

Patterns of Intimate Partner Violence: Correlates and Outcomes

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Battered women experience different constellations of violence and abusive behavior characterized by various combinations of physical violence, sexual violence, psychological abuse, and stalking. The goals of the current study were to determine whether it was possible to identify empirically derived and meaningful patterns of intimate partner violence (IPV) and to examine correlates and outcomes of the IPV patterns. Three IPV patterns were identified using cluster analysis. Pattern 1 was characterized by moderate levels of physical violence, psychological abuse, and stalking but little sexual violence. Pattern 2 was characterized by high levels of physical violence, psychological abuse, and stalking but low levels of sexual violence. Pattern 3 was characterized by high levels of all violence types. IPV Pattern 3 was associated with the highest prevalence of posttraumatic stress disorder and depression, and IPV Pattern 2 had the highest levels of revictimization during the year following recruitment. The clinical and policy implications of the findings are discussed.

Keywords: IPV patterns; cluster analysis; PTSD; depression; revictimization

The nature of the intimate partner violence (IPV) that battered women experience is not uniform. Instead, battered women struggle with a variety of combinations of physical violence, sexual violence, psychological abuse, and stalking. The severity of each type of violence or abusive behavior also varies. It is unclear what causes this variability and how these differences may be related to battered women's mental health and revictimization. To learn more about the relationship between violence patterns and battered

women's outcomes, it is important to assess more thoroughly the types and levels of violence and abusive behavior perpetrated and to longitudinally assess relationships between violence patterns and outcomes. This will enable researchers and clinicians to develop a more ecologically valid and comprehensive understanding of battered women's experiences with violence and the outcomes of those experiences over time.

Physical Violence

A number of studies have demonstrated a relationship between the severity of the physical violence experienced by battered women and poor mental health outcomes including depression (Campbell, Kub, Belknap, & Templin, 1997; Cascardi & O'Leary, 1992), suicidal behavior (Kaslow et al., 1998), and posttraumatic stress disorder (Astin, Lawrence, & Foy, 1993; Houskamp & Foy, 1991; Kemp, Green, Hovanitz, & Rawlings, 1995). In a sample of 234 primarily White battered women, Follingstad, Brennan, Hause, Polek, and Rutledge (1991) observed that women who experienced more severe physical violence also reported higher levels of and more severe physical and psychological symptoms. In a study of 77 sheltered battered women that examined the relationship between physical violence and mental health outcomes, the frequency and severity of the physical violence was related to both the presence and severity of posttraumatic stress disorder (PTSD), depression, anxiety, and overall symptom distress (Kemp, Rawlings, & Green, 1991). A recent review found that greater intensity of IPV was related to worse PTSD symptoms (Jones, Hughes, & Unterstaller, 2001).

Sexual Violence

In the general trauma literature, sexual violence is associated with high rates of PTSD. In the National Comorbidity Study, rape was the trauma most likely to be associated with PTSD among men (65%) and women (45.9%) who identified rape as their most upsetting trauma (Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995). Resnick, Kilpatrick, Dansky, Saunders, and Best (1993), in an assessment of the prevalence of crime and non-crime-related traumatic events in a national sample of women in the US, found that completed rape (32%) and other sexual assault (30.8%) were highly associated with lifetime PTSD.

The relationship between sexual violence and poor outcomes in the general community has important implications for understanding the impact of sexual violence in battered women. In the context of battering relationships, a large proportion of battered women also report experiencing sexual violence (Campbell, 1989; Campbell & Soeken, 1999; Finkelhor & Yllo, 1985). Forced sex appears to be a marker for violence severity in battering relationships as it is associated with increased frequency and severity of violent episodes and increased risk for homicide (Campbell, 1989; Campbell et al., 2002). It is only recently, though, that the impact of sexual violence in battered women has been examined. Research has demonstrated a relationship between sexual violence and poor physical health outcomes, including increased rates of sexually transmitted diseases, pelvic pain, and urinary tract infections (Campbell & Alford, 1989; Eby & Campbell, 1995). In a recent study of the relationship between forced sex and mental health outcomes in battered women, Campbell and Soeken (1999) identified a significant correlation between the number of sexual assaults experienced (childhood, adult, intimate partner) and depression as well as poor body image. However, not all studies have identified sexual violence as a risk factor over and above physical battering for poor mental health outcomes (Campbell et al., 1997; Riggs, Kilpatrick, & Resnick, 1992).

