

Symptoms of Posttraumatic Stress Disorder in Men Who Sustain Intimate Partner Violence: A Study of Helpseeking and Community Samples

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Extensive work has documented an association between sustaining intimate partner violence (IPV) and posttraumatic stress disorder (PTSD) among women, yet little research has documented the same association in men, even though men comprise 25–50% of all IPV victims in a given year. Previous studies also show that women who sustain intimate terrorism (IT), a form of IPV that is characterized by much violence and controlling behavior, are at even greater risk for PTSD than women who sustain common couple violence (CCV), a lower level of more minor, reciprocal IPV. However, no research has documented this trend in men who sustain IT versus CCV. The present study investigates the associations among sustaining IPV and PTSD among both a clinical and community sample of men. The clinical sample is comprised of 302 men who sustained IT from their female partners and sought help. The community sample is comprised of 520 men, 16% of whom sustained CCV. Analyses showed that in both samples, the associations between sustaining several types of IPV and PTSD were significant, and that men who sustained IT were at exponentially increased risk of exceeding the clinical cut-off on the PTSD measure than men who sustained CCV or no violence. The path models predicting PTSD symptoms differed for both samples, indicating that perhaps treatment implications differ by group as well.

Keywords: domestic violence, male victims, trauma, intimate terrorism

Intimate partner violence (IPV), which includes physical, sexual, and psychological maltreatment of one partner against another, is a national social and health problem affecting hundreds of thousands of individuals and families a year (Centers for Disease Control, 2006; Tjaden & Thoennes, 2000). Studies of female victims of IPV have consistently shown that physical IPV can lead to symptoms of posttrau-

matic stress disorder (PTSD; Astin, Lawrence, & Foy, 1993; Cascardi, O'Leary, Lawrence, & Schlee, 1995; Gleason, 1993; Housekamp & Foy, 1991; Kemp, Rawlings, & Green, 1991; Saunders, 1994; Woods & Isenberg, 2001). However, although between 25% and 50% of victims of physical IPV in a given year are men (Catalano, 2007; Straus, 1995; Tjaden & Thoennes, 2000), little research has documented this same association in men who sustain physical IPV. The few studies that do examine this association have used convenience or population-based samples (Coker, Weston, Creson, Justice, & Blakeney, 2005; Dansky, Byrne, & Brady, 1999; Hines, 2007), with no investigation of clinical samples of male victims of physical IPV, who, like samples of battered women (Astin et al., 1993; Cascardi et al., 1995; Gleason, 1993; Saunders, 1994), may be at an even greater risk for PTSD symptoms. The current study is an investigation of PTSD and sustaining IPV among both convenience and clinical samples of men.

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PTSD and Sustaining IPV

PTSD is a psychiatric condition that can follow the experience of a traumatic incident, and according to the fourth edition of the Diagnostic and Statistical Manual (American Psychiatric Association, 1994), its symptoms tend to cluster on three dimensions: persistent reexperiencing of the trauma, persistent avoidance of stimuli associated with the trauma, and persistent increased arousal. Although severe and persistent symptoms are needed to be diagnosed with PTSD (Wakefield & Spitzer, 2002), many people who experience a traumatic event respond with at least some of the symptoms of PTSD. The experience of IPV is generally considered to be a traumatic event (Walker, 2000).

PTSD has consistently been found among women who sustain IPV. For example, among battered women, approximately 30–85% evidence PTSD (Astin et al., 1993; Cascardi et al., 1995; Gleason, 1993; Kemp et al., 1991; Saunders, 1994). Moreover, increased symptoms are positively correlated with greater severity of IPV exposure, although even psychological or mild physical IPV can elicit posttraumatic stress (PTS) symptoms (Astin et al., 1993; Housekamp & Foy, 1991; Kemp et al., 1991; Woods & Isenberg, 2001).

Thus, PTSD as a possible outcome of IPV among women has been extensively studied; however, little work has been conducted on whether men could have similar outcomes when sustaining IPV. There is evidence that men who sustain IPV can experience it as a traumatic event (Cook, 2009), and preliminary work is suggestive that sustaining physical IPV among men is associated with increased PTSD symptoms. In one of the few studies on this issue, Dansky, Byrne, and Brady (1999) found that among 58 cocaine-dependent men, men who sustained physical IPV were more likely to report PTSD than men who were assaulted by a non-intimate. In an analysis of data from the National Violence Against Women Survey (NVAWS), Coker and her colleagues (2005) showed that 20% of the 185 men who reported sustaining physical IPV had moderate-to-severe PTSD symptoms. Hines (2007), in a 60-site multinational college student sample of 3,461 men, found that PTSD symptoms was associated with sustaining physical IPV at all sites.

Limitations of Current Research: Convenience Versus Clinical Samples

Although PTSD symptoms and sustaining physical IPV have been shown to be associated in men, the existing research is limited in a number of ways. The study on cocaine-dependent men (Dansky et al., 1999) is a very select sample with limited generalizability, and although larger in its scope, the Hines (2007) study contained only college men, and therefore, its generalizability may be limited as well. The NVAWS is more generalizable because it is a population-based survey; however, Coker et al.'s (2005) analyses did not assess how the severity of the physical IPV sustained might contribute to PTS symptoms. Because research shows that it is not just the exposure to trauma that elicits such symptoms, but rather the severity level of the trauma (e.g., Marsella, Friedman, & Spain, 1996), it is possible that men who report a greater severity of sustained IPV will report more symptoms of PTS.

