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Sexual Health Education in College: The Impact of Sexual Negotiation Training on Sexual Risk Reduction

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THE FLORIDA STATE UNIVERSITY
COLLEGE OF HUMAN SCIENCES

SEXUAL HEALTH EDUCATION IN COLLEGE: THE IMPACT OF SEXUAL
NEGOTIATION TRAINING ON SEXUAL RISK REDUCTION

By
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I dedicate this dissertation to my parents. Without their courage, foresight, and sacrifice this accomplishment would not have been possible. Their long journey, love, discipline, and value for education will be with me always. Mama and Baba, Yekenyeley!

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ABSTRACT

A two-group randomized experimental study was used to evaluate the impact of sexual negotiation training as compared to standard health education on improving sexual risk outcomes (i.e., condom use, knowledge about a partner's sexual history, and condom use self-efficacy) among college students (n = 183). A repeated measure ANOVA revealed that, compared to those in the comparison group, participants who received sexual negotiation training were significantly more likely to report greater condom use at post-test. Secondly, intentions did not mediate the link between condition and post-test sexual risk outcomes (i.e., condom use and knowledge about a partner's sexual history). Finally, regression analyses examined whether relationship factors (i.e., relationships satisfaction, trust, commitment, communication) predicted sexual risk outcomes among participants in exclusive dating relationships (n = 108). Relationship satisfaction was significantly associated with condom use at post-test among those in exclusive relationships. Overall, the public health implications of these findings warrant attention. Findings from this study illustrate the benefits of sexual negotiation education at improving condom use and call for the development and implementation of sexual negotiation training among college students, an underserved population.

Keywords: sexual negotiation, college students, condom use, sexual history, efficacy

CHAPTER ONE

INTRODUCTION

The spread of sexually transmitted infections (STIs) and the human immunodeficiency virus (HIV) remains a significant public health concern in the United States (Centers for Disease Control and Prevention [CDC], 2009). Young adults constitute one of the most vulnerable groups to contract STIs and HIV, accounting for nearly half of new STI cases in the United States (CDC, 2011a). Between 2005 and 2008 the CDC estimated that 3.9 million individuals ages 15-24 were diagnosed with a STI, which does not include the millions of cases that go undiagnosed each year (CDC, 2011a). Another 30,000 individuals, ages 13-24 are infected with HIV.

The high incidence of STIs among young adults may be attributed in large part to a lack of effective sexual health education (Otto-Salaj, Reed, Brondino, Gore-Felton, Kelly, & Stevenson, 2008). As a result, critics have called for more rigorous research to examine how to improve current sexual health education programs (e.g., Airhihenbuwa & Obregon, 2000; Corbett, Dickson-Gomez, Hilario, & Weeks, 2009). This study addresses this challenge by examining one form of sexual health education, sexual negotiation training. More specifically, it examines (a) the impact of sexual negotiation training as compared to standard sexual health education on reducing sexual risk-taking among college students (b) whether intentions mediate the relationship between sexual negotiation training and sexual risk reduction, and (c) whether or not various relationship factors are linked with sexual risk outcomes among college students in exclusive dating relationships who receive sexual health education.

The Current State of Sexual Health Education Programs

Despite the impressive number of sexual health education programs in the United States, the ideas and principles commonly used to guide these programs have been challenged. Some have criticized the use and efficiency of some of the most common theories (e.g., theory of planned behavior) and models (e.g., health belief model) that guide sexual health education programs (Freimuth, 1992; Yoder, 1997), noting that these programs are founded on principles that emphasize individualism rather than the relational or multicontextual factors that impact behavior (e.g., Kiene, Barta, Zelenski, & Cothran, 2005). For instance, Airhihenbuwa and

Obregon (2000) suggested that, “theories and models commonly used in health communication and promotion clearly show that HIV/AIDS communication is based on the behavior and decision-making process of so-called rational individuals who follow an established linear path from awareness to attitude to actions” (p. 12). Proponents of relational based sexual health education programs argue that individuals are not always rational in their decision-making and that sex related decisions are often based on emotions, which are commonly linked to relational factors.

Supporters of relational based programs also argue that sexual beliefs, decisions, and practices originate from relational processes (Yoder, 1997). Supporting this view, some studies show that relational processes regulate the ways in which individuals measure their state of health and their health related behaviors (e.g., Umphrey & Sherblom, 2007; Williamson, Buston, & Sweeting, 2009). In the context of sexual behaviors, one factor that impacts individuals’ use of condoms is their ability to negotiate with their partner (Harvey et al., 2006).

Research that supports the link between dyadic interaction processes (i.e., communication between partners about using condoms; Fox, 2009) and individuals’ sexual behaviors has encouraged educators and community health officials to adopt sexual negotiation training programs (e.g., Corbett et al., 2009). These programs provide skills based training that emphasize sexual communication, negotiation, and decision-making (Hendriksen, Pettifor, Lee, Coates, & Rees, 2007). Sexual communication strategies are used to encourage individuals to communicate condom use requests with partners and to reinforce negotiation attempts. Implicit in the training is the assumption that the negotiation strategies taught to individuals will help them successfully communicate about safe sex practices with their partner. The training is meant to help individuals engage in open dialogue about their trepidations, risk, and the barriers to condom use. Research shows that sexual negotiation training can reduce risky sexual behavior for heterosexual couples (Corbett et al., 2009), at-risk inner city women (e.g., DiClemente & Wingwood, 1995), gay men (Crawford et al., 2006), and those with mental health illness (Otto-Salaj, Kelly, Stevenson, Hoffman, & Kalichman, 2001).

Despite the growing use of sexual negotiation training among various populations (e.g., Tschann, Flores, Groat, Deardorff, & Wibbelsman, 2010), no studies have examined the benefits of sexual negotiation training among young adults in college. Also, despite the emphasis on dyadic interactions (i.e., communication patterns), sexual negotiation training programs do not

clearly illustrate how important relationship factors (e.g., commitment level, relationship satisfaction, trust) may be linked to individuals' sexual decision-making and safe sex practices. Not surprisingly, little data exists on how relationship factors are associated with education. Further, there are no empirical studies that have looked at how relationship factors are linked to sexual outcomes among college students receiving sexual health education. This study is the first to examine whether or not relationship factors are linked to sexual outcomes among college students receiving standard sexual health education and sexual negotiation training.

Sexual Health Education for College Students

For many, the college years provide “unprecedented personal freedom and multiple new social experiences and relationships” (Gullette & Lyons, 2005, p. 47). However, during this time of exploration many students put themselves at risk. Studies show that participation in at-risk sexual behaviors among college students continues to grow (e.g., Synovitz, Wood, Gillan, McKay, & Totten, 2008). About 86% of college students are sexually active, but only 35% engage in consistent condom use (Lewis, Miglez-Burbano, & Malow, 2009). Also, more than half of college students have reported engaging in at least one hookup encounter in the last year (Owen, Rhoades, Stanley, & Fincham, 2010; Owen, Fincham, & Moore, 2011) and 23-49% have engaged in sexual infidelity while in college (Vail-Smith, MacKenzie, & Knox, 2010; Negash, Veldorale-Brogan, & Fincham, under review). Many college students also have misconceptions about what constitutes safe sex (i.e., using condoms during vaginal sex only, using hormone-based birth control, and having oral sex; Sadovszky & McKinney, 2002). These findings, in part, may explain why those in their early 20's are at greatest risk for contracting STIs (CDC, 2011a).

The high incidence of STIs and HIV among young adults and the ubiquity of casual sex among college students clearly suggest that sexual health education remains important in college. Despite this, the vast majority of sexual health education is provided to adolescents prior to leaving high school, and there is no federal or state mandate to provide sexual health education to college students (King, 2011). Findings from a preliminary study at The Florida State University indicated that it had been at minimum 3-4 years since an estimated 44% of the 839 college participants sampled (the vast majority of which were freshman and sophomores) had received sexual health training (Negash, 2011). Given the lack of sexual health training on college campuses and the lack of efficacy research regarding the use of sexual health education

with college students, it is important to examine sexual health education in this population. The present study addressed this deficit.

Sexual Health Risk in Exclusive Dating Relationships

It is not uncommon for young adults to move from one exclusive relationship to another in a short duration (Kelley, Borawski, Flocke, & Keen, 2003). Many also go untested for STIs or HIV prior to beginning a sexual relationship. For these reasons, young adults are at risk of unknowingly transmitting a STI or HIV to their exclusive partner (Kelley et al., 2003; Rosenberg, Gurvey, Alder, Dunlop, & Jonathan, 1999). Despite this risk, considerable research has found that in mutually monogamous relationships between partners, it is reasonable, and even expected, that couples engage in sexual activity without the regular use of condoms (e.g., Wiemann et al., 2009; Warren, Harvey, & Agnew, 2010). For instance, a recent study by Lewis, Keyesen, Rees, and Woods (2010) showed that only an estimated 52% of college students in their sample (n = 623), the majority of whom were in a monogamous relationship, used a condom during their most recent sexual encounter (i.e., coitus). About half of participants from the study also reported not using a condom the first time they engaged in coitus with their current partner.

Symptomatology. Many STIs are asymptomatic, making them difficult to detect by both carriers and their sexual partners (Da Ros & Schmitt, 2008; Todd, Haase, & Stoner, 2001). For instance, the majority of genital herpes infections are transmitted by persons who are either asymptomatic but aware that they are infected, or asymptomatic and unaware that they are infected (CDC, 2011a). Also, the CDC (2009) found that individuals who are HIV-positive, but unaware of their status (an estimated 54-70% of all HIV-positive cases) are considerably more likely to engage in risky sexual behavior and disproportionately more likely to infect sexual partners, as compared to those individuals who are aware of their HIV-positive status. Although asymptomatic infections are diagnosed through testing, many reasons have been identified for why individuals do not get tested regularly. Individuals typically lack awareness about STIs and HIV, are concerned about being stigmatized by society, and do not identify themselves as at-risk. Consequently, these barriers place individuals at greater risk of infecting others.

Infidelity. Many individuals in exclusive relationships do not use condoms with primary partners in order to reduce suspicion about infidelity (Duncan et al., 2002). In a study by Choi, Catania, and Dolcini (1994), 60% of individuals who reported committing infidelity did not use condoms with either their primary or secondary partner. The same study found that an estimated

20-25% reported intermittently using condoms with either partner. More recently, Brady, Tschann, Ellen, and Flores (2009) found that individuals who were committed were less likely to take proper precaution to protect their partner from contracting STIs. Many women in particular put themselves at greater risk for HIV infection by maintaining an illusion of fidelity within their relationship (Sobo, 1995). The nature of so called 'monogamous' relationships, the lack of STI and HIV testing, in combination with the fact that many STIs are asymptomatic, demonstrates why rates of risky sexual behavior are higher among individuals in exclusive dating relationships, as compared to those in casual relationships (e.g., Parks, Hsieh, Collins, Levonyan-Radloff, & King, 2009).

Relational Factors that are Associated with Sexual Health

Maintaining intimacy. Relationship factors play a vital role in the use of condoms in exclusive dating relationships. For instance, findings suggest that individuals assess risk and condom use based on their thoughts and feelings regarding their current interpersonal relationship, rather than their partner's past sexual history (Civic, 2000; Corbett et al., 2009). Researchers have also found that those in an exclusive relationship weigh the perceived risk of negotiating safe sex practices with their partner against the potential implications for their relationship (Arifi, 1999; Umphrey & Sherblom, 2007). For many, condom use is inconsistent with establishing and maintaining relationships, and sustaining stable and loving relationships supersedes individuals' health concerns (e.g., Corbett et al., 2009; McAlister, Pachana, & Jackson 2005). Afifi (1999) found that condom use within relationships threatened individuals' ability to maintain positive identities and close relationships. Similarly, Marston and King (2006) found that couples hesitated to or refrained from talking about safe sex practices for fear that raising the possibility of risk may hurt their partner's feelings or create emotional or physical distance between them.

A similar, yet more recent study by Corbett et al. (2009) also found that individuals reduced their condom use as an attempt to find and maintain exclusive relationships. The same study called for sexual health education programs that recognize the importance of love and intimacy by those at greatest risk of infection. Supporting this view, Rehman et al. (2011) found that individuals who reported having overall better relationships were more likely to avoid behaviors that threatened their relationships.

A considerable number of relationship barriers to condom use have been identified, including communication, trust, relationship satisfaction, and commitment (e.g., Brady et al., 2009; Castaneda, 2000; Manning, Flanigan, Giordano, & Longmore, 2009). These relationship factors have all been identified as components of intimacy. Intimacy is defined as, “a quality of a relationship in which the individuals must have reciprocal feelings of trust and emotional closeness toward each other and are able to openly communicate thoughts and feelings with each other” (Timmerman, 1991, p.19). Intimate relationships are also characterized as “close, committed, interdependent, and durable bonds” (Abate & Cusinato, 2012, p. 440). Thus, rather than identify intimacy as a relationship factor in this study I examined its various components (e.g., communication, trust, relationship satisfaction, and commitment). Additionally, with the exception of research linking communication with safe sexual health education and practice (e.g., Corbett et al., 2009), little research has examined how the relationship factors stated above are associated with safe sex outcomes among individuals in exclusive relationships who receive sexual health education.

Communication. Miscommunication and discomfort talking about condom use create barriers for safe sex (e.g., Adimora & Schoenbach, 2002; Fox, 2009; Otto-Salaj et al., 2008). Despite the positive link between safe sex practices and detailed sexual communication (e.g., DiIorio, Dudley, Lehr, & Soet, 2000) couples have varied levels of comfort when engaging in sexual communication with their partner (e.g., Noar, Morokoff, & Redding, 2002). Safe sex discussions that do occur between partners can be embarrassing and may lead some partners to avoid asking and answering important safe sex questions (Cline, Johnson, & Freeman, 1992).

Individuals who lack knowledge about their partner’s sexual history (PSH) are also at increased risk of acquiring a STI (Drumright, Gorbach, & Holmes, 2004). Despite this, the degree and depth of discussion regarding sexual histories varies among couples in exclusive relationships. Many fear that their questions may evoke negative emotions, such as embarrassment or discomfort. In a study by Bolton (2009), participants reported that a possible discussion with their partner regarding sexual histories would evoke feelings of awkwardness and jealousy. In reference to discussing sexual histories, one participant said, “I don’t want to because I am aware of how it would make me feel. That’s why I sort of don’t want to know” (p. 27). One’s knowledge about their PSH also informs their perceived sexual health risk and is linked to their sexual decision-making (e.g., Drumright et al., 2004). Thus, given the link

between discussing sexual histories, decision-making, and actual health outcomes (Drumright et al., 2004), it is important to examine the extent to which receiving sexual health education impacts individuals' knowledge about their PSH.

Trust. Condom use is linked with trust (Hirsch, Higgins, Bently, & Nathanson, 2002; Montgomery et al., 2008). Requesting that condoms be used within an exclusive relationship may imply that one does not trust their partner to keep them safe from infection or to be monogamous (Duncan et al., 2002; Hirsch et al., 2002; Montgomery et al., 2008). More recently, Brady et al. (2009) found that trust was independently linked to consistent condom use among young adults in exclusive dating relationships. Similarly, Williamson et al. (2009) found that despite not knowing their own STI status or their PSH, the vast majority of individuals in their sample stopped using condoms once they perceived that they could trust their primary partner.

Commitment. Commitment is linked with decreased condom use (Casteneda, 2000; Civic, 1999; Mnyika et al., 1997). Harvey et al. (2006) and Tucker, Elliott, Wenzel, and Hambarsoomian (2007) found that frequency of condom use was directly linked to individuals' relationship commitment. Similarly, Umphrey and Sherblom (2007) found that individuals in relationships with low commitment were less likely to perceive the request for condom use as a threat to their relationship.

Relationship satisfaction. Condom use has also been linked to relationship satisfaction (Impett, Breines, & Strachman, 2010; Manning et al., 2009; Woodrome, Zimet, Orr, & Fortenberry, 2006). Pilkington, Kern, and Indest (1994) found that individuals who reported feeling more positive about their partner and relationship were less likely to be concerned about contracting a STI or HIV and less likely to report that their condom use stemmed from a fear of contracting STIs or HIV, as compared to those who felt less positive about their partner or relationship. In another study, Soler et al. (2000) found that those who reported greater satisfaction with their relationship were almost eight times less likely to use condoms consistently, as compared to those who reported having some fear of HIV transmission.

More recently, Manning et al. (2009) found that positive relationship qualities (e.g., love, enmeshment) were negatively linked with consistent condom use for both men and women. Although evidence for the association between sexual risk behaviors and relationship factors (i.e., trust, commitment, relationship satisfaction, and communication) exists, these associations

are understudied among college students in exclusive relationships and, to the best of this author's knowledge, have never been examined among college students receiving college-based sexual health education.

Theoretical Perspective

Theory of planned behavior. Despite the criticism mentioned above about the use of the theory of planned behavior (TPB) to guide sexual health education programming from a relational perspective, the theory has been extensively and successfully used to predict condom use in developed countries (Albarracin, Johnson, Fishbein, & Muellerleile, 2001). It has also been widely used to develop STI and HIV prevention curricula (e.g., Albarracin et al., 2001; Sheeran & Orbell, 1999). Thus, in the current study it is used to provide a framework for examining the relationship between sexual health education programs and sexual risk reduction among college students.