Psychological Abuse and Stalking

Psychological abuse in the context of a violent relationship is often overlooked despite its prevalence. An early study of the impact of psychological abuse found that nearly three quarters of a community sample of battered women self-reported that the impact of the psychological abuse was worse than the physical battering (Follingstad, Rutledge, Berg, Hause, & Polek, 1990). More recent evidence suggests that psychological abuse is a significant and independent predictor of poor mental health outcomes (Coker et al., 2002). For example, in a study of court-involved battered women, traumatic responses were primarily predicted by psychological abuse (Dutton, Goodman, & Bennett, 1999). In a study of 68 sheltered battered women, Arias and Pape (1999) observed that psychological abuse, but not physical abuse, was a significant predictor of PTSD symptomatology. Sackett and Saunders (1999) found that psychological abuse and physical abuse made unique and significant contributions to the prediction of depression and low self-esteem. Research has begun to identify particular aspects of psychological abuse, including the destruction of property (Follingstad et al., 1991), that are associated with poor mental health outcomes. Research on stalking is in its infancy. Yet one study has shown that greater extent of stalking (Mechanic, Uhlmansiek, Weaver, & Resick, 2000) has been associated with worse mental health outcomes as manifested by increased rates of depression and PTSD.

Studies of IPV Patterns

Most prior research failed to take into account the spectrum of violence that women experience and its relationship to important battered women's outcomes. Examining the entire constellation of violence experienced is important given that most women do not experience one form of violence in isolation. Although each battered woman's pattern of violence and abusive acts experienced is unique, there is likely benefit in the examination of the relationship between empirically derived violence patterns and outcomes.

Early cluster analysis studies (e.g., Marshall, 1996; Snyder & Fruchtmann, 1981) emphasized the importance of identifying different subgroups of battered women, but failed to examine the relationship between the subgroups and relevant correlates and outcomes. Aguilar and Nightingale (1994), for example, conducted a hierarchical cluster analysis of the violence experiences of a sample of battered women to identify which violence experiences were likely to co-occur. They identified four violence clusters: (a) physical abuse (e.g., being pushed, hit with a fist); (b) emotional/controlling abuse (e.g., being told what to do, kept from working); (c) sexual/emotional abuse (e.g., being told you were crazy, being treated as a sex object); (d) miscellaneous abuse (being bit, told how to spend money). Each participant was given a score on each of the abuse clusters indicating the degree to which she endorsed having experienced that particular type of abuse. The authors then examined the relationship of cluster scores to their primary outcome of interest, self-esteem. High scores on the emotional/controlling abuse cluster and low scores on the miscellaneous abuse cluster were significantly related to lower self-esteem levels. In addition to demonstrating the relationship between particular types of violence and low self-esteem, the results of this study indicated that the experience of battered women is quite variable. However, because women were not assigned to orthogonal groups based on their differing patterns of violence and abuse and because the study focused solely on self-esteem as an outcome, the results do not inform the understanding of the relationship between complex violence patterns perpetrated and the outcomes experienced by battered women.

The purpose of the current study was first, to determine whether it was possible to identify empirically derived and meaningful patterns of IPV and second, to examine correlates and outcomes over time of the different IPV patterns. Background variables examined include battered women's demographic information, site of recruitment, and community interventions received. These background variables were selected to determine if the identified IPV patterns differed on important characteristics other than violence exposure. Outcomes examined include battered women's mental health and relationship involvement at baseline and then 3 and 12 months later, as well as revictimization 3 and 12 months later. These variables were selected to characterize the experience of battered women with different patterns of IPV exposure as a step toward the development of targeted interventions to address the impact of IPV.

METHOD

Participants

Participants ($N = 406$) were recruited from one of three sites in the same mid-Atlantic city at the point that they were seeking assistance for IPV perpetrated by a current or former male partner. The first site, a shelter for battered women ($n = 68$, 16.7%), is the main crisis shelter for battered women and their children in this city. Participants were recruited within the first 30 days of their shelter stays. The second site, the District Court, Civil Division ($n = 220$, 54.2%), handles petitions for civil protection orders. Participants were recruited at the point that they were seeking an initial temporary restraining order. The third site, the District Court, Domestic Violence Criminal Docket ($n = 118$, 29.1%), is a specialized court handling most domestic violence misdemeanor cases in the city. Participants were recruited outside the courtroom following the final disposition of the case.