Moreover, some researchers argue that the IPV that is studied in such convenience and population-based samples may be different from the IPV that is studied in clinical samples, such as samples of battered women (Johnson, 1995), and therefore, the associations among key predictor and outcome variables with sustaining IPV may be different. Johnson (1995, 2006; Johnson & Ferraro, 2000) argues that there are really two distinct types of IPV: (1) common couple violence (CCV), which is typically found in convenience, community, and population-based samples, and is characterized by low-level (e.g., slapping, pushing), low-frequency violence in a couple where both members are about equally violent; this IPV is not part of an overall pattern of control of one partner over the other, but is the result of a conflict "getting out of hand;" and (2) intimate terrorism (IT), which is typically found in shelter, police, or other clinical samples, in which the violence is one tactic in a general pattern of control of one member of the couple over the other. The physical IPV is more frequent than what is found in cases of CCV, is less likely to be mutual, and is more likely to involve serious injury; moreover, IT involves emotional abuse as well. Studies of women have shown that these distinctions may be necessary because each type may have different predictors and

outcomes—indeed, female victims of IT experience significantly greater levels of PTSD than female victims of CCV (Johnson & Leone, 2005; Leone, Johnson, Cohan, & Lloyd, 2004).

In a previous analysis of the two samples used in the current study (Hines & Douglas, 2010), we found that the men in our “helpseeking” sample (i.e., men who sustained physical IPV from a female partner and sought help for this problem) conformed to Johnson’s (1995, 2006; Johnson & Ferraro, 2000) definition of IT—the frequency of physical IPV they sustained was comparable to the frequency with which shelter samples of battered women sustained physical IPV (Giles-Sims, 1983; Johnson, 2006; Okun, 1986; Straus, 1990); this physical IPV was accompanied by high levels of controlling behaviors, severe psychological aggression, and physical injuries. Moreover, their responses to the IPV and controlling behaviors, including violent responses, were comparable to the responses that have been observed in samples of battered women (Giles-Sims, 1983; McDonald, Jouriles, Tart, & Minze, 2009; Saunders, 1988), and the overwhelming majority of the physical arguments were initiated by the female partner. On the other hand, the 16% of the men in our community sample who sustained physical IPV conformed to Johnson’s conceptualization of CCV—they and their female partners used low-level, low-frequency physical IPV at approximately the same rates, with an equal likelihood that either the man or his female partner hit first.

Given these clear differences between the samples in the experiences of men who sustain physical IPV, it is likely that their reactions to such IPV may be different. Associations between PTSD symptoms and sustaining physical IPV have been found in samples similar to our community sample (Coker et al., 2005; Dansky et al., 1999; Hines, 2007); we hypothesize that this association is the same among men in the helpseeking sample. In addition, we hypothesize that in comparison to men who sustain CCV, the symptoms of PTSD are more severe among men who sustain IT, given that their experiences of IPV are much more severe and thus, likely more traumatic. Finally, we hypothesize that the association between IPV, PTSD symptoms, and other key influential variables will be different between the two samples. Although there is a clear functional relationship

among traumatic events and PTSD, studies of the development of PTSD symptoms after a traumatic exposure show that peri-exposure and postexposure environments are important in the development of this disorder. The two that have received the most empirical support are: (1) the level of violence experienced during the childhood of those who experienced the traumatic event; and (2) the level of social support the person receives after the traumatic event (Fontana & Rosenheck, 1994). We hypothesize that these peri- and postexposure environments will function differently in the development of PTSD symptoms in community versus helpseeking samples of men who sustain IPV.

Method

Participants and Procedure

Two separate samples of male participants were recruited for this study: a helpseeking sample and a community sample. For both samples, the men had to speak English, live in the U.S., and be between the ages of 18 and 59 years to be eligible; they also had to have been involved in an intimate relationship with a woman lasting at least 1 month in the previous year. In addition, to be eligible for the helpseeking sample, the men had to have sustained a physical assault from their female partner within the previous year, and they had to have sought help/assistance for their partner’s violence. Help/assistance was broadly defined and included seeking help from formal sources such as hotlines, domestic violence agencies, the police, mental health and medical health professionals, lawyers, and ministers, to more informal helpseeking efforts, such as talking with friends and family members and searching the Internet for information or support groups for male victims.

The helpseeking sample of men ($n = 302$) was recruited from a variety of sources, including the Domestic Abuse Helpline for Men and Women (DAHMW; the only U.S. national hotline specializing in male victims of domestic violence), and online websites, newsletters, blogs, and listservs that specialized in treatment of IPV, male victims of IPV, fathers’ rights issues, divorced men’s issues, men’s health issues, and men’s rights issues. Men who called the DAHMW seeking assistance and who met

the eligibility criteria were invited to participate in this study either by calling a survey research center to complete the interview over the phone or by visiting the study website to complete an anonymous, secure version of the study questionnaire online. Men who saw an advertisement for the study online were directed to the study website to complete the online version of the study. Screener questions regarding the study criteria were on the first page of the sur-

vey, and men who were eligible were allowed to continue the survey. Men who did not meet the eligibility requirements were thanked for their time and were redirected to an "exit page" of the survey. Sixteen men completed the interview over the phone; the remaining 286 completed it online. Demographics of the helpseeking sample can be found in Table 1.

Participants also included 520 men from the community. Approximately half of the commu-

Table 1
Demographics, Intimate Partner Violence Sustained, Social Support, and Childhood Aggression Experiences