An expectancy-value model is used to predict individuals' attitudes toward various outcomes, and proposes that behaviors are a function of expectations and evaluations (Glanz, Rimer, and Lewis, 2002). Accordingly, the TPB, which is an extension of the theory of reasoned action (TRA; Fishbein & Ajzen, 1975), is a commonly applied expectancy-value model used to link attitudes with behaviors. More specifically, the TPB is used to predict and assess a variety of health behaviors, including substance use (Kam, Matsunaga, Hecht, & Ndiaye, 2009), physical activities (Andrews, Silk, & Eneli, 2010), and sexual activities (Mausbach, Semple, Strathdee, & Patterson, 2009). As shown in Figure 1, the TPB posits that intentions are the proximal determinant of behavior, and that intentions are, in turn, formed by individuals' attitudes, subjective norms, and their perceived control over a behavior (Ajzen, 1991). According to the theory, the stronger the intention to engage in a behavior, the more likely one is to execute said behavior.

In the context of sexual health, the theory proposes that as opposed to those who have little or no intent to use condoms, those with greater intent are more likely to actually engage in condom use. The intention to use condoms derives from individuals' existing attitudes (e.g., whether or not they enjoy wearing condoms), subjective norms (e.g., perceived social pressure to use condoms), and their perception of control over their use of condoms (e.g., constraints or barriers to condom use; Albarracin et al., 2001). Consistent with the tenets posited in the TPB, sexual negotiation training implements strategies to change individuals' attitudes about condom

use. The training also attempts to alter individuals' perception of what they perceive may be normal sexual behavior (i.e., change their subjective norm), by illustrating realistic scenarios that show other young adults negotiating condom use. In turn, this may also reduce the relational pressure individuals feel to not use condoms. In accordance with another component of the TPB (i.e., perceived behavioral control) sexual negotiation is also used to improve individuals' sense of control over their ability to use condoms, by illustrating how to apply condoms and bring up condom use conversations. Consistencies between the components of the TPB and the sexual negotiation training provided in this study suggest that theory may provide a useful framework for understanding changes in condom use among college students who receive sexual negotiation training.

Support for the link between receiving sexual health education and intentions for condom use also exists (e.g., Bryan, Kagee, & Broaddus, 2006; Fisher & Fisher 2002). Despite this, the present study is the first to examine whether or not condom use intentions mediate the relationship between the treatment and condom use. It was also the first study to examine whether intentions to gain information about a PSH mediate the relationship between the treatment and condom use.

Investment model. The investment model (Rusbult, 1980, 1983) may offer theoretical cohesion to some previous findings about safe sex practices among individuals in dating relationships. The model, which is an extension of interdependence theory (Thibaut & Kelley, 1959), suggests that the driving force within relationships is commitment. Individuals' commitment to their partner is based on three key elements, including satisfaction, investments, and alternative quality. Satisfaction is based on the outcomes an individual receives from their relationship and is positively related to commitment. Investments, which are also positively related to commitment, represent the things an individual stands to lose if their relationship dissolved. Alternative quality is also negatively related to commitment and represents the outcomes an individual would expect from their desired alternative. Overall, the investment model maintains that highly satisfied and invested individuals, who have fewer desirable alternative options, are more likely to be concerned about the well-being of their partner and less likely to engage in behaviors that may jeopardize their relationship (e.g., Drigotas, Safstrom, & Gentilia, 1999; Van Lange, Agnew, Harinck, & Steemers 1997). Said differently, they are more likely to weigh the ramifications that their behaviors may have on their partner and relationship.

As stated earlier, research shows that individuals perceive condom use and discussions about past sexual history to be a threat to their relationship (Bolton, 2009; Rehman et al. 2011). Similarly, the investment model maintains that more satisfied and invested individuals are less likely to engage in behaviors that may harm the stability of their romantic relationships. Since the model does not delineate between behaviors that are considered harmful, it is fair to assume that safe sex may fall into the category of being harmful to one's relationship. Thus, findings from previous research negatively linking relationship quality with safe sex practices among those in exclusive relationships (e.g., Castaneda, 2000; Manning et al., 2009) show support for the investment model (Umphrey & Sherblom, 2007).

For the purpose of this study, the investment model perspective, in combination with findings from studies that show that individuals in exclusive dating relationships are at greater sexual risk, offer a useful framework for examining to what extent relationship factors are linked to sexual risk reduction outcomes among young adults receiving sexual health training. Subsequently, in accordance with previous research and the investment model I expect that despite receiving sexual health education, individuals in overall better relationships will engage in more risky sexual behaviors.

Purpose of the Study

The purpose of this study was threefold. The first purpose was to evaluate the impact of sexual negotiation training as compared to standard health education on reducing sexual risk-taking among young adult college students. Secondly, I tested for potential mediators between the conditions and sexual risk reduction outcomes. The third objective was to examine whether or not relationship factors were associated with sexual risk outcomes among college students in exclusive dating relationships. Since a "single, summative" assessment makes it challenging to accurately measure changes in student outcomes (Olds, 2004, p. 162), the objectives stated above were examined using pre- and post-test data.

Research Questions

Specifically, the questions posed included the following:

1. Are sexual negotiation programs useful at improving safe sex practices (i.e., increasing condom use, knowledge about a PSH, and condom use self-efficacy) among college students?

2. Do condom use intentions mediate the link between condition and post-test condom use?
3. Do intentions to be informed about a PSH mediate the link between condition and post-test knowledge about a PSH?
4. Independent of condition, to what extent are relationship factors (i.e., relationship satisfaction, trust, commitment, and communication) linked to condom use at post-test among college students in exclusive dating relationships?
5. Independent of condition, to what extent are relationship factors (i.e., relationship satisfaction, trust, commitment, and communication) linked to knowledge about a PSH at post-test among college students in exclusive dating relationships?
6. Independent of condition, to what extent are relationship factors (i.e., relationship satisfaction, trust, commitment, and communication) linked to condom use self-efficacy at post-test among college students in exclusive dating relationships?

Hypotheses

1. It is predicted that participants in the treatment group will be more likely to (a) engage in condom use, (b) have increased knowledge about their PSH, and (c) increase their condom use self-efficacy at post-test as compared to those in the comparison group (RQ1).
2. It is predicted that participants' (a) condom use intentions mediate the relationship between condition and condom use at post-test, and (b) intentions to be informed about a PSH mediate the relationship between condition and knowledge about a PSH at post-test (RQ2 and RQ3, respectively).
3. Independent of condition, it is expected that (a) relationship satisfaction, (b) trust, (c) commitment, and (d) communication will be linked to condom use at post-test among those in exclusive relationships (RQ3).
4. Independent of condition, it is expected that (a) relationship satisfaction, (b) trust, (c) commitment, and (d) communication will be linked to knowledge about a PSH at post-test among those in exclusive relationships (RQ4).
5. Independent of condition, it is expected that (a) relationship satisfaction, (b) trust, (c) commitment, and (d) communication will be linked to condom use self-efficacy at post-test among those in exclusive relationships (RQ5).

CHAPTER TWO

METHOD

Participants

Participants included 271 undergraduate students (226 women and 45 men) from a Southeastern university who agreed to participate in exchange for course credit. Of those who initially participated in the baseline study 243 completed the follow up (90%). However, data were analyzed for those participants who met the inclusion criteria (n = 183). To be included in the analyses participants were required to be (1) between 18-30 years of age, (2) complete a pre- and post-test survey, and (3) be sexually active (see CONSORT diagram, Figure 2). Articles from the CDC have identified young adults as those individuals aged 18-30 (Freedman, Nelson, & Feldman, 2012). Thus, the same age range was used in the inclusion criteria for young adults in this study. Also, to meet the inclusion criteria participants were not permitted to be in an exclusive relationship with another participant in the study. Further, to be included in analyses used to test hypotheses 3-5 (n =108) participants were required to be in a committed dating relationship for at least 2 months and be in the same relationship over the course of the 1-month study. Most participants were between 18 and 25 years of age (96.2%) and a small minority were between 25-30 years of age (3.8%). The majority of participants were non-Hispanic White (68%), 12% were African American, 17% were Hispanic, 2% were Asian/Pacific Islander, and 1% reported as Other. Descriptive statistics for the sample are shown in Table 2.

Procedure

The present study was a randomized controlled experiment, conducted in a laboratory setting, and approved by The Florida State University Institutional Review Board (IRB; see Appendix A). Participant consent and study procedures were carried out in accordance with the IRB guidelines. All facilitators received training designed to provide information and skills related to the specific intervention to encourage and ensure implementation fidelity. More specifically, facilitators used a standardized procedure guide developed for the study that outlined key points to cover and activities to perform. Additionally, the lead researcher discreetly monitored facilitators and gave them cues to ensure fidelity to the time allotted for each activity.

Undergraduate students from a social science department were invited to participate in the laboratory experiment almost two weeks before the study began. Prior to signing up students were informed that they would be participating in a sexual health education study. Facilitators, who did not know the participants, allocated participants into the treatment and comparison group by flipping a coin each morning during the week of the experiment. Upon arriving at the laboratory students were directed into particular rooms (based on whether they were in the treatment or comparison group) and instructed to read and complete informed consent forms. They were then given instructions about the task and encouraged to contact the on-site facilitator if they experienced any challenges with the task.

At pre-test all study participants completed baseline measures. Baseline measures were used to assess each participant's condom use, knowledge about a PSH, barriers to condom use, condom use self-efficacy, condom use intentions, intentions to gain knowledge about PSH, relationship satisfaction, trust, commitment, communication, hookup frequency, and sexual health history. Questions were administered and collected through the SurveyMonkey portal, a secure online survey website. Subsequently, participants read through a 15-minute PowerPoint presentation on STIs HIV/AIDS, and safe sex practices. Students were then randomly assigned to either an intervention group where they watched a 19-minute sexual negotiation video (provided by The Diffusion of Effective Behavioral Interventions project) or to a comparison group (e.g., to complete a 10-15 minute writing assignment where they wrote about what they learned from the standard sexual health education PowerPoint presentation). All participants were contacted through their student email account one month after the initial experiment was conducted and assessed using the same measures as baseline (also administered and collected through the SurveyMonkey portal).

Intervention condition: Sexual negotiation training. Participants assigned to the intervention group also completed a brief 20 minute writing task where they were asked to identify (e.g., their own objections to using condoms and how information from the video could be used to address their barriers to condom use; identify different condom negotiation strategies using scenarios from the negotiation video; common excuses their partner might state for not wanting to use condoms and role-play different condom negotiation strategies that may be used to successfully and more comfortably challenge their excuses; identify how to put condoms on, how and when to remove them, and how to dispose of a used condom). For instance,

participants were asked, “What are some clever things you can say when negotiating condom use with a partner?” Participants in the intervention were also given the following instructions prior to watching the video, “You have been assigned to watch a short training video about safe sex. If at anytime you become uncomfortable with the content you may ask to stop the video. Such honesty will not count against your receiving course credit.”

Comparison condition: Standard sexual health education. Participants in the comparison condition received standard sexual health education. This comprised reading through a 15-minute PowerPoint about STIs, HIV/AIDS and safe sex practices. After watching this videotape they were given the following instructions prior to beginning the writing task, “You have been assigned to reflect on the sexual health video by sharing information about what you learned and what you thought about the information presented.” They then spent 10-15 minutes writing about what they learned.

Measures

Demographics. Demographic questions were used at pre-test to assess age, race/ethnicity, relationship status, gender, and sexual orientation. Participants’ relationship status was assessed again at post-test (i.e., “Have you ended a romantic relationship since you completed the last survey for this study?” “Have you started a new romantic relationship since you completed the last survey for this study?”). Responses were coded 0 = *no* and 1 = *yes*. A dichotomous variable was constructed to test for those whose relationship continued (0 = in same relationship from pre- to post-test) and those whose relationship ended (1 = no longer in the same relationship from pre- to post-test). Participants who maintained the same relationship from pre- to post-test were included in the analysis pertaining to those in exclusive relationships.

Sexual activity. To assess sexual activity among those in exclusive dating relationships, at pre-test participants were asked, “Thinking of your current relationship, during the past two months: Have you engaged in vaginal intercourse?” Participants were also asked similar questions pertaining to their oral and anal sexual behavior. Responses were coded 0 = *no* and 1 = *yes*. Participants that were not in an exclusive dating relationship were asked to respond to the same questions, but in the context of their last penetrative sexual encounter (i.e., “Please answer the following series of questions about your relationship with your current exclusive romantic partner. If you are not currently in an exclusive relationship answer the following with regards to your most recent hookup partner”).

Condom use. To assess condom use participants were asked about their condom use practices at pre-test using two items (i.e., “When was the last time you had sex with your partner without using a condom?” and “How often do you use condoms with your partner?”). Participants’ condom use was reassessed again one month later using the same set of questions (i.e., “In the last month have you had sex with your partner without using a condom?”). Responses for the questions were on a 6-point scale ranging from 1 = *never* to 6 = *always*. Responses were summed to form a composite score and could range from 2 to 12 (pre-test, $M = 6.88$, $SD = 3.50$; post-test, $M = 7.42$, $SD = 4.06$) with higher scores indicating greater condom use. These items demonstrated adequate reliability and had a Cronbach alpha of 0.86 at pre-test and 0.97 at post-test.

Condom use barriers. The motivational barriers subscale from the Condom Use Barriers Scale (CBS; St. Lawrence et al., 1999) was used to assess for factors that are perceived to inhibit or reduce condom use. The six items were answered on a 4-point Likert Scale ranging from 1 = *strongly disagree* to 4 = *strongly agree* (sample items included, “Most of the time neither of us has a condom available”). The subscale was used again at post-test to assess for participants’ condom use barriers in the last month (e.g., “Please answer the following questions based on your experience over the course of the last month”). Scores were summed and could range from 6 to 24 (pre-test, $M = 10.85$, $SD = 3.73$; post-test, $M = 11.12$, $SD = 4.17$), with higher scores indicating greater perception of barriers to condom use. These items demonstrated good reliability and had a Cronbach alpha of 0.78 at pre-test and 0.82 at post-test.

Condom use self-efficacy. Condom use self-efficacy is defined as an individual’s confidence in his or her ability to successfully use a condom during sex. To measure it two subscales (*assertiveness* and *mechanics*) from the Condom Use Self-Efficacy Scale (CUSES; Brafford & Beck, 1991) were used at pre- and post-test (e.g., “I feel confident in my ability to put a condom on myself or my sexual partner.” and “I feel confident in my ability to suggest using a condom without my sexual partner feeling diseased”). The seven items were answered on a 5-point scale ranging from 1 = *strongly disagree* to 5 = *strongly agree*. The subscales were used again at post-test to assess for participants’ condom use self-efficacy since the last survey (e.g., “Please answer the following questions based on your experience over the course of the last month”). Items from both subscales were combined and summed to determine participants’ condom use self-efficacy. Scores could range from 7 to 35 (pre-test, $M = 29.85$, $SD = 4.01$; post-

test, $M = 30.71$, $SD = 4.78$), with higher scores indicating greater condom use self-efficacy. In the present sample Cronbach alpha was 0.77 at pre-test and 0.89 at post-test.

Intentions. Participants' intentions to use condoms in the future were assessed at post-test using three items developed by Agnew (1998). Responses were on a 7-point Likert scale ranging from 1 = *definitely* to 7 = *definitely not* (e.g., "I intend to use a condom over the next month"). Scores were summed and could range from 3 to 21 (pre-test, $M = 8.90$, $SD = 6.61$; post test, $M = 9.09$, $SD = 6.55$), with higher scores indicating lower condom use intentions. These items demonstrated adequate reliability and had a Cronbach alpha of 0.93. Similarly, participants' intentions to gain knowledge about their PSH were also assessed at post-test using three items on a 4-point Likert scale ranging from 1 = *definitely* to 4 = *definitely not* (e.g., "Within the next month I intend on asking my partner about their history of being tested for STIs and HIV," "Within the next month I intend to ask my partner about their history of having concurrent sexual partners," "Within the next month I intend to ask my partner about whether or not they have been diagnosed or treated for a STI"). Scores were summed and could range from 3 to 12 (pre-test, $M = 7.19$, $SD = 3.26$; post test, $M = 6.63$, $SD = 3.01$), with higher scores indicating lower intentions to gain knowledge about a PSH. Cronbach alpha was 0.94 in the present sample.

Partner sexual history. Participants' knowledge of their PSH was assessed at pre- and post-test using 12 items on a 5-point Likert scale ranging from 1 = *strongly disagree* to 5 = *strongly agree* (e.g., "My partner has opened up to me about his or her prior sexual relationships," and "I know whether or not my current partner has been tested for sexually transmitted infections since we started dating"). Scores were summed and could range from 12 to 60 (pre-test, $M = 51.42$, $SD = 11.92$; post-test, $M = 51.68$, $SD = 12.26$), with higher scores indicating greater knowledge about a PSH. Cronbach alpha was 0.95 at pre- and post-test.

Commitment. Commitment was assessed at pre-test using a short form of the dedication subscale from Stanley and Markman's (1992) commitment measure. The scale was comprised of four items (e.g., "My relationship with my partner is more important to me than almost anything else in my life," "I want this relationship to stay strong no matter what rough times we may encounter"). Questions were answered on a 5-point Likert scale ranging from 1 = *strongly disagree* to 5 = *strongly agree*. Scores were summed and could range from 4 to 20 ($M = 15.81$,

$SD = 2.96$) with higher scores indicating greater commitment. Cronbach alpha was 0.69 in the present sample.

