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**APPROACH AND AVOIDANCE SEXUAL MOTIVES: ASSOCIATIONS WITH
RISKY SEXUAL BEHAVIOR IN EMERGING ADULTHOOD**

A Thesis in
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by
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ABSTRACT

The purpose of this study was to explore the associations between approach and avoidance sexual motives and risky sexual behavior among emerging adults. Sexuality exploration is a salient developmental task during emerging adulthood (Arnett, 1992; Lefkowitz & Gillen, 2005), as become more aware of their sexual motives and are better able to report them (Cooper, Shapiro, & Powers). Emerging adults endorse a variety of motives for engaging in or avoiding risky sexual behaviors (Cooper et al., 1998; Meston & Buss, 2007; Patrick, Maggs, Cooper, & Lee, 2008). The approach-avoidance framework (Elliot & Covington, 2001) may be useful in understanding sexual decision making during emerging adulthood. Approach motives (i.e., intimacy, enhancement, coping) lead individuals toward sexual behaviors, whereas avoidance motives (i.e., health, values, readiness) lead individuals away from sexual behaviors. Despite known gender differences in approach and avoidance sexual motives (Cooper et al.; Impett, Peplau, & Gable, 2000; Meston & Buss; Patrick, Maggs, & Abar, 2007), it remains unknown whether gender moderates the association between specific motives and risky sexual behavior although concepts of gender socialization and internalization suggest this may be the case. Given that men and women are socialized in different ways regarding gender appropriate sexual behavior (Tolman, 2006), the internalization of traditional roles may differentially influence men's and women's sexual motives, risky sexual behavior, and their association. Hence, the current study built on the approach-avoidance motivation framework and gender socialization theory to explore associations between sexual motives and risky sexual behavior and test whether gender moderates these

associations. Two hundred and thirty sexually active college students (ages 20 – 23) answered questions about their approach and avoidance motives for risky sexual behavior. Results revealed that approach and avoidance motives were differentially associated with sexual behaviors and that some of these associations were moderated by gender. Among approach motives, men who endorsed enhancement motives more reported more casual partners than men who endorsed enhancement motives less and women. In addition, women who endorsed coping motives more reported more frequent condom use than women who endorsed coping motives less and men. However for avoidance motives, the pattern of associations was not as predicted. Although gender moderated the associations between value motives and more sexual partners and number of casual sexual partners, this association was in the opposite direction of the hypotheses. Men who endorsed value motives more reported more sexual partners and more casual sexual partners than men who endorsed value motives less and women. Gender also moderated the association between readiness motives and number of casual sexual partners, however the association was significant for men rather than women. None of the avoidance motives predicted frequency of birth control or condom use, nor did gender moderate this association. This study contributes to the understanding of sexual decision-making during emerging adulthood through the use of an approach-avoidance motivation framework. The results have implications for prevention programs that aim to reduce risk and increase safer sex behaviors.

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Introduction

When asked about reasons for having sex, many individuals report pleasure-enhancing or emotional motives. Indeed, when Meston and Buss (2007) asked individuals why they engage in sexual behaviors, they found that among the 237 distinct reasons reported for having sex, “getting pleasure” and “wanting to express love” were among the most commonly reported. Individuals can also choose to *avoid* engaging in sexual activities for a variety of reasons, such as not feeling emotionally ready (Patrick et al., 2008). The approach-avoidance framework (Elliot & Covington, 2001) for understanding motives may be useful for the study of sexual behavior. Approach motives for sex lead individuals toward sexual behaviors that can potentially place them at risk for sexually transmitted infections (STIs), HIV or unwanted pregnancy. On the other hand, individuals can choose to avoid sexual behaviors. Fears, strong moral beliefs about when sex is appropriate or feelings that one is not physically or emotionally ready can contribute to motives to avoid sexual behaviors. Studies investigating the associations between sexual motives and behavior have not capitalized on both elements of the approach-avoidance dichotomy. Together, approach and avoidance motives may provide a clearer picture of why individuals engage in sexual behavior, including potentially risky sexual behaviors.

Sexuality exploration is a salient developmental task of emerging adulthood (Arnett, 1992; Lefkowitz & Gillen, 2005). During emerging adulthood most individuals move away from home, perhaps to attend college, and may experience greater freedom to explore their sexuality. Many emerging adults become sexually active during this period. Approximately 80% of emerging adults 18 to 24 years old have ever had sex (Hoff,

Greene, & Davis, 2003). It is during this exploration that emerging adults become more aware of their motives for sexual behavior and are better able to report on their motives for having sex or avoiding it (Cooper et al., 1998). During this developmental period, individuals tend to engage in high rates of sexual behavior which them at greater risk of contracting STIs, HIV or having an unwanted pregnancy. It is estimated that 15 to 24 year-olds represent 25% of the sexually active population but account for about half of the sexually transmitted infections (STIs) reported annually and about half of all new HIV infections in 2000 (Weinstock, Berman, & Cates, 2004). The changes that occur in both sexual behavior and motives during emerging adulthood make it an ideal developmental period to study their associations.

The purpose of the current study was to use the approach-avoidance framework to study the associations between sexual motives and risky sexual behavior in a sample of emerging adults attending university. Only a few studies have examined the associations between approach motives and sexual behaviors (e.g., Impett, Peplau, & Gable, 2005) and even fewer studies have examined the associations between avoidance motives and sexual behavior (e.g., Sprecher & Regan, 1996). The current study investigated the associations that both approach and avoidance motives have with four indicators of risky sexual behavior: number of different partners, number of casual partners, frequency of birth control use and frequency of condom use. In addition, the study explored whether gender moderated these associations.

Literature Review

Risky Sexual Behavior

During emerging adulthood, individuals are more likely to become sexually active and may engage in risky sexual behaviors (Lefkowitz & Gillen, 2005). Risky sexual behavior is behavior that puts individuals at risk for STIs, HIV and unwanted pregnancy. Risk of STIs and HIV increases with each additional partner because the odds of coming in contact with someone who is infected increases as well (Beadnell et al., 2005). Emerging adults may expose themselves to greater risk than other individuals because emerging adults have more sexual partners. Indeed, emerging adults are more likely than older adults to report having had 2 or more partners (Michael, Gagnon, Laumann, & Kolata, 1994). Among the 66% of college students who had engaged in sexual intercourse in particular, more than a third who had engaged in sexual intercourse in the past 11 weeks reported having had more than one sexual partner (Desiderato & Crawford, 1995). In addition, about 25% of college students had more than six lifetime partners (Douglas, Collins, Warren, & Kann, 1997).

In addition to multiple partners, having casual partners can increase risk among emerging adults. A casual partner is someone who is not a steady partner or is not considered a romantic partner or a boyfriend/girlfriend (Grello, Welsh, & Harper, 2006; Shearer, Hosterman, Gillen, & Lefkowitz, 2005). Individuals are more likely to have any casual partners during emerging adulthood than later in their lives (Michael et al., 1994). In addition, having casual partners is common among emerging adults. A nationally representative sample revealed that among sexually active 12 to 21 year olds 70 to 85% reported having had a casual sexual encounter in the past year (Grello, Welsh, Harper, &

Dickson, 2003). Moreover, men reported having more casual partners than women (Grello et al., 2006).

With increases in the number of sexual partners, it is important for individuals to protect themselves against unwanted pregnancy and STIs. Although birth control and condom use are associated with lower risk of pregnancy and STIs, emerging adults are not using these methods consistently. About 60% of college students reported using birth control inconsistently and about 6% report never using a birth control method. In addition, it is estimated that between 83% and 57% of emerging adults report using condoms inconsistently and between 10% and 25% never use condoms or use them infrequently (Douglas et al., 1997; Lefkowitz & Gillen, 2005). Moreover, among college students who reported being in a committed relationship, 23% reported having multiple partners and not using condoms consistently (Prince & Bernard, 1998). Given the high rates of risky sexual behavior among emerging adults it is important to understand which sexual motives influence potentially risky behaviors.

Hierarchical Model of Approach-Avoidance Motivation

The hierarchical model of approach-avoidance motivation can help us understand why individuals behave the way they do. Within the hierarchical model of approach and avoidance motivation, behavior involves not just individuals' goals but also the underlying motivations of these goals. (Elliot, Gable, & Mapes, 2006). Although there are many types of underlying motivations, such as temperament, cultural values, and norms, the current study focused only on motives. Motives and goals work together within the motivational process in that motives incite goals and goals direct behavior. In this model, goals are concrete and help direct behavior toward or away from a future

object. Motives are affectively-based tendencies that orient individuals toward or away from domain-specific stimuli (Elliot, 2006). In addition, goals and motives are hierarchically ordered into upper- and lower-level constructs. Goals are lower-level constructs that proximally influence outcomes whereas motives are upper-level constructs that distally influence outcomes. However, upper-level constructs can sometimes bypass lower-level constructs and influence outcomes directly (Elliot et al., 2006).

Within the motive construct, there is an important distinction between motives that may lead individuals toward (approach motives) or away from (avoidance motives) specific stimuli. According to Elliot and Covington (2001), the approach-avoidance distinction is basic and fundamentally important for explaining and changing behavior. Approach and avoidance motivation refers to both action tendencies and overt behavior. Approach motivation, also called the appetitive or behavioral activation system, is prompted by stimuli (i.e., objects, events, possibilities) that are seen as positive or desirable and move an individual toward the stimuli (Elliot & Covington, 2001). On the other hand, avoidance motivation, also called the aversive or behavioral inhibition system (Beckman, Harvey, & Tiersky, 1996; Carver, Sutton, & Scheier, 2000; Gray, 1990), is prompted by stimuli that are seen as negative or undesirable and move individuals away from stimuli (Elliot, 2006).