Procedure

This study is part of a larger longitudinal investigation of battered women's experiences. In-person interviews were conducted at the time of recruitment. Follow-up interviews were conducted every 3 to 4 months via telephone. The larger investigation is currently in the 10th wave of data collection. This study focuses on data from Time 1 (baseline), Time 2 (3 to 4 months later), and Time 5 (1 year later).

Law students were trained as research assistants to recruit participants and administer Time 1 questionnaires. Recruiters described the study briefly to potential participants and then conducted a brief screening to ensure their eligibility. To participate in the study, a woman had to be (a) a victim of IPV perpetrated by a man who was a current or former intimate partner, (b) English speaking, (c) not intoxicated at the time of recruitment, and (d) without significantly impaired mental status at the time of the initial interview. As part of written informed consent, each potential participant was advised that a researcher would subsequently contact her by telephone at specified intervals. She was asked to provide contact information for purposes of follow-up and to answer a series of questions about how to maximize her safety during follow-up contacts.

The initial interview/questionnaire required approximately 45 to 60 minutes to complete, and participants were paid \$20 for their time. Participants completed the questionnaire either on their own in a private room or by interview according to their preference

($n = 294$). Women who were willing to participate in the study, but unable to do so at the time, were offered the questionnaire with a stamped envelope to be returned by mail ($n = 112$). The overall refusal rate among women we attempted to recruit was 28.6%. Follow-up interviews required approximately 60 minutes and were conducted by BA and master's level psychology students.

MEASURES

Demographic Variables

Information was obtained for age, ethnicity, education, employment, income, living situation, marital status, duration of relationship, current relationship status, and number of children.

Site and Community Interventions

Although we recorded site of recruitment (Shelter, District Court, Civil Division, or District Court, Domestic Violence Criminal Docket), many participants pursued multiple community interventions (e.g., shelter and protection order). Participants were asked which of the three community interventions had utilized at the baseline interview. Use of community interventions was categorized into a four-level variable: (a) criminal court only, (b) CPO court only, (c) criminal and CPO court, and (d) shelter with or without criminal or CPO court, referred to as shelter in the text.

Violence Variables

Physical and Sexual Violence. Intimate partner physical and sexual assault was measured by a modified Revised Conflict Tactics Scales (CTS-2 Form A; Straus, Hamby, Boney-McCoy, & Sugarman, 1995). The original seven items on the Sexual Coercion subscale were consolidated into four, thereby eliminating items that asked about his "insisting" on sex without the use of force or threats. A new item was also created: "I had sex with him because I was afraid of what he would do if I didn't." These questions were asked with regard to the past year for the "index" partner. Response choices were "yes" or "no." A percent endorsed score was calculated for the subscale and total scores. In addition, the Physical Assault and Injury subscales were used.

Psychological Abuse. Psychological abuse was measured with the short (13-item) version of the Psychological Maltreatment of Women Inventory (PMWI; Tolman, 1999). This inventory asks whether participants have experienced a variety of acts of psychological abuse, ranging from "he swore at me" to "he watched over my activities and insisted I tell him where I was at all times." Response choices range from 1 (never) to 5 (a lot). The PMWI is composed of two subscales designed to measure dominance-isolation (PMWI-DI) and emotional-verbal (PMWI-EV) psychological abuse (Tolman, 1989). The short form has been shown successfully to discriminate battered and nonbattered women (Tolman, 1999).

Stalking. Stalking was assessed with a modified form of the stalking assessment used in the Violence Against Women survey (Tjaden & Thoennes, 2000). Wording changes were made to simplify the language, one item was added ("He hurt or killed my pet"), and one

was eliminated. Items were answered as "yes" or "no." A score reflecting the percentage of the seven stalking items endorsed was calculated.

Relationship Involvement

Current involvement in the relationship, living arrangement with the index partner, the desire to continue the relationship, and the expectation of future contact were assessed at each data collection. Current involvement was assessed with the yes/no question, "Are you currently in a relationship with (index partner)?" Living arrangement was assessed with the question, "What is your living arrangement with (index partner)?" with three choices, "living together," "staying together off and on," and "not living together." The desire to continue the relationship was assessed with the yes/no question, "Do you plan to continue an intimate relationship with (index partner)?" The expectation of future contact was assessed with the yes/no question, "Do you expect to have any contact for any reason (including the children) with (index partner)?"

