

DIFFERENTIAL PREDICTORS OF INTIMATE PARTNER SEXUAL
COERCION PERPETRATION

A Thesis

Presented to

The Faculty of the Department

of Psychology

University of Houston

In Partial Fulfillment

Of the Requirements for the Degree of

Master of Arts

By

Alexandra L. Snead

August, 2017

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ABSTRACT

The current study attempted to expand on existing literature regarding predictors of perpetrating intimate partner sexual violence to determine if there are unique predictors or sexual violence that differentiate it from physical abuse. It was hypothesized that men's controlling, dominant and jealousy behaviors and verbal aggression exhibited during a conflict discussion would significantly predict both increased intimate partner sexual coercion and physical assault perpetration. Furthermore, these predictors were expected to be more predictive of sexual coercion than physical assault perpetration. Violent couples were recruited from the community (N = 159). The results demonstrated that men's controlling behavior was a significant predictor of both sexual coercion perpetration and physical assault perpetration. Additionally, results found that different types of jealousy were unique to sexual coercion and physical assault. Specifically, behavioral jealousy was significant predictor of increased sexual coercion perpetration whereas and men's emotional jealousy was a significant predictor of increased physical assault perpetration. Men's emotional jealousy was significantly more predictive of physical assault perpetration more than sexual coercion perpetration. No predictors studied better predicted increased sexual coercion perpetration more than physical assault perpetration. These findings suggest that sexual coercion perpetration may be another type and form of physical assault without unique predictors.

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Differential Predictors Of Intimate Partner Sexual Coercion Perpetration

Introduction

Sexual violence within intimate relationships is a frequently encountered phenomenon with severe consequences. In spite of high prevalence rates, sexual violence research is scant when compared to research conducted on intimate partner physical violence and psychological aggression. A majority of research on rape does not include marital or intimate partner rape. Sexual violence within intimate relationships has many negative consequences including gynecological problems, depression, post-traumatic stress disorder, and increased rates of sexually transmitted diseases. Being able to predict intimate partner sexual coercion may have practical applications, particularly in the identification of and treatment for those involved in violent intimate relationships.

Much of the literature examining intimate partner violence and specifically intimate partner physical assault and sexual coercion does so in isolation. Even though physical assault and sexual coercion perpetration are commonly measured by the same questionnaire, rarely to studies attempt to if predictors or characteristics are differentially related to intimate partner physical assault or sexual coercion. The current study will seek to explore differential predictors of sexual coercion. The current study fills this gap in the literature by investigating whether there are differential predictors of intimate partner physical assault and intimate partner sexual violence.

Intimate Partner Sexual Coercion

Intimate partner sexual violence includes both marital/intimate partner rape and sexual coercion. Sexual coercion within intimate relationships is defined as, “behavior that is intended

to compel the partner to engage in unwanted sexual activity, “(Straus, Hamby, Boney-McCoy, & Sugarman, 1996, p. 290). Sexual coercion can include tactics such as pressure, emotional force, or trickery and can include threats such as, “I’ll leave you if you don’t sleep with me.” Intimate partner rape is defined as any unwanted intercourse or penetration (vaginal, anal, or oral) obtained by force, threat of force, or when the wife is unable to consent (Bergen, 1996; Russell 1990). Sexual coercion is less severe than intimate partner rape, but it is far more common. Finkelhor and Yllo (1985) identified two different types of intimate partner sexual coercion: social and interpersonal and three types of intimate partner rapes: battering rapes, force-only rapes, and obsessive rapes. Sexual coercion is often considered as less severe when committed by an intimate partner than when committed by a stranger (Boucher, Lemelin, & McNicoll, 2009). However, sexual coercion committed by an intimate partner is often repetitive and accompanied by other forms of threats or violence (Garcia-Moreno et al., 2006; Mahoney, 1999). Physical violence perpetrated by men who also sexually coerce their partner is generally more severe and more likely to be lethal (Campbell & Soeken, 1999; Meyer, Vivian, O’Leary, 1998). The term “intimate partner sexual coercion” is used in this study to refer to both sexually coercion behavior and rape, as the scale to measure this phenomenon is called “sexual coercion.”

Prevalence Rates of Intimate Partner Sexual Coercion

Research has found varying rates on the occurrence of sexual coercion. Studies have found that between 3% and 59% of women experience sexual coercion in their intimate relationship (Garcia- Moreno, Jansen, Ellsberg, Heise, & Watts, 2006; Heise & Garcia-Moreno, 2002; Hindin, Kishor, & Ansara, 2008; Jewkes, Sen, & Garcia-Moreno, 2002). Goetz and Shackelford (2006) found, in a study conducted on individuals who had been in a committed relationship for at least a year, that 7.3% of men admitted to engaging in at least one instance of

sexual coercion with their current partner and 9.1% of women reported that they had experienced at least one instance of sexual coercion by their current partner. Rates of sexual coercion have been found to slightly differ based on ethnicity. The National Violence Against Women Survey found the rates of sexual coercion for Caucasians, African Americans and mixed races very similar, with 7.7, 7.4, and 8.1% respectively (Tjaden & Thoennes, 2000). American Indian/Alaskan Natives had the highest rate of intimate partner rape at 15.9%, while Asian Pacific Islanders had the lowest rate of 3.8% (Tjaden & Thoennes, 2000). Additionally, Hispanics had a higher lifetime prevalence rate, 7.9%, than that of Non-Hispanics, 5.7% (Tjaden & Thoennes, 2000). However, it is advised for these rates to be interpreted with caution since victims of sexual coercion do not always identify themselves as victims (Martin, Taft, & Resick, 2007). Sexual coercion perpetration, unlike physical assault perpetration, tends to not be bilateral, as women rarely perpetrate sexual coercion (Straus et al., 1996).

