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# How Do Social Norms Impact HIV Sexual Risk Behavior in HIV Positive Men Who Have Sex with Men: Multiple Mediator Effects

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#### Abstract

This study examines mediation of the association between social norms and unsafe sexual behavior. Self-report data were collected from 675 HIV-infected men enrolled in a study exploring interventions for HIV risk behavior. Unsafe sex included any unprotected anal sex with HIV-negative or HIV status unknown partners in the last three months. Norms for condom use indirectly influenced unsafe sex through condom self-efficacy and/or safer sex intentions. Additionally, sexual behavior discontrol influenced unsafe sex regardless of other individual or social factors. Our results suggest that interventions consider the combined effects of condom self-efficacy, safer sex intentions, and sexual behavior control.

#### **Keywords**

Theory of Planned Behavior; unsafe sex; social norms; self-efficacy; intentions

# INTRODUCTION

The HIV/AIDS epidemic in the United States continues to exert a devastating toll on men who have sex with men (MSM), reflected in their over-representation among cases of HIV morbidity and mortality (CDC, 2005). In the last two decades, there has been an increased emphasis in understanding the psychological factors that influence the practice of safer or unsafe sex. Surprisingly, little research has examined the predictors of unprotected anal sex among HIV-positive men who have sex with men. In results from the Seropositive Urban Men's Study and the Seropositive Urban Men's Intervention Trial, self-efficacy, personal responsibility, substance use, mental health and contextual influences, such as engaging in sex in public venues, correlated with unprotected anal sex (Wolitski, Parsons & Gomez, 2004). Data from HIV-positive MSM indicate, however, that most contextual variables are

mediated by condom use self-efficacy (O'Leary et al., 2005) and the consistent findings support the exploration of variables such as perceived lack of behavioral control, social norms, self-efficacy, and intentions as predictors of unprotected sexual behavior in HIVpositive men who have sex with men (Chesney et al., 2003; Parsons, Halkitis, Wolitski & Gomez, 2003). Thus, this line of research indicates the application of the theory of reasoned action (TRA, Fishbein & Ajzen, 1975) and the theory of planned behavior (TPB, Ajzen, 1985; Ajzen, 1988)), which are specific applications of social cognitive theory (Bandura, 1982). Theory of Reasoned Action posits that use of condoms, or doing any other behavior, is related to one's intentions to do so. These intentions are influenced by attitudes toward the behavior and perceived social norms that support such behavior. Meta-analyses have found substantial support for TRA components as predictors of condom use among a range of samples, including men who have sex with men (MSM, Albarracín, Johnson, Fishbein, & Muellerleile, 2001; Albarracín, Kumkale, & Johnson, 2004). Also, Sheeran and Taylor (1999), found that when the variables posited by TRA were controlled, perception of behavioral control was independently and substantially associated with intentions to use condoms. This finding supports TPB as a model for understanding safer sex, in that not only are attitudes and norms important for the formation of behavioral intentions as posited by TRA, but it is also necessary for individuals to believe that they have control over the behavior. That is, there are no barriers to condom use (Ajzen, 1985, 1991). Sheeran and Taylor's (1999) findings have been substantially replicated in other meta-analyses that have explored TRA and TPB (Albarracín, et al. 2001; Albarracín, et al., 2004).

As in other populations (Basen-Engquish, 1992; Redding & Rossi, 1999; Svenson, Ostergren, Merlo & Rastam, 2002; Wulfert & Wan, 1995), studies exploring predictors of unsafe sex with MSM have identified diverse psychosocial factors associated with HIV risk. Specifically, Wulfert, Wan & Backus (1996) found that self-efficacy mediated the effects of outcome expectancies and peer-group norms on engaging in unprotected anal intercourse and Semple, Patterson and Grant (2000) found that, at least for casual partners, self-efficacy for condom use and for negotiation were associated with decreased rates of unprotected anal intercourse. In a study of young gay-identified men in Amsterdam, Janssen, De Wit, Stroebe and Van Griensven (2000) found that the best predictor of consistent condom use with steady partners was intention, while the best predictor for condom use with casual partners was perceived behavioral control.