Mental Health Outcomes

Posttraumatic Stress Disorder. Posttraumatic stress disorder symptoms and diagnosis were assessed using the PTSD Checklist (PCL-S; Weathers, Litz, Herman, Huska, & Keane, 1993) which requires participants to indicate on a 5-point scale the degree of distress they have experienced for each of the PTSD symptoms included in the DSM-IV diagnosis. For the purposes of establishing a diagnosis, symptoms that are rated as moderately severe or greater are classified as present. The PCL-S has good reliability with structured interviews for PTSD; a recent study of victims of motor vehicle accidents or sexual assault indicated that the correlations between the PCL-S and the CAPS was .93 (Blanchard, Jones-Alexander, Buckley, & Forneris, 1996).

Depression. Self-reported, current depressive symptomatology was assessed using the Center for Epidemiological Studies—Depression Scale (CES-D; Radloff, 1977). Respondents report the number of times they have experienced each of 20 depressive symptoms over the week prior to the interview. The total score reflects severity of depression. This scale has been used extensively with community samples of low-income (Belle, 1982; Goodman, 1991) and battered women (Dutton, 1998; Dutton et al., 1999; Sullivan & Bybee, 1999). Preliminary research with low-income, urban battered women in the court system found Cronbach's alpha to be .91 (Dutton, 1998; Dutton et al., 1999; Goodman, Bennett, & Dutton, 1999).

Quality of Life. Emotional well-being was assessed using the Quality of Life Scale (Andrews & Whitey, 1976) modified by Sullivan for use with battered women (Sullivan & Bybee, 1999). Participants rate satisfaction with nine particular areas of their lives on a 5-point, Likert-type scale. The scale has adequate internal consistency (Cronbach's alpha = .88) with corrected item-total correlations ranging from .56 to .79.

IPV Threat Appraisal. A measure of perceived threat (Dutton, Goodman, Weinfurt, Vankos, & Kaltman, 2003) from the index intimate partner was based on the conceptual model of batterer-generated risks described earlier (Davies et al., 1998). The measure was modeled after an earlier measure of threat appraisal developed by the first author (Dutton, 1992) that focused on risk of physical harm and death. Sixteen items were generated representing violent, nonviolent, and child-related threats toward the participant or others close to her using a 5-point, Likert-type scale. Participants were asked to rate how likely

they believed the index partner was to engage in each of the threat items. The alpha coefficient for the total score was .91.

Data Analysis Plan

Agglomerative hierarchical cluster analysis using the average (between-groups) linkage method was used to determine IPV patterns. The number of patterns was selected based on changes in R -squared and the pseudo t -squared statistics. Relationships between the identified patterns and possible battered women's correlates and outcomes were examined with analysis of variance (ANOVA) for continuous variables, logistic regression for categorical variables, and multinomial logistic regression for categorical variables with more than two categories. Results from logistic and multinomial logistic models are reported as odds ratios (ORs) and their accompanying 95% confidence intervals (CIs).

RESULTS

Participants

Of the baseline sample of 406 women, 81% percent were African American ($n = 324$), 13% were non-Hispanic White ($n = 44$), and the remainder reported another racial identity. The mean age of the sample was 32 years ($SD = 8.7$). Seventy-four percent of the sample completed at least the 12th grade. At baseline, 48% worked full time, 14% worked part time, and 26% were unemployed. Thirty-nine percent of the sample reported receiving federal assistance. The mean length of time involved with the batterer was 72 months ($SD = 70.9$). Twenty-eight percent of the sample reported that they were married to their batterer; 8% reported that they were married, but separated; 2% reported that they were divorced; 38% identified their batterer as a boyfriend; and 19% reported that he was an ex-boyfriend. The mean number of children reported by the sample was 2 (range 0–8).

Identification of IPV Patterns

Three IPV patterns were identified (see Figure 1) using cluster analysis on Time 1 data. IPV Pattern 1 was characterized by moderate levels of physical violence, psychological abuse, and stalking but very little sexual violence. IPV Pattern 2 was characterized by high levels of physical violence, psychological abuse, and stalking but low levels of sexual violence. IPV Pattern 3 was characterized by high levels of physical violence, psychological abuse, stalking, and sexual violence. Duration of IPV was significantly associated with IPV pattern, $R^2 = .10$, $p \leq .001$, with longer durations of IPV associated with Patterns 2 and 3 (see Figure 2). The odds of having more than 0 months between first and most recent violence was more than three times greater for both IPV Pattern 2 (OR = 3.36, CI = 1.72, 6.56) and IPV Pattern 3 (OR = 3.56, CI = 1.89, 6.69) than IPV Pattern 1.

