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Patterns Of Intimate Partner Violence And Sexual Risk Behavior Among Young Heterosexually Active Men

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Abstract

Intimate partner violence (IPV) victimization is linked to sexual risk exposure among women, however, less is known about the intersection of IPV perpetration and sexual risk behavior among men. This study used data from a diverse, community sample of 334 heterosexually active young men, aged 18 to 25, across the U.S. to examine whether and how men with distinct IPV-related behavior patterns differed in sexual risk-related behavior and attitudes. Participants were recruited and surveyed online, and grouped conceptually based on the types of IPV perpetration behavior(s) used in a current or recent romantic relationship. Groups were then compared on relevant sexual risk variables. Men reporting both physical abuse and sexual coercion against intimate partners reported significantly higher numbers of lifetime partners, higher rates of nonmonogamy, and greater endorsement of nonmonogamy relative to non-abusive men or those reporting controlling behavior only. This group also had higher STI exposure and less frequent condom use relative to men who use controlling behavior only. Findings suggest that interventions with men who use physical and sexual violence need to account for not only the physical and psychological harm of this behavior, but also the sexual risk to which men may expose their partners.

Patterns of intimate partner violence and sexual risk behavior among young heterosexually
active men

Significant research has documented links between intimate partner violence (IPV) and risk factors related to the transmission of HIV and other sexually transmitted infections (STIs). The bulk of this extant literature has focused on the association between exposure to partner violence and STI risk among female victims. For example, relative to women who have not experienced abuse, women with a history of IPV victimization report increased rates of STI diagnoses (Coker, Sanderson & Dong, 2004), less consistent condom use (see for review, Coker, 2007), and greater nonmonogamy by their partners (Raj, Silverman & Amaro, 2004). Less is known about sexual risk factors among men who use abusive behaviors in their intimate relationships, however, particularly beyond men sampled from high-risk or clinical populations.

Three factors suggest the urgency of better understanding the nature of the IPV perpetration-sex risk link specifically among heterosexual men in the broader community. First, IPV remains a prevalent problem in the U.S., and although both men and women experience IPV and can be perpetrators of this behavior, research suggests that the harmful impact of IPV within heterosexual couples accrues disproportionately to women (Black et al., 2011). Second, heterosexual activity remains the primary vector of HIV transmission to women (CDC, 2007), and IPV appears to place women at particular risk for STI exposure (see for review, Coker, 2007). Finally, scholars have begun to note the lack of research on the HIV/STI prevention needs specifically of heterosexual men (e.g. Higgins, Hoffman & Dworkin, 2010). Given the role of IPV perpetration as a correlate or potential mechanism of sexual risk, deepening our understanding of this link holds promise for enhancing sexual health prevention and intervention both for heterosexual men who use violence, and for their female partners.

Prevalence of IPV: Physical Abuse, Sexual Abuse and Controlling Behavior

IPV has generally been conceptualized as inclusive of both physical and sexual aggression, as well as of domineering, monitoring, and/or psychologically abusive behaviors

that collectively have the impact of intimidating or controlling an intimate partner (Black et al., 2011). A recent national study of over 15,000 U.S. residents found that the lifetime prevalence of experiencing physical abuse, rape, or stalking by an intimate partner was 36% for women and nearly 29% for men (Black et al., 2011). Of people reporting IPV victimization in this study, women were twice as likely as men to experience severe physical violence and three times more likely to report significant emotional, physical, or job-related impacts as a result of the abuse. Estimates of male perpetration of IPV are largely confined to clinical or geographically-specific samples. Rates of past-year physical violence perpetration by men range from 41% in a sample of urban health clinic patients (Santana et al., 2006) to 32% in a sample of active duty military soldiers (Rosen et al., 2002). A recent study of college-enrolled men found that approximately 30% reported using physical violence with an intimate partner since the age of 14 (Edwards, Dixon, Gidycz & Desai, 2013). Finally, among women who report experiencing physical abuse, over 20% also report that their partners are sexually abusive (Black et al., 2011).

Attention specifically to the use of controlling and monitoring behavior among men is more recent, and estimates of rates of these behaviors are rare. Controlling behaviors may accompany or be reinforced by physical violence, and are typically operationalized as, among other things, dictating what partners do, who they see and what they wear, maintaining control over financial decisions, and using jealousy as an excuse to constrain a partner's behavior (Kelly & Johnson, 2008). These behaviors are sometimes termed "coercive control," (e.g. Kelly & Johnson, 2008; Stark, 2007) to indicate the collective and simultaneous dominating impact of physical, sexual and verbal / control abuse tactics. In this paper, however, we use the broader term "controlling behaviors," to leave room for the possibility that these behaviors may, at times, exist outside of the use of physical or sexual tactics to intentionally establish dominance and power over a partner. While many individuals who have experienced physical or sexual abuse also report psychological and controlling behavior by their partners (Basile & Black, 2011), little

is known about the prevalence of controlling behaviors in the absence of physical aggression and the degree to which these behaviors are also associated with sexual risk.

IPV and Sexual Risk

As noted above, the majority of research examining links between IPV and sexual risk has focused on female IPV victims. Research with female samples documents that women who report IPV victimization by a male partner are more likely than women without this history to report that their male partners engage in risky sexual behavior (e.g., unprotected intercourse, sexual partner concurrency; El-Bassel et al., 1998; Raj, Silverman & Amaro, 2004). Female IPV victims are also more likely than non-victimized women to report engaging in sex risk behaviors themselves (such as inconsistent condom use; Silverman, 2011), and are less likely to feel efficacious or free to employ STI and pregnancy-prevention strategies with their partners (Beadnell, Baker, Morrison & Knox, 2000).