Also, studies have shown that the adoption of safer sex practices is associated with perceptions of normative support for HIV risk-reduction activities among general community samples of gay men. Gay men who perceive strong social norms for condom use engage in less risky sexual behavior than those who perceive weak social norms for condom use (e.g., Hart & Peterson, 2004; Kelly et al., 1997).

Hence, while there is some support for TPB as a model for unsafe sex within HIV-positive MSM, this support is not consistent. Additionally, there is evidence that the relationships between the variables posited by both TRA and TPB are moderated by social status and social power. That is, those populations that lack social power show a stronger correlation between perceived behavioral control and intentions, and between perceived behavioral control and actual condom use. Moreover, samples with greater representation of ethnic minorities, along with younger male samples, showed stronger associations between social norms and intentions (Albarracín, Gillette, Ho, Earl, Glasman, & Durantini, 2005). In a small sample (n=96), Godin, Savard, Kok, Fortin, and Boyer (1996) examined the associations between TPB variables and condom use in a sample of seropositive MSM. These authors found partial support for the effects of TPB variables, specifically that perceived behavioral control predicted intentions both to use condoms with anal intercourse and to engage in sexual behaviors other than anal intercourse. However, the results of this

study indicated that perceived behavioral control had the most influence over behavior, with intentions being unrelated to subsequent behavior. The authors further reported that perceived behavioral control over condom use was most influenced by contextual barriers, such as not having a condom at hand at the time of intercourse and falling in love. The results reported in the extant literature leave it unclear whether variables derived from TPB will similarly predict unsafe sex in HIV-positive MSM as shown in other populations. The risks of engaging in unprotected anal intercourse are different for HIV-negative and HIV-positive MSM, thus it seems reasonable to expect that variables such as norms, self-efficacy, and intentions will interact differentially to affect sexual decisions.

Given prior results, we examined whether social norms for condom use are related to unprotected anal sex with serodiscordant partners among an ethically diverse sample of HIV-positive MSM. Specifically, we examined whether the association between social norms and unsafe sex is mediated by condom self-efficacy and intentions to practice safer sex. Additionally, our investigation builds on the extant literature to examine possible effects of social support, which may influence social norms to practice safer sex (Albarracín, et al., 2005), and to introduce two variables, sexual comfort and sexual behavior discontrol, which have not been investigated within the context of TPB. The latter two variables are seen as salient omissions in the current literature, which does not consider the influence of sexuality variables as the predictors of unsafe sex (Robinson, Bockting, Rosser, Miner, & Coleman, 2002). Sexual comfort, which is defined in terms of comfort with one's sexuality, their sexual performance and their body image, has been shown to effect sexual decisionmaking. Specifically, sexual comfort has been implicated in the willingness of individuals to assert themselves and express their needs in sexual situations (Abraham & Sheeran, 1994; Robinson et al., 2002; Stoner et al., 2008). Thus, sexual comfort is likely to influence whether social norms, self-efficacy or behavioral intentions are expressed within the sexual context that leads to safer or unsafe sex.

The current literature indicates that the associations found for behavioral control are similar whether perceived behavioral control or self-efficacy is measured (Albarracín, et al., 2004). We have chosen to measure both condom use self efficacy, the belief in the ability to use condoms across multiple situations, and perceived sexual behavioral discontrol, the perceived inability to control sexual behaviors across multiple situations, in order to better understand the concept of behavioral control as related to unsafe sexual behavior. Behavior discontrol has shown not only an association with unprotected anal intercourse (Benotsch, Kalichman & Kelly, 1999; Kalichman, Adair, Rompa, Multhauf, Johnson, & Kelly, 1994; Kalichman & Rompa, 1995), but this association seems to be related to those with behavioral discontrol showing increased levels of anal sexual behavior, regardless of whether or not a condom is used (Miner, Coleman, Center, Ross & Rosser, 2007). Thus, behavioral discontrol is a broader concept than condom use self-efficacy and it is likely that both beliefs influence whether or not an individual engages in unsafe sex. The extant literature appears to have confused the concepts by failing to measure perceived inability to control sexual behavior per se.