Several aspects of the definitions for approach and avoidance motivation need further discussion. First, motivation encompasses the energization and direction of behavior. Energization is the initial instigation of behavior, whereas direction refers to the

“guiding or channeling of behavior...in the service of an activated desire or concern (Elliot, 2008, p. 8).”

Second, movement, whether physical or psychological, is inherent in the approach-avoidance framework and involves direction and valence. Positive/negative valence is the core evaluative dimension for stimuli. Stimuli may represent objects, events or possibilities that are currently present and observable or may represent objects, events or possibilities that are abstract or internally generated. Hence, stimuli are limitless and take on many forms. Valence is the immediate evaluation of stimuli as either good or bad, and predispositions or efforts to move toward (approach) or away (avoidance) from stimuli follow the evaluation (Elliot, 2008). When an approach orientation is activated, individuals move toward positively evaluated stimuli that are not present (literal physical movement) or maintain positively evaluated stimuli (figurative psychological movement). On the other hand, when an avoidance orientation is activated, individuals move away from negatively evaluated stimuli (literal physical movement) or keep away from negatively evaluated stimuli (figurative psychological movement; Elliot, 2006).

Because stimuli are limitless and all behavior is motivated, the hierarchical model of approach and avoidance motivation serves as a useful conceptual framework for understanding behavior within different domains, including sexual development. In fact, researchers have applied the approach and avoidance framework to domains such as achievement, temperament, emotions, well-being and sports (Conroy, Elliot, & Coatsworth, 2007; Elliot, 1999; Elliot et al., 2006; Gable, 2006; Sherman, Mann, & Updegraff, 2006).

Sexual Motives

In the hierarchical model of approach and avoidance motivation, approach and avoidance sexual motives represent upper-level constructs that energize and underlie behavior. Sexual motives are underlying reasons for approaching or avoiding sexual behaviors. When individuals evaluate sex as positive, an approach tendency activates and an individual moves toward sex. Once this positive evaluation is made, individuals approach sex for motives such as wanting to express love, wanting to experience pleasure or wanting to maintain a positive mood. When individuals evaluate sex as negative, an avoidance tendency activates and individuals avoid sexual behaviors. Sex is avoided for motives such as wanting to adhere to personal values, wanting to protect self against negative health consequences, or wanting to feel emotionally ready. Although upper-level constructs, such as sexual motives, are distal predictors, they can have direct influence on outcomes (Elliot et al., 2006).

Approach and avoidance sexual motives can be conceptualized in two ways. First, one can use both approach and avoidance motives to explain why individuals choose to engage in sexual behaviors (Impett et al., 2005). In other words, individuals may have sex for approach motives such as wanting to feel closer to a partner or wanting to express their love. On the other hand, individuals may engage in risky sexual behaviors for avoidance motives that are figurative such as wanting to evade conflict with a partner or decrease negative mood. Impett, Peplau and Gable (2000) conceptualized motives in this first way. They defined approach motives as obtaining positive outcomes such as increased intimacy and physical pleasure and defined avoidance motives as evading negative outcomes such as feeling low or conflict. They found that students who

endorsed approach motives for sex reported more positive emotions, and greater satisfaction with life. On the other hand, they found that students who endorsed avoidance motives more reported more negative emotions.

Another way to define sexual motives is to consider literal sexual motives for approaching or avoiding sex. In this framework, approach sexual motives include wanting to feel close to a partner, desiring pleasure or trying to maintain a positive mood (Cooper et al., 1998; Leigh, 1989; Meston & Buss, 2007). These approach motives make sexual intercourse attractive and may lead individuals to engage in sexual practices that put them at risk for negative outcomes. In contrast, avoidance motives for eschewing sex include fear of pregnancy, because it is against one's ethical values or not feeling ready for sex (Patrick et al., 2008). These avoidance motives make sexual intercourse less attractive and may lead individuals away from risky sexual behaviors. In the current study, I use this second framework to explore associations between motives for and against sex and risky sexual behaviors, and whether these associations vary by gender.

Approach motives and sexual behavior

Intimacy is an approach motive often cited as a reason for engaging in potentially risky sexual behavior. Intimacy motives are motives that make individuals feel closer to or express love for a partner. Cooper and colleagues (1998) found that individuals who endorsed intimacy motives more had fewer partners, more frequent sex and used condoms less frequently than those who endorsed intimacy motives less. However, the associations between motives and sexual frequency and condom use changed when relationship status was considered (Cooper et al., 1998). For individuals outside of committed relationships, intimacy motives did not predict protective behaviors, such as

condom use. Within the context of a committed relationship, intimacy motives predicted small decreases in condom use but greater increases in contraceptive use. Another study of adolescents found that those who wanted to express love or enhance intimacy were less likely to use condoms with a steady partner (Gebhardt, Kuyper, & Greunsvan, 2003). Given previous research findings, in the current study I expected that endorsement of intimacy motives would be associated with less risky sex.

Enhancement motives, another type of approach motive, are motives that combine seeking and obtaining pleasure through sex. Having sex to feel pleasure has been linked to more risky sex. Cooper et al. (1998) found that people who endorse enhancement motives have more sexual partners and more frequent sex. Another study found that college athletes who endorsed enhancement motives more tended to report more sexual partners and alcohol use before sex than either athletes who endorsed enhancement motives less or non-athletes (Grossbard, Lee, Neighbors, Hendershot, & Larimer, 2007). Hence, endorsement of enhancement motives may put emerging adults at risk for unwanted pregnancy and STIs. Given previous research, I expected that there would be a positive association between enhancement motives and risky sex.

Another approach motive associated with sexual behavior is coping. Coping motives are reasons for having sex that help individuals enhance their emotional state. Individuals motivated to have sex as a coping mechanism may not think about the long-term effects of using birth control or engaging in risky sexual practices (Elliot et al., 2006), which may lead to negative outcomes such as contracting an STI or unplanned pregnancy. Research suggests that individuals who have sex to cope or enhance their mood tend to have more partners, have casual sex, have sex with IV users and have sex

with gay men (Cooper et al., 1998). A study of African American adolescents found that men who approached sex because of coping motives tended to have more sexual partners than other men (Robinson, Holmbeck, & Paikoff, 2007). Another study found that although individuals who endorsed coping motives highly reported having more partners, they also reported using condoms most of the time. This finding suggests that although individuals may have sex to enhance their mood, it seems that they also take precautions to avoid negative outcomes. In the current study, I expected that endorsing coping motives would be associated with more sexual partners and frequent condom use.

Avoidance motives and risky sexual behavior

In addition to approach motives for having sex, individuals can also choose to avoid sexual behavior for a variety of reasons such as health concerns, violation of values and not feeling ready. Much less is known about avoidance motives and risky sexual behaviors. Given that some programs that promote sexual health target avoidance motives (DiClemente & Wingood, 1995; Jemmott, Jemmott, & Fong, 1992), it is surprising that little research on avoidance motives exists. Research available on avoidance motives highlights their importance in understanding sexual behavior in emerging adulthood. Understanding why individuals, especially emerging adults, choose not to engage in sexual activity may provide insight for health promotion programs. Therefore, it is important to examine how avoidance motives are associated with risky sexual behaviors.

Even though health motives have received the most attention compared to the other avoidance motives, research in this area is still lacking. Health motives are reasons to avoid sexual behavior such as fear of pregnancy or disease (Leigh, 1989; Patrick et al.,

2008). Health motives for avoiding sex are associated with reduced risk behaviors. For instance, one study found that students who endorsed health motives tended to report more frequent birth control use (Patrick et al., 2008). Another study found that the majority of college students who used condoms did so out of fear of getting HIV (Prince & Bernard, 1998). In the present study, I expected health motives to be associated with less risky sex.

In addition, individuals may choose to avoid sexual behavior because of their values (Patrick et al., 2008; Sprecher & Regan, 1996). Value motives are personal, moral, or religious beliefs for avoiding sexual intercourse. Previous research has found associations between value motives and engaging in fewer risky sexual behaviors (Paradise, Cote, Minsky, Lourenco, & Howland, 2001; Patrick et al., 2007; Seal & Palmer-Seal, 1996). One study found that college students who had never had sex chose to remain abstinent for religious or moral reasons (Seal & Palmer-Seal, 1996). In the present study, I expected value motives to be associated with less risky sex.

Furthermore, readiness motives such as not feeling ready for commitment or not being in love can dissuade individuals from engaging in sex (Patrick et al., 2008; Sprecher & Regan, 1996). In one study, college students who reported not feeling ready also reported less alcohol use before sex (Patrick et al., 2008). In the present study, I expected readiness motives to be associated with less risky sex.

Sexual motives and gender

Traditional societal rules, such as sexual double standards, regarding the appropriate sexual behavior for men and women may influence individuals' behaviors. Sexual double standards are differing beliefs regarding the appropriate levels of sexual

behavior for men and women (Crawford & Popp, 2003). According to these standards, men are allowed to have sex whenever and with whomever they want, whereas women's sexual exploration is prohibited (Millhausen & Herold, 1999). Men who exhibit this strong interest in sex and have many partners are praised and called "studs." On the other hand, women's expression of sexuality is rarely seen as positive (Tolman, 2006). Women who exhibit a strong interest in sex are seen as deviant and are called "sluts" or "whores." The internalization of these standards may differentially influence men's and women's sexual motives and sexual behavior and the association between the two. Hence, men and women may behave in different ways even when they have endorsed the same sexual motives. Although researchers have found gender differences in some sex motives (Cooper et al., 1998; Leigh, 1989; Meston & Buss, 2007), it is still unclear whether gender moderates the association between specific motives and sexual behavior.

