confer one partner greater influence over safer sexual behavior than the other partner, rendering one partner's attitudes or intentions regarding condom use essentially irrelevant to actual safer sexual behavior. While a number of investigators have suggested the potential importance of considering relationship factors in safer sexual behavior (e.g., Catania et al., 2001; Karney et al., 2010; Misovich et al., 1997), the next step is to conceptualize and empirically examine how individual and relationship factors may additively or interactively influence couple-level safer sexual behavior outcomes.

1.5 Analysis of Relationship Data

Research on intimate relationships may inform the study of safer sexual behavior in the relationship context. Many researchers have noted that relationship phenomena are inherently complex, and can be studied at a number of different levels, including individual, relational, and societal (Huston, 2000; see also Berscheid & Regan, 2005; Hinde, 1996). Feeney (2006) provides an example from the adult attachment research literature that illustrates the distinction between individual and dyadic levels of analysis. Research on adult attachment often investigates the relation between individuals' attachment security and various relationship-relevant outcomes such as displays of

emotion and reactions to stressful events. Based on traditional, individual-level statistical analyses, Shaver and Mikulincer (2002) reported that individuals who experience high levels of attachment anxiety respond to stress with increased vigilance to cues of rejection and a lower threshold for detecting such cues.

In contrast, Feeney's (2002b) work investigating the joint effects of both relationship partners' attachment characteristics on couple-level interaction processes has revealed interactive effects, in which the effect of one partner's attachment security depends on the attachment characteristics of his or her partner as well as characteristics of the relationship. Feeney (2002a), for example, reported that one's own attachment anxiety was associated with lower levels of satisfaction in both short-term and long-term relationships, whereas one's partner's anxiety was associated with lower satisfaction in long-term relationships only (standard, individual-level MANOVA analyses had failed to reveal any differences between long-term and short-term relationships). Feeney (2003) also reported that men's and women's levels of attachment anxiety interacted to predict conflict behavior, and the nature of this interaction varied for different measures of conflict. For instance, relationships in which both partners showed high levels of attachment anxiety were characterized by poor functioning and high levels of avoidance and power assertion. On the other hand, relationships in which the man was high in anxiety but the woman was not (rather than couples in which both partners were low in anxiety) showed the highest levels of friendly touch. These results shed light on the interactive nature of relationships and highlight the importance of considering partner effects and contextual factors when studying relationships and dyadic processes. Consideration of the unique effects of characteristics of both relationship partners, as well as the relationship context itself, may allow for a richer understanding and more accurate prediction of couple-level outcomes of interest.

The study of relationships often involves collecting data from more than one partner or group member (e.g., siblings, parents and children, etc.). Such data violate the assumption of statistical independence inherent in traditional analytic methods, and so more complex analytic methods are required. Kashy and Kenny (2000) note that relationship research often requires analysis of "mixed independent variables," or

variables that vary both within and between dyads (e.g., Anne may report higher sexual satisfaction than Chris, and their average level of satisfaction may be higher than most couples). The actor-partner interdependence model (APIM; Kashy & Kenny, 2000) is based on the premise that one's score on an independent variable may influence not only his or her score on an outcome measure (the *actor effect*), but also his or her partner's score on the outcome variable (the *partner effect*). The analyses afforded by the APIM therefore allow one to separate actor and partner effects of mixed independent variables, as well as to incorporate other independent or predictor variables that vary only within or between dyads.

An example of this analytic technique is presented by Campbell, Simpson, Kashy, and Rholes (2001) in their study focusing on the effects of attachment orientations and relationship dependence on heterosexual couple members' behavior in a stressful situation (see Figure 2). APIM analyses revealed that couple members' negative behavior toward their partner was predicted by both their own levels of attachment avoidance (actor effect) and their partners' levels of attachment avoidance (partner effect). In related research, Bradford, Feeney, and Campbell (2002) used APIM analyses to assess the effects of attachment anxiety and avoidance on self-disclosure among heterosexual dating couples. They reported that actors' attachment avoidance was linked to low self-disclosure and perceived inability to elicit disclosure from others, whereas actors' attachment anxiety was associated with negative evaluations of couple conversations. *Partners'* attachment anxiety, on the other hand, had a variety of effects, including low amount and intimacy of disclosure, negative emotional tone, and dissatisfaction with everyday conversations.

These findings highlight the robust link between an individual's characteristics and the partner's experience and demonstrate the power of dyadic analyses to capture these interactive effects of both partners' characteristics on relationship-relevant outcomes. Application of this analytic technique to the study of safer sexual behavior in relationships may reveal interactive effects of partners on couples' HIV/STI risk and preventive behavior, including the importance of power differences between partners that may be associated with unilateral decision making on the part of one partner, or the

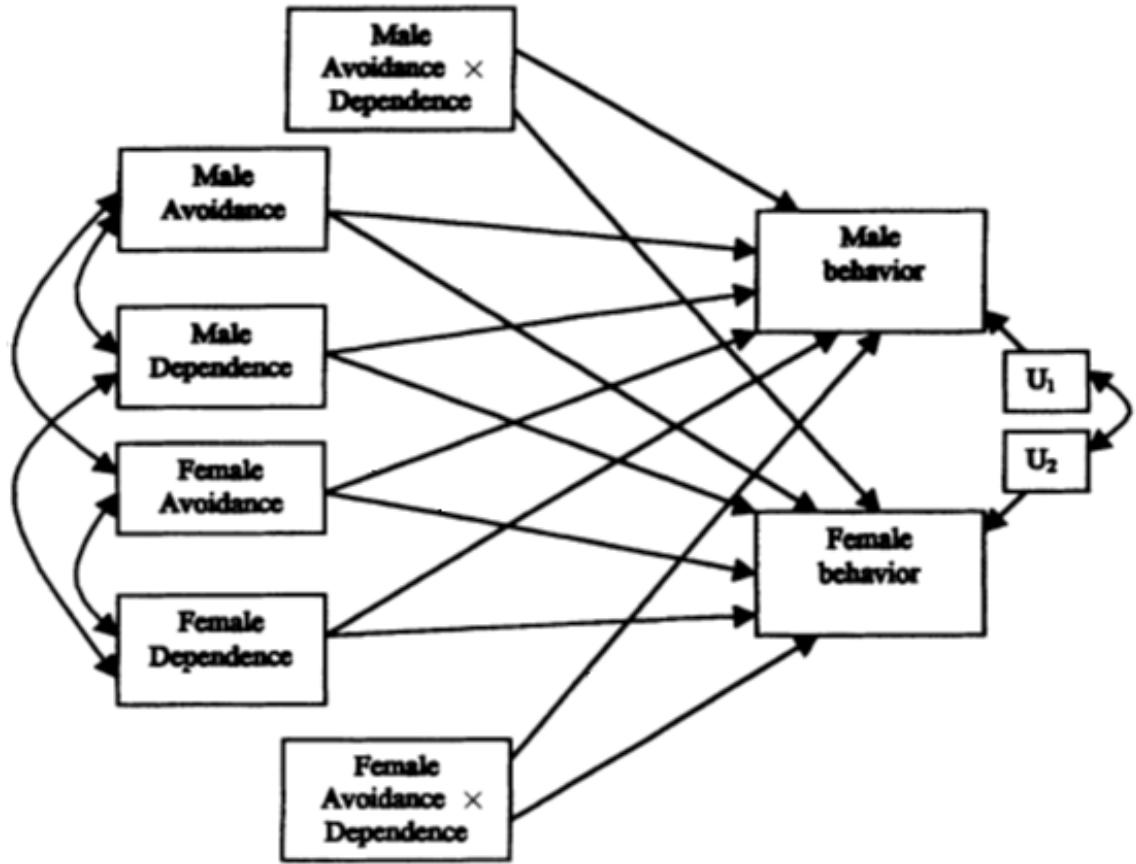


Figure 2. Model used by Campbell et al. (2001) to test actor and partner effects of attachment avoidance and relationship dependence on men's and women's behavior in a stressful situation.

From "Attachment Styles, Dependence, and Behavior in a Stressful Situation: An Actor-Partner Interdependence Approach," by L. Campbell, J. A. Simpson, D. A. Kashy, & W. S. Rholes, 2001, *Journal of Social and Personal Relationships*, 18, p. 833. Copyright 2001 by SAGE Publications, Ltd. Reprinted with permission.

influence of one partner's positive or negative attitudes toward condoms on his or her own as well as his or her partner's intentions to practice safer sex.

1.6 Current Research

The purpose of the current research was to assess a dyadic model of safer sexual behavior that allows analysis of the potentially mutual influence of both partners on a couple's safer sexual behavior. The study investigated factors that affect safer sexual behavior in heterosexual young adult couples, specifically examining the role of individual-level factors (e.g., gender, attitudes toward condoms, perceived social norms) and relationship factors (e.g., duration of relationship, sexual decision-making power) to assess how one's own and one's partner's characteristics predict couple-level safer sexual behavior and how relationship factors may moderate such effects. As noted above, relationship partners often reduce their condom use as relationships progress over time and become more intimate; an assessment of partners' relative influence on condom-use behavior may provide insight into the decision-making process behind this change.

The model under examination is a dyadic version of the theory of reasoned action; a dyadic theory of planned behavior model was also assessed (through the addition of the variable *perceived behavioral control*) for comparative purposes. The dyadic TRA model of safer sexual behavior under analysis, including the hypothesized relations between partners' variables, is presented in Figure 3. The TRA, as well as virtually all existing health behavior models, includes only actor effects in the prediction of condom use; the dyadic model under investigation adds to the existing safer sex literature an examination of not only actor effects, but also partner effects. This model implies a dyadic process whereby one's attitudes or beliefs regarding condom use are being conveyed and transmitted to his/her partner. The inclusion of partner effects in the model was expected to increase explanatory power afforded by the standard TRA, allowing for greater understanding of the influences on safer sexual behavior in intimate relationships. Data were collected individually from both members of dating couples and analyzed using structural equation modeling to assess the fit of the models and their power to predict safer sexual behavior in relationships. Specific hypotheses are outlined below.

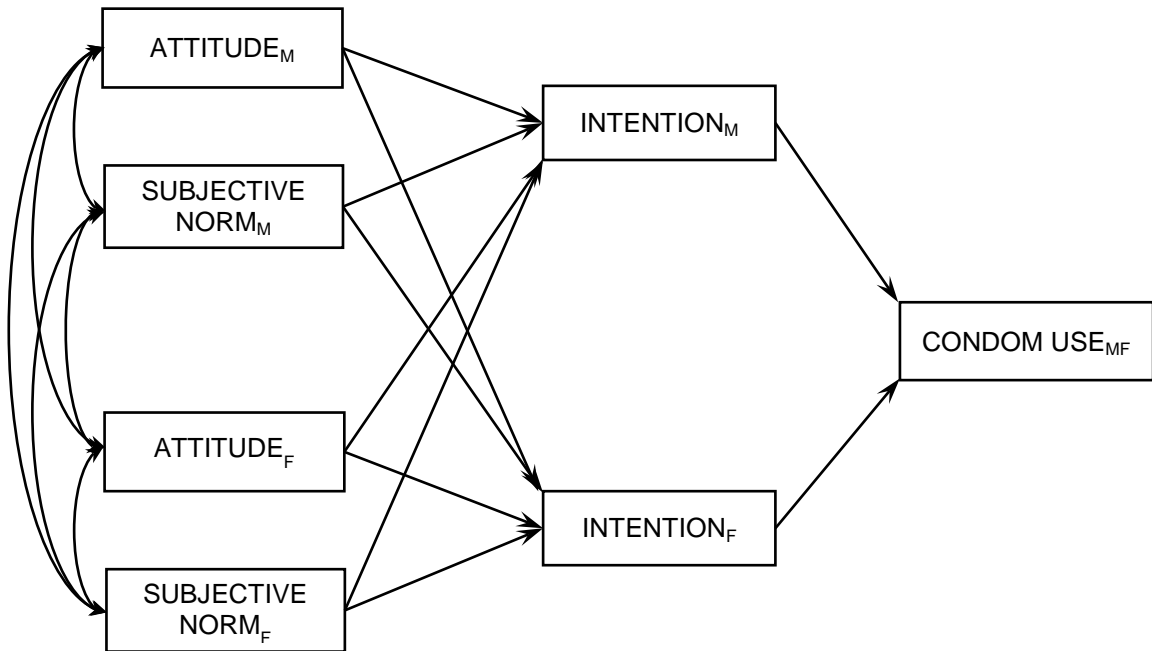


Figure 3. Dyadic TRA model of condom use in intimate relationships. M in the subscript denotes a male partner's variable and F indicates a female partner's variable; MF indicates shared behavior.

Hypothesis 1

Over and above actor effects for attitudes and subjective norms in the prediction of condom-use intentions, we expected to observe unique partner effects such that one's intentions to use a condom are uniquely predicted by his/her partner's attitudes and/or subjective norms regarding condom use.

Hypothesis 2

We hypothesized that men and women would display different patterns in the prediction of condom use intentions and behavior. Specifically, based on previous research (e.g., W. A. Fisher, J. D. Fisher, & Rye, 1995), it was predicted that men's attitudes toward condoms would be the strongest predictor of men's intentions to use a condom during sexual intercourse, whereas women's attitudes toward condoms and perceptions of social support for using a condom would equally contribute to prediction of women's intentions to use a condom during sexual intercourse.

Hypothesis 3

We did not expect the addition of perceived behavioral control to the dyadic model to increase variance accounted for in condom-use intentions or behavior or to improve model fit. It was our assumption that including predictor variables from one's partner in a dyadic model would override any effects of PBC that may be observed in a standard, individual-level TPB model.

Hypothesis 4

We predicted that male partners' condom-use intentions would provide greater prediction of couples' condom use behavior than would female partners' condom-use intentions. This prediction was based on previous reports of greater prediction of couples' shared condom use intentions from male versus female partners' condom use intentions (e.g., Agnew, 1999; see also W. A. Fisher, J. D. Fisher, & Rye, 1995) and on the rationale that males may unilaterally utilize condoms.

Hypothesis 5

Because women often lack general decision-making power in relationships (Bowleg et al., 2000; Felmlee, 1994) and because women cannot unilaterally use male condoms during sexual intercourse, we hypothesized that perceptions of sexual decision-making power would be a greater predictor of condom use intentions for women than for men. Specifically, we hypothesized that the actor effect for attitudes in the prediction of condom-use intentions would be greater among women with greater perceived sexual decision-making power.

Hypothesis 6

We predicted that independent of gender, higher-power partners' condom-use intentions would account for more unique variance in couples' condom-use behavior than would lower-power partners' condom-use intentions. Further, we expected sexual decision-making power to have a greater moderating effect on the association between women's (as opposed to men's) condom-use intentions and couples' condom-use behavior.

Hypothesis 7

We hypothesized that relationship duration would moderate the relations between predictor variables and safer sex intentions and behavior. One such effect may include greater partner effects for attitudes and subjective norms in longer-duration versus shorter-duration relationships.

Chapter 2: Method

2.1 Participants

The sample consisted of 124 heterosexual couples who were currently sexually active. A power analysis conducted prior to data collection indicated that a sample size of approximately 120 couples was sufficient to detect small to moderate relations among the constructs under study. Participants were given the option to receive one research participation credit if they were enrolled in Introductory Psychology or to enter their name into a draw for a prize of \$100. To allow comparisons between couples who

frequently use condoms and those who use them inconsistently or not at all, the sample was restricted to couples who had been together for no more than two years, as condom use has been found to decline rapidly over time within relationships (Misovich et al., 1997). The sample was limited to heterosexual couples for the purposes of dyadic data analysis—dyads can be classified as distinguishable (e.g., male/female) or indistinguishable (e.g., two males), and the analyses differ for each. As such, it was necessary to limit the sample to one type of dyad, in this case opposite-sex couples. There were an additional 38 individuals who completed the survey but for whom there was no matching partner data; data from these individuals were not included in the analyses.

The ages of the participants ranged from 18 to 35 ($M = 19.51$, $SD = 2.66$) for men and 18 to 27 ($M = 18.88$, $SD = 1.92$) for women. The majority of the participants were Caucasian (77%), and the length of time together with their partner ranged from 1 to 30 months ($M = 13.20$, $SD = 7.78$). The majority of participants (91.1%) described their relationship as exclusive (dating exclusively, living together, engaged, common law, married). The remaining participants (8.9%) reported being in a casual relationship (sexual partners only, close friends, dating casually). Men and women reported having had an average of 5.02 ($SD = 6.69$) and 3.52 ($SD = 4.80$) lifetime sexual partners, respectively. Just over half of participants reported using a condom at last intercourse (56.8%), and approximately one third (35.6%) of the sample reported always using condoms during sexual intercourse with their relationship partner. An additional 19.4% reported never using condoms, and the remaining 45.0% of the participants reported inconsistent condom use over the previous two months. Of those participants who reported using condoms, 4.8% reported using them for STI protection only, 31.1% reported using them for pregnancy prevention only, and 64.1% reported using condoms for both pregnancy prevention and STI protection. Eighteen participants (7.3%) reported having had sexual intercourse with someone other than their current relationship partner during this relationship. Of these participants, 70.6% reported using a condom during last intercourse with their relationship partner and 77.8% reported using a condom during last intercourse with an extra-dyadic partner. The majority of participants reported never having been tested for HIV (74.9%) or other STIs (62.8%).

The study was advertised on the Western University introductory psychology research participation website and via signs posted on campus billboards (see Appendix A). The study was open to all university students; however, the vast majority of couples (122 of 124) included at least one introductory psychology student who was recruited via the research participation website. While this convenience sample may not be ideal for generalizing findings, university students do represent relatively high levels of both sexual activity and risky sexual practices. Moreover, this approach permitted us to relatively readily recruit both members of sexually active couples. We note as well that the low-cost collection of data from readily available undergraduate psychology students is often a necessary feature of psychological research. The cost of paying more than a hundred couples to participate in the study was too prohibitive to allow for collection of data from a community sample. Upon volunteering to participate in the study, participants were sent a link via e-mail to a website containing a letter of information and informed consent form. Upon accessing the website, participants were asked to read the letter of information (Appendix B) informing them that they and their relationship partner are being asked to participate in a survey study assessing a variety of attitudinal and behavioral factors related to sexual behavior and that they may decline to answer any questions or terminate their participation at any time without loss of credit. The survey was posted on the Western University psychology department website; participants who volunteered to take part completed assessments online and data were stored securely in an online database. In order to ensure that both partners agreed to participate in the study before either partner proceeds, participants were sent a link to the online survey only after both partners indicated their consent to participate in the study by entering their e-mail address and clicking the appropriate box in the online consent form.

The use of the World Wide Web for psychological research has steadily increased in recent years (Birnbaum, 2004; Benfield & Szlemko, 2006), and 80 percent of the Canadian population is now online (Statistics Canada, 2010). Comparisons of pencil-and-paper and online surveys typically show that online surveys have fewer missing data and less socially desirable responses than paper-and-pencil surveys (Truell, Bartlett, & Alexander, 2002). This is especially true of surveys that assess sensitive information, such as issues regarding sexuality (Joinson, 1999; Wood, Nosko, Desmarais, Ross, &

Irvine, 2006). Empirical studies assessing the validity of sexuality research data collected via Internet recruitment of participants and Internet response platforms, and comparing Internet versus traditional means of sexuality research data collection, have concluded that Internet-based data collection is less influenced by social desirability compared with traditional data collection methods, and is considerably more efficient (see, for example, Meyerson & Tryon, 2003; Rhodes, DiClemente, Cecil, Hergenrather, & Yee, 2002; Ross, Månsson, Daneback, Cooper, & Tikkanen, 2005). These benefits, combined with the ease of data collection afforded by online surveys, make this method a reasonable and advantageous alternative to traditional pencil-and-paper survey assessments, especially when considering the sensitive nature of the current study and the difficulty and expense of recruiting couples to come into the laboratory to complete a study together.

2.2 Materials

The scales comprising the online survey included measures to assess the components of the TRA and TPB models as well as additional variables and potential moderators of the relative influence of each partner's characteristics on couples' safer sexual behavior. These potential moderators include gender, relationship duration, and sexual decision-making power. These measures are described below, and are included in Appendix C. In addition to these, a number of measures were included in the online survey for future research considerations. These scales are described in Appendix D and were not included as part of the current study.

2.2.1 Background and Relationship Information

Participants were asked to provide information regarding their age, gender, racial/ethnic identity, religious affiliation, religiosity, relationship duration, seriousness of their current relationship, living arrangements (i.e., whether or not the couple lives together), contraceptive practices, history of pregnancy, number of previous sex partners, and whether they have been tested for HIV and/or other STIs.

2.2.2 Measures of Theoretical Constructs

Attitudes toward safer sexual acts. The direct measure of attitudes toward condom use is composed of three items to which participants respond on five 7-point semantic differential scales. As per Ajzen's (2006) instructions, these scales include an overall evaluative (*good – bad*) measure in addition to two scales that are instrumental in nature (*worthless – valuable, harmful – beneficial*) and two scales that are experiential in nature (*pleasant – unpleasant, enjoyable – unenjoyable*). Participants were asked to respond on these scales indicating their attitudes toward three safer sex acts to be enacted in the following two months: consistently using a condom during sexual intercourse (the primary outcome of interest for this study), getting an HIV blood test, and asking one's partner to get an HIV blood test. Ajzen (2006; see also Ajzen & Fishbein, 1980) recommends specifying a target (one's relationship partner), action (using a condom), context (during sexual intercourse), and time frame (the next two months) and using these features consistently throughout the questionnaire. As such, the main item of interest for this study, consistent condom use, is worded "Using a condom every time I have sexual intercourse with my relationship partner during the next two months." To assess participants' perceptions of their partners' attitudes, participants were also asked to rate how they believe their partner would feel about the same three behaviors on the same five semantic differential scales. The measures included in the survey regarding HIV testing, as well as participants' perceptions of their partners' attitudes toward safer sexual acts, were included for research outside the scope of the current study and were not included in the analyses.

Subjective norms regarding condom use. The direct measure of subjective normative pressure is assessed with three items (e.g., "The people in my life whose opinions I value think that _____ use a condom every time I have sexual intercourse with my relationship partner during the next two months.") regarding each of the three safer sexual acts noted above, to which partners respond on 7-point semantic differential scales (e.g., *I should – I should not*). The subjective norms scale consists of two subscales: *social norms regarding condom use* and *partner norms regarding condom use*. Referents for the social norms subscale include "the people in my life whose opinions I value" and

“my doctor;” the referent for the partner norms subscale is “my relationship partner.” Because important others are generally believed to approve of desirable behaviors and disapprove of undesirable behaviors, resulting in low variability for these scales, Ajzen (2006) recommends including behavioral items in addition to these injunctive items. As such, two additional items assess the degree to which participants perceive “the people in my life whose opinions I value” engage in two safer sexual acts: consistent condom use and getting an HIV blood test. Three additional items assess participants’ motivation to comply with these referents (e.g., “Generally speaking, how much do you want to do what your relationship partner thinks you should do?). Participants are asked to respond to these items on a 7-point semantic differential scale (*definitely do not – definitely do*).

Perceived behavioral control. According to Ajzen (2006), a measure of perceived behavioral control should contain measures of self-efficacy and controllability. The *Capability* subscale asks participants to respond on a 7-point scale to six items, including “For me to use a condom every time I have sexual intercourse with my relationship partner during the next two months would be” (*impossible – possible*), and “If I wanted to, I could use a condom every time I have sexual intercourse with my relationship partner during the next two months” (*definitely true – definitely false*). The same forms of items are used to assess perceived behavioral control over getting an HIV blood test and asking one’s partner to get an HIV blood test. The *Controllability* subscale consists of six items that assess participants’ perceived control over these three safer sexual acts (e.g., “It is mostly up to me whether or not I use a condom every time I have sexual intercourse with my relationship partner during the next two months”). Participants are asked to respond on a 7-point semantic differential scale (e.g., *strongly agree – strongly disagree*).

Behavioral intentions for condom use. Behavioral intentions to engage condom use are measured with nine items that ask participants to rate on a 7-point semantic differential scale the extent to which “I intend” (*very unlikely – very likely*), “I will try” (*definitely true – definitely false*), and “I plan” (*strongly agree – strongly disagree*) to engage in the three safer sex acts of interest (e.g., “I intend to use a condom every time I have sexual intercourse with my relationship partner during the next two months.”). Ajzen (2006)

recommends using multiple indicators of behavioral intentions and assessing their internal consistency in order to gain a reliable measure of intentions to engage in a given act. Further, as is the case with the measures of attitudes, subjective norms, and perceived behavioral control, positive and negative endpoints for the response scales are counterbalanced to counteract possible response sets.

2.2.3 Condom Use with Primary Partner

Participants were asked whether they had had sexual intercourse with their relationship partner in the two months prior to completing the survey (*Yes/No*) and if they responded in the affirmative they were asked to estimate how many times they had had intercourse during that two-month period and percentage of the time that condoms were used during intercourse (*0% - 100%*) during this period. Sexual intercourse was defined as vaginal intercourse (a male's penis in a female's vagina) and/or anal intercourse (defined as a male's penis in a female's rectum). Because partners' reports of condom-use consistency were highly correlated (and because it is a dyad-level variable), we averaged these scores for male and female partners and computed combined, dyad-level scores for the outcome variable.