	Helpseeking sample (<i>n</i> = 302)	Community sample (<i>n</i> = 520)	χ^2 or <i>t</i>
	% or <i>M</i> (<i>SD</i>)	% or <i>M</i> (<i>SD</i>)	
Demographics			
Age, years	40.49 (8.97)	43.68 (10.88)	4.52***
Education ^a	4.40 (1.56)	4.04 (1.72)	3.13**
	(<i>n</i> = 300)	(<i>n</i> = 514)	
Income, in thousands	\$50.44K (25.69)	\$48.98K (26.13)	0.77
	(<i>n</i> = 296)	(<i>n</i> = 508)	
% White	86.8	84.8	0.59
% Currently in a relationship	56.3	95.8	193.70***
% With minor children	73.2	45.3	64.60***
Length of relationship (in months)	97.90 (82.06)	164.90 (131.01)	8.93***
% Sustaining IPV			
% Controlling behaviors	93.4	20.0	412.20***
% Severe psychological aggression	96.0	13.7	526.31***
% Physical aggression	100.0	16.3	536.60***
% Injured in previous year	78.5	4.0	491.56***
Mean number of acts of IPV sustained in those sustaining IPV			
Number of controlling acts in previous year	42.62 (36.25)	11.36 (16.31)	11.64***
	(<i>n</i> = 282)	(<i>n</i> = 104)	
Number of severe psychological aggression acts in previous year	28.90 (26.20)	9.13 (13.26)	8.98***
	(<i>n</i> = 290)	(<i>n</i> = 71)	
Number of physically aggressive acts in previous year	46.72 (53.48)	12.22 (33.29)	7.27***
	(<i>n</i> = 302)	(<i>n</i> = 85)	
Number of injuries sustained in previous year	11.68 (15.61)	5.52 (11.42)	2.29*
	(<i>n</i> = 237)	(<i>n</i> = 21)	
Social support and childhood aggression experienced			
Social support	5.95 (5.91)	23.73 (5.24)	18.95***
% Sustaining child physical aggression	46.8	35.3	10.65***
% Witnessing IPV between parents	21.5	14.3	7.03***
% Sustaining familial child sexual abuse	12.9	6.4	10.20***
% Sustaining non-familial child sexual abuse	17.2	8.5	14.13***

^a Educational status: 1 = Less than high school, 2 = High school graduate or GED, 3 = Some college/trade school, 4 = Two-year college graduate, 5 = Four-year college graduate, 6 = Some graduate school, 7 = Graduate degree.

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

nity sample ($n = 255$) was recruited to participate in a phone version of the survey by a survey research center, using a random digit dialing technique and CATI administration. The interviewers attempted to reach each phone number on 15 different days, at different times of the day, and made call-back appointments whenever possible. They also made refusal conversion efforts when appropriate. Because of low response rates (8%) during the first 2 months, advanced letters were sent to potential participants informing them that they were randomly selected to participate in a study sponsored by the National Institutes of Health that was focusing on how men and women get along and that they would be contacted within a week by a survey research center interviewer. The response rate for the participants who received an advanced letter was 15.5%. The overall response rate was 9.8%. The other half of the community sample ($n = 265$) was recruited through a panel of survey participants maintained by Survey Sampling, Inc. (SSI), to complete an online version of the same survey. Email invitations were sent to 16,000 male SSI panel members inviting them to participate in a study on how men and women get along. They were directed to an anonymous, secure, online version of the survey. The first page of the survey included screener questions testing for eligibility. Eligible men were able to continue to the rest of the survey, whereas ineligible men were thanked for their time. The survey was closed after we met our target sample size of 265 men. Because data collection was ceased when the target goal for the number of completed surveys was reached and we did not wait for all men who received invitations to complete the survey, response rates for the Internet sample cannot be reliably calculated. Demographic information on the full community sample ($n = 520$) can be found in Table 1.¹

The methods for this study were approved by the boards of ethics at the participating institutions. All of the men participated anonymously and were apprised of their rights as study participants. Steps were taken to ensure their safety: At the completion of the survey the participants were given information about obtaining help for IPV victimization and how to delete the history on their Internet web browser. Previous analyses of these datasets did not focus on the asso-

ciations between PTSD symptoms and the IPV these men experienced.

Measures

Both the helpseeking and community samples were given the same core questionnaires regarding demographics, aggressive behaviors that they and their female partners may have used in the previous year, more detailed information regarding their last physical argument (if applicable), their mental health, and various risk factors. The helpseeking sample was given additional questions pertaining to their specific helpseeking experiences in an aggressive relationship and what prevents them from leaving the relationship. Only the questionnaires used in the current analyses will be described below.

Demographic information. Men were asked basic demographic information about both themselves and their partners, including age, race/ethnicity, personal income, education, and occupation. Men were also asked about the current status of their relationship, the length of their relationship with their partners, how long ago the relationship ended (if applicable), and how many minor children were involved in that relationship, if any.

Revised Conflict Tactics Scales (CTS2). The CTS2 (Straus, Hamby, Boney-McCoy, & Sugarman, 1996) was used to measure the extent to which the men in the study sustained psychological, physical, and sexual aggression, and injuries in their relationships. The items used for the current study included 5 items assessing minor physical aggression (e.g., grabbing, shoving, slapping) and 7 items assessing severe physical aggression (e.g., beating up, using knife/gun) that were combined into a total physical aggression scale; and 6 items assessing injuries (e.g., having a small cut or bruise, broken bone, passing out). The eight CTS2 items regarding psychological aggression were supplemented with seven items from the Psychological Maltreatment of Women Inventory (Tol-

¹ Although beyond the scope of the current article, readers may be interested in learning about differences between the men in community sample who took the survey via phone versus online. Further information on these differences can be found in Hines, Douglas, and Mahmood (2010). None of the differences found impacted the findings of the current study.

man, 1995). To investigate the factor structure of this combined psychological aggression scale, a factor analysis that combined the two samples was conducted using the victimization items (see Hines & Douglas, 2010, for further details on this analysis). The factor analysis revealed that there were three subscales: Minor Psychological Aggression (e.g., insulting/swearing, shouting/yelling, doing something to spite partner), Controlling Behaviors (e.g., not allowing to leave the house, monitoring time and whereabouts), and Severe Psychological Aggression (e.g., threatening to harm partner, intentionally destroying something belonging to partner). For the current study, only the controlling behaviors and severe psychological aggression scales were used, because they are the types of IPV that differentiate IT from CCV.

Participants responded to items depicting each of the conflict tactics by indicating the number of times these tactics were used by the participant and his partner in the previous year. Participants indicated on a scale from 0 to 6 how many times they experienced each of the acts in the previous year, 0 = 0 times; 1 = 1 time; 2 = 2 times; 3 = 3–5 times; 4 = 6–10 times; 5 = 11–20 times; 6 = more than 20 times. Congruent with Straus et al. (1996), these data were then transformed in order to obtain an approximate count of the number of times each act occurred in the previous year, using the following scale: 0 = 0 acts in previous year; 1 = 1 act in the previous year; 2 = 2 acts in the previous year; 3 = 4 acts in the previous year; 4 = 8 acts in the previous year; 5 = 16 acts in the previous year; 6 = 25 acts in the previous year.