Relationship satisfaction. Following Fincham and Bradbury's (1987) suggestion relationship satisfaction was limited to subjective assessments of the relationship at pre-test. Four items from an Item Response Theory analysis of the Couple Satisfaction Index (Funk & Rogge, 2007) were adopted to measure relationship satisfaction, including quality (from 1 = *worse than all others/extremely bad* to 6 = *better than all others/extremely good*), reward (from 1 = *not at all* to 6 = *very much or extremely*), warmth and comfort (from 1 = *strongly disagree* to 6 = *strongly agree*), and happiness (from 1 = *extremely unhappy* to 7 = *perfect*). Sample items included, "I have a warm and comfortable relationship with my partner." and "How rewarding is your relationship with your partner?" Scores were summed and could range from 4 to 25 ($M = 20.85$, $SD = 2.75$), with higher scores indicating greater satisfaction. Cronbach alpha was 0.81 in the present sample.

Trust. The Dyadic Trust Scale (Larzelere & Huston, 1980) is an 8-item scale measure that was administered at pre-test to assess participants' level of trust in their romantic relationships (e.g., "My partner is truly sincere in his (her) promises"). Answers were given on a 7-point Likert scale ranging from 1 = *strongly disagree* to 7 = *strongly agree*. Scores were summed and could range from 8 to 56 ($M = 48.22$, $SD = 7.07$), with higher scores indicating greater trust. Cronbach alpha was 0.83 in the present sample.

Sexual communication. The Dyadic Sexual Communication Scale (DSC; Catania, 1986) has been used in sexual-risk studies to assess individuals' perceptions of their sexual communication processes. Several modified versions of the scale have been developed and administered, including a shortened, four-item version (e.g., Choi et al., 1994) used in this study, at pre-test. Answers were measured on a 6-point Likert scale (1 = *disagree strongly*, 6 = *agree strongly*) to items such as, "Talking about sex is a satisfying experience for both of us," and "My partner has no difficulty talking to me about his or her sexual feelings or desires." Scores were summed and could range from 6 to 24 ($M = 20.54$, $SD = 3.36$), with higher scores indicating greater communication. Cronbach alpha was 0.81 in the present sample.

Hooking up. Participants provided information about their hooking up experiences using a single item at pre-test. Before answering the question participants were provided a definition for hooking up (i.e., "Some people say that a hook up is when two people get together for a

physical encounter and don't necessarily expect anything further..."). Students were then asked, "Based on this definition, how many different people did you 'hookup' with in the past 12 months?" Responses ranged from 0 (no hook ups) to 9 (8 or more hook ups).

STI testing. Participants' STI testing history was assessed at pre-test (e.g., "Have you ever been tested for sexually transmitted diseases?"). Responses were coded 0 = *yes* and 1 = *no*. At pre-test participants also reported when they were last tested (e.g., "When was the last time you were tested for a sexually transmitted disease?").

Power

A power analysis was conducted using GPower (Erdfelder, Faul, & Buchner, 2006). It showed that 51 individuals per treatment condition (using a one-tail test with a p-value of 0.05) were needed to achieve a power of 0.8, a widely recommended level for research (Cohen, 1988). Since the smallest group (the treatment group) exceeded this number ($n = 89$), there was sufficient power to detect treatment effects. With regards to the last model, power analysis showed that 101 participants in exclusive relationships were needed to accept the outcomes of the statistical test with confidence (using a one-tail test with a p-value of 0.05 and power of 0.8). The sample included 108 participants, which suggests it was adequately powered.

Analytic Approach

Data from individuals who reported as single or in exclusive dating relationships was used to test Hypotheses 1-2, but only data from those individuals in exclusive relationships ($n = 108$) was used to test Hypotheses 3-5. The data were assessed for inconsistent or abnormal values by looking for skewness and kurtosis (values greater than +3 or less than -3). Mahalanobis distance was used to check for multivariate normality for each variable (the maximum Mahalanobis distance should not be greater than the chi-square critical value, with degrees of freedom equal to the number of predictors and $p = 0.001$). Using $p = 0.001$ as the criterion for Mahalanobis distance, no outliers among the cases were detected. Qualitative data from the writing activity assigned to students in the treatment condition was used to provide supplementary information about the treatment outcomes. Furthermore, despite evidence that links condom use to birth control use (e.g., Leigh et al., 2008) preliminary findings from this study showed that birth control was not a good predictor of condom use, $p = 0.88$. Thus, we refrained from controlling for birth control use in the present study.

To examine the first hypothesis, a repeated measures ANOVA was used to evaluate safe sex outcomes among participants in the treatment and comparison group. Participants from both conditions were tested at two points, at baseline and then again 4 weeks after the intervention. Safe sex practice items (i.e., condom use, condom use self-efficacy, and knowledge of PHS) were the primary outcome variables. Treatment condition was the independent variable.

Several factors determined the design of this study. A repeated measure design is often employed by researchers to assess treatment effects (Keselman, 1998) and, more specifically is used to test sexual health education interventions (e.g., Garofalo et al., 2012; LaBrie, Pedersen, Thompson, & Earleywine, 2008). Further, repeated measures designs are considered powerful because they yield a smaller error term, and allow for smaller sample sizes. Since all individual difference sources of variability are eliminated from the experiment they provide better precision for comparing condition effects. A repeated measures ANOVA, which is one of the most frequently used approaches to repeated measures designs, compares the equality of two or more groups. It is also widely used to analyze two-group randomized experimental studies (e.g., Kirk, 2009). The research design is generally considered more powerful than an independent ANOVA and appropriate for longitudinal designs that have relatively few time points for each subject (Locascio & Atri, 2011).

Despite having several dependent variables in this study a multivariate analysis of variance (MANOVA) test was not used due to its limitations. Findings from MANOVA tests are more ambiguous about the effects of independent variables on any single dependent variable. It is difficult to identify whether or not the affect of an independent variable on a dependent variable actually exists or if the affect is a result of multiple dependent variables having an affect on each other (Salkind, 2010). Consequently, this may lead to subjective assumptions being drawn (French, Macedo, Poulsen, Waterson, & Yu, 2008). Further, for each dependent variable that is added one degree of freedom is lost. The added power received from decreasing *SS error* may be counteracted by the loss in degrees of freedom. Finally, the dependent variables should to a large extent be uncorrelated. If they are not, there is little benefit in including more than one in the test given the consequential loss in degrees of freedom. In regards to the present study, previous research suggests that there is a strong, significant link between two of the dependent variables, condom use and condom use self-efficacy (e.g., Crosby et al., 2011). Accordingly, findings from this study show there was a positive correlation between condom use and condom

use self-efficacy, $r = 0.17$, $p = < 0.05$ and a positive correlation between knowledge about a PSH and condom use self-efficacy, $r = 0.19$, $p = < 0.01$ (see Table 1). Given these several limitations a repeated measure ANOVA test was preferable.

Mediation is commonly tested using the Sobel (1982) method, which assumes that the product of coefficients constituting the indirect effect is normally distributed. However, since the distribution tends to be skewed and leptokurtic (Preacher & Hayes, 2008) resampling or bootstrapping methods are replacing the Sobel method (Shrout & Bolger, 2002). Estimation of the mediation effect (condition \rightarrow condom use intentions \rightarrow post-test condom use and condition \rightarrow intentions to gain knowledge about a PSH \rightarrow post-test knowledge about a PSH) was calculated with 2,000 bootstrap samples using the Model Indirect option in Mplus 6.0 to test the statistical significance of the indirect effects (Muthén & Muthén, 1998-2010).

Finally, using SPSS software, a linear regression analysis was used to identify the extent to which relationship dimensions (i.e., relationship satisfaction, trust, commitment, and communication) were associated with sexual risk outcomes among individuals in exclusive relationships (Hypotheses 3-5). To test these hypotheses, participants in both conditions completed a series of questionnaires (at pre-test) about their relationship with their current romantic partner. Predictors were identified as factors theoretically or empirically assumed to be significantly linked to the treatment conditions. Separate multiple regression analyses were run for each criterion variable (condom use, knowledge about a PSH, and condom use self-efficacy at post-test). Within each analysis, relationship factors (i.e., relationship satisfaction, trust, commitment, and communication), condition, and sexual outcomes at pre-test (i.e., condom use, knowledge about a PSH, and condom use self-efficacy at pre-test) were simultaneously entered as predictor variables.

CHAPTER THREE

RESULTS

Descriptive Statistics

Information about participants' sexual health risk was collected (see Table 3). One-third of participants in the general sample reported never being tested for a STI (37%). When participants in exclusive relationship were asked when they were last tested for a STI, 32% said they had never been tested, 13% stated while in their current romantic relationship, but before they had penetrative sex. Almost three times as many (35%) reported that they had been tested, but only after having penetrative sex with their partner. Seven percent reported getting tested after their relationship ended, and 13% percent stated they did not remember when they were last tested. Of those who were not in exclusive relationships 92% reported engaging in a hookup at least once in the last 12 months, while 70% reported engaging at least two or more hookup encounters.

Treatment Effects on Sexual Risk Outcomes

A repeated measure 2 (group: sexual negotiation education vs. traditional sexual health education) x 2 (time: pre vs. post) split plot ANOVA was used. Statistical Package for Social Sciences (SPSS) software was used to conduct this analysis. Main effects and interactions were examined in each analysis. When a significant interaction was found, simple effects tests were conducted for both the treatment and comparison group using repeated measure ANOVA, but without the inclusion of grouping variables. Hypothesis 1a, predicted that students in the treatment condition would engage in greater condom use than those in the comparison condition. The means and standard deviations for the sample are shown in Table 4. Results from the repeated measure ANOVA revealed an interaction effect between condition and time on condom use, $F(1, 168) = 5.61, p = 0.02, \eta^2_p = 0.03$ (see Table 5). Follow up simple main effects tests supported the first hypothesis, showing that participants in the treatment condition were significantly more likely to report greater condom use at post-test, $F(1, 85) = 11.49, p = 0.001, \eta^2_p = 0.12$ than at pre-test. Participants in the comparison condition however, were not significantly more likely to report greater condom use at post-test, $F(1, 83) = 0.06, p = 0.81, \eta^2_p = 0.01$ than at pre-test.

Hypothesis 1b, predicted that that students in the treatment condition would be more likely to report greater knowledge about their PSH than those in the comparison condition at post-test than at pre-test. Despite finding a marginally significant interaction effect between the condition and time on gaining knowledge about PSH, $F(1, 161) = 3.91, p = 0.05, \eta^2_p = 0.02$ (see Table 6), follow up simple main effects tests showed participants in the treatment, $F(1, 83) = 1.93, p = 0.17, \eta^2_p = 0.02$ and comparison condition $F(1, 78) = 1.97, p = 0.16, \eta^2_p = 0.03$, were not significantly more likely to report having greater knowledge about their PSH at post-test than at pre-test. Thus, findings showed no support for Hypothesis 1b. Also, no significant interaction effect between condition and time on condom use self-efficacy was found, $F(1, 166) = 1.46, p = 0.23, \eta^2_p = 0.01$ (see Table 7). Therefore, there was no support for Hypothesis 1c, which predicted that students in the treatment condition would be more likely to report greater condom use self-efficacy than those in the comparison condition at post-test than at pre-test.

To examine possible gender differences a 2 (group: sexual negotiation education vs. traditional sexual health education) x 2 (time: pre vs. post) x 2 (gender: men vs. women) factorial ANOVA was conducted with time as a repeated measure. Results from the post-hoc analysis showed that there was not a significant 3-way interaction between gender, condition, and time on condom use, $F(1, 164) = 0.06, p = 0.81, \eta^2_p = 0.00$. However, there was a significant 2-way interaction between gender and time on condom use, $F(1, 164) = 5.43, p = 0.02, \eta^2_p = 0.03$. Follow up simple effects tests showed that women were significantly more likely to report greater condom use at post-test than at pre-test, $F(1, 140) = 11.26, p < 0.001, \eta^2_p = 0.07$ in comparison to men, $F(1, 26) = 1.55, p = 0.22, \eta^2_p = 0.06$. The means and standard deviations for the sample are shown in Table 8.

Results from a similar ANOVA also showed that there was not a significant 3-way interaction between gender, condition, and time on knowledge about a PSH, $F(1, 157) = 0.45, p = 0.50, \eta^2_p = 0.00$. There was also not a significant 2-way interaction effect between gender and time on knowledge about a PSH, $F(1, 157) = 0.01, p = 0.93, \eta^2_p = 0.00$. Additionally, there was not a significant 3-way interaction between gender, condition, and time on condom use self-efficacy, $F(1, 163) = 0.70, p = 0.40, \eta^2_p = 0.00$. There was also not a significant 2-way interaction between gender and time on condom use self-efficacy, $F(1, 163) = 0.78, p = 0.77, \eta^2_p = 0.00$.

Intention Mediation

A mediation path analysis with a bootstrapped indirect effect estimation method was used to test whether condom use intentions and intentions to gain knowledge about a PSH mediated the relationship between the treatment and criterion variables (i.e., condom use and knowledge about a PSH; Hypothesis 2). Findings from the analysis did not show support for Hypothesis 2a (see Figure 3). The effect of condition on condom use intentions was not statistically significant, $\beta = 0.04, p = 0.38$. However, the effect of condom use intentions on post-test condom use was statistically significant, $\beta = -0.72, p > 0.001$. The indirect path through intentions to use condoms showed no mediation effect and was not statistically significant, as indicated by findings that the 95% Confidence Interval (bias corrected) for the indirect path captured zero, 95% CI [-0.10, 0.04]. Additionally, the direct effect between the predictor and criterion variable remained significant ($p > 0.001$) when the mediator was introduced. Altogether this demonstrates that condom use intentions did not explain the relationship between the condition and post-test condom use.

As regards to Hypothesis 2b, the effect of condition on intentions to gain knowledge about a PSH and the effect of intentions to gain knowledge about a PSH on post-test knowledge about a PSH were not significant ($\beta = 0.06, p = 0.58$ and $\beta = -0.06, p = 0.56$, respectively, see Figure 4). The indirect path through intentions to gain knowledge about a PSH showed no mediation effect and was not statistically significant as indicated by findings that showed the 95% Confidence Interval (bias corrected) for the indirect path included zero, 95% CI [-0.02, 0.01].

Association of Relationship Factors with Sexual Risk Outcomes

In testing to see whether or not relationship factors were linked to sexual risk outcomes at post-test a linear regression analysis was used. Hypothesis 3a, examined whether or not relationship factors (i.e., relationship satisfaction, trust, commitment, and communication) were associated with condom use at post-test (see Table 9). Relationship satisfaction was significantly associated with condom use at post-test, $\beta = -0.34, t(103) = -2.34, p = 0.02$, and remained so even when controlling for condition, and condom use at pre-test, $\beta = -0.28, t(101) = -2.63, p = 0.01$. More specifically, participants who reported greater levels of relationship satisfaction were less likely to report using condoms with their exclusive partner at post-test. Conversely, support for Hypotheses 3b-3d was not found. The trust ($p = 0.75$), commitment ($p = 0.17$), and

communication ($p = 0.51$) variables were not significantly associated with condom use at post-test.

To test Hypotheses 4a-4d, I examined whether or not relationship factors were associated with individuals' knowledge about PSH at post-test. Findings indicated no support for the Hypotheses. The relationship satisfaction ($p = 0.66$), trust ($p = 0.55$), commitment ($p = 0.14$), and communication ($p = 0.71$) variables were not significantly associated with individuals' knowledge about their PSH at post-test. Further, no support was found for Hypotheses 5a-5d. Relationship satisfaction ($p = 0.57$), trust ($p = 0.23$), commitment ($p = 0.47$), and communication ($p = 0.97$) were not significantly associated condom use self-efficacy at post-test.

Possible gender differences were examined through interactions with the predictor variables (i.e., relationship factors) using hierarchical linear regression in SPSS. No significant interactions between gender and each of the relationship factors emerged. More specifically, there was not a difference between men and women on the association between condom use at post-test and relationship satisfaction, $\beta = -0.01$, $t(91) = -0.06$, $p = 0.95$, $\Delta R^2 = 0.00$; trust, $\beta = -0.01$, $t(91) = -0.07$, $p = 0.95$, $\Delta R^2 = 0.00$; $\beta = -0.02$, commitment, $t(91) = -0.24$, $p = 0.81$, $\Delta R^2 = 0.00$; and communication, $\beta = -0.03$, $t(91) = -0.47$, $p = 0.64$, $\Delta R^2 = 0.00$ when controlling for condition and condom use at pre-test.

Similarly, there were no interactions between gender and each relationship factor on knowledge about a PSH. Findings showed that the association between knowledge about a PSH at post-test and relationship satisfaction, $\beta = -0.02$, $t(89) = -0.22$, $p = 0.83$, $\Delta R^2 = 0.00$; trust, $\beta = -0.02$, $t(89) = -0.23$, $p = 0.82$, $\Delta R^2 = 0.00$; commitment $\beta = -0.02$, $t(89) = -0.29$, $p = 0.78$, $\Delta R^2 = 0.00$; and communication, $\beta = -0.02$, $t(89) = -0.32$, $p = 0.75$, $\Delta R^2 = 0.00$ did not differ by gender, when controlling for condition and knowledge about a PSH at pre-test. There were also no interactions between gender and each relationship factor on condom use self-efficacy. Results showed that the association between condom use self-efficacy at post-test and relationship satisfaction, $\beta = 0.05$, $t(91) = 0.59$, $p = 0.56$, $\Delta R^2 = 0.00$; trust, $\beta = 0.05$, $t(91) = -0.23$, $p = 0.82$, $\Delta R^2 = 0.00$; commitment, $\beta = 0.05$, $t(91) = 0.60$, $p = 0.55$, $\Delta R^2 = 0.00$; and communication, $\beta = 0.05$, $t(91) = 0.62$, $p = 0.53$, $\Delta R^2 = 0.00$ did not differ by gender, when controlling for condition and condom use self-efficacy at pre-test. Thus, again, results did not vary by gender.