Thus, this study will test an augmented TPB model which assumes that social norms are not only mediated by self-efficacy and intentions, but are also influenced by social support. That is, social norms will only effect behavior to the extent that an individual receives support from their social system. The more isolated an individual is from a social system, the less likely social norms are to influence behavior (Okun, Ruehlman, Karoly, Lutz, Fairholme, & Schaub, 2003). Additionally, we expect that sexual comfort and sexual behavior discontrol will have direct effects on unsafe sexual behavior and indirect effects, through condom use, on self efficacy.

#### **METHODS**

#### **Participants**

The sample includes 675 HIV-positive men recruited in six major metro areas across the United States to participate in a weekend seminar-based intervention to reduce HIV sexual risk behavior: Seattle (<u>n</u>=114), Washington, D.C. (<u>n</u>=71), Boston, (<u>n</u>=64), New York (<u>n</u>=177), Los Angeles (<u>n</u>=146), and Houston (<u>n</u>=103). Participants were eligible if they reported being HIV positive, were at least 18 years of age, spoke English, had sex with at least one man in their lifetime, and had anal sex (insertive or receptive) without a condom at least once in the last 12 months. Participants were recruited by Community Based Organizations in each city who offered services for HIV-positive MSM. Recruitment included posting on agency websites, flyers in venues frequented by MSM, advertisements in newspapers that target MSM, coordination with health care providers, and, when appropriate, recruitment of agency clients. This study was reviewed and the procedures approved by the Committee for the Protection of Human Subjects at the University of Minnesota.

#### **Procedures**

The data presented are baseline data collected between January 29, 2005 and April 22, 2006 prior to participants' assignment to intervention condition. Data were collected through a self-report inventory administered in group settings, where aid was available from research staff for participants with problems reading or understanding questions.

#### **Predictor Measures**

**Sexual Comfort**—This is a 6-item Likert scale that measures comfort with sexuality and one's body (Marin, Gomez, Tschann & Gregorich, 1997). For example: How would you feel teaching your partner what feels pleasurable to your during sex? Items are rated from 1, very uncomfortable to 4, very comfortable. High scores indicate more sexual comfort. The reliability in this sample was  $\alpha = .83$ .

**Social Norms**—This is a 3-item Likert scale that measures the participants' perceptions of their friends' attitudes toward using condoms (Marin, Gomez, Tschann & Gregorich, 1997). For example: How many of your closest men friends do you think use condoms with every partner? Items are rated from 1, almost none of my men friends to 5, almost all of my men friends. High scores indicate attitudes that support using condoms in multiple contexts. The reliability in this sample was  $\alpha = .77$ .

**Sexual Behavior Discontrol**—This construct was measured by the 13-item Control subscale from the Compulsive Sexual Behavior Inventory and consists of items rated from 1, never, to 5, very frequently, that measure a sense of lack of control over one's sexual behavior (Coleman, Miner, Ohlerking & Raymond, 2001). For example: In the past 3 months, how often have you had trouble controlling your sexual urges? High scores indicate more lack of control over sexual behavior. The reliability in this sample was  $\alpha = .92$ .

**Social Support**—This is a 6-item Likert scale that measures the amount of support that participants receive from their social environment (Zimet, Dahlem, Zimet & Farley, 1988). For example: I can count on my friends when things go wrong. Items are rated from 1, disagree strongly to 5, agree strongly and ask about friends and about a "special person." High scores indicate more social supports. The reliability in this sample was  $\alpha = .91$ .

**Condom Self Efficacy**—This is a 14-item Likert scale that measures self-efficacy with respect to using condoms in multiple situations and settings (Marin, Gomez, Tschann & Gregorich, 1997). For example: Can you continue to insist on using a condom with a person who threatens to leave if you use it? Items are rated as 1, definitely not to 4, definitely yes. High scores indicate more self-efficacy. The reliability in this sample is  $\alpha = .95$ .