Relationship Between IPV Patterns and Battered Women's Demographic Variables

The IPV patterns were significantly associated with ethnicity, $R^2 = .06$, $p \leq .01$ (see Table 1). African American women were more highly represented in IPV Pattern 1 compared to Patterns 2 and 3. The odds of experiencing IPV Pattern 1 versus IPV Pattern 3 were 2.86

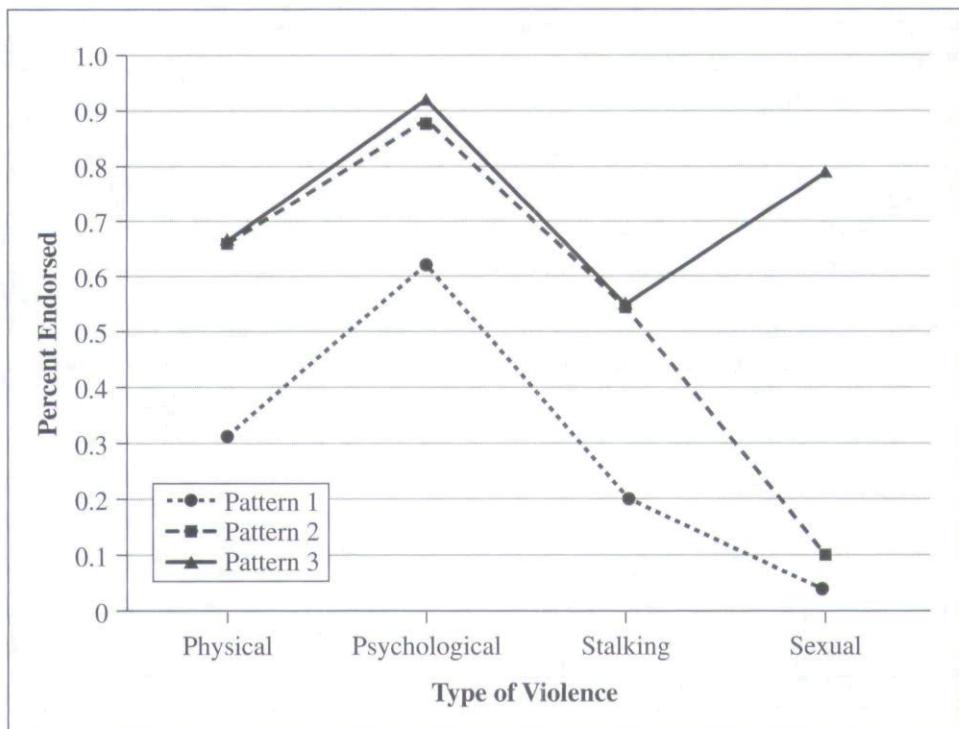


Figure 1. IPV patterns at Time 1.

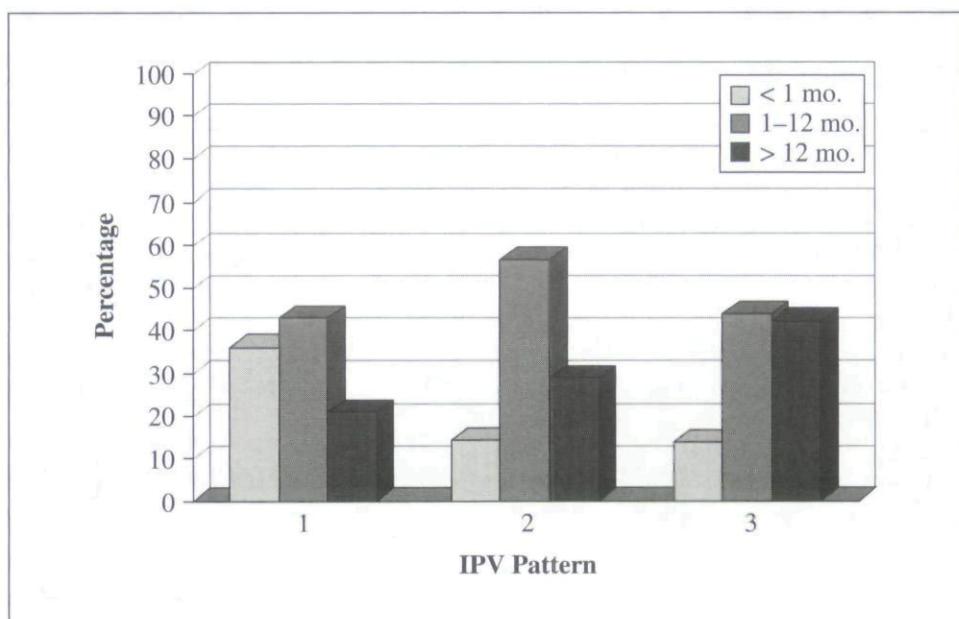


Figure 2. Duration of IPV across IPV patterns.

