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Measurement of Motivations For and Against Sexual Behavior

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Abstract

A multi-dimensional measure assessing distinct motivations for and against sex was shown to be reliable, valid, and configurally invariant among incoming first-year college students. Three Motivations Against Sex Questionnaire (MASQ) subscales were developed to measure motivations *against* sexual behavior (Values, Health, Not Ready) to complement and extend a set of Sexual Motivations Scale – Revised (SMS-R; Cooper, Shapiro, & Powers, 1998) subscales assessing motivations *for* sexual behavior (Intimacy, Enhancement, Coping). Participants were surveyed the summer prior to college ($N = 1653$; 58.4% female). Exploratory factor analysis on a random one-quarter of respondents supported the hypothesized factors. Multi-group confirmatory factor analysis demonstrated good overall fit to the data and configural invariance across gender and ethnicity and across lifetime sexual experience. Motivations were associated with lifetime oral and penetrative sexual behaviors. This combined measure may be used for identifying motivations, predicting behaviors, and tailoring motivational interventions for sexual health among adolescents and young adults.

Keywords

motivations; sexual behavior; sex; measurement; factor analysis; college students

During adolescence and early adulthood individuals face the developmental task of forming romantic partnerships (Roisman, Masten, Coatsworth, & Tellegen, 2004) and the majority begin to explore sexual relationships (Cooper, 2002). Understanding sexual motivations is, therefore, an important component of describing adolescent and young adult development. However, there is little understanding of the development of underlying motivations for these behaviors (Lefkowitz & Gillen, 2005) or the ways in which motivations may differ based on gender, ethnicity, and previous sexual behavior. Given that behavior is often goal-directed (Furby & Beyth-Marom, 1992; Maggs, 1997), identifying the importance of perceived costs (e.g., health risks) and benefits (e.g., pleasure) of sexual behavior may provide insights for understanding etiology and health promotion. Despite the widely documented prevalence of sexually transmitted diseases (STDs) and unwanted pregnancy among adolescents and young adults, little is known about the prevention of sex-related

consequences (Kotchick, Shaffer, Forehand, & Miller, 2001). Perspectives such as the Health Belief Model have been applied to HIV-related sexual behaviors, focusing almost exclusively on why individuals engage in or fail to engage in protective strategies (e.g., Brown, DiClemente, & Reynolds, 1991; Scandell & Wlazelek, 2002), rather than the reasons for engaging in sexual behaviors at all. A reliable and valid, multi-item and multidimensional measure of sexual motivations appropriate for adolescents and college students would be a valuable tool in investigating motivations and their associations with sexual behaviors and consequences.

Motivations for Sexual Behavior

Distinguishing specific motivations for sex may lead to an improved understanding of the ways motivations develop over time and contribute to behavior (Cooper & Shapiro, 1997; Cooper, Shapiro, & Powers, 1998). For example, individuals' perceptions of consequences of behavior as pleasant or unpleasant are expected to be associated with their actions (Moore & Gullone, 1996). Identifying the perceived needs that are met by sexual behavior will provide insight into how people make behavioral decisions. Sexual motivations may be related to needs to regulate affect, affiliate with others, or maintain self-image (Cooper & Shapiro, 1997). Hill (2002; Hill & Preston, 1996) articulated a sexual motivation model to describe perceptions of the potential to experience rewarding interpersonal consequences as a result of sexual behavior. College students reported that the most salient rewards were pleasure, feeling valued, providing and receiving comfort, and feeling and expressing affection. In a population of male STD clinic patients, five factors of motivations were identified: love, compliance, pleasure, altered states, and potency, although sexual behaviors were correlated only with the love, pleasure, and potency subscales (Hoffman & Bolton, 1997).

Consistent with this literature, Cooper, Shapiro, and Powers (1998) developed a six-dimension measure of motivations for sex. Across African American and European American, adolescent and adult, and college and community populations, Cooper et al. demonstrated the factor invariance, reliability, and validity of this measure in predicting sexual behavior patterns. Three of the original subscales (Intimacy, Enhancement, Coping) were included in the current study because these scales had higher mean importance in normative samples than the three scales not included in the present analyses (Self Affirmation, Partner Affirmation, and Peer Approval) and the latter three scales had higher intercorrelations and less consistent associations with reported behavior (Cooper et al., 1998). The current study extends Cooper et al.'s work in three ways. First, all participants in the original study were sexually active adolescents and adults. Given the importance of understanding the development of adolescents' and emerging adults' sexual motivations and behaviors, we aim to adapt this measure for use among sexually inexperienced or inactive individuals as well as sexually active individuals. Second, whereas Cooper et al. developed a multi-dimensional measure of motivations for sexual behavior, we aim to create a complementary multi-dimensional measure of motivations not to have sex and to demonstrate that these motivations are distinct from motivations for sex. Third, the motivations for sex subscales were replicated by Cooper et al. among African American and European American samples; the current study is therefore an extension that explores measurement properties among Asian American and European American students.

Motivations Against Sexual Behavior

Motivations not to have sex, or the perceived costs of engaging in sexual behavior are also important for understanding the etiology of behavior and the promotion of health (e.g., Sprecher & Regan, 1996). From a regulatory focus perspective, both acts of commission and

omission are motivated by perceptions of gains and losses (Crowe & Higgins, 1997). However, according to Bryant and Dunford (2008), “Previous research conflates these fundamental distinctions between acting and not acting” (p. 351), and thereby ignores important factors in human motivations. Importantly, it is precisely these motivations for inaction or for precaution that are often targeted by programs to promote sexual health (e.g., teaching about health risks in an effort to increase condom use) (e.g., Jemmott, Jemmott, & Fong, 1992; Weinhardt, Carey, Johnson, & Bickham, 1999), which therefore begs for greater attention to these constructs. Understanding why individuals choose to abstain from sex—in general or on specific occasions—is necessary to fully describe the behaviors of adolescents and young adults. Therefore, developing a measure of motivations not to engage in sexual behavior represents a distinct contribution to the study of sexual development and behavior.

Research suggests three motivations to avoid sexual behavior: values, health, and not being ready for sex. Moral or ethical objections to sex, sometimes based on religious beliefs, are prevalent among American adolescents (Regnerus, 2007; Sprecher & Regan, 1996). Another primary motivation identified against sexual behavior has been avoiding pregnancy and disease (Sprecher & Regan, 1996). Finally, emotional readiness is identified as an important issue for adolescent sexual decision-making (Regnerus, 2007). For example, a study focused specifically on college student sexual abstinents by Sprecher and Regan (1996) reported that the primary motivation for not having sex for both genders was that students had not yet found a person with whom they were in love.