**Intent to Practice Safer Sex**—This is a one-item measure that was developed for this study and asks "The next time you have sex with someone, how likely are you to bring up the need to practice safer sex?" It is rated on a 1 to 7 scale where 1 is not at all likely to practice safer sex and 7 is very likely to practice safer sex.

#### **Outcome Measure**

**Unsafe sex**—The outcome or dependent variable is defined as any unprotected anal sex (insertive or receptive) with a partner of discordant or unknown HIV infection status during the last three months. We chose to define our unsafe measure in this manner so that we could control for sero-sorting and other potentially effective strategies for limiting transmission of HIV (Miner, Robinson, Hoffman, Albright & Bockting, 2002). The frequencies of unsafe intercourse were calculated by first summing the number of acts of unprotected anal sex with primary partners who were of unknown or negative HIV infection status with the number of acts of unprotected anal sex with secondary partners who were of unknown or negative HIV status. This variable was then dichotomized as having no incidents of unprotected anal sex in the last three months (0) or at least one incident of unprotected anal sex in the last three months (1) because of the severe skew in the frequency distribution.

### **Data Analysis**

Data analysis proceeded in three steps. First, we compared those engaging in unsafe sex with those not engaging in such behavior on each of the predictor variables using Mann-Whitney U. Then an intercorrelation matrix was computed of the predictor variables, and finally, a hierarchical logistic regression was used to explore the associations between predictor variables and unsafe sex. The order in which variables were entered into the logistic regression was determined by the associations described in TPB. Mediation was determined using Baron and Kenny's (1986) criteria. That is, the presence of a direct effect on unsafe sex as determined by significant first order (unadjusted) odds ratios, coupled with a significant association between predictor and mediator variables, and the decrease from a significant unadjusted odds ratio (OR) to an non-significant OR with the addition of the mediator variable.

# **RESULTS**

The average age of participants was 42 years (range 18 years to 69 years). Forty-five percent of the sample was African American, 25% White, 23% Latino/Hispanic, with another 7% reporting other race/ethnicity groups (including Asian/Pacific Islanders, mixed race) Participants tended towards lower levels of education: 40% of the sample had a high school diploma or less education, 38% had attended some college or technical training, and 22% had at least a Bachelor's degree. Participants' average annual income was \$16,357, with about 50% of the participants earning \$10,000 or less annually. Eighty-one percent of the sample identified as gay/same gender loving. Participants' median CD4 count at last check-up was 429/mm³ and those with a detectable plasma HIV RNA level had a median of 2,900 copies/mm³. Forty-two percent of the sample reported an undetectable viral load. Seventy-five percent of participants reported current use of anti-retroviral therapy (ART).

We first evaluated the distributions of each variable. Descriptive statistics are presented in Table 1. The distributions for intent to practice safer sex and sexual comfort indicated that a binary split was most appropriate, while the distributions for condom self efficacy, safer sex norms, social support, and sexual behavior discontrol indicated that quartile splits were most appropriate (see Table 1). Computation of the dichotomous unsafe sex variable resulted in 297 participants (44%) defined as having engaged in unsafe sex over the last three months, while 378 participants (56%) had never engaged in unsafe sex over the last three months. Participants engaging in unsafe sex were significantly different from those not engaging in unsafe sex on all predictor variable except sexual comfort.

Secondly, we explored the correlations between potential predictor variables. No significant associations were found between any socio-demographic variables and unsafe sex, including age, race/ethnicity, education, employment status, or income. As can be seen in Table 2, the correlations, are generally of low magnitude, although statistically significant due to our large sample size. The magnitude of the relationship between condom self efficacy and intent to practice safer sex is large ( $r^2$ =.35), while the magnitudes of the relationships between condom self-efficacy and safe sex norms ( $r^2$ =.13) and between safe sex norms and intent to practice safer sex ( $r^2$ =.10) are medium (Cohen, 1992, p.157).