TABLE 1. Relationship Between IPV Patterns and Battered Women's Correlates

Correlate	Proportion of Sample		
	Pattern 1	Pattern 2	Pattern 3
Race			
African American	.51	.21	.28
White	.26	.34	.40
Other	.32	.41	.27
Employment			
Yes	.52	.23	.25
Site of recruitment			
CPO court	.49	.27	.24
Criminal court	.59	.17	.24
Shelter	.17	.27	.56

times greater for African American women than White women ($OR = 2.86, CI = 1.33, 6.164$). The odds of experiencing IPV Pattern 1 versus IPV Pattern 2 were over three times greater for African American women than White women ($OR = 3.27, CI = 1.467, 7.30$). The IPV patterns were significantly related to employment at Time 1, $R^2 = .03, p < .05$. The odds of experiencing IPV Pattern 1 versus IPV Pattern 3 were two times greater for women who were employed than unemployed women ($OR = 1.98, CI = 1.22, 3.22$). No other demographic variables were significantly related to IPV patterns.

Relationship Between IPV Patterns and Site of Recruitment and Community Interventions

Significant differences were observed in the distribution of sites of recruitment by pattern, $R^2 = .12, p \leq .001$ (see Table 1). Relatively more women with IPV Pattern 3 violence were recruited from the shelter and relatively more women with IPV Pattern 1 were recruited in the criminal court. The odds of being from the CPO site versus the shelter were almost seven times greater for someone with IPV Pattern 1 versus IPV Pattern 3 violence ($OR = 6.79, CI = 3.20, 14.41$) and over twice as great for someone with IPV Pattern 2 versus IPV Pattern 3 violence ($OR = 2.30, CI = 1.17, 4.53$). The odds of being from the criminal court versus the shelter were over eight times greater for women with IPV Pattern 1 versus IPV Pattern 3 violence ($OR = 8.15, CI = 3.61, 18.39$).

Because women were eligible to engage multiple community interventions regardless of site of recruitment, the relationship between IPV patterns and community interventions pursued was also examined. IPV patterns were significantly associated with the type of community interventions received, $\chi^2 (6) = 40.73, p \leq .001$. Regardless of site of recruitment, IPV Pattern 3 participants were more likely to have sought help from a shelter. Twenty-seven percent of participants with IPV Pattern 1 violence utilized the criminal court only, 41% the CPO court only, 24% both criminal and CPO courts, and 8% shelter. Twelve percent of participants with IPV Pattern 2 violence utilized the criminal court only, 42% the CPO court only, 26% both criminal and CPO courts, and 20% shelter. Thirteen percent of participants with IPV Pattern 3 violence utilized the criminal court only, 27% the CPO court only, 25% both criminal and CPO courts, and 35% shelter.

Relationship Between IPV Patterns and Battered Women's Relationship Involvement

At Time 1, differences in rates of current involvement in the battering relationship and differences in expectations for continued contact with the batterer were not significant across different IPV patterns. However, differences in the desire for a continued relationship among the IPV patterns were significant, $R^2 = .10, p < .001$. Twenty-five percent of IPV Pattern 1 participants reported a desire to continue the relationship versus 16% of IPV Pattern 2 and 5% of IPV Pattern 3 participants. The odds of desiring to continue the relationship were over 6.5 times greater for someone experiencing IPV Pattern 1 than IPV Pattern 3 (OR = 6.56, CI = 2.49, 17.26). The odds of desiring to continue the relationship were nearly 3.75 times greater for someone experiencing IPV Pattern 2 than IPV Pattern 3 (OR = 3.73, CI = 1.29, 10.82). Interestingly, in spite of these Time 1 differences in desire for the relationship to continue, differences in rates of actual involvement in the battering relationship were not significant at both Time 2 (3 months) and Time 5 (12 months). At Time 2, 39% of women experiencing IPV Pattern 1 were involved with the index battering partner as compared to 36% of women experiencing IPV Pattern 2, and 25% of women experiencing IPV Pattern 3. At Time 5, 42% of women experiencing IPV Pattern 1 were involved with the index battering partner as compared to 22% of women experiencing IPV Pattern 2, and 13% of women experiencing IPV Pattern 3.

