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Coercive and Deceptive Predictors of Sexual Risk: The Moderating Role of Self-esteem

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Coercive and Deceptive Predictors of Sexual Risk: The Moderating Role of Self-esteem

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ABSTRACT

Risky sexual practices can lead to concerning public health issues, including sexually transmitted infections (STIs) and unintended pregnancy. Coercive or deceptive behaviors by one's partner to engage in risky practices may be one factor contributing to sexual risk. This study examined experiences of sexual risk coercion and deception, including partner sexual infidelity, coerced condom nonuse, and fear of negative partner reaction to condom request, as predictors of engagement in sexual risk behaviors, including condom use, safer sex communication, and lifetime number of sexual partners. Self-esteem was examined as a moderator. College students (N = 216) were recruited through the ETSU Sona System to complete self-report surveys via the REDCap survey platform. Using SPSS, linear regression analyses and PROCESS moderation analyses were performed. In analyses of covariance, gender, race/ethnicity, and sexual orientation made no significant contributions to the models. Partner sexual infidelity significantly predicted lifetime number of sexual partners (F(1, 210) = 11.042, p = .001, β = 3.088, SE = .929), R^2 = .050. Self-esteem was found to be a significant moderator of this relationship (F(1, 197) = 8.759, p = .0035). Fear of negative partner reaction to condom request significantly predicted lifetime number of sexual partners (F(1, 213) = 4.930, p = .027, β = 2.609, SE = 1.175), R^2 = .023. Future research should continue to examine the psychosocial determinants of sexual behaviors, as increased understanding will inform more effective sexual risk intervention to reduce HIV, other STIs, and unplanned pregnancy among college populations.

INTRODUCTION

The implications of sexual risk behaviors, including the transmission of human immunodeficiency virus (HIV), other sexually transmitted infections (STIs), and occurrences of unplanned pregnancy, present a demanding public health concern. Because college populations are at increased risk for such outcomes, research investigating sexual risk behaviors in college students remains of critical importance (Turchik & Garske, 2009). With the majority of students under the age of 25, college populations predominantly fall within the current age range most rapidly contracting HIV and STIs (Fair & Vanyur, 2011). State profiles analyzing the degree of regional implications of sexual risk behaviors focalize the importance of the present research. In 2010, 56% of all pregnancies in the state of Tennessee were reported as unplanned (Kost, 2015). In accordance with this imperative, the present study examined dimensions of prominent sexual risk behaviors in a sample of college students in East Tennessee. Sexual risk includes behaviors related to increasing individual and/or partner susceptibility to the transmission of HIV, other STIs, and unintended pregnancy (Casey et al., 2016). This study explored the potential relationships between experiences of sexual risk coercion and deception and sexual risk behaviors, examining self-esteem as a moderator.

Overview of Factors Influencing Sexual Risk

The paradigm of sexual risk behavior research has focused heavily on evaluating risk in relation to intrapersonal factors. The internal characteristics involved in sexual decision-making, including self-efficacy, outcome expectancies, self-esteem, perceived risk, and health locus of control, have been previously studied in both male and female participants (MacDonald & Matineau, 2001; Soet, Dilorio, & Dudley, 1998). Self-esteem remains an extensively researched construct in the current investigation of sexual risk, as a relationship between self-esteem and

degree of vulnerability to sexually coercive influences has been documented (McDonald & Martineau, 2002; Gullette & Lyons, 2006; Smith, Gerrard, & Gibbons, 1997). However, in recognizing that sexual intercourse is a shared experience between at least two individuals, increased understanding of the psychosocial dynamics involved within sexual interactions has become a vital objective in the promotion of safer sexual behaviors. The identification of this gap within the existing literature has led researchers to encourage further examination of cultural and relationship factors impacting practices of unprotected sex (Paterno & Jordan, 2012).

Although not extensively examined, a narrow parameter of research has begun to explore both intrapersonal and interpersonal aspects related to patterns of sexual behaviors and degree of sexual risk. Soet and colleagues (1998) sought to identify the roles of intrapersonal self-efficacy and outcome expectancies for condom use, as well as the interpersonal elements of partner attitudes and perceived reactions to condoms in relation to female participants' self-reported condom use. Ethnic differences in both sets of factors were analyzed to determine if ethnicity accounted for any differential associations within women's condom use. Results yielded support for the interpersonal factors, most notably partner attitudes, accounting for more of the variation within the female participants' condom use in comparison to intrapersonal factors (Soet et al., 1998). These findings underscored the importance of partner attitudes as predictors of condom use. The results echoed the findings of Harlow, Quina, Morokoff, Rose, and Grimley (1993) in which the interpersonal components of sexual interactions, including victimization, anticipated partner reactions, and sexual assertiveness, were identified as salient predictors of HIV risk behaviors.

Although the results of Soet and colleagues (1998) did not detect any significant ethnic trends within the effects of partner influence on condom use, the similarity across groups within

interpersonal factors was contrasted by the finding that higher self-efficacy was only a significant predictor of condom use for white women. The presence of ethnic differences within analyses of intrapersonal factors suggested that ethnicity serves as an influence on risk behaviors within sexual experiences (Soet et al., 1998). These discoveries generated a demand for further investigation of interpersonal factors through an intersectional perspective. Soet, Dudley, and Dilorio (1999) examined female participants' perceived degree of male partner dominance within intimate relationships and the outcome of engagement in safer sex behaviors. Employing a singular item to assess the distribution of power within intimate relationships, female participants were asked, "Who is (was) the most dominant partner in your relationship?" (Soet et al., 1999). From the collected survey responses, the sample was divided into three groups: women who perceived themselves as dominant, women who perceived themselves and a male partner as equally dominant, and women who perceived a male partner as dominant. The consistent finding was that the women who identified with the partner-dominant group reported exercising less influence over sexual behaviors in comparison to the two other groups. Partner dominance was associated with increased susceptibility to partner influence in sexual decision-making and decreased confidence in discussing safer sexual practices due to fear of negative partner reactions. African American women significantly reported increased confidence in communicative abilities with sexual partners and reported using condoms more consistently than the white female participants. Despite these findings, group differences in condom use behavior did not reach significance. Researchers cited the lack of established measures for the variables of dominance and condom use as limitations (Soet et al., 1999).