Finally, hierarchical logistic regression was used to evaluate the associations of psychosocial factors with the dependent variable—the binary occurrence of unsafe sex. Table 3 presents the step by step results of the analysis. The first three variables, sexual comfort, social support, and behavioral discontrol were entered to control for possible confounding effects. The addition of social norms to this block added significantly to the prediction of unsafe sex  $(\chi^2=5.6, df=1, p=.018)$ . Also, as can be seen from table 3, the association between social norms and unsafe sex was significant and negative (B=-0.18, p=.019). However, in the final model (Step 4), which adds both self-efficacy and intentions to practice safer sex, social norms does not make a significant independent contribution to predicting unsafe sex, and the odds ratio associated with social norms is essentially 1.0. The change between the initial OR and the OR at Step 4 for safer sex norms when both self-effiacy and safer sex intentions were entered into the equation was modest (.14). The mediation effect was then broken down by first investigating the change in OR with the addition of self-efficacy to the model (Step 3). The decrease in OR with the addition of self-efficacy was .12. When intentions was entered after safer sex norms, rather than self efficacy, the decrease in OR was .10. Thus, the mediation was substantially the same for both variables, and slightly lower than the two variables combined. Both self-efficacy and intentions were significant predictors of unsafe sex in the final model (see table 3). The effect of behavioral discontrol on unsafe sex was unaffected by the addition of other variables to the model.

# DISCUSSION

There is considerable evidence that the Theory of Reasoned Action (TRA) and the Theory of Planned Behavior (TPB) explain unsafe sexual behavior in several different populations (Albarracín et al. 2001; 2004). This study extends prior research regarding the factors that make up TPB by considering the effect of behavioral control and the role of sexual comfort, an important aspect of the sexual health model (Robinson, et al., 2002). The prior research is also extended by contextualizing the measure of unsafe sex to account for sero-sorting, as well as condom use. We not only examined whether beliefs in the ability to use condoms (self-efficacy), and intentions to use condoms, mediate the association between condom social norms and unsafe sex with HIV-positive MSM and their serodiscordant sexual partners, but also the involvement of sexual comfort, social support, and perceived control over sexual behavior in influencing social norms, self-efficacy, intentions, and unsafe sexual behavior. Our results are consistent with TPB in that social norms mediated the association

between social support and unsafe sexual behavior such that those who perceived high social support, tended to have stronger social norms for condom use and, in turn were less likely to engage in unsafe sex. Similarly, those men who perceived stronger social norms for condom use were more likely to hold stronger beliefs in their ability to use condoms. And those men who held stronger beliefs in their ability to use condoms engaged in less unsafe sex. Moreover, the effect of social norms on unsafe sex was diminished once the effect of self-efficacy was taken into account. The change in association, while significant, was of modest magnitude.

The association between men's perceptions of safer sex norms and occurrence of unsafe sex was also influenced by their intentions to practice safer sex. We found that men who perceived stronger norms for condom use had stronger intentions to practice safer sex, and those with stronger intentions engaged in less unsafe sex. Again, the association between intentions and safer sex norms was modest and the change in the association between safer sex norms and unsafe sex was modest when accounting for intentions.

In addition, we found that men who experienced an inability to control their sexual urges and impulses engaged in more unsafe sex than those who had behavioral control. This finding is consistent with others (Benotsch, et al., 1999; Kalichman, et al., 1994; Kalichman & Rompa, 1995). This lack of behavioral control was independent of social norms and had a small association with intentions to use condoms. Perceived sexual discontrol was modestly and negatively related to condom use self efficacy. Thus, while there is some overlap between the perception of ability to control sexual behavior and the ability to use condoms when having sex, these concepts are not the same and both appear to have influences on unsafe sexual behavior that are independent of each other. Thus, behavioral control, at least within the context of unsafe sexual behavior of HIV-positive MSM, appears to have two components, perceptions of one's ability to control their sexual behavior and perceptions of one's ability to use condoms. It appears that both act directly on the likelihood of an individual practicing safer sex, while perception of sexual control has a small effect on perceived ability to use a condom.