The *CTS2* has been shown to have good construct and discriminant validity and good reliability, with internal consistency coefficients ranging from .79 to .95 (Straus et al., 1996). Reliability statistics for the current samples were .82 for both the Controlling Behaviors and Severe Psychological Aggression scales, .92 for the Physical Aggression scale, and .68 for the Injury scale.

Aggressive childhood experiences. Aggressive childhood experiences were assessed using items from Sexual Abuse History (SAH) and Violence Socialization (VS) scales of the *Personal and Relationships Profile* (Straus, Hamby, Boney-McCoy, & Sugarman, 1999). To reduce participant burden, we condensed the 16 items from these two scales into four

items. Participants indicated the extent to which they agreed or disagreed (1 = strongly disagree, 4 = strongly agree) with each statement: “When I was less than 12 years old, I was spanked or hit a lot by my mother or father” (sustaining child physical aggression), “When I was a kid, I saw my mother or father kick, punch, or beat up their partner” (witnessed interparental IPV), “Before I was 18, a family member did things to me that I now think might have been sexual abuse” (sustained familial child sexual abuse), and “Before I was 18, someone who was not part of my family did things to me that I now think might have been sexual abuse” (sustained nonfamilial child sexual abuse). Reports of the psychometric properties of both scales indicate that they have adequate validity and overall alphas of .73 (VS scale) and .76 (SAH scale) (Straus & Mouradian, 1999). For the current study, we also dichotomized each item: Participants who indicated they agreed/strongly agreed with an item were coded as having sustained that type of childhood abuse; if they disagreed/strongly disagreed, they were coded as not having sustained that type of childhood abuse.

The ENRICHD Social Support Instrument (Mitchell et al., 2003) was used to measure the perceived social support of the participants. It contains 6 items that measure emotional and instrumental support. Participants indicated on a 5-point scale the extent to which each statement was true of their situation (1 = none of the time, 5 = all of the time). Example items include, “How often is someone available to you whom you can count on to listen to when you need to talk?” and “How often is someone available to help you with daily chores?” This instrument has demonstrated excellent convergent and predictive validity, and excellent internal consistency reliability, with an overall alpha of .86 (Mitchell et al., 2003). For the present study, the overall alpha was .94.

PTS symptoms. The *PTSD Checklist (PCL)* (Weathers, Litz, Herman, Huska, & Keane, 1993) is a 17-item self-report measure of the severity of PTSD symptomology. Items reflect three symptom clusters: reexperiencing, numbing/avoidance, and hyperarousal. Consistent with the concept of PTSD and per the instructions of the *PCL*, the questions were anchored to one specific traumatic event. For this study, respondents were asked to think about

their worst argument with their female partner, and then indicate the extent to which they were bothered by each symptom in the preceding month using a 5-point scale (1 = not at all, 5 = extremely). The items were then summed to create a continuous measure of PTSD symptoms. Scores were also dichotomized to indicate the likely presence or absence of PTSD. Although there is currently debate regarding the exact cut-off score that is possibly indicative of PTSD (e.g., suggestions range from 44 to 50), we chose a cut-off score of 45 that was used in a study of breast cancer patients (Andrykowski, Cordova, Studts, & Miller, 1998). It is important to also note that Ruggiero, DelBen, Scotti, and Rabalais (2003) found little differences in the diagnostic efficiency of these various cut-points using a civilian sample. One item, "Feeling as if your future will somehow be cut short," was not included in the survey because participants reported that they did not understand the item during pilot testing of the instrument. The PCL has been validated for use in both combat and civilian populations, and the civilian version was used for this study. The PCL has been shown to have excellent reliability (Weathers et al., 1993) and strong convergent and divergent validity (Blanchard, Jones-Alexander, Buckley, & Forneris, 1996; Ruggiero et al., 2003). Furthermore, the PCL has been shown to have high diagnostic utility (.79–.90) when validated against "gold standard" measures such as the Structured Clinical Interview for DSM-IV Axis I Disorders (First, Gibbon, Spitzer, & Williams, 1996). For the current samples, the alpha for all items combined was .97, and ranged from .91 for the avoidance/numbness subscale to .93 for the reexperiencing subscale.

Results

Differences Between Samples in Demographics, IPV, and Possible Mediators

Table 1 presents the differences between the helpseeking and community samples in demographic characteristics, the prevalence and frequency of sustaining four types of IPV, social support, and the prevalence of experiencing childhood aggression. The men in the community sample were significantly older, more likely to be currently in a relationship, and in significantly longer relationships than the men in the helpseek-

ing sample. The men in the helpseeking sample attained significantly higher levels of education and were more likely to have minor children. These demographic differences were used as potential covariates in subsequent ANCOVAs.

For sustaining IPV, chi-square analyses showed that the helpseeking sample was significantly more likely to sustain all four types of IPV: Controlling Behaviors, Severe Psychological Aggression, Physical Aggression, and Injuries. In addition, after removing men from both samples who did not sustain a given act of IPV, *t* tests showed that men in the helpseeking sample sustained significantly more acts of IPV in the previous year than men in the community sample.

Finally, *t* tests showed that men in the helpseeking sample reported significantly lower social support than community men, and chi-square analyses revealed that men in the helpseeking sample were significantly more likely to have sustained all types of childhood aggression.