Although both men and women can approach sex for pleasure, their endorsement of approach and avoidance motives varies (Cooper et al.; Leigh; Meston & Buss). Women endorse intimacy motives, such as expressing love and wanting to feel closer to a partner, more than men do (Cooper et al., 1998; Leigh, 1989; Meston & Buss, 2007). Men place more importance on enhancement motives for sex, such as wanting to feel pleasure, (Cooper et al., 1998; Leigh, 1989; Patrick et al., 2007) and coping motives, such as enhancing one's mood, more than women do (Cooper et al.; Hill & Preston, 1996; Meston & Buss). Gender differences also exist in motives to avoid sex, however research in this area is lacking. Patrick and colleagues (2007) found that among sexually active college students, women rated value motives as more important when deciding to avoid risky sexual behavior than men do. However, men and women did not differ in their

endorsement of how important health motives, such as avoiding pregnancy and STIs, are to their decisions about whether to have sexual intercourse or not (Patrick et al., 2007). Given that men and women are expected to behave in gender-stereotyped ways and approach or avoid sexual behaviors for different motives, I expected gender to moderate the associations between sexual motives and risky sexual behaviors. More specifically, I predicted that the association between intimacy motives and engaging in risky sexual behaviors would be stronger for women than for men. I also predicted that the association between risky sexual behaviors and enhancement and coping motives would be stronger for men than for women. In addition, I predicted that the association between avoidance motives, health, values and readiness motives, and risky sexual behaviors would be stronger for women than for men.

Research Questions and Hypothesis

In summary, the current study had two aims. The first aim was to examine the associations that approach and avoidance sexual motives had with risky sexual behavior. The second aim was to explore whether gender moderates the association between sexual motives and risky sexual behavior. In light of past research, I made the following hypotheses about motives and behaviors:

Approach motives and risky sexual behavior

1. Intimacy motives will be negatively associated with risky sexual behavior (i.e., fewer sexual partners, fewer casual sexual partners, more frequent birth control and condom use) and gender will moderate this association. More specifically, the negative association between intimacy motives and risky sexual behavior will be stronger for women than for men.

2. Enhancement motives will be positively associated with risky sexual behavior and gender will moderate this association. More specifically, the association between enhancement motives and risky sexual behavior will be stronger for men than for women.

3. Coping motives will be positively associated with more sexual partners, more casual sexual partners, more frequent birth control and more frequent condom use and gender will moderate these associations. More specifically, the association between coping motives and risky sexual behavior will be stronger for men than for women.

Avoidance motives and risky sexual behavior

4. Values motives will be negatively associated with risky sexual behavior (i.e., fewer sexual partners, fewer casual sexual partners, more frequent birth control and more frequent condom use) and gender will moderate this association. More specifically, the association between values motives and risky sexual behaviors will be stronger for women than for men.

5. Health motives will be negatively associated with risky sexual behavior and gender will moderate this association. More specifically, the association between health motives and risky sexual behaviors will be stronger for women than for men.

6. Readiness motives will be negatively associated with risky sexual behavior and gender will moderate this association. More specifically, the association between readiness motives and engaging in risky sexual behaviors will be stronger for women than for men.

Methods

Procedures and Participants

Participants are from the Time 4 data collection of a larger multi-wave project at a Northeastern university. At Time 1, the registrar provided a list of incoming first year college students. Research staff contacted all Latino American, all African American, and a random sample of 9% of European American students ages 17 to 19 in order to acquire a diverse sample. Fifty-two percent of students contacted agreed to participate. Students completed surveys Fall and Spring of their first year, once in the Fall of their second year, and once in the Fall of their fourth year (Time 4). Most participants completed surveys in groups in university classrooms. Participants who completed questionnaires in group sessions completed consent forms at the beginning of the session. Participants ($n = 44$) who lived away from the university received questionnaires and consent forms by mail. All participants received \$35 for their time.

Of the original Time 1 sample of 434 first year college students, 338 (78%) participated at Time 4. Reasons for not completing the survey at Time 4 were: deceased ($n = 1$), no longer enrolled at the university ($n = 32$), refused to participate ($n = 19$), did not show up for appointments ($n = 3$), unable to schedule due to time conflicts ($n = 11$), unable to contact ($n = 8$), or did not return mailed survey ($n = 22$). I used 8 t-tests and 3 Chi-square tests to determine if participants at Time 4 differed from non-participants at Time 4 on Time 1 demographic and sexual behavior measures. Analyses revealed that Time 4 participants did not differ from non-participants on most variables. Non-participants at Time 4 were more likely to be male ($\chi^2(1, 434) = 13.70, p < .001$), and African American ($\chi^2(2, 434) = 15.17, p < .001$) than Time 4 participants.

The majority (82%) of students reported having engaged in penetrative sex (defined in the questionnaire as “sex in which the penis penetrates the vagina or anus”). Because of my interest in risky sexual behavior, I only included participants who reported ever engaging in penetrative sex during the last 3 months ($n = 230$). Participants (57% female) ranged in age from 20 to 23 years ($M = 21.5$, $SD = 0.4$). Based on self-reports and the Registrar’s definitions, 28% identified as African American, 29% Latino American and 43% European American. Forty-five percent of the participants reported being in a committed relationship. The majority of participants identified as heterosexual (95%), <1% identified as homosexual/gay/lesbian, 4% identified as bisexual, and <1% identified as other (e.g., “unsure”).

Measures

Outcomes

Participants answered the question “Have you ever had penetrative sex (sex in which the penis penetrates the vagina or anus)?” Participants who had ever engaged in penetrative sex answered questions about their sexual behavior in the past 3 months. I chose 3 months because participant recall becomes less accurate with longer time frames such as past year or lifetime. Using a 3-month timeframe may provide the most accurate account of self-reported sexual behaviors (Pequegnat et al., 2000).

Risky sexual behaviors

Number of different partners. A single open-ended question (“In the past 12 weeks, how many different sexual partners have you had?”) measured the number of different sexual partners in the last 3 months.

Casual sexual partners. I used two open-ended questions to calculate number of casual sex partners in the last 3 months. Casual sex partners are partners with whom participants had sex with no more than once. The first question asked participants to state the number of different sexual partners in the past 12 weeks. The second question asked, “In the past 12 weeks, how many of your partners were people you have had sex with on more than one occasion?” This number was then subtracted from the number of different sexual partners in the past 3 months to determine the number of casual sex partners. It is important to note, however, that this measure provides an imprecise assessment of casual sex. It is possible, for instance, that this sexual encounter was the beginning of a relationship and resulted in multiple subsequent sexual encounters (Shearer et al., 2005).

Birth control use. A single item reported on a 5-point scale (0 = Never, 1 = Some of the time, 2 = Most of the time, 3 = Every time except once, 4 = Every time) that asked, “In the past 12 weeks how often did you use contraception/birth control when you had sex?” assessed birth control use in the past 3 months.

Condom use. A single item, rated on a 5-point scale (0 = Never, 1 = Some of the time, 2 = Most of the time, 3 = Every time except once, 4 = Every time), assessed condom use frequency in the past 3 months. This item asked, “In the past 12 weeks, how frequently did you use a condom when you had sex?”

Predictors

Sexual motives. The sexual motives measure consist of 6 subscales that assesses the importance of reasons to engage in or avoid sexual intercourse (Cooper et al., 1998; Patrick et al., 2008). Participants received the following instructions: “Listed below are different reasons people have sexual intercourse. How important is each of these reasons

in influencing your sexual behaviors?” Participants rated the importance of the items on a 5-point scale (1 = Not at all important, 5 = Very important). Items adapted from Cooper, et al.’s (1998) sexual motives measure made up the three approach motives subscales: Intimacy (5 items, $\alpha = .90$; e.g., “To express love for your partner”), Enhancement (5 items, $\alpha = .85$; e.g., “Because it feels good”), and Coping (5 items, $\alpha = .89$; “To help you feel better when you’re feeling low”).

Three subscales, Health (3 items, $\alpha = .86$; e.g. “To avoid pregnancy”), Values (3 items, $\alpha = .90$; e.g., “Because it is against your beliefs”), and Readiness (3 items, $\alpha = .81$; e.g. “Because you are not ready for the commitment”) assessed avoidance motives or reasons why individuals do not engage in sexual behaviors. Participants received the following instructions: “Listed below are different reasons people do NOT have sexual intercourse or take actions to minimize risks. How IMPORTANT is each of these reasons in influencing your sexual behaviors?” Participants rated the importance of items on a 5-point scale (1 = Not at all important, 5 = Very important). Regardless of sexual experience, participants could rate the importance of these items when deciding not to engage in sexual intercourse.

Covariates

Relationship status. A single item assessed current relationship status. This item asked respondents to circle the category that best described them. Possible responses were: a) I am not dating anyone right now, b) I am casually dating someone, c) I am in a serious and committed relationship, d) I am living with my partner, e) I am engaged to my partner, f) I am married to my partner, g) I am divorced from my partner. Responses

were recoded as 0 (not dating anyone or casually dating) or 1 (in a serious committed relationship, living with a partner, engaged or married to partner).

Conservative sexual attitudes. A 12-item short version of the Sexual Attitudes Scale (SAS; Hudson, Murphy, & Nurius, 1983) assessed the extent to which respondents adhere to traditional conservative attitudes toward sex such as reserving sex until marriage or thinking that there is too much sexual freedom. The shortened version related well to the full version. Participants rated items (e.g., “I think sex should be reserved for marriage”) on a 5-point scale (1 = strongly disagree to 5 = strongly agree). Reliability for the scale was good ($\alpha = .89$).