2.2.4 Relationship Power

The Sexual Relationship Power Scale (SRPS; Pulerwitz, Gortmaker, & DeJong, 2000) measures power in sexual relationships and has been used to investigate the role of relationship power in sexual decision making and safer sexual behavior. The SRPS consists of two subscales, addressing two conceptual dimensions of relationship power: relationship control and decision-making dominance. The Relationship Control subscale includes 15 items regarding commitment to the relationship and condom negotiation ability, to which participants respond on a 4-point Likert-type scale (1 = *strongly agree*; 4 = *strongly disagree*). The Decision-Making Dominance subscale consists of eight items and asks participants who has more say regarding issues such as sexual activity and condom use: *your partner* (1), *both of you equally* (2), or *you* (3). The SRPS has high internal reliability (Cronbach's alpha = .84). Further, low levels of relationship power as reported by women were associated with inconsistent condom use (Pulerwitz et al., 2000,

2002). A modified version, the SPRS-M, excludes items related to condoms and has been shown to be highly reliable (Cronbach's $\alpha = .86$) and a good predictor of consistent condom use (Pulerwitz et al., 2000). The SPRS-M was used to predict condom use in the current study.

2.3 Procedures

At the start of the survey, participants were asked to enter their initials and date of birth as well as their partner's initials and date of birth, to allow us to match couple members' survey data for analysis. For example, Jane Doe, born May 9, 1984 would be coded JD050984, and her partner John Smith, born April 2, 1982 would be coded JS040282, and both partners' surveys would include these codes without the participants' names. Participants were informed that the researcher would not provide them with access to one another's survey responses. Participants then completed the online survey, after which they were presented with a debriefing form (Appendix B) and provided with contact information should they wish to communicate with the experimenter. Participants were also asked to follow a link to a separate webpage where they were asked to enter their name and e-mail address and were given the option to request a summary of the survey results. This information was sent to the experimenter separately from the survey data, allowing confirmation that the participant completed the study while protecting participants' confidentiality and providing a means for either entering participants in a \$100 draw or granting them introductory psychology research participation credit. At the end of the study, participants were reminded to have their partner complete the survey within 24 hours in order for the data to be used.

Participants were contacted via e-mail for a follow-up assessment two months after completing the survey and were asked to complete a brief online questionnaire assessing their frequency of safer sexual behavior (e.g., condom use, HIV testing) during the preceding two months. Participants were asked to provide their initials and date of birth to match their follow-up data with their initial survey data. After completing this brief survey, participants were presented with a debriefing regarding the nature and purpose of the study that included contact information of the experimenter. Participants were again given the option to receive a summary of the survey results upon completion of the study.

It should be noted that this study was cross-sectional in nature—the follow-up measure of safer sexual behavior was included in the hopes of assessing the prediction of future behavior but attrition rates were too high to allow analysis of future behavior. Prediction of future behavior would be a more powerful test of the theoretical models, however the statistical analyses do not rely on these data, as safer sexual behavior was assessed in the initial cross-sectional survey.

Chapter 3: Results

3.1 Data Screening and Preparation

Structural equation models require certain assumptions of the data (e.g., normality, linearity, homoscedasticity; Kline, 2005), and all variables were examined to test these assumptions. To reduce positive skew, we performed square root transformations on the scores for male and female partners' attitudes, female partners' subjective norms, relationship duration, and condom-use consistency. Because the square root transformations dramatically reduced the variance of these variables, the variance for male partners' subjective norms scores was divided by seven to make it more closely match the variance of the transformed variables (see Kline, 2005). There were no outliers or evidence of nonnormality for the remainder of the variables in the models.

3.2 Descriptive Statistics

Means, standard deviations, and correlated groups t-tests testing for sex differences in condom-use attitudes, subjective norms, perceived behavioral control, intentions, and relationship power are presented in Table 1. These data are based on raw scores, before the variables were transformed for normality. Scores on the condom-use attitudes variable ranged from 1 to 7, with higher scores indicating more positive attitudes toward using condoms. Scores on the condom-use subjective norms variable ranged from 1 to 49, with higher scores indicating greater perceived support for using condoms during sex. Scores on the sexual decision-making power variable ranged from 8 to 24, with higher scores indicating greater perceived power regarding sexual decision-making in the relationship. Scores on the condom-use intention variable ranged from 1 to 7, with higher scores indicating more positive intentions to use condoms during sex. Sex differences emerged for all of the variables except condom-use intentions. Specifically, women reported higher scores than men on condom-use attitudes, subjective norms, and perceived behavioral control, and relationship power.

Table 2 presents the correlations among the model variables. Correlations for men are reported below the diagonal and correlations for women are reported above the diagonal. Correlations between partners on each variable (i.e., within-dyad correlations) are

Table 1
Tests of Sex Differences for Condom-Use Variables

	Means (SDs)		<i>t</i> (<i>df</i> = 123)
	Men	Women	
Condom-use Attitude	4.88 (1.46)	5.16 (1.46)	2.38*
Condom-use Subjective Norm	28.86 (10.90)	33.01 (10.13)	4.08**
Perceived Behavioral Control	5.13 (1.20)	5.71 (1.00)	4.85**
Sexual Decision-Making Power	15.73 (2.68)	16.61 (2.04)	2.43*
Condom-use Intention	4.29 (2.16)	4.52 (2.34)	1.50

Table 2

Correlations among Condom-Use Predictor and Outcome Variables

	1.	2.	3.	4.	5.	6.	7.
1. Condom-use Attitude	.540**	.488**	.282**	.057	-.064	.688**	.586**
2. Condom-use Subjective Norm	.424**	.376**	.268**	.034	.000	.545**	.538**
3. Perceived Behavioral Control	.447**	.295**	.306**	.022	-.097	.347**	.288**
4. Sexual Decision-Making Power	-.125	-.073	.078	-.046	-.011	.037	.101
5. Relationship Duration	-.115	-.029	-.186*	.058	.921**	-.093	-.126
6. Behavioral Intention	.621**	.435**	.364**	-.080	-.084	.706**	.710**
7. Condom-use Consistency	.559**	.307**	.391**	.052	-.126	.646**	.890**

Note. Correlations for men appear below the diagonal; correlations for women appear above the diagonal. Correlations along the diagonal are between dyad members.

* $p < .05$, ** $p < .01$

displayed along the diagonal. Condom-use attitudes, subjective norms, perceived behavioral control, intentions, and behavior were all significantly correlated for both men and women. Sexual decision-making power was not significantly correlated with any of the condom-use predictor variables, and relationship duration was only correlated with perceived behavioral control for men. With the exception of power, scores on all of the predictor variables from relationship partners were significantly correlated (r 's ranging from .306 to .706). As expected, partners' reports of condom-use consistency over the preceding two months were very highly correlated ($r = .890$), so these scores were combined to form one variable (behavior) in the SEM analyses.

3.3 Model Analyses

The main outcome variable was the percentage of time participants used a condom during sexual intercourse with their primary partner during the two months prior to completing the survey. This measure of safer sex behavior was chosen in part because it corresponds with the behavioral intentions measure, many items of which specifically refer to using a condom during the next two months. In addition, condom use consistency is a continuous variable assessed over a period of time and thus more appropriate for the model analyses than condom use at last intercourse (Noar, Cole, & Carlyle, 2006). Structural equation modeling (SEM) was used with a maximum likelihood estimator to assess the various models using EQS 6.1 for Windows (Bentler & Wu, 2005). For all dyadic analyses, dyad was used as the unit of analysis (i.e., the number of couples, not individuals, was used to calculate the degrees of freedom). Moderated multiple regression was used to examine the roles of sexual decision-making power and relationship duration in the prediction of condom-use intentions and behavior. The variance-covariance matrix that was used for model-testing is presented in Table 3.

We did not rely on any single goodness-of-fit index, but rather used a range of indices to evaluate our theoretical model fit. Each index evaluates fit differently and has certain strengths and limitations. We used the model chi-square statistic, the comparative fit index (CFI), and root mean squared error of approximation (RMSEA) to evaluate our theoretical model. The model chi-square test statistic divided by degrees of freedom can

Table 3

Variance-Covariance Matrix of Variables in Model-Comparison Analyses

	1	2	3	4	5	6	7	8	9	10	11	12
1. ATT_M	.178											
2. ATT_F	.099	.189										
3. SN_M	.279	.267	2.423									
4. SN_F	.258	.287	.792	1.830								
5. PBC_M	.070	.059	.164	.125	.121							
6. PBC_F	.044	.038	.050	.135	.029	.107						
7. POWER_M	-.015	-.003	-.032	-.004	-.009	-.002	.077					
8. POWER_F	.009	.008	.020	-.015	.001	.011	-.004	.101				
9. DURATION	.062	.036	.057	.000	.080	.021	-.021	.004	1.639			
10. BI_M	.565	.569	1.462	1.627	.268	.187	-.048	.087	.232	4.651		
11. BI_F	.570	.700	1.222	1.723	.298	.266	.013	.027	.280	3.559	5.469	
12. BEHAVIOR	.201	.217	.407	.621	.110	.090	.012	.027	.137	1.187	1.415	.726

Note. ATT_M = Male Attitude, ATT_F = Female Attitude, SN_M = Male Subjective Norm, SN_F = Female Subjective Norm, POWER_M = Male Power, POWER_F = Female Power, DURATION = Relationship Duration, BI_M = Male Behavioral Intention, BI_F = Female Behavioral Intention, BEHAVIOR = Condom-use Consistency.

provide an approximate guideline for overall fit. A chi-square degrees of freedom ratio below about 3.0 is believed to indicate acceptable model-fit (Carmines & McIver, 1981). Hu and Bentler (1999) suggest that a CFI value of greater than .95 indicates that the model fits the data reasonably well. When the RMSEA is less than .10, it is believed to indicate acceptable model fit (Byrne, 1998; Hu & Bentler, 1999); an RMSEA less than .05 indicates good fit (McDonald & Ho, 2002).

Variables that were initially included in the dyadic model were male and female partners' condom-use attitudes, subjective norms, and intentions, and couples' condom-use behavior. Perceived behavioral control was then added to compare the fit and utility of a dyadic theory of reasoned action (TRA) model with those of a dyadic theory of planned behavior (TPB) model of condom use. Additional variables that were subsequently added as potential moderators included sexual decision-making power and relationship duration. The structural model we tested included actor effects (which estimated the unique prediction of each person's condom-use intentions from their own condom-use attitudes and subjective norms) and partner effects (which estimated the unique prediction of each person's condom-use intentions from their partner's condom-use attitude and subjective norms), as well as an estimation of the relation between each partner's condom-use intentions and couples' reported condom-use behavior.

To examine relations between partners' variables, scores on all predictor variables were allowed to correlate both within partners (e.g., male partners' attitudes and male partners' subjective norms) and between partners (e.g., male partners' attitudes and female partners' attitudes). The error variances of males' and females' intentions were also allowed to correlate between partners. Predictors of intentions were also allowed to correlate with additional predictors included in subsequent analyses (e.g., sexual decision-making power) as well as with interaction terms within partners. Interaction terms were also allowed to correlate between partners (see Kashy & Kenny, 2000). In some cases these links are excluded from the figures to preserve clarity and because they are not central to the analyses. Because all possible actor and partner effects are included in the model, each path represents a unique relation. For example, the prediction of male partners' intentions from female partners' attitudes controls for male partners' attitudes

and both partners' subjective norms. This is similar in concept to a partial correlation, which measures the relation between two variables while controlling for any additional variable(s).

3.3.1 Theory of Reasoned Action

We began by assessing a dyadic model that contained only actor effects for attitudes and subjective norms by constraining all partner effects (e.g., the path from male attitudes to female intentions) to equal zero and we constrained corresponding path coefficients (e.g., the path from attitudes to intentions) for males and females to be equal. This allowed us to identify the main actor effect for condom-use attitudes and the main actor effect for subjective norms in the prediction of condom-use intentions. This model can be seen in Figure 4 and the path coefficients and their significance tests are presented in Table 4. According to this model, which represents the traditional approach of combining data from relationship partners (or assessing only one partner), condom-use attitudes and subjective norms significantly predict condom-use intentions ($R^2 = .411$), and condom-use intentions significantly predict condom-use consistency ($R^2 = .475$).

Examination of the goodness-of-fit indices revealed generally poor fit for the model with actor effects only: $\chi^2(11) = 59.221, p < .001$; CFI = .886; RMSEA = .189; RMSEA 90% CI ranged from .142 to .235. We used the Lagrange Multiplier (LM) test to assess the improvement in model fit to be gained from estimating a parameter rather than constraining it and the Wald W statistic to assess the impact on model fit of removing a parameter from the model being tested. The LM test indicated no significant gender differences in the actor effects for attitudes or subjective norms in the prediction of intentions, nor in the prediction of behavior from intentions. The LM test did indicate a significant increase in model fit from including in the model partner effects for male attitudes ($\chi^2_D(1) = 15.750, p < .001$) and female attitudes ($\chi^2_D(1) = 10.017, p = .002$) and for female (but not male) subjective norms ($\chi^2_D(1) = 10.044, p = .002$).

We next assessed the dyadic TRA model that included both actor effects and partner effects for male and female partners' attitudes and male and female partners' subjective

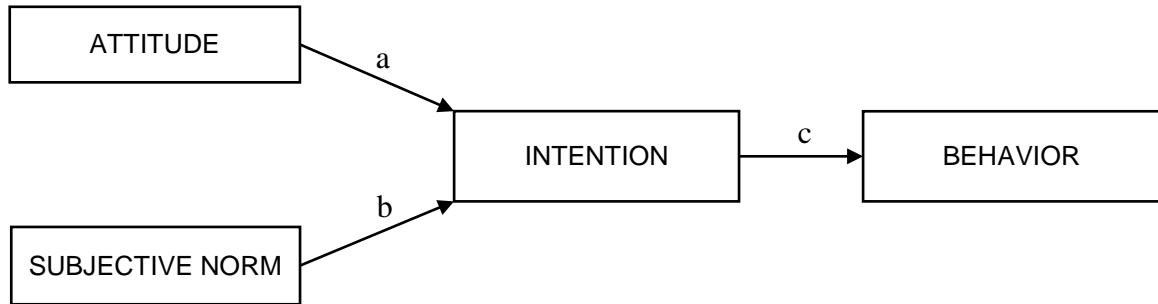


Figure 4. TRA model of condom use consistency in intimate relationships (actor effects only). Letters refer to parameter estimates in Table 4.

Table 4

Unstandardized (SE in Parentheses) and Standardized Parameters for Figure 4

Parameter Estimate	Unstandardized	Standardized	<i>p</i>
a. Attitude Actor Effect			
Male Attitude	2.508 (.273)	.495	.000
Female Attitude	2.508 (.273)	.510	.000
b. Subjective Norm Actor Effect			
Male Subjective Norm	.338 (.078)	.246	.000
Female Subjective Norm	.338 (.078)	.214	.000
c. Intention → Behavior			
	.151 (.014).	.405	.000

Note: Where unstandardized coefficients for male and female partners are pooled, standardized coefficients differ due to differences in variance between male and female partners' scores.

norms (see Figure 5). This model states that couples' condom-use consistency is predicted by male and female partners' condom-use intentions, and male and female partners' condom-use intentions are each predicted by both partners' condom-use attitudes and subjective norms. The analyses indicated that both male and female partners' intentions to use condoms predicted couples' reported consistency of condom use ($R^2 = .539$). There were significant actor effects for male and female partners' attitudes and subjective norms and significant partner effects for male and female partners' attitudes and for female partners' subjective norms.

The addition of partner effects to the model resulted in a substantial increase in variance accounted for in condom-use intentions for both males ($R^2 = .544$) and females ($R^2 = .555$), compared to the model with only actor effects. In addition to accounting for greater variance in condom-use intentions and behavior, the model that included both actor and partner effects showed good fit as indicated by the following: $\chi^2(9) = 19.516$, $p = .021$; CFI = .975; RMSEA = .097; RMSEA 90% CI ranged from .036 to .156. A chi-square difference test was used to compare the fit of the model with actor effects only to that of the model that assessed both actor and partner effects. As expected, adding partner effects to the model resulted in a significant increase in model fit ($\chi^2_D(2) = 39.705$, $p < .001$).

The Lagrange Multiplier test indicated a significant gender difference in the partner effect for subjective norms ($\chi^2_D(1) = 5.021$, $p = .025$). Likewise, the Wald W statistic indicated a nonsignificant decrease in model fit ($\chi^2_D(1) = 0.706$, $p = .401$) from removing the male subjective norms partner effect from the model. However, we chose to retain this parameter until such time as this nonsignificant relation can be replicated. When we analysed the model with the gender equality constraint for the subjective norms partner effect released, the LM test indicated a significant gender difference in the actor effect for attitudes ($\chi^2_D(1) = 5.436$, $p = .020$) in the prediction of intentions. No further changes to the model were indicated by the LM test or the Wald W statistic. Adding these two gender differences to the model resulted in a significant increase in model fit ($\chi^2_D(2) = 7.022$, $p = .030$), compared to the model with male and female partners' path coefficients constrained to be equal. The final TRA model showed very good fit: $\chi^2(7) = 12.494$,

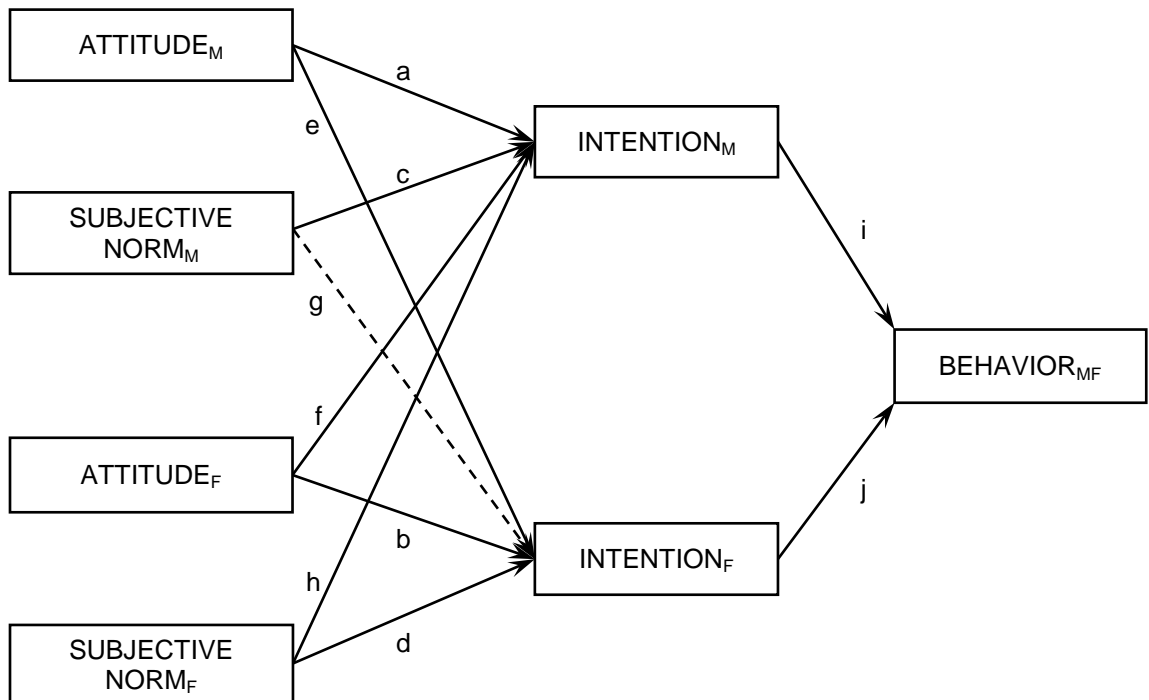


Figure 5. TRA model of condom use consistency in intimate relationships (actor and partner effects). Letters refer to parameter estimates in Table 5.

$p = .085$; CFI = .987; RMSEA = .080; RMSEA 90% CI ranged from .000 to .150. The results of the analysis of the TRA model that includes actor and partner effects and two gender differences are presented in Table 5.

3.3.2 Theory of Planned Behavior

After examining the dyadic TRA model, we added the *perceived behavioral control* variable to assess a dyadic TPB model. This model states that couples' condom-use consistency is predicted by partners' condom-use intentions and perceived behavioral control, and condom-use intentions are predicted by partners' condom-use attitudes, subjective norms, and perceived behavioral control. We began by assessing a dyadic model that contained only actor effects for attitudes, subjective norms, and perceived behavioral control by constraining all partner effects to equal zero and we constrained corresponding path coefficients (e.g., the path from attitudes to intentions) for males and females to be equal. This model can be seen in Figure 6 and the path coefficients and their significance tests are presented in Table 6. The analyses showed that condom-use attitudes and subjective norms significantly predict condom-use intentions ($R^2 = .422$), and condom-use intentions significantly predict condom-use consistency ($R^2 = .495$). Perceived behavioral control did not significantly predict condom-use intentions or behavior, though these paths coefficients were marginally significant.

Examination of the goodness-of-fit indices revealed generally poor fit for the model with actor effects only: $\chi^2(16) = 56.186$, $p < .001$; CFI = .912; RMSEA = .149; RMSEA 90% CI ranged from .109 to .189. The Lagrange Multiplier test indicated no significant gender differences in the actor effects for attitudes, subjective norms, or perceived behavioral control in the prediction of intentions, nor in the prediction of behavior from intentions. The LM test did indicate a significant increase in model fit from including in the model partner effects for male attitudes ($\chi^2_D(1) = 15.639$, $p < .001$), female attitudes ($\chi^2_D(1) = 8.320$, $p = .004$), and female subjective norms ($\chi^2_D(1) = 9.223$, $p = .002$).

We next assessed a dyadic TPB model that included both actor effects and partner effects (see Figure 7). This model states that couples' condom-use consistency is predicted by male and female partners' condom-use intentions and perceived behavioral control, and

Table 5
Unstandardized (SE in Parentheses) and Standardized Parameters for Figure 5

Parameter Estimate	Unstandardized	Standardized	<i>p</i>
Attitude Actor Effect			
a. Male Attitude	1.580 (.341)	.308	.000
b. Female Attitude	2.616 (.344)	.490	.000
Subjective Norm Actor Effect			
c. Male Subjective Norm	.233 (.074)	.168	.002
d. Female Subjective Norm	.233 (.074)	.136	.002
Attitude Partner Effect			
e. Male Attitude	1.388 (.263)	.252	.000
f. Female Attitude	1.388 (.263)	.279	.000
Subjective Norm Partner Effect			
g. Male Subjective Norm	.007 (.095)	.005	.944
h. Female Subjective Norm	.312 (.106)	.195	.004
Intention → Behavior			
i. Male Intention	.151 (.013)	.385	.000
j. Female Intention	.151 (.013)	.412	.000

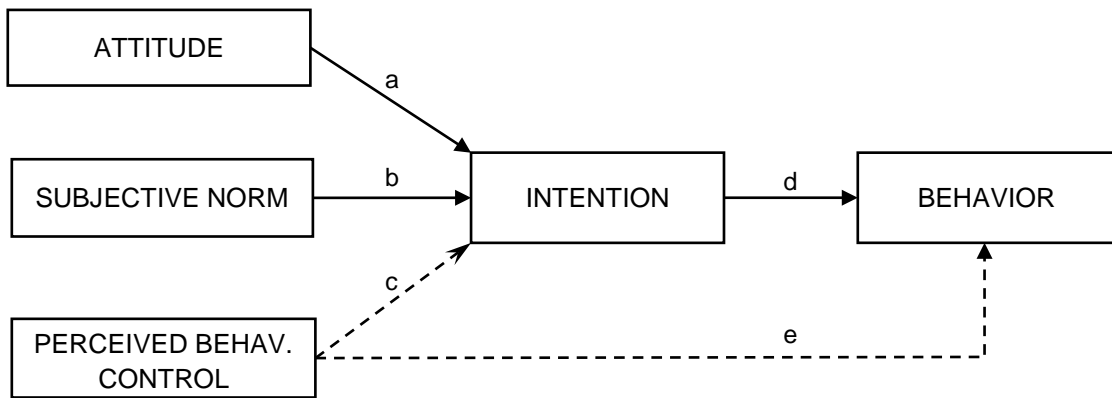


Figure 6. TPB model of condom use consistency in intimate relationships (actor effects only). Letters refer to parameter estimates in Table 6.

Table 6

Unstandardized (SE in Parentheses) and Standardized Parameters for Figure 6

Parameter Estimate	Unstandardized	Standardized	<i>p</i>
a. Attitude Actor Effect			
Male Attitude	2.402 (.278)	.469	.000
Female Attitude	2.402 (.278)	.492	.000
b. Subjective Norm Actor Effect			
Male Subjective Norm	.313 (.079)	.225	.000
Female Subjective Norm	.313 (.079)	.199	.000
c. PBC Actor Effect			
Male PBC	.584 (.323)	.094	.072
Female PBC	.584 (.323)	.090	.072
d. Intention → Behavior			
Male Intention	.139 (.015)	.375	.000
Female Intention	.139 (.015)	.368	.000
e. PBC → Behavior			
Male PBC	.205 (.106)	.089	.055
Female PBC	.205 (.106)	.084	.055

Note: Unstandardized coefficients for male and female partners are pooled; standardized coefficients differ due to differences between genders in variance.