Consistent with these themes of research, other exploratory studies investigated the influence of power distribution within intimate relationships and how it related to sexual health

behaviors. Teitelman and colleagues (2011) surveyed a sample of African American female adolescents for experiences of unprotected sex coercion in sexual encounters. Condom coercion was operationalized as an exploratory item involving condom nonuse in vaginal sex when the female partner wanted to use a condom. Findings reflected higher rates of condom nonuse and STI histories among the female participants who endorsed the experience of condom coercion, which supported the potential for a relationship between sexual risk coercion and engagement in sexual risk behaviors (Teitelman et al., 2011).

Assessments also addressed experiences of condom negotiation silencing in which female participants responded to whether they had ever felt unable to communicate with a male partner about using a condom during sex. Analyses included the examination of such experiences in relation to intimate partner violence (IPV), as over half of the participants reported some form of abuse by a sexual partner. Both condom coercion and silencing of condom negotiation were heavily represented in the data. Approximately one-half of the adolescent girls reported condom coercion (Teitelman et al., 2011). The presence of these experiences disclosed by participants who did not report a history of IPV was important to acknowledge, as prior literature notably concentrated on examining condom coercion in relation to IPV (Abbey, Parkhill, Jacques-Tiura, & Saenz, 2009; Purdie, Abbey, & Jacques-Tiura, 2010). Although the current extent remains unknown, this study demonstrated sexual risk coercion occurs in sexual relationships absent of IPV (Teitelman et al., 2011). Researchers have accordingly encouraged examination in these populations (Silverman et al., 2011). This rationale supported the present study which evaluated experiences of sexual risk coercion without identified associations of IPV or sexual assault.

Teitelman and colleagues (2011) further explicated the construct of condom coercion with qualitative information collected in focus groups to include the categories of physical/sexual

abuse, emotional manipulation, and condom sabotage. Participants in the physical/sexual abuse category reported engaging in unprotected vaginal sex due to fear. The emotional manipulation category encompassed several coercive strategies. For example, female participants commonly reported accusations of unfaithfulness from male partners. It was also a common theme in this category for male partners to agree to be in a monogamous relationship with a female partner solely to obtain unprotected sex. Condom sabotage was defined as the covert removal of a condom by a male partner during sex (Teitelman et al., 2011).

Acknowledging the interpersonal pressures that might prohibit individuals from suggesting condom use, one-fourth of the female participants reported feeling unable to discuss using condoms with a sexual partner. This phenomenon of self-silencing was attributed to numerous reasons, including the common theme of a male expectation for unprotected sex (Teitelman et al., 2011). While open-ended measures were employed for this item, the present study used a survey item that provided a selection of reasons accounting for fear of condom negotiation. Many of the options utilized themes consistent with the work of Teitelman et al. (2011), including fear of rejection or the anticipation of condoms as an obstacle to partner pleasure and sexual satisfaction (Silverman et al., 2011).

The findings of Silverman and colleagues (2011) demonstrated that female adolescents with a history of IPV were more likely to report having experienced sexually coercive or deceptive behaviors from male intimate partners compared to female adolescents who did not report a history of IPV. Sexual risk behaviors were examined by assessing number of vaginal sexual partners within the past three months, unprotected vaginal sex within the past three months, unprotected anal sex within the past three months, and lifetime experiences of anal sex. The present study, which drew heavily from the rationale provided by the work of Silverman and

colleagues (2011), concentrated on exploring the sexual risk behaviors of lifetime number of sexual partners, safe sex communication, and condom use. Sexual intercourse was operationalized to include oral, vaginal, and anal intercourse.

Overview of Sexual Risk Deception

For the present study, sexual risk deception was operationalized to include the singular dimension of partner sexual infidelity. Assumed monogamy, which characterizes most romantic relationships, has been cited as a reason for inconsistent condom use. For example, in studies assessing the characteristics of sexual partnerships, women were found to be more willing to engage in unprotected sex with a sexual partner they perceived as committed compared to casual (Foulkes, Pettigrew, Livingston, & Niccolai, 2009). Furthermore, sexual risk deception encompasses partner sexual infidelity since sexual concurrency via cheating can expose an intimate partner to an increased risk of STI or HIV transmission (Casey et al., 2016).

Overview of Sexual Risk Coercion

To define sexual risk coercion, the construct must be distinguished from other variables, such as reproductive coercion, condom coercion, and sexual coercion. Sutherland, Fantasia, and Fontenot (2015) characterized reproductive coercion as any behavior executed by a male partner that obstructs the female partner's capacity to make independent decisions about reproduction. Such behaviors included employing fear tactics to pressure engagement in unprotected sex and birth control sabotage. In addition to potentially unwanted pregnancies, reproductive coercion was defined by an increased risk of HIV and STI transmission for women who feel unable or afraid to negotiate condom use with a sexual partner (Sutherland et al., 2015). As previously discussed, Teitelman and colleagues (2011) defined condom coercion as coerced condom nonuse in vaginal intercourse in which the female partner involved wanted to use a condom.

While both reproductive coercion and condom coercion overlapped with the construct of sexual risk coercion, both were conceptually more restricted. Reproductive coercion and condom coercion were defined by a male perpetrator/female victim framework and were limited solely to unprotected vaginal sex. For the present study, sexual risk coercion was operationalized to include behaviors that increased partner susceptibility to the transmission of HIV, other STIs, and unplanned pregnancy, as perpetrated by a sexual partner of any gender pertaining to any type of unprotected intercourse. Sexual coercion was another construct that overlapped with sexual risk coercion but remained conceptually distinct. Sexual risk coercion was interpreted as broader and more generalized compared to condom or reproductive coercion, yet more narrowly-defined than sexual coercion.