Sexual double standards. A 17-item short version of the Sexual Double Standard Scale (SDSS; Muehlenhard & Quackenbush, 1996) assessed the extent to which respondents adhere to the sexual double standard which allows men more sexual freedom than women. Nine items were removed from the original version because pilot participants found them too repetitive. The shortened version related well to the full version. Respondents rated their agreement on items (e.g., “It’s worse for a woman to sleep around than it is for a man”) on a 4-point Likert scale (1 = strongly disagree to 4 = strongly agree). It demonstrated adequate reliability in the current study ($\alpha = .75$).

Results

Preliminary Analyses

Before testing the hypotheses, I analyzed predictor and outcome distributions for non-normality. Two of the predictor variables, number of different sexual partners and number of casual partners, were highly skewed, 3.56 and 7.18, respectively.

Transforming the variables using natural log transformations reduced the skew of number of different partners to 1.81 and number of casual sexual partners to 2.45. I used the transformed variables for analyses with number of partners and number of casual partners. For means and standard deviations of the raw and transformed variables see Table 1.

I used correlations to determine the associations among approach and avoidance sexual motives and risky sexual behaviors separately by gender (see Table 2). For men, among approach motives, enhancement motives were marginally associated with number of casual sexual partners in the last 3 months. Among avoidance motives, value motives were strongly and positively associated with the number of sexual partners and marginally associated with number of casual sexual partners. A different pattern of associations emerged for women. Among approach motives, intimacy was negatively and strongly associated with number of sexual partners and marginally associated with birth control use. Coping approach motives were marginally associated with condom use. For women, none of the avoidance motives related to sexual behavior. In addition to associations between motives and behavior, I was also interested in understanding how each sexual motive would explain variation in risky sexual behaviors in the context of the other sexual motives in the model, and whether gender moderated these associations.

Plan of Analyses

I performed two sets of four separate hierarchical multiple regressions to test whether gender moderates the association between sexual motives (i.e., approach and avoidance) and risky sexual behavior (i.e., number of different sexual partners, number of casual sexual partners, birth control use, and condom use). Baron and Kenny (1986) suggest that to test a moderation model using a categorical moderator and a continuous DV, one must first center the predictor variables by subtracting the mean from each individual score. To test moderation, I recoded gender by coding men as 0, and women as 1. I computed interaction terms as the product of gender and centered predictor variables. For regressions predicting different sexual partners and casual partners, I entered gender in Step 1. Step 2 consisted of the approach or avoidance motives. Step 3 consisted of the two-way interactions between gender and each of the approach (i.e., intimacy, enhancement, coping) or avoidance (i.e., health, values, readiness) motives.

For regressions predicting birth control and condom use frequency, I entered relationship status as a control in Step 1 because previous research has found these behaviors differ by relationship status (Cooper et al., 1998). Next, I entered gender in Step 2. Step 3 consisted of the approach or avoidance motives. Step 4 consisted of the two-way interactions between gender and each of the approach (i.e., intimacy, enhancement, coping) or avoidance (i.e., health, values, readiness) motives. I explored significant and marginally significant interactions using simple slopes analyses (Aiken & West, 1991). I decided to interpret marginally significant findings (i.e., $0.10 < p > .05$) because it is difficult to detect interaction effects when using regression models (Jaccard & Wan, 1995; McClelland & Judd, 1993).

Associations between approach motives and number of different sexual partners

A test of the full model predicting number of different sexual partners with approach motives accounted for 8% of the variance (see Table 3). The second step was significant and accounted for an additional 4% of the variance after controlling for gender in the first step. The amount of variance accounted for by the third step was not statistically significant. In the second step, gender and enhancement motives were marginally significant, and intimacy motives were significant. Students who endorsed intimacy motives less or enhancement motives more tended to have more sexual partners than other students. Coping motives did not predict number of different partners. Results partially supported the hypothesis regarding the predictive ability of intimacy and enhancement approach motives. However, the results did not support the second part of the hypothesis, as gender did not moderate the association between approach motives and number of different sexual partners.

Associations between approach motives and number of casual sexual partners

A test of the full model predicting number of casual partners in the last 3 months with approach motives accounted for 7% of the variance (see Table 4). The second step approached significance and accounted for an additional 3% of the variance after controlling for gender in the first step. Additional variance explained by Step 3 was not significant. In the second step, enhancement motives were marginally significant. Students who endorsed enhancement motives more tended to report more casual partners. In the context of the full model, gender moderated the association between enhancement motives and number of casual partners. A test of simple slopes using techniques recommended by Aiken and West (1991) revealed that the slope for men was significant

($\beta = .31, t = 2.80, p < .01$), whereas the slope for women was not significant ($\beta = .02, t = .25, p > .10$; see Figure 1). For men, the association between enhancement motives and number of sexual partners was positive, indicating that men who endorsed enhancement motives at high levels tended to report more partners than men at low levels of enhancement motives. For women, however, enhancement motives were not associated with number of sexual partners. The results partially supported the hypotheses, with enhancement motives predicting number of casual partners and gender moderating this association. However, intimacy and coping motives did not predict number of casual partners nor did gender moderate this association.

Associations between approach motives and birth control use frequency

The full model predicting birth control use frequency accounted for 5% of the variance but was not significant (see Table 5). The results for the full model did not support the hypotheses. Intimacy, enhancement and coping motives were not associated with birth control use in Step 3 and gender did not moderate the associations in Step 4.

Associations between approach motives and condom use frequency

The full model predicting condom use frequency accounted for 10% of the variance (see Table 6). The first step which included relationship status as the sole predictor accounted for 5% of the variance. The amount of variance accounted for by Steps 2, 3, and 4 was not significant. The full model was significant ($R^2 = .10, p < .01$). In the context of the full model the interaction between coping motives and gender was significant. Test of simple slopes (Aiken & West, 1991) revealed that the slope for men was not significant ($\beta = -.01, t = -.33, p > .10$), whereas the slope for women was significant ($\beta = .09, t = 2.63, p < .01$; see Figure 2). For women, there was a positive

association between coping motives and condom use. Women who reported high levels of coping motives tended to use condoms more frequently than women who reported low levels of coping motives. For men, the association between coping motives and condom use was not significant. The results partially supported the hypotheses, as gender moderated the association between coping motives and condom use frequency. The other approach motives did not predict condom use nor did gender moderate this association.

Associations between avoidance motives and number of different sexual partners

A test of the full model predicting number of different sexual partners with avoidance motives accounted for 13% of the variance (see Table 3). After accounting for gender (Step 1) and individual motives (Step 2), the third step was significant and accounted for an additional 4% of the variance. Specifically, readiness motives and the interaction between value motives and gender were significant. Participants who more strongly endorsed readiness motives tended to report fewer sexual partners. Tests for simple slopes of the interaction between value motives and gender revealed that the slope for men was significant ($\beta = .61, t = 4.30, p < .001$), whereas the slope for women was not ($\beta = .03, t = .24, p > .10$; see Figure 3). For men, the association between value motives and number of sexual partners was positive. Men who strongly endorsed value motives for eschewing sex reported more sexual partners than men at low levels of value motives. For women, the number of sexual partners was not related to level of value motives. Results did not fully support the hypothesis. Gender did not moderate the association between readiness motives and number of sexual partners. Although gender moderated the association between value motives and number of sexual partners, the significant association was opposite to what was hypothesized and was significant for

men rather than women. Indicating that men with stronger value motives reported more sexual partners. Health motives did not relate to sexual partners.

Associations between avoidance motives and number of casual sexual partners

The full model predicting casual partners with avoidance motives accounted for 10% of the variance (see Table 4). The third step was significant and accounted for an additional 4% of the variance after accounting for gender (Step 1) and avoidance motives (Step 2). Specifically, two significant interactions emerged suggesting that gender moderated the association between value and readiness motives and casual partners in the last 3 months. A test of simple slopes for the interaction between gender and value motives revealed that the slope for men was significant ($\beta = .05, t = 4.30, p < .001$), whereas the slope for women was not significant ($\beta = -.00, t = -.04, p > .10$; see Figure 4). For men, the association between value motives and casual partners was positive indicating that men who reported high levels of value motives for eschewing sex reported more casual sexual partners than men at low levels. For women, however, levels of value motives were not associated with number of casual partners. Although gender moderated the association between value motives and casual partners, the results were in the opposite direction than hypothesized.

A test of simple slopes for the interaction between gender and readiness motives on number of casual partners revealed that the slope for men was significant ($\beta = -.05, t = -3.42, p < .001$) whereas the slope for women was not significant ($\beta = -.01, t = -.91, p > .10$). For men, there was a negative association between readiness motives and number of casual partners. Men who reported high levels of readiness motives for avoiding sex tended to have fewer casual partners than men who reported low levels of readiness

motives (see Figure 5). For women, the association between readiness motives and number of casual partners was not significant. Results did not fully support the hypotheses. Specifically, value and readiness motives predicted number of partners and gender moderated this association. However, although gender moderated the association between value motives and number of casual partners, the association was in the opposite direction and significant for men rather than women. In other words, men with higher levels of value motives reported more casual partners. In addition, gender did not moderate the association between health motives and number of casual partners.

Associations between avoidance motives and birth control use frequency

The full model predicting birth control use with avoidance motives accounted for 6% of the total variance but was not significant (see Table 7). Results for the full model did not support the hypotheses. Value, readiness and health motives were not associated with birth control use and gender did not moderate this association.