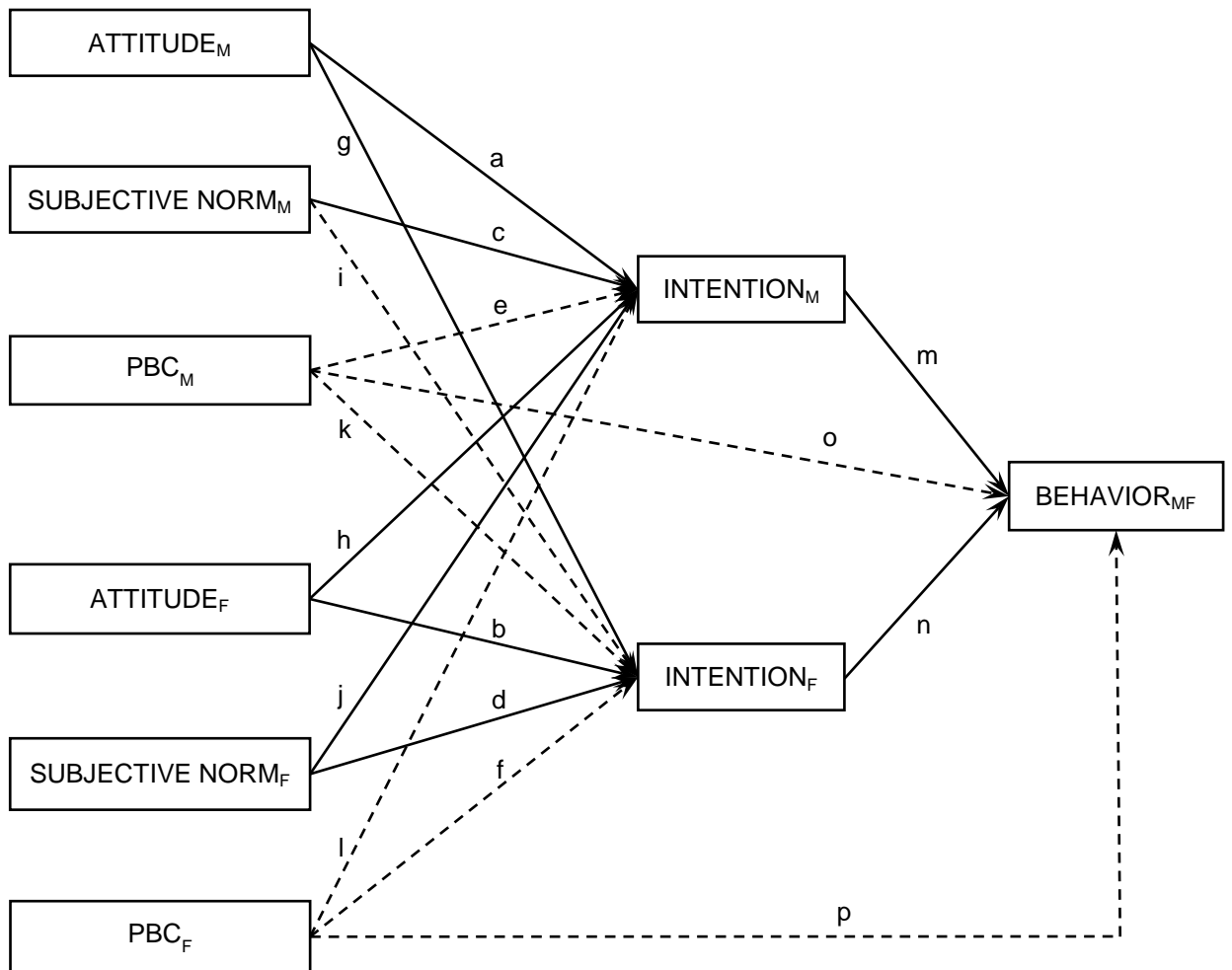


Figure 7. TPB model of condom use consistency in intimate relationship (actor and partner effects). Letters refer to parameter estimates in Table 7.

male and female partners' condom-use intentions are predicted by both partners' condom-use attitudes, subjective norms, and perceived behavioral control. The standardized and unstandardized path coefficients and their significance tests are presented in Table 7. As can be seen in the table, there were significant actor effects for attitudes and subjective norms, and a significant partner effect for attitudes and perceived behavioral control but not subjective norms, in predicting condom-use intentions. There were no significant gender differences or other model modifications indicated by the Lagrange Multiplier test or Wald W statistic.

The addition of partner effects to the TPB model resulted in a substantial increase in variance accounted for in condom-use intentions for both males ($R^2 = .550$) and females ($R^2 = .526$), compared to the model with only actor effects. Further, both male and female partners' intentions to use condoms predicted couples' reported consistency of condom use ($R^2 = .553$). In addition to accounting for greater variance in condom-use intentions and behavior, the TPB model that included both actor and partner effects showed good fit as indicated by the following: $\chi^2(12) = 18.727, p = .095$; CFI = .986; RMSEA = .068; RMSEA 90% CI ranged from .000 to .123. A chi-square difference test was used to compare the fit of the model that included only actor effects to that of the model that assessed both actor and partner effects. As was the case with the TRA model analyses above, adding partner effects to the TPB model resulted in a significant increase in model fit ($\chi^2_D(3) = 37.459, p < .001$).

3.4 Moderator Analyses

Based on the above analyses, we chose the dyadic TRA model as the basis for the moderator analyses. Perceived behavioral control did not reliably predict condom-use intentions or behavior, nor did inclusion of the variable significantly increase model fit. Further, any perceived lack of control over condom-use behavior is likely attributable to imbalances in couple members' sexual decision-making power, which are analysed below using moderated multiple regression. Despite the nonsignificant coefficient, we retained the path from male subjective norms to female intentions in the model—Loehlin (1998) argues that one should not feel compelled to remove every path that is not

Table 7

Unstandardized (SE in Parentheses) and Standardized Parameters for Figure 7

Parameter Estimate	Unstandardized	Standardized	<i>p</i>
Attitude Actor Effect			
a. Male Attitude	1.630 (.372)	.318	.000
b. Female Attitude	2.477 (.355)	.463	.000
Subjective Norm Actor Effect			
c. Male Subjective Norm	.221 (.074)	.160	.004
d. Female Subjective Norm	.221 (.074)	.129	.004
PBC Actor Effect			
e. Male PBC	-.016 (.414)	-.003	.970
f. Female PBC	.755 (.424)	.106	.078
Attitude Partner Effect			
g. Male Attitude	1.306 (.274)	.263	.000
h. Female Attitude	1.306 (.274)	.237	.000
Subjective Norm Partner Effect			
i. Male Subjective Norm	.009 (.094)	.006	.923
j. Female Subjective Norm	.323 (.107)	.203	.003
PBC Partner Effect			
k. Male PBC	.233 (.074)	.168	.002
l. Female PBC	.233 (.074)	.136	.002
Intention → Behavior			
m. Male Intention	.139 (.014)	.353	.000
n. Female Intention	.139 (.014)	.380	.000
PBC → Behavior			
o. Male PBC	.205 (.108)	.084	.061
p. Female PBC	.205 (.108)	.079	.061

statistically significant from a structural model; rather, it may be best to leave them in the model until further replication indicates that the corresponding direct effect is of negligible magnitude. As such, all actor and partner effects for condom-use attitudes and subjective norms were retained in the dyadic TRA model. In the following section, we examined the roles of sexual decision-making power and relationship duration in the prediction of condom-use intentions and behavior.

3.4.1 Sexual Decision-Making Power

To examine the role of sexual decision-making power in the prediction of condom-use intentions, we added the variables *male power* and *female power* to the dyadic TRA model as well as the interaction between male power and male attitudes and the interaction between female power and female attitudes (see Figure 8). We hypothesized that individuals' perception of power in their relationship would moderate the prediction of condom-use intentions from condom-use attitudes. Specifically, it was expected that attitudes toward condoms would more strongly predict condom-use intentions for individuals with higher levels of perceived sexual decision-making power in their relationship, and that this interaction between attitudes and power would be greater for female partners than for male partners. The variance-covariance matrix used for the power moderation analyses can be seen in Table 8.

The results showed a significant interaction between female power and female attitudes in predicting female condom-use intentions (see Table 9). The prediction of female partners' condom-use intentions from their own attitudes toward condom use was greater for women who perceived themselves as having relatively more sexual decision-making power in their relationships, compared to women with relatively little perceived power; $t(123) = 2.621, p = .010$. Simple slopes analysis revealed that the regression coefficient for the prediction of female's condom-use intentions from their own attitudes toward condoms was approximately double for women with high power ($\beta = .621, p < .001$) versus those with low power ($\beta = .302, p = .002$). These data suggest that prediction of a woman's condom-use intentions from her own condom-use attitudes may be strongest when the woman holds relatively high levels of sexual decision-making power.

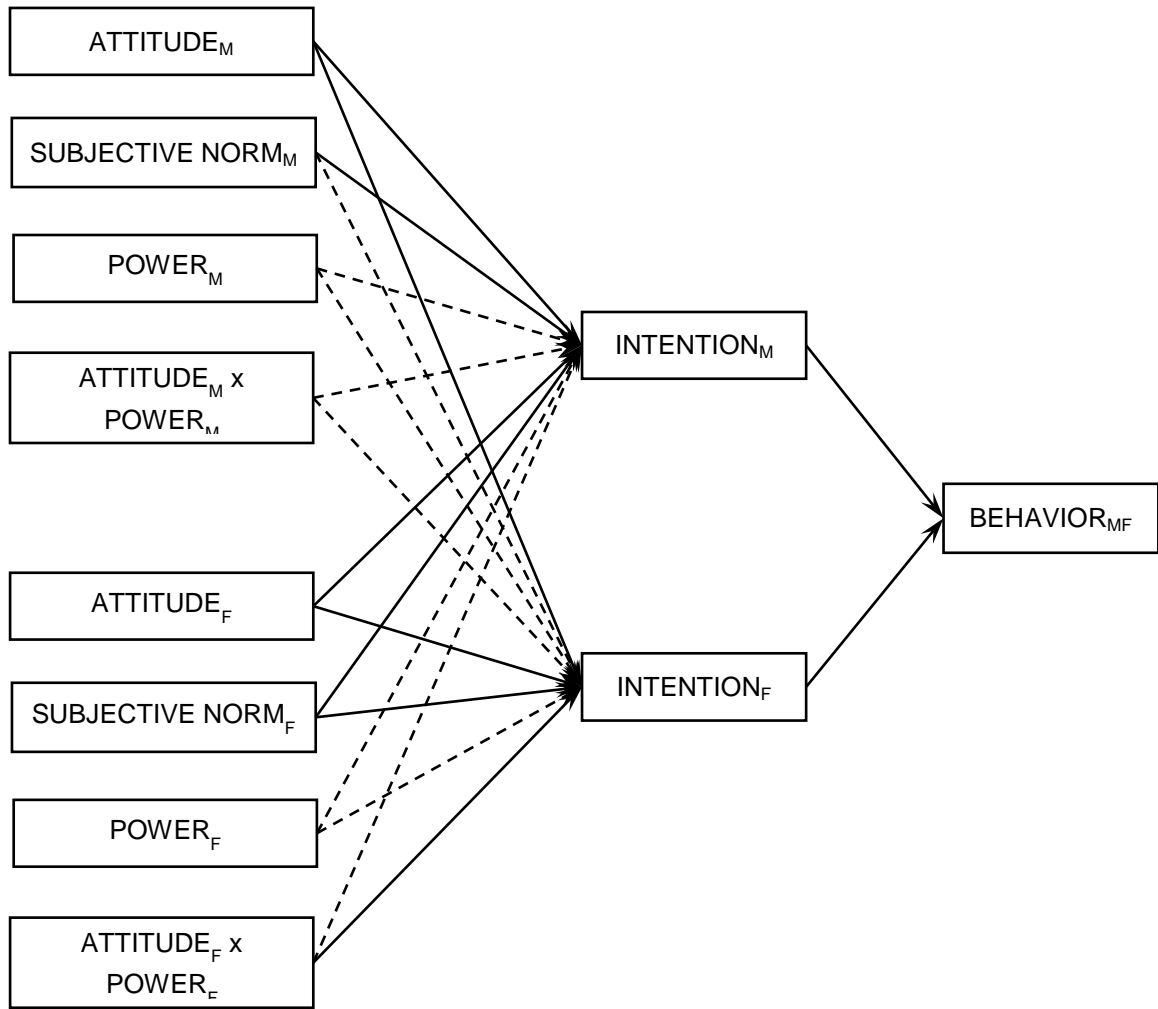


Figure 8. TRA model of condom use consistency in intimate relationships with relationship power variable included. See data in Table 8.

Table 8

Variance-Covariance Matrix of Variables in Sexual Decision-Making Power Moderation Analyses

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. ATT_M	.178													
2. ATT_F	.099	.189												
3. SN_M	.279	.267	2.423											
4. SN_F	.258	.287	.792	1.830										
5. POWER_M	-.015	-.003	-.032	-.004	.077									
6. POWER_F	.009	.008	.020	-.015	-.004	.101								
7. POWER_M x ATT_M	.003	.010	.027	.004	-.009	.000	.018							
8. POWER_F x ATT_F	.000	.001	.009	.003	.002	.004	-.002	.019						
9. BI_M	.565	.569	1.462	1.627	-.048	.087	.003	.040	4.651					
10. BI_F	.570	.700	1.222	1.723	.013	.027	.024	.057	3.559	5.469				
11. POWER_D	-.024	-.011	-.052	.010	.081	-.105	-.009	-.002	-.135	-.014	.186			
12. POWER_D x BI_M	.002	-.014	-.212	-.140	-.006	.009	.050	-.064	-.225	-.265	-.015	.820		
13. POWER_D x BI_F	.032	.002	.127	-.063	-.021	.008	.065	-.077	-.265	-.243	-.028	.616	1.049	
14. BEHAVIOR	.201	.217	.407	.621	.012	.027	.004	.019	1.187	1.415	-.015	-.029	-.098	.726

Note. ATT_M = Male Attitude, ATT_F = Female Attitude, SN_M = Male Subjective Norm, SN_F = Female Subjective Norm, POWER_M = Male Power, POWER_F = Female Power, BI_M = Male Behavioral Intention, BI_F = Female Behavioral Intention, POWER_D = Power Differential, BEHAVIOR = Condom-use Consistency.

Table 9
Unstandardized (SE in Parentheses) and Standardized Parameters for Figure 8

Parameter Estimate	Unstandardized	Standardized	<i>p</i>
Attitude Actor Effect			
Male Attitude	1.577 (.337)	.309	.000
Female Attitude	2.571 (.336)	.482	.000
Subjective Norm Actor Effect			
Male Subjective Norm	.233 (.072)	.168	.002
Female Subjective Norm	.233 (.072)	.136	.002
Power Actor Effect			
Male Power	-.203 (.321)	-.026	.527
Female Power	-.203 (.321)	-.028	.527
Power x Attitude Actor Effect			
Male Power x Male Attitude	-1.511 (.968)	-.094	.121
Female Power x Female Attitude	2.557 (.976)	.152	.010
Attitude Partner Effect			
Male Attitude	1.445 (.257)	.263	.000
Female Attitude	1.445 (.257)	.292	.000
Subjective Norm Partner Effect			
Male Subjective Norm	-.005 (.092)	-.003	.958
Female Subjective Norm	.312 (.104)	.196	.003
Power Partner Effect			
Male Power	.567 (.314)	.068	.073
Female Power	.567 (.314)	.084	.073

Parameter Estimate	Unstandardized	Standardized	<i>p</i>
Power x Attitude Partner Effect			
Male Power x Male Attitude	.739 (.706)	.043	.298
Female Power x Female Attitude	.739 (.706)	.047	.298
Intention → Behavior			
Male Intention	.151 (.013)	.384	.000
Female Intention	.151 (.013)	.413	.000

We also examined the effects of discrepancies in partners' sexual decision-making power (i.e., partner imbalances in relationship power) on the relative influence of male and female partners' condom-use intentions on couples' condom-use behavior. It was hypothesized that the balance of sexual decision-making power in our sample of couples would moderate the prediction of couples' condom-use consistency from male and female partners' condom-use intentions. Further, we expected that the interaction between power and condom-use intentions in the prediction of condom-use behavior would be greater for female partners than for male partners. To test these hypotheses, the variable *power differential* was created by subtracting female participants' power scores from their male partners' power scores. Higher scores for this combined variable represent relatively more power for male partners. Power differential was entered as a predictor of behavior, as well as interactions between male partners' intentions and power differential and between female partners' intentions and power differential (see Figure 9).

There were no significant effects of power differential in the prediction of couples' condom-use consistency, though there was a marginally significant interaction between male intentions and power differential; $t(123) = 1.656, p = .100$ (see Table 10).

Moderator analyses suggest that the strength of prediction of couples' condom-use consistency from male partners' condom-use intentions may be moderated by the disparity in male and female partners' sexual decision-making power. Simple slopes analysis revealed that the regression coefficient for the prediction of couples' condom-use consistency from male partners' condom-use intentions is statistically significant among couples in which males hold more sexual decision-making power than their female partners ($b = .425, p < .001$) but not among couples in which females hold more power than their male partners ($b = .146, p = .238$). Females' condom-use intentions, on the other hand, were predictive of couples' condom-use consistency regardless of the balance of power in the relationship.

3.4.2 Relationship Duration

We were interested in examining whether relationship duration would moderate the prediction of male and female partners' condom-use intentions and behavior.

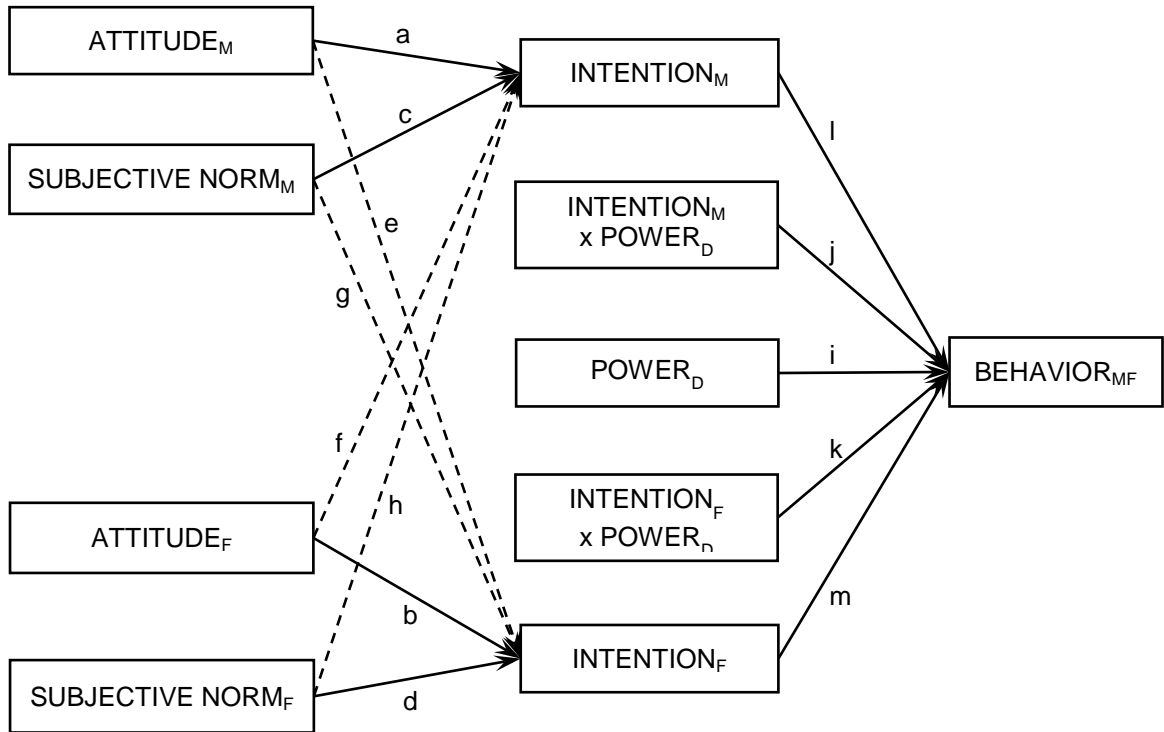


Figure 9. TRA model of condom use consistency in intimate relationships with power differential variable included. Letters refer to parameter estimates in Table 10.

Table 10

Unstandardized (SE in Parentheses) and Standardized Parameters for Figure 9

Parameter Estimate	Unstandardized	Standardized	<i>p</i>
Attitude Actor Effect			
a. Male Attitude	1.544 (.330)	.299	.000
b. Female Attitude	2.621 (.339)	.489	.000
Subjective Norm Actor Effect			
c. Male Subjective Norm	.242 (.072)	.173	.001
d. Female Subjective Norm	.242 (.072)	.141	.001
Attitude Partner Effect			
e. Male Attitude	1.404 (.256)	.254	.000
f. Female Attitude	1.404 (.256)	.281	.000
Subjective Norm Partner Effect			
g. Male Subjective Norm	.003 (.093)	-.002	.975
h. Female Subjective Norm	.322 (.103)	.200	.002
i. Power Differential → Behavior	.043 (.121)	.022	.723
Intention x Power Differential → Behavior			
j. Male Intention x Power Differential	.008 (.030)	.009	.776
k. Female Intention x Power Differential	.008 (.030)	.010	.776
Intention → Behavior			
l. Male Intention	.152 (.013)	.387	.000
m. Female Intention	.152 (.013)	.414	.000

Specifically, we were interested in examining whether the prediction of couple members' condom-use intentions from attitudes and subjective norms would differ among men and women in relatively short- versus long-duration relationships (e.g., stronger or weaker partner effects for the prediction of intentions from attitudes). There were no a priori predictions regarding the specific nature of any such differences between these couples; rather, we were interested in exploring whether the dynamics of condom-use in intimate relationships may differ as a function of the amount of time a couple has been together.

We used multiple-sample analysis to test these predictions by dividing the sample of couples into two samples based on the median relationship duration score (see Kline, 2005). Couples who reported having been together for 13 or fewer months at the time of completing the survey were classified as short-duration couples, and those who reported having been together for longer than 13 months were classified as long-duration couples. Separate covariance matrices were calculated and separate, equivalent TRA models (see Figure 5) were simultaneously entered into EQS for both samples of couples and all corresponding paths between models were constrained to be equal. Lagrange Multiplier tests were conducted to determine which equality constraints, if any, should be dropped from the model analysis to improve model fit. The variance-covariance matrices for short- and long-duration couples are shown in Tables 11 and 12 and the results of the model analyses are presented in Tables 13 and 14.

As can be seen in Table 13, among the shorter-duration couples there was a significant actor effect for both attitudes and subjective norms in the prediction of intentions, with no significant gender differences. There was a significant partner effect for male and female attitudes, and for female but not male subjective norms. The gender difference in the partner effect for subjective norms was significant ($\chi^2_D(1) = 5.026, p = .025$). Among the longer-duration couples (see Table 14), there was a significant gender difference in the actor effect for attitudes: the actor effect for female partners' attitudes was greater than that of male partners' attitudes ($\chi^2_D(1) = 10.000, p = .002$). There was a significant partner effect for attitudes, with no difference between male and female partners. Female partners' subjective norms significantly predicted both their own and their male partners'

Table 11

*Variance-Covariance Matrix of Variables in Relationship Duration Moderation Analyses
(Shorter-Duration Couples)*

	1	2	3	4	5	6	7
1. ATT_M	.199						
2. ATT_F	.091	.170					
3. SN_M	.281	.256	2.271				
4. SN_F	.238	.275	.807	1.971			
5. BI_M	.605	.556	1.644	1.776	5.175		
6. BI_F	.533	.561	1.245	1.511	3.542	4.907	
7. BEHAVIOR	.197	.168	.348	.555	1.167	1.292	.687

Note. ATT_M = Male Attitude, ATT_F = Female Attitude, SN_M = Male Subjective Norm, SN_F = Female Subjective Norm, BI_M = Male Behavioral Intention, BI_F = Female Behavioral Intention, BEHAVIOR = Condom-use Consistency.

Table 12

*Variance-Covariance Matrix of Variables in Relationship Duration Moderation Analyses
(Longer-Duration Couples)*

	1	2	3	4	5	6	7
1. ATT_M	.160						
2. ATT_F	.109	.210					
3. SN_M	.281	.283	2.614				
4. SN_F	.284	.301	.793	1.709			
5. BI_M	.535	.591	1.303	1.507	4.203		
6. BI_F	.617	.852	1.217	1.967	3.633	6.119	
7. BEHAVIOR	.209	.272	.417	.702	1.224	1.559	.771

Note. ATT_M = Male Attitude, ATT_F = Female Attitude, SN_M = Male Subjective Norm, SN_F = Female Subjective Norm, BI_M = Male Behavioral Intention, BI_F = Female Behavioral Intention, BEHAVIOR = Condom-use Consistency.

Table 13

*Unstandardized (SE in Parentheses) and Standardized Parameters for TRA Model
(Shorter-Duration Couples)*

Parameter Estimate	Unstandardized	Standardized	<i>p</i>
Attitude Actor Effect			
a. Male Attitude	1.753 (.204)	.347	.000
b. Female Attitude	1.753 (.204)	.359	.000
Subjective Norm Actor Effect			
c. Male Subjective Norm	.307 (.060)	.210	.000
d. Female Subjective Norm	.307 (.060)	.196	.000
Attitude Partner Effect			
e. Male Attitude	1.373 (.184)	.262	.000
f. Female Attitude	1.373 (.184)	.293	.000
Subjective Norm Partner Effect			
g. Male Subjective Norm	.004 (.065)	.003	.952
h. Female Subjective Norm	.314 (.073)	.186	.000
Intention → Behavior			
i. Male Intention	.151 (.009)	.410	.000
j. Female Intention	.151 (.009)	.381	.000

Table 14

*Unstandardized (SE in Parentheses) and Standardized Parameters for TRA Model
(Longer-Duration Couples)*

Parameter Estimate	Unstandardized	Standardized	<i>p</i>
Attitude Actor Effect			
a. Male Attitude	1.753 (.204)	.328	.000
b. Female Attitude	2.921 (.323)	.520	.000
Subjective Norm Actor Effect			
c. Male Subjective Norm	.100 (.087)	.075	.250
d. Female Subjective Norm	.307 (.060)	.170	.000
Attitude Partner Effect			
e. Male Attitude	1.373 (.184)	.220	.000
f. Female Attitude	1.373 (.184)	.285	.000
Subjective Norm Partner Effect			
g. Male Subjective Norm	.004 (.065)	.002	.952
h. Female Subjective Norm	.314 (.073)	.203	.000
Intention → Behavior			
i. Male Intention	.151 (.009)	.369	.000
j. Female Intention	.151 (.009)	.430	.000

condom-use intentions, whereas male partners' subjective norms did not significantly predict either partner's intentions. The gender difference was significant for the subjective norms partner effect ($\chi^2_{D(1)} = 6.174, p = .013$), and marginally significant for the subjective norms actor effect ($\chi^2_{D(1)} = 3.505, p = .061$).