Overview of Sexual Coercion

As defined by Fair and Vanyur (2011), sexual coercion involved behaviors that compelled an unwilling partner to participate in unwanted sexual activity. The construct of sexual risk coercion was distinguished from sexual coercion by a necessary willingness to engage in sexual activity. As operationalized, sexual risk coercion pertained to exposing a sexual partner to increased sexual risk, such as striving to obtain unprotected sex, rather than obtaining sex itself. Outlined strategies of sexual coercion included verbal pressure, physical threats and force, and behaviors resulting from excessive alcohol consumption (Fair & Vanyur, 2011). The interpretation of sexual coercion from Lacasse and Mendelson (2007) included the use of authority, which referred to the power differences manifesting from the traditional gender roles involved in adolescent relationships. The suggested influences of authority in sexual coercion paralleled the research in which Soet and colleagues (1999) investigated partner dominance in relation to sexual risk behaviors.

Lacasse and Mendelson (2007) highlighted that most research concentrating on sexual coercion emphasized the role of a heterosexual male perpetrator. However, studies examining both male and female participants in the roles of victims and perpetrators of sexual coercion have yielded perceptive results relevant to the present study. Lacasse and Mendelson (2007) examined the variation in sexist attitudes and involvement in nonsexual deviant behaviors between male and female victims, perpetrators. and control participants. Although male and female participants were represented in both the victim and perpetrator groups, females disproportionately constituted the victim group, which supported prior research focalizing male-controlled sexual risk. However, significant discrepancies were found in analyses of female victims compared to female perpetrators or female control participants (Lacasse & Mendelson, 2007).

Lacasse and Mendelson (2007) found that female victims were more likely to sanction sexist attitudes, which suggested that the affirmation of traditional gender roles can impede defense against unwanted sexual advances. Male perpetrators of sexual coercion were found to be more likely to advocate sexist attitudes compared to male victims or controls. Considering these results, researchers speculated that sexist attitudes may contribute to the justification of sexually coercive behaviors. The group that consisted of both male and female victims was associated with the greatest degree of drug and alcohol use. Additionally, both male and female perpetrators reported more drug and alcohol use compared to the control participants. The results indicated gender differences in the patterns of sexually-coercive experiences and in the attributes characterizing male and female victims and perpetrators (Lacasse & Mendelson, 2007). These findings underscored the importance of investigating victim characteristics to better understand factors that may preserve the toleration of sexually coercive behaviors.

Khan, Brewer, Kim, and Centifanti (2017) investigated gender differences influencing the specific tactics of sexual coercion that males and females utilize. Sexual behaviors were examined in connection with borderline and psychopathy personality traits. Results supported the hypothesized relationship of sex-differentiation in the association between the use of sexual coercion, Borderline Personality Disorder (BPD), and primary traits of psychopathy. In the female participant sample, primary psychopathy traits, including deceitfulness and manipulativeness, were correlated with perpetrating patterns of non-violent sexually coercive strategies. Conversely, a relationship between BPD and increased sexually coercive behaviors was identified within the male participant sample (Khan et al., 2017). These gender-differential traits associated with sexual coercion underscored the gap in existing literature pertaining to sexual risk coercion. Unidentified trends of certain intrapersonal characteristics and mental disorders may also be prevalent among individuals who perpetuate coercive or deceptive forms of sexual risk.

Additional studies expanded upon current research reflecting males and females in roles of victims and perpetrators by developing an understanding of the implications of sexual coercion. Despite the limitation of low response rates from male participants, the work of Fair and Vanyur (2011) demonstrated that both male and female participants reported experiences of sexual coercion victimization. However, significantly more male participants reported coercing intimate partners to engage in unwanted sexual activity compared to females. Findings suggested a negative relationship between experiences of sexual coercion victimization and condom use. Victims of sexual coercion accordingly reported higher condom use inconsistency, which indicated increased sexual risk. This rationale was especially pertinent to the present study as sexual risk behaviors were analyzed in relation to experiences of sexual risk coercion and

deception. In contrast to physical force and threats used to obtain sex, the majority of participants reporting sexually coercive victimization experienced less severe forms of coercion, such as verbal tactics (Fair & Vanyur, 2011). Items included within the present study assessed experiences of sexual risk coercion to evaluate for verbal pressure to engage in unprotected sexual activity, in addition to physical force and threats.

The perspective of a heterosexual male perpetrator has defined most of the research examining sexual risk coercion. This investigations have predominantly included assessments of intentions and strategies to obtain unprotected sex. As previously discussed, Silverman and colleagues (2011) investigated coercive forms of sexual risk experienced by female adolescents to increase understanding of the association between IPV and sexual risk. Within this sample, approximately one in five female adolescents reported being coerced into engaging in sex without a condom, which indicated that sexual risk coercion victimization is prevalent among female adolescents (Silverman et al., 2011). The work of Davis and Logan-Greene (2012) also operated within a similar framework by examining the coercive strategies of male perpetrators. Utilizing the confluence model to conceptualize the manifesting pathways of sexual aggression, researchers hypothesized that male participants' attitudes towards women and impersonal sex, as well as the interactional effects of these factors, would predict aggression and coercive strategies of condom avoidance. The variable of impersonal sex included several factors, such as number of sexual partners, attitudes toward casual sex, frequency of masturbation, and pornography use. High hostile masculinity and frequent impersonal sex were hypothesized to predict increased use of aggression and coercion to achieve condom avoidance (Davis & Logan-Greene, 2012). Results indicated over one-third of participants reported using coercive or aggressive behaviors to obtain unprotected sex on numerous occasions. These tactics included pressuring, threatening,

or shaming female partners to engage in sex without a condom. All predictive relationships were significant, which supported the hypothesized associations between negative attitudes towards women, impersonal sex, and endorsing aggressive and coercive tactics in sexual encounters to avoid condom use (Davis & Logan-Greene, 2012). Although the existing paradigm has predominantly identified trends of heterosexual male-controlled condom avoidance, the present study expanded inclusion criteria to include college students of diverse genders and sexual orientations to explore other potential patterns of sexual risk coercion or deception occurring in college populations.