Associations between approach motives and condom use frequency

A test of the full model predicting condom use with avoidance motives accounted for 7% of the variance and was marginally significant (see Table 8). Results did not support the hypothesis, as avoidance motives did not predict condom use nor did gender moderate the association between avoidance motives and condom use frequency.

Follow-up exploratory analysis

Regression analyses revealed an unexpected finding. Specifically, the association between value motives and number of sexual partners and number of casual partners was stronger for men than women and in the opposite direction of predictions. Additional post hoc analyses were performed to explore these unexpected findings. First, I checked for

coding and recording errors but no mistakes were found. Next, I examined the data for outliers. I found one outlier but kept that participant in the analyses because it was in the opposite direction of the finding, which if anything, decreased the counterintuitive result.

Past studies have found that men who endorse sexual double standards more tend to have more sexual partners. On the other hand, women who endorse sexual double standards more tend to have fewer partners and more conservative sexual attitudes (Lefkowitz, Shearer, Gillen, & Espinosa-Hernandez, 2008; Oliver & Hyde, 1993). In addition, conservative sexual attitudes are associated with fewer partners (Lefkowitz & Gillen, 2005). Therefore, I conducted t-tests separated by gender to explore differences on sexual double standards and attitudes toward sex based on level of value motive endorsement.

Before performing the t-tests, I divided participants by gender and coded them into 3 different groups based on their endorsement of value motives. Men who scored 1 or more standard deviations below the mean on value motives were coded as low (-1; $n = 34$), those between 1 standard deviation above and below the mean were coded average (0; $n = 66$), and men 1 or more standard deviations above the mean were coded as high (1; $n = 22$). The same coding scheme was also used to construct the low ($n = 35$), average ($n = 90$) and high ($n = 26$) values groups for women. T-tests were performed separately by gender to compare the high group to the low group, and the high group to the average group. Tests revealed differences between high value motive men and low ($t = -6.38, p < .001$) and average ($t = -3.63, p < .001$) motive men on conservative sexual attitudes. Specifically, men who highly endorsed value motives had more conservative attitudes toward sex than men who endorsed value motives at a lower rate. Tests did not reveal any

differences between the high, average or low value men on sexual double standards. For women, the high values group differed from the low ($t = -6.00, p < .001$) and the average ($t = -2.55, p < .001$) group on conservative attitudes toward sex. In addition, women in the high value group endorsed the sexual double standard more ($t = -2.97, p < .01$) than women in the low group. In other words, women who endorsed value motives highly had more conservative attitudes toward sex than average or low value motive women. Women in the high group also endorsed the sexual double standard more than women in the low group.

According to previous research, individuals who endorse more conservative attitudes toward sex or endorse sexual double standards less have fewer partners than those who endorse less conservative attitudes or endorse sexual double standards more (Lefkowitz & Gillen, 2005; Oliver & Hyde, 1993). The results for women were similar to previous research. However, the results for the men do not fully support previous research.

Discussion

The current study explored the associations between approach (i.e., intimacy, enhancement, coping) and avoidance (i.e., health, values, readiness) sexual motives and risky sexual behavior and whether gender moderated these associations. Results revealed that approach and avoidance motives are associated with different sexual behaviors and that some of these associations are moderated by gender. However, for avoidance motives, the pattern of associations and strength of association was not always as predicted.

Approach motives and sexual partners

Results revealed that participants who endorsed intimacy motives more strongly tended to report fewer sexual partners. These findings are consistent with my hypotheses and previous research on sexual motives and sexual partners (Cooper et al., 1998; Oliver & Hyde, 1993). However, gender did not moderate this association. Findings suggest that intimacy motives may function similarly for men and women. Men and women who endorse intimacy motives may be more inclined to look for long-term relationships. Their need to feel close to a partner may be fulfilled within these romantic relationships (Cooper et al.) making them less inclined to look for partners outside the context of a committed relationship.

A marginally significant association emerged between enhancement motives and number of casual partners. Men who endorsed enhancement motives more tended to report more casual partners. On the other hand women's reports of casual partners did not relate to endorsement of enhancement motives. Although other work has documented similar associations between enhancement motives and casual partners (Cooper et al.,

1998; Leigh, 1989; Patrick et al., 2007), it did not examine gender as a moderator. According to sexual double standards, men are expected to seek more casual sexual partners to fulfill their motives for pleasure (Muehlenhard & Quackenbush, 1996). Whereas women are discouraged from seeking sexual partners for pleasure (Tolman, 2006). Instead women are encouraged to seek intimacy within committed relationships. These different standards regarding sexual behaviors may encourage men who approach sexual behavior to feel pleasure to have more partners that may place them at a greater risk of STIs and unwanted pregnancy. With each additional partner, the risk of contracting an STI or HIV increases (Beadnell et al., 2005). In addition, individuals may not be prepared to protect themselves against risk if they decide to have casual sex. The spontaneity and impulsivity of casual encounters may lead individuals to make decisions that will increase their risks (Grello et al., 2006). Hence, health promotion programs should aim to educate emerging adults about the risks of sexual encounters, especially casual encounters.

Approach motives and birth control and condom use

Neither interaction between intimacy and enhancement motives and gender related to birth control or condom use. But the interaction between coping motives and gender did relate to condom use. Specifically, women who endorsed coping motives tended to report more frequent condom use than women who endorsed coping motives less. The association was not significant for men. Results are consistent with my hypothesis. Although Cooper and colleagues (1998) found that although participants who endorsed coping motives had more sexual partners they also reported using condoms consistently, they did not examine this association separately for men and women. It

seems that women who seek sex in order to enhance their mood but at the same time take precautions (i.e., use condoms) to protect themselves against unwanted pregnancy.

Women have more positive views about condoms than men, which may make women more likely to use condoms (East, Jackson, O'Brien, & Peters, 2007). Hence, women who approach sex to enhance their moods may understand the risks of unprotected sex and try to avoid negative consequences by using condoms.

Avoidance motives and sexual partners

Some unexpected results emerged in the case of avoidance motives and risky sexual behavior. Although gender moderated the association between value motives and number of sexual and casual partners, the association was in the opposite direction than predicted and stronger for men. Specifically, men who strongly endorsed value motives for not having sex also reported having more sexual partners and more casual partners than men who endorsed value motives less. Value motives did not seem to relate to women's sexual behavior. It is surprising that for men the endorsement of value motives seemed to be a risk rather than a protective factor. This result is contrary to past findings that individuals who endorse value motives tended to report fewer risky behaviors than those who did not endorse value motives (Paradise et al., 2001).

Additional exploratory tests conducted to better understand the interaction between value motives and gender provided results that are contrary to previous research on conservative sexual attitudes and sexual double standards. Previous research has found that individuals who had conservative attitudes toward sex tended to be older at sexual onset and have fewer sexual partners (Zimmer-Gembeck & Helfand, 2008). In the current study, men in the high value motive group had more conservative attitudes toward sex

and did not differ on their endorsement of sexual double standards. Among sexually active men there seems to be a paradox. Men who had high values are also more sexually active. It may be that men who highly endorse value motives are trying to live up to general male stereotypes about being a “stud” that may be stronger motivators for sexual behavior than their personal values. Hence, having many sexual partners may be seen as a normal part of being a man and therefore not conflict with their morals or ethical motives. For women, the consequences of not adhering to society’s moral ideals about female sexuality may be strong motivators and lead them to resist sexual urges (Crawford & Popp, 2003). When women do not conform to these ideals, society views them negatively and defines them as “sluts” or “whores.” On the other hand, society condones sexuality exploration among men. Another thing to consider when interpreting this finding is that I excluded participants who have these values but did not have sex in the past 3 months. I only included men who had had sex in the past 3 months. Hence, it is unknown whether value motives and conservative attitudes toward sex differ for men excluded from the current study.

Gender moderated the association between readiness motives and number of casual partners. Specifically, men more than women who endorsed readiness motives less had more casual partners. Results are in the hypothesized direction but not consistent with the gender moderation hypothesis. Previous research has found that men and women abstain from sex because they do not feel ready emotionally (Sprecher & Regan, 1996). One possible explanation for the lack of association between readiness and number of casual partners for women is sexual compliance. Sexual compliance (also known as consensual unwanted sex) is defined as engaging in unwanted sex and putting partner’s

sexual needs in front of an individual's own sexual needs (Impett & Peplau, 2003).

Although both men and women report having had engaged in unwanted sex, women report complying with sexual requests more often than men. Hence, women may feel pressured and put their partner's sexual desires ahead of their own feelings of not being ready. On the other hand, men who do not feel ready to have sex may not feel as pressured to comply with unwanted sex as women.

Avoidance motives and birth control and condom use

In contrast to predictions based on previous research, avoidance motives did not play a role in predicting birth control or condom use frequency. This finding is surprising considering that others have found associations between avoidance sexual motives and fewer risky behaviors (Patrick et al., 2008; Prince & Bernard, 1998). It may be that individuals who avoid sex are not concerned about using birth control or condoms because they perceive their risk of STIs or pregnancy to be low. Another possibility is that the association between avoidance motives and birth control and condom use may also be related to other factors such as relationship status, type of partner, and partner's motives.