Consequences of Intimate Partner Sexual Coercion

Intimate partner sexual coercion not only leads to physical injuries but also carries psychological and emotional consequences. Injuries associated with forced sexual activities include: chronic genital pain (63%), vaginal or anal stretching, (36.1%), miscarriage or stillbirth (20.4%), unwanted pregnancies (17.6%), and sexually transmitted infections, including HIV/AIDS (6.5%) (Campbell & Alford, 1989; Eby, Campbell, Sullican, & Davidson, 1995). Research has found that sexual coercion is a statistically significant predictor of the number of reported gynecological problems, such as urinary problems, genital irritation, pelvic pain, controlling for the effects of age, race, life stress, and income (Campbell & Soeken, 1999). Additionally, a significant relation has been found between sexual coercion and cervical cancer (Coker, Sanderson, Fadden, & Pirisi, 2000).

Similarly, sexual coercion has been associated with psychological consequences, such as depression, post-traumatic stress symptoms, low self-esteem, anxiety, shame, guilt, and fear (Krug, Dahlberg, Mercy, Zwi, & Lozano-Ascencio, 2002). Women who have been victims of sexual coercion have a lower self-esteem, more negative self-image, are more fearful of sexuality, and experience more difficulties in reaching orgasm than women who only experience physical violence (Shields, Resick, Hanneke, 1990). Moreover, research has found relations among additive impact of sexual coercion on depressive and post-traumatic symptoms (Basile, Arias, Desai, & Thompson, 2004), as well as suicidal thoughts (Weaver et al., 2007) when compared to women who were only physically assaulted by a partner. Women who are sexually assaulted by their partners are more likely to be depressed and anxious compared to those sexually assault by someone other than their own partner (e.g. stranger rape) (Plichta & Falik, 2001). Moreover, women that were found to have experienced sexual coercion by their intimate partners being more likely to be diagnosed with depression or anxiety relative to women who are victims of physical violence only (Plichta & Falik, 2001). Sexual coercion appears to be more highly correlated with suicidal ideation among victims than physical assault (Cavanaugh, Messing, Del-Colle, O'Sullivan, & Campbell, 2010).

Why Do Men Commit Intimate Partner Sexual Coercion?

Research posits that men's use of sexual coercion is linked to their partners' infidelities or suspicions of their partners' infidelities (Goetz & Shackelford, 2009). Research has found that women who were physically abused and raped by their partners rated them to be more sexually jealous than did women who were abused but not raped (Frieze, 1983). Goetz and Shackelford (2006) stated that men may perpetrate sexual coercion as a way to punish their partner for past or future likelihood of infidelity. Additionally, research has found that men's use

of sexual coercion is motivated by their attempt to dominate and control their partner and their expression of power is the result of men's social roles (Basile, 1999; Gage & Hutchinson, 2006; Johnson, 1995). Shackelford and Goetz (2004) found a significant positive relationship between men's controlling behaviors and their use of sexual coercion. Studies have found that physically abusive men were more likely than non-abusive men to perpetration sexual coercion against their partners (Finkelhor & Yllo, 1985; Shackelford & Goetz, 2004).

According to the dyadic power-social influence model (Simpson, Farrell, Orina, & Rothman, 2015) power is defined as the ability or capacity to change their partner's thoughts, feelings, and/or behavior so that they are the same as with their own desired preferences. Farrell, Simpson, and Rothman (2015) stated that power in a relationship arises from both individual characteristics and dyadic characteristics. Power in relationships can be expressed by decision-making dominance and the ability to control a partner's actions among other things (Babcock, Waltz, Jacobson, & Gottman, 1993; Emerson, 1981). According to Felson and Messner (2000), one of the crucial features of intimate partner violence is the power and control differential between the victims and perpetrators.

Characteristics of Men Committing Intimate Partner Sexual Coercion

Little research has been conducted on the characteristics of men who perpetrate sexual coercion. Most research that has been conducted on predictors of intimate partner violence includes both intimate partner physical assault and intimate partner sexual violence and does not look at them separately to determine if there are predictors or characteristics that better predictor intimate partner physical violence or sexual coercion. Men's sexual jealousy is one of the most cited causes of men's partner-directed physical and sexual violence (Buss, 2000; Sugarman &

Hotaling, 1989). Research has found that husbands who rape their wives are more sexually jealous than husbands who did not rape their wives (Frieze, 1983; Gage & Hutchinson, 2006).