Comparison between the two groups revealed that the actor effect for female partners' attitudes in the prediction of intentions was greater among couples who had been together longer ($\chi^2_{D(1)} = 12.433, p < .001$). Perhaps as a result, the variance accounted for in female intentions was greater among longer-duration couples ($R^2 = .607$) than among shorter-duration couples ($R^2 = .479$). There was also a significant difference between groups in the actor effect for male subjective norms, which was only significant among shorter-duration couples ($\chi^2_{D(1)} = 3.879, p = .049$). The variance of the male attitude variable was significantly greater ($s^2 = .199$) among shorter-duration couples than among longer-duration couples ($s^2 = .160$); however, there was no significant difference between groups in either the actor effect or the partner effect for male attitudes. There were no other significant differences observed in the path coefficients of the models under comparison.

Chapter 4: Discussion

The purpose of this investigation was to examine a relationship-relevant model of safer sex behavior using a dyadic analysis approach. Several of our hypotheses were confirmed by the analyses and a few were not supported. We hypothesized that the addition of partner effects to an actor effects-only model would significantly increase prediction of condom-use intentions and condom-use consistency. We observed significant partner effects, above and beyond actor effects, for a variety of predictor variables throughout the model analyses, and a significant increase in model fit and variance accounted for in condom-use intentions and behavior. We also hypothesized and observed various gender differences in the prediction of safer sex intentions and behavior, specifically with regards to the relative roles of subjective norms and relationship power for men and women. Our findings suggest possible avenues for interventions targeting men and women, including a focus on subjective norms for men and relationship power for women. We also examined the additive and interactive roles of additional variables added to the TRA model. While perceived behavioral control did not contribute much to the prediction of condom-use intentions beyond the variables in the theory of reasoned action, the addition of power and relationship duration to the model revealed several additional gender interactions. Generally speaking, the prediction of condom-use intentions and behavior was partly moderated by relationship variables such as power and duration, and the specific effects vary for women and for men. Each of the hypotheses and the related findings are discussed in detail in the following section.

The dyadic TRA model assessed in the current study is consistent with findings of previous research (e.g., Albarracín et al., 2001) that have shown that condom-use attitudes and perceived norms can effectively predict condom-use intentions, which in turn predict condom-use behavior. Further, the dyadic model utilized in the current study allowed for greater understanding of the predictors of condom-use intentions and behavior than is possible from examining actor effects only. This was evidenced by the greater model fit and variance accounted for in intentions and behavior that were observed in the dyadic model, as well as the ability to identify and measure unique

partner effects. The ability to assess the ways in which partners' characteristics influence or predict each other's outcomes is essential to understanding the interdependent nature of sexual decision-making in relationships and opens up possibilities to better understand the dynamics of couples' safer sex behavior. This study revealed unique effects of relationship power for men and women, suggesting that men and women differ in the prediction of condom-use intentions, and possibly in potential strategies for safer sex interventions targeted at men and women. Further dyadic research has the potential to inform the design of interventions tailored to men and women to address the various factors that are relevant to each and the ways in which those variables operate in different types of dyads.

4.1 Research Hypotheses and Model Analyses

Our first hypothesis stated that there would be significant partner effects for condom-use attitudes and subjective norms in the prediction of condom-use intentions, over and above any observed actor effects. This hypothesis was supported by the data, which demonstrated that men's and women's condom-use intentions were predicted by not only their own attitudes and subjective norms regarding condom-use, but by those of their relationship partner as well. For both male and female partners, one's own condom-use attitudes were consistently the strongest predictor of their own condom-use intentions, and this was especially true for women. However, both men's and women's condom-use intentions were uniquely predicted by their partners' condom-use attitudes, even after accounting for the variance in intentions attributable to one's own attitudes. Further, men's intentions to use condoms during sexual intercourse were predicted as strongly by their partners' subjective norms as by their own subjective norms, and even more strongly by their partners' attitudes toward condom-use. The inclusion of partner effects in the model served to reduce the magnitude of the observed actor effects for both attitudes and subjective norms. This suggests that in a model that only assesses actor effects, some of the variance in condom-use intentions that would be attributed to one's own attitudes and subjective norms is in fact likely due to the influence of one's

relationship partner. By not considering the individual's partner, one would be losing a lot of that explanatory power.

Consistent with previous research (e.g., Albarracin et al., 2001; Beadnell et al., 2008), condom-use attitudes significantly predicted condom-use intentions for both males and females. Further, males' and females' intentions to use condoms were significantly predicted by their *partners'* attitudes toward condom use. The data suggest that both men and women in our sample based their intentions to use condoms partly on their attitudes toward condom-use. In addition to the observed actor effect for condom-use attitudes, the second-largest predictor of men's and women's condom-use intentions were their *partners'* attitudes toward condoms—it seems that both men and women are aware of their partners' attitudes toward condoms and may consider this information in forming their own condom-use behavioral intentions. While not reported in the analyses, we measured participants' perceptions of their partners' attitudes toward condoms. For both men and woman, the correlation between perceptions of one's partners condom-use attitudes and one's partners' reported attitudes was quite high ($R's = .503$ and $.594$), indicating that both males and females are aware of—and presumably affected by—their partners' attitudes when forming intentions to use condoms.

We also observed significant actor effects for condom-use subjective norms in the prediction of intentions to use condoms, though the relation between subjective norms and intentions was not nearly as strong as the relation between attitudes and intentions. Not surprisingly, the standardized coefficient for the actor effect for attitudes was approximately double that of the actor effect for subjective norms, suggesting that individuals' condom-use intentions are based considerably more on their own attitudes than on their perceptions of support from important others (including one's relationship partner). Further, the subjective norms partner effect was only significant for women. That is, women's subjective norms significantly predicted their male partners' intentions to use condoms but men's subjective norms did not significantly predict their female partners' condom-use intentions.

Our hypothesis that men's subjective norms would not predict intentions was not fully supported by the data; however, men's subjective norms did not predict their female partners' condom-use intentions (i.e., the partner effect was not significant), and the actor effect for men's subjective norms was only significant among couples who had been together for 13 months or less. In other words, subjective norms played a very small role for men in the prediction of their own and their partners' intentions. It is unclear why this variable did significantly predict men's intentions among the shorter-duration couples. It is possible that men's decision-making tends to be more driven by norms early in relationships and to become more based on attitudes over time. These findings are consistent with prior research on the TRA and TPB (for a review, see Bennett & Bozionelos, 2000). Beadnell et al. (2008) reported stronger prediction of safer sex intentions (steady partner monogamy and condom-use and casual partner condom-use) from attitudes than from subjective norms or self-efficacy. Similarly, a meta-analysis of research on the TPB by Armitage and Conner (2001) showed that across a variety of behaviors, attitudes had greater connection with intentions than did subjective norms, which was a generally weak predictor of behavioral intentions. The fact that subjective norms played an especially small role for male partners in this study might suggest that men are either less aware of or less concerned with their partners' thoughts on condom use than are women, and may indicate an approach for safer sex intervention that is specifically relevant to men: increasing men's awareness of their partners' desires and men's desire to comply with their partners may provide an avenue for increasing safer sex intentions among men, especially in couples characterized by discrepancies in condom-use attitudes or intentions.

Consistent with our third hypothesis, perceived behavioral control did not reliably predict condom-use intentions or behavior for either males or females, nor did it increase model fit. It seems likely that one's perception of control over a behavior like condom use is based largely on perceptions of one's relationship and relationship partner. In other words, the variable PBC is likely an (inferior) analog for partner influence; including one's relationship partner in the analyses may have rendered the prediction of intentions from this variable nonsignificant. It is also the case that in our sample, perceptions of

control regarding condom-use were fairly high and had fairly low variance, which might explain the lack of statistical significance for this variable in the current study.

The variable PBC and its inconsistent relation to condom-use intentions and behavior has long been a topic of debate among researchers. Ajzen (1991) added PBC to the variables that comprise the theory of reasoned action in order to predict (both directly and as mediated by behavioral intentions) behavior that is not completely under one's control (see Figure 1). However, the correlation between PBC and behavior has often been quite low (e.g., Schmidt & Ajzen, 1996). Eagly and Chaiken (1993) argued that control should only be considered when someone intends to engage in the behavior in question—perceptions of control are hardly relevant when one has no desire to use condoms. Perceptions of one's power to make decisions in his/her relationship, as well as perceptions of his/her partners' condom-use attitudes and intentions, are likely far more relevant to one's ability to negotiate condom-use with a partner than is a measure of control over the behavior itself. This might explain why PBC was not a significant predictor of men's or women's condom-use intentions in the dyadic model, whereas there were significant partner effects of attitudes and subjective norms.

Both male and female partners' intentions to use condoms predicted couples' reported consistency of condom use. Contrary to our hypothesis, there was not a significant difference between the relative prediction of condom-use behavior from male and female partners' condom-use intentions in the dyadic model. This might be due to the sample used in the current study, which consisted of primarily upper- and middle-class, young adult university students. There was little variability in the sexual decision-making dominance scores, and most couples reported a fairly balanced distribution of power in their relationships. Gender differences in influence over sexual behavior are more likely to be found in cultures or groups in which there is a general imbalance in sexual relationship power, such as among Hispanic groups (e.g., Harvey, 2006; Pulerwitz et al., 2002; Tschann et al., 2002). Replication with samples from groups in which relationship or sexual power imbalances are more common or more pronounced may reveal greater gender differences in influence over couples' sexual and/or safer sex behavior.

4.2 Moderating Relationship Factors

This study examined the roles of two relationship variables as potential moderators of the prediction of condom-use intentions and behavior from the variables in the dyadic TRA model: sexual decision-making power and relationship duration. We hypothesized that perceived sexual decision-making power would moderate the relations between condom-use attitudes and intentions, and that this moderating effect of power would be greater for women than for men. Consistent with our expectations, sexual decision-making power played a role in predicting condom-use intentions for female partners; however, it did not play a significant role in the prediction of men's condom-use intentions. Specifically, women's intentions to use condoms were more strongly predicted by their own condom-use attitudes to the extent that they perceived themselves as having power over sexual decision-making in their relationship. This finding is consistent with previous research that has demonstrated a relation between decision-making power and condom use for women (e.g., Harvey, Bird, De Rosa, Montgomery, & Rohrbach, 2003; Pulerwitz et al., 2002). We did observe a similar pattern for men; however, these effects were not statistically significant. We also observed a modest partner effect for power in the prediction of condom-use intentions, but this was also not significant. Nonetheless, these data suggest that power may be an important variable for both male and female partners in negotiating sexual and safer sex behavior.

Although there was not a significant effect of the power differential variable on behavior as we had hypothesized, the data suggest that the balance of power in relationships may in fact be more relevant for men than for women in influencing the relation between condom-use intentions and actual condom use. We observed a nonsignificant interaction between male power and male intentions in predicting couples' condom-use, suggesting that men's perceptions of relationship power may moderate the degree to which their condom-use intentions are translated into actual condom use. Analysis of the interaction between male partners' intentions and the power differential variable revealed that the prediction of couples' condom-use consistency from men's condom-use intentions was nonsignificant among couples in which the female partner had greater perceived sexual

decision-making power than her male partner. Females' condom-use intentions, on the other hand, significantly predicted couples condom-use behavior regardless of the balance of power in the relationship. However, given the low variability in score on the power differential variable and the fact that the interaction between male power and male intentions was not statistically significant, it is possible that this finding may be a statistical artifact. This finding would need to be replicated with another sample before we could draw any firm conclusions.

Much of the research demonstrating a larger role of men's attitudes or intentions compared to those of women in predicting condom use was conducted in regions or using samples in which women have relatively less power than men do (e.g., African, Latin American). In our sample of predominantly Caucasian, Canadian university students, reported relationship power was fairly balanced between partners. In fact, as can be seen in Table 1, the mean score for power and perceived behavioral control were very slightly but significantly higher for female partners than for male partners. There were also no gender differences in the relative prediction of condom-use behavior from male and female partners' condom-use intentions—neither gender seemed to have more influence over couples' condom-use behavior. Research with samples in which there exist larger power discrepancies between relationship partners would likely show a greater role of power for men and/or women in predicting condom-use intentions and behavior than was observed in the current study. Replication would be needed before we could draw any firm conclusions about the role of perceived power among relationship partners in the relative influence of partners' intentions on couples' safer sex behavior.

The final variable that we assessed in relation to couples' condom use was relationship duration. The results provided support for the hypothesis that the prediction of condom-use intentions and behavior would vary as a function of the amount of time that couples had been together. Female partners' attitudes toward condom-use were a stronger predictor of their own condom-use intentions among couples who had been together for a longer period of time. These data suggest that as relationships progress, women may come to rely more strongly on their own attitudes in forming condom-use intentions.

Further, men's condom-use subjective norms, defined as their perception of support from important other for using condoms, was not a significant predictor of men's condom-use intentions among the longer-duration couples. Surprisingly, there were no differences between groups in the observed partner effects, suggesting that partners' influence over each other's behavioral intentions does not change as a function of time spent together. The only differences observed in the current study were in actor effects; however, these differences do suggest that both men's and women's condom-use intentions are differently predicted depending on the length of time couples have been together.

Perhaps early in relationships, men and women feel less confident or assertive regarding condom-use decision-making and so their intentions are less a reflection of their own attitudes and more strongly influenced by the influence of others, compared to partners in more established, long-term relationships. The cross-sectional nature of the data make it impossible to draw conclusions about change over time; however they do suggest that relationship partners' condom-use intentions are influenced by different factors based on the nature of the relationship or the amount of time the couples have been together. Perhaps individuals in longer-term relationships feel more secure in forming behavioral intentions based on their own attitudes or beliefs compared with individuals in shorter-duration or casual relationships where there is less certainty in the stability of the relationship. Or perhaps these findings reflect a process of negotiation and consensus that occurs over time, resulting in each partner's attitudes and/or values coming more in line with the couple's established behavioral patterns. Longitudinal research may be needed to explore the roots of any such differences, whether they are caused by changes in the levels of trust or commitment in the relationship over time or are due to some other constellation of factors.

4.3 Limitations and Future Directions

Conclusions based on the findings of the current study are limited by the cross-sectional nature of the data. A high rate of attrition (less than 20% of couples completed the follow-up survey) made prospective assessment of condom use impossible, so only retrospectively-assessed condom-use data were included in the analyses. Without

longitudinal measurement, we were not able to empirically assess the causal relations implied by the dyadic TRA model. For example, there is the possibility that past condom use predicts current condom-use intentions rather than vice versa. While concurrent data are not ideal for assessing presumed causal relations between variables, Kline (2005) reported that the majority of published path analytic studies present concurrent rather than longitudinal data. McDonald & Ho (2002), addressing this issue, highlighted the importance of substantive theoretical grounds for inferring causality in SEM when data are collected concurrently. While firm causal conclusions cannot be drawn based on concurrent data, the theories of reasoned action and planned behavior have been extensively examined and repeatedly validated empirically—including analyses based on concurrent *and* longitudinal measurement (for a review, see Albarracín et al.'s 2001 meta-analysis)—adding support and theoretical grounds for the causal assumptions in the current study. Further research that includes longitudinal measurement is needed, however, before firm conclusions can be drawn regarding the presumed causal relations between the variables in the dyadic model.

The current study is also limited by the nature of the sample, which consisted of predominantly Caucasian, upper- and middle-class university students who had been in their current relationship for no more than a few years and most of whom classified their relationship as dating. The vast majority of the couples reported a fairly even distribution of sexual decision-making power in their relationships, which may account for the lack of significant effects for the power variables examined. Additional research with diverse groups of couples is needed to replicate the findings and further examine the roles of intrapersonal and relationship variables in safer sex decision-making. For example, Morrison-Beedy, Carey, and Lewis (2002) found differences in the prediction of condom-use stage of change among women with steady partners compared with women with new or casual partners. Just as we might expect to find different structural relations among couples with an uneven distribution of sexual decision-making power, it may well be the case that we would discover important differences between dating and married couples, HIV-serodiscordant couples, or couples that vary on some other dimension not examined in the current study.

Despite its limitations, the current research makes important contributions to the study of safer sex decision-making, particularly for partners in established relationships. The findings provide insight into the ways in which relationship partners' safer sex intentions are influenced by their own *and each other's* attitudes and perceptions. More importantly, this study provides a framework for investigating the additive and interactive influences of relationship partners' characteristics that may play a role in safer sex negotiation and behavior. Results of this study show that influences on safer sex decision-making in relationships are complex, and are best understood from a dyadic perspective. Indeed, some of the observed partner effects (e.g., attitudes) in this study were greater in magnitude than some actor effects (e.g., subjective norms), suggesting an important role of one's relationship partner in the prediction of intentions and behavior. These findings may have important implications for the design and implementation of safer sex interventions, and suggest that interventions based on individually-focused theoretical models may not be effective for individuals in relationships. Indeed, research has shown that reproductive health interventions tailored to couples are more effective than interventions targeting only one partner (El-Bassel et al., 2003; Noar, Benac, & Harris, 2007; Williams et al., 2000). An effective safer sex intervention must take into account the relationship between two partners in a dyad, as the characteristics of that relationship are likely to moderate the effectiveness of intervention strategies.

This study revealed several interesting findings with regard to male and female partners' safer sex decision-making. While both men and women seem to base their condom-use intentions primarily on their own and their partner's condom-use attitudes and subjective norms, the relative importance of these variables differs for men and women. We observed fairly consistently that women's subjective norms regarding condom-use—their perceptions, in effect, of what their male partners wished to do—were far more predictive of condom-use intentions than was the case for men. This suggests that perceptions of support from others, particularly one's primary relationship partner, may be a more important factor for women than for men in encouraging condom use. Further, the observed role of power in this study was greater for women than it was for men. We predicted that power would play a greater moderating role for women than for men in the

prediction of condom use intentions and behavior and this indeed seemed to be the case: women who perceived themselves as having relatively high levels of power showed significantly greater correspondence between their own condom-use attitudes and intentions. This finding suggests that relationship-relevant power may be an important avenue for intervening with women, more so than for men. Even in a sample characterized by a fairly even balance of power between couple members, we see that the translation of women's attitudes into behavioral intentions is linked to women's perceptions of their own power in their relationship. Just as safer sex interventions targeting men might benefit from a focus on subjective norms, interventions targeted toward women may be especially effective if they address women's perceptions of power in their relationship. This may mean helping women to assign less weight to perceived partner wishes or to deal with them in some other way not inimical to safer sex, or strengthening women's sense of their own power with regards to sexual decision-making or to their relationship more generally.

Focusing intervention efforts on key factors such as these that are especially relevant and/or lacking—which likely vary based on demographic factors—may aid efforts to promote safer sex. Noar and colleagues (Noar, Benac, & Harris, 2007) conducted a meta-analysis of research comparing tailored health behavior change interventions to generic ones that were designed to be broadly appealing. The authors noted the efficacy of tailored messages in affecting health behavior change and identified several factors that moderate the effects of tailoring, including the degree of tailoring and a basis in behavioral theory (see also Noar, 2008). The data analytic technique applied in the current study provides the potential to uncover important individual and relationship variables that influence safer sex decision-making and to inform safer sex interventions.

There are still many questions that remain to be answered before we can implement interventions that effectively target relationship and intrapersonal factors in male and female partners that may influence safer sex behavior. It is not yet well understood *how* relationship characteristics influence individuals' motivation or intentions to engage in safer sex behavior, or what mechanisms underlie changes among couples over time.

Research on the association between relationship- or partner-relevant characteristics and condom use has demonstrated inconsistent findings. For example, some authors have reported that condom use increases with increasing commitment (e.g., Manning, Longmore, & Giordano, 2000), whereas others have reported no association (e.g., Lescano, Vazquez, Brown, Litvin, & Pugatch, 2006) or a decline in condom use with increased commitment (e.g., Ku, Sonenstein, & Pleck, 1994). Relationship-relevant factors such as power, trust, and commitment may moderate the effectiveness of safer sex interventions in various ways, which may differ for men and for women or between casual and committed couples. The framework presented in this study is a first step toward better understanding the complexity of safer sex decision-making among dyads, and suggests that dyadic interaction must be a core feature of theoretical models of safer sexual behavior. Further research on this topic is needed to specify the variables in such models, and the ways in which they fit together, before effective couples-focused interventions can be formulated.

References

- Agnew, C. R. (1994). Interdependent social behaviors: Behavioral prediction using individual- and dyad-level models. Ph.D. dissertation, The University of North Carolina at Chapel Hill, North Carolina, United States. Retrieved March 24, 2008, from ProQuest Digital Dissertations database. (Publication No. AAT 9523018).
- Agnew, C. R. (1998). Modal versus individually-derived beliefs about condom use: Measuring the cognitive underpinnings of the theory of reasoned action. *Psychology and Health, 13*, 271-287.
- Agnew, C. R. (1999). Power over interdependent behavior within the dyad: Who decides what a couple does? In L. J. Severy (Ed.) *Advances in Population: Psychosocial Perspectives, Vol. 3*. (pp. 163-188). London: Jessica Kingsley Publishers.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes, 50*, 179-211.
- Ajzen, I. (2006). *Constructing a TPB questionnaire: Conceptual and methodological considerations*. Retrieved May 2, 2008 from <http://www-unix.oit.umass.edu/~ajzen/pdf/tpb.measurement.pdf>
- Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior*. Englewood Cliffs, NJ: Prentice-Hall.
- Albarracín, D., Johnson, B. T., Fishbein, M., & Muellerleile, P. A. (2001). Theories of reasoned action and planned behavior as models of condom use: A meta-analysis. *Psychological Bulletin, 127*, 142-161.
- Albarracín, D., Gillette, J. C., Earl, A. N., Glasman, L. R., Durantini, M. R., & Ho, M. (2005). A test of major assumptions about behavior change: A comprehensive look at the effects of passive and active HIV-prevention interventions since the beginning of the epidemic. *Psychological Bulletin, 131*, 856-897.
- Amaro, H. (1995). Love, sex, and power: Considering women's realities in HIV prevention. *American Psychologist, 50*, 437-443.
- Amaro, H., & Gornemann, I. (1992). *HIV/AIDS related knowledge, attitudes, beliefs, and behaviors among Hispanics: Report of Findings and recommendations*. Boston: Boston University School of Public Health and Northeast Hispanic Consortium.
- Bailey, R. D, Foote, W. E., & Throckmorton, B. (2000). Human sexual behavior: A comparison of college and Internet surveys. In M. H. Birnbaum (Ed.), *Psychological Experiments on the Internet* (pp. 141-168). London: Academic Press.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Freeman.
- Beadnell, B., Baker, S. A., Gillmore, M. R., Morrison, D. M., Huang, B., & Stielstra, S. (2008). The theory of reasoned action and the role of external factors on

- heterosexual men's monogamy and condom use. *Journal of Applied Social Psychology*, 38, 97-134.
- Becker, S. (1996). Couples and reproductive health: A review of couple studies. *Studies in Family Planning*, 27, 291-306.
- Benfield, J. A., & Szlemko, W. J. (2006). Internet-based data collection: Promises and realities. *Journal of Research Practice*, 2(2), Article D1. Retrieved April 21, 2008, from <http://jrp.icaap.org/index.php/jrp/article/view/30/51>
- Bennett, P., & Bozionelos, G. (2000). The theory of planned behavior as predictor of condom use: A narrative review. *Psychology, Health & Medicine*, 5, 307-326.
- Bentler, P. M., & Wu, E. J. C. (2005). *EQS 6.1 for Windows*. Multivariate Software Inc.
- Berman, M. I., & Frazier, P. A. (2005). Relationship power and betrayal experience as predictors of reactions to infidelity. *Personality and Social Psychology Bulletin*, 31, 1617-1627.
- Berscheid, E., & Regan, P. (2005). *The psychology of interpersonal relationships*. Upper Saddle River, NJ: Pearson Education.
- Best, S. J., Krueger, B., Hubbard, C., & Smith, A. (2001). An assessment of the generalizability of Internet surveys. *Social Science Computer Review*, 19, 131-145.
- Bird, S. T., Harvey, S. M., Beckman, L. J., Johnson, C. H., & The PARTNERS Project (2001). Getting your partner to use condoms: Interviews with men and women at risk of HIV/STDs. *The Journal of Sex Research*, 38, 233-240.
- Birnbaum, M. H. (2004). Human research and data collection via the Internet. *Annual Review of Psychology*, 55, 803-832.
- Bledsoe, L. K. (2006). Smoking cessation: An application of theory of planned behavior to understanding progress through stages of change. *Addictive Behaviors*, 31, 1271-1276.
- Bolton, M., McKay, A., & Schneider, M. (2010). Relational influences on condom use discontinuation: A qualitative study of young adult women in dating relationships. *Canadian Journal of Human Sexuality*, 19, 91-104.
- Bowleg, L., Belgrave, F. Z., & Reisen, C. A. (2000). Gender roles, power strategies, and precautionary sexual self-efficacy: Implications for Black and Latina women's HIV/AIDS protective behaviors. *Sex Roles*, 42, 613-635.
- Bowen, S. P., & Michal-Johnson, P. (1989). The crisis of communicating in relationships: Confronting the threat of AIDS. *AIDS and Public Policy Journal*, 4, 10-19.
- Boyce, W., Doherty-Poirier, M., MacKinnon, D., Fortin, C., Saab, H., King, M., & Gallupe, O. (2006). Sexual health of Canadian youth: Findings from the Canadian Youth, Sexual Health and HIV/AIDS Study. *The Canadian Journal of Human Sexuality*, 15, 59-68.