Overview of Self-Esteem Influencing Sexual Risk

Lacasse and Mendelson (2007) emphasized the importance of investigating victim characteristics and the influence of increased vulnerability to sexually coercive behaviors. Davis and Logan-Greene (2012) reiterated the relevance of assessing victim perceptions of coercive sexual risk experiences. The present study adopted these perspectives to explore the role of self-esteem within victim experiences of sexual risk coercion and deception and the relationship to sexual risk.

Previous literature has suggested a relationship between self-esteem and health behaviors, indicating a positive correlation between self-esteem, value of health, and frequency of health behavior engagement (Torres, Fernández, & Maceira, 1995). Expanding upon this association, MacDonald and Martineau (2002) investigated the potential effects of mood on the relationship between self-esteem and intentions to engage in sex without a condom. Female undergraduate participants were divided into low and high self-esteem groups based on Rosenberg Self-Esteem Scale scores. Subsequently, a positive or negative mood induction procedure was conducted on participants from both groups, and a video vignette was used to evaluate participants' intentions

to engage in unprotected sex. Researchers hypothesized that the low self-esteem group's intentions were more likely to be affected by an induced negative mood state. Alternatively, the high self-esteem group's intentions were hypothesized to retain consistency regardless of induced mood. Results supported these hypotheses, which indicated more favorable intentions to engage in unprotected sex among participants with the negative mood state in the low self-esteem group. Relevant to the present study, MacDonald and Martineau (2002) suggested that this occurrence was likely due to the low self-esteem group's willingness to risk personal health to avoid potential interpersonal rejection. For example, individuals may comply with partner wishes to engage in unprotected sex even if they would prefer to use a condom (MacDonald & Martineau, 2002). This scenario reflects the context of the present study and its evaluation of experiences of sexual risk coercion.

Furthermore, the relationship between self-esteem and sexual risk has been examined in conjunction with other factors, such as sexual sensation seeking and self-efficacy. To investigate factors motivating sexual risk behaviors in college populations, Gullette and Lyons (2006) conducted a survey to explore the relationships between sensation-seeking, self-efficacy, self-esteem, alcohol use, and condom nonuse. Less than half of the sample reported using a condom every time they engaged in intercourse with a partner, which encouraged further research on the motivational factors of sexual risk behaviors. Findings indicated that higher self-esteem may act as a protective factor for engagement in risky sexual behaviors. Participants who reported high self-esteem also reported higher condom self-efficacy and lower sexual sensation seeking. Overall, male participants reported higher scores of sexual sensation seeking compared to females (Gullette & Lyons, 2006). These results were consistent with literature emphasizing the role of a sexually coercive male perpetrator (Lacasse & Mendelson, 2007).

In addition to the relationship between self-esteem and condom use, Robinson, Holmbeck, and Paikoff (2007) examined motivational factors influencing engagement in sex and number of sexual partners in a sample of African American adolescents. Gender differences were also analyzed in relation to sexual risk behaviors. African American males were hypothesized to have greater numbers of sexual partners, and African American females were predicted to use condoms less consistently. Gender was predicted to moderate the relationship between self-esteem enhancing reasons for having sex and risky sexual behaviors (Robinson et al., 2007). Gillmore, Butler, Lohr, and Gilchrist (1992) identified higher self-esteem as a potential protective factor for female adolescents in the ability to resist external pressures to engage in risky sex. Sexual risk behaviors, including age of sexual debut, condom use consistency, number of sexual partners, were assessed. Results supported the gender-differential hypotheses, which indicated that sexual risk can manifest through alternate pathways for male and female adolescents (Gillmore et al., 1992).

Through the utilization of a longitudinal design, Boden and Horwood (2006) investigated adolescent self-esteem as a predictor of sexual risk later in life. Although individuals who reported lower self-esteem at age 15 also reported increased engagement in risky sexual behaviors at age 25, these results did not maintain significance following statistical adjustments for confounding variables. This suggested the various psychosocial conditions encompassing the development of self-esteem, such as family functioning or adverse childhood experiences, accounted for some degree of the association between adolescent self-esteem and later sexual risk (Boden & Horwood, 2006). Self-esteem has also been examined as a potential influence on estimations of sexual health vulnerability, including the perceived likelihood of personally experiencing an unplanned pregnancy. In an experimental manipulation utilizing a sample of

female undergraduate students, Smith, Gerrard, and Gibbons (1997) found female participants with lower self-esteem reported increased estimations of personal vulnerability to unplanned pregnancy compared to higher self-esteem female participants. These findings supported prior literature suggesting the role of self-enhancing biases in high self-esteem individuals' maintenance of positive outcome expectancies (Smith et al., 1997).

The Present Study

The present study contributed to the existing literature in three ways. First, the present study expanded the limited scope of research that has investigated victim experiences of sexual risk coercion and deception. Second, the present study examined how the victim characteristic of self-esteem could influence the relationship between these experiences and sexual risk. Third, the present study broadened the heteronormative female victim/male perpetrator perspective by including male, female, and non-binary-identifying participants within the sample.

This study investigated two main hypotheses:

H1: Experiences of sexual risk coercion, including coerced condom nonuse and fear of negative partner reaction to condom request, and experiences of sexual risk deception, including partner sexual infidelity, will predict engagement in risky sexual behaviors, operationalized as condom use consistency, safer sex communication, and lifetime number of sexual partners.

H2: Self-esteem will moderate the relationship between experiences of sexual risk coercion and/or deception and risky sexual behaviors (see Figure 1).