Future directions, limitations and conclusions

Studying approach and avoidance sexual motives has important implications for health promotion programs. Matching individuals' motives and the framing of health messages may lead to more effective health promotion programs. Studies have found that congruence between health messages and approach and avoidance motives are more effective in promoting health behaviors than health messages that are incongruent with motives (Sherman et al., 2006). Prevention scientists and practitioners can use motives to

tailor and personalize health messages so that they address individuals' motives and behaviors (Hawkins, Kreuter, Resnicow, Fishbein, & Dijkstra, 2008). Personalization of messages makes the information more relevant to participants. Health messages that are tailored to motives are scrutinized more by the individual and are more persuasive. For example, a man who approaches sex because he wants to feel pleasure may not react to a health message that talks about the health consequences of having many casual partners. Instead the health message should convey the idea that having fewer casual partners may lead to sex that is more pleasurable. Given that health messages are more effective when they are congruent with motives (Sherman et al., 2006), it is important to examine the effectiveness of messages that are matched to motives.

Another important direction is to examine associations between motives for sexual behaviors within different kinds of relationship (e.g., friends, casually dating, committed relationship). Within these various relationships, individuals may engage in sexual behaviors for different motives. Moreover, actual and perceived risk may vary between relationship types. Individuals may feel safe not using a condom within a committed relationship (Cooper et al., 1998). However, risks still exist within these relationships, especially if a partner acquires an STI from a concurrent partner. Seal and Palmer-Seal (1996) found that participants in monogamous relationships underestimated their risks. Some of the participants' partners engaged in sexual behaviors with other people without the participants' knowledge. These findings highlight the need to understand approach-avoidance motives within different types of relationships. For example, a male partner who endorses enhancement motives for sex may engage in sexual behaviors outside the relationship putting his partners at risk. Hence, examining

motives within different types of relationships can lead to a better understanding of sexual decision making during emerging adulthood.

Some limitations should be considered when interpreting the findings of this study. First, the data were cross-sectional and it is unknown whether the motives precede risky sexual behavior, or whether risky sexual behavior precedes sexual motives. Future studies should consider the simultaneous trajectories of risky sexual behaviors and how motives affect behavior. Second, participants were from a residential university. Findings cannot be generalized to emerging adults not enrolled in college or enrolled in non-residential colleges. Emerging adults not enrolled in college may not have the time or opportunities to explore their sexual identity (Arnett, 2000). Their exploration may be limited by family and work demands. Knowing how approach and avoidance motives operate in other groups of emerging adults may help health advocates and intervention scientist develop universal interventions aimed at reducing risky sexual behavior. Third, the current study focused on vaginal intercourse. Other sexual behaviors, such as oral sex were not examined. It would be interesting to examine the associations between approach and avoidance motives and other sexual behaviors. Understanding how motives and behaviors are associated can provide further insight into the sexual development of emerging adults.

Finally, due to the small sample size, the current study did not examine associations between motives and risky sexual behavior within same-sex relationships. Men who have sex with men (MSM) are at an especially high risk of contracting HIV. It is estimated that MSM make up 46% of the AIDS cases in the United States (Jaffe, Valdiserri, & De Cock, 2007). It is unknown whether the same associations exist between

approach and avoidance sexual motives and sexual behavior among same-sex relationships as in heterosexual relationships. Further research in this area can inform health promotion programs aimed at reducing risk among this population.

Despite these limitations, the findings provide some insight into subtle complexities of sexual decision making during emerging adulthood. The study also highlights the importance of distinguishing between approach and avoidance motives. Approach and avoidance motives differentially predicted risky sexual behavior. Results suggest that approach motives, such as intimacy and enhancement play an important role in emerging adults' decisions to engage in sexual behaviors. In particular, men who approach sex for enhancement motives are more likely to have more casual partners. Understanding the underlying motives of sexual behaviors might lead to better models of sexual development and improve prevention programs that aim to increase safer sex behaviors and reduce the risks of STI s, HIV and unwanted pregnancy.

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Table 1: Means and Standard Deviations for Risky Outcomes and Sexual Motives

Risky sexual behaviors	Men <i>M (SD)</i>	Women <i>M (SD)</i>	Full Sample <i>M (SD)</i>
Number of sexual partners	1.8 (1.3)	1.4 (0.7)	1.5 (1.1)
Number of sexual partners (log transformation)	0.9 (0.4)	0.8 (0.2)	0.9 (0.3)
Number of casual sexual partners	0.4 (1.2)	0.2 (0.4)	0.3 (0.9)
Number of casual sexual partners (log transformation)	0.2 (0.4)	0.1 (0.3)	0.2 (0.4)
Birth control use*	2.9 (1.4)	3.3 (1.2)	3.1 (1.3)
Condom use*	2.1 (1.4)	1.8 (1.6)	1.9 (1.5)
Intimacy motives	20.3 (4.4)	22.3 (3.2)	21.4 (3.9)
Enhancement motives	19.8 (4.1)	18.4 (4.2)	19.0 (4.2)
Coping motives	10.7 (5.0)	8.6 (3.8)	9.5 (4.5)
Health motives	10.1 (3.7)	11.7 (3.6)	11.0 (3.7)
Values motives	6.6 (3.6)	7.5 (3.9)	7.1 (3.8)
Readiness motives	6.3 (3.3)	8.8 (3.6)	7.7 (3.7)

Note: Raw and log transformation scores are reported for number of sexual partners and number of casual partners. Due to missing data, sample size ranged from $N = 225$ to 230.

*Scale ranged from 0 (Never) to 4 (Every time)

Table 2. Correlations by gender for risky sexual behaviors and sexual motives

Men	1	2	3	4	5	6	7	8	9	10
1. Number of sexual partners	--									
2. Number of casual sexual partners	.61**	--								
3. Birth control use	-.08	-.00	--							
4. Condom use	.09	.06	.57***	--						
5. Intimacy	-.11	-.09	.16	-.01	--					
6. Enhancement	.16	.18 [†]	-.00	-.04	-.12	--				
7. Coping	.03	-.13	-.02	-.02	.14	.36***	--			
8. Health	.07	.11	.16	.10	.08	-.23*	-.06	--		
9. Values	.25*	.20 [†]	-.04	-.06	.05	-.35***	-.01	.45***	--	
10. Readiness	-.04	-.07	.07	.02	.10	-.54***	-.08	.42***	.66***	--
Women										
1. Number of sexual partners	--									
2. Number of casual sexual partners	.66**	--								
3. Birth control use	-.05	-.04	--							
4. Condom use	.16	.12	.26**	--						
5. Intimacy	-.23**	-.14	.16 [†]	-.04	--					
6. Enhancement	.08	-.00	-.01	-.14	.23**	--				
7. Coping	.02	-.03	.03	.17 [†]	.06	.23**	--			
8. Health	.13	.09	-.05	.11	-.06	-.03	-.12	--		
9. Values	.00	-.00	-.04	.07	.05	-.21**	-.01	.45***	--	
10. Readiness	-.12	-.07	-.04	.09	.10	-.30***	-.02	.39***	.62***	--

[†] $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 3. Regressions predicting number of different sexual partners with approach and avoidance motivations

Predictor variable	<i>B</i>	SE <i>B</i>	<i>B</i>	<i>R</i> ² Δ
<i>Approach sexual motives (N = 230, R</i> ² <i> = .08**)</i>				
Step 1				.03**
Gender	-.11	.04	-.19**	
Step 2				.04**
Gender	-.07	.04	-.12 [†]	
Intimacy	-.01	.01	-.17*	
Enhancement	.01	.01	.12 [†]	
Coping	.00	.01	.01	
Step 3				.01
Gender	-.07	.04	-.11	
Intimacy	-.01	.01	-.09	
Enhancement	.01	.01	.19 [†]	
Coping	-.00	.01	-.01	
Gender <i>x</i> intimacy	-.01	.01	-.10	
Gender <i>x</i> enhancement	-.01	.01	-.06	
Gender <i>x</i> coping	.00	.01	.01	
<i>Avoidance sexual motives (N = 223, R</i> ² <i> = .13***)</i>				
Step 1				.03**
Gender	-.11	.04	-.18**	
Step 2				.06**
Gender	-.08	.04	-.13 [†]	
Health	.01	.01	.10	
Values	.02	.01	.25**	
Readiness	-.03	.01	-.29***	
Step 3				.04*
Gender	-.07	.04	-.12 [†]	
Health	.00	.01	.01	
Values	.05	.01	.61***	
Readiness	-.04	.01	-.49***	
Gender <i>x</i> health	.01	.01	.13	
Gender <i>x</i> values	-.05	.01	-.45***	
Gender <i>x</i> readiness	.03	.02	.22	

[†]*p* < .10, **p* < .05, ***p* < .01, ****p* < .001.

Table 4. Regressions predicting number of casual sexual partners with approach and avoidance motivations

Predictor variable	<i>B</i>	<i>SE B</i>	β	$R^2 \Delta$
<i>Approach sexual motives (N = 230, R² = .07*)</i>				
Step 1				.02*
Gender	-.10	.05	-.14*	
Step 2				.03 [†]
Gender	-.08	.05	-.12	
Intimacy	-.01	.01	-.10	
Enhancement	.01	.01	.13 [†]	
Coping	-.01	.01	-.12	
Step 3				.02
Gender	-.08	.05	-.11	
Intimacy	-.00	.01	-.02	
Enhancement	.03	.01	.32**	
Coping	-.02	.01	-.24*	
Gender <i>x</i> intimacy	-.01	.01	-.08	
Gender <i>x</i> enhancement	-.03	.01	-.22*	
Gender <i>x</i> coping	.02	.01	.14	
<i>Avoidance sexual motives (N = 223, R² = .10**)</i>				
Step 1				.02 [†]
Gender	-.10	.05	-.13 [†]	
Step 2				.04*
Gender	-.07	.05	-.09	
Health	.01	.01	.11	
Values	.02	.01	.20*	
Readiness	-.03	.01	-.25**	
Step 3				.04*
Gender	-.06	.05	-.08	
Health	.01	.01	.11	
Values	.05	.01	.52***	
Readiness	-.05	.02	-.52***	
Gender <i>x</i> health	.00	.02	.01	
Gender <i>x</i> values	-.05	.02	-.40**	
Gender <i>x</i> readiness	.04	.02	.31*	

[†]*p* < .10, **p* < .05, ***p* < .01, ****p* < .001.