Differences in Sexual Behavior and Motivations by Ethnicity and Gender

Public health research has documented that the prevalence of sexual behaviors varies across demographic groups, including ethnicity and gender. For example, African American and Hispanic/Latino American adolescents are generally more likely to engage in sexual intercourse and risky sexual behavior (e.g., multiple partners, lack of contraception, or disease protection) compared to European American adolescents (Blum et al., 2000; Neumark-Sztainer et al., 1996; Santelli, Lowry, Brener, & Robin, 2000). Compared to African American adolescents, European Americans may be more likely to engage in pre-coital behaviors (e.g., touching) (Smith & Udry, 1985). European American university students consume more alcohol and more often drink with a single member of the opposite sex than do Asian American students (O'Hare, 1995). Asian Americans consistently report the lowest levels of sexual behavior (e.g., among high school students in Neumark-Sztainer et al., 1996). With respect to gender, men report more sexual partners at all ages, but women have higher lifetime prevalence of penetrative sex (among 18–19 year-olds in the U.S., 66% of men and 74% of women) (e.g., Mosher, Chandra, & Jones, 2005).

The explanations and meanings underlying these demographic behavioral differences, including potential differences in sexual motivations and experiences, have received relatively little attention (Brooks-Gunn & Paikoff, 1993; Diamond, Savin-Williams, & Dube, 1999). Beyond the variation in prevalence of behaviors, a much more limited literature suggests there may also be group differences in sexual motivations. In a community sample, Cooper et al. (1998) demonstrated factor invariance of a multi-dimensional measure of motivations for sex by race (i.e., European American and African American individuals), age (i.e., under age 21, over age 21), and gender, which allowed for comparison of motivations across groups. African American participants reported greater coping motivations for sex than European Americans. There was an interaction of gender and race, such that while European American women reported greater intimacy motivations than European American men, there was no gender difference for intimacy motivations reported by African American participants.

Potential gender differences in motivations surrounding sexual behavior require further investigation (Ozer, Dolcini, & Harper, 2003; Paradise, Cote, Minsky, Lourenco, & Howland, 2001). Previous work, conducted largely in the 1980s, emphasized traditional gender disparities by concluding that men were more interested in pleasure and women were more interested in intimacy in sexual relationships (e.g., Leigh, 1989). Men have reported that self-focused reasons for sex (e.g., pleasure) are the more important reasons for sex, while women have reported that partner-focused reasons (e.g., expressing intimacy) are more important reasons (Patrick, Maggs, & Abar, 2007). However, some recent research suggests historical change, such that today's youth have a more complicated pattern of sexual motivations. Ozer et al. (2003) found no gender differences in the most commonly endorsed reason to have sex: pleasure. In a sample of 14- to 20-year old African American adolescents, the majority of young women (82%) and young men (89%) identified "feels good and to satisfy sexual desires" as a reason to have sex. The second primary reason, "having a boyfriend/girlfriend you love" was also identified by a majority of both genders, although females (80%) were more likely to endorse this reason than males (66%). Cooper et al. (1998) found that men reported greater enhancement motivations and coping motivations than women, but there were no gender differences in intimacy motivations. In a study by Patrick et al. (2007), college men reported that self-focused reasons to have sex (e.g., enjoyment) were more important than did women. Women rated partner-focused reasons to have sex (e.g., expressing intimacy) and ethical reasons not to have sex (e.g., moral beliefs) as more important than did men. Men and women did not differ in the reported importance of avoiding pregnancy and STD infection as reasons not to have sex.

The Current Study

The present paper describes the development of a multi-dimensional measure, the Motivations Against Sex Questionnaire (MASQ) designed to measure motivations *against* sexual behavior among college students in three domains: Values, Health, and Not Ready. These subscales were designed to be used in conjunction with a set of subscales assessing motivations *for* sexual behavior from the Sexual Motivations Measure – Revised (SMS-R) adapted from Cooper, Shapiro, and Powers (1998) by describing motivations with a parallel response format. We aimed to develop and test a multi-dimensional measure that would allow researchers and clinicians to reliably and validly assess the importance of motivations for and against sexual behavior among adolescents and young adults. The original SMS subscales were adapted in the current study to assess importance of motivations for all individuals, regardless of whether they had ever been sexually active. Originally, as noted by the authors (**Cooper et al., footnote on p. 1535), individuals with little or no sexual experience may have had significant difficulty answering the original question, "select the response which best describes how often you personally have sex for each of these reasons." The adaptation, therefore, makes the measure applicable to sexually inexperienced, previously but not currently sexually active, and currently sexually active individuals. In order to understand both motivations *for* and motivations *against* sexual behavior, the items for the Cooper et al. subscales and the currently developed subscales were administered together. A six-factor solution was hypothesized, with three factors capturing motivations for sexual behavior and three factors describing motivations against sexual behavior.

The current study is designed to: (1) create a multi-dimensional measure to assess motivations *against* sexual behavior (MASQ); (2) adapt Cooper et al.'s (1998) subscales of enhancement, intimacy, and coping motivations *for* sex for use with current and lifetime sexually abstinent and with sexually experienced college students (SMS-R); (3) demonstrate that motivations against sex are distinct from motivations for sex; (4) assess the factor structure of the combined multi-dimensional motivations for and against sex subscales; (5) test measurement invariance across gender, European American and Asian American

ethnicity, and sexually experience and inexperienced subgroups; and (6) explore mean-level differences and associations of endorsement of the subscales with gender, ethnicity, and sexual behavior. Motivations for sex were hypothesized to be associated with greater likelihood of sexual behaviors, while motivations against sex were hypothesized to be associated with lower likelihood of sexual behaviors. Though often overlooked, demonstrating invariance across demographic groups is a pre-condition for meaningful comparison of group means and exploration of other statistical associations (Horn & McArdle, 1992). Therefore, documenting strong measurement properties of the MASQ was the primary aim of this study.