METHOD

Participants

The sample (N = 216) was comprised of college students attending East Tennessee State University who had created a Sona Systems account. Within the sample, 150 participants

identified as female (69.4%), 63 as male (29.2%), and 3 as gender non-binary (1.4%). The mean age was 21.48 (*SD* = 4.55). Of reported race or ethnicity, the sample (*n* = 215) was predominantly White, with 169 participants identifying as White (78.2%), 30 identifying as Black/African American (13.9%), and the remaining 16 participants (7.6%) identifying as another race or ethnicity. For sexual orientation, 186 participants identified as heterosexual (86.1%), and 30 participants identified with a non-heterosexual orientation (13.9%).

Procedure

In this Institutional Review Board-approved study, an online survey created using the REDCap secure survey platform served as the method of data collection. The online survey was advertised on the Sona Systems website, which directed students to the REDCap platform. All participants provided electronic informed consent and were at least 18 years of age prior to accessing the survey. Through the Sona Systems website, participants were granted 0.5 Sona credits as compensation for completion of the survey.

Measures

In addition to the measures listed below, participants completed a demographic questionnaire assessing age, year in college, gender identity, sexual orientation, race/ethnicity, and current relationship status.

Safer Sex Behavior Questionnaire (SSBQ). Condom use consistency and communication of safer sex practices were assessed using two of the subscales from the Safer Sex Behavior Questionnaire (SSBQ), in which items were rated on a Likert scale ranging from 1 (“never”) to 4 (“always”). In developing the original 27-item instrument, Dilorio, Parsons, Lehr, Adame, and Carlone (1992) reported the psychometric properties of the SSBQ. The full measure was constructed to assess four dimensions, including protection during intercourse, avoidance of

risky sex, avoidance of bodily fluids, and interpersonal skills to elicit history and negotiate the use of safe sex practices. The reported content validity index for the full measure was 98%. The SSBQ demonstrated high reliability ($\alpha = 0.82$) when initially computed for the total score of the measure's sum of items. Further studies reflected relatively high reliability for sums of salient items for both male ($\alpha = 0.52$-0.84) and female samples ($\alpha = 0.52$-0.85). The discussed psychometric evaluations for the SSBQ were conducted using college-aged participants (Dilorio et al., 1992). For purposes of this study, the condom use and discussion of safer sex subscales were utilized.

The condom use subscale included 5 items with total scores ranging from 5 to 20, with higher scores indicating greater frequency of condom use (Diolorio et al., 1992). This subscale included four positively-worded items and one negatively-worded item. The negatively-worded item was reverse coded prior to analyses. The discussion of safer sex subscale included 7 items with total scores ranging from 7 to 28, with higher scores indicating greater frequency of discussing safe sex with sexual partners (Dilorio et al., 1992). This subscale included six positively-worded items and one negatively-worded item. The negatively-worded item was reverse coded prior to analyses. Soet and colleagues (1999) reported acceptable coefficients of reliability for both the subscales of condom use and discussion of safer sex with a Cronbach's alpha of .78 for condom use and .76 for discussion of safer sex. For the present study, a Cronbach's alpha of .78 was calculated for the discussion of safer sex subscale., and a Cronbach's alpha of .79 was calculated for the condom use subscale.

The Rosenberg Self-Esteem Scale (RSES). Self-esteem was measured using the Rosenberg Self-Esteem Scale (RSES), a 10-item instrument developed by Rosenberg (1965) to assess perceived self-worth. Items were rated on a Likert scale ranging from 1 ("strongly agree")

to 4 (“strongly disagree”), with five positively-worded items and five negatively-worded items. Ranging from 10 to 40, higher total scores indicated higher levels of self-esteem. Negatively-worded items were reverse coded for analyses. Sinclair and colleagues (2010) provided a thorough evaluation of the psychometric properties of the RSES for a large and diverse sample of U.S. participants, with item-convergent validity within an acceptable range (r = .57-.79). Internal consistency reliability (α = .91) for the overall sample also met recommended levels. Within the current study’s utilization, Cronbach’s alpha of the RSES was .91. The psychometric qualities of the RSES have been broadly evaluated, supporting the structure of the measure as a valid and reliable instrument. Accordingly, the RSES remains one of the most extensively-used current measures of self-esteem (Sinclair et al., 2010).

Number of Partners as a Measure of Potential Sexual Risk. A single item was used to assess lifetime number of sexual partners. Participants were asked to indicate how many sexual partners they have engaged in oral, anal, and/or vaginal intercourse with over the lifetime. Response options ranged from 0 to “greater than 50.” Given the nature of the proposed study, data from participants who reported having zero sexual partners were excluded from further analyses. Dodd and Littleton (2017) utilized a similar item to assess number of sexual partners within the past year as a potential indicator of sexual risk.

Exploratory Items Assessing Sexual Risk Coercion and Deception. Silverman and colleagues (2011) developed a series of exploratory items to measure coercive and deceptive forms of sexual risk experienced by heterosexual female adolescents. Within the original utilization of these items, questions were designed to assess coercive and deceptive sexual risk behaviors perpetrated by a male partner. Given that the present study explored broad experiences of coercive and deceptive sexual risk behaviors in a more inclusive sample, these items were

modified to reference a gender-neutral sexual partner rather than specifically a male partner. The items developed by Silverman and colleagues (2011) included questions pertaining to sexual infidelity, coerced condom nonuse, fear of condom request, and experiences of forced anal sex. The original item assessing experiences of forced anal sex was excluded from the present study. Although forced anal sex is certainly a partner-controlled form of sexual risk, these experiences were excluded given the current study's focus on coercive or deceptive partner behaviors. For the present study, participants were asked a single dichotomous item assessing sexual infidelity which stated, "Did someone you were dating or going out with ever cheat on you by having sex with someone else when they were supposed to be only having sex with you?". Participants were asked a single dichotomous item assessing coerced condom nonuse which stated, "Has a sexual partner ever made you have sex without a condom even though you wanted to use one?". For fear of negative partner reaction to condom request, participants were asked if they had ever been afraid to ask a partner to use a condom due to any of the nine provided reasons: "They might have sex with other people"; "They might leave you"; "They might accuse you of cheating"; "They might say you were accusing him of cheating"; "They might physically hurt you"; "They might make you have sex or do something sexual you didn't want to"; "They might do something else sexually to hurt you."; "They might make fun of you or put you down."; or "It might reduce your partner's sexual pleasure." The statement, "I have never been afraid to ask a partner to use a condom" was also provided as a response option.