Taken together, these findings reveal that unsafe sexual behavior, defined as unprotected anal intercourse with serodiscordant partners, is influenced by a constellation of cognitive factors consistent with social cognitive theory and the Theory of Planned Behavior. That is, social support appears to influence the impact of social norms and also influences feelings of an inability to control sexual behavior. Norms and sexual behavioral control appear to have independent effects on condom use self efficacy and intentions to engage in unsafe sex. Consistent with the Theory of Planned Behavior, the independent association between social norms and unsafe sex is mediated by both condom use self efficacy and safer sex intentions. However, while those with a lack of behavioral control also have low condom use self-efficacy, lack of sexual behavioral control has both this indirect effect on unsafe sex and a direct effect.

These findings suggest that HIV-positive men in the United States who engage in unsafe sex with sexual partners of a different HIV status than their own warrant greater interventions that strengthen their behavioral control, self-efficacy and intention to use condoms. Weak beliefs in the ability to control sexual behavior or use condoms, and weak intentions to actually engage in safer sex practices, may have contributed to the unsafe sex between HIV positive MSM and their seordiscordant partners. Notably, these effects of behavioral control, self-efficacy and intentions may have impact even among men whose communities support safe sex norms. Hence, social interventions that improve social support and sustain safer sex norms may be insufficient to reduce HIV risk behaviors without equal, if not greater, effort to change men's condom beliefs and intentions. Additionally, a lack sexual behavioral

control is associated with sexual risk behavior even after controling for safer sex norms. Community interventions may be more effective if they include both social diffusion approaches to change norms and increase perceived social support, as well as, small group approaches to reinforce ability and intentions.

Despite the promising evidence of our findings, a few caveats should be noted in our study. Our participants were not a random sample of HIV-positive men, but a convenience sample of HIV-positive MSM who agreed to participate in a weekend long HIV prevention trial. The data were collected via self-report and the sexual behavior data were retrospective over a three-month period. However, these limitations are typical of studies of sexual behavior, especially in baseline assessments of community interventions. Both random designs and longitudinal analyses will be employed to examine possible effects of the intervention in our larger study. Moreover, our baseline findings provide evidence that individual factors -- behavioral control, condom self efficacy and intentions to practice safer sex -- may affect how contextual factors, such as social norms, influence unsafe sex behavior between HIV-positive men and their serodiscordant sexual partners. These findings should be replicated in community-based studies, which draw random, representative samples of HIV-positive MSM and follow them longitudinally.

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Table 1

Descriptive Statistics: Predictor Variables

|                              | Unsafe Sex last | 3 months (N=297) | No Unsafe Sex las | Unsafe Sex last 3 months (N=297) No Unsafe Sex last 3 months (N=378) | p-value |
|------------------------------|-----------------|------------------|-------------------|----------------------------------------------------------------------|---------|
|                              | Mean (sd)       | Median (IQR)     | Mean (sd)         | Median (IQR)                                                         |         |
| Intent to Practice Safer Sex | 13.8 (4.7)      | 14 (11, 18)      | 16.5 (4.2)        | 17 (17, 21)                                                          | <.001   |
| Condom Self-efficacy         | 55.0 (14.2)     | 57 (45, 67)      | 63.1 (13.3)       | 67 (57, 74)                                                          | <.001   |
| Safe Sex Norms               | 8.6 (2.8)       | 9 (7, 10)        | 9.5 (3.0)         | 9 (8, 12)                                                            | <.001   |
| Social Support               | 21.4 (6.7)      | 23 (16, 27)      | 22.9 (6.7)        | 24 (19, 29)                                                          | .001    |
| Sexual Comfort               | 20.6 (3.7)      | 22 (19, 24)      | 20.8 (3.6)        | 22 (19, 24)                                                          | .175    |
| Sexual Behavior              | 30.4 (11.0)     | 28 (22, 38)      | 25.4 (10.4)       | 23 (17, 31)                                                          | <.001   |
| Discontrol                   |                 |                  |                   |                                                                      |         |