Research has stated that society conveys to men that they have a sense of entitlement to control women within their intimate relationship (Ehrensaft & Vivian, 1999). Aggression has been found to be an outcome of frustration when men are unable to control this partner (Fagan & Browne, 1994). Additionally, aggressive men view their own control over their partner as acceptable, but they do not like the feeling of being controlled by their partners, and they may behave aggressively to regain control (Ehrensaft & Vivian, 1999). In two studies conducted on men's report and women's report of men's controlling behaviors, men who used more controlling behaviors, such as restricting their partners' social life and being vigilant about their partners' whereabouts, were more likely to use sexual coercion against their partners (Goetz & Shackelford, 2009). However, neither study examined the relation of controlling behaviors to intimate partner physical assault to determine if there was similar relation.

Male dominance is one of the most widely cited risk factors of physical assaults in intimate relationships (Campbell, 1992; Coleman & Straus, 1986; Yllo, 1984). Intimate partner violence is more likely to occur when men dominate all aspects of the family life (Kruttschnitt, 1995). Research conducted in a sample of sexually violent incarcerated offenders found that they had s higher than average Dominance, Aggression-Egocentric and Aggressive-Attitude scores, statistically lower than average Warmth scale scores on the Personality Assessment Inventory (PAI; Morey, 1991) as compared a census-matched population (Poruban, 2014). Although these personality characteristics were found among incarcerated rapists, this sample included men who perpetrated sexual coercion. It is unknown if the same personality

characteristics apply to non-incarcerated men who sexual coercion sexual coercion against their partners.

Research has found verbal abuse is related to sexual coercion, violence, power and control. Women are likely to experiences more verbal and psychological abuse when the male partner believes that he has less power than his partner (Sagrestan, Heavy, & Christensen, 1999). Verbal aggression can be about maintaining control, dominance, and power over one's partner, often implying that the victims' character flaws caused the perpetrators' violence (Evans, 2010). Men who reported greater use of insults against their partner reported greater sexual coercion perpetration against their partner (Starratt, Goetz, Shackelford, McKibbin, & Stewart-Williams, 2008). Insults in a relationship can include contempt, ridiculing, and denigration (Goetz, et al., 2005) and can be a specific form of verbal abuse. According to women's partner-reports, men who frequently directed insults at their partner were more likely to perpetrate sexual coercion (Starratt et al., 2008). Moreover, men's perpetration of sexual coercion can be predicted from the frequency and content of the insults that they direct at their intimate partner (Starratt et al., 2008). However, the study did not investigate the relation between insults and the perpetration of intimate partner physical assault.

The Present Study

The current study attempted to expand on existing literature regarding the predictors of perpetrating intimate partner sexual coercion to determine if there are unique predictors or sexual violence, or if sexual violence may be an extension of more severe physical aggression.

Hypotheses:

Six hypotheses were tested in the current project.

- 1) Hypothesis 1a tested the contribution of men's controlling behavior, dominance, and verbal aggression observed during a conflict discussion to sexual coercion perpetration. It was predicted that more verbal aggression exhibited during a conflict discussion, higher female reported controlling behavior, and higher male reported dominant behavior would significantly predict increased sexual coercion perpetration. Hypothesis 1b tested the contribution of men's cognitive, behavioral, and emotional jealousy behaviors to sexual coercion perpetration. It was predicted that higher cognitive, behavioral, and emotional jealousy would significantly relate to greater sexual coercion perpetration.
- 2) Hypothesis 2a tested the contribution of men's controlling behavior, dominance and verbal aggression observed during a conflict discussion, to physical assault. It was predicted that more verbal aggression exhibited during a conflict discussion, higher female reported controlling behavior, and higher male reported dominant behavior would relate to greater physical assault perpetration. Hypothesis 2b tested the contribution of men's cognitive, behavioral, and emotional jealousy behaviors to physical assault perpetration. It was predicted that higher cognitive, behavioral, and men's emotional jealousy would be related to more frequent physical assault perpetration.
- 3) Hypothesis 3a tested whether men's verbal aggression during a conflict discussion, female report of men's controlling behavior, and male report of their own dominance scores better predict perpetration of sexual coercion than physical assault. It was predicted that men's verbal aggression during a conflict discussion would better predicted increased sexual coercion more than increased physical assault perpetration.

A similar pattern will be observed for female report of men's controlling behavior, and male report of their own dominance. Hypothesis 3b tested whether men's cognitive, behavioral, and emotional jealousy behaviors better predicted increased sexual coercion than physical assault. It was predicted that men's cognitive jealousy behaviors would better predicted increased sexual coercion more than increased physical assault perpetration. A similar pattern was expected for men's behavioral, and emotional jealousy behaviors.

Method

Participants

Participants of the current study were recruited as part of a larger study investigating psychophysiological reactivity in males who perpetrate intimate partner violence (Babcock, Graham, Canady & Ross, 2011). Couples were recruited through newspaper advertisements and flyers requesting "couples experiencing conflict." A telephone screen was conducted on interested couples to determine study eligibility. During the screening, female partners were administered a modified version of the Conflict Tactics Scale (CTS; Straus et al., 1996) to determine violence levels of the couple. The eligibility criteria included: (a) heterosexual couples fluently speaking in English had to be at least 18 years of age or older, (b) married or living together as if married for at least 6 months, and (c) the female partner must not have anticipated future violence from her partner as a result of participating in the study.