The list of nine reasons for this item combined all seven reasons from the original item of Silverman and colleagues (2011) with two additional reasons created for the use of the present study, which included "They might make fun of you or put you down." and "It might reduce your partner's sexual pleasure.". The findings of Davis and Logan-Greene (2012) supported the

inclusion of fear of condom request due to the concern of reducing partner sexual pleasure. Male attitudes of viewing condoms as obstacles to sexual satisfaction have been identified as predictors of inconsistent condom use and sexual risk (Davis & Logan-Greene, 2012). However, studies have also indicated that condoms can reduce females' perceptions of their own sexual arousal and enjoyment (Paterno & Jordan, 2011). Although consistent with the developing literature of sexual risk, the utilized items were not derived from an established measure, and evidence of psychometric properties remains unclear.

RESULTS

The Statistical Package for the Social Sciences (SPSS) Version 24 served as the platform for conducting all statistical analyses. Experiences of partner sexual infidelity, coerced condom nonuse, and fear of negative partner reactions to condom request were relatively common in this sample (see Table 1). Of reported responses (n = 213), 92 participants (43.2%) reported having experienced partner sexual infidelity, answering "yes" to the question, "Did someone you were dating or going out with ever cheat on you by having sex with someone else when they were supposed to be only having sex with you?". Of reported responses for coerced condom nonuse (n = 211), 48 participants (22.7%) answered "yes" to the question, "Has a sexual partner ever made you have sex without a condom even though you wanted to use one?". Within the sample (n = 216), 41 participants (19.0%) reported having experienced fear in asking a partner to use a condom for at least one of the nine provided reasons. The most common response (n = 41) was "It might reduce your partner's sexual pleasure." The second most common response (n = 32) was "They might make fun of you or put you down."

Multiple chi-square tests of independence were performed to determine if there were significant associations between gender (male/female) and any of the three coercive or deceptive

predictor variables. Data from gender non-binary identifying individuals (*n*=3) were excluded from the chi-square analyses due to small sample size. The chi-square results indicated no significant associations between gender and partner sexual infidelity, coerced condom nonuse, or fear of condom request (see Tables 6-8). Considering the lack of psychometric evidence of the three predictor variables, chi-square tests of independence were conducted to assess potential associations between the items (see Tables 9-11). Chi-square results indicated a statistically significant association between partner sexual infidelity and coerced condom nonuse, χ^2 (1, N = 210) = 6.91, p = 0.009; the association between coerced condom nonuse and fear of condom request was also found to be statistically significant, χ^2 (1, N = 211) = 23.47, $p < 0.001$.

Descriptive statistics were calculated for the three outcome variables and the moderating variable (see Table 2). Of reported responses (n = 215), lifetime number of sexual partners (M = 5.99, SD = 6.83) ranged from 1 to greater than 50. Participants who reported greater than 50 lifetime sexual partners were collapsed into a "greater than 50" category, coded for analyses as 51, in order to reduce the effects of outliers on the analyses. Total scores on the condom use subscale of the Safer Sex Behavior Questionnaire (n = 198) were calculated (M = 13.17, SD = 3.97). The minimum response total was 5, and the maximum was 20, which reflected the total possible score range of the subscale. Total scores on the discussion of safer sex subscale of the Safer Sex Behavior Questionnaire (n = 206) were calculated (M = 19.89, SD = 4.92). With a total possible score range of 7 to 28, the minimum reported total for this subscale was 9, and the maximum was 28. Total scores were calculated for the Rosenberg Self-Esteem Scale (n = 203), which indicated a moderately high average score for the sample (M = 29.91, SD = 5.87). With a total possible score range of 10 to 40, the minimum reported total score for the Rosenberg Self-Esteem Scale was 14, and the maximum was 40.

Simple linear regressions were performed to examine the relationships between the three predictor variables of partner sexual infidelity, coerced condom nonuse, and fear of negative partner reaction to condom request and the three criterion variables of sexual risk, including condom use consistency, discussion of safer sex with one's partner(s), and number of lifetime sexual partners (see Tables 3-5). Of the nine simple linear regression analyses calculated, two reached statistical significance ($p<.05$): the relationship between partner sexual infidelity and lifetime number of sexual partners; and the relationship between fear of partner reaction to condom request and lifetime number of sexual partners. In accordance with the methodology of Hayes (2017), simple moderation models were utilized for the moderation analyses of the two significant linear regressions. PROCESS moderation analyses were performed to determine if significance was retained following the inclusion of self-esteem as a moderation. Partner sexual infidelity significantly predicted lifetime number of sexual partners, ($F(1, 210) = 11.042$, $p = .001$, $\beta = 3.088$, $SE = .929$). However, partner sexual infidelity only explained a small proportion of the variance in lifetime number of sexual partners, $R^2 = .050$. Self-esteem was a significant moderator between partner sexual infidelity and lifetime number of sexual partners, ($F(1, 197) = 8.759$, $p = .0035$).

Fear of negative partner reaction to condom request significantly predicted lifetime number of sexual partners, ($F(1, 213) = 4.930$, $p = .027$, $\beta = 2.609$, $SE = 1.175$). Fear of negative partner reaction to condom request only explained a small proportion of the variance in lifetime number of sexual partners, $R^2 = .023$. Self-esteem was not a significant moderator of the relationship between fear of negative partner reaction to condom request and lifetime number of sexual partners. For all linear regressions, the demographic variables of gender identity (male, female), sexual orientation (heterosexual, non-heterosexual), and race/ ethnicity (White,

Black/African American, and other race/ethnicity category) were included in analyses of covariance. The demographic variable of non-binary gender identity (n = 3) was excluded from analyses of covariance due to a small sample size. Controlling for these variables did not provide substantial contributions to the models for any of the examined relationships.