CHAPTER FOUR

DISCUSSION AND IMPLICATIONS

Using a randomized sample, I examined (a) the impact of sexual negotiation training as compared to standard sexual health education on reducing sexual risk-taking among college students, (b) how intentions mediated the relationship between the condition and post-test sexual risk outcomes, among students who received sexual negotiation training, and (c) how various relationship factors were linked to sexual risk outcomes at post-test, among college students in exclusive dating relationships. Overall, there was some evidence to suggest that sexual negotiation training can be effective at reducing college students' sexual risk.

Although the use of condoms is critical in the prevention of STIs and HIV condom use among college students is inconsistent (e.g., Lewis et al., 2009). This highlights the importance of the first analysis, which showed that condom use significantly increased among those who received sexual negotiation training (Hypothesis 1a). The finding is also promising given the brief nature of the intervention and considering how difficult it can be to change condom use behaviors (Albarracin et al., 2001).

The finding also speaks to the criticism that education programs promote changes in knowledge, but not in behavior (Ku, Sonenstein, & Pleck, 1992) and to previous research that shows that gaining knowledge about STI and HIV/AIDS does not improve condom use among college students (Williams, Norris, & Bedor, 2003). Specifically, the present finding suggests that changes in condom use behavior can occur through the application of skills based education (i.e., sexual negotiation training). Reports from those who received the sexual negotiation training (gathered from the writing activity) illustrates how the training provided a benefit that went beyond providing participants with statistics and general information about condom use. For example, when asked to explain what they had learned from the sexual negotiation training session one participant answered, "No matter what you should be comfortable with yourself to speak up and use a condom...to avoid the consequences afterwards. Just because you may know the person you are with doesn't mean you know what they may have." Similarly, another participant stated:

Clearly, it is NOT worth it not to use one. You can never fully trust someone to be honest with you—you don't know if they have been tested recently or may be with multiple partners. Having to go to the clinic is more embarrassing than suggesting the use of a condom.

Sexual negotiation training also appears to help students overcome the barriers they face when trying to use condoms. Specifically the training does this by providing student sensitive and safe ways to negotiate condom use. For instance, when asked about what they learned from the sexual negotiation video to help them address barriers to condom use one participant in the sexual negotiation group responded, “It helps with trying to face your partner when the time comes. Sometimes you don’t know how to bring up something like that, but the video helps you with what to do in those scenarios.” Another person stated, “Always remind yourself that if you do not know your partner's sexual history, the safest way to protect yourself is through using protection, like a condom.”

Given the increased use of condoms among those who received sexual negotiation training in this study and past research findings that positively link condom use and sexual risk perception (Civic, 1999) sexual negotiation training may help students move beyond their *perception* of risk and toward the *reality* of their actual risk. This is important, because despite the barriers to condom use (Corbett et al., 2009) and the prevalence of sexual risk taking among college students (Owen et al., 2010), the vast majority of students do not perceive themselves as being at risk for sexually related infections (Inungu, Mumford, Younis, & Langford, 2009). That being said, this interpretation of the data (i.e., positively linking condom use and improved risk perception) is speculative rather than empirically grounded. Overall, the finding calls for educators to consider conducting sexual negotiation training, as opposed to standard sexual education, to improve condom use among college students.

Post-hoc analyses revealed a gender difference on condom use at post-test. More specifically, independent of condition, women in the present study were more likely to report greater condom use at post-test as compared to men. This finding is important given that previous research suggests that women are less likely to use condoms as compared to men (e.g., Robertson, Stein, and Baird-Thomas, 2006). Moreover, not only is the rate of transmission for STI and HIV growing more rapidly for heterosexual women than for heterosexual men (CDC, 2011b), but as compared to men, women experience more long-term consequences of STIs

(CDC, 2010). Despite being at sexual risk, women tend to have a reduced sense of sexual risk and are less comfortable negotiating condom use with partners (Williams & Semanchuk, 2000).

One study suggests that while heterosexual women have more favorable attitudes about condom use, they are more likely to have unprotected sex as compared to heterosexual men (Martínez-Donate et al., 2004). A similar study found that as compared to men, women reported having greater condom use self-efficacy, a greater perceived sense of sexual risk, and better attitudes about condom use, but were less likely to report actual condom use (Robertson et al., 2006). Women are also more likely to be in the vulnerable position of having to negotiate condom use, while men have been found to be more reactive in the negotiation process (Carter, McNair, Corbin, & Williams, 1999).

Additionally, despite the opportunity for women to wear female condoms, most women expect men to wear condoms (Gollub, 2000). Some women complain that the female condom is unattractive, too large, makes too much noise during coitus, is uncomfortable, and is difficult to maintain in place (Buck et al., 2005). Female condoms are also more expensive than male condoms. Consequently, by not wearing condoms many women become dependent on men for protection and more susceptible to sexual risks. Conversely, given that men are typically the ones that wear condoms, men may have a greater perceived sense of control over their condom use (Beadnell, Baker, Morrison, & Knox, 2000).

A considerable body of literature also suggests that gender related power imbalances puts women at greater sexual risk as compared to men (e.g., Pulerwitz et al., 2002). For example, gender scripts and roles have historically discouraged women from initiating discussions about sex. Consistent with this, some studies suggest that complying with more conventional sex roles has created barriers for women that have kept them from successfully negotiating condom use with their partners (e.g., Beadnell et al., 2000). Women who provide their own condoms are also viewed less favorably and as more promiscuous compared to men. Overall, previous findings show that women engage in less condom use and are disproportionately at greater risk of contracting a STI and HIV as compared to heterosexual men. This may explain, in part, why sexual education programs have primarily targeted women in the United States (Seal & Ehrhardt, 2004). Additionally, previous findings provide evidence for why sexual negotiation training may be particularly important for women attending college.

Conversely, the role men play in the use of condoms should not be underestimated. Condoms are still mainly managed and purchased by men. Despite this sexual education programs typically assume that women and not men should be the primary recipients of negotiation training (Otto-Salaj et al., 2008). Tentative findings from the male sample in the present study, in accordance with recommendations made by Seal and Ehrhardt (2004), suggest the need for training programs that are more effective at improving condom use among men. Findings from a more recent study by Labrie et al. (2008) show that motivational interviewing may be one way to help improve male college students' condom use. The tentative gender difference found in this study also supports previous research suggesting the need for sexual education research that adequately examines the effects of gender related factors (i.e., gender roles and relationship power), on both men and women's willingness and ability to engage in greater condom use (e.g., Amaro, 2000; Pulerwitz, Amaro, De Jong, Gortmaker, & Rudd, 2002).

This was also the first study to examine how sexual health education training impacted individuals' knowledge about their PSH. In contrast to Hypothesis 1b, knowledge about PSH did not significantly increase among those who received sexual negotiation training, as compared to those in the comparison group. Thus, it appears that receiving sexual negotiation training may improve condom use, but it does not effect whether or not individuals communicate with their partner about their PSH. Gaining knowledge about a PSH can improve condom use (Crosby, Yarber, Diclemente, Wingood, & Meyerson, 2002), decrease one's number of sexual partners (Catania, 1989) and is key to reducing the transmission of STIs and HIV. However, despite the importance of talking about past sexual histories, the conversation is a difficult one to have with partners. That is why sexual negotiation training programs should expand their curricula to include implicit and explicit messages that address the importance of talking with partners about past sexual histories.

Perhaps another reason why participants who received sexual negotiation training did not improve their knowledge about their PSH was not due to a lack of effort, but a lack of success (e.g., partners refusing to share information). Congruent and honest communication requires at least two people and is a reciprocal process (Satir, 1983; Satir & Baldwin 1983). Moreover, according to family systems theory, systemic based interventions are the best mechanism through which problems are resolved and meaningful changes in interaction occur (e.g., Gale & Long, 1996). Thus, findings from literature that supports the use of systemic based interventions

to improve interaction processes may explain why no significant improvements in knowledge about a PSH were found among those who received sexual negotiation training.

Also, despite previous research that suggests 20-25% of individuals in close relationships are unaware of their PSH (EDK, 1995) many participants in the present study had considerably high scores on measures that assessed their knowledge of their PSH. Otherwise stated, findings from this study show a ceiling effect (scores were concentrated toward the higher end of the 5-point Likert scale used to measure knowledge about a PSH). This may also explain why no significant differences were found between those in the treatment and comparison group on knowledge about a PSH. Additionally, higher responses may reflect the belief that one can know whether or not their partner has a STI just by looking at them. This idea is consistent with findings from other studies that suggest that college students base their perceived knowledge of their partner's sexual health on intuition and superficial qualities (i.e., attractiveness and whether they look clean and healthy; Noar, Zimmerman, Atwood, & 2004).

Furthermore, findings comparing condom use self-efficacy between those in the treatment and comparison conditions (Hypothesis 1c) showed that condom use self-efficacy did not significantly increase among those in the treatment or comparison group. These findings are in contrast to similar findings that show a link between receiving sexual negotiation training and improved condom use self-efficacy (Sanderson & Yopyk, 2007). Given that condom use self-efficacy is an important predictor of condom use (e.g., Crosby et al., 2011) it is surprising that unlike actual condom use, condom use self-efficacy did not significantly improve among those who received sexual negotiation training. That said, a ceiling effect might also explain why no difference was found in condom use self-efficacy between those in the treatment and comparison group. Results from the data showed that scores were concentrated toward the higher end of the 5-point Likert scale used to measure condom use self-efficacy. Altogether, the finding demonstrates the multidimensionality of condom use self-efficacy (Baele, Dusseldorp, & Maes, 2001) and suggests the need for research that tests for psychosocial factors that moderate the relationship between condom use self-efficacy and actual condom use among college students.

Findings for Hypothesis 2a showed that condom use intentions did not mediate the relationship between condition and condom use at post-test. More specifically, differences in condom use at post-test between those who received sexual negotiation training and those who received standard sexual health education were not associated with condom use intentions. Also,

there appeared to be no relationship between condition and condom use intentions at post-test. Despite participants in the treatment group reporting greater condom use, they are no more likely to have greater intentions to use condoms than those in the comparison group. This finding is somewhat surprising given previous research that links condom use intentions and actual condom use (Albarracin et al., 2001) and also given that sexual education has been found to improve condom use intentions (Bryan et al., 2006). Additionally, since past findings show that intentions are a proximal determinant of behavior (Ajzen, 1991) this finding begs the question, if not a change in intentions to use condoms, what is it about receiving the treatment that accounted for improved condom use among those in the treatment group? Additionally, no support was found for Hypothesis 2b, which suggests that intentions to gain knowledge about PSH do not mediate the link between condition and knowledge about PSH at post-test. Thus, differences in knowledge about PSH at post-test between those who received sexual negotiation training and those who received standard sexual health education were not associated with intentions to gain knowledge about a PSH.

Findings from the mediation analyses in this study suggest that the link between intentions and changes in behavior is multidimensional, and that intentions may not always be proximally linked to behaviors. For instance, college students may have every intention to engage in safe sex practices. However, certain behaviors that reduce safe sex practices are common among college students, including unplanned hookups and frequent binge drinking (e.g. Parks et al., 2009), and may stand in the way of them executing those intentions. Also, group conformity and approval is important for many college students and may explain why some engage in risky sexual behavior (Paul & Hayes, 2002). Thus, despite all their *good intentions*, the aforementioned barriers may be what explain college students' safe sex practices, not intentions. Perhaps this may also explain why intentions did not mediate the relationship between the treatment and sexual risk reduction outcomes in the present study.

In spite of research that shows a link between sexual risk behaviors and relationship factors, this was also the first study to examine how relationship factors were linked to sexual risk outcomes among college students who received sexual health education. Past research suggests that trust, commitment, and communication are good indicators of condom use (Brady et al., 2009; Harvey et al., 2006; Otto-Salaj et al., 2008); however, the findings in this study showed that they were not good indicators of condom use among individuals who received any

form of sexual health education. This suggests that sexual health education may be effective at addressing these relationship factors in a way that eliminates them as barriers to condom use. This makes sense, given that scenes from the video and information in the essays were based on individuals in exclusive relationships. Information from the PowerPoint and video also illustrated the risks associated with having multiple partners. Additionally, the dialogue used in the training highlighted the importance of sexual communication and trust within dyadic relationships.

In contrast, the link between relationship satisfaction and condom use appears to be important among those in exclusive dating relationships. This is consistent with past research that shows those in more satisfying relationships are less likely to use condoms with their primary partner, as compared to those who are less satisfied in their relationship (e.g., Manning et al., 2009). Again, this pattern held true even when individuals received sexual health education. Thus, despite receiving information about the importance of safe sex practices and skills based training on condom use negotiation within exclusive relationships, it appears that individuals in more satisfying relationships perceive themselves to be at reduced risk or find condom use to be a threat to the status quo of their relationship.

This finding provides support for existing research that suggests that individuals in exclusive relationships exercise safe sex practices based on the potential consequences it may have on their primary relationship (e.g., Umphrey & Sherblom, 2007). Knowledge and skill based sexual health education programs may benefit from curricula that make a distinction between being *happy* in a relationship versus being *at sexual-risk* in a relationship, so that students have a clear sense of how to assess their risk. Providing additional information about how common it is for many STIs to go undiagnosed (even among people who appear to be in highly satisfying relationships), may be one way to increase risk perception and condom use. Additionally, helping individuals identify and adopt solutions to the challenges associated with negotiating condom use in a highly satisfying relationship may help improve condom use among this subgroup.

Past research also suggests a link between relationship factors and gaining information about PSH (e.g., Bolton, 2009). However, findings from the present study showed that relationship factors (i.e., relationship satisfaction, trust, commitment, and communication) were not significant indicators of gaining information about PSH among individuals who received

sexual health education. Perhaps receiving sexual health education helps individuals in exclusive dating relationships communicate in more detail about safe sex practices, which may in turn be effective at addressing relationship factors in a way that eliminates them as barriers to gaining knowledge about PSH. Additionally, a link between relationship factors and condom use self-efficacy has also been found in the literature (e.g., Das & Teng, 1998; Farmer & Meston, 2006). However, in this study relationship factors did not appear to be linked to condom use self-efficacy among individuals in exclusive relationships who received sexual health education. Said differently, relationship factors may not act as barriers to improving condom use self-efficacy among students who receive sexual health education. Additionally, post-hoc analyses showed that gender did not account for any more of the variance in the criterion variables (condom use, knowledge about a PSH, and condom use self-efficacy) when controlling for all other factors. Otherwise stated, the strength of the relationship between relationship factors and sexual outcomes does not appear to be associated with gender.

Limitations and Future Research

This study is not without its limitations. Some major disadvantages of surveys are that responses tend to be influenced by how instruments are organized and by the way in which items are worded (Prus & Johnson, 1994). Additionally, forced choice responses may have inhibited more honest responses. In an effort to reduce these disadvantages standardized instruments used to assess similar students populations, were employed in this study. Despite these limitations, some of the disadvantages of self-report data are difficult to resolve and may have reduced the validity and reliability of the responses in this study. Also, traditional problems with social desirability response bias may limit the generalizability of these findings. Descriptive analyses from this study suggest that many participants had high scores on some of the observed variables. As a consequence, some of the measures may have failed to accurately show the true variability in scores and the true impact of the intervention on participants' knowledge about their PSH and condom use self-efficacy at post-test.

Given the small male sample size findings for males may be statistically underpowered. Therefore, caution is warranted when drawing conclusions about gender differences in this study. For instance, despite findings being statistically significant, the virtually equal effect sizes indicate that the treatment is equally effective at improving condom use for both men and women. This conclusion is consistent with previous findings that suggest that sexual education

has the same impact for both men and women (Caron, Godin, Otis, & Lambert, 2004). Future sexual negotiation training based research would do well to include more male participants so that more accurate conclusions about the impact of sexual negotiation training on sexual risk reduction among male students can be drawn. Perhaps one way to do this is by recruiting from departments within universities where men comprise a greater percentage of the student population.

Despite having the appropriate sample size needed to examine the results in the general treatment comparison, the small sample size in the secondary analyses, made up of those in exclusive relationships, may limit the strength and conclusions drawn for that subgroup. Also, despite its advantages, multiple measures were not used to test any one variable in this study (Prus & Johnson, 1994). A face-to-face skill building activity and a question and answer session were not included in the intervention due to time constraints and limited resources. Accordingly, excluding these activities from the intervention may have limited the findings.

Overall, findings from this study provide important information, but also evoke more questions than answers. In an attempt to address the growing sexual health disparities that exist by race/ethnicity and sexual orientation this study should be replicated among other groups (i.e., gay men, men sleeping with men, Blacks, and Hispanics). Also, it is worth assessing for possible differences in treatment outcomes between students in exclusive relationships and those who are single (many of whom engage in hookup encounters), given the different sexual scripts used by these two subgroups.

Future studies should also use more rigorous measures of the TPB to test the applicability of the theory as a framework for the development and implementation of sexual negotiation training programs. Conclusions from the analyses on condom use self-efficacy in this study suggest that future studies should carefully examine whether or not condom use-self efficacy is actually a threat to relationships (gaining the confidence to use condoms efficiently is arguably not as threatening to the intimacy of one's relationship as actually pulling out a condom and putting it on a partner or communicating with a partner about their PSH). Future studies should also examine what relationship factors are linked to condom use-self efficacy. Given the challenges that many couples face when talking about sex, individuals may not always be successful at obtaining certain information from their partner about their sexual history. That said, the measure used to assess participants' knowledge about their PSH might not have

captured whether or not the sexual negotiation training improved participants' actual efforts to gain knowledge about their PSH. Therefore, future studies should examine whether or not sexual negotiation improves students' attempts to gain knowledge about their PSH (sample item may include "I asked my current partner whether or not he was tested for STIs since we started dating"). Moreover, the collection of longitudinal data allows school programs to demonstrate the added value of using a particular curriculum with student populations (Olds, 2004). Therefore, future studies should make considerable effort to evaluate the benefits of sexual negotiation programs using follow up data collected over an extended time period and multiple intervals.