Differences Among Groups in PTSD Scores

We first investigated whether men who sustained IT had a greater likelihood of reaching a clinical cut-off for PTSD than men who sustained CCV or men who sustained no IPV. Thus, congruent with our previous analysis of and findings from this dataset (Hines & Douglas, 2010), we divided the community sample into those who sustained physical IPV (CCV group) and those who sustained no physical IPV (No IPV group). As discussed in the Introduction and shown in Hines and Douglas (2010), the helpseeking sample was a sample of IT victims, and therefore, that sample was used as an indicator of men who sustained IT.² We then performed a chi-square analysis to investigate

² A full description of how we determined that the helpseeking sample was a sample of IT victims can be found in Hines and Douglas (2010). Briefly, we did a series of comparisons between the helpseeking and community samples in the rates and frequencies of physical IPV, controlling behaviors, severe psychological IPV, and injuries reported by the male participants to test Johnson's conceptualization that IT is physical IPV in the context of controlling behaviors and severe psychological IPV, whereas CCV is characterized by low-level mutual physical IPV without the same level of controlling behaviors as in IT. In comparison to the male helpseekers, the female partners of men in the helpseeking sample had significantly higher rates of all types of IPV, and just among those men and women who engaged in physical and

whether there were significant differences among the three groups in the percentage of men scoring above the clinical cut-off. As shown in Figure 1, only 2.1% of the no IPV men scored above the clinical cut-off; this jumped to 8.2% for the CCV group, and then increased exponentially to 57.9% for the IT group. Chi-square analyses and post hoc tests showed that all three groups were significantly different from each other, $\chi^2(2, N = 822) = 323.99, p < .0000001$.

We then investigated whether there were differences between the no IPV, CCV, and IT groups on their total score on the PCL and the subscale scores. A series of ANCOVAs were performed, controlling for significant covariates, and Tamhane post-hoc tests (which correct for heterogeneity of variance among groups) were used to identify the locus of any significant differences. As shown in Table 2, all three groups were significantly different from each other on the total PCL score and all three subscales. Moreover, as indicated by the effect size, group membership explained 49.8–57.3% of the differences in PCL scores.

psychological IPV, the female partners used 5–6 times the frequency of physical IPV, severe psychological IPV, and controlling behaviors. The helpseeking men also had significantly higher rates of injuries than their female partners; among those men and women who sustained injuries, the men were injured at approximately twice the frequency. Finally, the frequency with which men sustained violence in the previous year (46.72 acts) is comparable to the frequency of violence sustained in samples of battered women (between 15 and 68 acts per year). Patterns of IT were also found when we compared the helpseeking with the community sample. In comparison to the female partners of community men, the female partners of helpseeking men engaged in significantly higher rates and frequencies of all types of IPV: they were 54 (controlling behaviors) to 407 (minor physical IPV) times more likely to use IPV. Among just those women who used IPV, the female partners in the helpseeking sample had significantly higher frequencies of IPV, ranging from about 1.5 times (severe physical IPV) to over 3.75 times (controlling behaviors, total physical IPV) the frequency of IPV than female partners in the community sample. Moreover, the men in the helpseeking sample were injured at higher rates and frequencies—they were close to 90 times more likely to have sustained an injury in the past year, and when comparing just those men who were injured, men in the helpseeking sample had about twice the frequency of injuries. Finally, the female partners in the helpseeking sample were significantly more likely to have used physical IPV first, in both the last physical argument (97% vs. 56.9%) and ever (91.7% vs. 53.0%).

Bivariate Correlations Between IPV and PTSD for Both Samples

We then performed a series of analyses to investigate the associations among sustaining IPV, PTSD symptoms, and possible mediators. We performed these analyses on the community and helpseeking samples separately because of Johnson's (1995) assertion that each of these samples would be measuring different phenomena. Our first step in investigating the associations between PTSD and sustaining IPV consisted of a series of correlational analyses (see Table 3). We correlated, for each sample separately, the frequency with which the participants sustained all four forms of IPV with their total score on the PCL, their three subscale scores, and the dichotomous variable of whether the participant exceeded the clinical cut-off for PTSD. As shown, for both samples, the frequency of all four forms of sustaining IPV was significantly correlated with the total score on the PCL, the scores on all of the subscales, and with the clinical cut-off variable. The only exception was that among helpseekers, the frequency of sustaining injuries was not significantly correlated with the clinical cut-off score. Moreover, the correlations in the community sample appear to be higher than the correlations in the helpseeking sample. However, *z*-score analyses of the differences between correlation coefficients showed that after Bonferroni corrections for multiple tests of hypothesis, no correlations were significantly different from each other. Thus, sustaining IPV is similarly correlated with PTSD symptoms for both community and helpseeking men.

Path Models

We then investigated the direction of effects among sustaining IPV, PTSD symptoms, social support, and experiences of childhood aggression. In the interest of parsimony, we combined the scores on the two childhood physical aggression measures (sustaining child physical aggression and witnessing interparental IPV) into a variable called "Violent Socialization" and the scores on the two childhood sexual abuse measures (sustaining familial and nonfamilial child sexual abuse). For sustaining IPV, we only used the frequency with which they sustained physical aggression and controlling behaviors be-

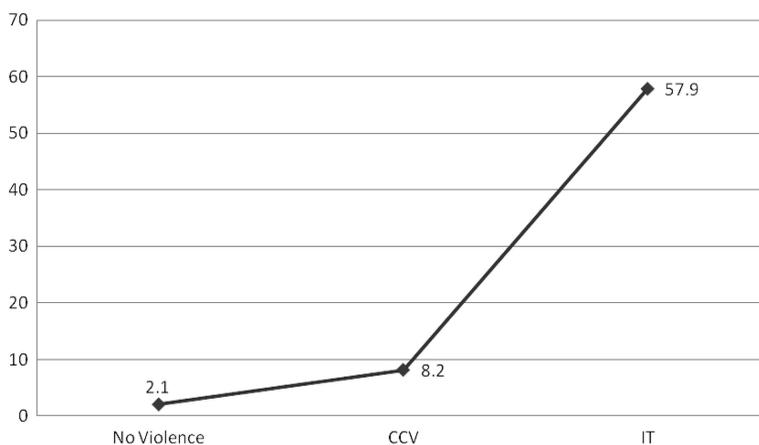


Figure 1. Percent of each group scoring above the clinical cut-off on the PCL.

cause these are the two types of IPV that are the central features of IT. Finally, we used the total score on the PCL as our indicator of PTSD. Although PTSD is typically considered to be a dichotomous diagnostic category, we chose to use the continuous measure as our outcome to increase variability because of increasing evidence that it may be more of a dimensional disorder (Broman-Fulks et al., 2006) and of little agreement as to the exact cut-off that should be used to indicate the presence of PTSD (Ruggiero et al., 2003).