Relationship Between IPV Patterns and Battered Women's Mental Health Outcomes

The IPV patterns were significantly related to level of PTSD symptoms at Time 1, $F(2, 381) = 48.47, p \leq .001$ (see Table 2). IPV Pattern 3 was associated with significantly higher levels of PTSD symptoms than IPV Pattern 2, which in turn was associated with significantly higher levels of symptomatology than IPV Pattern 1. The same pattern held for PTSD diagnosis. The IPV patterns were significantly associated with PTSD diagnosis, $R^2 = .13, p \leq .001$. Eighty-eight percent of participants in IPV Pattern 3 met criteria for PTSD, 76% in IPV Pattern 2, and 56% in IPV Pattern 1. The odds of meeting criteria for PTSD were 2.5 times greater for someone experiencing IPV Pattern 2 (OR = 2.51, CI = 1.43, 4.41) and 5.556 times greater for IPV Pattern 3 violence (OR = 5.56, CI = 2.95, 10.47) than IPV Pattern 1 violence. The odds of meeting criteria for PTSD were 2.21 times greater for someone experiencing IPV Pattern 3 than IPV Pattern 2 (OR = 2.21, CI = 1.06, 4.62).

The IPV patterns were similarly related to level of depression symptoms, $F(2, 180) = 35.48, p \leq .001$ (see Table 2). Participants in IPV Pattern 3 reported significantly higher

TABLE 2. Relationship Between IPV Patterns and Battered Women's Outcomes

Outcome	Pattern 1 <i>M (SD)</i>	Pattern 2 <i>M (SD)</i>	Pattern 3 <i>M (SD)</i>
PTSD Sum Score	39.72 ^a (16.2)	52.69 ^b (17.9)	58.47 ^c (15.9)
Depression Mean Score	1.26 ^a (0.59)	1.62 ^b (0.62)	1.84 ^c (0.56)
Quality of Life Sum Score	32.50 ^a (8.07)	27.38 ^b (9.50)	27.05 ^c (9.98)
Threat Appraisal Mean Score	2.10 ^a (1.02)	2.80 ^b (1.11)	2.98 ^c (1.02)

Note. Different superscripts denote statistically significant differences.

levels of depression symptoms than participants in IPV Pattern 2, who had significantly higher levels than participants in IPV Pattern 1. The same pattern held for suggested major depression diagnosis, CES-D score ≥ 16 , $R^2 = .10$, $p \leq .001$. Ninety-five percent of participants in IPV Pattern 3 met criteria for suggested major depression, 88% in IPV Pattern 2, and 75% in IPV Pattern 1. The odds of meeting criteria for suggested major depression diagnosis were 2.5 times greater for someone experiencing IPV Pattern 2 violence ($OR = 2.50$, $CI = 1.22, 5.12$) and six times greater for someone experiencing IPV Pattern 3 ($OR = 5.99$, $CI = 2.46, 14.59$) than IPV Pattern 1 violence.

The IPV patterns were significantly associated with quality of life scores, $F(2, 381) = 16.43$, $p \leq .001$ (see Table 2). IPV Pattern 1 participants reported significantly greater quality of life than participants in IPV Pattern 2 or IPV Pattern 3, which were not different from each other.

The IPV patterns were significantly associated with threat appraisal, $F(2, 366) = 34.36$, $p \leq .001$ (see Table 2). Although not different from each other, participants from both IPV Pattern 2 and IPV Pattern 3 endorsed significantly higher levels of threat appraisal than those from IPV Pattern 1.

Relationship Between IPV Patterns and Revictimization

The IPV patterns were significantly associated with experiencing physical and/or sexual violence revictimization during the year following recruitment into the study ($p < .01$). Participants in IPV Pattern 2 (61%) were most likely to endorse experiencing revictimization during the year as compared to participants in IPV Pattern 1 (36%) and IPV Pattern 3 (47%). The odds of experiencing physical and/or sexual revictimization during the year were over 2.5 times greater for someone from IPV Pattern 2 than IPV Pattern 1 ($OR = 2.87$, $CI = 1.64, 5.02$).