Lastly, given the wide-ranging benefits of systemic based interventions (Carr, 2009; Lebow, Chambers, Christensen, & Johnson, 2012; Klann, Hahlweg, Baucom, & Kroeger, 2009; Shardish & Baldwin, 2005) researchers would do well to conduct couples-based sexual negotiation training within college settings. Findings from a meta-analytic review of 20 marriage and family interventions done by Shadish and Baldwin (2003) showed that individuals who received couples treatment reported greater improvements in their relationship, as compared to those in a no-treatment group. Also, findings from a review of the literature by Carr (2009) indicate the importance of couples-based interventions in the treatment of various mental health disorders (e.g., anxiety disorders, sexual problems, and chronic physical pain; Carr, 2009). Finally, a more recent decade review of the literature showed that an estimated 70% of couples that received treatment together showed positive improvement (Lebow et al., 2012, p. 145).

Sexual behaviors and interactions patterns that occur likely reflect the interaction between partners (DeLamater & Hyde, 2004). Given that most sexual expression occurs interpersonally, it is no surprise that for several decades systemic models have been used to examine sexual attitudes and behaviors (e.g., Fish, Fish, & Sprenkle, 1984). In more recent years countless studies have shown the benefits of couples-based interventions in the prevention and treatment of sex related outcomes (e.g., Carr, 2009; Markovic, 2007).

With regards to sexual health education, research also shows that intervening with couples may be more effective at improving safe sex behaviors (Becker, 1996). For instance, Remien et al. (2005) examined the effects of HIV programs on medication use among HIV infected participants and found that compared to those who received individual HIV treatment, participants who received couples-based treatment had greater medication adherence. More

recently, Burton, Darbes, and Operario (2010) also found that couples-based sexual health education training increased safe sex practices. Thus, despite the challenge of recruiting couples (Hendriksen et al., 2007) the proven benefits of couple based sexual health education training, combined with the fact that an estimated half of college students are in exclusive dating relationships at any given time, suggests the need for couples-based sexual health interventions for students.

Additionally, researchers and educators should consider implementing more rigorous procedures when conducting couples-based sexual negotiation trainings within college settings. For instance, some therapists use enactments to create changes in structure and interactions between members of a unit. Enactments, which are used by relational-based therapists (Davis & Butler, 2004), are defined as behaviors (i.e., dysfunctional or positive transactional patterns acted out within treatment) that “stimulate and guide couples interactions as opposed to channeling interaction through the therapist” (Butler, 1996, p. 27). Enactments are mainly used as a “medium for mediating relationships through simultaneous experiential intervention and change at multiple levels of relationships—including specific relationship disagreements and problems” (Davis & Butler, 2004, p. 319).

Given that enactments have been extensively used in systemic based interventions (i.e., marital enrichment programs, emotional focused therapy, structural family therapy, and behavioral marital therapy) and proven to help couples build new skills in communication, it is recommended that they be used in future sexual negotiation training interventions. More specifically, future studies should consider incorporating enactments in couples-based sexual negotiation training to help facilitate changes in safe sex practices by coaching college couples to interact more openly about their condom use and past sexual history. Consistent with some of the procedures implemented by therapists, sexual negotiation training programs should also incorporate goal setting, behavioral rehearsal (role playing), and affective and cognitive coping response exercises to assist students who face relational barriers.

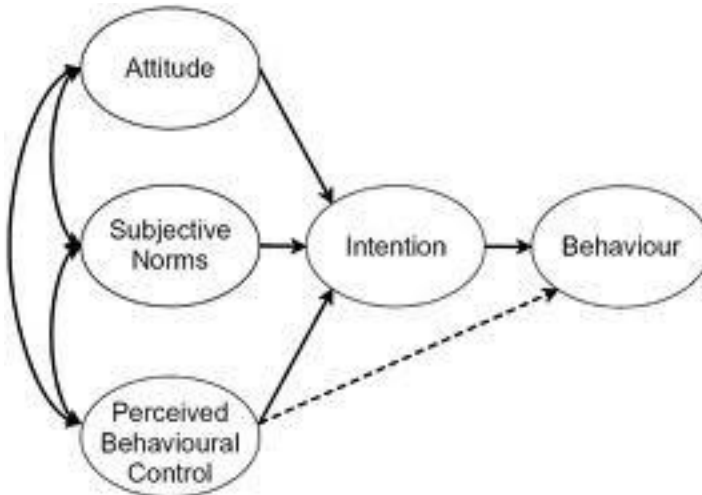
Implications

From a public health perspective, implementing useful prevention programs that reduce risky sexual behaviors is a critical public health issue (CDC, 2009). Though there is considerable discussion and disagreement among politicians, educators, and the general public as to how to implement these programs among teenagers (Walcott, Chenneville, & Tarquini, 2011),

there is little discussion about the use of sexual health education programs among young adults in college (for an exception see Lewis et al., 2009). Given evidence to suggest that a large number of young adults in college settings engage in at-risk sexual behavior (e.g., Hightow et al., 2005; Lewis et al., 2009; Owen et al., 2010), it is time to expand sexual negotiation education to college classrooms. In particular, I propose that sexual negotiation training be employed alongside relationship education, so that college students are provided skills based training that incorporates a holistic approach to understanding of how relationship factors (i.e., relationship satisfaction) are linked to sex related attitudes and behaviors (i.e., condom use).

Conclusion

This study carries practical value and to my knowledge is the first study to examine sexual negotiation training among young adults in a college setting. It is also the first to examine how relationship factors are linked to sexual risk reduction among college students in exclusive dating relationships who receive either traditional sexual education or sexual negotiation training. Overall, findings from this study illustrate the benefits of sexual negotiation training at improving condom use on college campuses, where nearly 20 million students are enrolled in any given year (U.S. Census, 2011). Findings from this study also underscore the need to design sexual health education programs that address relationship characteristics and dynamics on college campuses.



*Figure 1. A conceptual model of the theory of planned behavior. Adapted from “The Theory of Planned Behavior,” by I. Ajzen, 1991, *Organizational Behavior and Human Decision Processes*, 50, 179-211, p. 182.*

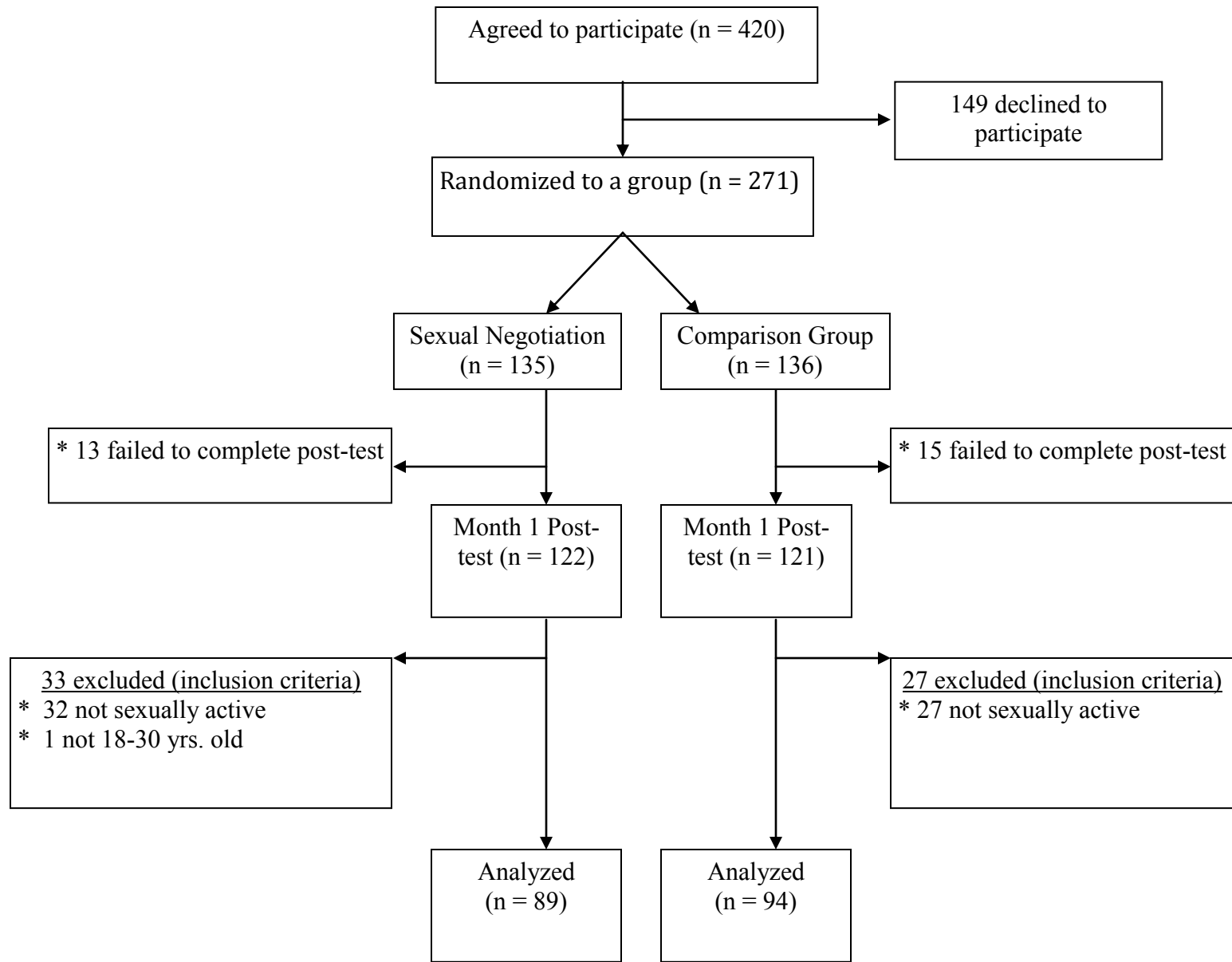


Figure 2. A CONSORT diagram of the flow of participants in the randomized experiment

Table 1

Bivariate Correlation Table for Total Sample (n=183)

| Variable | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|-----------------------------------------------|---------|---------|--------|--------|--------|--------|--------|--------|--------|-------|--------|----|
| 1. Condom use pre-test | -- | | | | | | | | | | | |
| 2. Condom use post-test | 0.70** | -- | | | | | | | | | | |
| 3. Condom use self-efficacy at pre-test | 0.17* | 0.07 | -- | | | | | | | | | |
| 4. Condom use self-efficacy at post-test | 0.20** | 0.19* | 0.60** | -- | | | | | | | | |
| 5. Knowledge of PSH at pre-test | -0.02 | -0.05 | 0.19** | 0.20** | -- | | | | | | | |
| 6. Knowledge of PSH at post-test | -0.05 | -0.03 | 0.13 | 0.20** | 0.70** | -- | | | | | | |
| 7. Communication at pre-test | -0.07 | -0.07 | 0.01 | 0.14 | 0.12 | 0.14 | -- | | | | | |
| 8. Commitment at pre-test | -0.03 | -0.08 | 0.13 | 0.23* | 0.18* | 0.26** | 0.27** | -- | | | | |
| 9. Relationship satisfaction at pre-test | 0.07 | -0.21* | 0.22* | 0.33* | 0.37** | 0.27** | 0.16 | 0.54** | -- | | | |
| 10. Trust at pre-test | 0.14 | -0.05 | 0.22* | 0.35** | 0.38** | 0.30** | 0.16 | 0.33** | 0.67** | -- | | |
| 11. Intentions- condom use at post-test | -0.64** | -0.72** | -0.13 | -0.15* | 0.09 | 0.08 | 0.11 | 0.10 | 0.09 | -0.41 | -- | |
| 12. Intentions- knowledge of PSH at post-test | -0.25** | -0.24* | -0.10 | -0.09 | -0.09 | -0.06 | 0.04 | 0.21* | 0.22* | 0.00 | 0.41** | -- |

Note. PSH = partner sexual history

* $p < 0.05$. ** $p < 0.01$.

Table 2

Percentage of Participants in the Treatment and Comparison Condition by Demographics

| Variable | Treatment | Comparison | Total (n) |
|----------------------------|-----------|------------|------------|
| Gender | | | |
| Female | 82% (73) | 83% (78) | 151 |
| Male | 18% (16) | 17% (16) | 32 |
| Race | | | |
| non-Hispanic White | 66% (59) | 69% (65) | 124 |
| African American | 11% (10) | 13% (12) | 22 |
| Hispanic | 22% (19) | 13% (12) | 31 |
| Asian/Pacific Islander | 1% (1) | 3% (3) | 4 |
| Other | 0% (0) | 2% (2) | 2 |
| Age | | | |
| 18-20 | 63% (56) | 66% (62) | 118 |
| 21-25 | 35% (31) | 29% (27) | 58 |
| 25-30 | 2% (2) | 5% (5) | 7 |
| Relationship Status | | | |
| Single | 35% (31) | 35% (33) | 64 |
| Dating | 65% (58) | 65% (61) | 119 |
| Total (N) | 89 | 94 | 183 |

Table 3
Summary of Reported Sexual Activity and Testing Status

| Behavior | Response | Percentage |
|--------------------------------------------------------|-------------------------------|------------|
| Hookups within 12 month (n = 64) | | |
| | 0 | 8% (5) |
| | 1 | 22% (14) |
| | 2 | 17% (11) |
| | 3 | 20% (13) |
| | 4 or More | 33% (21) |
| STI Testing History (n = 177) | | |
| | Tested | 63% (112) |
| | Never Tested | 37% (65) |
| STI Testing History- in Current Relationship (n = 104) | | |
| | Never Tested | 32% (33) |
| | Before sex w/ current partner | 13% (14) |
| | After sex w/ current partner | 35% (36) |
| | After last relationship ended | 7% (7) |
| | Don't know | 13% (14) |

Table 4

Summary of Descriptives for Treatment Effects on Sexual Risk Outcomes

| Dependent Variables | Condition | <i>n</i> | <i>M</i> | <i>SD</i> | 95% CI |
|--------------------------|------------|----------|----------|-----------|-----------------------------|
| Condom use | Tx | | | | |
| Pre-test | | 86 | 6.84 | 3.53 | [6.10, 7.59] |
| Post-test | | 86 | 7.98 | 4.06 | [7.12, 8.84] |
| | Comparison | | | | |
| Pre-test | | 84 | 6.75 | 3.45 | [5.99, 7.51] |
| Post-test | | 84 | 6.82 | 4.04 | [5.95, 7.70] |
| Knowledge of PSH | Tx | | | | |
| Pre-test | | 84 | 50.13 | 11.48 | [47.67, 52.60] |
| Post-test | | 84 | 51.39 | 12.07 | [48.74, 54.10] |
| | Comparison | | | | |
| Pre-test | | 84 | 53.43 | 11.35 | [50.89, 55.97] |
| Post-test | | 84 | 51.84 | 12.60 | [49.10, 54.58] |
| Condom Use Self-Efficacy | Tx | | | | |
| Pre-test | | 86 | 29.80 | 4.07 | [28.94, 30.67] ^a |
| Post-test | | 86 | 31.19 | 4.43 | [30.19, 32.18] ^a |
| | Comparison | | | | |
| Pre-test | | 82 | 29.73 | 4.05 | [28.85, 30.61] ^a |
| Post-test | | 82 | 30.38 | 4.94 | [29.36, 31.40] ^a |

Note. CI = confidence interval; Tx = treatment condition; PSH = partner sexual history.

^aCI corrected for sphericity assumption violation using MANOVA analysis.

Table 5
Repeated Measures ANOVA for Condom Use

| Source | <i>df</i> | <i>SS</i> | <i>MS</i> | <i>F</i> | <i>p</i> | <i>partial</i> η^2 |
|------------------|-----------|-----------|-----------|----------|----------|-------------------------|
| Between groups | | | | | | |
| Condition | 1.00 | 32.80 | 32.80 | 1.35 | 0.25 | 0.01 |
| Error | 168.00 | 4093.8 | 24.37 | | | |
| Within groups | | | | | | |
| Time | 1.00 | 31.16 | 31.16 | 7.21 | 0.01 | 0.04 |
| Time x Condition | 1.00 | 24.24 | 24.24 | 5.61 | 0.02* | 0.03 |
| Error | 168.00 | 725.95 | 4.32 | | | |

Note. * $p < 0.05$.

Table 6
Repeated Measures ANOVA for Knowledge of PSH

| Source | <i>df</i> | <i>SS</i> | <i>MS</i> | <i>F</i> | <i>p</i> | <i>partial</i> η^2 |
|------------------|-----------|-----------|-----------|----------|----------|-------------------------|
| Between groups | | | | | | |
| Condition | 1.00 | 285.04 | 285.04 | 1.19 | 0.28 | 0.01 |
| Error | 161.00 | 38606.19 | 239.79 | | | |
| Within groups | | | | | | |
| Time | 1.00 | 2.26 | 2.26 | 0.05 | 0.82 | 0.00 |
| Time x Condition | 1.00 | 166.14 | 166.14 | 3.91 | 0.05* | 0.02 |
| Error | 161.00 | 6849.64 | 42.54 | | | |

Note. **p* = 0.05.