Procedure

Data was collected at two occasions, each of which lasted approximately three hours. During the first assessment period, only male participants were administered a series of paper and pencil questionnaires. The second assessment period included both the male and female

partner, during which both were administered questionnaires followed by an interview, then a marital interaction task, then debriefing and payment. During the marital interaction task, psychophysiological reactivity indicators that included heart rate, skin conductance level, and finger pulse amplitude were measured. Couples were compensated 100 dollars for their participation in the two assessment periods.

Measures

Intimate Partner Violence. The Revised Conflict Tactics Scale (CTS2; Straus et al., 1996) was completed by male and female participants to assess severity and frequency of physical violence and sexual coercion. The CTS2 is a 78-item questionnaire measures instances of male-to-female and female-to-male physical, psychological, and sexual abuse that occurred in the past year. The scale includes five subscales: physical assault, psychological aggression, sexual coercion, injury, and negotiation. Female participants provided responses to test items measuring their male partner's physically abusive and sexually coercive behaviors that had occurred in the past year on a 7-point rating scale (e.g., never, once, twice, 3-5 times, 6-10 times, 11-20 times, and more than 20 times). The current study utilized the physical assault and sexual coercion subscales only, both containing six items. Internal consistency coefficients for the full CTS2 range from .79 to .95, depending on different subscales used (Straus et al., 1996). Within our sample, internal consistency coefficients for the physical assault subscale and sexual coercion subscale were .74 and .64, respectively.

Verbal Aggression. Verbal aggression was assessed among male participants using the Specific Affect Coding System (SPAFF; Gottman, McCoy, Coan, Collier, 1996). A 7.5 minute conflict discussion was videotaped and later coded by a team of ten trained coders using the SPAFF. Coders had to achieve an interrater reliability kappa of .70 or higher on a series of test

tapes coded by trained graduate student reliability coders. Kappas were checked periodically over the eight months of coding to make sure that reliability remained consistent. Weekly meetings were held to review SPAFF and discuss any problems or questions arising from coding. The conflict discussions were coded using the Video Coding Station (Long, 1998), which allows data entry, synchronized with the video time code. Twenty-five percent of the tapes were coded by a second coder to calculate reliability. SPAFF categorizes 16 emotions based on facial affect, vocal tone, body language, and content of speech. For the current study, SPAFF codes were collapsed into a Verbal Aggression category. Four codes, domineering, contempt, belligerence, and disgust, were summed into a global Verbal Aggression category, kappa = .91. Belligerence involves asking rhetorical questions that have no answers, sticking one's chin forward, and provoking an altercation. Contempt includes eye-rolling, name-calling, insults, and put-downs. Domineering is coded by glowering (forehead forward), long-winded speech, interrupting, finger-pointing, and staccato speech. Disgust includes wrinkling the root of the nose or saying something like "that's disgusting".

Controlling Behavior. The Measurement of Emotional Abuse (MEA; Murphy & Hoover, 1999) was completed by the female partner to assess emotional abuse and controlling behavior in the relationship. Female participants provided responses to test items measuring their male partner's emotional abuse that had occurred in the past six months on an 8-point rating scale (e.g., never in the relationship, never in the past 6 months, once, twice, 3-5 times, 6-10 times, 11-20 times, and more than 20 times). The MEA is composed of 28-items that creates four subscales: restrictive engulfment, denigration, hostile withdrawal, and domination/intimidation. The current study utilized the restrictive engulfment subscale as an index of controlling behavior that included 7 items. Restrictive engulfment involves tracking,

monitoring, and controlling the partner's activities and social contacts, along with efforts to eliminate perceived threats to the relationship through coercive means. Within the current study, internal consistency coefficients were .88 for the restrictive engulfment subscale.

Dominance. The Dominance Scale (DS; Hamby, 1996) was completed by the male partner to assess their dominant and power behaviors. The DS is composed of 32-items that creates three subscales, authority, restrictiveness, and disparagement. Dominant behavior was assessed using a 4-point Likert-type scale ranging from 1 (*strongly agree*) to 4 (*strongly disagree*). Lower scores reported more dominant behavior. The current study utilized the authority and restrictiveness subscale that included 12 and 9 items, respectively. The authority subscale has been found to be related to decision-making power and has been described as “about being the boss” (Hamby, 1996). The restrictiveness subscale was found to be the most important correlate of psychological aggression, physical assault, and injury and is associated with restricting one's power (Hamby, 1996). For the current study, the internal consistency was .78 for the authority subscale and .79 for the restrictiveness subscale.