Method

Participants

Participants were recruited to participate in a screening study about health risk behaviors in June and July of the summer immediately following their graduation from high school and preceding their first year at a single university in the Northwestern U.S. as part of a larger study designed to test a preventative intervention for marijuana use during the transition to college (Lee, Neighbors, Kilmer, & Larimer, 2008). Participants were asked to complete an online 20-minute screening questionnaire assessing marijuana and other illicit substance use and consequences, as well as sexual behavior, and they received \$10 as compensation. The university's Institutional Review Board approved the study and a Certificate of Confidentiality from the U.S. Federal Government was obtained to protect participant data. The consent process was conducted online for individuals over age 18; parents of those under age 18 were asked to return a signed informed consent form for their teenager to be contacted for study participation.

Of 4052 invited students, 2123 (52.4%) responded to the web-based survey, which is consistent with other web-based studies. Self-reported racial background was European American (64.5%), Asian American (22.2%), and Multiracial/Other (13.3%). Based on an independent question, 6.9% reported Hispanic/Latino ethnicity. Current analyses focus solely on Asian American and European American non-Hispanic students in order to compare the two highest prevalence groups in the sample. Complete data on all sexual motivations were available for 94.5% ($N = 1653$; 41.6% male; 25.3% Asian American). Mean age was 17.99 years ($SD = 0.37$; range = 17 – 20 years).

Measures

The sexual motivations subscales contained a total of 24 items rated by participants on a scale from 1 = *not at all important* to 5 = *very important*. Cooper et al.'s (1998) subscale items for Intimacy motivations (5 items, $\alpha = .94$; e.g., *express love*), Enhancement motivations (5 items, $\alpha = .90$; e.g., *for the thrill of it*), and Coping motivations (5 items, $\alpha = .87$; e.g., *feel better when lonely*) were used. For the SMS-R, the stem read, "Listed below are different reasons why people have sexual intercourse. How important is each of these reasons in influencing your decisions about whether or not to have sex?" The 15 items were ordered randomly and subscales were computed as the mean of the appropriate items. Cooper et al.'s subscales for Self Affirmation, Partner Affirmation, and Peer Approval sexual motivations were not included here because these subscales had less consistent associations with sexual behavior, lower mean importance, and higher intercorrelations (all $r > .40$) in previous work. Self Affirmation and Coping were highly correlated with each other ($r > .60$) in the community and college samples and had similar mean values; the Coping construct was chosen because it was viewed to encompass a more general function and its stronger prediction of a composite of risky behaviors. Therefore, in an effort to test a measure that could be widely administered with brevity in adolescent and young adult

research and with a minimum respondent burden, the subscales with the greatest potential to provide unique prediction of behavior were included.

The MASQ motivations against sex items were created to reflect three hypothesized constructs. The identification of these dimensions was based on a reading of the sexual behavior and developmental literatures (e.g., Sprecher & Regan, 1996). To reflect the varied nature of sexual decisions-making across adolescence and young adulthood, as well as within and across relationships, the stem question read, “Listed below are different reasons why people do not have sexual intercourse or take actions to minimize risks. How important is each of these reasons in influencing your decisions about whether or not to have sex?” Subscales were computed as the mean of the items. Values motivations not to have sex (3 items) included, *Against my beliefs*, *Moral/religious values*, and *Ethical principles*. Health motivations (3 items) were *Desire to avoid pregnancy*, *Fear of STDs (sexually transmitted diseases)*, and *Want to avoid exposure to HIV/AIDS*. Not Ready motivations (3 items) included *Not in love with anyone*, *Not old enough*, and *Not ready for the commitment*. The 9 items were presented in a random order.

Sexual behaviors were also assessed. Participants were asked about lifetime oral sex, “Have you ever had oral sex?” and lifetime penetrative sex, “Have you ever had sexual intercourse (sex in which the man inserts the penis into a partner's vagina or anus)?” (both no = 0, yes = 1). Participants who reported penetrative sex were asked follow-up questions about their frequency of contraception use (i.e., use contraception/birth control when you had sexual intercourse), condom use (i.e., use a condom when you had sexual intercourse), and alcohol use prior to sex (i.e., consume alcohol before or during sexual encounters). Possible responses ranged from 1 = *never*, 2 = *some of the time*, 3 = *most of the time*, 4 = *every time except once*, and 5 = *every time* in the past 12 weeks. These five sexual behavior measures were used as the dependent variables in separate regression analyses.

Plan of Analysis

First, EFA was used on a randomly sampled quarter of the sample with complete data ($N = 1653$) to explore the factor structure. Second, two multi-group confirmatory factor analyses (CFAs) were conducted on the full sample to investigate the fit of the hypothesized structure. CFA models were assessed via the objective model fit indices including the Normed Fit Index (NFI, Bentler & Bonett, 1980), Comparative Fit Index (CFI, Bentler, 1990), and Root Mean Square Error of Approximation (RMSEA, Browne & Cudeck, 1992). The hypothesized 6-factor structure was tested for replication in two sets of analyses: (a) by gender and ethnicity (i.e., four groups: European American women [$n = 706$; 55.6% lifetime oral or penetrative sex experienced], European American men [$n = 528$; 53.5% sex experienced], Asian American women [$n = 259$; 35.5% sex experienced], and Asian American men [$n = 160$; 26.9% sex experienced]); and (b) by sexual experience (i.e., two groups: never engaged in penetrative or oral sex [$n = 841$; 33.8% Asian American; 43.0% male], ever engaged in either oral or penetrative sex [$n = 808$; 16.7% Asian American; 40.2% male]) using AMOS 7 (Amos, 2006). Simple structure was modeled, such that each item loaded only on the hypothesized factor and errors were independent. The multi-group models allowed measurement weights (factor loadings), measurement intercepts (mean values), structural covariances, and measurement residuals (errors) to be estimated separately for the four gender and ethnicity groups in the first model and the two sexual experience groups in the second model. Chi-square difference tests were conducted to compare models that constrained additional parameters to be equal across groups. Third, ANOVA and MANOVA on the full sample were used to determine whether gender, ethnicity, and sexual experience were associated with mean level differences in endorsement of the computed subscales. Finally, age, gender, ethnicity, and motivations were used to predict sexual behaviors using linear and logistic regression.