- Bradford, S., Feeney, J. A., & Campbell, L. (2002). Links between attachment orientations and dispositional and diary-based measures of disclosure in dating couples: A study of actor and partner effects. *Personal Relationships, 9*, 491-506.
- Butzer, B., & Campbell, L. (2008). Adult attachment, sexual satisfaction, and relationship satisfaction: A study of married couples. *Personal Relationships, 15*, 141-154.
- Byrne, B. M. (1998). *Structural equation modeling with LISREL, PRELIS, and SIMPLIS: Basic concepts, applications, and programming*. Mahwah, NJ: Lawrence Erlbaum Associates, Inc.
- Campbell, L., Simpson, J. A., Kashy, D. A., & Rholes, W. S. (2001). Attachment styles, dependence, and behavior in a stressful situation: An actor-partner interdependence approach. *Journal of Social and Personal Relationships, 18*, 849-871.
- Carmines, E. G., & McIver, J. P. (1981). Analyzing models with unobserved variables: Analysis of covariance structures. In G. W. Bohrnstedt & E. F. Borgatta (Eds.), *Social measurement: Current issues* (pp. 65-115). Newbury Park, CA: Sage.
- Catania, J. A. (1998). Dyadic Sexual Communication Scale and Dyadic Sexual Regulation Scale. In C. M. Davis, W. L. Yarber, R. Bauserman, G. Schreer, & S. L. Davis (Eds.), *Handbook of sexuality-related measures* (pp. 129-131). Thousand Oaks, CA: Sage.
- Catania, J. A., Binson, D., Dolcini, M. M., Moskowitz, J. T., & van der Straten, A. (2001). Frontiers in the behavioral epidemiology of HIV/STDs. In A. Baum, T. A. Revenson, & J. E. Singer (Eds.), *Handbook of Health Psychology* (pp. 777-799). Mahwah, NJ: Lawrence Erlbaum Associates.
- Catania, J. A., Kegels, S. M., & Coates, T. J. (1990). Towards an understanding of risk behavior: An AIDS risk reduction model (ARRM). *Health Education Quarterly, 17*, 53-72.
- Cates, W. (1990). The epidemiology and control of sexually transmitted diseases in adolescents. *Adolescent Medicine: State of the Art Reviews, 1*, 409-427.
- CDC (2011). *HIV Surveillance Report, 2009; vol. 21*. Retrieved May 18, 2011 from <http://www.cdc.gov/hiv/surveillance/resources/reports/2009report/>
- Cline, R. J. W., Freeman, K. E., & Johnson, S. J. (1990). Talk among sexual partners about AIDS: Factors differentiating those who talk from those who do not. *Communication Research, 17*, 792-808.
- Cochran, S. D., & Mays, V. M. (1990). Sex, lies and HIV. *New England Journal of Medicine, 322*, 774.
- Comer, L. K., & Nemeroff, C. J. (2000). Blurring emotional safety with physical safety in AIDS and STD risk estimations: The casual/regular partner distinction. *Journal of Applied Social Psychology, 30*, 2467-2490.
- Corcoran, K. & Fischer, J. (2000). *Measures for Clinical Practice: A Sourcebook (Vol. 2)*. New York, NY: The Free Press.

- Crowell, T. L., & Emmers-Sommer, T. M. (2000). Examining condom use, self-efficacy, and coping in sexual situations. *Communication Research Reports, 17*, 191-202.
- Crowell, T. L., & Emmers-Sommer, T. M. (2001). "If I knew then what I know now": Seropositive individuals' perceptions of partner trust, safety, and risk prior to HIV infection. *Communication Studies, 52*, 302-323.
- Cvengros, J. A., Christensen, A. J., & Lawton, W. J. (2004). The role of perceived control and preference for control in adherence to a chronic medical regimen. *Annals of Behavioral Medicine, 27*, 155-161.
- de Visser, R., & Smith, A. (2001). Relationship between sexual partners influences rates and correlates of condom use. *AIDS Education and Prevention, 13*, 413-427.
- Dolcini, M. M., Coates, T. J., Catania, J. A., Kegeles, S. M., & Hauck, W. W. (1995). Multiple sexual partners and their psychosocial correlates: The population-based AIDS in Multiethnic Neighborhoods (AMEN) study. *Health Psychology, 14*, 22-31.
- Dublin, S., Rosenberg, P. S., & Goedert, J. J. (1992). Patterns and predictors of high-risk sexual behavior in female partners of HIV-infected men with hemophilia. *AIDS, 6*, 475-482.
- El-Bassel, N., Witte, S. S., Gilbert, L., Elwin, W., Chang, M., Hill, J., & et al. (2003). The efficacy of a relationship-based HIV/STD prevention program for heterosexual couples. *American Journal of Public Health, 93*, 963-969.
- Emmers-Sommer, T. M., & Allen, M. (2005). *Safer sex in personal relationships: The role of sexual scripts in HIV infection and prevention*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Exner, T. M., Seal, D. W., & Ehrhardt, A. A. (1997). A review of HIV interventions for at-risk women. *AIDS and Behavior, 1*, 93-124.
- Ezeh, A. C. (1993). The influence of spouses over each other's contraceptive attitudes in Ghana. *Studies in Family Planning, 24*, 163-174.
- Feeney, J. A. (2002a). Attachment, marital interaction and relationship satisfaction: A diary study. *Personal Relationships, 9*, 39-55.
- Feeney, J. A. (2002b). Attachment-related dynamics: What can we learn from self-reports of avoidance and anxiety? *Attachment and Human Development, 4*, 193-200.
- Feeney, J. A. (2003). The systemic nature of couple relationships: An attachment perspective. In P. Erdman & T. Caffery (Eds.), *Attachment and family systems: Conceptual, empirical and therapeutic relatedness* (pp. 139-163). New York: Brunner-Routledge.
- Feeney, J. A. (2006). Studying close relationships: Methodological challenges and advances. In P. Noller & J. A. Feeney (Eds.), *Close relationships: Functions, forms, and processes* (pp. 49-63). New York: Psychology Press.

- Felmlee, D. H. (1994). Who's on top? Power in romantic relationships. *Sex Roles, 31*, 275–295.
- Fishbein, M., & Ajzen, I. (1975). *Beliefs, attitude, intention, and behavior: An introduction to theory and research*. Reading, MA: Addison-Wesley.
- Fisher, J.D., & Fisher, W.A. (1992). Changing AIDS-risk behavior. *Psychological Bulletin, 111*, 455-474.
- Fisher, J. D., & Fisher, W. A. (2000). Theoretical approaches to individual-level change in HIV-risk behavior. In J. Peterson & R. J. DiClemente (Eds.), *HIV prevention handbook* (pp. 3-55). New York: Kluwer Academic/Plenum Press.
- Fisher, J. D., Fisher, W. A., & Shuper, P. A. (2009). The information-motivation-behavioral skills model of HIV preventive behavior. In R. J. DiClemente, R. A. Crosby, & M. C. Kegler (Eds.), *Emerging theories in health promotion practice and research* (pp. 21-55). San Francisco: John Wiley & Sons, Inc.
- Fisher, J. D., Fisher, W. A., Williams, S. S., & Malloy, T. E. (1994). Empirical tests of an information-motivation-behavioral skills model of AIDS preventive behavior. *Health Psychology, 94*, 238-250.
- Fisher, W. A., & Boroditsky, R. (2000). Sexual activity, contraceptive choice, and sexual and reproductive health indicators among single Canadian women aged 15-29: Additional findings from the Canadian contraception study. *The Canadian Journal of Human Sexuality, 9*, 79-93.
- Fisher, W. A., & Fisher, J.D. (1993). A general social psychological model for changing AIDS risk behavior. In J. Pryor & G. Reeder (Eds.), *The Social Psychology of HIV Infection* (pp. 127-153). Hillsdale, NJ: Erlbaum.
- Fisher, W. A., Fisher, J. D., & Rye, B. J. (1995). Understanding and promoting AIDS preventive behavior: Insights from the theory of reasoned action. *Health Psychology, 14*, 225-264.
- Gerrard, M., Breda, C., & Gibbons, F. X. (1990). Gender effects in couples' sexual decision making and contraceptive use. *Journal of Applied Social Psychology, 20*, 449-464.
- Grady, W. R., Klepinger, D. H., Billy, J. O. G., & Cubbins, L. A. (2010). The role of relationship power in couple decisions about contraception in the US. *Journal of Biosocial Science, 42*, 307–323.
- Harman, J. J., & Amico, K. R. (2009). The relationship-oriented information-motivation-behavioral skills model: A multilevel structural equation model among dyads. *AIDS and Behavior, 13*, 173-184.
- Harvey, S. M. (2006). Factors associated with effective contraceptive use among a sample of Latina women. *Women and Health, 43*, 1–16.
- Harvey, S. M., Beckman, L. J., Gerend, M. A., Bird, S. T., Posner, S., Huszti, H. C. & Galavotti, C. (2006). A conceptual model of women's condom use intentions: Integrating intrapersonal and relationship factors. *AIDS Care, 18*, 698-709.

- Harvey, S.M., Bird, S.T., Galavotti, C., Duncan, E.A., & Greenberg, D. (2002). Relationship power, sexual decision-making and condom use among women at risk for HIV/STDs. *Women and Health, 36*, 69-84.
- Hammer, J. C., Fisher, J. D., Fitzgerald, P., & Fisher, W. A. (1996). When two heads aren't better than one: AIDS risk behavior in college-age couples. *Journal of Applied Social Psychology, 26*, 375-397.
- Hinde, R. A. (1996). Describing relationships. In A. E. Auhagen & M. von Salisch (Eds.), *The diversity of human relationships* (pp. 7-35). New York: Cambridge University Press.
- Hu, L., & Bentler, P. M. (1995). Evaluating model fit. In R. H. Hoyle (Ed.), *Structural equation modelling: Concepts, issues, and application* (pp. 76-99). London: Sage.
- Hu, L. T. and Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling, 6*, 1-55.
- Huston, T. L. (2000). The social ecology of marriage and other intimate unions. *Journal of Marriage and the Family, 62*, 298-320.
- Ishii-Kuntz, M., Whitbeck, I. B., & Simons, R. I. (1990). AIDS and perceived change in sexual practice: An analysis of a college student sample from California and Iowa. *Journal of Applied Social Psychology, 20*, 1301-1321.
- Joinson, A. (1999). Social desirability, anonymity, and Internet-based questionnaires. *Behavioral Research Methods, Instruments, & Computers, 31*, 433-438.
- Karney, B. R., Hops, H., Redding, C. A., Reis, H. T., Rothman, A. J., & Simpson, J. A. (2010). A framework for incorporating dyads in models of HIV-prevention. *AIDS and Behavior, 14* (Suppl. 2), 189-203.
- Kashy, D. A., & Kenny, D. A. (2000). The analysis of data from dyads and groups. In H. T. Reis & C. M. Judd (Eds.), *Handbook of research methods in social and personality psychology* (pp. 451-477). New York: Cambridge University Press.
- Kelly, J. A., & Kalichman, S. C. (1995). Increased attention to human sexuality can improve HIV-AIDS prevention efforts: Key research issues and directions. *Journal of Consulting and Clinical Psychology, 63*, 907-918.
- Kenny, D. A., Kashy, D. A., & Cook, W. L. (2006). *Dyadic Data Analysis*. New York: Guilford Press.
- Kline, R. B. (2005). *Principles and Practice of Structural Equation Modeling, 2nd Edition*. New York: Guilford Press.
- Kordoutis, P. S., Loumakou, M., & Sarafidou, J. O. (2000). Heterosexual relationship characteristics, condom use and safe sex practices. *AIDS Care, 12*, 767-782.
- Krahe, B., & Reiss, C. (1995). Predicting intentions of AIDS-preventive behavior among adolescents. *Journal of Applied Social Psychology, 25*, 2118-2140.

- Ku, L., Sonenstein, F.L., & Pleck, J. H. (1994). The dynamics of young men's condom use during and across relationships. *Family Planning Perspectives, 26*, 246-251.
- Laursen, B. (2005). Dyadic and group perspectives on close relationships. *International Journal of Behavioral Development, 29*, 97-100.
- Lescano, C. M., Vazquez, E. A., Brown, L. K., Litvin, E. B., & Pugatch, D. (2006). Condom use with "casual" and "main" partners: What's in a name? *Journal of Adolescent Health, 39*, 443.e1-443.e7.
- Loehlin, J. C. (1998). *Latent variable models* (3rd Ed.). Mahwah, NJ: Erlbaum.
- Lucchetti, A. E. (1999). Deception in disclosing one's sexual history: Safe-sex avoidance or ignorance? *Communication Quarterly, 47*, 300-314.
- Manning, W. D., Longmore, M. A., & Giordano, P. C. (2000). The relationship context of contraceptive use at first intercourse. *Family Planning Perspectives, 32*, 104-110.
- Maticka-Tyndale, E. (1997). Reducing the incidence of sexually transmitted disease through behavioral and social change. *The Canadian Journal of Human Sexuality, 6*, 89-104.
- Maticka-Tyndale, E., Barrett, M., & McKay, A. (2000). Adolescent sexual and reproductive health in Canada: A review of national data sources and their limitations. *The Canadian Journal of Human Sexuality, 9*, 41-65.
- McCaul, K. D., Sandgren, A. K., O'Neill, H. K., & Hinsz, V. B. (1993). The value of the theory of planned behavior, perceived control, and self-efficacy for predicting health-protective behaviors. *Basic and Applied Social Psychology, 14*, 231-252.
- McDonald, R. P., & Ho, M. R. (2002). Principles and practice in reporting structural equation analyses. *Psychological Methods, 7*, 64-82.
- Meyerson, P., & Tryon, W. W. (2003). Validating Internet research: A test of the psychometric equivalence of Internet and in-person samples. *Behavior Research Methods, Instruments & Computers, 35*, 614-620.
- Miller, W. B., & Pasta, D. J. (1996). The relative influence of husbands and wives on the choice and use of oral contraception, a diaphragm, and condoms. *Journal of Applied Social Psychology, 26*, 1749-1774
- Misovich, S. J., Fisher, J. D., & Fisher, W.A. (1997). Close relationships and elevated HIV-risk behavior: Evidence and possible underlying psychological processes. *General Psychology Review, 1*, 72-107.
- Morrison-Beedy, D., Carey, M. P., & Lewis, P. (2002). Modeling condom-use stage of change in low-income, single urban women. *Research in Nursing and Health, 25*, 122-134.
- Noar, S. M. (2008). Behavioral interventions to reduce HIV-related sexual risk behavior: Review and synthesis of meta-analytic evidence. *AIDS and Behavior, 12*, 335-353.

- Noar, S. M., Benac, C. N., & Harris, M. S. (2007). Does tailoring matter? Meta-analytic review of tailored print health behavior change interventions. *Psychological Bulletin, 133*, 673-693.
- Noar, S. M., Cole, C., & Carlyle, K. (2006). Condom use measurement in 56 studies of sexual risk behavior: Review and recommendations. *Archives of Sexual Behavior, 35*, 327-345.
- Offir, J. T., Fisher, J. D., Williams, S. S., & Fisher, W. A. (1993). Reasons for inconsistent AIDS-preventive behavior among gay men. *Journal of Sex Research, 30*, 53-60.
- Oncale, R. M., & King, B. M. (2001). Comparison of men's and women's attempts to dissuade sexual partners from the couple using condoms. *Archives of Sexual Behavior, 30*, 379-391.
- Overby, K. J., & Kegeles, S. M. (1994). The impact of AIDS on an urban population of high-risk female minority adolescents: Implications for intervention. *Journal of Adolescent Health, 15*, 216-227.
- Peplau, L. A., Rubin, Z., & Hill, C. T. (1977). Sexual intimacy in dating relationships. *Journal of Social Issues, 33*, 86-109.
- Phillips, K. A. (1993). Factors associated with voluntary HIV testing for African-Americans and Hispanics. *AIDS Education and Prevention, 5*, 95-103.
- Pilkington, C. J., Kern, W., & Indest, D. (1994). Is safer sex necessary with a "safe" partner?: Condom use romantic feelings. *The Journal of Sex Research, 31*, 203-210.
- Prochaska, J. O., & Velicer, W. F. (1997). The Transtheoretical Model of Health Behavior Change. *American Journal of Health Promotion, 12*, 38-48.
- Public Health Agency of Canada (2003). *HIV/AIDS Epi Updates*. Retrieved April 15, 2007 from http://www.phac-aspc.gc.ca/publicat/epiu-aepi/index_03.html
- Public Health Agency of Canada (2010). *HIV/AIDS Epi Updates*. Retrieved May 18, 2011 from <http://www.phac-aspc.gc.ca/aids-sida/publication/epi/2010/index-eng.php>
- Public Health Agency of Canada (2011). *Hepatitis C & sexually transmitted infections surveillance & epidemiology*. Retrieved May 18, 2011 from <http://www.phac-aspc.gc.ca/sti-its-surv-epi/index-eng.php>
- Pulerwitz, J., Amaro, H., De Jong, W., Gortmaker, S. L., & Rudd, R. (2002). Relationship power, condom use and HIV risk among women in the USA. *AIDS Care, 14*, 789-800.
- Pulerwitz, J., Gortmaker, S. L., & DeJong, W. (2000). Measuring relationship power in HIV/STD research. *Sex Roles, 42*, 637-660.
- Reiss, I. L., & Leik, R. K. (1989). Evaluating strategies to avoid AIDS: Number of partners vs. use of condoms. *The Journal of Sex Research, 26*, 411-433.

- Rhodes, S. D., DiClemente, R. J., Cecil, H., Hergenrather, K. C., & Yee, L. J. (2002). Risk among men who have sex with men in the United States: A comparison of an Internet sample and a conventional outreach sample. *AIDS Education and Prevention, 14*, 41-50.
- Rosenstock, I. M. (1974). The health belief model and personal health behavior. *Health Education Monographs 2*, 328-335.
- Ross, M. W., Månsson, S., Daneback, K., Cooper, A., & Tikkanen, R. (2005). Biases in Internet sexual health samples: Comparison of an Internet sexuality survey and a national sexual health survey in Sweden. *Social Science & Medicine, 61*, 245-252.
- Ross, M. W., & Kelly, J. A. (1999). Interventions to reduce HIV transmission in homosexual men. In J. L. Peterson & R. J. DiClemente (Eds.), *Handbook of HIV prevention* (pp. 201-216). New York: Plenum Press.
- Rotermann, M. (2005). Sex condoms and STDs among young people. *Health Reports, 16*, 39-45.
- Salazar, L. F., DiClemente, R. J., Wingood, G. M., Crosby, R. A., Harrington, K., Davies, S. et al. (2004). Self-concept and adolescents' refusal of unprotected sex: A test of mediating mechanisms among African American girls. *Prevention Science, 5*, 137-149.
- Schaefer, M. T., & Olson, D. H. (1981). Assessing intimacy: The PAIR inventory. *Journal of Marital and Family Therapy, 7*, 47-60.
- Semaan, S., Jarlais, D. C. D., & Malow, R. (2006). Behavior change and health-related interventions for heterosexual risk reduction among drug users. *Substance Use & Misuse. Special Issue: Sexually transmitted diseases (STD), human immunodeficiency virus (HIV), and acquired immune deficiency syndrome (AIDS), 41*, 1349-1378.
- Shaver, P. R., & Mikulincer, M. (2002). Attachment-related psychodynamics. *Attachment and Human Development. Special Issue: The Psychodynamics of Adult Attachments—Bridging the Gap between Disparate Research Traditions, 4*, 133–161.
- Shearer, C. L., Hosterman, S. J., Gillen, M. M., & Lefkowitz, E. S. (2005). Are traditional gender role attitudes associated with risky sexual behavior and condom-related beliefs? *Sex Roles, 52*, 311-324.
- Sheeran, P., Abraham, C., & Orbell, S. (1999). Psychosocial correlates of heterosexual condom use: A meta-analysis. *Psychological Bulletin, 125*, 90-132.
- Sheppard, B. H., Hartwick, J., & Warshaw, P. R. (1988). The theory of reasoned action: A meta-analysis of past research with recommendations for modifications and future research. *Journal of Consumer Research, 15*, 325-343.
- Simpson, J. A., & Gangestad, S. W. (1991). Individual differences in sociosexuality: Evidence for convergent and discriminant validity. *Journal of Personality and Social Psychology, 60*, 870-883.

- Statistics Canada. (2007, January 17). *Marriages, 2003*. Retrieved April 7, 2008, from <http://www.statcan.ca/bsolc/english/bsolc?catno=84F0212XWE>
- Statistics Canada. (2010, May 10). *Canadian Internet Use Survey, 2009*. Retrieved May 18, 2011 from <http://www.statcan.gc.ca/daily-quotidien/100510/dq100510a-eng.htm>
- Sternberg, R. J. (1997). Construct validation of a triangular love scale. *European Journal of Social Psychology, 27*, 313-335.
- Stone, K. M., Timyan, J., & Thomas, E. L. (1999). Barrier methods for the prevention of sexually transmitted diseases. In K. K. Holmes, P. Mardh, P. F. Sparling, S. M. Lemon, W. E. Stamm, P. Piot, & J. N. Wasserheit (Eds.), *Sexually Transmitted Diseases* (pp. 1307-1321). New York: McGraw-Hill.
- Thompson, E. H., & Pleck, J. H. (1986). The structure of male norms. *American Behavioral Scientist, 29*, 531-543.
- Truell, A. D., Bartlett, J. E., & Alexander, M. W. (2002). Response rate, speed and completeness: A comparison of Internet-based and mail surveys. *Behavioral Research Methods, Instruments, & Computers, 34*, 46-49.
- Tschann, J. M., Adler, N. E., Millstein, S. G., Gurvey, J. E., & Ellen, J. M. (2002). Relative power between sexual partners and condom use among adolescents. *Journal of Adolescent Health, 31*, 17-25.
- UNAIDS. (2010). *Global report: UNAIDS report on the global AIDS epidemic 2010*. Geneva: UNAIDS. Retrieved May 18, 2011 from http://www.unaids.org/globalreport/documents/20101123_GlobalReport_full_en.pdf
- Wiederman, M. W., & Hurd, C. (1999). Extradynamic involvement during dating. *Journal of Social and Personal Relationships, 16*, 265-274.
- Williams, M., Bowen, A., Elwood, W., McCoy, H. V., Freeman, R., Weatherby, N., & Pierce, T. (2000). Determinants of condom use among African Americans who smoke crack cocaine. *Culture, Health, and Sexuality, 2*, 15-32.
- Williams, S. S., Kinble, D. L., Covell, N. H., Weiss, L. H., Newton, K. J., Fisher, J. D., & Fisher, W. A. (1992). College students use implicit personality theory instead of safer sex. *Journal of Applied Social Psychology, 22*, 921-933.
- Wingwood, G. M., & DiClemente, R. J. (1998). Partner influences and gender-related factors associated with noncondom use among adult African American women. *American Journal of Community Psychology, 26*, 29-51.
- Wood, E. Nosko, A., Desmarais, S., Ross, C., & Irvine, C. (2006). Online and traditional paper-and-pencil survey administration: Examining experimenter presence, sensitive material and long surveys. *The Canadian Journal of Human Sexuality, 15*, 147-155.

Appendices

Appendix A

Study Advertisement

(Posted on the Western Psychology Research Participation website)

Title: Intimate Relationships Survey

Heterosexual romantic couples are needed for participation in a study of sexuality and intimate relationships. **YOU MUST BE IN A SEXUALLY ACTIVE RELATIONSHIP OF LESS THAN TWO YEARS DURATION, AND YOUR PARTNER MUST AGREE TO PARTICIPATE IN ORDER FOR YOU TO RECEIVE COURSE CREDIT.** If your partner agrees to participate, he or she will have the opportunity to enter a draw for a \$100 prize at the completion of the study. You will each be asked to separately complete a confidential online survey assessing a number of variables related to sexuality and intimate relationships. The study will take less than one hour and you will receive one credit point for participating.

Study Advertisement

(Posted on bulletin boards on Western University campus)

INTIMATE RELATIONSHIPS SURVEY

We are looking for heterosexual couples to participate in a research project being conducted by Mr. Corey Isaacs and Dr. William Fisher of the Department of Psychology. The study concerns interpersonal and sexual issues in dating relationships. Both couple partners will be asked to independently complete an online survey assessing their attitudes and behaviors regarding a number of relationship and sexual topics. To participate, you must currently be in a dating relationship of no more than two years in duration and you must be sexually active with your current partner. Both partners need to participate. In return for your participation, you will have the option to enter a draw to win a prize of \$100. For more information about this study, please e-mail relationshipstudy@gmail.com.

Intimate Relationships Survey
Contact: Corey Isaacs
relationshipstudy@gmail.com

Intimate Relationships Survey
Contact: Corey Isaacs
relationshipstudy@gmail.com

Intimate Relationships Survey
Contact: Corey Isaacs
relationshipstudy@gmail.com

Intimate Relationships Survey
Contact: Corey Isaacs
relationshipstudy@gmail.com

Intimate Relationships Survey
Contact: Corey Isaacs
relationshipstudy@gmail.com

Intimate Relationships Survey
Contact: Corey Isaacs
relationshipstudy@gmail.com

Intimate Relationships Survey
Contact: Corey Isaacs
relationshipstudy@gmail.com

Intimate Relationships Survey
Contact: Corey Isaacs
relationshipstudy@gmail.com

Intimate Relationships Survey
Contact: Corey Isaacs
relationshipstudy@gmail.com

Appendix B

Letter of Information (Participants not Receiving Course Credit)

Letter of Information (Western Research Participation Pool)

Debriefing Form

LETTER OF INFORMATION

Title of Project: Intimate Relationships Survey

Principal Investigator: Dr. William Fisher, Department of Psychology,
The University of Western Ontario

We are asking you to consider participating in an on-line questionnaire study conducted by Dr. William Fisher, Ph.D. and Corey Isaacs, M.A. of the Department of Psychology at the University of Western Ontario. Our research focuses on sex-related attitudes, beliefs, and behaviors of people in heterosexual intimate relationships. In order to qualify for this study, you **must be in a sexually active heterosexual relationship of less than one year duration** and both you and **your partner must agree to also participate** before you begin. Please ensure your partner has agreed to participate in the study before you proceed any farther.