Table 5. Regression predicting birth control use frequency with approach motives

Predictor variable	<i>B</i>	<i>SE B</i>	β	$R^2 \Delta$
<i>Approach sexual motives (N = 227, R² = .06)</i>				
Step 1				.01
Relationship status	.26	.18	.10	
Step 2				.02*
Relationship status	.20	.18	.08	
Gender	.40	.18	.15*	
Step 3				.02
Relationship status	.15	.18	.06	
Gender	.28	.19	.11	
Intimacy	.05	.02	.15*	
Enhancement	-.00	.02	-.01	
Coping	-.01	.02	-.03	
Step 4				.00
Relationship status	.14	.18	.05	
Gender	.29	.19	.11	
Intimacy	.05	.03	.16 [†]	
Enhancement	.02	.04	.06	
Coping	-.03	.03	-.09	
Gender \times intimacy	.01	.05	.01	
Gender \times enhancement	-.03	.05	-.08	
Gender \times coping	.04	.04	.08	

[†] $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 6. Regression predicting condom use frequency with approach motives

Predictor variable	<i>B</i>	<i>SE B</i>	<i>B</i>	<i>R</i> ² Δ
<i>Approach sexual motives (N = 228, R</i> ² <i> = .10**)</i>				
Step 1				.05***
Relationship status	-.66	.20	-.21***	
Step 2				.01
Relationship status	-.66	.20	-.20**	
Gender	-.23	.20	-.07	
Step 3				.02
Relationship status	-.65	.20	-.21***	
Gender	-.20	.22	-.07	
Intimacy	-.01	.03	-.02	
Enhancement	-.05	.03	-.15*	
Coping	.04	.02	-.12	
Step 4				.02
Relationship status	-.67	.20	-.22***	
Gender	-.18	.22	-.06	
Intimacy	-.00	.04	-.01	
Enhancement	-.01	.04	-.04	
Coping	-.01	.03	-.03	
Gender <i>x</i> intimacy	.01	.06	.02	
Gender <i>x</i> enhancement	-.06	.05	-.13	
Gender <i>x</i> coping	.11	.05	.20*	

† $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 7. Regression predicting birth control use frequency with avoidance motives

Predictor variable	<i>B</i>	<i>SE B</i>	β	$R^2 \Delta$
<i>Avoidance sexual motives (N = 220, R² = .06)</i>				
Step 1				.01
Relationship status	.28	.18	.11	
Step 2				.02*
Relationship status	.22	.18	.09	
Gender	.38	.18	.14*	
Step 3				.01
Relationship status	.24	.16	.09	
Gender	.33	.19	.12	
Health	.03	.03	.10	
Values	-.03	.03	-.09	
Readiness	.01	.03	.03	
Step 4				.02
Relationship status	.26	.19	.10	
Gender	.29	.20	.11	
Health	.08	.04	.23 [†]	
Values	-.08	.05	-.23	
Readiness	.05	.06	.15	
Gender \times health	-.09	.06	-.18	
Gender \times values	.08	.07	.18	
Gender \times readiness	-.07	.07	-.14	

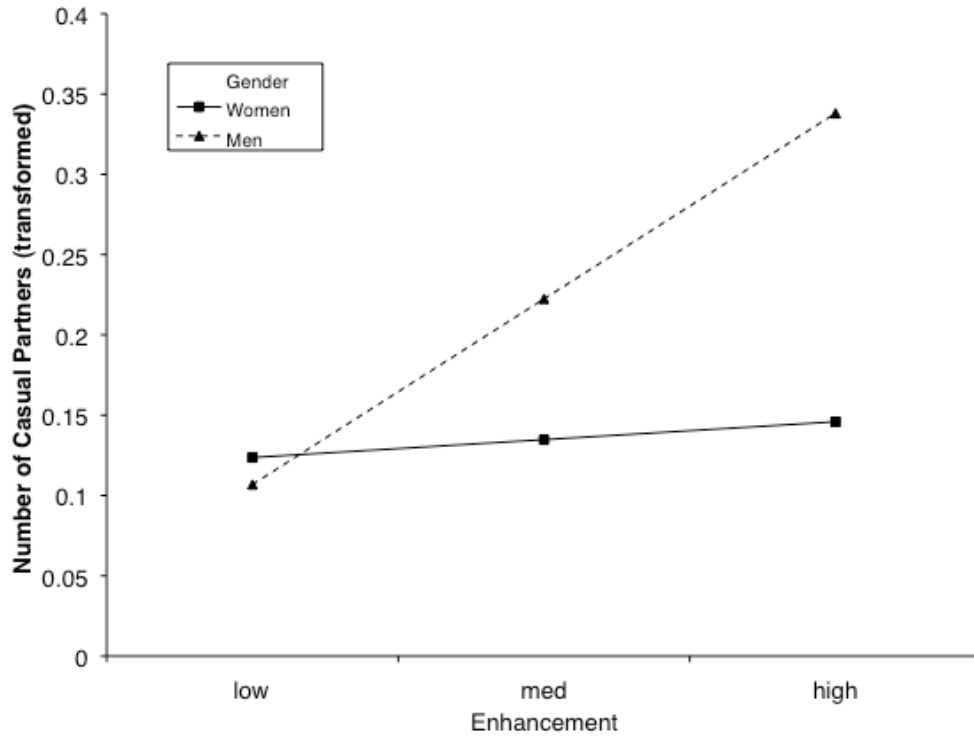
[†] $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 8. Regression predicting condom use frequency with avoidance motives

Predictor variable	<i>B</i>	<i>SE B</i>	<i>B</i>	<i>R</i> ² Δ
<i>Avoidance sexual motives (N = 221, R² = .07[†])</i>				
Step 1				.05***
Relationship status	-.66	.20	-.22***	
Step 2				.01
Relationship status	-.63	.21	-.21**	
Gender	-.22	.21	-.07	
Step 3				.01
Relationship status	-.64	.21	-.21**	
Gender	-.35	.22	-.11	
Health	.03	.03	.06	
Values	-.03	.04	-.08	
Readiness	.05	.04	.11	
Step 4				.01
Relationship status	-.65	.21	-.21**	
Gender	-.33	.23	-.11	
Health	.04	.05	.11	
Values	-.06	.06	-.16	
Readiness	.03	.07	.08	
Gender <i>x</i> health	-.04	.07	-.06	
Gender <i>x</i> values	.05	.08	.10	
Gender <i>x</i> readiness	-.03	.08	.05	

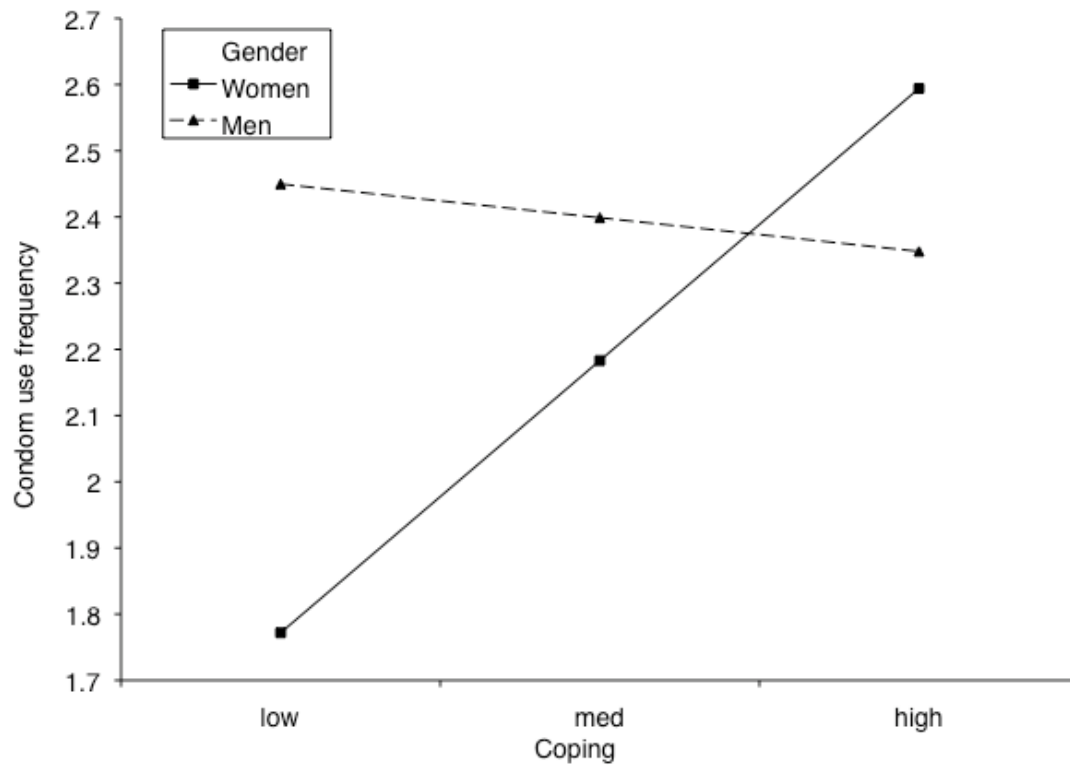
[†]*p* < .10, **p* < .05, ***p* < .01, ****p* < .001.