The full model that we tested is shown in Figure 2. As indicated by this figure, we hypothesized that involvement in childhood aggression would predict sustaining IPV in adulthood and would also predict PTSD symptoms. We also predicted that sustaining IPV would have both direct and indirect, through social support, influences on PTSD. This full model

was tested on each sample separately. Initially, the full model for each sample was evaluated for its adherence to the assumption of multivariate normality. For the community sample, Mardia's (1970, 1974) normalized estimate of multivariate kurtosis equaled 280.33, which is well above the standard cut-off of 5 and indicates a non-normal distribution (Bentler, 2005). For the helpseeking sample, multivariate kurtosis was lower, 9.12, but still indicated a non-normal distribution.

Therefore, we employed the bootstrapping procedure for estimating standard errors and reducing bias in our estimates of parameters and their significance. Although not without its limitations, bootstrapping is a procedure that is routinely used when estimating path models with non-normal data (Byrne, 2010). Each bootstrapped model was evaluated using four fit measures—chi-square, root mean square error

Table 2
AN(C)OVA Results on the Differences Among IPV Groups in PTSD

PCL scale	No violence <i>M</i> (<i>SD</i>)	CCV <i>M</i> (<i>SD</i>)	IT <i>M</i> (<i>SD</i>)	<i>F</i> (<i>df</i>)	η^2
Total PCL score	19.50 (7.08) ^a	25.20 (11.72) ^a	46.56 (14.25) ^a	547.76 ^{***} (2, 815)	.573
Re-experiencing	6.28 (2.45) ^b	8.06 (4.50) ^b	14.98 (5.15) ^b	458.94 ^{***} (2, 819)	.528
Avoidance/numbness	7.45 (2.99) ^a	9.81 (4.62) ^a	17.26 (6.42) ^a	404.50 ^{***} (2, 815)	.498
Hyperarousal	5.78 (2.23) ^b	7.33 (3.70) ^b	14.32 (5.04) ^b	497.93 ^{***} (2, 819)	.549

Note. CCV = common couple violence; IT = intimate terrorism.

^a Means in the same row sharing superscripts are significantly different from each other after controlling for age. ^b Means in the same row sharing superscripts are significantly different from each other according to a Tamhane's post-hoc test. ^{***} $p < .001$.

Table 3
Bivariate Correlations Among Sustained IPV and PTSD for Both Samples

PCL scale	Helpseeking sample (<i>n</i> = 302)				Community sample (<i>n</i> = 520)			
	Controlling behaviors	Severe psychological aggression	Physical aggression	Injuries	Controlling behaviors	Severe Aggression	Physical aggression	Injuries
Total score	.29***	.21***	.25***	.19***	.44***	.31***	.22***	.24***
Re-Experiencing	.25***	.12*	.20***	.17**	.44***	.32***	.25***	.32***
Avoidance/numbness	.24***	.21***	.24***	.17**	.41***	.27***	.18***	.18***
Hyperarousal	.27***	.23***	.21***	.15**	.38***	.27***	.19***	.18***
Scored > 45 ^a	.26***	.18**	.16**	.11	.38***	.29***	.21***	.31***

Note. After Bonferonni corrections, analyses show no significant differences between the corresponding correlations of the two samples.

^a 45 is the clinical cut-off for PTSD on the PCL.

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

of approximation (RMSEA), normed fit index (NFI), and comparative fit index (CFI)—as recommended by Tabachnik and Fidell (2006). This method ensures that a model fit is tested from several different perspectives (Meyers, Gamst, & Guarino, 2006). Model statistics were then examined to investigate whether better fitting models could be achieved. Modification indices were first examined to investigate whether there were theoretical and statistical reasons to add any paths to the model. Next, nonsignificant paths were pruned one-by-one until an excellent-fitting model was achieved. This end model was compared with the original model on their Aikake's Information Criterion (AIC) and Expected Cross-Validation Index

(ECVI); smaller AIC values represent better-fitting models, and smaller ECVI values represent the greatest potential for replication (Byrne, 2010).

For the community sample, five cases were removed because of incomplete data on the childhood aggression measures. The full hypothesized model achieved an excellent fit to the data: $\chi^2(2) = 2.38$, $p = .30$; NFI = .99; CFI = .99; RMSEA = .02, AIC = 40.38, ECVI = .08. In the interest of parsimony, nonsignificant paths were pruned one at a time until only significant paths remained. The final, parsimonious model had similar fit statistics, but with smaller AIC and ECVI: $\chi^2(4) = 7.94$, $p = .10$; NFI = .98; CFI = .99; RMSEA = .04,

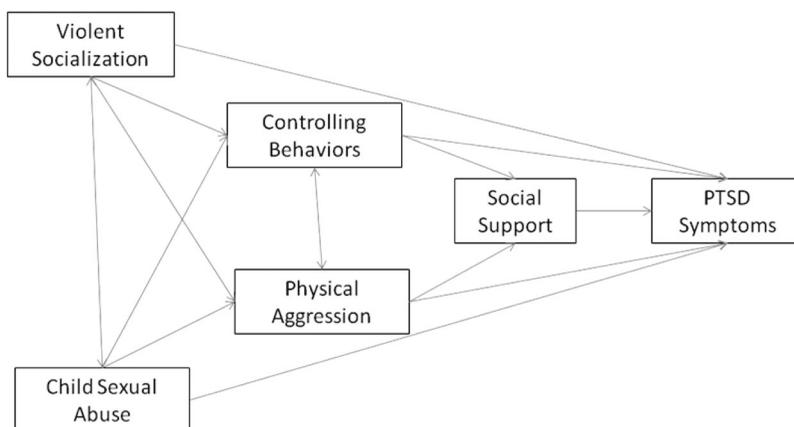


Figure 2. Conceptual model predicting PTSD symptoms from sustained aggression tested on both samples.