A limited literature has begun to document links between IPV perpetration and behaviors that can increase exposure to sex-related risk among men in the U.S. In this literature, the terms “sexual risk” and “sex-related risk” refer to behaviors that are associated with increasing one’s own or one’s female partner’s vulnerability to STIs, HIV, and unwanted pregnancy. Generally, men who self-report aggression in relationships also report higher overall numbers of sexual partners (Decker et al., 2009; El-Bassel et al., 2001) and a greater likelihood of paying for sexual activity (Gilbert et al., 2007; Raj et al., 2008). Similarly, a link between perpetrating physical IPV and ever having received an STI diagnosis has been found both among men accessing an urban health clinic (Decker et al., 2009) and among African American men recruited in an urban setting (Raj et al., 2008).

Research also documents links between the perpetration of physical or sexual IPV and sexual risk behaviors specific to the relationship in which the violence occurs, focusing chiefly on patterns of condom use in men’s primary relationships. For example, among men in an urban health clinic sample, IPV perpetration was associated with “gendered” behavior related to

condoms, including coercing condom non-use and responding with anger to female partners' condom requests (Decker et al., 2009). Similarly, Collins and colleagues (2005) found that young men who use physical aggression against their intimate partners are more likely to report inconsistent condom use with that partner. Other partner-specific sexual risks include higher rates of sexual partner concurrence among male perpetrators of physical IPV accessing methadone maintenance services (El-Bassel et al., 2001) and forcing sexual intercourse without a condom among men in an urban low-income health center (Raj et al., 2006). Relationships between IPV perpetration and other forms of sexual risk or safety strategies, such as negotiating non-barrier methods of birth control or agreeing to pursue testing for STIs, have not been examined in extant literature. Taken together, the literature suggests that men who use physical and sexual aggression in their relationships accumulate greater STI risk over time compared to men who do not use violence, through both higher numbers of sexual partners and exposure to high risk partners and STIs. These men then place their primary romantic partners at higher STI risk through inconsistent condom use, partner concurrency, and forced intercourse.

Theorizing regarding the IPV-sex risk link among men has focused on the unequal power dynamics inherent in physical and sexual violence, and has suggested that sexual and reproductive behavior is an arena through which men can reinforce or practice authority, control, and the enactment of a 'traditional' male gender role as being dominant in a relationship (e.g., Basile & Black, 2011; Coker, 2007; Dunkle & Jewkes, 2007; Santana et al., 2006). Indeed, research suggests that controlling behavior in intimate relationships often also takes the form of sexual and reproductive control, through control or sabotage of contraceptives, forced or coerced sex, or the enforcement of a sexual double-standard (e.g., Coker, 2007; Moore, Frowirth & Miller, 2010). In the only study to explicitly examine the prevalence of controlling or psychologically manipulative relationship behavior among men and its relationship to sexual risk, El-Bassel and colleagues (2004) found that 23% of men in their methadone clinic sample

reported “frequent” psychologically dominating behavior with an intimate partner during the past 6 months, and that this behavior independently predicted HIV-related risk behavior. If a mechanism of the link between IPV and sexual risk behavior is a motivation to control and dominate, this link may appear irrespective of the use of other types of abusive tactics. This underscores the importance of understanding the prevalence of controlling behavior itself as well as the degree to which it is independently associated with sexual behavior, attitudes, and risk-taking.

The unique role of sexually aggressive behavior in generating STI-related risk also deserves attention. Not surprisingly, a history of sexual abuse or rape has been shown to be a stronger correlate of STI diagnosis than a history of physical IPV victimization among women (Johnson & Hellerstedt, 2002). Women who experience repeated sexual assaults by a physically abusive partner are also at greater risk of STI exposure than those who experience physical abuse alone (McFarlane et al., 2005). Although literature examining sexual aggression and sex risk behavior among U.S. men is sparse, Peterson and colleagues (2010) found that among an online sample of heterosexual men, those who reported using multiple forms of sexual aggression were more likely than non-aggressive men to have multiple sexual partners and to have received an STI diagnosis. Additionally, 47% of the sexual assaults reported in the Peterson study did not involve condom use. Given the totality of the above evidence that unique types of abusive behavior may be differentially related to particular STI-related risks, distinguishing among the prevalence and patterns of unique types of abusive behavior may be instructive for understanding the overall IPV-sex risk link in a more nuanced way.

Finally, most prior research on the link between IPV perpetration and sexual risk has focused on behaviors related to exposure to STIs and unplanned pregnancies. However, examining attitudinal and other cognitive or personality-related correlates of sexual risk could also shed light on the nature of this link. Links between attitudes toward sexual behaviors, such as monogamy, and sexual risk and safety strategies are well established in the literature (e.g.,

Beadnell et al., 2008). Personality factors, and in particular a sensation-seeking orientation to sexual encounters have been associated with increased numbers of sex partners (Donohew et al., 2000) and unprotected casual sex (Kalichman, Cain, Zweben & Swain, 2003) among men. Research based on the confluence model of sexual aggression (Malamuth, Sockloskie, Koss, & Tanaka, 1991) has also demonstrated links between an “impersonal,” or non-intimacy-based approach to sex (inclusive of multiple sex partners and an emphasis on casual sex), and risk for sexually coercive behavior among men (Parkhill & Abbey, 2008; Zawacki et al., 2003). Still unclear, however, is the degree of association between these non-behavioral indicators of potential sexual risk and the use of physically abusive or controlling behaviors in relationships. Explicating non-behavioral factors associated with the IPV and sex risk-link may illuminate underlying cognitive factors that are related to both violence and sexual risk-related behavior, or that may serve as mechanisms connecting the two.