Results

Exploratory Factor Analysis

Item-level descriptive statistics and rotated factor loadings are shown in Table 1 for the randomly selected exploratory factor analysis (EFA) sub-sample. Principal axis factoring with oblique rotation in SPSS 15.0 (SPSS, 2006) was used on a randomly selected 25% of the sample ($N = 432$; 40.5% male, 25.2% Asian American) to explore the structure of the 24-item measure. The common factor model was used, rather than principal components analysis, because of a focus on latent constructs (Conway & Huffcutt, 2003; Fabrigar, Wegener, MacCallum, & Strahan, 1999). Six factors were hypothesized. Eigenvalues, scree plots, and percentage of variance explained were used to identify the optimal solution (Conway & Huffcutt, 2003). Multiple methods were used to determine the appropriate solution because relying solely on eigenvalues may produce inaccurate results (Comrey, 1978; Conway & Huffcutt, 2003; Fabrigar et al., 1999). Oblique rotation was used because the factors (i.e., types of motivation) were expected to be correlated (Conway & Huffcutt, 2003; Fabrigar et al., 1999).

Consistent with our hypothesis, the scree plot and percent of variance explained by each factor indicated a 6-factor solution, as compared to 5- and 7-factor solutions. In the 5-factor solution, all eigenvalues were > 1 with a cumulative 62.9% of variance explained, but the solution was unclear because the highest rotated factor loadings for the three hypothesized Not Ready items were less than .45. In the 7-factor solution, the initial eigenvalue of the seventh factor was .70 with a cumulative 68.9% of variance explained. In this solution, the structure was the same except that there were two Enhancement factors (i.e., factors 1 and 7). Six factors were deemed optimal. Initial eigenvalues of the six factors ranged from 1.15 to 7.22, with rotated eigenvalues from 2.38 to 5.26 and a cumulative 66.83% of variance explained. The six hypothesized factors were clearly indicated by factor loadings on items reflecting *Enhancement* (5 items), *Intimacy* (5 items), *Coping* (5 items), *Values* (3 items), *Health* (3 items), and *Not Ready* (3 items) motivations. Cross-loadings were all low (absolute value range = 0 to .33).

Confirmatory Factor Analysis

Based on the hypothesized structural model, a multi-group CFA was conducted on the full sample to determine whether measurement across groups was identical. All factors were allowed to be intercorrelated. Fit statistics are reported in Table 2. The unconstrained model fit well. NFI and CFI values of .90 indicate that 90% of the covariance among the variables was accounted for by the model (Bentler & Bonett, 1980). The structure of the measure remained the same for each group (i.e., items loaded on the same factors), providing evidence for *configural* factor invariance (see Horn & McArdle, 1992). The patterns of standardized regression weights for the six factors were similar across groups (see Table 3). The CFA model presented supports the theoretically-driven hypothesis that six distinct factors underlie the structure of motivations in each of the subgroups, without post-hoc modifications that may capitalize on chance and reduce the replicability of the findings (MacCallum, Roznowski, & Necowitz, 1992).

The model constraining measurement weights to be identical had a worse fit than the unconstrained model, $\Delta\chi^2(54, N = 1653) = 116, p < .001$. However, the significant chi-square differences were likely a result of the large sample size ($N = 1653$) and resulting statistical power to detect any variance in model fit (Bentler & Bonett, 1980). The model constraining measurement weights to be equal was nearly or exactly the same as the unconstrained model on other indices of model fit. Therefore, there was evidence that the measurement weights were very similar across groups. In addition, it may not be reasonable

to document *metric* factor invariance across the four groups (Horn & McArdle, 1992), particularly when mean differences between groups are anticipated.

Second, the structure of the measure for individuals with and without sexual experience was explored with the same methods and model comparisons described above, to verify measurement properties of the measure for people with various prior sexual experiences. The unconstrained model fit well according to the fit statistics in Table 2. The model constraining measurement weights to be identical had a worse fit than the unconstrained model, $\Delta\chi^2(16, N = 1649) = 165, p < .001$, which may be due to the large sample size. Factor loadings, shown in Table 3, show that the patterns of standardized regression weights for the six factors were similar across sexual experience. The CFA model supported the hypothesized six factors, without post-hoc modifications. These results suggest a pattern of configural invariance (see Horn & McArdle, 1992). Therefore, we concluded that the measurement properties of the measure were adequate for both levels of lifetime sexual experience.

Reliabilities and Intercorrelations

After the factor structure was verified, subscales were computed as the means of scale items (see Table 4). Cronbach's alpha reliabilities for the total sample are reported in Table 4. Reliability was consistent across the four gender and ethnicity subgroups: Enhancement $\alpha = .90-.91$, Intimacy $\alpha = .93-.94$, Coping $\alpha = .87-.88$; Values $\alpha = .88-.91$; Health $\alpha = .78-.81$; and Not Ready $\alpha = .70-.72$. Reliability was also consistent across the two sexual experience subgroups: Enhancement $\alpha = .88-.91$, Intimacy $\alpha = .92-.95$, Coping $\alpha = .87-.90$; Values $\alpha = .88-.91$; Health $\alpha = .75-.85$; and Not Ready $\alpha = .72-.75$. Motivations for sex (Enhancement, Intimacy, and Coping) were moderately positively correlated with each other and negatively correlated with Values, Health, and Not Ready motivations against sex. The three motivations against sex (Values, Health, and Not Ready) were moderately positively correlated with each other.

Validity: Mean level differences by gender and ethnicity

Due to the demonstration of configural invariance, cross-group comparisons are possible (Horn & McArdle, 1992). First, mean differences on the six subscales were assessed using a 2 (Gender) $\times$ 2 (Ethnicity) MANOVA. Multivariate results indicated significant differences by gender, $F(6, 1644) = 42.78, p < .001$, and ethnicity, $F(6, 1644) = 17.87, p < .001$, as well as a significant Gender $\times$ Ethnicity interaction, $F(6, 1644) = 2.60, p < .05$. These effects were probed with follow-up tests at protected alpha levels (i.e., using Tukey tests) to describe fully the associations in the data. Mean endorsement by gender and ethnicity are shown for each of the six subscales in Figure 1. Follow-up ANOVAs showed that men rated Enhancement ($M = 2.99, SD = 1.11$) and Coping ($M = 1.62, SD = 0.75$) motivations for sex as more important than did women (Enhancement $M = 2.45, SD = 1.06$; Coping $M = 1.35, SD = 0.61$). Women rated Health ($M = 4.19, SD = 0.99$), Values ($M = 3.07, SD = 1.45$), and Not Ready ($M = 3.42, SD = 1.19$) motivations against sex as more important than did men (Health $M = 3.76, SD = 1.13$; Values $M = 2.46, SD = 1.40$; Not Ready $M = 2.57, SD = 1.13$). There was no gender difference for the importance of Intimacy ($M = 3.67, SD = 1.19$).