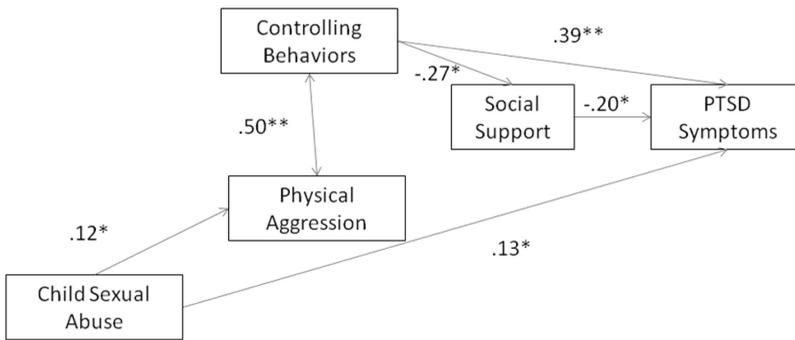


Figure 3. Final model for the community sample predicting PTSD symptoms from sustained aggression. * $p < .05$. ** $p < .01$.

AIC = 29.94, ECVI = .06; the parameter estimates for this model are shown in Figure 3. The only childhood aggression variable to achieve significance was child sexual abuse, which predicted sustaining physical IPV and PTSD symptoms. Sustaining physical IPV did not have any direct or indirect influence on PTSD symptoms, but was correlated with sustaining controlling behaviors. Sustaining controlling behaviors, on the other hand, had both direct and indirect influences on PTSD symptoms, and in fact, had the strongest direct influence on PTSD symptoms of all of the aggression items. For the indirect effect, sustaining controlling behaviors was associated with lower social support, and lower social support was subsequently associated with higher levels of PTSD symptoms.

For the helpseeking sample, one case was removed because of incomplete data on a childhood aggression variable. When the data were tested against the full hypothesized model, the model achieved a moderate-to-poor fit: $\chi^2(2) = 13.34, p < .001$; NFI = .93; CFI = .93; RMSEA = .14, AIC = 51.338, ECVI = .171.

Nonsignificant paths were pruned one-by-one until an excellent fitting model was achieved: $\chi^2(2) = 2.17, p = .34$; NFI = .98; CFI = .99; RMSEA = .02, AIC = 18.172, ECVI = .061; this final model is shown in Figure 4. Violent socialization had the strongest influence on PTSD, although controlling behavior and physical IPV victimization made significant unique contributions as well. Violent socialization did not predict controlling behavior or physical IPV victimization, which were significantly associated with each other. Social support did not mediate the association between IPV victimization and PTSD, and childhood sexual abuse did not predict IPV victimization or PTSD.

Discussion

Our study, the first to investigate the associations among PTSD and IPV victimization among a clinical sample of men, provides strong initial evidence that PTSD is a major concern among men who sustain IPV and seek help. In addition, by comparing levels of PTSD

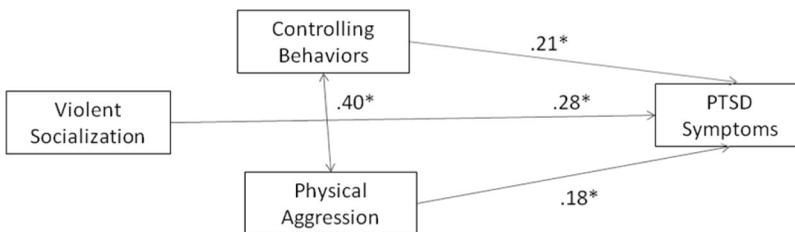


Figure 4. Final model for the helpseeking sample predicting PTSD symptoms from sustained aggression. * $p < .05$.

and its associations with other key variables, we were able to provide some support to the theory that such associations would be different when researchers study clinical versus convenience samples of men.

In support of previous research (Coker et al., 2005; Dansky et al., 1999; Hines, 2007), we found that for both samples of men, sustaining IPV was significantly correlated with PTSD and its three clusters of symptoms. However, we also found that in comparison to men who sustain no physical IPV and men who sustain CCV, men who sustain IT (a type of IPV that is characterized by severe violence and controlling behaviors) are at exponentially increased risk for exceeding a clinical cut-off for PTSD. In fact, almost 60% of the male helpseekers exceeded this cut-off, a percentage that is similar to what samples of battered women typically show (Astin et al., 1993; Cascardi et al., 1995; Gleason, 1993; Saunders, 1994). Moreover, when comparing samples on the scores that the men had on the PTSD measure, we found that group membership explained over 50% of the variance in PTSD scores—this is a very large effect size (according to Cohen [1988], an effect size of .15 is considered large for an *F* statistic), and shows just how at risk men who sustain IT are for both experiencing PTSD symptoms and exceeding a clinical cut-off for this disorder.

In addition, these findings provide further evidence that the IPV that the helpseeking sample of men are sustaining is IT. Researchers have found that among women, IT victims report significantly more symptoms of PTSD than victims of CCV do (Cohen, 1988; Johnson & Leone, 2005; Leone et al., 2004) and have therefore concluded that another feature of IT is the severe psychological consequences of the IPV. Moreover, they point toward this difference as further evidence that the predictors, theories, and intervention methods would necessarily differ between studies using community/population-based samples and those using clinical samples (Johnson & Leone, 2005).