If both you and your partner agree to take part in the study, please read this letter and complete the Consent Form below indicating that you understand the nature of the study and you agree to participate. After each of you has completed and submitted a Consent Form, you will each be sent a link to the online survey. Note that both of you must agree to participate before you will be sent the link to the survey, and that **you must complete the survey within 24 hours of each other for your data to be used in the study.**

You and your partner will each be asked to separately complete an entirely confidential online questionnaire about your attitudes, opinions, and behavior regarding sexuality and relationships. If you are dating more than one person at the present time, please ask your primary, or most important partner to participate in this study, and answer the survey questions with that person in mind. Completing this survey will take less than one hour.

Some of the questions in this survey inquire about sensitive information concerning sexual attitudes and sexual behavior. If you do not feel like answering a question at any time, please feel free to leave it blank and move on to the next question. Participation in this study is completely voluntary. You may decline to participate, decline to answer any questions, or withdraw from the study (i.e., stop participating) at any time. We would also like to emphasize that this research is **completely confidential**: we will ask for your initials and date of birth only for the purpose of matching your survey responses with your partner's. Once your survey responses are matched in our database, your initials and date of birth will be deleted and no identifying information will be included in the data.

In order to be entered into the \$100 draw, you must follow these procedures: Once you have submitted your responses by clicking on the "submit" button, a new screen will appear instructing you to enter your full name and e-mail address. **This information is NOT linked to your survey**, since you will have already submitted your responses separately; it simply allows the researchers to know that you have completed the survey

so they can enter your name into the \$100 draw. You will also have the option to request a summary of the study results by e-mail once the study is completed. All data collected will be used for research purposes only, and stored in a secure location viewed only by authorized researchers. Please do NOT include your name anywhere on the survey—all of your answers are anonymous and confidential.

Once you complete your survey online you will be provided with additional information about the study and a list of references if you are interested in learning more about the study. If you have any questions about the research or want to obtain information about results, please feel free to contact Corey Isaacs (cisaacs2@uwo.ca). If you have any questions about the conduct of this study or your rights as a research participant you may contact the Director of the Office of Research Ethics, The University of Western Ontario, 519-661-3036, email: ethics@uwo.ca.

If you wish, you may print a copy of this letter for your records. You will be provided with a copy of this letter once you have completed the survey and you may print or save this letter at that point as well.

CONSENT FORM

Title of Project: Intimate Relationships Survey

Principal Investigator: Dr. William Fisher, Department of Psychology,
The University of Western Ontario

1. Please click in the following boxes to indicate that:

you have read and understood the letter of information and the nature of the study,
and

you agree to participate in the study.

2. Please enter your e-mail address below to receive the link to the online survey.

3. Please enter your partner's e-mail address below. This is to identify your partner in order to verify that both of you have completed a Consent Form before sending each of you the link to the survey.

LETTER OF INFORMATION

Title of Project: Intimate Relationships Survey

Principal Investigator: Dr. William Fisher, Department of Psychology,
The University of Western Ontario

We are asking you to consider participating in an on-line questionnaire study conducted by Dr. William Fisher, Ph.D. and Corey Isaacs, M.A. of the Department of Psychology at the University of Western Ontario. Our research focuses on sex-related attitudes, beliefs, and behaviors of people in heterosexual intimate relationships. In order to qualify for this study, you **must be in a sexually active heterosexual relationship of less than one year duration** and both you and **your partner must agree to also participate** before you begin. Please ensure your partner has agreed to participate in the study before you proceed any farther.

If both you and your partner agree to take part in the study, please read this letter and complete the Consent Form below indicating that you understand the nature of the study and you agree to participate. After each of you has completed and submitted a Consent Form, you will each be sent a link to the online survey. Note that both of you must agree to participate before you will be sent the link to the survey, and that **you must complete the survey within 24 hours of each other for your data to be used in the study.**

You and your partner will each be asked to separately complete an entirely confidential online questionnaire about your attitudes, opinions, and behavior regarding sexuality and relationships. If you are dating more than one person at the present time, please ask your primary, or most important partner to participate in this study, and answer the survey questions with that person in mind. Completing this survey will take less than one hour.

Some of the questions in this survey inquire about sensitive information concerning sexual attitudes and sexual behavior. If you do not feel like answering a question at any time, please feel free to leave it blank and move on to the next question. Participation in this study is completely voluntary. You may decline to participate, decline to answer any questions, or withdraw from the study (i.e., stop participating) at any time. We would also like to emphasize that this research is **completely confidential**: we will ask for your initials and date of birth only for the purpose of matching your survey responses with your partner's. Once your survey responses are matched in our database, your initials and date of birth will be deleted and no identifying information will be included in the data.

In order to obtain course credit, you must follow these procedures: Once you have submitted your responses by clicking on the "submit" button, a new screen will appear instructing you to enter your full name, e-mail address, and student number. **This information is NOT linked to your survey**, since you will have already submitted your responses separately; it simply allows the researchers to know that you have completed

the survey so they can assign you one research credit. You will also have the option to request a summary of the study results by e-mail once the study is completed. All data collected will be used for research purposes only, and stored in a secure location viewed only by authorized researchers. Please do NOT include your name anywhere on the survey—all of your answers are anonymous and confidential.

Once you complete your survey online you will be provided with additional information about the study and a list of references if you are interested in learning more about the study. If you have any questions about the research or want to obtain information about results, please feel free to contact Corey Isaacs (cisaacs2@uwo.ca). If you have any questions about the conduct of this study or your rights as a research participant you may contact the Director of the Office of Research Ethics, The University of Western Ontario, 519-661-3036, email: ethics@uwo.ca.

If you wish, you may print a copy of this letter for your records. You will be provided with a copy of this letter once you have completed the survey and you may print or save this letter at that point as well.

CONSENT FORM

Title of Project: Intimate Relationships Survey

Principal Investigator: Dr. William Fisher, Department of Psychology,
The University of Western Ontario

1. Please click in the following boxes to indicate that:

you have read and understood the letter of information and the nature of the study,
and

you agree to participate in the study.

2. Please enter your e-mail address below to receive the link to the online survey.

3. Please enter your partner's e-mail address below. This is to identify your partner in order to verify that both of you have completed a Consent Form before sending each of you the link to the survey.

DEBRIEFING FORM

Title of Project: Intimate Relationships Survey

Principal Investigator: Dr. William Fisher, Department of Psychology,
The University of Western Ontario

Thank you for participating in this research, which we believe will make a contribution to a developing body of knowledge in psychology regarding sexuality in close relationships. We would like to tell you more about the study you have participated in.

The purpose of the present research is to investigate different factors that may contribute to safer sex decision making in intimate relationships. We are interested in applying a theoretical model, known as the Theory of Planned Behavior (TPB; Ajzen, 1991), to the study of safer sex in relationships. This model states that a person's behavior (e.g., using a condom during sex) is best predicted by his/her intentions to perform that behavior, and his/her intentions are best predicted by his/her attitudes toward that behavior, perceptions of others' support for performing that behavior, and perceptions of control over the behavior. In particular, the goal of this study is to test a *two-person* version of this model, which will allow us to study the ways in which each member of a couple influences the couple's safer sexual behavior. We are especially interested in knowing if one couple member has more influence over this behavior than his/her partner, and if so, what determines this—is it a matter of gender, or perhaps one of general decision-making power in the relationship? The data you have provided will help us to address these and other questions and will help us to increase our understanding of couples' safer sexual behavior.

If you have any questions or comments regarding this study, please feel free to contact Corey Isaacs (cisaacs2@uwo.ca) or Dr. William Fisher (fisher@uwo.ca). If you have any questions about your rights as a research participant, you should contact the Director of the Office of Research Ethics at ethics@uwo.ca or 661-3036.

Thank you for your time and participation, it is greatly appreciated! If you would like to do further reading on the topic, please feel free to check out the following references.

- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50, 179-211.
- Fisher, J. D., & Fisher, W. A. (2000). Theoretical approaches to individual-level change in HIV-risk behavior. In J. Peterson & R. J. DiClemente (Eds.), *HIV prevention handbook* (pp. 3-55). New York: Kluwer Academic/Plenum Press.
- Misovich, S. J., Fisher, J. D., & Fisher, W.A. (1997). Close relationships and elevated HIV-risk behavior: Evidence and possible underlying psychological processes. *General Psychology Review*, 1, 72-107.

Appendix C
Intimate Relationships Survey

Background and Relationship Items

Background Information

The following questions concern your background. Please click on the relevant response or type in your answers as indicated.

1. What are your initials and date of birth?

[Dropdown boxes to select: first initial, last initial, DOB: MMDDYY]

2. What are YOUR PARTNER'S initials and date of birth?

[Dropdown boxes to select: first initial, last initial, DOB: MMDDYY]

3. What is your gender?

MALE

FEMALE

4. What is your age?

(Please type in here)

_____ years old

5. What is your ethnicity?

(Please click on one or more)

Aboriginal (Inuit, Métis, North American Indian)

Arab

Black (e.g., African-Canadian, African, Haitian, Jamaican, Somali)

Chinese

Filipino

Japanese

Korean

Latin American

South Asian

South East Asian

- White (Caucasian)
- Other (please type in here to specify): _____

6. What is your religion?

- Catholic
- Protestant
- Jewish
- Buddhist
- Muslim
- Agnostic
- Atheist
- Other (please type in here to specify): _____

7. How important is religion in your life?

- Not important at all
- Somewhat important
- Important
- Very important
- Extremely important

8. During our lifetime, our sexuality is experienced as both thoughts and fantasies and as behaviors. We often think or fantasize about sexual activities that we never actually wish to engage in. Please rate yourself, in terms of YOUR OWN FANTASIES, during the course of your life, on the following scale:

- Exclusively heterosexual (opposite sex), with no homosexual (same sex) fantasies
- Predominantly heterosexual, with only rare / incidental homosexual fantasies
- Predominantly heterosexual, but more than incidental homosexual fantasies
- Equally heterosexual and homosexual fantasies
- Predominantly homosexual, but more than incidental heterosexual fantasies
- Predominantly homosexual, with only rare / incidental heterosexual fantasies
- Exclusively homosexual, with no heterosexual fantasies

9. Rate yourself, in terms of **YOUR OWN BEHAVIOR** with partners, during the course of your life, on the following scale:
- Exclusively heterosexual (opposite sex), with no homosexual (same sex) behavior
 - Predominantly heterosexual, with only rare / incidental homosexual behaviour
 - Predominantly heterosexual, but more than incidental homosexual behaviour
 - Equally heterosexual and homosexual behaviour
 - Predominantly homosexual, but more than incidental heterosexual behaviour
 - Predominantly homosexual, with only rare / incidental heterosexual behaviour
 - Exclusively homosexual, with no heterosexual behaviour

Sexual History

10. Have you ever had sexual intercourse? Unless specified otherwise, for the purpose of this survey *sexual intercourse* is defined as vaginal (penis in vagina) or anal (penis in rectum, or “butt”) sex.

- YES
- NO

11. At what age did you first have sexual intercourse?

(Please type in here)

_____ years old

12. How many **LIFETIME** sexual partners have you had (i.e., with how many different people have you had sexual intercourse)?

(Please type in the number)

_____ lifetime sexual partners

13. How many sexual partners have you had **IN THE PAST YEAR**?

(Please type in the number)

_____ sexual partners in the past year

14. **IN YOUR LIFETIME**, have you ever used a method of contraception?

- YES
- NO

15. If yes, what methods of contraception have you ever used IN YOUR LIFETIME?
(If “no,” skip to question #16)

(Please click on ALL that apply)

- Oral contraceptives (i.e., the Pill)
- Condom
- Withdrawal
- Morning-after pill
- Rhythm
- Injection (e.g., Depo-Provera)
- Contraceptive patch
- Diaphragm
- Contraceptive sponge
- Spermicidal Contraceptive
- Female condom
- Implant (Implanon/Norplant)
- Cervical cap
- Contraception Ring (Nuva Ring)
- Intrauterine device (IUD)
- Intrauterine system (IUS/Mirena)
- Hysterectomy
- Other (please specify by typing in here): _____

16. AND if you have ever used CONDOMS IN YOUR LIFETIME, please indicate whether you used them:

- to prevent sexually transmitted infections
- as birth control
- both
- does not apply to me (i.e., I have never used condoms)

17. AND if you have ever used CONDOMS IN YOUR LIFETIME, please indicate how consistently you used them:

- every time
- almost every time

- most of the time
- about half of the time
- a number of times, but less than half
- a few times
- never

18. Have you or any relationship partner (past or present) ever been pregnant?

- YES
- NO

19. How concerned are you about the risk of pregnancy?

- Very concerned
- Moderately concerned
- Somewhat concerned
- Not at all concerned

20. How concerned are you about the risk of sexually transmitted diseases?

- Very concerned
- Moderately concerned
- Somewhat concerned
- Not at all concerned

21. How often do you discuss sexual activity with friends or relatives?

- Often
- Sometimes
- Rarely
- Never

Current Relationship

22. What is your partner's gender?

- MALE
- FEMALE

23. How old is your partner?

(Please type in here)

_____ years old

24. How many LIFETIME sexual partners has your partner had (i.e., with how many different people has he/she had sexual intercourse)?

(Please type in the number)

_____ lifetime sexual partners

I don't know

25. For how many months have you been in your current relationship?

(Please type in here)

_____ months

26. If you had to guess, how much longer would you expect your current intimate relationship to continue?

a few weeks

a few months

4-6 months

6-12 months

more than a year

forever

27. Which of the following best describes your current relationship?

Sexual Partners Only

Close Friends

Dating Casually

Dating Exclusively

Living together

Engaged

Common Law

Married

28. Have you and your partner ever engaged in sexual intercourse? (If “no,” skip to question #32)

YES

NO

29. On average, how often do you usually engage in sexual intercourse with your partner?

(Please type in here)

_____ times per [drop-down box to select unit: week/month/year]

30. How many times did you have sexual intercourse in the last week?

(Please type in here)

_____ times

31. How many times did you use a condom during sexual intercourse last week?

(Please type in here)

_____ times

32. How long was it from the time you started dating to the time you first engaged in sexual intercourse?

(Please type in here)

_____ [drop-down box to select unit: weeks/months/years]

33. Have you and your partner EVER used condoms during sexual intercourse?

YES

NO

34. Do you and your partner CURRENTLY use condoms during sexual intercourse?

YES

NO

35. IF you do not currently use condoms during sexual intercourse, how long was it from the time you started using condoms to the time you stopped using them?

(Please type in here)

_____ [drop-down box to select unit: weeks/months/years]

N/A: we never used condoms

36. IF you do not currently use condoms during sexual intercourse, why did you stop using condoms?

(Please type in here)

N/A: we never used condoms

37. Have you had sexual intercourse with someone other than your primary partner, while you were involved in your current relationship?

YES

NO

38. IF YES, with how many other partners?

(Please type in here)

_____ other sexual partners

39. How satisfied are you overall with your current relationship?

Very Satisfied

Somewhat satisfied

Neither satisfied nor dissatisfied

Somewhat dissatisfied

Very dissatisfied

40. How satisfied are you with the sexual aspect of your current relationship?

Very Satisfied

Somewhat satisfied

Neither satisfied nor dissatisfied

Somewhat dissatisfied

Very dissatisfied

41. How satisfied are you with the romantic aspect of your current relationship?

Very Satisfied

Somewhat satisfied

Neither satisfied nor dissatisfied

Somewhat dissatisfied

Very dissatisfied

42. Do you sometimes engage in sexual behaviors to please your partner, even though you don't want to?

YES

NO

43. AND if yes, how often do you engage in sexual behaviors to please your partner, even though you don't want to?

Almost always or always

Most times (more than half the time)

Sometimes (about half the time)

A few times (less than half the time)

Almost never or never

Not Applicable

44. Are you CURRENTLY using a method of contraception? (If "no," skip to question #43)

YES

NO

45. If yes, what methods of contraception are you or your partner CURRENTLY using?

(Please click on ALL that apply)

Oral contraceptives (i.e., the Pill)

Condom

Withdrawal

- Morning-after pill
- Rhythm
- Injection (e.g., Depo-Provera)
- Contraceptive patch
- Diaphragm
- Contraceptive sponge
- Spermicidal Contraceptive
- Female condom
- Implant (Implanon/Norplant)
- Cervical cap
- Contraception Ring (Nuva Ring)
- Intrauterine device (IUD)
- Intrauterine system (IUS/Mirena)
- Hysterectomy
- Other (please specify by typing in here): _____

46. AND if you are CURRENTLY using CONDOMS, please indicate whether you use them:

- to prevent sexually transmitted infections
- as birth control
- both
- does not apply to me (i.e., I am not currently using condoms)

47. AND if you are CURRENTLY using CONDOMS, please indicate how consistently you use them:

- every time
- almost every time
- most of the time
- about half of the time
- a number of times, but less than half
- a few times
- never

48. Have you ever been tested for sexually transmitted infections (e.g., Chlamydia, Gonorrhea)?

- Regularly
- Once
- Never

49. Were you tested for sexually transmitted infections (e.g., Chlamydia, Gonorrhea) before you engaged in sexual intercourse with your current partner?

- YES
- NO
- Not applicable (we have never had sexual intercourse)

50. Was your partner tested for sexually transmitted infections (e.g., Chlamydia, Gonorrhea) before you engaged in sexual intercourse?

- YES
- NO
- I don't know
- Not applicable (we have never had sexual intercourse)

51. Have you ever been tested for HIV?

- Regularly
- Once
- Never

52. Were you tested for HIV before you engaged in sexual intercourse with your current partner?

- YES
- NO
- Not applicable (we have never had sexual intercourse)

53. Was your partner tested for HIV before you engaged in sexual intercourse?

- YES
- NO

- I don't know
- Not applicable (we have never had sexual intercourse)

54. Have you ever been diagnosed with any of the following conditions?

(Check all that apply)

- Gonorrhea
- Chlamydia
- Pelvic Inflammatory Disease
- HIV (Human Immunodeficiency Virus)
- Syphilis
- HPV (Human Papilloma Virus)
- Herpes Simplex
- Other sexually transmitted infections

55. To your knowledge, has your partner ever been diagnosed with any of the following conditions?

(Check all that apply)

- Gonorrhea
- Chlamydia
- Pelvic Inflammatory Disease
- HIV (Human Immunodeficiency Virus)
- Syphilis
- HPV (Human Papilloma Virus)
- Herpes Simplex
- Other sexually transmitted infections

Attitudes toward HIV Preventive Acts

Each question below is asked in the context of what you would think or do **IN THE NEXT TWO MONTHS**. Although many of the situations discussed might be relevant for a much longer period of time, for research purposes, we need to have a standard time frame. Answer each of the questions below by clicking in the box that best represents your feelings.

- 1. Using a condom every time I have sexual intercourse with my relationship partner during the next two months would be:

pleasant I ___ I ___ I ___ I ___ I ___ I ___ I ___ I unpleasant
worthless I ___ I ___ I ___ I ___ I ___ I ___ I ___ I valuable
good I ___ I ___ I ___ I ___ I ___ I ___ I ___ I bad
enjoyable I ___ I ___ I ___ I ___ I ___ I ___ I ___ I unenjoyable
harmful I ___ I ___ I ___ I ___ I ___ I ___ I ___ I beneficial

- 2. Getting a blood test to check whether I have the HIV virus during the next two months would be:

pleasant I ___ I ___ I ___ I ___ I ___ I ___ I ___ I unpleasant
worthless I ___ I ___ I ___ I ___ I ___ I ___ I ___ I valuable
good I ___ I ___ I ___ I ___ I ___ I ___ I ___ I bad
enjoyable I ___ I ___ I ___ I ___ I ___ I ___ I ___ I unenjoyable
harmful I ___ I ___ I ___ I ___ I ___ I ___ I ___ I beneficial

- 3. Asking my relationship partner to get a blood test to check whether he/she has the HIV virus during the next two months would be:

pleasant I ___ I ___ I ___ I ___ I ___ I ___ I ___ I unpleasant
worthless I ___ I ___ I ___ I ___ I ___ I ___ I ___ I valuable
good I ___ I ___ I ___ I ___ I ___ I ___ I ___ I bad
enjoyable I ___ I ___ I ___ I ___ I ___ I ___ I ___ I unenjoyable
harmful I ___ I ___ I ___ I ___ I ___ I ___ I ___ I beneficial

Now we'd like you to think about how your partner feels about safer sex.

4. For my partner, using a condom every time we have sexual intercourse during the next two months would be:

pleasant I ___ I ___ I ___ I ___ I ___ I ___ I ___ I unpleasant
 worthless I ___ I ___ I ___ I ___ I ___ I ___ I ___ I valuable
 good I ___ I ___ I ___ I ___ I ___ I ___ I ___ I bad
 enjoyable I ___ I ___ I ___ I ___ I ___ I ___ I ___ I unenjoyable
 harmful I ___ I ___ I ___ I ___ I ___ I ___ I ___ I beneficial

5. For my partner, getting a blood test to check whether he/she has the HIV virus during the next two months would be:

pleasant I ___ I ___ I ___ I ___ I ___ I ___ I ___ I unpleasant
 worthless I ___ I ___ I ___ I ___ I ___ I ___ I ___ I valuable
 good I ___ I ___ I ___ I ___ I ___ I ___ I ___ I bad
 enjoyable I ___ I ___ I ___ I ___ I ___ I ___ I ___ I unenjoyable
 harmful I ___ I ___ I ___ I ___ I ___ I ___ I ___ I beneficial

6. For my partner, asking me to get a blood test to check whether I have the HIV virus during the next two months would be:

pleasant I ___ I ___ I ___ I ___ I ___ I ___ I ___ I unpleasant
 worthless I ___ I ___ I ___ I ___ I ___ I ___ I ___ I valuable
 good I ___ I ___ I ___ I ___ I ___ I ___ I ___ I bad
 enjoyable I ___ I ___ I ___ I ___ I ___ I ___ I ___ I unenjoyable
 harmful I ___ I ___ I ___ I ___ I ___ I ___ I ___ I beneficial

Subjective Norms Regarding HIV Preventive Acts

Social Norms Regarding HIV Preventive Acts

1. The people in my life whose opinions I value think that

I should I _____ I _____ I _____ I _____ I _____ I _____ I _____ I I should not

use a condom every time I have sexual intercourse with my relationship partner during the next two months.

2. My doctor thinks that

I should I _____ I _____ I _____ I _____ I _____ I _____ I _____ I I should not

use a condom every time I have sexual intercourse with my relationship partner during the next two months.

3. The people in my life whose opinions I value think that

I should I _____ I _____ I _____ I _____ I _____ I _____ I _____ I I should not

get a blood test to check whether I have the HIV virus during the next two months.

4. My doctor thinks that

I should I _____ I _____ I _____ I _____ I _____ I _____ I _____ I I should not

get a blood test to check whether I have the HIV virus during the next two months.

5. The people in my life whose opinions I value think that

I should I _____ I _____ I _____ I _____ I _____ I _____ I _____ I I should not

ask my partner to get a blood test to check whether he/she has the HIV virus during the next two months.

6. My doctor thinks that

I should I _____ I _____ I _____ I _____ I _____ I _____ I _____ I I should not

ask my partner to get a blood test to check whether he/she has the HIV virus during the next two months.

7. The people in my life whose opinions I value

do I _____ I _____ I _____ I _____ I _____ I _____ I _____ I do not

use a condom every time they have sexual intercourse.

8. The people in my life whose opinions I value

do I _____ I _____ I _____ I _____ I _____ I _____ I _____ I do not

get a blood test to check whether they have the HIV virus.

Partner Norms Regarding HIV Preventive Acts

9. My relationship partner thinks that

I should I _____ I _____ I _____ I _____ I _____ I _____ I _____ I I should not

use a condom every time I have sexual intercourse with him/her during the next two months.

10. My relationship partner would

approve I _____ I _____ I _____ I _____ I _____ I _____ I _____ I disapprove

of my using a condom every time I have sexual intercourse with him/her during the next two months.

11. My relationship partner thinks that

I should I _____ I _____ I _____ I _____ I _____ I _____ I _____ I I should not

get a blood test to check whether I have the HIV virus during the next two months.

12. My relationship partner would

approve I _____ I _____ I _____ I _____ I _____ I _____ I _____ I _____ I _____ disapprove

of my getting a blood test to check whether I have the HIV virus during the next two months.

13. My relationship partner would

approve I _____ I _____ I _____ I _____ I _____ I _____ I _____ I _____ I _____ disapprove

of my asking him/her to get a blood test to check whether he/she has the HIV virus during the next two months.

Motivation to Comply with Normative Referents

14. Generally speaking, how much do you want to do what important others think you should do?

Definitely do not do I _____ I _____ I _____ I _____ I _____ I _____ I _____ I _____ I _____ Definitely do

what important others think I should do.

15. Generally speaking, how much do you want to do what your doctor thinks you should do?

Definitely do not do I _____ I _____ I _____ I _____ I _____ I _____ I _____ I _____ I _____ Definitely do

what my doctor thinks I should do.

16. Generally speaking, how much do you want to do what your relationship partner thinks you should do?

Definitely do not do I _____ I _____ I _____ I _____ I _____ I _____ I _____ I _____ I _____ Definitely do

what my relationship partner thinks I should do.