Asian American participants reported that Coping motivations for sex ($M = 1.57, SD = 0.75$) and all motivations against sex (Health $M = 4.27, SD = 0.97$, Values $M = 3.22, SD = 1.39$, Not Ready $M = 3.45, SD = 1.23$) were more important than did European American participants (Coping $M = 1.42, SD = 0.66$, Health $M = 3.92, SD = 1.09$, Values $M = 2.68, SD = 1.47$, Not Ready $M = 2.93, SD = 1.21$). There were no significant differences for Intimacy or Enhancement based on ethnicity. The Gender $\times$ Ethnicity interaction was significant. Asian American males reported the highest level of Coping motivations ($M = 1.85, SD =$

0.81) for sex and Asian American females reported the highest level of Not Ready motivations against sex ($M = 3.85$, $SD = 1.08$) compared to all other groups.

Second, an ANOVA was conducted to test for differences in motivation subscales by the two levels of sexual experience. Means are shown in Figure 2. Multivariate results showed significant mean differences by level of sexual experience, $F(6, 1642) = 79.37$, $p < .001$. Individuals with sexual experience reported higher levels of Intimacy ($M = 3.98$, $SD = 1.00$) and Enhancement ($M = 3.09$, $SD = 1.01$) motivations for sex than individuals without sexual experience (Intimacy $M = 3.38$, $SD = 1.29$; Enhancement $M = 2.28$, $SD = 1.06$). Those without sexual experience reported higher levels of Values ($M = 3.28$, $SD = 1.49$) and Not Ready ($M = 3.41$, $SD = 1.19$) motivations not to have sex than individuals with sexual experience (Values $M = 2.34$, $SD = 1.28$; Ready $M = 2.71$, $SD = 1.19$). There were no mean level differences in Coping ($M = 1.46$, $SD = 0.68$) or Health ($M = 4.01$, $SD = 1.07$) motivations by sexual experience.

Validity: Correlations and Regressions with Behavior

Validity of the combined SMS-R and MASQ was assessed by computing the correlations of motivations subscales with measures of oral and penetrative sex behaviors, condom use, contraception, and alcohol use before sex (shown in Table 4). Enhancement and Intimacy motivations for sex were positively correlated with previous sexual behaviors. Enhancement motivation were also positively correlated with alcohol use before sex, while Intimacy motivations were positively correlated with contraception and negatively correlated with alcohol use. Coping motivations were not significantly correlated with sexual behaviors, but were negatively correlated with contraception use. Motivations against sex were negatively correlated with previous sexual behaviors, with the exception of the non-significant association of Health motivations and penetrative sex. Values and Not Ready motivations were negatively correlated with using alcohol before sex.

Logistic regression analyses were used to predict lifetime oral and penetrative sexual behavior based on age, gender, and ethnicity (Step 1), the three SMS-R motivations for sex (Step 2), and the three MASQ motivations against sex (Step 3; see Table 5). Gender $\times$ Ethnicity interactions were also tested; these were not significant and are not reported. A significant χ^2 indicates the predictive power of demographic characteristics (Step 1). Despite the restricted age range within this sample of incoming first-year college students, older students were more likely to report lifetime penetrative sex experience. Asian Americans were less likely to report having engaged in either oral or penetrative sex than European American students. Only after controlling for sexual motivations, women were more likely to report lifetime oral and penetrative sex than men (see Mosher et al., 2005; Neumark-Sztainer et al., 1996) and older students were more likely to report oral sex experience.

Significant χ^2 indicated that motivations for sex (Step 2) and motivations against sex (Step 3) both predicted sexual behavior. Students with greater Enhancement and Intimacy motivations for sex and greater Health motivations against sex were more likely to have had oral and penetrative sex. These findings are similar to prior results using only the motivations for sex subscales (see Cooper et al., 1998). Students who reported greater Coping motivations for sex and greater Values and Not Ready motivations against sex were less likely to report these two prior sexual experiences. Every subscale of the measure was uniquely associated with lifetime oral and penetrative sexual behaviors.

Multiple linear regressions among individuals who reported penetrative sex in the previous 12 weeks ($N = 601$) were used to predict contraception use, condom use, and alcohol use before sex (Table 6). Predictors were demographic variables (Step 1), motivations for sex (Step 2), and motivations against sex (Step 3). Step 1 demographic variables were

significant predictors for contraception only; there were no consistent age, gender, or ethnic differences in condom use or alcohol use before sex. Men and Asian American students reported using contraception less frequently than women and European American students, respectively, but there were no age differences in contraception.

As indicated by the step R^2 s, motivations for sex predicted a significant amount of variance for contraception use and alcohol use before sex (but not for condom use) beyond demographic variables. Motivations against sex did not predict contraception use, condom use, or alcohol use before sex with demographics and motivations for sex in the model. Higher Enhancement motivations were uniquely predictive of more frequent contraception use and more frequent alcohol use before sex. This combination of behaviors is consistent with a pattern of pleasure-seeking. Intimacy motivations were associated with more frequent contraception and less frequent alcohol use before sex, suggesting a pattern of sex within the context of relationships. Greater Coping motivations were associated with less frequent contraception use, but not associated with alcohol use before sex.

Discussion

The MASQ was developed as a multi-dimensional measure addressing distinct motivations against sex appropriate for adolescents and young adults for use by researchers, preventionists, and clinicians. The new measure of motivations to not have sex or take actions to minimize risks was used in conjunction with the SMS-R (Cooper et al., 1998). These results support the hypothesized six domains of motivations for and against sexual behavior. The motivational driving forces underlying behavior are related to, but distinct from, attitudes (i.e., whether a person thinks something is good or bad), expectancies (i.e., whether a person thinks something is going to happen; see Leigh, 1989), and active decision-making (i.e., the process by which individuals weigh the costs and benefits of an action). These motivations are intended to describe the self-identified purposes underlying whether individuals choose to have sex or not to have sex.

Together, the SMS-R and MASQ measures were shown to be reliable, valid, and configurally invariant across gender and two ethnicities, as well as across lifetime sexual experience and inexperience, among incoming first-year college students in the US. Given that the SMS-R and MASQ were shown to have the same measurement structure for men and women, for European Americans and Asian Americans, and for individuals with varying levels of sexual experience, appropriate comparisons between these groups were possible. Although strict invariance may be the ideal, it is “less reasonable to expect” under normal conditions (Horn & McArdle, 1992, p. 126). Furthermore, configural invariance may be adequate for demonstrating measurement invariance across groups, especially in the presence of theory-based simple structure when group mean differences are anticipated (Horn & McArdle, 1992; Meredith, 1993). In this case, the hypothesized simple structure was supported and group differences across gender, ethnicity, and sexual experience were expected. Therefore, configural invariance provided adequate support for group comparisons.