Summary and Study Aims

In summary, a small but growing body of literature has begun to describe the association between aggressive behaviors toward a female romantic partner and behaviors associated with STI risk among heterosexual men in the U.S. Most have explored this link in clinical, high-risk, or geographically-specific samples, however, with unclear implications for men in the general community, or for young, heterosexual men in particular. Additionally, these studies have largely examined the connection between sexual risk behaviors and the use of physical violence in relationships. Because of the complexity of patterns of IPV, we do not fully understand whether other types of abusive behavior operate similarly with respect to sexual risk, or whether IPV as a unified construct is homogeneously associated with behaviors that expose couples to STIs. For example, given the potential role of power and control motivations and behavior as one possible driver of sexual risk behaviors among men who use IPV, specifically examining links between controlling behavior and sex risk irrespective of the use of physical violence may help to illuminate the salience of this possible mechanism. Finally, sexuality research more

generally has moved toward understanding sexual risk behaviors as contextualized patterns of multiple behaviors and factors, rather than as behaviors such as condom use or partner concurrency examined in isolation (e.g. Patel et al., 2006). For example, infrequent condom use in the context of a monogamous relationship that makes use of other pregnancy prevention measures holds a different level of STI risk than infrequent condom use in the context of multiple concurrent partners or a more sensation-seeking, experienced-focused approach to sexuality (authors., in press). Factors such as sexual attitudes, sexual sensation-seeking, and sexual safety strategies beyond condom use and monogamy have not been well-explored in extant IPV literature, and may provide additional insight into the actual degree of danger posed by specific sex risk-related behaviors.

To address the aforementioned gaps, we use data from the larger [title of study, blinded for review] study. This project had a primary aim of examining relationships between sexual scripts (ideas about what sexual relationships are or should be) and sexual and relationship behavior among a diverse, community sample of young, heterosexually active men – a population that is surprisingly under-studied in extant sexual health research (Higgins et al., 2010). The findings described here are from a secondary data analysis, in which we took a conceptually-derived, person-centered approach to examining whether distinct patterns of IPV behaviors (including a pattern involving only the use of controlling behaviors) are differentially associated with sexual risk and safety strategies. A person-centered approach is well suited to the current developmental stage of the IPV-sex risk literature and is advantageous because it allows for the detection of heterogeneity among individuals in terms of how specific combinations of IPV-related behaviors and behaviors are associated with sexual risk. For example, variable-centered approaches have detected linear relationships between physically aggressive behavior and sexual risk, but may obscure nuance or differences between sub-groups in connections between these variables. It may be that physically aggressive behavior

elevates sexual risk exposure only in combination with sexually aggressive behavior, or as a function of control – distinctions which a person-centered approach can assist in detecting.

These analyses were therefore guided by two aims. Our first objective is to describe the proportions of young men in the sample reporting each type of IPV (controlling behavior, sexually coercive behavior, and physical abuse). Although there is a dearth of research to reference regarding the prevalence and nature of controlling relationship behaviors among men, we hypothesize that some men in the sample will report controlling behaviors only, while those reporting physical abuse and/or sexually coercive behavior will be more likely than non-abusive men to also report controlling behavior. Our second aim is to describe the co-occurrence in the sample of specific patterns of IPV perpetration and risk factors associated with STI-exposure and unplanned pregnancy. Specifically, these sexual risk indicators include a) sexual cognitions such as sexual sensation seeking and monogamy attitudes, b) lifetime sexual risk behaviors such as numbers of sexual partners and acquisition of STIs, and c) sexual risk and safety behaviors used in the context of men's current or most recent romantic relationship - such as partner concurrency, condom use frequency, and the use of other relational strategies to increase sexual safety. Given the theorized link between control motivations as a factor in sexual risk behaviors, we hypothesize that all IPV patterns, including the controlling behavior-only pattern, will be associated with elevated sexual risk behaviors and cognitions, irrespective of the presence of physically abusive behaviors in relationships. Still, given evidence that the presence of sexually aggressive behavior elevates risk in the context of IPV, we also hypothesize that men reporting both physical aggression and sexual coercion will report the highest levels of STI-related risk behaviors.

Method

Data used in these analyses came from a larger study of sexual scripts, sexual risk taking, and violence-related behavior among young, heterosexually active men. The [authors'

institution] Institutional Review Board approved all procedures. The entire survey took place online, including recruitment, eligibility screening, informed consent, and data collection.

Recruitment

We deployed recruitment advertisements on Facebook and Craigslist. Craigslist ads were posted in a variety of geographic sites around the U.S. and Facebook ads were tailored to appear on the pages of men within our target age group. Advertisements depicted racially and ethnically diverse male/female couples, and an invitation to share “your views in a web survey about relationships with women.” Participants clicking on the ad were then advised that the purpose of the survey was to “learn more about men’s thoughts on sexual and romantic relationships with women, and to find out how other aspects of men’s lives affect these relationships.” The recruitment period was from mid-December 2010 to mid-June 2011. Demographic inclusion criteria were being 18 to 25 years old, male, a current U.S. resident, and a U.S. resident during the teen years. Additionally, the potential participant had to have ever been physically intimate with a woman at least once (defined as touching below the waist or having oral, vaginal, or anal sex) and be interested in having oral, vaginal or anal sex with a woman in the future. Interested potential participants clicked on the advertisement and were directed to an initial screening survey. Eligible respondents then entered the main survey. Participants’ IP addresses were recorded to prevent respondents from either participating more than one time or, for those who were previously found ineligible, from altering their description of themselves in an attempt to become eligible. Using previously recorded IP addresses blocked entrance into the main survey.