Perceived Behavioral Control

Capability

1. For me to use a condom every time I have sexual intercourse with my relationship partner during the next two months would be:

impossible I ___ I ___ I ___ I ___ I ___ I ___ I ___ I possible

2. If I wanted to, I could use a condom every time I have sexual intercourse with my relationship partner during the next two months.

definitely true I ___ I ___ I ___ I ___ I ___ I ___ I ___ I definitely false

3. For me to get a blood test to check whether I have the HIV virus during the next two months would be:

impossible I ___ I ___ I ___ I ___ I ___ I ___ I ___ I possible

4. If I wanted to, I could get a blood test to check whether I have the HIV virus during the next two months.

definitely true I ___ I ___ I ___ I ___ I ___ I ___ I ___ I definitely false

5. For me to ask my partner to get a blood test to check whether he/she has the HIV virus during the next two months would be:

impossible I ___ I ___ I ___ I ___ I ___ I ___ I ___ I possible

6. If I wanted to, I could ask my partner to get a blood test to check whether he/she has the HIV virus during the next two months.

definitely true I ___ I ___ I ___ I ___ I ___ I ___ I ___ I definitely false

Controllability

7. How much control do you believe you have over using a condom every time you have sexual intercourse with your relationship partner during the next two months?

no control I ___ I ___ I ___ I ___ I ___ I ___ I ___ I complete control

8. It is mostly up to me whether or not I use a condom every time I have sexual intercourse with my relationship partner during the next two months.

strongly agree I _____ I _____ I _____ I _____ I _____ I _____ I _____ I strongly disagree

9. How much control do you believe you have over getting a blood test to check whether you have the HIV virus during the next two months?

no control I _____ I _____ I _____ I _____ I _____ I _____ I _____ I complete control

10. It is mostly up to me whether or not I get a blood test to check whether I have the HIV virus during the next two months.

strongly agree I _____ I _____ I _____ I _____ I _____ I _____ I _____ I strongly disagree

11. How much control do you believe you have over asking your partner to get a blood test to check whether he/she has the HIV virus during the next two months?

no control I _____ I _____ I _____ I _____ I _____ I _____ I _____ I complete control

12. It is mostly up to me whether or not I ask my partner to get a blood test to check whether he/she has the HIV virus during the next two months.

strongly agree I _____ I _____ I _____ I _____ I _____ I _____ I _____ I strongly disagree

Behavioral Intentions for HIV Prevention

1. I intend to use a condom every time I have sexual intercourse with my relationship partner during the next two months.

very unlikely I ___ I ___ I ___ I ___ I ___ I ___ I very likely

2. I will try to use a condom every time I have sexual intercourse with my relationship partner during the next two months.

definitely true I ___ I ___ I ___ I ___ I ___ I ___ I definitely false

3. I plan to use a condom every time I have sexual intercourse with my relationship partner during the next two months.

strongly disagree I ___ I ___ I ___ I ___ I ___ I ___ I strongly agree

4. I intend to get a blood test to check whether I have the HIV virus during the next two months.

very unlikely I ___ I ___ I ___ I ___ I ___ I ___ I very likely

5. I will try to get a blood test to check whether I have the HIV virus during the next two months.

definitely true I ___ I ___ I ___ I ___ I ___ I ___ I definitely false

6. I plan to get a blood test to check whether I have the HIV virus during the next two months.

strongly disagree I ___ I ___ I ___ I ___ I ___ I ___ I strongly agree

7. I intend to ask my partner to get a blood test to check whether he/she has the HIV virus during the next two months.

very unlikely I ___ I ___ I ___ I ___ I ___ I ___ I very likely

8. I will try to ask my partner to get a blood test to check whether he/she has the HIV virus during the next two months.

definitely true I____I____I____I____I____I____I____I definitely false

9. I plan to ask my partner to get a blood test to check whether he/she has the HIV virus during the next two months.

strongly disagree I____I____I____I____I____I____I____I strongly agree

HIV Risk and Preventive Behaviors with Primary Partner

Please answer the following questions about your behavior during the past two months.

1. Have you had sexual intercourse during the past two months?

Click one:

Yes No

2. During the past two months, what percentage of the time did you use a condom during sexual intercourse with your relationship partner?

Click one:

0% - 10% - 30% - 30% - 40% - 50% - 60% - 70% - 80% - 90% -100%

3. Please estimate how often you used a condom during sexual intercourse with your relationship partner in the past two months. Click the box that best represents your estimate.

- every time
 almost every time
 most of the time
 about half of the time
 a number of times, but less than half
 a few times
 never

4. Were condoms used during the last time you and your relationship partner had sexual intercourse?

Click one:

Yes No

5. If you had sexual intercourse with someone other than your relationship partner during the past two months, what percentage of the time did you use a condom?

Click one:

0% - 10% - 20% - 30% - 40% - 50% - 60% - 70% - 80% - 90% -100% not applicable

6. If you had sexual intercourse with someone other than your relationship partner during the past two months, please estimate how often you used a condom. Click the box that best represents your estimate.
- every time
 - almost every time
 - most of the time
 - about half of the time
 - a number of times, but less than half
 - a few times
 - never
 - not applicable
7. Were condoms used during the last time you had sexual intercourse with someone other than your relationship partner?
- Click one:
- Yes No
8. In the past two months, have you gotten a blood test to determine whether you have HIV?
- Click one:
- Yes No
9. In the past two months, have you asked your partner to get a blood test to determine whether he/she has HIV?
- Click one:
- Yes No
10. In the past two months, has your relationship partner gotten a blood test to determine whether he/she has HIV?
- Click one:
- Yes No

HIV Prevention Information

Behaviorally-Relevant HIV Transmission Information

1. Unprotected oral sex (penis in mouth) is less risky for transmitting the HIV virus from a man to a woman than unprotected vaginal sex.

strongly agree I _____ I _____ I _____ I _____ I _____ I _____ I _____ I strongly disagree

2. Most people who have been exposed to the HIV virus show clearly visible symptoms of serious illness.

strongly agree I _____ I _____ I _____ I _____ I _____ I _____ I _____ I strongly disagree

3. More of the HIV virus is found in blood and semen than in other body fluids.

strongly agree I _____ I _____ I _____ I _____ I _____ I _____ I _____ I strongly disagree

4. There are no cases of people getting the HIV virus from contact with saliva.

strongly agree I _____ I _____ I _____ I _____ I _____ I _____ I _____ I strongly disagree

5. A person can be infected with HIV for five or more years without developing AIDS.

strongly agree I _____ I _____ I _____ I _____ I _____ I _____ I _____ I strongly disagree

6. It is unsafe to share drinking glasses and eating utensils with people who have HIV.

strongly agree I _____ I _____ I _____ I _____ I _____ I _____ I _____ I strongly disagree

7. If you and your partner are both HIV negative and your relationship is monogamous then the two of you do not have to practice safer sex.

strongly agree I _____ I _____ I _____ I _____ I _____ I _____ I _____ I strongly disagree

8. If you kiss someone who has HIV, you are likely to get HIV.

strongly agree I _____ I _____ I _____ I _____ I _____ I _____ I _____ I strongly disagree

9. During sexual intercourse, men can transmit the HIV virus somewhat more easily to women than women can transmit it to men.

strongly agree I _____ I _____ I _____ I _____ I _____ I _____ I _____ I strongly disagree

10. Oil-based lubricants such as Vaseline should be used to lubricate condoms.

strongly agree I _____ I _____ I _____ I _____ I _____ I _____ I _____ I strongly disagree

11. Condoms may be stored in one's wallet for two months without damaging the condom.

strongly agree I _____ I _____ I _____ I _____ I _____ I _____ I _____ I strongly disagree

12. Vaginal sex without a condom is a sexual practice that is low risk for male to female transmission of the HIV virus, if the male withdraws his penis immediately before he ejaculates.

strongly agree I _____ I _____ I _____ I _____ I _____ I _____ I _____ I strongly disagree

13. In order for a condom to effectively reduce one's risk for HIV, it must be put on before any sexual intercourse takes place.

strongly agree I _____ I _____ I _____ I _____ I _____ I _____ I _____ I strongly disagree

14. Natural condoms made of animal products are as effective as latex condoms in preventing transmission of the HIV virus.

strongly agree I _____ I _____ I _____ I _____ I _____ I _____ I _____ I strongly disagree

15. Condoms have an "expiration date" like food does, and you should not buy condoms if their expiration date has passed.

strongly agree I _____ I _____ I _____ I _____ I _____ I _____ I _____ I strongly disagree

16. When properly used, latex condoms greatly reduce the chance that the HIV virus will be transmitted through sexual intercourse.

strongly agree I _____ I _____ I _____ I _____ I _____ I _____ I _____ I strongly disagree

HIV Information Heuristics

1. Asking your partner about their sexual history is an effective way to determine whether or not to practice safer sex with them.

strongly agree I _____ I _____ I _____ I _____ I _____ I _____ I _____ I strongly disagree

2. If you know a person's sexual history and lifestyle before you have sex with them, it is unnecessary to use condoms.

strongly agree I _____ I _____ I _____ I _____ I _____ I _____ I _____ I strongly disagree

3. When you feel you have gotten to know someone very well, you no longer need to practice safer sex with them.

strongly agree I _____ I _____ I _____ I _____ I _____ I _____ I _____ I strongly disagree

4. The way a person behaves around you when you first meet them is probably a good indicator of whether or not they are the type of person who may have been exposed to the HIV virus.

strongly agree I _____ I _____ I _____ I _____ I _____ I _____ I _____ I strongly disagree

5. If two people have sex only with each other, they don't have to practice safer sex.

strongly agree I _____ I _____ I _____ I _____ I _____ I _____ I _____ I strongly disagree

6. You only need to use condoms during "one night stands."

strongly agree I _____ I _____ I _____ I _____ I _____ I _____ I _____ I strongly disagree

7. As long as a person doesn't belong to a "high risk" group such as gay men or drug users, you really don't need to worry about getting HIV from them.

strongly agree I _____ I _____ I _____ I _____ I _____ I _____ I _____ I strongly disagree

8. You can tell whether a potential sex partner is at risk for HIV by how they dress and how they look.

strongly agree I _____ I _____ I _____ I _____ I _____ I _____ I _____ I strongly disagree

HIV Prevention Behavioral Skills

For the following questions, please select the answer you feel best applies to you. We realize that some of these questions may seem a bit repetitive or awkward, but for scientific reasons, the questions have to be phrased in a particular way. Each of the questions is different, and each is important to the outcome of this study. Please be patient and answer as best you can.

Difficulty of HIV Preventive Behavior

Please click the appropriate box to indicate how hard or easy it would be for you to do each of the following things.

1. How hard would it be for you to discuss safer sex with your partner before having sex with him/her?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Very Hard	Fairly Hard	Neither Hard Nor	Fairly Easy	Very Easy
To Do	To Do	Easy to Do	To Do	To Do

2. How hard would it be for you to tell your partner through a joke or a "one-liner" that you want to practice only safer sex?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Very Hard	Fairly Hard	Neither Hard Nor	Fairly Easy	Very Easy
To Do	To Do	Easy to Do	To Do	To Do

3. How hard would it be for you to be supportive if your sexual partner brought up the topic of using condoms to reduce the risk of getting HIV?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Very Hard	Fairly Hard	Neither Hard Nor	Fairly Easy	Very Easy
To Do	To Do	Easy to Do	To Do	To Do

4. If you were about to have sex, how hard would it be for you to show your partner nonverbally (e.g., through body movements) that you want to practice only safer sex?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Very Hard	Fairly Hard	Neither Hard Nor	Fairly Easy	Very Easy
To Do	To Do	Easy to Do	To Do	To Do

5. How hard would it be for you to buy condoms?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Very Hard	Fairly Hard	Neither Hard Nor	Fairly Easy	Very Easy
To Do	To Do	Easy to Do	To Do	To Do

6. How hard would it be for you to plan ahead to be sure you always have condoms on hand whenever you have sex?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Very Hard	Fairly Hard	Neither Hard Nor	Fairly Easy	Very Easy
To Do	To Do	Easy to Do	To Do	To Do

7. How hard would it be for you to convince your partner to use a condom with you for sexual intercourse?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Very Hard	Fairly Hard	Neither Hard Nor	Fairly Easy	Very Easy
To Do	To Do	Easy to Do	To Do	To Do

8. How hard would it be for you to make your partner feel good about using condoms during sexual intercourse?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Very Hard	Fairly Hard	Neither Hard Nor	Fairly Easy	Very Easy
To Do	To Do	Easy to Do	To Do	To Do

9. How hard would it be for you to continue using condoms every time you have sexual intercourse until both you and your partner get an HIV blood test?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Very Hard	Fairly Hard	Neither Hard Nor	Fairly Easy	Very Easy
To Do	To Do	Easy to Do	To Do	To Do

10. How hard would it be for you to do everything necessary to get an HIV blood test?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Very Hard	Fairly Hard	Neither Hard Nor	Fairly Easy	Very Easy
To Do	To Do	Easy to Do	To Do	To Do

11. How hard would it be for you to persuade your partner to get an HIV blood test?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Very Hard	Fairly Hard	Neither Hard Nor	Fairly Easy	Very Easy
To Do	To Do	Easy to Do	To Do	To Do

12. How hard would it be for you to continue to use condoms with your partner every time you have sexual intercourse until both of you get an HIV blood test?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Very Hard	Fairly Hard	Neither Hard Nor	Fairly Easy	Very Easy
To Do	To Do	Easy to Do	To Do	To Do

Perceived Effectiveness of HIV Preventive Behavior

Please select how effectively or ineffectively you could do each of the following things with your current relationship partner.

1. How effectively could you discuss safer sex with your partner before having sex with them?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Very	Somewhat	Neither Effectively	Somewhat	Very
Effectively	Effectively	Nor Ineffectively	Ineffectively	
Ineffectively				

2. How effectively could you tell your partner through a joke or a "one-liner" that you want to practice only safer sex?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Very	Somewhat	Neither Effectively	Somewhat	Very
Effectively	Effectively	Nor Ineffectively	Ineffectively	
Ineffectively				

3. How effectively could you be supportive if your sexual partner brought up the topic of using condoms to reduce the risk of getting HIV/AIDS?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Very	Somewhat	Neither Effectively	Somewhat	Very
Effectively	Effectively	Nor Ineffectively	Ineffectively	
Ineffectively				

4. If you were about to have sex, how effectively could you show your partner nonverbally (e.g., through body movements) that you want to practice only safer sex?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Very	Somewhat	Neither Effectively	Somewhat	Very
Effectively	Effectively	Nor Ineffectively	Ineffectively	
Ineffectively				

5. How effectively could you buy condoms?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Very	Somewhat	Neither Effectively	Somewhat	Very
Effectively	Effectively	Nor Ineffectively	Ineffectively	
Ineffectively				

6. How effectively could you plan ahead to be sure you always have condoms on hand whenever you have sex?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Very	Somewhat	Neither Effectively	Somewhat	Very
Effectively	Effectively	Nor Ineffectively	Ineffectively	
Ineffectively				

7. How effectively could you convince your partner to use a condom with you for vaginal sex?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Very	Somewhat	Neither Effectively	Somewhat	Very
Effectively	Effectively	Nor Ineffectively	Ineffectively	
Ineffectively				

8. How effectively could you make your partner feel good about using condoms during vaginal intercourse?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Very	Somewhat	Neither Effectively	Somewhat	Very
Effectively	Effectively	Nor Ineffectively	Ineffectively	
Ineffectively				

9. How effectively could you continue using condoms every time you have sexual intercourse until both you and your partner get an HIV blood test?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Very	Somewhat	Neither Effectively	Somewhat	Very
Effectively	Effectively	Nor Ineffectively	Ineffectively	
Ineffectively				

10. How effectively could you do everything necessary to get an HIV blood test?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Very	Somewhat	Neither Effectively	Somewhat	Very
Effectively	Effectively	Nor Ineffectively	Ineffectively	
Ineffectively				

11. How effectively could you persuade your partner to get an HIV blood test?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Very	Somewhat	Neither Effectively	Somewhat	Very
Effectively	Effectively	Nor Ineffectively	Ineffectively	
Ineffectively				

12. How effectively could you continue to use condoms with your partner every time you have sexual intercourse until both of you get an HIV blood test?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Very	Somewhat	Neither Effectively	Somewhat	Very
Effectively	Effectively	Nor Ineffectively	Ineffectively	
Ineffectively				

Perceived Personal and Partner Vulnerability to HIV Infection

Please answer the questions below about you or your partner's chance of getting HIV.

1. Considering your past and present behavior, what would you say are your chances of getting HIV?
 - Almost certainly will not
 - Small of very small chance
 - Some chance
 - Large or very large chance
 - Almost certainly will

2. When you compare yourself to the average person, what would you say are your chances of getting HIV?
 - Much lower
 - A little lower
 - About the same
 - A little higher
 - Much higher

3. When you compare yourself to your partner, what would you say are your chances of getting HIV?
 - Much lower
 - A little lower
 - About the same
 - A little higher
 - Much higher

4. What do you think are the chances that you already have HIV?
 - Almost certainly have not
 - Small of very small chance
 - Some chance
 - Large or very large chance
 - Almost certainly have

5. Considering your partner's past and present behavior, what would you say are his or her chances of getting HIV?
- Almost certainly will not
 - Small of very small chance
 - Some chance
 - Large or very large chance
 - Almost certainly will
6. When you compare your partner to the average person, what would you say are his or her chances of getting HIV?
- Much lower
 - A little lower
 - About the same
 - A little higher
 - Much higher
7. What do you think are the chances that your partner already has HIV?
- Almost certainly have not
 - Small of very small chance
 - Some chance
 - Large or very large chance
 - Almost certainly have

Sexual Relationship Power Scale (SRPS)

Relationship Control Subscale

1. If I asked my partner to use a condom, he would get violent. (R)
Strongly agree 1 2 3 4 Strongly disagree
2. If I asked my partner to use a condom, he would get angry. (R)
Strongly agree 1 2 3 4 Strongly disagree
3. Most of the time, we do what my partner wants to do.
Strongly agree 1 2 3 4 Strongly disagree
4. My partner won't let me wear certain things.
Strongly agree 1 2 3 4 Strongly disagree
5. When my partner and I are together, I'm pretty quiet.
Strongly agree 1 2 3 4 Strongly disagree
6. My partner has more say than I do about important decisions that affect us.
Strongly agree 1 2 3 4 Strongly disagree
7. My partner tells me who I can spend time with.
Strongly agree 1 2 3 4 Strongly disagree
8. If I asked my partner to use a condom, he would think I'm having sex with other people. (R)
Strongly agree 1 2 3 4 Strongly disagree
9. I feel trapped or stuck in our relationship.
Strongly agree 1 2 3 4 Strongly disagree
10. My partner does what he wants, even if I do not want him to.
Strongly agree 1 2 3 4 Strongly disagree
11. I am more committed to our relationship than my partner is.
Strongly agree 1 2 3 4 Strongly disagree

12. When my partner and I disagree, he gets his way most of the time.

Strongly agree 1 2 3 4 Strongly disagree

13. My partner gets more out of our relationship than I do.

Strongly agree 1 2 3 4 Strongly disagree

14. My partner always wants to know where I am.

Strongly agree 1 2 3 4 Strongly disagree

15. My partner might be having sex with someone else.

Strongly agree 1 2 3 4 Strongly disagree

Decision-Making Dominance Subscale

16. Who usually has more say about whose friends to go out with?

1	2	3
Your Partner	Both of you Equally	You

17. Who usually has more say about whether you have sex?

1	2	3
Your Partner	Both of you Equally	You

18. Who usually has more say about what you do together?

1	2	3
Your Partner	Both of you Equally	You

19. Who usually has more say about how often you see one another?

1	2	3
Your Partner	Both of you Equally	You

20. Who usually has more say about when you talk about serious things?

1	2	3
Your Partner	Both of you Equally	You

21. In general, who do you think has more power in your relationship?

1	2	3
Your Partner	Both of you Equally	You

22. Who usually has more say about whether you use condoms? (R)

1	2	3
Your Partner	Both of you Equally	You

23. Who usually has more say about what types of sexual acts you do?

1	2	3
Your Partner	Both of you Equally	You

Dyadic Trust Scale

1. My partner is primarily interested in his/her own welfare.

I strongly agree 1 2 3 4 5 6 7 8 9 I strongly disagree

2. There are times when my partner cannot be trusted.

I strongly agree 1 2 3 4 5 6 7 8 9 I strongly disagree

3. My partner is perfectly honest and truthful with me. (R)

I strongly agree 1 2 3 4 5 6 7 8 9 I strongly disagree

4. I feel that I can trust my partner completely. (R)

I strongly agree 1 2 3 4 5 6 7 8 9 I strongly disagree

5. My partner is truly sincere in his/her promises. (R)

I strongly agree 1 2 3 4 5 6 7 8 9 I strongly disagree

6. I feel that my partner does not show me enough consideration.

I strongly agree 1 2 3 4 5 6 7 8 9 I strongly disagree

7. My partner treats me fairly and justly. (R)

I strongly agree 1 2 3 4 5 6 7 8 9 I strongly disagree

8. I feel that my partner can be counted on to help me. (R)

I strongly agree 1 2 3 4 5 6 7 8 9 I strongly disagree

Perceived Relationship Quality Component (PRQC) Inventory

Relationship Satisfaction

1. How satisfied are you with your relationship?

Not at all satisfied 1 2 3 4 5 6 7 Extremely satisfied

2. How content are you with your relationship?

Not at all content 1 2 3 4 5 6 7 Extremely content

3. How happy are you with your relationship?

Not at all happy 1 2 3 4 5 6 7 Extremely happy

Commitment

4. How committed are you to your relationship?

Not at all committed 1 2 3 4 5 6 7 Extremely committed

5. How dedicated are you to your relationship?

Not at all dedicated 1 2 3 4 5 6 7 Extremely dedicated

6. How devoted are you to your relationship?

Not at all devoted 1 2 3 4 5 6 7 Extremely devoted

Intimacy

7. How intimate is your relationship?

Not at all intimate 1 2 3 4 5 6 7 Extremely intimate

8. How close is your relationship?

Not at all close 1 2 3 4 5 6 7 Extremely close

9. How connected are you to your partner?

Not at all connected 1 2 3 4 5 6 7 Extremely connected

Trust

10. How much do you trust your partner?

Not at all 1 2 3 4 5 6 7 Extremely

11. How much can you count on your partner?

Not at all 1 2 3 4 5 6 7 Extremely

12. How dependable is your partner?

Not at all dependable 1 2 3 4 5 6 7 Extremely dependable

Passion

13. How passionate is your relationship?

Not at all passionate 1 2 3 4 5 6 7 Extremely passionate

14. How lustful is your relationship?

Not at all lustful 1 2 3 4 5 6 7 Extremely lustful

15. How sexually intense is your relationship?

Not at all intense 1 2 3 4 5 6 7 Extremely intense

Love

16. How much do you love your partner?

Not at all 1 2 3 4 5 6 7 Extremely

17. How much do you adore your partner?

Not at all 1 2 3 4 5 6 7 Extremely

18. How much do you cherish your partner?

Not at all 1 2 3 4 5 6 7 Extremely

Commitment Scale

For the following questions, please indicate how strongly you feel about each statement.

1. How likely is it that your relationship with your partner will be permanent?
not at all likely 1 2 3 4 5 6 7 extremely likely
2. How attracted are you to other potential partners or a single life style? (R)
not at all attracted 1 2 3 4 5 6 7 extremely attracted
3. How likely is it that you and your partner will be together six months from now?
not at all likely 1 2 3 4 5 6 7 extremely likely
4. How much trouble would ending your relationship be to you personally? (R)
no trouble at all 1 2 3 4 5 6 7 a lot of trouble
5. How attractive would another person have to be for you to pursue a new relationship?
not at all attractive 1 2 3 4 5 6 7 extremely attractive
6. How likely are you to pursue another relationship or single life in the future? (R)
not at all likely 1 2 3 4 5 6 7 extremely likely
7. How obligated do you feel to continue this relationship?
not at all obligated 1 2 3 4 5 6 7 extremely obligated
8. In your opinion, how committed is your partner to this relationship?
not at all committed 1 2 3 4 5 6 7 extremely committed
9. In your opinion, how likely is your partner to continue this relationship?
not at all likely 1 2 3 4 5 6 7 extremely likely

Relationship Assessment Scale (RAS)

These questions ask about **your** perceptions of your relationship.