The validity of the motivations scales is underscored by their correlations with and prediction of lifetime penetrative and oral sex. Greater enhancement and intimacy motivations for sex and greater health motivations against sex were associated with a greater likelihood of having lifetime experience with oral and penetrative sexual behaviors, consistent with Cooper et al.'s (1998) earlier work examining motivations for sex. In addition, concerns over health may be justifiably heightened among people who are more sexually active. Greater coping motivations for sex and greater values and not ready motivations against sex were associated with a lower likelihood of lifetime oral and

penetrative sexual experience. In Cooper et al.'s study, coping motivations for sex were predictive of a greater number of sexual partners, but not significantly predictive of the frequency of sex, although the coefficients were in the negative direction. The values and not ready motivations were, as expected, predictive of less lifetime sexual behavior. Together, these multivariate results suggest that the domains of motivation for and against sex are differentially associated with sexual behaviors in anticipated patterns. Furthermore, the results are largely consistent with developmental literature indicating that incoming college students are relatively sexually inexperienced (i.e., about half have engaged in neither oral nor penetrative sex in this sample; see also Patrick et al., 2007; Seigel, Klein, & Roughmann, 1999). By the end of the college years, the majority of students will have initiated sexual contact (Cooper, 2002; Seigel et al., 1999). However, we continue to know relatively little regarding how adolescents and young adults balance the powerful motivating reasons to pursue and to avoid these sexual experiences (Diamond & Savin-Williams, in press).

Overall, men and Asian Americans were less likely to report lifetime experience with oral and penetrative sexual behaviors, consistent with some previous research on gender (Mosher et al., 2005) and race (Neumark-Sztainer et al., 1996). However, conflicting evidence for earlier onset of sexual behavior among men has also been reported (see Zimmer-Gembeck & Helfand, 2008 for a review of gender and ethnicity results). Future research using these measures should investigate invariance across additional ethnic and racial groups (e.g., African Americans, Latino Americans), demographic groups (e.g., high school students, non-college young adults), and individuals in various relationship types (e.g., single, casually dating, committed).

Sexual motivations were less consistently associated with contraception use, condom use, and alcohol use before sex. This may be because the SMS-R and MASQ focus on motivations related to sexual behavior, in general, rather than on motivations for engaging in sexual protective behaviors (e.g., Boone & Lefkowitz, 2004; Zagumny & Brady, 1998). Among the subset of students who had been sexually active in the previous 12 weeks, greater importance of enhancement and intimacy motivations and lesser importance of coping motivations predicted more frequent contraception use. In other words, contraception other than condoms may be most likely in the context of a pleasurable and intimate relationship, rather than when sex is used to regulate affect. This was anticipated, given that previous research has documented that as relationships become more serious couples tend to switch from using condoms to other contraception (e.g., hormonal) methods (Bankole, Darroch, & Singh, 1999; Misovich, Fisher, & Fisher, 1997). Cooper et al. (1998) similarly found that intimacy motivations were associated with more frequent contraception use and less frequent condom use. Using alcohol before or during sexual encounters was predicted by greater enhancement motivations and lower intimacy and not ready motivations. Alcohol use may co-occur more often with sexual relationships focused largely on pleasure, but not as often when sex is seen as relationship-building (e.g., a partner is already identified). For example, sex with a new or casual partner is more likely to involve alcohol (Corbin & Fromme, 2002). When one or both partners report feeling less developmentally ready for sex, they may be more likely to take seriously the decision to have sex and initiate sexual behaviors without the facilitation of alcohol.

Implications

Motivations for having and for not having sex are distinguishable from one another and measurable with the developed measures. In fact, if motivations against sex were actually just low scores on motivations for sex, the hypothesized distinct factors for motivations against sex would not have been confirmed. Motivations against sex, or reasons to abstain from sexual behaviors, are also important to understand for sexually active individuals.

Consistent with the theory of reasoned action (Ajzen, 2001; Fishbein & Ajzen, 1975), both perceived benefits and perceived risks are identified by individuals. However, motivations do not work in isolation, but may work jointly or in opposition. The regression results predicting lifetime sexual experience suggested the presence of statistical suppression. Specifically, coping motivations are bivariate positively associated with enhancement and with intimacy motivations. When all three types of motivations are entered into the model, the previously non-significant bivariate association between coping and lifetime sexual behavior became negative, suggesting that the relationship between coping motivations and sexual behavior is masked by the fact that people who have high coping motivations also tend to have high intimacy and enhancement motivations. However, among individuals with similar levels of intimacy and enhancement motives increases in coping motives are negatively associated with the probability of intercourse. Similarly, the negative bivariate association between health motivations and sexual behaviors was suppressed when not ready motivations were included. These complex associations between motivational domains require replication and further investigation.

Adequate measures are vital for designing and conducting developmental and prevention research. This study supports the salience of enhancement, intimacy, and coping motivations for sex and health, values, and not ready motivations to avoid sex or take actions to reduce sexual risk. Together, the SMS-R and MASQ represent new assessment strategies to advance research on the development and promotion of healthy development and the prevention of health risk behaviors among adolescents and young adults. Changes in motivations across adolescence and the transition to adulthood, as well as associations with behaviors as individuals move in and out of new and more serious romantic relationships are important topics for future etiological research. In the applied domain, the key goal of motivational intervention techniques is to enhance an individual's motivation for healthy behavior, so clinicians may use the SMS-R and the MASQ to inform motivational enhancement strategies (Miller & Rollnick, 1991) designed to promote sexual health. According to a meta-analysis, motivational approaches have yet to demonstrate significant effects on sexual risk behaviors (Burke, Arkowitz, & Menchola, 2003), although there is preliminary evidence for the promise of these approaches (Chernoff & Davison, 2005). The mechanisms underlying motivational enhancement interventions are poorly understood (Baer, Kivlahan, Blume, McKnight, & Marlatt, 2001; Tevyaw & Monti, 2004), so a primary need is a better understanding of motivations for and against behavior and the types of intervention messages that would be most salient. Results presented suggest that appropriate interventions to promote sexual health should address these functions that sex serves for individuals. As programs acknowledge the reasons students have sex, they can support both the choice to abstain from sex or to engage in behaviors with lower risks (e.g., using protection, engaging in non-coital acts). In addition, understanding that salient motivations against sex for at least some individuals include feeling unready, programs to promote sexual health may include discussions regarding sexual decision-making.