Jealousy. Jealousy was assessed among male participants using the Multidimensional Jealousy Scale (MJS; Pfeiffer & Wong, 1989). The MJS is a 24-item questionnaire that includes three subscales: cognitive, emotional, and behavioral. Jealousy level was assessed using two 7-point Likert-type scale ranging from 1 (*never*) to 7 (*all the time*) for the cognitive and behavioral subscales and 1 (*very please*) to 7 (*very upset*). Higher scores represent more jealousy. Cognitive jealousy measured how often the partner thought about their partner becoming interested in a relationship rival (Pfeiffer & Wong, 1989). Emotional jealousy assessed how “upset” partners would feel in response to various jealousy-evoking situations (Pfeiffer & Wong, 1989). Behavioral jealousy measured how often partners engaged in various protective

behaviors (i.e. verbal attack of possible relationship competitors) and detective behaviors (i.e. going through their partner's belongings) (Pfeiffer & Wong, 1989). For the current study, the internal consistency was .92 for the cognitive jealousy subscale, .92 for the emotional jealousy subscale, and .86 for the behavioral jealousy subscale.

Data Analytic Strategy

Preliminary analyses focused on looking at descriptive statistics including age, income, race, and education to check conformity of data to assumptions prescribed for specific analyses, and identifying potential covariates. The full sample consisted of 159 couples while a subsample of the data ($n = 110$) was used for analysis that included jealousy. Different models were utilized to analyze dominance and control (Hypotheses 1a & 2a) and jealousy (Hypotheses 1b & 2b) to test two competing theories of the causes of sexual coercion perpetration. Multiple regressions were used to test these models, while a multivariate regression was used solely to test if the differences between the predictions were significant in hypotheses 3a and 3b. To address hypotheses 3a and 3b, the coefficients of each predictor for sexual coercion perpetration and physical assault perpetration were compared to each other to determine if certain predictors predicted sexual coercion perpetration more than physical assault perpetration. The multivariate equation for hypothesis 3a was: 'sexual coercion perpetration' 'physical assault perpetration' = 'control' 'verbal aggression' 'authority' 'restrictiveness'. While the multivariate equation for hypothesis 3b was: 'sexual coercion' 'physical assault' = 'cognitive jealousy' 'behavioral jealousy' 'emotional jealousy'. The null hypotheses were that the coefficients for sexual coercion perpetration and physical assault perpetration for each predictor variable are equal to 0. Sexual coercion perpetration and physical assault perpetration was log transformed to assist with skewness of the original data. To ensure a meaningful interpretation of an intercept continuously

distributed predictors were centered. Female's reports of men's sexual coercion, physical assault perpetration and controlling behavior were utilized, whereas dominance and jealousy were measured by men's self report. Men's verbal aggression was observed during a conflict discussion. Analyses were performed using SAS 9.4 software (SAS, Inc., Cary, NC) using the PROC REG and PROC GLM procedures.

Results

Demographics

The full sample consisted of 159 ethnically-diverse couples recruited from the community. The male's average age was 31.31 years ($SD = 9.60$) and the female's average age was 29.21 years ($SD = 9.06$). Of those participants that reported income, median gross family income was approximately \$39,000 ($SD = \$28,000$). In this sample, approximately 49% were African American, 30% were Caucasian, 13% were Hispanic, 3% were Asian, and 4% identified as members of other racial and/or ethnic groups. Approximately 68% of the male participants and 49% of the female participants were employed. Female reports of the average sexual coercive acts were 5.69 ($SD = 11.85$) and the average physical assault acts were 12.06 ($SD = 19.63$). While, male reports of the average sexual coercive acts were 6.92 ($SD = 16.10$) and the average physical assault acts were 11.56 ($SD = 24.36$) (See Table 1).

Primary Analyses

Bivariate Pearson correlations were conducted across the full and subsample for all variables involved in the study and are presented in Tables 2 and 3. Cognitive jealousy and behavioral jealousy were highly correlated ($r = .73$), therefore the variance inflation factor was analyzed to test for multicollinearity. No variance inflation factor of above three was found and therefore there was no concern related to multicollinearity between cognitive and behavioral

jealousy. Demographic variables were tested as possible confounds in a MANOVA to predict sexual coercion perpetration: income ($F = .60, p = .92$), race ($F = .60, p = .91$), age ($F = 1.20, p = .28$), and education ($F = 1.48, p = .07$) and physical assault perpetration: income ($F = 1.19, p = .27$), race ($F = 1.10, p = .33$), age ($F = 1.01, p = .47$), and education ($F = 1.28, p = .15$), and no covariates were needed after the preliminary analysis. The subsample ($n = 110$) was no different demographically, male age ($F = 1.11, p = .30$), race ($F = .51, p = .48$), education level ($F = .01, p = .48$), and income ($F = 1.9, p = .17$) from the full sample.

Hypotheses 1a and 1b: Predictors of Sexual Coercion Perpetration

A multiple linear regression was calculated to predict sexual coercion perpetration based on men's verbal aggression during a conflict discussion, female report of men's controlling behavior, and male report of their own authority and restrictive behaviors (see Table 4). Men's controlling behavior ($\beta = .023, t(158) = 2.97, p < .01$) was a significant predictor of increased sexual coercion perpetration. While men's verbal aggression ($\beta = .008, t(158) = 1.42, p = .16$), men's dominance as measure by authority ($\beta = -.017, t(158) = -.81, p = .42$), and men's dominance as measured by restrictiveness ($\beta = -.039, t(158) = -1.75, p = .08$) were not significant predictors of increased sexual coercion perpetration.