DISCUSSION

Since battered women do not experience one type of violence or abusive behavior in isolation, it is important to examine the relationship between complex profiles of violence and outcomes. Three meaningful violence patterns of physical violence, sexual violence, psychological abuse, and stalking were identified using cluster analysis. Participants with Pattern 1 exposure reported moderate levels of violence across violence type. Participants with Pattern 2 exposure experienced high levels of physical violence, psychological abuse, and stalking, but low levels of sexual violence. Pattern 3 participants experienced high levels across all types of violence including sexual violence. The cluster analysis identified groups that differed in terms of the overall severity of violence experience, moderate (Pattern 1) versus severe (Patterns 2 and 3). Further, despite highly similar patterns of physical violence, psychological abuse, and stalking in Patterns 2 and 3, the analysis identified an important difference between the two severe groups, namely the level of sexual violence experienced.

In terms of correlates of the patterns, participants who experienced moderate levels of violence (Pattern 1) were more likely to be employed at baseline. This finding suggests that women who experience more severe violence are less likely to be employed, which is consistent with prior research (e.g., Browne, Salomon, & Bassuk, 1999). Alternatively, employment may serve as protection against abuse. African American women were more

represented in Pattern 1 than in other patterns. This may suggest differences in the severity of violence across different racial groups or, alternatively, differences in the use of public services across different racial groups. Differences across site of recruitment suggest that different community service systems are more likely to serve women with particular constellations of violence experiences. Therefore, service providers need to have at their disposal methods for identifying patterns of IPV and the ability to deliver interventions that are tailored accordingly. Further research is needed to learn how to most effectively tailor and deliver tailored interventions to battered women.

In terms of mental health outcomes, Pattern 3 was associated with the highest levels of PTSD and depression symptomatology and diagnosis. This confirms prior research that identified a relationship between the greater severity of violence and mental health impairment (Astin et al., 1993; Campbell et al., 1997; Cascardi & O'Leary, 1992; Kemp et al., 1995). These findings also suggest that sexual violence has an incremental impact on PTSD and depression even in the context of high level of severity of other forms of violence and abuse. Because women in Pattern 3 were also relatively more likely to be recruited from the shelter, these findings in combination suggest the importance of shelters being able to assess and treat mental health problems. Participants in Patterns 2 and 3 reported similar levels of overall threat appraisal that were higher than levels reported by participants in Pattern 1. Similarly, Patterns 2 and 3 reported lower quality of life than Pattern 1. These findings underscore the point that battered women have high threat appraisal and poor quality of life both with and without sexual violence.

Despite difference in desire to continue the relationship, differences in actual relationship involvement among the IPV patterns were not significant. This suggests that the women encountered obstacles to fulfilling their wishes to end the relationship or alternatively, that women became ambivalent or were persuaded to remain in the relationship. Because expectations for contact with the batterer were similar across the patterns, a further possibility is that continued contact with the batterer served as a barrier to ending the relationship even for women who reported wanting out of the relationship. Thus, it is important for service providers to understand the role of continued contact as well as reasons for contact (e.g., children). Differences in the likelihood of revictimization emerged over the course of the first year. This emphasizes the need for long-term follow-up of battered women both in terms of research and clinical work.

One explanation for the observed findings is that the IPV patterns represent a progression from moderate to severe violence over time; that is, we captured women at different stages. Support for this hypothesis is offered by the finding that participants in Patterns 2 and 3 reported experiencing violence for significantly longer periods of time than their counterparts in Pattern 1. Also, the patterns may represent a progression in the women's effort to deal with the violence. Support for this hypothesis is provided by the finding that participants with Pattern 3 exposure, the most severe violence exposure, were most likely to enter shelters. Generally, these findings provide insight into the natural course violent relationships may take and point to targets of intervention.

Although this study makes a significant contribution to the literature by identifying meaningful patterns of IPV and their correlates and outcomes, it is not without limitations. First, all participants were recruited following their participation in one or more community interventions. Therefore, the results do not generalize to the larger population of battered women who may choose not to pursue community intervention or may utilize services other than those found in the court system or shelters. Second, although the consistency of

the findings and the large size of the sample increase our confidence in the results, this study should be replicated. Third, there are many other variables that were not examined, including help-seeking behaviors and the impact of the interventions, which may shed further light on the relationship between configurations of IPV and important outcomes.

Our findings are significant from a public policy perspective for several reasons. The three identified patterns are meaningful and represent a manageable number from which to base policy decisions. The findings highlight the importance of a thorough assessment of the entire constellation of IPV experienced by battered women. The findings also support the need for community service providers to be equipped to assess IPV configurations and provide appropriately tailored interventions.

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