Strengths, Limitations, and Conclusions

The current study developed a reliable and valid assessment tool for motivations against sex and adapted an existing measure of motivations for sex, providing support for the utility of the SMS-R and the MASQ for use among college students. These measures address an important gap in research on adolescent and emerging adult development, motivations, and sexuality by providing an instrument to assess both motivations to have and motivations not to have sex. The SMS-R and MASQ were shown to be configurally invariant for men and women, for European American and Asian American students, and for individuals with varying levels of sexual experience. However, notable limitations include the single university sample of incoming students. Data were cross-sectional, so the manner in which

motivations affected behavior or behavior affected motivations (or, more likely, their reciprocal relations) is unclear. Finally, these measures have not been tested, and may not be appropriate, among those at the highest risk for negative health consequences, including individuals with HIV/AIDS. In higher risk and more vulnerable samples, more non-normative motivations, including the Cooper et al. (1998) subscales of Self Affirmation, Partner Affirmation, and Peer Approval may prove to be more informative, although these subscales were not available in the current study. Given that the measures were designed to be brief assessments and were tested for the first time in the current sample, further replication is needed to support the application of the current results to sexual health promotion programs.

Motivations against sex were not predictive of contraception use, nor were motivations for or against sex were predictive of condom use. This lack of prediction may have resulted from a lack of variance resulting from a relatively low prevalence of sexual behaviors in the previous three months, but requires further investigation. Furthermore, the use of condoms and contraceptives may also be based on more situation-specific (i.e., type of partner) or behavior-specific (i.e., motivations for condom use) contextual variables that were not included in the motivations assessed in the current study. Moreover, the motivations against sexual behavior, especially the Health subscale, are important not just as motivations *not* to have sex, but as motivations to have *safe sex* or to engage in lower-risk sexual behaviors. Future work should separately assess motivations against sex in general and in specific situations. Assessing contextual and situation-specific motivations, or why individuals choose to have or not to have sex on particular occasions, would provide additional insight regarding sexual decision-making. In addition, the ways in which sexual motivations develop across adolescence and adulthood, change across intimate relationships, and work together or in opposition all deserve further exploration.

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Figure 1.

Mean motivation importance rating by gender and ethnicity.

Note. E = Enhancement, I = Intimacy, C = Coping, V = Values, H = Health, R = Not Ready

Figure 2.
Mean motivation importance rating by sexual experience.
Note. E = Enhancement, I = Intimacy, C = Coping, V = Values, H = Health, R = Not Ready

Table 1

Item Descriptives and Rotated Pattern Matrix from EFA on 25% Random Sample

Items	Rotated Factor Loadings							
	M	SD	E	I	C	V	H	R
It feels good	3.24	1.32	.57	.25	-.01	-.15	-.04	.06
You feel horny	2.59	1.26	.72	.11	.01	-.12	-.00	.01
Just for the excitement of it	2.38	1.22	.86	-.02	-.01	.04	.00	-.02
Just for the thrill of it	2.15	1.54	.84	-.09	-.02	.02	-.03	-.05
To satisfy your sexual needs	2.68	1.28	.68	.15	-.07	-.06	.02	-.03
More intimate w/ partner	3.70	1.36	.06	.79	-.05	-.03	-.07	.06
Express love for partner	4.00	1.25	.03	.80	.04	.00	.01	.00
Emotional connection w/ partner	3.69	1.31	.00	.88	.01	.01	.00	.02
Become closer to partner	3.73	1.28	.02	.93	-.01	.04	.01	-.06
Feel emotionally close to partner	3.67	1.33	-.01	.90	-.06	.02	.01	-.05
To cope with upset feelings	1.36	0.69	-.10	.04	-.78	-.02	.01	-.02
Feel better when you're lonely	1.50	0.90	.09	.01	-.72	.02	.04	.01
Feel better when you're feeling low	1.48	0.78	.13	.01	-.77	.01	-.03	-.01
Help deal with disappointment	1.29	0.66	-.12	.01	-.87	-.01	-.01	.03
To cheer yourself up	1.62	0.90	.33	-.04	-.54	-.01	.01	-.01
It's against my beliefs	2.72	1.66	-.03	-.01	-.01	.89	-.02	-.04
Moral/religious values	3.05	1.63	.01	.03	.02	.96	.00	-.01
Ethical principles	3.17	1.52	-.01	.06	.00	.75	.04	.10
A desire to avoid pregnancy	4.34	1.11	-.02	.05	.07	.00	.50	.04
Fear of STDs	3.86	1.27	.02	-.08	-.07	.03	.85	-.03
To avoid exposure to HIV/AIDS	4.02	1.30	.01	-.02	-.04	-.02	.87	.00
I am not in love with anyone	3.74	1.45	-.07	.17	.04	-.06	.06	.59
I don't feel old enough	2.58	1.52	-.07	-.10	-.03	.07	-.01	.70
Not ready for the commitment	3.25	1.55	.10	-.12	-.01	.08	.01	.83
Rotated Eigenvalue			5.26	4.81	3.81	3.71	2.38	2.81
% Variance			28.82	12.08	4.68	5.91	12.14	3.21

Note. N = 432. E = Enhancement, I = Intimacy, C = Coping, V = Values, H = Health, R = Not Ready

Confirmatory Factor Analysis Fit Statistics

Table 2

	Unconstrained	Measurement Weights	Measurement Intercepts	Structural Covariances	Measurement Residuals
<u>4-group Analysis by Gender and Ethnicity</u>					
χ^2	2782.00	2898.96	3418.82	3581.67	4080.24
df	948	1002	1074	1137	1209
NFI	.898	.894	.874	.868	.850
CFI	.930	.927	.910	.906	.890
RMSEA	.034	.034	.036	.036	.038
<u>2-group Analysis by Sexual Experience</u>					
χ^2	2095.13	2260.28	2890.56	3067.67	3311.53
df	474	492	516	537	561
NFI	.920	.914	.890	.883	.874
CFI	.937	.931	.908	.902	.893
RMSEA	.046	.047	.053	.053	.055

Note. $N = 1653$ for gender and ethnicity; $N = 1649$ for sexual experience. The models shown from left to right move from unconstrained parameters for the groups (i.e., four groups: European American women, Asian American men, European American men, Asian American men; or two groups: sexually inexperienced, sexually experienced), to constraining only measurement weights to be equal, to additionally constraining measurement intercepts, to adding constraints on covariances, to constraining all parameters including measurement residuals. The Unconstrained model, allowing measurement parameters and covariances to vary across the four groups, was chosen as the best fit to the data.