To recruit a heterogeneous sample along dimensions of race and ethnicity, we sought equal proportions of respondents from each of five racial/ethnic categories (African American, Asian American, Latino, European American/White, and Multi-Racial or “other”). Once the limit in any race/ethnicity category was reached, all additional potential participants from that category were denied entrance to the survey. Slower recruitment among certain ethnic minority

groups; specifically African American, Latino, and Asian American men, necessitated more targeted ads in fourteen metropolitan areas with more condensed populations of these racial or ethnic groups (based on census data). The targeted ads in each of these areas (which included Atlanta, Detroit, Honolulu, and Los Angeles) were “live” for one week. Participants received \$40 as compensation for completing surveys in their entirety.

Measures

Intimate partner violence perpetration. Six items adapted from the Revised Conflict Tactics Scale (CTS2; Straus et al., 1996) were used to assess sexual coercion and physical violence perpetration in a current or recent relationship that men defined as a “wife, girlfriend, or committed partner.” The CTS2 is the most widely used tool for assessing acts of IPV, and has demonstrated construct validity across multiple populations (for example, with dominance in relationships; Straus, 2004), measurement invariance across groups over time (Kristman-Valente, 2014) and internal consistency of subscales ranging from .79 to .95 (Straus et al., 1996). While relationship duration was not a prerequisite to receiving CTS2 items, men indicating that their relationship was casual or a one night stand were not given these items. Given that IPV measurement was a secondary aim of the parent study, and to avoid participant burden, we selected a subset of CTS2 items that were successfully used in our previous research (authors’ citation, 2008) and designed to capture a range of behaviors of varying levels of risk for injury. These included five items capturing physically aggressive behavior ranging from pushing and grabbing to kicking/punching or causing injuries requiring medical attention, and one sexual coercion item (“I insisted on sexual activity even when she did not want to”). In addition, three items used in our previous research were used to capture controlling behavior (authors’ citation, 2008); “I tried to control where she goes, who she sees or what she does,” “I felt jealous or angry about her with other men,” and “I pressured or forced her to skip a meeting, work, school, or something important to her so she could be with me.” Response options for all IPV items ranged from “never” (0) to “more than 10 times” (5). Participants were also given the

response option of “never with this partner but it happened before.” Although IPV items were used for the purposes of categorizing men into groups based on their behavior in relationships, these items also had good internal consistency. Cronbach’s alpha for total IPV scores in the sample was .80.

In keeping with the person-centered nature of our analyses, we recoded CTS items to facilitate assignment of participants into groups based on their patterns of IPV perpetration. Guided by extant research, we created dichotomous versions of each type of IPV for analyses (use of physical abuse, sexual coercion, and controlling behavior). Identical to prior IPV / sexual risk literature focused on men, (e.g. Decker et al., 2009; Raj et al., 2008; Santana et al., 2006), we recoded the frequency of physically aggressive behavior in the past year into a single variable indicating whether men ever or never perpetrated any of the five types of physical abuse captured in our items. We used the same approach to create the dichotomous sexual coercion item.

For the controlling behavior items, there was an absence of guidance from extant literature. We therefore developed the following approach for the dichotomous control variable. Preliminary analyses showed that any endorsement of the items regarding preventing a partner from going to work or school, or controlling where she goes and who she sees, was associated with the occurrence of other types of physical and sexual IPV. Thus, men endorsing any level of frequency of these two behaviors were categorized as having ever used control in their relationships in the dichotomous “control” variable. However, while reporting feeling jealous or angry about a partner and other men two or more times was associated with the occurrence of other physical aggression and sexual coercion variables, reporting this only one time was not. To account for this pattern, respondents whose only controlling behavior was jealousy had to report two or more instances to be categorized as having ever used controlling behavior.

Sexual attitudes and personality factors. Two scales, *monogamy attitudes* and *sexual sensation seeking*, were selected for the larger, parent study because of their

demonstrated relationship to sexual risk and their developmental relevance to the young, heterosexually active male sample. *Monogamy attitudes* were assessed using the mean score of the three-item attitude subscale from the Sociosexual Orientation Scale (SOS) (Simpson & Gangestad, 1991) to capture men's endorsement of non-monogamy. Sample items include "Sex without love is OK" and "I could be comfortable having more than one woman in my life that I am having sex with." Participants used a five point rating scale ranging from 0 (strongly disagree) to 4 (strongly agree), with higher scores reflecting greater endorsement of nonmonogamy. Previous studies have demonstrated convergent validity for the attitudes subscale; the SOS is related in expected ways to partner concurrency, and the attitudes subscale is positively correlated with lifetime sexual partners (Simpson & Gangestad, 1991). The alpha coefficient for the monogamy attitudes scores in this sample was .76.

Sexual sensation seeking was derived using the mean score of six items from the Sexual Sensation Seeking (SSS) Scale (Kalichman & Rompa, 1995). Again, a subset of items was selected to reduce participant burden, and were chosen to reduce redundancy and to target concretely attitudinal indicators of this construct. Example items included: "I like wild, uninhibited sexual encounters," and "I like to have new and exciting sexual experiences and sensations." Response options ranged from 0 (not at all like me) to 3 (very much like me). Higher scores indicate stronger desire for novel, unique, and varied sexual experiences. Past examinations of the measures' validity demonstrate their association with unprotected sexual activity and higher numbers of sexual partners (Kalichman & Rompa, 1995). The Cronbach's alpha for scores in the current sample was .81.