Table 7
Repeated Measures ANOVA for Condom Use Self-Efficacy

| Source | <i>df</i> | <i>SS</i> | <i>MS</i> | <i>F</i> | <i>p</i> | <i>partial η^2</i> |
|------------------|-----------|-----------|-----------|----------|----------|------------------------------------|
| Between groups | | | | | | |
| Condition | 1.00 | 16.20 | 16.20 | 0.53 | 0.47 | 0.00 |
| Error | 166.00 | 5088.5 | 30.65 | | | |
| Within groups | | | | | | |
| Time | 1.00 | 86.50 | 86.50 | 11.1 | 0.00 | 0.06 |
| Time x Condition | 1.00 | 11.41 | 11.41 | 1.46 | 0.23 | 0.01 |
| Error | 166.00 | 1293.54 | 7.79 | | | |

Table 8

Summary of Descriptive Statistics for Experimental Study by Gender.

| Variable by Gender | Men | | | Women | | |
|-------------------------------------------|--------------|----------|-----------|--------------|----------|-----------|
| | <i>Range</i> | <i>M</i> | <i>SD</i> | <i>Range</i> | <i>M</i> | <i>SD</i> |
| Condom use at pre-test | 2-12 | 8.53 | 3.37 | 2-12 | 6.51 | 3.43 |
| Condom use at post-test | 2-12 | 7.97 | 4.18 | 2-12 | 7.31 | 4.04 |
| Knowledge o PSH at pre-test | 16-60 | 51.94 | 11.84 | 15-60 | 51.29 | 11.97 |
| Knowledge o PSH at post-test | 27-60 | 52.92 | 11.31 | 14-60 | 51.45 | 12.45 |
| Condom use self-efficacy at pre-test | 23-35 | 31.86 | 3.00 | 15-35 | 29.39 | 4.08 |
| Condom use self-efficacy at post-test | 17-35 | 32.30 | 4.79 | 16-35 | 30.41 | 4.74 |
| Intentions-condom use at pre-test | 3-21 | 6.63 | 4.99 | 3-21 | 9.35 | 6.84 |
| Intentions-condom use at post-test | 3-21 | 7.40 | 5.94 | 3-21 | 9.41 | 6.65 |
| Intentions- knowledge of PSH at pre-test | 3-12 | 7.28 | 3.10 | 3-12 | 7.18 | 3.30 |
| Intentions- knowledge of PSH at post-test | 3-12 | 6.00 | 3.03 | 3-12 | 6.73 | 2.98 |
| Relationship satisfaction at pre-test | 16-25 | 21.53 | 2.37 | 11-25 | 20.74 | 2.81 |
| Trust at pre-test | 36-56 | 48.39 | 5.80 | 19-56 | 48.19 | 7.23 |
| Commitment at pre-test | 12-20 | 16.16 | 2.50 | 9-20 | 15.76 | 3.04 |
| Communication at pre-test | 12-24 | 19.95 | 3.63 | 11-24 | 20.64 | 3.31 |

Note. PSH = partner sexual history.

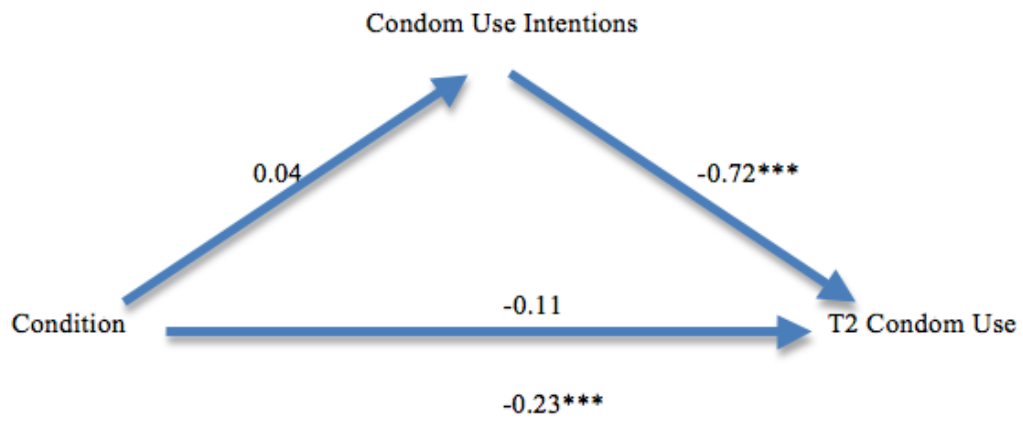


Figure 3. Standardized regression coefficients for the link between condition & condom use at post-test as mediated by condom use intentions.
*** $p < 0.001$.

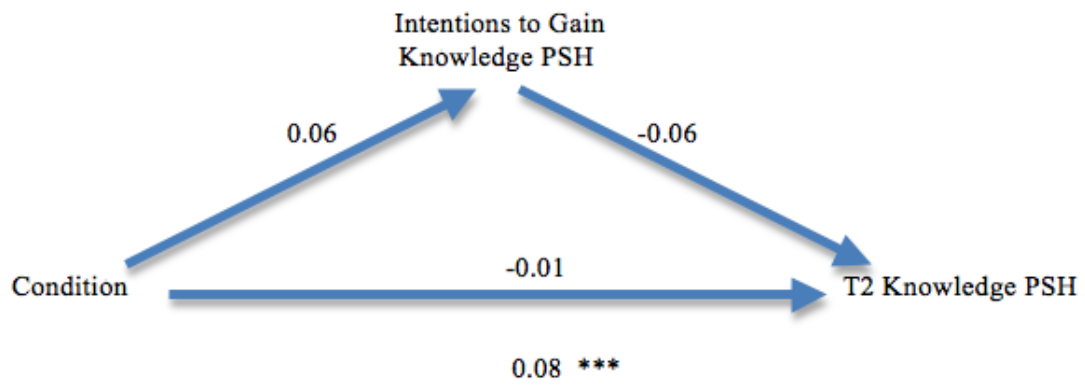


Figure 4. Standardized regression coefficients for the link between condition & knowledge about PSH at post-test as mediated by intentions to gain knowledge of PSH. PSH= partners sexual history.
 *** $p < 0.001$

Table 9

Summary of General Linear Models Analysis for Link Between Relationship Factors on Condom Use Among those in Exclusive Relationships (n =108)

| Predictor | <i>B</i> | <i>SE B</i> | β |
|---------------------------|----------|-------------|---------|
| Condition | -1.39 | 0.59 | -0.17* |
| Pre-test condom use | 0.77 | 0.09 | 0.65*** |
| Relationship satisfaction | -0.41 | 0.16 | -0.28** |
| Trust | 0.20 | 0.06 | 0.03 |
| Commitment | 0.17 | 0.12 | 0.13 |
| Communication | -0.06 | 0.09 | -0.05 |
| R^2 | | 0.49 | |
| F | | 16.35 | |

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

APPENDIX A

Office of the Vice President For Research

Human Subjects Committee
Tallahassee, Florida 32306-2742
*** . FAX ***

APPROVAL MEMORANDUM

Date: 2/10/2012

To: Sesen Negash

Address: ***
Dept.: FAMILY & CHILD SCIENCE

From: Thomas L. Jacobson, Chair

Re: Use of Human Subjects in Research
Do relationship processes influence sexual health promotion?

The application that you submitted to this office in regard to the use of human subjects in the research proposal referenced above has been reviewed by the Human Subjects Committee at its meeting on 12/14/2011. Your project was approved by the Committee.

The Human Subjects Committee has not evaluated your proposal for scientific merit, except to weigh the risk to the human participants and the aspects of the proposal related to potential risk and benefit. This approval does not replace any departmental or other approvals, which may be required.

If you submitted a proposed consent form with your application, the approved stamped consent form is attached to this approval notice. Only the stamped version of the consent form may be used in recruiting research subjects.

If the project has not been completed by 12/12/2012 you must request a renewal of approval for continuation of the project. As a courtesy, a renewal notice will be sent to you prior to your expiration date; however, it is your responsibility as the Principal Investigator to timely request renewal of your approval from the Committee.

You are advised that any change in protocol for this project must be reviewed and approved by the Committee prior to implementation of the proposed change in the protocol. A protocol change/amendment form is required to be submitted for approval by the Committee. In addition, federal regulations require that the Principal Investigator promptly report, in writing any unanticipated problems or adverse events involving risks to research subjects or others.

By copy of this memorandum, the Chair of your department and/or your major professor is reminded that he/she is responsible for being informed concerning research projects involving human subjects in the department, and should review protocols as often as needed to insure that the project is being conducted in compliance with our institution and with DHHS regulations.

This institution has an Assurance on file with the Office for Human Research Protection. The Assurance Number is FWA00000168/IRB number IRB00000446.

Cc: Frank Fincham, Advisor
HSC No. 2011.7418

APPENDIX B

Copy of Informed Consent

Please read the following:

I, being 18 years of age or older, freely and voluntarily and without inappropriate influence or any element of force, fraud, dishonesty, or other form of constraint or threat, consent to be a participant in the above named research project, to be conducted at the Florida State University. Listed below are the procedures to be followed in this research and their purposes, any risks, discomfort, and benefits associated with participation in this study, and the measures which will be taken to ensure confidentiality of the information obtained.

Purpose of the research: I understand that the purpose of this research project is to better understand aspects of college students' romantic relationships and sexual behavior. The purpose is also to better understand how relationship factors influence the effectiveness of sexual health programs.

Procedures for the research: I understand that participation in this project involves; i.e. signing this informed consent form, filling out personal and sensitive information about my sexual behavior (e.g., condom use practices), sexual health (i.e., the last time I was tested for a sexually transmitted infection), and my knowledge of partners' sexual history (i.e., my partner's use of condoms in his or her last relationship). I understand that by agreeing to participate in this project, I also consent to answer questions about my romantic relationships (i.e., my level of satisfaction in my current relationship). After completing the questionnaire I will view a traditional sexual health promotion PowerPoint. Then I will be assigned to either watch a 19-minute sexual negotiation video (provided by The Diffusion of Effective Behavioral Interventions project) or be asked to write about what I learned from watching the standard sexual health education PowerPoint (15 minute assignment). I will also complete a brief online survey 4 weeks later. I understand that I do not have to answer questions that I do not wish to answer. Also if at anytime I become uncomfortable with the content in the video I may stop the video. The total time commitment for this study will include a lab session and brief online survey, which in all may take approximately 90 minutes.

Conditions and Incentives: I understand that I will receive course credit points as a result of my participation and that if I choose not to participate in this study, there will be an alternative option (with equivalent time requirements) provided for me. Thus, I may receive course credit even if I choose not to participate in this study. I may only receive partial credit if I participate in the initial assessment but choose not to participate in the online follow-up assessment 4 weeks later.

Potential risks or discomforts: I might experience distress while reviewing sexual health information and videos or writing about my sexual behaviors (if asked to do so), or answering questions about my romantic relationships. I understand that I am able to stop my participation at any time I wish and that this will not result in losing my course credit. In case of distress, I can ask the person conducting the study to offer me referrals for psychological support or you may

call the FSU counseling center (tel: ***) crisis hotline 24-7.

Potential benefits to you or others: I understand there may be societal benefits for participating in this research project such as increasing the scientific community's knowledge of behaviors and feelings associated with college students' well-being.

Confidentiality: All my answers to the questions will be kept confidential and my confidentiality will be protected to the full extent allowed by law. My name or any other identifying information will not appear on any of the results. No individual responses will be reported. Only group findings will be reported. Any identifying information will be kept locked on a password protected computer, and only the principle investigator and his adviser will have the password. This data will be destroyed five years after the data collection.

I understand that this consent may be withdrawn at any time without penalty or loss of benefits. I have been given the right to ask any question I have concerning the study. Questions, if any, have been answered to my satisfaction.

I understand that I may contact Sesen Negash at *** (tel: ***) or Frank Fincham, ***, (tel; ***), Florida State University, Family Research Institute for answers to questions about this research or my rights. Group results will be sent to me upon my request. If anything is psychologically unsettling, you may call the FSU counseling center (tel: ***) crisis hotline 24-7.

I understand that if I have any questions about my rights as a participant in this research, or if I feel I have been placed at risk, I can contact the Chair of the Human Subjects Committee, Institutional Review Board, through the Vice President for the Office of Research at ***.

I have read and understand this consent form--Please type your name, which will be an electronic signature.

REFERENCES

- Abate, L. L. & Cusinato, M. (2012). *Selfhood: A theory-derived relational model for mental illness and its applications*. Unpublished manuscript.
- Adimora, A. A., & Schoenbach, V. J. (2002). Contextual factors and the black-white disparity in heterosexual HIV transmission. *Epidemiology, 13*, 707-12.
- Afifi, W. A. (1999). Harming the ones we love: Relational attachment and perceived consequences as predictors of safe-sex behavior. *Journal of Sex Research, 36*, 198-206.
- Agnew R. (1998). The approval of suicide: A social-psychological model. *Suicide and Life-Threatening Behavior, 28*, 205-225.
- 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.
- Airhihenbuwa, C. O., & Obregon, R. (2000). A critical assessment of theories/models used in health communication for HIV/AIDS. *Journal of Health Communication, 5*, 5-15.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes, 50*, 179-211.
- Amaro, H., & Raj, A. (2000). On the margin: Power and women's HIV risk reduction strategies. *Sex Roles, 42*, 723-749.
- Andrews, K. R., Silk, K. S., & Eneli, I. U. (2010). Parents as health promoters: A theory of planned behavior perspective on the prevention of childhood obesity. *Journal of Health Communication, 15*, 95-107.
- Baele, J., Dusseldorp, E., & Maes, S. (2001) Condom use self-efficacy: Effect on intended and actual condom use in adolescents. *Journal of Adolescent Health, 28*, 421-431.
- Beadnell, B, Baker, S. A., Morrison, D. M., & Knox, K. (2000). HIV/STD risk factors for women with violent male partners. *Sex Roles, 42*, 661-689.
- Becker, S. (1996). Couples and reproductive health: A review of couple studies. *Studies in Family Planning 27*, 291-306.
- Bolton, M. P. (2009). Serial monogamy and relational influences on patterns of condom use for young adults in relationships (Unpublished master's thesis). University of Toronto, Toronto.

- Brady, S. S., Tschann, J. M., Ellen, J. M., & Flores, E. (2009). Infidelity, trust, and condom use among Latino youth in dating relationships. *Sexually Transmitted Diseases, 36*, 227-231.
- Brafford, L. J., & Beck, K. H. (1991). Development and validation of a condom self-efficacy scale for college students. *Journal of American College of Health, 39*, 219-225.
- Bryan, A., Kagee, A., & Broaddus, M.R. (2006). Condom use among South African adolescents: developing and testing theoretical models of intentions and behavior. *AIDS and Behavior, 10*, 387-397.
- Buck, J., Kang, M., van der Straten, A., Khumalo–Sakutukwa, G., Posner, S. F., & Padian, N. (2005). Barrier method preferences and perceptions among Zimbabwean women and their partners. *AIDS and Behavior, 9*, 415-422.
- Burton, J., Darbes, L. A., & Operario, D. (2010). Couples-focused behavioral interventions for prevention of HIV: Systematic review of the state of evidence. *AIDS and Behavior, 14*, 1-10.
- Butler, M. H. (1996). *Effects of direct and indirect therapy styles on therapist-couple struggle, cooperation, and responsibility*. (Unpublished doctoral dissertation), Texas Tech University, Lubbock, TX.
- Caron, F., Godin, G., Otis, J., & Lambert, L. D. (2004). Evaluation of a theoretically based AIDS/STD peer education program on postponing sexual intercourse and on condom use among adolescents attending high school. *Health Education Research, 19*, 185-197.
- Carr, A. (2009). The effectiveness of family therapy and systemic interventions for adult-focused problems. *Journal of Family Therapy, 31*, 46-74.
- Carter, J. A., McNair, L. D., Corbin, W. R., & Williams, M. (1999). Gender differences related to heterosexual condom use: The influences of negotiation styles. *Journal of Sex and Marital Therapy, 25*, 217-225.
- Castaneda, D. (2000). The close relationship context and HIV/AIDS risk reduction among Mexican Americans. *Sex Roles, 42*, 551-580.
- Catania, J. (1986). Help-seeking: An avenue for adult sexual development (Unpublished doctoral dissertation). University of California, San Francisco.
- Catania, J. A., Dolcini, M., Coates, T. J., Kegeles, S. M., Greenblatt, R. M., Puckett, S.,... Miller, J. (1989). Predictors of condom use and multiple partnered sex among sexually-active adolescent women: implications for AIDS-related health interventions, *Journal of Sex Research, 26*, 514-524.
- Center for Disease Control and Prevention. (2009). HIV/AIDS among African Americans. Retrieved from <http://www.cdc.gov/hiv/topics/aa/resources/factsheets/pdf/aa.pdf>

- Center for Disease Control and Prevention (2010). Subpopulation estimates from the HIV incidence surveillance system-United States, 2006. *The Journal of the American Medical Association*, *31*, 155-156.
- Center for Disease Control and Prevention. (2011a). Sexually Transmitted Disease Surveillance 2010. Retrieved from <http://www.cdc.gov/std/stats10/surv2010.pdf>
- Center for Disease Control and Prevention. (2011b). HIV among women. Retrieved from <http://www.cdc.gov/hiv/topics/women/pdf/women.pdf>
- Choi K., Catania J. A. & Dolcini, M. M. (1994). Extramarital sex and AIDS risk among U.S. adults in 1990: Results from the National AIDS Behavioral Surveys. *American Journal of Public Health*, *84*, 2003-2007.
- Civic, D. (1999). The association between characteristics of dating relationships and condom use among heterosexual adults, *AIDS Education and Prevention*, *11*, 343-352.
- Civic, D. (2000). College students' reasons for nonuse of condoms within dating relationships. *Journal of Sex & Marital Therapy*, *26*, 95-105.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Corbett, M., Dickson-Gomez, J., Hilario, H., & Weeks, M. (2009). A little thing called love: Condom use in high-risk primary heterosexual relationships. *Perspectives of Sex Reproductive Health*, *41*, 218-224.
- Crawford, J. M., Kippax, S. C., Mao, L., Van de Ven, P. G., Prestage, G. P., Grulich, A. E., & Kaldor, J. (2006). Number of risk acts by relationship status and partner serostatus: Findings from the HIM cohort of homosexually active men in Sydney, Australia. *AIDS and Behavior*, *3*, 325-331.
- Crosby, R. A., DiClemente, R. J., Salazer, L. F., Wingood, G. M., McDermott-Sales, J. Young, A. M., & Rose, E. (2011). Predictor of condom use among young African American women. *AIDS and Behavior*. Advance online publication. doi: 10.1007/s10461-011-9998-7
- Crosby, R. A., Yarber, W. L., Diclemente, R. J., Wingood, G. M., & Meyerson, B. (2002). HIV-Associated histories, perceptions, and practices among low-income African American women: Does rural residence matter? *American Journal of Public Health*, *92*, 655-659.
- Da Ros, C. T., & Silva Schmitt, C. D. (2008). Global epidemiology of STDs. *Asian Journal of Andrology*, *10*, 110-114.
- Das, T. K., & Teng, B. S. (1998). Between trust and control: developing confidence in partner cooperation in alliances. *The Academy of Management Review*, *23*, 491-512.