DISCUSSION

Reported experiences of sexual risk coercion and deception were examined as predictors of risky sexual behaviors. Results indicated a significant predictive relationship between partner sexual infidelity and lifetime number of sexual partners. Results also indicated a significant predictive relationship between fear of negative partner reaction to condom request and lifetime number of sexual partners. Prior studies investigating partner-related sexual risk have focused on coercive and deceptive behaviors in relation to condom use and safer sex discussion. The present study's inclusion of lifetime number of sexual partners as an indicator of sexual risk was novel within this context. For example, although a previous study by Harlow, Quina, Morokoff, Grimley, and Rose (1992) identified anticipated negative partner reaction to condom request as a significant predictor of condom nonuse and choosing risky partners, lifetime number of sexual partners was not included as an outcome of sexual risk.

Interpreting number of sexual partners as indicative of sexual risk merited consideration due to the identified significant associations between number of sexual partners and risk-taking in casual sexual relationships (Seal, Minichiello, & Omodei, 1997). Considering a substantial percentage of students comprising college populations have reported multiple sex partners, these findings highlighted the need to expand current understanding of factors involved with number of sexual partners (Turchik & Garske, 2009). Results suggest that sexual assertiveness and self-efficacy may play a role in the relationship between fear of negative partner reaction to condom

request and number of sexual partners. Soet and colleagues (1999) identified significant differences, including a compromised ability to refuse sex, for women who viewed a male partner as dominant compared to women who viewed themselves as equal or dominant to a male partner. Perceived partner dominance may foster fear of negative partner reaction to condom request, which may compromise sexual assertiveness and self-efficacy. Compromised sexual assertiveness and self-efficacy could, in turn, contribute to higher numbers of sexual partners if individuals are unable to effectively refuse sex.

Self-esteem was examined as a moderator of the significant linear regressions. The predictive relationship between partner sexual infidelity and lifetime number of sexual partners retained significance with self-esteem as a moderator. In this model, low self-esteem may act to exacerbate the negative emotional effects of experiencing partner sexual infidelity. Subsequently, these effects may manifest into increased sexual engagement with multiple partners. This hypothesis was consistent with the findings of Robinson and colleagues (2007) which identified significant associations between the endorsement of self-esteem enhancing motivations for sexual activity and number of sexual partners, specifically for African American males. These self-esteem enhancing motivations included having sex to make oneself feel better, to make oneself feel proud, to escape loneliness, and to feel more physically attractive (Robinson et al., 2007).

Although many of the hypothesized relationships did not yield statistical significance, the prevalence of reported experiences of sexual risk coercion or deception demonstrates the importance of researching interpersonal factors involved in sexual activity. The prevalence of this phenomena was concerning, with over 40% of total participants reporting having experienced partner sexual infidelity, over 20% reporting having experienced coerced condom

nonuse, and almost 20% reporting having experienced fear of condom request. These results may be particularly striking in the context of a mixed gender sample, given previous literature's over-reliance on exclusively female samples. Results of this study suggest that coercive and deceptive forms of sexual risk are not factors that exclusively affect women. Although heterosexual men can exert more autonomy in condom use, men's experiences with these factors should still be considered in future research. The most commonly reported reason for fear of negative partner reaction to condom request was fear of reducing partner sexual pleasure. This reason was not included within the original utilization of the exploratory items developed by Silverman and colleagues (2011). This finding suggests that concern for partner satisfaction may be a more substantial barrier to safer sexual behaviors than previously anticipated.

Because all three of these factors represented inherently adverse interpersonal experiences, these factors may consequently be related to negative intrapersonal affect harmful to mental health. Furthermore, other unidentified sexual health implications associated with these factors may also persist. Further research should be conducted to develop intervention efforts aimed at addressing the intra- and interpersonal experiences involved with sexual risk to ameliorate potential physical and psychological effects.

Limitations

This study included several limitations. The utilization of self-report data presented three inherent disadvantages. First, although the survey was online and anonymous, participants may have been embarrassed to report information regarding details of sexual history accurately. Previous literature has demonstrated that for sensitive topics, such as engagement in risky sexual practices, social desirability biases likely result in the underreporting of these behaviors (Davis & Logan-Greene, 2012). Second, the self-report data was subject to the influence of participant

mood at the time of taking the survey. For example, research has shown that individuals with lower self-esteem are more likely to evaluate themselves more negatively when in a negative mood state (Brown & Mankowski, 1993). Third, considering the sample was comprised entirely of college students, sampling bias was a notable concern. More specifically, the sample was limited by self-selection bias due to the voluntary nature of the study.

Two main limitations for statistical analyses were also present for the study. First, the participant pool was not reflective of a truly representative sample. Because the sample was predominantly female (69.4%), White (78.2%), and heterosexual (86.1%), analyses of covariance for the demographic variables of gender identity, race/ethnicity, and sexual orientation were limited due to the lack of diversity. Second, a "decline to answer" option was provided for all items, which limited the data's potential for statistical power due to incomplete data sets.

The present study also has psychometric limitations. Single, exploratory items from the work of Silverman and colleagues (2011) were utilized to evaluate the coercive and deceptive sexual risk predictor variables. As opposed to the known attributes of a thoroughly vetted measure, the unclear psychometric properties of these singular items presented a major limitation. Future research should aim to validate an instrument to more dependably measure experiences of sexual risk coercion and deception. Lastly, substance use has been extensively studied in association with sexual risk behaviors, particularly among adolescent populations (Ritchwood, Ford, DeCoster, Sutton, & Lochman, 2015). Although not examined, substance use might have been a variable of interest associated with the outcome variables in the present research. Future studies should consider including substance use as a moderator when investigating similar relationships.