Lifetime sexual risk behaviors and outcomes. Three items adapted from our previous research (Beadnell et al., 2008) were used to assess sexual risk occurring at any point in participants' lives. These items were selected based on their consistency with past research on links between IPV and sexual risk (e.g. Decker et al., 2009). *Number of lifetime female sexual partners* was assessed with the single item, "How many women have you had sexual

intercourse with in your lifetime,” to which respondents provided a number. To reduce the influence of outliers, this number was capped at 100 (this cap affected only five respondents). STI diagnosis history was assessed via the question, “How many times have you been told by a medical professional that you have a sexually transmitted disease (chlamydia, herpes, gonorrhea, genital warts)?” Given the relative small number of men in the sample who had received an STI diagnosis, this item was recoded into a dichotomous variable reflecting whether respondents had ever vs. never been diagnosed with an STI. Finally, *transactional sex* was measured with the item, “Thinking about the last year, how often did you pay for sexual services such as stripping, peep shows, lap dances, oral sex, or intercourse?” The response options for this item ranged from 0 (*never*) to 5 (*every day or almost every day*). Again, responses on this item were dichotomized into ever/never given a relatively low prevalence of this behavior in the sample.

Relationship-specific sexual risk and safety measures. Six items adapted from Beadnell et al. (2008) were used to assess sexual safety strategies used within the participant’s current or most recent relationship. *Sexual concurrence* was measured by asking, “Thinking about the woman you were physically intimate with [and] the time period when you were being physically intimate with her in the last year... During that time, were you ever physically intimate with another woman?” Responses were coded to indicate whether men had ever vs. never engaged in partner concurrency. *General condom use frequency* with the most recent partner was assessed with a single item with possible responses ranging from 0 (*never*) to 5 (*always*). Participants’ responses were then recoded into a dichotomous variable reflecting whether they “often or always” used condoms, or whether they use condoms “less than half the time” or less. Finally, to assess the use of other sexual safety strategies, participants were asked to respond “yes” or “no” to four additional items regarding their current or most recent partner, having ever *talked about sexual histories, agreed to both get tested for HIV and/or STIs, agreed to have sex only with each other, and discussed whether she is using birth control.*

Analysis Strategy

We first categorized participants into five distinct groups based on the three dichotomous IPV items reflecting the presence or absence of controlling, physically abusive and sexually coercive behavior. These groups were conceptually-based and intended to isolate specific patterns of abusive tactics in participants' current or most recent dating relationship, including patterns involving only the use of controlling behavior, and only the use of sexually coercive behavior. The five groups were no abusive behaviors, controlling behavior only, physically abusive behavior, sexually coercive behavior, and both physically abusive and sexually coercive behavior. For men who reported IPV in their current or most recent relationship ($n = 245$), the categorization to groups was based on the use of IPV behaviors in that relationship. Twenty-one men reported no abusive behaviors in their current or most recent relationship, but reported that at least one IPV item happened with a previous partner. We categorized these men using the same procedure described above for respondents reporting on their current or most recent relationship. We then conducted the bivariate tests described below both with and without this group of 21 men. Findings did not differ based on inclusion of these men, so all results presented here reflect the entire sample.

We compared IPV groups on study variables using the generalized linear model (GLM) in SPSS version 19 to examine differences in sexually risky behavior across groups. GLM is a flexible generalization of the general linear model that can accommodate dependent variables with varying distributional properties. Accordingly, we used logit analysis for dichotomous dependent variables, negative binomial analysis for the one count dependent variable (number of lifetime partners), and linear analysis (akin to traditional Analysis of Variance) for the two continuous dependent variables (monogamy attitudes and sexual sensation seeking). Across all analyses, significant omnibus tests were followed by post-hoc pairwise comparisons to examine differences on sexual risk variables between specific IPV groups.

Results

Sample Characteristics

Approximately 18,910 individuals entered the survey screening page from Facebook and Craigslist advertisements. Of these men, 2,759 answered all screening questions, and 662 were found eligible and consented to participate in the survey. The high rate of non-eligibility was due, in large part, to our stratification of the sample by ethnic group; men who responded after there were sufficient men of their ethnicity group in the survey were not eligible. Of the 662 men who entered the survey, 93 completed less than 25% of the survey and were excluded from analysis. An additional 14 participants were excluded because of erratic or illogical responses (for example, providing conflicting responses). A total of 555 men remained in the survey. Because IPV-related items were only shown to men who had a sexual relationship in the past year, the analysis sample for this paper consisted of the 334 respondents for whom this was true. This sample contained approximately equal representation across 5 race/ethnicity groups; 18.6% of the sample identified as Asian American, 17.7% as Black, African American or African, 21.6% as Latino, 22.5% as white/Caucasian, and 19.8% as “other,” multi-racial or Native American. The mean age of the group was 20.57 (SD = 2.06 years). Approximately 36% reported being a current student and an additional 13.9% reporting having earned a college degree. The age, education level, and race/ethnicity of the men in the final sample did not differ significantly from the 221 men who did not report being involved in a relationship in the past year. Although our inclusion criteria were purposefully broad to insure participation of men who had engaged in sex play but not intercourse, almost all of the men included in these analyses had had intercourse at least once (95%), and 91% reported engaging in vaginal intercourse with their most recent partner.