Another multiple linear regression was calculated, on a subset of participants ($n = 110$), to predict sexual coercion perpetration based on men's cognitive, behavioral, and emotional jealousy behaviors (see Table 5). Men's behavioral jealousy behaviors ($\beta = .046, t(107) = 3.04, p < .01$) were a significant predictor of increased sexual coercion perpetration. While men's cognitive ($\beta = -.008, t(107) = -.67, p = .50$) and emotional jealousy behaviors ($\beta = -.003, t(107) = -.22, p = .83$) were not significant predictors of increased sexual coercion perpetration.

Hypotheses 2a and 2b: Predictors of Physical Assault Perpetration

A multiple linear regression was calculated to predict physical assault perpetration based on men's verbal aggression during a conflict discussion, female report of men's controlling behavior, and male report of their own dominance (authority and restrictiveness) (see Table 4). Men's controlling behavior ($\beta = .035$, $t(158) = 4.41$, $p < .001$) and men's dominance as measured by restrictiveness ($\beta = -.072$, $t(158) = -3.13$, $p < .01$) were significant predictors of increased physical assault perpetration, while men's verbal aggression ($\beta = .007$, $t(158) = 1.16$, $p = .25$) and men's dominance as measure by authority ($\beta = -.036$, $t(158) = -1.68$, $p = .09$) were not significant predictors of physical assault perpetration.

Another multiple linear regression was calculated, on a subset of participants ($n = 110$), to predict physical assault perpetration based on men's cognitive, behavioral, and emotional jealousy behaviors (see Table 5). Men's emotional jealousy behaviors ($\beta = .032$, $t(107) = 2.12$, $p < .05$) were a significant predictor of increased physical assault perpetration, while men's cognitive ($\beta = .015$, $t(107) = 1.07$, $p = .29$) and behavioral jealousy behaviors ($\beta = .023$, $t(107) = 1.55$, $p = .12$) were not significant predictors of physical assault.

Hypotheses 3a and 3b: Simultaneous Prediction of Sexual Coercion and Physical Assault Perpetration

A multivariate regression tested the difference between beta scores for men's verbal aggression during a conflict discussion, female report of men's controlling behavior, and male report of their own dominance scores with sexual coercion and physical assault (see Table 6). There were no significant differences between the beta coefficients of men's controlling behaviors ($F(1, 154) = 1.81$, $p = .18$), authority behavior ($F(1, 154) = .62$, $p = .43$), restrictiveness behavior ($F(1, 154) = 1.60$, $p = .21$) or observed verbal aggression ($F(1, 154) =$

.04, $p = .85$) for sexual coercion and physical assault perpetration. Therefore, men's controlling behaviors, observed male verbal aggression, authority and restrictive behaviors did not predict increased sexual coercion more than physical assault perpetration.

A second multivariate regression was calculated to test the difference between beta scores for men's cognitive, behavioral, and emotional jealousy behaviors with sexual coercion and physical assault perpetration (see Table 7). There were no significant differences between the beta coefficients of men's cognitive jealousy behaviors, $F(1, 107) = 2.34, p = .13$, or behavioral jealousy behaviors, $F(1, 107) = 1.60, p = .21$ for sexual coercion and physical assault perpetration. Thus, men's cognitive and behavioral jealousy behaviors do not predict sexual coercion more than physical assault perpetration as hypothesized.

Discussion

Despite the high prevalence rate of intimate partner violence, most studies have examined predictors of sexual coercion or physical assault perpetration in isolation. The current study addressed an important gap in the literature by examining differential predictors of sexual coercion and physical assault perpetration while taking multiple predictors into consideration. While we predicted that emotional jealousy would best predict sexual coercion, controlling behavior and behavioral jealousy were the best predictors of sexual coercion perpetration. Emotional jealousy turned out to be a better predictor of intimate partner physical assault than sexual coercion perpetration. In addition, controlling and restrictiveness behaviors were found to be significant predictors of physical assault perpetration but not sexual coercion. No predictors studied better predicted sexual coercion more than physical assault perpetration.

Contrary to this study's first hypothesis that several behaviors would predict sexual coercion, only men's controlling behavior and behavioral jealousy were found to be significant

predictors of men's sexual coercion perpetration in the sample. This finding differs from previous research that found verbal aggression, including insults, (Starratt et al., 2008) and more dominant behaviors (Porubam, 2014) are predictors of more sexual coercion and violence. However, this finding is consistent with previous research that found a positive relationship between men's controlling behaviors and their perpetration of sexual coercion (Shackelford & Goetz, 2004). This may be because controlling behaviors supersede dominance and are more important in terms of predicting sexual coercion perpetration. Additionally, it may be the subscale of the MEA (Murphy & Hoover, 1999) used to examine control assessed actual behaviors such as, "tried to stop the other person from seeing certain friends or family members," whereas authority subscale of the DS (Hamby, 1996) was more trait-based, including questions such as, "my partner needs to remember that I am in charge." Measurement method may also be a factor as the MEA was completed by female partners, whereas the DS was completed by the men. A second possible explanation for this finding may be the rate of sexual coercion in our sample was low since sexual coercion perpetration was not a requirement for participation in the larger study. In the subsample only men's behavioral jealousy behavior was found to be a significant predictor of increased sexual coercion perpetration. This finding is partially consistent with previous research that has found that men's jealousy is a cause of sexual violence (Buss, 2000; Sugarman & Hotaling, 1989). A possible explanation for only behavioral jealousy being a significant predictor of sexual coercion perpetration and not the other two types of jealousy may be related to the men viewing their behaviors as "protective" and they are protecting their partner from cheating on them and potentially becoming pregnant by a rival (Goetz & Shackelford, 2006; Lalumière, Harris, Quinsey, & Rice 2005; Thornhill & Thornhill, 1992).