Implications and Conclusion

The current findings contributed to the research of Silverman and colleagues (2011) by similarly evaluating the prevalence of coercive and deceptive forms of sexual risk. This study expanded the prior rationale by examining coercive and deceptive sexual risk experiences as predictors of sexual risk behaviors. As previously discussed, future research should involve larger and more diverse samples to produce a more inclusive understanding of the relationship between sexual risk coercion and deception and sexual risk behaviors. The investigation of more diverse research samples would allow for a more perceptive detection of potential gender, race/ethnicity, and sexual orientation differences within analyses of covariance. Future research would also benefit from the validation of a measure assessing sexual risk coercion and deception. An accessible and reliable instrument measuring coercive and deceptive forms of sexual risk would improve the psychometric understanding of future studies evaluating these constructs.

Sexual health-related care and clinical intervention should become more sensitive and informed of the interpersonal factors involved in sexual decision making. Increasing clinical responsiveness to sexual risk coercion and deception is especially relevant for women who have male sexual partners, considering the required reliance on male partner compliance to consistently use male condoms. Promoting education and awareness of alternative options of birth control, such as oral contraceptives, and methods for HIV and STI prevention, such as female condoms, would help to increase women’s autonomy in sexual health behaviors. Furthermore, the development of sexual assertiveness and interpersonal communication skills training should be increasingly integrated within the current framework of sexual risk prevention.

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Table 1

Frequencies of partner sexual risk coercion and deception

Coercive and deceptive variables		***N***	***n***	***%***
Partner sexual infidelity				
	Female	150	70	46.7
	Male	60	20	33.3
	Total	213	92	43.2
Coerced condom nonuse				
	Female	147	33	22.4
	Male	61	13	21.3
	Total	211	48	22.7
Fear of condom request				
	Female	150	33	22.0
	Male	63	8	12.7
	Total	216	41	19.0

Note: *N* = number of participants who provided responses for each variable, according to gender; gender non-binary participants (*n*=3) included in total

Table 2

Descriptive statistics of study variables

Variables	***N***	***Min***	***Max***	***M***	***SD***
Self-esteem	203	14	40	29.91	5.87
Lifetime number of sexual partners	215	1	51	5.99	6.83
Condom use	198	5	20	13.17	3.97
Safer sex communication	206	9	28	19.89	4.92

Note: *N* = number of participants who provided responses for each variable

Table 3

Linear regression results for partner sexual infidelity

	Dependent variable:		
	Number of sexual partners	Condom use	Safer sex communication
Partner sexual infidelity	3.088***	2.168	1.463
	(0.929)	(1.960)	(1.098)
Constant	4.683***	14.123	19.702
	(0.612)	(1.285)	(0.731)
Observations	212	200	205
R^2	0.05	0.006	0.009
Adjusted R^2	0.045	0.001	0.004
Residual Std. Error	6.70(*df* = 210)	13.72(*df* = 198)	7.80(*df* = 203)
F Statistic	11.042*** (*df* = 1; 210)	1.224(*df* =1; 198)	1.776(*df* = 1; 203)

Note: **p<0.1; **p<0.05; ***p<0.01*

Table 4

Linear regression results for coerced condom nonuse

	Dependent variable:		
	Number of sexual partners	Condom use	Safer sex communication
Coerced condom nonuse	1.793	0.226	-1.601
	(1.129)	(2.330)	(1.303)
Constant	5.623	14.974	20.707
	(0.540)	(1.105)	(0.625)
Observations	210	200	204
R^2	0.012	0.000	0.007
Adjusted R^2	0.007	-0.005	0.003
Residual Std. Error	6.872(*df* = 208)	13.76(*df* = 198)	7.83(df = 202)
F Statistic	2.522(*df* = 1; 208)	0.009(*df* = 1; 198)	1.509(*df* = 1; 202)

*Note:*p<0.1; **p<0.05; ***p<0.01*

Table 5

Linear regression results for fear of condom request

	Dependent variable:		
	Number of sexual partners	Condom use	Safer sex communication
Fear of condom request	2.609**	-0.311	-2.187
	(1.175)	(2.419)	(1.367)
Constant	5.489***	15.086	20.737
	(0.513)	(1.076)	(0.601)
Observations	215	202	207
R^2	0.023	0.000	0.012
Adjusted R^2	0.018	-0.005	0.008
Residual Std. Error	6.769(*df* = 213)	13.69(*df* = 200)	7.76(*df* =205)
F Statistic	4.930**(*df* = 1; 213)	0.017(*df* = 1; 200)	2.557(*df* = 1; 205)

*Note:*p<0.1; **p<0.05; ***p<0.01*

Table 6

Results of chi-square test for partner sexual infidelity by gender

		Partner sexual infidelity	
Gender	*n*	Yes	No
Female	150	70	80
Male	60	20	40

Note: $\chi^2 = 3.11$, $df = 1$; $p > .05$

Table 7

Results of chi-square test for coerced condom nonuse by gender

		Coerced condom nonuse	
Gender	*n*	Yes	No
Female	147	33	114
Male	61	13	48

Note: $\chi^2 = 0.03$, $df = 1$; $p > .05$

Table 8

Results of chi-square test for fear of condom request by gender

		Fear of condom request	
Gender	*n*	Yes	No
Female	150	33	117
Male	63	8	55

Note: $\chi^2 = 2.47$, $df = 1$; $p > .05$

Table 9

Results of chi-square test for partner sexual infidelity and coerced condom nonuse

	Coerced condom nonuse	
Partner sexual infidelity	Yes	No
Yes	28	62
No	19	101

Note: $\chi^2 = 6.91$*, *df* = 1; **p* < .01

Table 10

Results of chi-square test for partner sexual infidelity and fear of condom request

	Fear of condom request	
Partner sexual infidelity	Yes	No
Yes	102	70
No	19	22

Note: $\chi^2 = 2.27$, $df = 1$; $p > .05$

Table 11

Results of chi-square test for coerced condom nonuse and fear of condom request

	Fear of condom request	
Coerced condom nonuse	Yes	No
Yes	21	27
No	20	143

Note: $\chi^2 = 23.47^*$, $df = 1$; $^*p < .001$

Figure 1. Proposed moderated model.