Proportion of Participants Reporting Abusive Behavior

Of the 334 men in the analysis sample, 266 (79.6%) reported some type of abusive or controlling behavior directed towards an intimate partner. Specifically, 68 men (20.4%) reported

no abuse, 106 (31.7%) reported controlling behavior only, 65 (19.5%) reported physically abusive behavior but no sexual coercion, 38 (11.4%) reported sexual coercion but no physical abuse, and 57 (17.1%) reported both physically abusive and sexually coercive behavior. Most men who engaged in physical abuse and/or sexual coercion also used controlling behaviors: 83.0% of the physical abuse group, 86.8% of the sexual coercion group, and 94.7% of the physical abuse/sexual coercion group. IPV groups did not differ significantly by age ($F=1.01$, (4,327), $p = .40$), by race/ethnicity ($\chi^2 = 26.14$, $df=16$, $p = .06$), or by socioeconomic status, as measured by participants' mothers' highest level of education ($F=1.75$ (4, 329), $p = .14$)

It should be noted that because of the lack of guidance from extant research regarding the categorization of men based on their use of controlling behavior, our approach to designating participants to the controlling behavior group was somewhat exploratory. In particular, one item, "feeling jealous or angry about your partner and other men," may not capture or reflect overt behavior. We therefore created IPV groups and examined relationships between those groups and sexual risk behaviors both with and without this item. While removing the "jealousy" item resulted in a small number of men moving from the controlling behavior only group to the no abuse group ($n=39$), it did not change any of the below bivariate results related to sexual risk. Because higher frequencies of reporting jealousy was associated with other forms of IPV as noted above, and because of jealousy's strong conceptual connection to IPV, findings presented in this article retain the use of the jealousy item.

Differences Between IPV Groups on Sex Risk Variables

Table 1 shows differences between the five IPV groups on sexual risk-related attitudes and behaviors. Group differences were found for the two attitude and personality variables in this analysis. Men in the physical abuse/sexual coercion group indicated the highest endorsement of non-monogamy attitudes, which were significantly different than men in the no abuse or controlling group. Similarly, men in the physical abuse/sexual coercion group reported significantly higher sexual sensation-seeking scores than men in the no abuse, controlling, and

physical abuse groups. Men in the sexual coercion group also had significantly higher sexual sensation-seeking scores than men in the no abuse or controlling behavior only groups.

With respect to general sexual behaviors, men who perpetrated both physical abuse and sexual coercion reported the highest number of lifetime female sex partners, significantly more than all other groups. Men who reported sexual coercion reported the lowest number of lifetime sex partners, which was significantly fewer than men in all other groups. In a similar vein, men reporting both physical and sexual abuse reported the highest lifetime STI rate, significantly greater than men in the controlling or sexual coercion groups. Differences between groups related to whether group members had ever engaged in transactional sex were not statistically significant.

There were differences in two of the relationship-specific sexual risk and safety variables: concurrence (whether they had sex outside of their current relationship) and condom use. Men in the physical abuse/sexual coercion group were more likely to report partner concurrency than were men in the no abuse and controlling groups. Men who engaged in controlling behavior only were significantly more likely to report they often or always used a condom than were those in the no abuse, physical abuse, and physical abuse/sexual coercion groups. There were no significant between-group differences regarding partner communication-related sexual safety strategies.

Discussion

This analysis sought to describe rates of controlling and abusive relationship behaviors in a diverse sample of young men, and to elucidate the degree to which sexual risk-related behaviors and attitudes differed between groups of men categorized by their use of abusive relationship behaviors. With respect to our first research question regarding rates of physically abusive, sexually coercive and controlling behaviors in this sample, we found that a majority of young men in the study reported using at least one type of abusive or controlling behavior in a current or recent relationship. Approximately 37% of men reported using some form of

physically aggressive behavior, a rate that is within the range of estimates from geographically-specific samples (e.g., Santana et al., 2006). Similarly, nearly 29% of men in the sample reported sexually coercive behavior with an intimate partner, a rate similar to other studies of young men in this developmental group (e.g., Casey, Beadnell & Lindhorst, 2009). Although consistent with previous literature, these rates are nonetheless disturbingly high, and underscore the need for continued attention to understanding etiological factors related to the use of aggressive behavior and to the ongoing enhancement and availability of violence prevention programs.

A strikingly high number of men in the sample reported the use of controlling behavior, although studies that would allow for easy comparison are not available in extant literature. A majority of men in this sample reported using controlling behavior, either alone or in combination with physical aggression, sexual coercion, or both. These findings suggest that controlling behaviors such as occasionally attempting to limit or control a partner's social activities, or access to work or education are relatively normative behaviors in this sample and perhaps in this age group. The impact of this behavior on partners and relationships is unclear; controlling behavior alone was not associated with increased sexual risk behavior in this sample, and other possible relationship impacts, such as relationship satisfaction or duration, were not assessed. Additional research across various age groups is needed to investigate whether the acceptance and use of controlling behaviors in relationships is related to developmental stage, is a cohort effect, or is more broadly true across men (and perhaps women) irrespective of age. The prevalence of controlling behaviors in this sample also suggests the importance of sexual and relationship health education and interventions that build skills related to egalitarian and respectful approaches to communication and conflict resolution in relationships. Consistent with previous research (e.g. Basile & Black, 2011), controlling behavior was also significantly associated with the use of physically and sexually abusive behavior (88% of abusive and/or coercive men were controlling, vs. 61% of men who were not abusive or coercive), reinforcing

the need to continue to conceptualize and investigate intimate partner violence as a cluster of related behaviors inclusive of domineering and controlling behaviors. Additional investigation is therefore needed into both the predictors and impacts of men's use of behaviors that limit their partners' autonomy or choices, as well into the potential qualitative differences between controlling relationships that do and do not contain physical or sexual abuse.