IQR = Interquartile range

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Table 2

Correlation Matrix: Predictor Variables

|             | Condom Self Efficacy | Safe Sex Norms | Social Support | Sexual Comfort | Condom Self Efficacy Safe Sex Norms Social Support Sexual Comfort Sexual Behavior Discontrol Intent to Practice Safer Sex | Intent to Practice Safer Sex |
|-------------|----------------------|----------------|----------------|----------------|---------------------------------------------------------------------------------------------------------------------------|------------------------------|
| Condom Self | I                    | .36 **         | .20**          | .21            | 21                                                                                                                        | ** 65:                       |
| Efficacy    |                      |                |                |                |                                                                                                                           |                              |
| Safe Sex    |                      | I              | .14            | .15            | 05                                                                                                                        | .31                          |
| Norms       |                      |                |                |                |                                                                                                                           |                              |
| Social      |                      |                | ı              | .17            | **                                                                                                                        | .22                          |
| Support     |                      |                |                |                |                                                                                                                           |                              |
| Sexual      |                      |                |                | ŀ              | - 21                                                                                                                      | .14                          |
| Comfort     |                      |                |                |                |                                                                                                                           |                              |
| Sexual      |                      |                |                |                | 1                                                                                                                         | 17 **                        |
| Behavior    |                      |                |                |                |                                                                                                                           |                              |
| Discontrol  |                      |                |                |                |                                                                                                                           |                              |
| Intent to   |                      |                |                |                |                                                                                                                           | ;                            |
| Practice    |                      |                |                |                |                                                                                                                           |                              |
| Safer Sex   |                      |                |                |                |                                                                                                                           |                              |
|             |                      |                |                |                |                                                                                                                           |                              |

s Significant at n=< 000

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Table 3
Step by Step Results of Hierarchical Logistic Regression Predicting Unsafe Sexual Behavior

| Factor         | Beta   | p-value | Odds Ratio        | 95% CI     |
|----------------|--------|---------|-------------------|------------|
| Step 1         |        | <.001   |                   |            |
| Sexual Comfort | 0.204  | .234    | 1.23              | 0.87, 1.72 |
| Social Support | -0.165 | .031    | 1.18 <sup>a</sup> | 1.01, 1.37 |
| Behavioral     | 0.435  | <.0001  | 1.54              | 1.32, 1.81 |
| Discontrol     |        |         |                   |            |
| Step 2         |        | .018    |                   |            |
| Sexual Comfort | 0.233  | .183    | 1.26              | 0.90, 1.78 |
| Social Support | -0.150 | .053    | 1.16 <sup>a</sup> | 1.00, 1.35 |
| Behavioral     | 0.432  | <.001   | 1.54              | 1.32, 1.80 |
| Discontrol     |        |         |                   |            |
| Safe Sex Norms | -0.180 | .019    | 1.20 <sup>a</sup> | 1.03, 1.39 |
| Step 3         |        | <.001   |                   |            |
| Sexual Comfort | 0.348  | .053    | 1.42              | 0.99, 2.02 |
| Social Support | -0.990 | .211    | 1.10 <sup>a</sup> | 0.94, 1.06 |
| Behavioral     | 0.366  | <.001   | 1.44              | 1.23, 1.70 |
| Discontrol     |        |         |                   |            |
| Safe Sex Norms | -0.100 | .208    | 1.10 <sup>a</sup> | 0.95, 1.29 |
| Self-efficacy  | -0.382 | <.0001  | 1.47 <sup>a</sup> | 1.23, 1.74 |
| Step 4         |        | <.001   |                   |            |
| Sexual Comfort | 0.367  | .045    | 1.44              | 1.01, 2.07 |
| Social Support | -0.078 | .334    | 1.08 <sup>a</sup> | 0.92, 1.26 |
| Behavioral     | 0.357  | <.001   | 1.43              | 1.21, 1.68 |
| Discontrol     |        |         |                   |            |
| Safe Sex Norms | -0.061 | .454    | 1.06 <sup>a</sup> | 0.91, 1.24 |
| Self-efficacy  | -0.235 | .015    | 1.26              | 1.05, 1.53 |
| Intentions     | -0.744 | <.0001  | 2.10 <sup>b</sup> | 1.43, 3.10 |

 $<sup>^{\</sup>it a}{\rm Odds}$  Ratios reflect the odds of unsafe sex associated with each lower quartile score.

 $b_{\mbox{Odds}}$  Ratio reflects the odds of unsafe sex with behavioral intentions below the scale median.