- Davis, S. D., & Butler, M. H. (2004). Enacting relationships in marriage and family therapy: A conceptual and operational definition of an enactment. *Journal of Marital and Family Therapy, 30*, 319-333.
- DeLamater, J., & Hyde, J. (2004). Conceptual and theoretical issues in studying sexuality in close relationships. In J. Harvey, A. Wenzel, & S. Sprecher (Eds.), *The handbook of sexuality in close relationships* (pp. 7-30). Mahwah, NJ: Erlbaum.
- DiClemente, R. J., & Wingood, G. M. (1995). A randomized controlled trial of an HIV sexual risk-reduction intervention for young African-American women. *The Journal of the American Medical Association, 16*, 1271-1276.
- DiIorio, C., Dudley, W. N., Lehr, S., & Soet, J. (2000). Correlates of safer sex communication among college students. *Journal of Advanced Nursing, 32*, 658-665.
- Drigotas, S. M., Safstrom, C. A., & Gentilia, T. (1999). An investment model prediction of dating infidelity. *Journal of Personality and Social Psychology, 77*, 509-524.
- Drumright, L. N., Gorbach, P. M., & Holmes, K. K. (2004). Do people really know their sexual partners? Concurrency, knowledge of partner behavior and sexually transmitted infections within partnerships. *Sexually Transmitted Diseases, 31*, 437-442.
- Duncan, C., Miller, D. M., Borskey, E. J., Fomby, B., Dawson, P., & Davis, L. (2002). Barriers to safer sex practices among African American college students. *Journal of the National Medical Association, 94*, 944-951.
- EDK Associates. (1995). *The ABCs of STDs*, New York: EDK Associates.
- Erdfelder, E., Faul, F., & Buchner, A. (1996). GPOWER: A general power analysis program. *Behavior Research Methods, Instruments, & Computers, 28*, 1-11.
- Farmer, M. A., & Meston, C. M. (2006). Predictors of condom use self-efficacy in an ethnically diverse university sample. *Archives of Sexual Behavior, 35*, 313-326.
- Freedman, K. S., Nelson, N. M., & Feldman, L. L. (2012). Smoking initiation among young adults in the United States and Canada, 1998-2010: A systematic review. *Preventing Chronic Disease, 9*. Retrieved from http://www.cdc.gov/pcd/issues/2012/11_0037.htm
- Fincham, F. D., & Bradbury, T. N. (1987). The assessment of marital quality: A reevaluation. *Journal of Marriage and the Family, 49*, 797-809.
- Fish, L. S., Fish, R. C., & Sprenkle, D. H. (1984). Treating inhibited sexual desire: A marital therapy approach. *The American Journal of Family Therapy, 12*, 3-13.
- Fishbein, M., & Ajzen, I. (1975). Belief, attitude, intention, and behavior: An

- introduction to theory and research. *Reading, MA: Addison-Wesley.*
- Fisher, J. D., & Fisher, W. A. (2002). Tests of the mediational role of preparatory safer sexual behavior in the context of the theory of planned behavior. *Health Psychology, 21*, 71-80.
- Fox, J. (2009). *Understanding of HIV-risk behaviour in HIV-serodiscordant couples – a novel approach.* Fifteenth Annual Conference of the British HIV Association, abstract P149, Liverpool, 2009.
- Freimuth, V. V. (1992). Theoretical foundations of AIDS media campaigns. In T. Edgar, M. A. Fitz-Patrick, & V. S. Freimuth (Eds.), *AIDS: A communication perspective* (pp. 91-110). Hillsdale, NJ: Lawrence Erlbaum Associates.
- French, A., Macedo, M., Poulsen, J., Waterson, T., & Yu, A. (2010). *Multivariate Analysis of Variance (MANOVA)*. Retrieved from <http://userwww.sfsu.edu/~efc/classes/biol710/manova/MANOVAnewest.pdf>
- Funk, J. L., & Rogge, R. D. (2007). Testing the ruler with item response theory: Increasing precision of measurement for relationship satisfaction with the Couples Satisfaction Index. *Journal of Family Psychology, 21*, 572-583.
- Gale, J. E. & Long, J. K. (1996). Foundations of family therapy. In F. Piercy, D. Sprenkle, & J. Wetchler (Eds.), *Family Therapy Sourcebook*. (2nd ed., pp. 1-24). New York: Guilford.
- Garofalo, R., Johnson, A. K., Kuhns, L.M., Cotton, C., Joseph, H., & Margolis, A. (2012). Life skills: Evaluation of a theory-driven behavioral HIV prevention intervention for young transgender women. *Journal of Urban Health*. Advance online publication.
- Glanz, K., Rimer, B. K., & Lewis, F. M. (2002). *Health Behavior and Health Education: Theory, Research, and Practice*. San Francisco: Jossey-Bass.
- Gollub, E. L. (2000). The female condom: tool for women's empowerment. *American Journal of Public Health, 90*, 1377-1381.
- Gullette, D. L., & Lyons, M. A. (2005). Sexual sensation seeking, compulsivity and HIV risk behaviors in college students. *Journal of Community Health Nursing, 22*, 47-60.
- 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.
- Hendriksen, E. S., Pettifor, S., Lee, S. J, Coates, T. J., & Rees, H. V. (2007). Predictors of condom use among young adults in South Africa: The Reproductive Health and HIV

- Research Unit National Youth Survey. *American Journal of Public Health*, 97, 1241-1248.
- Hightow, L. B., MacDonald, P. D., Pilcher, C. D., Kaplan, A. H., Foust, E., Trang, Q., & Leone, P. A. (2005). The unexpected movement of the HIV epidemic in the Southeastern United States: transmission among college students. *Journal of Acquired Immune Deficiency Syndrome*, 38, 531-537.
- Hirsch, J. S., Higgins, J., Bentley, M. E., & Nathanson, C. A. (2002). The social constructions of sexuality: Marital infidelity and sexually transmitted disease-HIV risk in a Mexican migrant community. *American Journal of Public Health*, 92, 1227-1237.
- Impett, E. A., Breines, J. G., & Strachman, A. (2010). Keeping it real: Young adult women's authenticity in relationships and daily condom use. *Personal Relationships*, 17, 573-584.
- Inungu, J., Mumford, V., Younis, M., & Langford, S. (2009). HIV knowledge, attitudes and practices among college students in the United States. *Journal of Health and Human Services Department*, 32, 259-77.
- Kam, J. A., Matsunaga, M., Hecht, M. L., & Ndiaye, K. (2009). Extending the Theory of Planned Behavior to predict alcohol, tobacco and marijuana use among youth of Mexican heritage. *The official Journal of the Society for Prevention Research*, 10, 41-53.
- Kelley, S. S., Borawski, E. A., Flocke, S. A., & Keen, K. J. (2003). The role of sequential and concurrent sexual relationships in the risk of sexually transmitted diseases among adolescents. *Journal of Adolescent Health*, 32, 296-305.
- Keselman, H. J. (1998). Testing treatment effects in repeated measures designs: An update for psychophysiological researchers. *Psychophysiology*, 35, 470-478.
- Kiene, S. M., Barta, W. D., Zelenski, J. M., & Cothran, D. L. (2005). Why are you bringing up condoms now? The effect of message content on framing effects of condom use messages. *Health Psychology*, 24, 321-326.
- Kirk, R. E. (2009). Experimental Design. In R. E. Millsap, & A. Maydeu-Olivares (Eds.), *The SAGE handbook of quantitative methods in psychology* (pp. 23-45). London: Sage Publications Ltd.
- King, J. L. (2011). College students' perceptions of their sex education experiences (Unpublished master's thesis). University of Akron, Ohio.
- Klann, N., Hahlweg, K., Baucom, D. H., & Kroeger, C. (2009). The effectiveness of couple therapy in Germany. *Journal of Marital and Family Therapy*, 35, 1-9.

- Ku, L., Sonenstein, F., & Pleck, J. (1993). The association of AIDS education and sex education with sexual behavior and condom use among teenage men. *Family Planning Perspectives, 24*, 100-106.
- LaBrie, J. W., Pederson, E. R., Thompson, A. D., & Earleywine, M. (2008). A brief decisional balance intervention increases motivation and behavior regarding condom use in high-risk heterosexual college men. *Archives of Sexual Behavior, 37*, 330-339.
- Larzelere, R. E., & Huston, T. L. (1980). The dyadic trust scale: Toward understanding interpersonal trust in close relationships. *Journal of Marriage and the Family, 42*, 595-604.
- Lebow, J. L., Chambers, A. L., Christensen, A., & Johnson, S. M. (2012). Research on the treatment of couples distress. *Journal of Marital and Family Therapy, 38*, 145-168.
- Leigh, B., Vanslyke, J., Hoppe, M., Rainey, D., Morrison, D., & Gillmore, M. (2008). Drinking and Condom use: Results from an Event-Based Daily Diary. *AIDS and Behavior, 12*, 104-12.
- Lewis, J. E., Miguez-Burbano, M. J., & Malow, R. M., (2009). HIV risk behavior among college students in the United States. *College Student Journal, 43*, 475-491.
- Lewis, M. A., Kaysen, D. L., Rees, M., & Woods, B. A. (2010). The relationship between condom-related protective behavioral strategies and condom use among college students: Global- and event-level evaluations. *Journal of Sex Research, 47*, 471-478.
- Locascio, J. J., & Atri, A. (2011). An overview of longitudinal data analysis methods for neurological research. *Dementia and Geriatric Cognitive Disorders, 1*, 330-357.
- Manning, W. D., Flanigan, C. M., Giordano, P. C., & Longmore, M. A. (2009). Relationship dynamics and consistency of condom use among adolescents. *Perspectives on Sexual and Reproductive Health, 41*, 181-190.
- Markovic, D. (2007). Working with sexual issues in systemic therapy. *Australian and New Zealand Journal of Family Therapy, 28*, 200-209.
- Marston, C., & King, E. (2006). Factors that shape young people's sexual behavior: A systematic review. *The Lancet, 368*, 1581-1586.
- Martínez-Donate, A. P., Hovell, M. F., Blumberg, E. J., Zellner, J. A., Sipan, C. L., Shillington, A. M., & Carrizosa, C. (2004). Gender differences in condom-related behaviors and attitudes among Mexican adolescents living on the US Mexico border. *AIDS Education and Prevention, 16*, 172-186.
- Mausbach, B. T., Semple, S. J., Strathdee, S. A., & Patterson, B. T. (2009). Predictors of safer sex intentions and protected sex among heterosexual HIV-negative

- methamphetamine users: An expanded model of the theory of planned behavior. *AIDS Care*, 21, 17-24.
- McAlister, A., Pachana, N., & Jackson, C. J. (2005). Predictors of young dating adults' inclination to engage in extradyadic sexual activities: A multi-perspective study. *British Journal of Psychology*, 96, 331-350.
- Montgomery, C., Lees, S., Stadler, J., Morar, N., Ssali, A., & Mwanza, B. (2008). The role of partnership dynamics in determining the acceptability of condoms and microbicides. *AIDS Care*, 20, 733-740.
- Muthén, B. & Muthén, L. (1998-2010). Mplus User's Guide. Sixth Edition. Los Angeles, CA: Muthén & Muthén.
- Negash, S. (2011). [Survey responses from undergraduate college students about sexual education history]. Unpublished raw data.
- Negash, S., Veldorale-Brogan, A., & Fincham F. D. (under review). To cheat or not to cheat?: Precursors to sexual extradyadic relationships among young adults in dating relationships. *Journal of Sex Research*.
- Noar, S. M., Morokoff, P. J., & Redding, C. A. (2002). Sexual assertiveness in heterosexually active men: A test of three samples. *AIDS Education and Prevention*, 14, 330-342.
- Noar, S. M., Zimmerman, R. S., & Atwood, K. A. (2004). Safer sex and sexually transmitted infections from a relationship perspective. In J. H. Harvey, A. Wenzel, & S. Sprecher (Eds.), *Handbook of sexuality in close relationships* (pp. 519-544). Mahwah NJ: Lawrence Erlbaum.
- Olds, B. M. (2004, August). *Effective strategies to assess the impact of e-learning*. Paper presented at the Proceedings of Conferences on e-Technologies in Engineering Education Learning Outcomes Providing Future Possibilities: Davos, Switzerland.
- Otto-Salaj, L. L., Kelly, J. A., Stevenson, L. Y., Hoffmann, R., & Kalichman, S. C. (2001). Outcomes of a randomized small-group HIV prevention intervention trial for people with serious mental illness. *Community Mental Health Journal*, 37, 123-144.
- Otto-Salaj, L. L., Reed, B., Brondino, M. J., Gore-Felton, C., Kelly, J.A., & Stevenson, L. Y. (2008). Condom use negotiation in heterosexual African-American adults: Responses to types of social power-based strategies. *Journal of Sex Research*, 45, 150-163.
- Owen, J., Fincham, F. D., & Moore, F. (2011). Short-term prospective study of hooking up among college students. *Archives of Sexual Behavior*, 2, 331-341.
- Owen, J., Rhoades, G. K., Stanley, S. M., & Fincham, F. D. (2010). "Hooking up" among college students: Demographic and psychosocial correlates. *Archives of Sexual Behavior*, 3, 653-663.

- Parks, K. A., Hsieh, Y. P., Collins, R. L., Levonyan-Radloff, K., & King, L.P. (2009). Predictors of risky sexual behavior with new and regular partners in a sample of women bar drinkers. *Journal of Studies on Alcohol and Drugs, 70*, 197-205.
- Paul, E. L., & Hayes, K. A. (2002). The casualties of 'casual' sex: A qualitative exploration of the phenomenology of college students' hookups. *Journal of Social and Personal Relationships, 19*, 639-661.
- Pilkington, C. J., Kern, W., & Indest, D. (1994). Is safer sex necessary with a “safe” partner? Condom use and romantic feelings. *Journal of Sex Research, 31*, 203-210.
- Preacher, K. J., & Coffman, D. L. (2006). Computing power and minimum sample size for RMSEA. Available from <http://www.quantpsy.org/>.
- Prus, J. & R. Johnson, (1994). A critical review of student assessment options. *New Directions for Community Colleges, 88*, 69-83.
- 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.
- Rehman, U. S., Janssen, E., Newhouse, S., Heiman, J., Holtzworth-Munroe, Fallis, E., & Rafaeli, E. (2011). *Sex and Marital Therapy, 37*, 94-103.
- Remien, R. H., Stirratt, M. J., Dolezal, C., Dognin, J. S., Wagner, G. J., Carballo-Diequez, A.,...Jung, T. M. (2005). Couple-focused support to improve HIV medication adherence: a randomized controlled trial. *AIDS, 19*, 807-814.
- Robertson, A. A., Stein, J. A., & Baird-Thomas, C. (2006). Gender differences in the prediction of condom use among incarcerated juvenile offenders: Testing the information motivation-behavioral skills (IMB) model. *Journal of Adolescent Health, 38*, 18-25.
- Rosenberg, M. D., Gurvey, J. E., Adler, N., Dunlop, M. B., & Ellen, J. M. (1999). Concurrent sex partners and risk for sexually transmitted diseases among adolescents. *Sexually Transmitted Diseases, 26*, 208-212.
- Rusbult, C. E. 1980. Commitment and satisfaction in romantic associations: A test of the Investment Model. *Journal of Experimental Social Psychology, 16*, 172-86.
- Rusbult, C. E. 1983. A longitudinal test of the investment model: The development (and deterioration) of satisfaction and commitment in heterosexual involvement. *Journal of Personality and Social Psychology, 45*, 101-117.
- Sadovsky, V. V., Keller, M. L., & McKinney, K. (2002). College student’s perceptions and practices of sexual activities in sexual encounters. *Journal of Nursing Scholarship, 34*, 133-138.