Among the investigated predictors for predicting increased physical assault perpetration, only men's controlling behavior, male dominance as measured by restrictiveness, and emotional jealousy behaviors were found to be significant predictors of men's physical assault perpetration. The authority subscale of the DS was not found to be a predictor of increased physical assault perpetration. These findings are consistent with Hamby (1996), who found that restrictiveness was more related to aggression and partner violence than was authoritarian control. Additionally, it may be that in the measurement used, authority was more about decision-making power and being in charge while restrictiveness was more related to being aware and limiting their partner's activities, which may be seen as more controlling. Contrary to the hypothesis that cognitive, behavioral, and emotional jealousy would predict increased physical assault perpetration, only emotional jealousy significantly predicted an increase in physical assault perpetration. This may be because emotional jealousy may cause "retaliation" type behaviors because their partner is interested in someone besides them. Additionally, it may be that other studies that have examined jealousy's relation to sexual violence and physical assault perpetration look at jealousy as one concept rather than different types of jealousy.

Surprising, observed verbal aggression during a conflict did not predict increased sexual coercion or physical assault. One may argue that couples in the lab may have been on their "best behavior" and may have display low rates of verbal aggression. However, there was a wide range in verbal aggression coded in this sample, with men displaying verbal aggression from 0% to 86% of the time. The SPAFF analysis was limited to duration of observed code and it did not look at sequence of events the sequence of events throughout the argument. Perhaps, there are behavioral communication patterns between men and women that differentially predict types of

violence in the home. The null findings may also be explained by method variance, as SPAFF was observed, coded behavior whereas all other measures were based on questionnaires.

No significant predictors better predicted sexual coercion perpetration more than physical assault perpetration. This finding may suggest that sexual coercion perpetration is another type and form of physical assault without unique predictors. It is possible that we did not choose the correct variables to study that are uniquely predictive of sexual coercion. It is also possible that no predictors better predicted sexual coercion perpetration over intimate partner physical assault perpetration because of the low base rate of sexual coercion perpetration in our sample. Contrary to hypothesis, men's emotional jealousy predicted increased intimate partner physical assault perpetration more than sexual coercion perpetration. This finding may be due to emotional jealousy potentially being related to not only a retaliatory response, but also a partner wanting to "punish" their partner for them believing that they are interested in someone else.

Limitations and Future Directions

There are two main limitations to the present study. First, most females experienced physical assault perpetration in the relationship but not all females experienced sexual coercion perpetration, which lead to limited variability in the sexual coercion scale. Future research should examine if there are differential predictors in a larger sample size or a sample specifically selected for sexual coercion. Additionally, it may be beneficial to look at predictors of intimate partner sexual coercion perpetration in couples where physical assault perpetration is also not occurring, should they exist. Second, the measures used may not be the best measures available to measure dominance and control. Recent research has developed more specific control scales (Whitaker & Abell, 2014). Future researchers may benefit from utilizing different measures and assessing the context of dominance and control in the relationship. Additionally, future research

may benefit from examining the role of dominance and control as predictors in same-sex couples as the theory behind dominance and control in relationships as a predictor for intimate partner violence is related to social roles which may be different for same-sex couples. The CTS2 does not take into consideration the context in which sexual coercion perpetration takes place. It may be beneficial to conduct more thorough assessments of sexual coercion in the future, possibly with the addition of an in-depth interview. Future researchers are encouraged to examine different types of jealousy in relation to intimate partner violence since findings from this study highlight the fact that not all types of jealousy related in a similar manner to intimate partner violence. It may be beneficial for future researchers to examine the relation between sexual coercion perpetration and control by conducting a latent variable analysis since part of sexual coercion includes control.

Conclusion

The purpose of this study was to identify unique predictors of sexual coercion and physical assault perpetration and to determine if there were any differential predictors that predicted sexual coercion more than physical assault perpetration. Much of the research on intimate partner violence focuses on coercion or physical assault perpetration independently and does not consider differential predictors of different subscales of the CTS2. This study sought to fill that gap by examining predictors of intimate partner sexual coercion and physical assault perpetration simultaneously to examine if predictors better predicted sexual coercion than physical assault. Men's controlling behavior, as reported by the female partner, was found to significantly predict both sexual coercion and physical assault perpetrations while men's self-reported restrictiveness was found to predict intimate partner physical assault perpetration. These findings suggest that sexual coercion is another type of physical abuse and may not need

to be targeted specifically in a clinical setting. Additionally, findings indicated that men's emotional jealousy is a better predictor of increased physical assault perpetration than sexual coercion perpetration. This finding may suggest that men with high emotional jealousy retaliate physically against their partner out of their own insecurities.