1. How well does your partner meet your needs?

not at all 1 2 3 4 5 6 7 a great deal

2. In general, how satisfied are you with your relationship?

not at all 1 2 3 4 5 6 7 a great deal

3. How good is your relationship compared to most?

poor 1 2 3 4 5 6 7 extremely good

4. How often do you wish you hadn't gotten into this relationship?

not at all 1 2 3 4 5 6 7 a great deal

5. To what extent has your relationship met your original expectations?

not at all 1 2 3 4 5 6 7 a great deal

6. How much do you love your partner?

not at all 1 2 3 4 5 6 7 a great deal

7. How many problems are there in your relationship?

none at all 1 2 3 4 5 6 7 a great deal

Index of Sexual Satisfaction (ISS)

1. I feel that my partner enjoys our sex life. (R)

1	2	3	4	5	6	7
None of the time	Very rarely	A little of the time	Some of the time	A good part of the time	Most of the time	All of the time

2. Our sex life is very exciting. (R)

1	2	3	4	5	6	7
None of the time	Very rarely	A little of the time	Some of the time	A good part of the time	Most of the time	All of the time

3. Sex is fun for my partner and me. (R)

1	2	3	4	5	6	7
None of the time	Very rarely	A little of the time	Some of the time	A good part of the time	Most of the time	All of the time

4. Sex with my partner has become a chore for me.

1	2	3	4	5	6	7
None of the time	Very rarely	A little of the time	Some of the time	A good part of the time	Most of the time	All of the time

5. I feel that our sex is dirty and disgusting.

1	2	3	4	5	6	7
None of the time	Very rarely	A little of the time	Some of the time	A good part of the time	Most of the time	All of the time

6. Our sex life is monotonous.

1	2	3	4	5	6	7
None of the time	Very rarely	A little of the time	Some of the time	A good part of the time	Most of the time	All of the time

7. When we have sex it is too rushed and hurriedly completed.

1	2	3	4	5	6	7
None of the time	Very rarely	A little of the time	Some of the time	A good part of the time	Most of the time	All of the time

8. I feel that my sex life is lacking in quality.

1	2	3	4	5	6	7
None of the time	Very rarely	A little of the time	Some of the time	A good part of the time	Most of the time	All of the time

9. My partner is sexually very exciting. (R)

1	2	3	4	5	6	7
None of the time	Very rarely	A little of the time	Some of the time	A good part of the time	Most of the time	All of the time

10. I enjoy the sex techniques that my partner likes to use. (R)

1	2	3	4	5	6	7
None of the time	Very rarely	A little of the time	Some of the time	A good part of the time	Most of the time	All of the time

11. I feel that my partner wants too much sex from me.

1	2	3	4	5	6	7
None of the time	Very rarely	A little of the time	Some of the time	A good part of the time	Most of the time	All of the time

12. I think that our sex is wonderful. (R)

1	2	3	4	5	6	7
None of the time	Very rarely	A little of the time	Some of the time	A good part of the time	Most of the time	All of the time

13. My partner dwells on sex too much.

1	2	3	4	5	6	7
None of the time	Very rarely	A little of the time	Some of the time	A good part of the time	Most of the time	All of the time

14. I try to avoid sexual contact with my partner.

1	2	3	4	5	6	7
None of the time	Very rarely	A little of the time	Some of the time	A good part of the time	Most of the time	All of the time

15. My partner is too rough or brutal when we have sex.

1	2	3	4	5	6	7
None of the time	Very rarely	A little of the time	Some of the time	A good part of the time	Most of the time	All of the time

16. My partner is a wonderful sex mate. (R)

1	2	3	4	5	6	7
None of the time	Very rarely	A little of the time	Some of the time	A good part of the time	Most of the time	All of the time

17. I feel that sex is a normal function of our relationship. (R)

1	2	3	4	5	6	7
None of the time	Very rarely	A little of the time	Some of the time	A good part of the time	Most of the time	All of the time

18. My partner does not want sex when I do.

1	2	3	4	5	6	7
None of the time	Very rarely	A little of the time	Some of the time	A good part of the time	Most of the time	All of the time

19. I feel that our sex life really adds a lot to our relationship. (R)

1	2	3	4	5	6	7
None of the time	Very rarely	A little of the time	Some of the time	A good part of the time	Most of the time	All of the time

20. My partner seems to avoid sexual contact with me.

1	2	3	4	5	6	7
None of the time	Very rarely	A little of the time	Some of the time	A good part of the time	Most of the time	All of the time

21. It is easy for me to get sexually excited by my partner. (R)

1	2	3	4	5	6	7
None of the time	Very rarely	A little of the time	Some of the time	A good part of the time	Most of the time	All of the time

22. I feel that my partner is sexually pleased with me. (R)

1	2	3	4	5	6	7
None of the time	Very rarely	A little of the time	Some of the time	A good part of the time	Most of the time	All of the time

23. My partner is very sensitive to my sexual needs and desires. (R)

1	2	3	4	5	6	7
None of the time	Very rarely	A little of the time	Some of the time	A good part of the time	Most of the time	All of the time

24. My partner does not satisfy me sexually.

1	2	3	4	5	6	7
None of the time	Very rarely	A little of the time	Some of the time	A good part of the time	Most of the time	All of the time

25. I feel that my sex life is boring.

1	2	3	4	5	6	7
None of the time	Very rarely	A little of the time	Some of the time	A good part of the time	Most of the time	All of the time

Sexual Communication Self Efficacy Scale (SCSES)

With your current relationship partner, how hard is it for you to...

1. ask how many sex partners she/he has had?

1	2	3	4
Very Hard	Hard	You	Very Easy

2. ask if he/she has ever shared IV needles?

1	2	3	4
Very Hard	Hard	You	Very Easy

3. ask if she/he is having sex with other people?

1	2	3	4
Very Hard	Hard	You	Very Easy

4. ask if she/he has ever had an STD?

1	2	3	4
Very Hard	Hard	You	Very Easy

5. ask if she/he would use a condom?

1	2	3	4
Very Hard	Hard	You	Very Easy

6. demand she/he use a condom?

1	2	3	4
Very Hard	Hard	You	Very Easy

7. refuse to have sex if she/he won't use a condom?

1	2	3	4
Very Hard	Hard	You	Very Easy

Partner Communication Scale (PCS)

During the past 6 months, how many times have you and your sex partner discussed:

1. how to prevent pregnancy

0	1	2	3
Never	Sometimes 1-3 times	Often / 4-6 times	A lot / 7 or more times

2. how to use condoms

0	1	2	3
Never	Sometimes 1-3 times	Often / 4-6 times	A lot / 7 or more times

3. how to prevent the AIDS virus

0	1	2	3
Never	Sometimes 1-3 times	Often / 4-6 times	A lot / 7 or more times

4. how to prevent STDs

0	1	2	3
Never	Sometimes 1-3 times	Often / 4-6 times	A lot / 7 or more times

5. your partner's sex history

0	1	2	3
Never	Sometimes 1-3 times	Often / 4-6 times	A lot / 7 or more times

6. your sex history

0	1	2	3
Never	Sometimes 1-3 times	Often / 4-6 times	A lot / 7 or more times

The Sexual Opinion Survey (SOS)

1. I think it would be very entertaining to look at erotica (sexually explicit books, etc.)

I strongly agree 1 2 3 4 5 6 7 I strongly disagree

2. Erotica (sexually explicit books, movies, etc) is obviously filthy and people should not try to describe it as anything else.

I strongly agree 1 2 3 4 5 6 7 I strongly disagree

3. Swimming in the nude with a member of the opposite sex would be an exciting experience.

I strongly agree 1 2 3 4 5 6 7 I strongly disagree

4. Masturbation can be an exciting experience.

I strongly agree 1 2 3 4 5 6 7 I strongly disagree

5. If I found out a close friend of mine was a homosexual it would annoy me.

I strongly agree 1 2 3 4 5 6 7 I strongly disagree

6. If people thought I was interested in oral sex, I would be embarrassed.

I strongly agree 1 2 3 4 5 6 7 I strongly disagree

7. Engaging in group sex is an interesting idea.

I strongly agree 1 2 3 4 5 6 7 I strongly disagree

8. I personally find thinking about engaging in sexual intercourse arousing.

I strongly agree 1 2 3 4 5 6 7 I strongly disagree

9. Seeing an erotic (sexually explicit) movie would be sexual arousing.

I strongly agree 1 2 3 4 5 6 7 I strongly disagree

10. Thoughts that I may have homosexual tendencies would not worry me at all.

I strongly agree 1 2 3 4 5 6 7 I strongly disagree

11. The idea of being attracted to members of the same sex is not depressing.

I strongly agree 1 2 3 4 5 6 7 I strongly disagree

12. Almost all erotic material (sexually explicit) is nauseating.

I strongly agree 1 2 3 4 5 6 7 I strongly disagree

13. It would be emotionally upsetting to me to see someone exposing themselves publicly.

I strongly agree 1 2 3 4 5 6 7 I strongly disagree

14. Watching a stripper of the opposite sex would not be very exciting.

I strongly agree 1 2 3 4 5 6 7 I strongly disagree

15. I would not enjoy seeing an erotic (sexually explicit) movie.

I strongly agree 1 2 3 4 5 6 7 I strongly disagree

16. When I think of myself seeing pictures showing someone of the same sex as myself masturbating it nauseates me.

I strongly agree 1 2 3 4 5 6 7 I strongly disagree

17. The thought of engaging in unusual sexual practices is highly arousing.

I strongly agree 1 2 3 4 5 6 7 I strongly disagree

18. Manipulating my genitals would be an arousing experience.

I strongly agree 1 2 3 4 5 6 7 I strongly disagree

19. I do enjoy daydreaming about sexual matters.

I strongly agree 1 2 3 4 5 6 7 I strongly disagree

20. I am not curious about explicit erotica (sexually explicit books, movies, etc.).

I strongly agree 1 2 3 4 5 6 7 I strongly disagree

21. The thought of having long term sexual relations with more than one sex partner is not disgusting to me.

I strongly agree 1 2 3 4 5 6 7 I strongly disagree

Appendix D

Description of Additional Measures Included in the Intimate Relationships Survey

Information–Motivation–Behavioral Skills Measures

A relationship-relevant modified version of the Health and Relationships Survey (Misovich, W. A. Fisher, & J. D. Fisher, 1998) will be used to assess HIV prevention information, motivation and behavioral skills. This scale was used as the basis for HIV risk reduction elicitation, intervention, and evaluation research with university students (J. D. Fisher et al., 1996), and variants of the scale have been used in research examining determinants of HIV preventive behavior among gay men and heterosexual university students (J. D. Fisher et al., 1994), minority urban adolescents (W. A. Fisher, Williams, J. D. Fisher, & Malloy, 1999), and inner-city high school students (J. D. Fisher, W. A. Fisher, Bryan, & Misovich, 2002). Evidence of validity of the subscales outlined below is provided by evidence that scores on each scale changed as expected in response to an HIV risk reduction intervention that targeted HIV preventive information, motivation, and behavioral skills, but not in a control condition (J. D. Fisher et al., 1996). Some of the scales to be used in the proposed study were revised by J.D. Fisher and W. A. Fisher (1994) to be specifically relevant to individuals in romantic relationships and include items, for example, regarding perceptions of one's partner's attitudes in addition to one's own attitudes toward condoms.

HIV prevention information. HIV prevention information is assessed with a version of the HIV prevention information scale (Misovich et al., 1998) that has been modified to be relevant to heterosexual adults in relationships. The HIV prevention information measure consists of two scales that assess knowledge of HIV prevention information relevant to performing HIV preventive behavior and that have been found to be deficient in elicitation research with heterosexual university student and adult samples (Misovich, Pittman, J. D. Fisher, & W. A. Fisher, as cited in Misovich et al., 1998). The scales measure essential information about HIV preventive behaviors (16 items; e.g., “When properly used, latex condoms greatly reduce the chance that the virus that causes AIDS will be transmitted through sexual intercourse.”) and HIV information heuristics (eight items; e.g., “When you feel you have gotten to know someone very well, you no longer need to practice safer sex with them”). Participants respond to each item on a 5-point

Likert-type scale ranging from *strongly agree* to *strongly disagree*. Items are then scored as correct (1 point) or as incorrect or not sure (0 points), and a total HIV prevention information score is calculated. J. D. Fisher et al. (1996) reported a Cronbach's alpha of .75 for the information scale. The information component of the IMB model as measured by this scale has also been repeatedly shown to be related to HIV preventive behavior as specified in the IMB model (e.g., J. D. Fisher et al., 1996; J. D. Fisher et al., 2002).

HIV prevention motivation. The measure of HIV prevention motivation consists of three subscales, based on the constructs of the theory of reasoned action (Ajzen and Fishbein, 1980; Fishbein and Ajzen, 1975). These are *Attitudes toward HIV Preventive Acts*, *Subjective Norms Regarding HIV Preventive Acts*, and *Behavioral Intentions for HIV Prevention*. These scales are each described in the Method section.

HIV prevention behavioral skills. HIV prevention behavioral skills will be assessed with two subscales that measure participants' perceived difficulty of and effectiveness at a range of HIV preventive behaviors. The *Perceived Difficulty of AIDS Preventive Behavior* subscale consists of 12 items that assess participants' perceptions of the difficulty of enacting a number of HIV preventive behaviors (e.g., always using condoms during intercourse, refusing to have sex with their partner if he/she refused to use a condom). Participants respond to each item on a 5-point scale (1 = *very hard*, 5 = *very easy*), and items are summed to form an overall score of perceived difficulty of HIV preventive behavior. J. D. Fisher et al. (1996) reported a Cronbach's alpha of .74 for this scale. The *Perceived Effectiveness of AIDS Preventive Behavior* subscale asks participants to indicate how effectively they think they could engage in a number of HIV preventive behaviors (e.g., initiating safer sexual practices with your partner). Participants respond on a 5-point scale (1 = *very effectively*, 5 = *very ineffectively*), and items are summed to form an overall score of perceived effectiveness of HIV preventive behavior. J. D. Fisher et al. (1996) reported a Cronbach's alpha of .88 for this scale. Further, validity evidence includes the fact that responses to similar items were significantly correlated with raters' evaluations of participants' written and role-played performance of HIV preventive behaviors (Williams et al., 1998).

Dyadic Trust

The Dyadic Trust Scale (Larzelere & Huston, 1980) is an 8-item scale designed to measure interpersonal trust as distinct from general trust. Participants respond to the items on a 9-point scale (1 = strongly disagree; 9 = strongly agree). The trust score is calculated as the mean of the eight items, with a higher score indicating more trust. Original reliability for the scale was Cronbach's alpha = .93 (Larzelere and Huston, 1980). Larzelere and Huston found dyadic trust to be associated with measures of love, intimacy of self-disclosure, and level of commitment toward the relationship.

Perceived Relationship Quality

Relationship quality will be measured with the Perceived Relationship Quality Component (PRQC) Inventory (Fletcher, Simpson, & Thomas, 2000). This inventory measures six perceived relationship quality components (satisfaction, commitment, intimacy, trust, passion, and love) on a 7-point Likert-type scale ranging from 1 (*not at all*) to 7 (*extremely*). These components load on one second-order factor reflecting global perceived relationship quality. Fletcher et al. (2000) reported reliability coefficients for the scales ranging from 0.74 to 0.94.

Commitment

Participants' commitment to their current partner will be measured using Lund's Commitment Scale (Lund, 1985). The Commitment Scale is composed of nine items such as, "How likely is it that your relationship will be permanent?" and "In your opinion, how committed is your partner to this relationship?" Respondents rate items from 1 (*not at all*) to 7 (*very*). Higher scores indicate greater perceptions of commitment. Lund reported an alpha reliability of .82.

Relationship Satisfaction

The Relationship Assessment Scale (RAS; Hendrick, 1988) is based on a 5-item Marital Assessment Questionnaire used in previous research (Hendrick, 1981) and will be used to

measure participants' general satisfaction in their current relationship. Participants indicate their level of satisfaction regarding seven relationship issues on a 7-point Likert-type scale (1 = *none of the time*; 7 = *all of the time*). Total scores on the RAS can range from 7 (not satisfied at all with relationship) to 49 (completely satisfied with relationship). The RAS has been shown to be a valid predictor of whether or not couples will stay together (Hendrick, 1988).

Sexual Satisfaction

The Index of Sexual Satisfaction (ISS; Hudson, Harrison, & Grosscup, 1981) will be used to assess behavior, attitudes, occurrences, and affection associated with sexual relationships. Participants are asked to respond to 25 items on a 7-point scale (1 = *none of the time*; 7 = *all of the time*). Normative data shows that a score of 30 or less indicates satisfaction with the sexual component of the relationship, scores between 30 and 70 indicate the possibility of clinical problems, and scores above 70 are indicative of serious stress, signifying a possibility of relationship violence.

Sexual Communication Self-Efficacy

A short form version of the Sexual Communication Self-Efficacy Scale (SCSES; Milhausen et al., 2006) will be used to measure participants' communication efficacy and outcome expectancies in sexual relationships. This assessment consists of four items rated on a 4-point scale (1 = *very hard*, 4 = *very easy*) rating confidence in one's ability to directly ask a partner about his/her sexual and STI history prior to first intercourse. Efficacy items and outcome expectancy items are subdivided into partner-related (e.g., asking a partner that one doesn't know too well/ risking rejection by a partner) and situation-related (e.g., asking when already in a sexual situation/ fear of ruining the mood) domains. Higher sexual communication self-efficacy is correlated with higher frequencies of engaging in safer sex (DiIorio, Dudley, Lehr, & Soet, 2000).

Frequency of Sexual Communication

The Partner Communication Scale (PCS; Milhausen et al., 2007) asks participants to report how frequently they engaged in a six different sexuality-related topics with their relationship partner in the previous six months (e.g., “During the past 6 months, how many times have you and your sex partner discussed how to prevent pregnancy?”). Participants respond to each item on a 4-point scale ranging from 0 (*never*) to 3 (*a lot/seven or more times*). Milhausen et al. validated the scale with a sample of African American females with male partners and reported that the PCS was a valid and reliable (Cronbach’s alphas ranged from .80 to .90) measure of frequency of sexual communication. The scale was shown to correlate with sexual communication self-efficacy, sexual refusal self-efficacy, fear of communication about condoms, partner-related barriers to condom use, and condom use with steady and nonsteady partners.

Erotophobia-Erotophilia

The Sexual Opinion Scale (SOS; W. A. Fisher, Byrne, White, & Kelley, 1988) will be used to assess explicit attitudes toward sexuality. This measure consists of 21 items rated on a 7-point Likert-type scale (1 = *strongly agree*; 7 = *strongly disagree*). The scale explores individual’s affective responses to sexual stimuli by asking participant’s to indicate their predicted response to specific sexual activities or situations. Erotophilic individuals score higher on the scale and are characterized by expressing less guilt about sex, talking about sex more openly, and holding more positive attitudes toward sexually explicit material. In contrast, erotophobic individuals have lower scores on this scale and are characterized by expressions of guilt and fear about sex, less open communication about sex, and more negative reactions to sexually explicit material.

References

- DiIorio, C., Dudley, W., Lehr, S., & Soet, J. (2000). Correlates of safer sex communication among college students. *Journal of Advanced Nursing, 32*, 658-665.
- Fisher, J.D., & Fisher, W.A. (1994). *Changing AIDS-risk behavior in relationships*. Proposal submitted to NIMH, January 3, 1994.
- Fisher, J. D., Fisher, W. A., Bryan, A. D., & Misovich, S. J. (2002). Information-Motivation-Behavioral Skills Model-based HIV risk behavior change intervention for inner-city high school youth. *Health Psychology, 21*, 177-186.
- Fisher, J. D., Fisher, W. A., Misovich, S. J., Kimble, D. L., & Malloy, T. E. (1996). Changing AIDS risk behavior: Effects of an intervention emphasizing AIDS risk reduction information, motivation, and behavioral skills in a college student population. *Health Psychology, 15*, 114-123.
- Fisher, W. A., Byrne, D., White, L. A., & Kelley, K. (1988). Erotophobia-erotophilia as a dimension of personality. *Journal of Sex Research, 25*, 123-151.
- Fisher, W. A., Williams, S. S., Fisher, J. D., & Malloy, T. E. (1999). Understanding AIDS risk behavior among sexually active urban adolescents: An empirical test of the information-motivation-behavioral skills model. *AIDS and Behavior, 3*, 13-23.
- Fletcher, G. J. O., Simpson, J. A., Thomas, G. (2000). The measurement of perceived relationship quality components: A confirmatory factor analytic approach. *Personality and Social Psychology Bulletin, 26*, 340-354.
- Hendrick, S. (1981). Self-disclosure and marital satisfaction. *Journal of Personality and Social Psychology, 40*, 1150-1159.
- Hendrick, S. (1988). A generic measure of relationship satisfaction. *Journal of Marriage and the Family, 50*, 93-98.
- Hudson, W. W., Harrison, D. F., & Crosscup, P. C. (1981). A short-form scale to measure sexual discord in dyadic relationships. *Journal of Sex Research, 17*, 157-174.
- Larzelere, R. E., & Huston, T. L. (1980). The dyadic trust scale: Towards understanding interpersonal trust in close relationships. *Journal of Marriage and the Family, 42*, 595-604.
- Lund, M. (1985). The development of investment and commitment scales for predicting the continuity of personal relationships. *Journal of Social and Personal Relationships, 2*, 3-23.
- Milhausen, R. R., Sales, J. M., Wingood, G. M., DiClemente, R. J., Salazar, L. F., & Crosby, R. A. (2006). Validation of the sexual communication self-efficacy scale (SCSES). Unpublished manuscript.
- Milhausen, R. R., Sales, J. M., Wingood, G. M., DiClemente, R. J., Salazar, L. F., & Crosby, R. A. (2007). Validation of a partner sexual communication scale for use

in HIV/AIDS prevention interventions. *Journal of HIV/AIDS Prevention in Children and Youth*, 8, 11-33.

Misovich, S. J., Fisher, W. A., & Fisher, J. D. (1998). A measure of AIDS prevention information, motivation, behavioral skills, and behavior. In C. M. Davis, W. L. Yarber, R. Bauserman, G. Schrer, & S. L. Davis (Eds.), *Handbook of sexuality-related measures* (pp. 328-337). Thousand Oaks, CA: Sage.

Williams, S. S., Doyle, T. M., Pittman, L. D., Weiss, L. H., Fisher, J. D., & Fisher, W. A. (1998). Roleplayed safer sex skills of heterosexual college students influenced by both personal and partner factors. *AIDS and Behavior*, 2, 177-187.

Curriculum Vitae

Name: Corey R. Isaacs

Post-secondary Education and Degrees: **HBSc**, Dalhousie University
Halifax, Nova Scotia, Canada

MA, The University of Western Ontario
London, Ontario, Canada

PhD, The University of Western Ontario
London, Ontario, Canada

Honours and Awards: Graduate Student Human Sexuality Award (2009)
Canadian Sex Research Forum Annual Meeting

Province of Ontario Graduate Scholarship (2006, 2007)

Best Poster Award (2004)
Association of Professors of Obstetrics and Gynaecology Annual Meeting

Best Presentation Award (2001)
Atlantic Provinces Interdisciplinary Council on the Sciences Annual Meeting

Related Work Experience Instructor, The University of Western Ontario (2007-present)
Human Sexuality
Social Cognition and Motivation

Instructor, King's University College (2010-present)
Introduction to Psychology
Human Sexuality

Instructor, Fanshawe College (2009-2011)
Introduction to Psychology
Psychology of Addiction
Culture of Addiction

Course Author, The University of Western Ontario
Human Sexuality (Distance Studies)

Contributor, McGraw-Hill Ryerson
Psychology: Frontiers and Applications

Author, Nelson Education Canada
Social Psychology, 2nd Can. Ed. Lecture Slides
Psychology: A Journey, 4th Can. Ed. Lecture Slides

Author, Pearson Education Canada
Human Sexuality in a World of Diversity, 4th Can. Ed.
Instructor's Manual

Publications

- Lenehan, J. G., Leonard, K. C., Nandra, S., Isaacs, C. R., Mathew, A., & Fisher, W. A. (2008). Knowledge, attitudes, and intentions concerning human papillomavirus vaccination: Findings of a waiting room survey of Canadian obstetrics-gynaecology outpatients. *Journal of Obstetrics and Gynaecology Canada* 30(6), 489-499.
- Isaacs, C. R., & Fisher, W. A. (2008). A computer-based educational intervention to address potential negative effects of Internet pornography. *Communication Studies*, 59(1), 1-18.
- Isaacs, C. R. (2004). Child pornography: An internet crime (Review). *New Media & Society*, 6, 581-583.
- Sullivan, M. J. L., Adams, H. M., Rhodenizer, T. D., Isaacs, C. R. (2001, 2003) Pain-Disability Prevention Program Client Workbook. Halifax, Nova Scotia: PDP Program Inc.

Unpublished Manuscripts

- Isaacs, C. R., Jacobson, M., & Fisher, W. A. Prevalence and correlates of sexual dysfunction in a Canadian female university sample. Unpublished manuscript.
- Fisher, W. A., Shuper, P. A., Pook, T., Done, B., Clark, F., Aykroyd, G., Defend, M., Isaacs, C. R., & Gilmour, J. Sustaining the HIV pandemic: Unprotected sexual behaviour, suboptimal adherence to antiretroviral therapy, and ineffective clinical counselling reported by HIV infected Canadians at the millennium. Unpublished manuscript.
- Penava, D., Fisher, W. A., Isaacs, C. R., Shuper, P., & Stanojevic, S. Evaluating medical student communication skills: Reliability and convergence of standardized patient and physician evaluator ratings. Unpublished manuscript.

Conference Presentations

- Isaacs, C. R., & Fisher, W. A. (2009). Development of a two-person model of condom use intentions and behavior. Paper presented at the Annual Meeting of the Canadian Sex Research Forum. Halifax, Canada.

- Jacobson, M., Isaacs, C. R., & Fisher, W. A. (2008). Prevalence and correlates of sexual dysfunction in a young adult female community sample. Paper presented at the Annual Meeting of the Society of Obstetricians and Gynaecologists of Canada. Calgary, Alberta.
- Isaacs, C. R., & Fisher, W. A. (2007). He says, she says: A two-person model of safer sex in intimate relationships. Paper presented at the Annual Meeting of the Canadian Sex Research Forum. Banff, Canada.
- Isaacs, C. R., & Fisher, W. A. (2007). Peggy's Porn Guide: Utilizing the Internet to deliver an Internet pornography educational intervention. Poster presented at the Annual Meeting of the International Academy of Sex Research. Vancouver, Canada.
- Isaacs, C. R., & Fisher, W. A. (2006). An Internet-Driven Educational Immunization against Possible Negative Effects of Internet Pornography. Paper presented at the Annual Meeting of the Society for the Scientific Study of Sexuality. Las Vegas, Nevada.
- Isaacs, C. R. (2006). Internet Pornography: Are there Negative Effects and Can we Prevent Them? Paper presented at the 2006 Western-Waterloo Social Psychology Annual Meeting. London, Canada.
- Penava, D., Stanojevic, S., Isaacs, C., Shuper, P., & Fisher, W. (2004). Development of an OSCE Evaluation Tool for Communication Skills. Poster presented at the Annual Meeting of the Association of Professors of Obstetrics and Gynaecology. Toronto, Canada.
- Isaacs, C. R. (2001). Partners' Responses to Catastrophizers' Pain Displays: An Examination of the Communal Coping Model of Catastrophizing. Paper presented at the Annual Meeting of the Atlantic Provinces Council on the Sciences. Halifax, Nova Scotia.