Relationships between IPV perpetration and sexual attitudes and behaviors

Our second aim was to describe the degree to which sexual risk-related attitudes, and sexual risk behaviors (both those specific to their most recent relationship and those used over time), were differentially associated with IPV groupings. Consistent with expectations, and most strikingly, a pattern of elevated sexual risk emerged for the 17% of men who reported using both physically abusive and sexually coercive behaviors. Men in this group reported higher levels of non-monogamy endorsement, sexual sensation seeking, numbers of lifetime female sexual partners, and partner concurrency than men in the no abuse or controlling behavior only groups. Men in the physical abuse/sexual coercion group also reported less condom use and greater likelihood of an STI diagnosis than men in the control only group. Thus, this subgroup of men both accumulated more risk over time and exposed their partners to greater risk through the simultaneity of condom use infrequency and partner concurrency. In general, these findings from our community sample replicate and extend previous research with clinical samples (e.g. El-Bassel et al., 2001) and geographically-specific samples (e.g. Raj et al., 2006), documenting elevated STI exposure and sexual risk behavior among men who use violence and sexual coercion. In particular, the unique risk posed by the combined use of physical abuse and sexual coercion echoes work by McFarlane and colleagues (2005), who noted that sexual assault in the context of physically abusive relationships particularly elevated female victims' exposure to STIs.

For this physical abuse and sexual coercion group, especially, understanding the cognitive mechanisms and potential gender-related belief systems that support both the

physical and sexual mistreatment of a female partner and the use of sexually risky behavior, is critical to informing both sexual and relationship health interventions. Engaging in sexual risk behaviors may represent a means of reinforcing gender-based power inequities in relationships. Wingood & DiClemente (2000) apply the larger Theory of Gender and Power (Connell, 1987) to sexual risk, and suggest that sexual behavior and the enforcement of different sexual standards for men vs. women are vehicles for establishing and maintaining male dominance in intimate relationships. By extension, the use of sexual risk behavior as a tactic of dominance generates the disproportionate vulnerability of women to HIV and STIs, as well as unplanned pregnancy, within heterosexual relationships in which abuse is occurring. Along these lines, previous research consistently documents relationships between endorsement of traditional gender roles and adversarial gendered beliefs with both sexual risk behaviors (e.g., O'Sullivan, Hoffman, Harrison, & Dolezal, 2006) and with the use of violence in relationships (see for review, Flood & Pease, 2009). As Dunkle and Jewkes (2007) suggest in a review of international research on the epidemiology and prevention of HIV/AIDS, it may be “that both violence perpetration and sexual risk taking arise from a common underlying cause, and that this cause is social ideals of masculinity” (p. 173). However, studies simultaneously examining the inter-relationships and potential mediating relationships of all three of these constructs (gendered beliefs, sexual risk behaviors, and IPV) are rare, and are needed to tease out the most promising interventive targets within sexual health and IPV-related interventions.

In contrast, and contrary to expectations, in the absence of the use of physical abuse or sexual coercion, a history of using some controlling behavior alone was not associated with elevated levels of sexual risk. On one variable – condom use frequency – men who reported some use of controlling behaviors were actually sexually safer than all other men except the sexual coercion group. Yet, as noted above, controlling behaviors were moderately associated with physical and sexual aggression in the sample; almost all of the abusive and/or coercive men also reported controlling behaviors. It may be that men who employ controlling behaviors

but do not reinforce these with physically or sexually aggressive behavior are qualitatively different than men for whom physical and sexual abuse are part of a larger pattern of dominance and coercion in their romantic relationships. Alternatively, some men may begin their patterns of abuse with controlling behavior only, and relationship length, status, or other contextual factors not measured here may circumscribe the degree to which physically or sexually abusive behaviors have yet appeared in these relationships. Additional research with more multi-faceted measures of control – including monitoring, financially controlling, and socially isolating behaviors – is needed to understand both their prevalence and their potential role related to sex-associated attitudes and behaviors.

Men in the sexual coercion category, albeit a small group, reported some unique patterns. This group reported a high level of sexual sensation seeking but the lowest number of lifetime sex partners and incidence of STIs. These findings are somewhat in contrast to Peterson and colleagues' (2010) findings that men reporting multiple types of sexual aggression had higher levels of sexual risk factors including numbers of sexual partners and STI diagnoses. In this sample, it may be that men who are sexually coercive in absence of physical abuse may have different underlying motivations or may use monogamous relationships and relational strategies to meet their sexual goals. It is also important to note that the use of a single item to assess sexual coercion makes definitive conclusions regarding this group difficult as it is not possible to distinguish between men who use verbal or relational strategies to gain access to sex when a partner is unwilling (such as utilizing guilt or pressure), and those who use more physically aggressive tactics or the use of drugs or alcohol to gain compliance. It may be that the young men in this sample that employ physical force to gain sex, or who engage in multiple types of sexual aggression, were more likely to be in the physical abuse/sexual coercion group in which rates of sexual risk behaviors were higher. Future research with larger sample sizes that employ a multi-item sexual assault perpetration scale may help to better understand

whether different types of sexual aggression are differentially related to sexual risk behaviors and attitudes.

Finally, it is interesting that the majority of men, regardless of IPV group, employed relational sexual safety strategies such as discussing sexual history, agreeing to be monogamous, and discussing female partners' use of contraceptives. While these numbers are encouraging and indicate the potential normativity of relational strategies, it is also important to assess these "talk-related" sexual safety strategies in the context of other sexual risk indicators. For example, although nearly 80% of the men in the physical abuse and sexual coercion IPV group had agreed to be monogamous, nearly half of them also had a sexual partner outside of their primary relationship, and only one fourth were consistently using condoms with their primary partner. In this context, agreeing to be monogamous may be less a sexual safety strategy than a condom-avoidance strategy which exacerbates potentially unsuspecting female partners' sexual risk exposure. This particular combination of risk may also reflect inequitable sexual standards, in which nonmonogamy is encouraged for the female partner only, and is an added means to reinforce sexual power inequity in the relationship. These findings also underscore the importance of examining multiple indicators of sexual risk and the patterns they form to contextualize the degree of STI-related risk that any single behavior (such as condom use or non-use) actually poses.