The findings highlight the importance of men's controlling behavior as a predictor for both sexual coercion and physical assault perpetration. This information may be used to inform future interventions for intimate partner violence to include skills to help an individual perpetrating intimate partner violence to reduce their controlling behaviors. It may be beneficial to determine in treatment why men are using controlling behaviors against their partner and then target the root cause of the behaviors. Their controlling behaviors may be related to insecurities, sexist attitudes (Lee, Fiske, Glick, & Chen, 2010) or potentially their cultural identity (e.g. Machismo) and may need to be targeted differently in treatment. Addressing men's power and control issues has been a cornerstone of battering intervention programs (Pence & Paymar, 1993). Additionally, motivational Interviewing may be useful to include in treatment to assist men with readiness to change their controlling behaviors (Miller & Rollnick, 2013). Furthermore, it may be beneficial for therapy to include acceptance-based skills including distress tolerance and experiential avoidance (Zarling, Bannon, & Berta, 2017) to decrease controlling behavior and ultimately both sexual and physical abuse.

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Table 1
Descriptive Information of Variables of Interest

Variable	<i>N</i>	<i>M</i>	<i>SD</i>	<i>Range</i>
Female Report: Sexual Coercion	159	5.69	11.85	0-75
Female Report: Physical Assault	159	12.06	19.64	0-94
Male Report: Sexual Coercion	159	6.92	16.01	0-93
Male Report: Physical Assault	159	11.56	24.36	0-177
Control	159	15.87	12.61	0-49
Verbal Aggression	159	14.44	17.16	0-86
Authority	159	34.33	4.99	14-48
Restrictiveness	159	21.62	4.64	9-33
Men's Relationship Satisfaction	159	99.92	19.67	31-150
Women's Relationship Satisfaction	159	99.11	21.86	36-135
Cognitive Jealousy	110	20.38	12.15	8-56
Behavioral Jealousy	110	19.08	11.55	8-56
Emotional Jealousy	110	39.45	9.18	8-56

Table 2
Pearson Correlations Among Independent and Dependent Variables (N = 155)

Variable	Physical Assault	Control	Verbal Aggression	Authority	Restrictiveness
Sexual Coercion	.45**	.27**	.18*	-.14	-.20*
Physical Assault	---	.36**	.20*	-.25**	-.32**
Control		---	.23**	-.05	-.08
Verbal Aggression			---	-.09	-.08
Authority				---	-.39**
Restrictiveness					---

Note. * $p < .05$. ** $p < .01$.

Table 3
Pearson Correlations Among Independent and Dependent Variables (n = 110)

Variable	Physical Assault	Cognitive Jealousy	Behavioral Jealousy	Emotional Jealousy
Sexual Coercion	.45**	.19	.34**	.12
Physical Assault	---	.35**	.45**	.33**
Cognitive Jealousy		---	.73**	.25*
Behavioral Jealousy			---	.44**
Emotional Jealousy				---

Note. * $p < .05$. ** $p < .01$.

Table 4
 Summary of Multiple Regression Analyses for Variables Predicting Sexual Coercion and Physical Assault Perpetration ($N = 159$)

Variable	<i>Sexual Coercion</i>			<i>Physical Assault</i>		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Control	.23	.01	.23**	.04	.01	.32***
Verbal Aggression	.01	.01	.11	.01	.01	.08
Authority	-.02	.02	-.07	-.04	.02	-.13
Restrictiveness	-.04	.22	-.14	-.07	.02	-.24**
R^2		.12			.24	
F		5.30***			12.23**	

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 5
 Summary of Multiple Regression Analyses for Variables Predicting Sexual Coercion Physical Assault Perpetration ($n = 110$)

Variable	<i>Sexual Coercion</i>			<i>Physical Assault</i>		
	<i>B</i>	<i>SE B</i>	<i>t</i>	<i>B</i>	<i>SE B</i>	<i>t</i>
Cognitive Jealousy	-.01	.01	-.67	.01	.01	1.07
Behavioral Jealousy	.04	.01	3.04**	.02	.01	1.55
Emotional Jealousy	-.00	.01	-.22	.03	.01	2.12*
R^2		.10			.16	
F		4.32**			7.04***	

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 6
Multivariate Regression Analysis for Variables Predicting Sexual Coercion and Physical Assault Perpetration Simultaneously (N = 159)

Variable Effect (Pillai's Trace)	Value	F	Significance
Control	.012	1.81	.18
Verbal Aggression	.000	.04	.85
Authority	.004	.62	.43
Restrictiveness	.010	1.60	.21

Table 7
Multivariate Regression Analysis for Variables Predicting Sexual Coercion and Physical Assault Perpetration Simultaneously (n = 110)

Variable Effect (Pillai's Trace)	Value	F	Significance
Cognitive Jealousy	.021	2.34	.12
Behavioral Jealousy	.015	1.60	.21
Emotional Jealousy	.038	4.28	.04