Our study supports these notions as well. In addition to PTSD being exponentially higher in the helpseeking sample, the associations between PTSD and sustaining different types of IPV were somewhat different. The model for the community sample was congruent with what others have found regarding the influence

of prior history of abuse, sustaining trauma, and social support on PTSD (Fontana & Rosenheck, 1994). Consistent with this previous research, among the community sample of men, sustaining childhood abuse put the men at risk for both sustaining IPV and PTSD, and the influence of sustaining controlling behaviors on PTSD was at least partially mediated by social support. What is unique about this model is that it appears that it is the controlling behaviors, not the physical IPV, that are experienced as traumatic for the community men, which is congruent with research among battered women that shows that it is often the controlling and psychologically abusive aspects of a relationship that are viewed as more traumatic than the physical violence (e.g., Follingstad, Rutledge, Berg, Hause, & Polek, 1990).

On the other hand, our proposed model was a poor fitting model for the helpseeking sample, and the best-fitting model was a simpler model that posited direct, additive influences of sustaining both childhood physical aggression and adult physical IPV and controlling behaviors on symptoms of PTSD. Why the more complex model did not fit for the helpseeking sample and why this simple model provides such an excellent fit are unknown. In addition, the fact that a childhood history of aggression provided such a strong influence on current symptoms of PTSD also contradicts previous literature that shows only small influences of childhood abuse on adult symptoms of PTSD after exposure to subsequent trauma (Brewin, Andrews, & Valentine, 2000). Therefore, the results presented here should be replicated in other samples of men sustaining IT, and future research should explore other potential mediators, such as shame, anger, and self-blame, that have been shown to be important mediators of PTSD development in victims of violent crime (Andrews, Brewin, Rose, & Kirk, 2000; Weaver & Clum, 1995).

Nonetheless, our findings that there is an additive influence of childhood and adult experiences of intrafamilial aggression on PTSD symptoms in this helpseeking sample are informative and provide tentative treatment implications. First, it is important for any treatment provider who encounters a man who discloses physical IPV and controlling behaviors against him by his partner to acknowledge that this man likely has been traumatized. This is an impor-

tant first step, because previous research on this sample showed that not only did men experience more negative than positive experiences with treatment providers, but every time a man in our helpseeking sample experienced a negative response from a treatment provider, his odds of exceeding the clinical cut-off for PTSD increased significantly (Douglas & Hines, provisionally accepted). Next, the traumas of experiencing aggression as a child, and controlling behaviors and physical IPV as an adult, should be central to any treatment program, and should be linked to other traumatic experiences, such as combat exposure and natural disasters; by establishing this link, it could remove any self-blame the men may be feeling (Kemp et al., 1991). According to Kemp et al., the most effective therapy for women who sustain IT would involve a combination of supportive and trauma processing sessions, with a crucial emphasis on the support that can be provided through involvement in battered women support groups. Given that there is no research exploring treatment options for men who sustain IT, we would urge therapists to use and evaluate a similar model for men who sustain IT and seek help, and to then tailor a more appropriate model for men. A crucial aspect of this development would be the institution of support groups for men who sustain IT, which are currently lacking (Hines & Douglas, 2011).

In addition, the fact that the community sample had a substantially different explanatory model for PTSD provides preliminary implications for treatment as well. Service providers who encounter men who sustain IPV will need to make the distinction between whether the IPV they are experiencing is IT or CCV because the relationship dynamics and the effect that the IPV has on the man will differ between the two (Johnson & Leone, 2005). Men who are experiencing CCV might benefit from couples' therapy, an intervention that has been shown to be very effective in certain types of couples experiencing lower levels of IPV because it teaches important skills in problem solving, anger management, and conflict resolution (O'Leary, Heyman, & Neidig, 1999; Stith, Rosen, & McCollum, 2003). However, this type of intervention may not be appropriate for men experiencing IT, because their female partners are engaging in more severe types of IPV and controlling behaviors as well; the men may risk retaliation

if they disclose certain behaviors of their partners in the context of couples' therapy (Johnson & Leone, 2005).

The limitations of this study need to be addressed so that future research can replicate and expand on the findings reported here. First, this is a correlational study, and therefore, inferences about causality cannot be firmly established. However, our measure of PTSD did orient the men around their worst argument with their female partner; in addition, the childhood experiences of aggression naturally came earlier in time than both IPV experiences and PTSD symptoms they experienced in the previous month, so some cause-effect can be implied.

A second limitation is that the study relies solely on the men's reports of their partners' aggressive behaviors and their own psychosocial characteristics. This limitation is important to consider for three primary reasons. First, correlations between aggressive behaviors and psychosocial characteristics may be inflated because certain traits of the participant may influence how he answers both sets of questions (Cooper, 2002). Second, it is possible that the men overestimated their female partners' use of IPV. Although studies of couples reporting on IPV show no difference between male and female partners in their estimates of women's use of physical IPV (Archer, 1999), it could be the case that when men are seeking help because of their partner's IPV, they may overestimate their female partner's use of various types of IPV. Third, by using only the men's reports, we have no external validation of the authenticity of their reports. We were concerned, particularly for our helpseeking sample, about the confidentiality and safety of the participants if we asked their partners to participate in this study as well. Therefore, we opted not to obtain these data directly from the female partner, but note that such methodology has been used in other social science research [e.g., studies of battered women (Walker, 2000) and divorced families (Furstenberg, Morgan, & Allison, 1987; Lee, 1997; Seltzer, 1991; Seltzer & Bianchi, 1988)]. Thus, future studies should strive to obtain information from multiple informants.

Overall, our study is the first to provide information on the mental health of men who sustain IT and seek help. A majority of these men are suffering from PTSD, which seems to be a direct result of the physical IPV and con-

trolling behaviors they are sustaining in their relationships and a history of aggression they sustained in childhood. Their experiences are markedly different from men who sustain CCV, which is also correlated with PTSD, but is not experienced at such high frequencies by men involved in such relationships. Therefore, we recommend that when working with men who sustain IPV that treatment providers distinguish between whether clients have experienced CCV or IT, and that they provide the appropriate treatment depending upon the type of IPV the men have experienced. The results of this study and other work on IPV indicate that this may be the most fruitful way to provide treatment for men who have experienced IPV and present with PTSD symptoms.

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