Limitations

Limitations of the current study include sample characteristics and some measurement issues. Our sample consisted entirely of internet users. Although most young men in this age group are internet users (Pew Internet & American Life Project, 2013), and preliminary evidence points to the racial representativeness of Facebook membership relative to the U.S. population (Chang, Rosenn, Backstrom & Marlow, 2010), these results may not be generalizable to men who do not use these tools. We oversampled men of non-White ethnicity, so our sample is not representative of ethnic distribution, though it is worth noting that abuse categories did not differ

by ethnicity group. A breakdown of participants by region is not possible due to anonymous participation, and individuals in urban U.S. environments are likely over-represented in the sample. Volunteers for sexuality-related research tend to have more liberal sexual attitudes and more sexual experience than non-volunteers (Strassberg & Lowe, 1995). These analyses were also based on relatively small group sizes within the IPV categories, and may have lacked some statistical power to detect between-group differences; as a secondary analysis study, the initial findings here point to and justify the need for similar analyses with larger samples.

As with any secondary data analysis, this study has some limitations due to measures. Our use of items adapted from the Conflict Tactics Scale (CTS2) to assess IPV limits the ability to understand abusive and controlling behaviors in their situational and relationship context. It is not possible, for example, to determine the extent of injury, impact, or reciprocity of these behaviors, or to rule out self-defense as a behavioral motivation. Also, as noted above, we included only one item assessing partner-specific sexual coercion, which limited our ability to distinguish between the tactics used to gain nonconsensual sexual access (such as physical force vs. verbal coercion and pressure). Additionally, data limitations and the small sample size with accompanying power limitations prevented examination of the experiences of male victims with respect to sexual risk exposure – this remains an area still in need of scholarly attention. Finally, future research would benefit from including additional contextualizing variables which were not available here, such as condom use with extra-relationship partners and frequency of accessing HIV and STI testing services.

Implications and Conclusions

These findings extend previous research linking the use of physical and sexual aggression in relationships to sexual risk factors among heterosexually active men, and highlight the ways in which specific patterns of aggressive behavior are linked to sex-related cognitions and to men's relational and non-relational sexual risk taking. The pattern of sexual risk that emerged among men who used both physically and sexually aggressive behaviors in

their relationships underscores the importance of cross-system assessment and intervention. Specifically, men seeking sexual health-related care should be screened for IPV-related behaviors, and men in domestic violence intervention programs and settings (as well as their partners) may benefit from sexual health and safety-related support. Analogously, domestic violence intervention systems for victims should be sensitive and responsive to the elevated sexual risk to which their clients may have been exposed. The findings of this study demonstrate the utility of a person-centered approach to IPV- sex risk research, as well as the need for future research with larger sample sizes to better detect sex risk-related differences between IPV perpetration profiles. Additionally, qualitative research with men who have used controlling or abusive behaviors in their relationships could help to illuminate the meaning and role of sexual behaviors within larger patterns of abuse. As a whole, findings from this and other research highlight the importance of accounting for IPV perpetration or victimization in conceptualizing and implementing sexual risk reduction interventions. Understanding the sexual attitude and behavior correlates of men's aggressive behavior toward women stands to contribute to our understanding of aggression as well as our understanding of sexual risk.

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Table 1

Intimate Partner Violence (IPV) groups' differences on sex-related attitudes and personality factors and sexual risk-related behaviors

	n	IPV group					χ^2 (df = 4) [†]
		No abuse	Control only	Physical abuse	Sexual coercion	Physical abuse & sexual coercion	
Sex-related attitudes and personality factors: M (SD)							
Non-monogamy attitudes	334	1.95 _a (.92)	1.96 _b (1.08)	2.16 (.94)	2.11 (1.04)	2.42 _{a,b} (.86)	9.89*
Sexual sensation seeking	334	1.26 _{a,b} (.71)	1.39 _{c,d} (.63)	1.43 _e (.70)	1.69 _{b,d} (.70)	1.77 _{a,c,e} (.86)	21.05***
Non relationship-specific sexual behaviors							
Lifetime sex partners: M (SD)	318	9.05 _a (11.05)	9.61 _b (18.42)	10.98 _c (15.83)	5.08 _{a,b,c,d} (6.80)	17.15 _{a,b,c,d} (28.83)	30.73***
STI diagnosis ever: n (%)	334	4 (6%)	4 (4%) _a	7 (11%)	1 (3%) _b	9 (16%) _{a,b}	9.82*

Transactional sex ever: n (%)	334	9 (13%)	13 (12%)	15 (23%)	7 (18%)	15 (26%)	7.18
Relationship-specific sexual behaviors: n (%)							
Sexual concurrence	301	13 (22%) _a	19 (21%) _b	23 (34%)	11 (29%)	18 (46%) _{a,b}	12.82*
Often or always uses a condom	301	21 (36%) _a	50 (52%) _{a,b,c}	20 (35%) _b	13 (37%)	13 (24%) _c	12.84*
Discussed sexual history	333	48 (71%)	87 (82%)	50 (77%)	31 (82%)	46 (82%)	3.94
Agreed to STI testing	334	25 (37%)	41 (39%)	27 (42%)	16 (42%)	27 (47%)	1.71
Agreed to be monogamous	334	50 (74%)	83 (78%)	51 (78%)	33 (87%)	45 (79%)	2.71
Discussed whether partner is on birth control	334	56 (82%)	76 (72%)	45 (69%)	33 (87%)	44 (77%)	7.03

Notes.

† Results from generalized linear model (GLM) testing.

* $p < .05$, *** $p < .001$

Shared subscripts in a row denote IPV subgroups that differ significantly from one another at $p < .05$.