Confirmatory Factor Analysis Unconstrained Models: Range of Standardized Factor Loadings

Table 3

	European American		Asian American		Sexually Inexperienced	Sexually Experienced
	Females	Males	Females	Males		
<u>SMS-R</u>						
Enhancement	.79-.83	.77-.84	.77-.83	.78-.86	.80-.85	.65-.83
Intimacy	.80-.86	.79-.94	.81-.94	.81-.94	.81-.94	.72-.91
Coping	.75-.85	.65-.88	.69-.84	.71-.83	.76-.87	.67-.87
<u>MASQ</u>						
Values	.80-.97	.77-.96	.81-.89	.76-.95	.82-.94	.74-.97
Health	.56-.88	.47-.94	.54-.88	.45-.93	.63-.90	.43-.92
Not Ready	.52-.85	.51-.80	.50-.81	.49-.82	.45-.84	.65-.80

Note. N = 1653 for gender and ethnicity; N = 1649 for sexual experience.

Table 4
Motivation Subscale Descriptives, Reliabilities, and Correlations with Sexual Behaviors

	Descriptives		Rel. α	Inter-Correlations					Correlations with Sexual Behaviors				
	M	SD		Enhance	Intimacy	Coping	Values	Health	Oral	Penetrative	Contraception	Condoms	Alcohol
<u>SMS-R Subscales</u>													
Enhancement	2.67	1.11	.91						.34***	.37***	.03	-.08	.22***
Intimacy	3.67	1.19	.94	.36***					.25***	.24***	.12**	-.04	-.16***
Coping	1.46	0.68	.88	.48***	.19***				.02	.04	-.09*	-.07	.08
<u>MASQ Subscale</u>													
Values	2.82	1.46	.91	-.44***	-.21***	-.14***			-.30***	-.32***	-.06	.01	-.13***
Health	4.01	1.07	.80	-.10**	.01	-.02	.22***		-.06*	-.04	.05	.02	-.06
Not Ready	3.06	1.23	.75	-.37***	-.01	-.15***	.44***	.39***	-.29***	-.28***	.01	-.02	-.20***

Note. $N = 1646-1653$ for motivations and oral and penetrative; $N = 603-606$ for contraception, condoms, and alcohol.

 $p < .001$

**
 $p < .01$.

Table 5
Logistic Regressions Predicting Sexual Behaviors from Gender, Ethnicity, and Motivations

	Oral Sex			Penetrative Sex		
	B (SE)	OR	B (SE)	OR	B (SE)	OR
<u>Step 1: Demographics</u>	$\chi^2 = 75.53^{***}$			$\chi^2 = 51.35^{***}$		
Age	.27 (.14)	1.31	.33 (.15)	1.39*	.39 (.14)	1.47**
Male Gender	-.11 (.10)	0.90	-.46 (.12)	0.63***	-.33 (.11)	0.72**
Asian Ethnicity	-1.00 (.12)	0.37***	-.96 (.14)	0.38***	-.76 (.13)	0.47***
<u>Step 2: Motivations For Sex (SMS-R)</u>	$\chi^2 = 306.79^{***}$			$\chi^2 = 329.85^{***}$		
Enhancement			.87 (.07)	2.40***	.95 (.07)	2.58***
Intimacy			.30 (.05)	1.35***	.32 (.06)	1.38***
Coping			-.59 (.09)	0.55***	-.49 (.10)	0.61***
<u>Step 3: Motivations Again Sex (MASQ)</u>	$\chi^2 = 93.70^{***}$			$\chi^2 = 122.00^{***}$		
Values			-.16 (.05)	0.85***	-.24 (.05)	0.78***
Health			.15 (.06)	1.16*	.18 (.06)	1.20***
Not Ready			-.46 (.06)	0.63***	-.50 (.06)	0.61***

Note. $N = 1643$ (oral sex) and $N = 1646$ (penetrative sex). B=unstandardized beta; SE=standard error; OR=odds ratio

 $p < .001$

**
 $p < .01$

*
 $p < .05$.

Table 6
Multiple Regressions Predicting Sexual Behaviors from Gender, Ethnicity, and Motivations

	Contraception Use			Condom Use			Alcohol Use Before Sex		
	β (SE)	β (SE)	β (SE)	β (SE)	β (SE)	β (SE)	β (SE)	β (SE)	
Step 1: Demographics									
Age	.04 (.23)	.05 (.23)	.05 (.23)	ΔR ² = .00	-.01 (.22)	-.01 (.22)	.00 (.12)	.00 (.12)	.00 (.12)
Male Gender	-.12 (.16)**	-.14 (.16)**	-.15 (.17)**	.05 (.15)	.08 (.16)	.08 (.17)	.04 (.08)	-.03 (.08)	-.07 (.09)
Asian Ethnicity	-.12 (.20)**	-.13 (.20)**	-.12 (.20)**	-.01 (.19)	.00 (.19)	.00 (.19)	-.08 (.10)	-.08 (.10)*	-.07 (.10)
Step 2: Motivations for Sex (SMS-R)									
Enhancement	.12 (.08)**	.11 (.09)*		ΔR ² = .01	-.08 (.08)	-.08 (.09)	ΔR ² = .07***	.23 (.04)***	.20 (.05)***
Intimacy	.13 (.08)**	.13 (.08)**			-.04 (.08)	-.04 (.08)	-.13 (.04)**	-.11 (.04)**	
Coping	-.11 (.11)*	-.12 (.11)**			-.05 (.11)	-.05 (.11)	.00 (.06)	-.01 (.06)	
Step 3: Motivations Against Sex (MASQ)									
Values			ΔR ² = .01	ΔR ² = .00				ΔR ² = .01	
Health			-.08 (.07)	.01 (.07)				-.03 (.04)	
			.08 (.08)	.03 (.08)				.02 (.04)	
Not Ready			-.03 (.08)	-.03 (.08)				-.11 (.04)*	

Note. $N = 598$ individuals who engaged in penetrative sex in the past 12 weeks. β =standardized beta; SE=standard error.

 $p < .001$

**
 $p < .01$

*
 $p < .05$.