- Salkind, N. J. (2008). *Exploring research* (7th ed.). Upper Saddle River, NJ: Prentice Hall.
- Sanderson, C. A., & Yopyk, D. J. (2007). Improving condom use intentions and behavior by changing perceived partner norms: an evaluation of condom promotion videos for college students. *Health Psychology, 26*, 481-487.
- Satir, V. (1983). *Conjoint family therapy* (3rd ed.). Palo Alto: Science and Behavior Books.
- Satir, V., & Baldwin, M. (1983). *Satir step by step: A guide to creating change in families*. Palo Alto: Science and Behavior Books:
- Seal, D. W., & Ehrhardt, A. A. (2004). HIV-prevention-related sexual health promotion for heterosexual men in the United States: Pitfalls and recommendations. *Archives of Sexual Behaviors, 33*, 211-222.
- Shadish, W. R., & Baldwin, S. A. (2003). Meta-analysis of MFT interventions. *Journal of Marital and Family Therapy, 29*, 547-570.
- Sheeran, P. & Orbell, S. (1999). Implementation of intentions and repeated behavior: augmenting the predictive validity of the theory of planned behavior. *European Journal of Social Psychology, 37*, 231-50.
- Shrout, P. E., & Bolger, N. (2002). Mediation in experimental and non-experimental studies: New procedures and recommendations. *Psychological Methods, 7*, 422-445.
- Sobel, M. E. (1982). Asymptotic confidence intervals for indirect effects in structural equation models. In S. Leinhardt (Ed.), *Sociological Methodology* (pp. 290-312). San Francisco: Jossey-Bass.
- Sobo, E. J. (1995). *Choosing Unsafe Sex: AIDS-Risk Denial among Disadvantaged Women*. Philadelphia: University of Pennsylvania Press.
- Soler, H., Quadagno, D., Sly, D. F., Riehman, K. S., Eberstein, I. W., & Harrison, D. F. (2000). Relationship dynamics, ethnicity and condom use among low-income women. *Family Planning Perspectives, 32*, 82-88.
- St. Lawrence, J. S., Chapdelanie, A. P., Devieux, J. G., O'Bannon, R. E., Brasfield, T. L., & Eldridge, G. D. (1999). Measuring perceived barriers to condom use: Psychometric evaluation of the condom barriers scale. *Assessment, 6*, 391-404.
- Stanley, S. M., & Markman, H. J. (1992). Assessing commitment in personal relationships. *Journal of Marriage and the Family, 54*, 595-608.
- Synovitz, L., Wood, R., Gillian, W. W., McKay, S., & Totten, J. (2008, April). *College students' sexual behaviors and relationship to locus of control*. Paper presented at the American Alliance for Health, Physical Education, Recreation, and Dance National Convention and

Exposition, Fort Worth, TX.

The Diffusion of Effective Behavioral Interventions. (2011). *Vocies/Voces* (DVD). Available from <http://effectiveinterventions.org/en/Interventions/VOICES/ResourcesTools.aspx>

Thibaut, J. W., & Kelley, H. H. (1959). *The Social Psychology of Groups*, New York: Wiley.

Timmerman, G. M. (1991). A concept analysis of intimacy. *Issues in Mental Health Nursing*, *12*, 19-30.

Todd, C. S., Haase, C., & Stoner, B. P. (2001). Emergency department screening for asymptomatic sexually transmitted infections. *American Journal of Public Health*, *91*, 461-466.

Tucker J. S., Elliott, M. N., Wenzel S. L., & Hambarsoomian K. (2007). Relationship commitment and its implications for unprotected sex among impoverished women living in shelters and low-income housing in Los Angeles County. *Health Psychology*, *26*, 644-649.

Tschann J. M., Flores, E., Groat, C. L., Deardorff, J., & Wibbelsman, C. J. (2010). Condom negotiation strategies and actual condom use among Latino youth. *Journal of Adolescent Health*, *47*, 254-262.

Umphey, L., & Sherblom, J. (2007). Relational commitment and threats to relationship maintenance goals: Influences on condom use. *Journal of American College Health*, *56*, 61-67.

U.S. Census Bureau. (2011). *Education: Higher education: Institutions and enrollment*. Retrieved from <http://www.census.gov/compendia/statab/2012/tables/12s0283.pdf>

Vail-Smith, K., Whetstone, L. M., & Knox, D. (2010). The illusions of safety in “monogamous” undergraduate relationships. *American Journal of Health Behavior*, *34*, 12-20.

Van Lange, P. A. M., Agnew, C. R., Harinck, F., & Steemers, G. E. M. (1997). From game to theory to real life: How social value orientation affects willingness to sacrifice in ongoing close relationships. *Journal of Personality and Social Psychology*, *73*, 1330-1344.

Walcott, C. M., Chenneville, T., & Tarquini, S. (2011). Relationship between recall of sexual education and college students. *Psychology in the Schools*, *48*, 828-842.

Warren, J. T., Harvey, M. S., & Agnew, C. R. (2010). One love: Explicit monogamy agreements among heterosexual young adult couples at increased risk of sexually transmitted infections. *Journal of Sex Research*. Advance online publication.

Weeks, G. R. (1977). Toward a dialectical approach to intervention. *Human Development*, *20*, 277-292.

- Wiemann, C. M., Chacko, M. R., Kozinetz, C. A., DiClemente, R., Smith, P. B., Velasquez, M. M., & Sternberg, K. (2009). Correlates of consistent condom use with main-new and main-old sexual partners. *Journal of Adolescent Health, 45*, 296-299.
- Williams, S. S., Norris, A. E., & Bedor, M. M. (2003). Sexual relationships, condom use, and concerns about pregnancy, HIV/AIDS, and other sexually transmitted diseases. *Clinical Nurse Specialist, 17*, 89-94.
- Williams, S. S., & Semanchuk, L. T. (2000). Perceptions of safer sex negotiation among HIV and HIV+ women at heterosexual risk: A focus group analysis. *International Quarterly of Community Health Education, 19*, 119-131.
- Williamson, L. M., Buston, K., & Sweeting, H. (2009). Young women and limits to the normalization of condom use: A qualitative study. *AIDS Care, 21*, 561-566.
- Woodrome, S. E., Zimet, G. D., Orr, D. P., & Fortenberry, J. D. (2006). Dyadic alcohol use and relationship quality as predictors of condom non-use among adolescent females. *Journal of Adolescent Health, 38*, 305-306.
- Yoder, P. S. (1997). Negotiating relevance: Belief, knowledge and practice in international health projects. *Medical Anthropology Quarterly, 11*, 131-146.

BIOGRAPHICAL SKETCH

Sesen Negash
Family and Child Sciences
College of Human Sciences
The Florida State University

EDUCATION

- Ph.D. Marriage and Family Therapy, The Florida State University (FSU).
Dissertation: *Sexual Health Education in College: Impact on Sexual Negotiation Training on Sexual Risk Reduction*.
Chair: Dr. Frank Fincham
- 2009 M.S. Child Development and Family Studies, emphasis in Marriage and Family Therapy, Purdue University Calumet (PUC)
Thesis: *The effects of role differentiation, coping, and prior sexual desire on relationship and sexual satisfaction among parents of children with chronic illness and disabilities*.
Thesis Chair: Dr. David S. Nalbone
- 2003 B.A. Psychology (major), Political Science (major), Criminal Justice (minor), University of Washington (UW)

PROFESSIONAL EXPERIENCE

- 2009 - present **Graduate Research Assistant**, Family and Child Sciences, FSU
Develop surveys; conduct observational and experimental studies; write syntax; run data analyses (i.e., moderation and mediation analysis, structural equation modeling); draft and complete manuscripts for publication; provided editorial assistance; advise and mentor undergraduate RAs; manage database and conduct intervention studies as part of a 5-year federally funded project to develop a national model for relationship education. Collect follow-up data and manage database as part of a 2-year sexual behaviors study based out of University of Rochester. *Supervisor*: Dr. Frank Fincham
- 2010 - 2011 **Graduate Teaching Assistant**, Family and Child Sciences, FSU
Solo instructor for an undergraduate course: FAD 2230, Family Relationships: A Life-Span Developmental Approach ($N = 60$, Summer 2010, $N = 95$, Fall 2011)
- 2009 - 2011 **Graduate Teaching Assistant**, Family and Child Sciences, FSU

Facilitated 2-3 recitation sessions per semester ($N = 30$) associated with FAD 2230, using a manualized program as part of a 5-year federally funded program to develop a national model for relationship education for college students. *Supervisors:* Drs. Frank Fincham and Kay Pasley

2008 - 2009

Graduate Research Assistant, Institute for Social and Policy Research, PUC
Conducted literature analysis; assisted in writing peer-reviewed manuscripts. Employed by the Expanding Access and Success in Education (EASE) project of Indiana to provide educational mentor training for prospective and established adult mentors. Conducted focus groups in high schools for the Multiple Educational Pathways Blueprint Project. Participated in collaborative grant writing; provided editorial assistance. *Supervisor:* Dr. Thomas Pavkov

2006 - 2009

Graduate Teaching Assistant, Behavioral Sciences, PUC
Solo instructor for eight sections of Elementary Psychology ($N = 60$, Fall 2006, Spring 2007, Fall 2007) and Human Sexuality ($N = 35$, Spring 2008, Fall 2008, Spring 2009); developed lectures, evaluated student learning, provided tutorial related to topics in human sexuality and general psychology. *Supervisor:* Dr. Michael Flanery

Graduate Research Assistant, Marriage and Family Therapy, PUC
Conducted literature reviews; provided web support for MFT program and family and couples clinic on campus; provided editorial assistance. *Supervisor:* Dr. Lorna Hecker

2004 - 2006

Family Support Case Manager, San Diego Youth and Community Services (SDYCS), San Diego, CA
Provided in-home interviews, assessments, case planning, problem solving, goal setting, referrals and advocacy, life skills and family budgeting training; provided crisis intervention, drug awareness, and parenting education to individuals and families. *Supervisor:* Steven Carroll

2005

Kinship Group Facilitator, Grossmont College, San Diego, CA
Facilitated support group for individuals providing kinship care; offered referral sources for family court, legal aide, and financial relief.

2004

Emergency Assistance Advisor, SDYCS, San Diego, CA
Interviewed homeless individuals to help them obtain shelter, medical attention, food, clothing, counseling, drug/alcohol placement, legal documentation, and/or job referrals; provided crisis intervention and case plans for clients working towards financial stability. *Supervisor:* Steven Carroll

PUBLICATIONS

- Lambert, N. M., **Negash, S.**, Stillman, T. F., Olmstead, S. B., & Fincham, F. D. (in press). A love that doesn't last: Pornography consumption weakens commitment to a romantic partner. *Journal of Social and Clinical Psychology*.
- Negash, S.**, & Herschberger, J. (in press). Understanding adolescent promiscuity via examining parenting style, attachment, and identity formation. *Adolescence*.
- Negash, S.**, & Cobb, R. (in press). Altered book making. In J. Chang (Ed.). *Clinical Activities in Child Therapy: Creative Applications in Practice*. New York: Alpha House.
- Olmstead, S. B., **Negash, S.**, Pasley, K., & Fincham, F. D. (in press). Spicing it up or pulling it apart? Emerging adults' expectations for pornography use in the context of future committed romantic relationships. *Archives of Sexual Behavior*.
- Negash, S.**, & Sahin, S. (2011). Compassion fatigue in marriage and family therapy: Implications for therapists and clients. *Journal of Marital and Family Therapy*, 37, 1- 13.
- Cobb, R. A., & **Negash, S.** (2010). Altered book making as a form of art therapy: A narrative approach. *The Journal of Family Psychotherapy*, 21, 54-69.
- Pavkov, T., Hug, R. W., Lourie, I. S., & **Negash, S.** (2010). Service process and quality in therapeutic foster care: An exploratory study of one county system. *Journal of Social Service Research*, 36, 174 -187.
- Pavkov, T., Lourie, I. S., Hug, R. W., & **Negash, S.** (2010). Improving the Quality of services in residential treatment facilities: A strength based consultative review process. *Residential Treatment for Children and Youth*, 27, 23-40.
- Pavkov, T., **Negash, S.**, Lourie, I. S., & Hug, R. W. (2010). Critical failures in a regional network of residential treatment facilities. *American Journal of Orthopsychiatry*, 80, 151-159.
- Negash, S.**, & Hecker, L. L. (2009). Ethical issues endemic to couple and family therapy. In L. L. Hecker (Ed.). *Ethics and Professional Issues in Couple and Family Therapy* (pp. 225-242). New York, NY: Taylor & Francis.
- Ramish, J. L., Pavkov, T., **Negash, S.**, & Wetchler, J. (2009). Caregiver burden among families having children with disabilities: The role of ADHD and mental health disorders. *NADD Bulletin*, 12, 67-72.

Young, T. **Negash, S.**, & Long, R. M., (2009). Enhancing sexual desire and intimacy via the metaphor of a problem child: Utilizing structural- strategic family therapy. *Journal of Sex and Marital Therapy*, 35, 402-417.

Manuscripts Under Review

Lambert, N. M., **Negash, S.**, Carter, E., & Fincham, F. D. (under review). Trading later rewards for current pleasure: How pornography use weakens the ability to delay discounting. *Journal of Personality and Individual Differences*.

Negash, S., Brown, P. C., & Fincham, F. D. (under review). Ending psychologically aggressive relationships: Does college based relationship education work? *Journal of Family Psychology*.

Negash, S., Cui, M., Fincham F. D., & Pasley, K. (under review). Is it over?: Extradyadic involvement and relationship dissolution in young adult dating relationships. *Archives of Sexual Behavior*.

Negash, S., Nalbone, D. P., Woods, S., Wetchler, J. L., & Fontaine, K. L. (under review). Protecting intimacy: Examining relationship and sexual satisfaction of parents of raising children with a chronic illness or disability. *Family Process*.

Negash, S., Pearman, M., & Long, R. M. (under review). Trauma of parental infidelity on adult children's sexual functioning: A call for research. *Journal of Sex and Marital Therapy*.

PROFESSIONAL PRESENTATIONS

Negash, S., Cui, M., Fincham F. D., & Pasley, K. (2012, March). Is it over?: Extradyadic involvement and relationship dissolution in young adult dating relationships. Paper presented at the annual meeting of the International Family Therapy Association, Vancouver, Canada.

Negash, S., Veldorale-Brogan, A., & Fincham F. D. (2011, November) *To cheat or not to cheat?: Precursors to sexual extradyadic relationships among young adults in dating relationships*. Poster presented at the annual meeting for the National Council on Family Relations, Orlando, FL.

Negash, S., Lambert, N. M., & Fincham, F. D. (2010, November). *Are cyber models replacing human interaction?: The effect of pornography on support seeking*. Poster presented at the annual meeting of the Society of Southeastern Social Psychologists, Charleston, SC.

Negash, S., Lambert, N. M., Olmstead, S. B., Stillman, T. F., & Fincham, F. D. (2010, November). *A love that doesn't last: Pornography consumption*

weakens commitment to a romantic partner. Poster symposium at the annual meeting for the National Council on Family Relations, Minneapolis, MN.

Negash, S., Nalbone, D. P., Wetchler, J. L., & Fontaine, K. L. (2010, November). *Relationship and sexual satisfaction among parents of children with chronic illness and disabilities.* Poster presented at the annual meeting for the National Council on Family Relations, Minneapolis, MN.

Negash, S., & Herschberger, J. (2009, April). *Understanding adolescent promiscuity via examining parenting style, attachment, and identity formation.* Poster session presented at the annual meeting of the Council for Contemporary Families, Indianapolis, IN.

Negash, S., & Sahin, S. (2007, May). *Compassion fatigue in marriage and family therapy: Implications for therapists and clients.* Poster presented at the semi-annual meeting of the Indiana Association for Marriage and Family Therapy, Indianapolis, IN.

Negash, S., & Sahin, S. (2006, January). *Compassion fatigue in marriage and family therapy: Implications for therapists and clients.* Paper presented at the Graduate Student Scholarly Conference, Purdue University Calumet, Hammond, IN.

CLINICAL EXPERIENCE

- 2009- Present ***Therapist Intern,*** Center for Couple & Family Therapy, Tallahassee, FL. Providing individual, couple, and family therapy; provided conflict resolution, relational enrichment education, and prevention referrals.
- 2008- 2009 ***Therapist Intern,*** Success Counseling Center, Lansing, IL. Provided individual, couple, and family therapy; provided conflict resolution, relational enrichment education, and prevention referrals.
- 2006- 2007 ***Therapist Intern,*** Purdue Couple and Family Therapy Center, Hammond, IN. Provided individual, couple, and family therapy, conflict resolution, relational enrichment education, and prevention referrals; provided relationship enhancement workshops for couples.

PROFESSIONAL ASSOCIATIONS AND SERVICE

- American Association for Marriage and Family Therapy (member since 2006)
Florida Association of Marriage and Family Therapy (member since 2009)
Indiana Association for Marriage and Family Therapy (2006-2009)
Golden Key International Honor Society (member since 2011)
Kappa Omicron Nu: National Honor Society in Human Sciences (member since 2009)

National Council on Family Relations (member since 2009)
Southeastern Council on Family Relations (member since 2010): Graduate Student
Representative and Board Member (2011-2012)
The Society for the Scientific Study of Sexuality (member since 2007)

HONORS AND AWARDS

2011-2012 May Watson Conner Scholarship, FSU
2009-2010 Hudnell Scholarship, FSU
2009-2010 Deans Doctoral Scholarship, FSU
2008-2009 Purdue University Graduate Research Award, PUC
2006-2009 Salvador Minuchin Minority Scholarship Award, PUC

PROFESSIONAL CREDENTIALS

2009 Certified Trainer, *Within My Reach*, PREP Inc.
2008 Certified Mentor trainer, *Expanding Access and Success in Education*
Program

LANGUAGES SKILLS

Fluent in Tigrinya (Native language of Eritrea)
Fluent in Amharic (Native language of Ethiopia)