Figure 1. Interaction between gender and enhancement motives on number of casual sexual partners



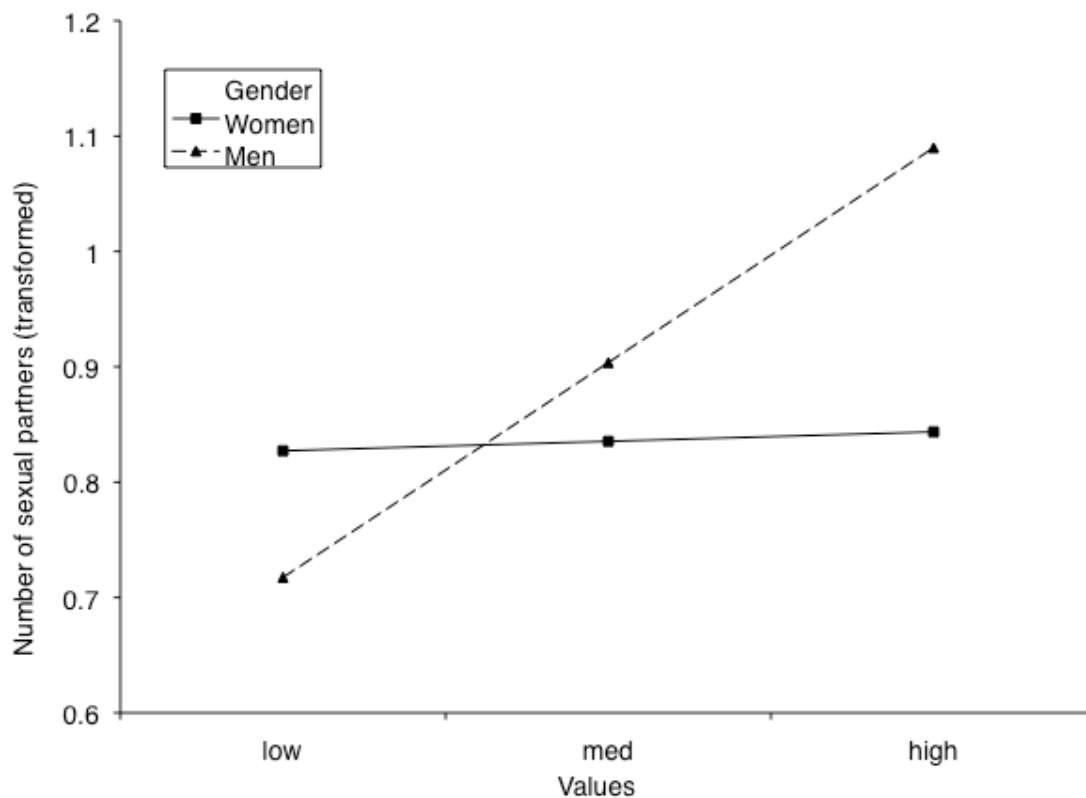
Note: Following Aiken and West (1991), points represent effects of enhancement motives on the number of sexual partners estimated at the mean (medium), one standard deviation above the mean (high) and one standard deviation below the mean (low).

Figure 2. Interaction between gender and coping motives on condom use



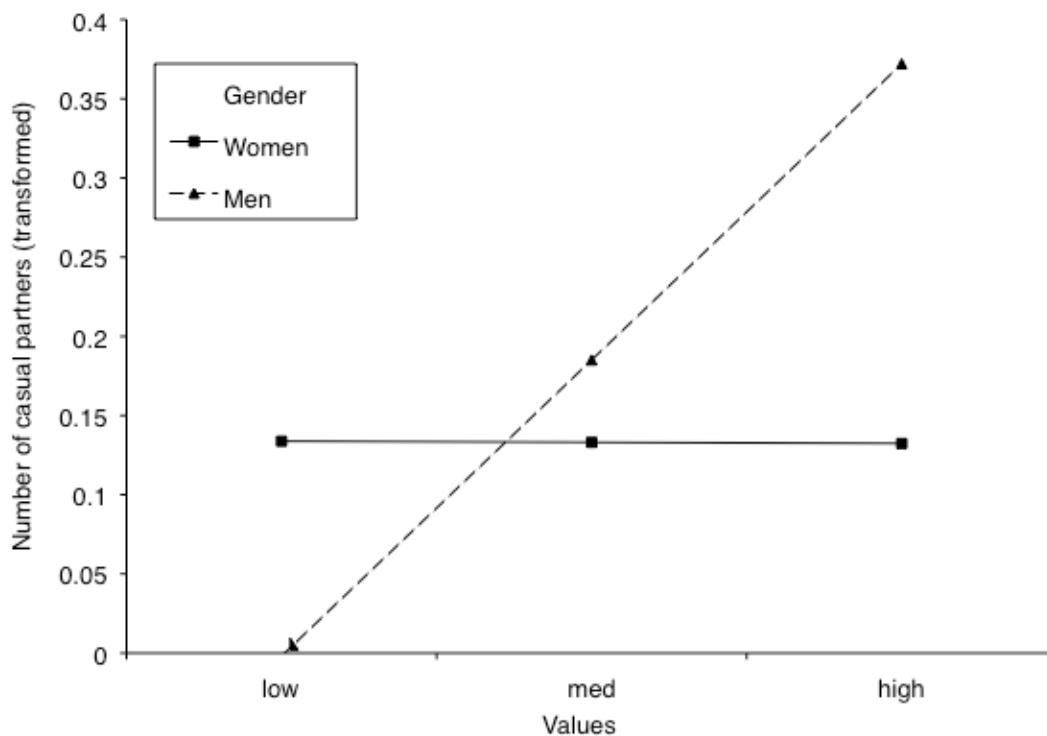
Note: Following Aiken and West (1991), points represent effects of coping motives on condom use frequency estimated at the mean (medium), one standard deviation above the mean (high) and one standard deviation below the mean (low).

Figure 3. Interaction between value motives on number of sexual partner



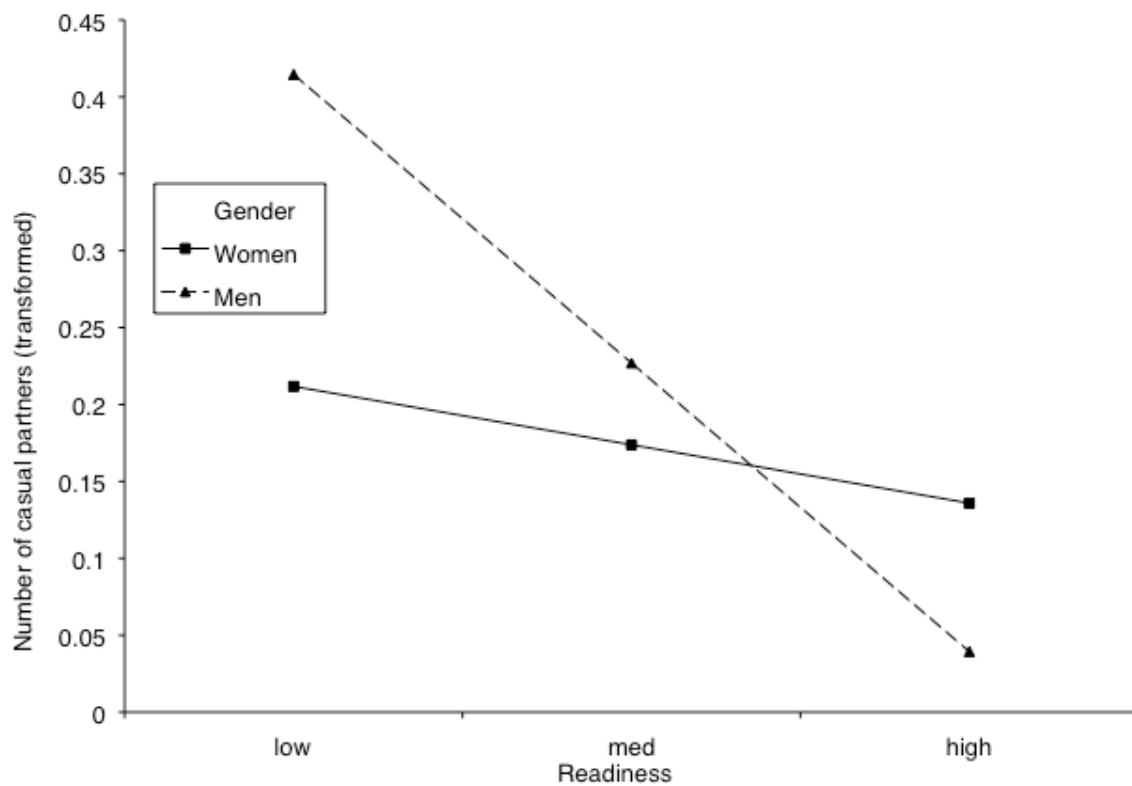
Note: Following Aiken and West (1991), points represent effects of value motives on the number of different sexual partners estimated at the mean (medium), one standard deviation above the mean (high) and one standard deviation below the mean (low)

Figure 4. Interaction between gender and value motives on number of casual partners



Note: Following Aiken and West (1991), points represent effects of value motives on the number of casual sexual partners estimated at the mean (medium), one standard deviation above the mean (high) and one standard deviation below the mean (low).

Figure 5. Interaction between gender and readiness motives on number of casual partners



Note: Following Aiken and West (1991), points represent effects of readiness motives on the number of casual sexual partners estimated at the mean (medium), one standard deviation above the mean (high) and one standard deviation below the mean (low).