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## Dyadic Patterns of Intimate Partner Violence in Early Marriage

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### Abstract

**Objective**—Research examining dyadic patterns of intimate partner violence (IPV) often focuses on static conceptions based on whether either the husband or wife has exhibited any violence. This study examined the dyadic patterns of IPV empirically and traced how these groups change over time.

**Method**—Couples (N=634) were assessed with respect to IPV and relationship satisfaction at the time of marriage, and at their first and second anniversaries. Cluster analysis was conducted on Total Aggression, Differential Aggression, and the Aggression Ratio prior to marriage for couples with any violence.

**Results**—This analysis revealed 5 clusters; Very High-Husband to Wife, (High:H>W); Very High-Wife to Husband (High-W>H); Low to Moderate, Husband to Wife (Low:H>W); Low to Moderate, Wife to Husband (Low-W>H); Low to Moderate, Both Aggressive (Low:H=W). The majority (57%) of the aggressive couples were classified in the gender asymmetric groups. Most asymmetric clusters became symmetric over time, but the High:H>W cluster became more asymmetric. By the 2<sup>nd</sup> anniversary, all clusters were characterized by higher injuries experienced by wives than by husbands.

**Conclusion**—These results demonstrate that a considerable amount of IPV that is typically classified as “bidirectional” is gender asymmetric and that these asymmetric patterns tend to converge into more symmetric patterns over time.

The recognition of violence between intimate partners as a major social problem dates to the late 1960s and focused on the plight of women in relationships with violent men.

Understandably, early research focused on women seeking help through hotlines and

shelters in response to severe and unremitting husband violence. This focus suggested that partner violent men were domineering aggressors and women were primarily victims, and supported the position of victim advocates that domestic violence was the result of a society that condoned or at least tolerated violence against women (Dutton & Corvo, 2006). This view was prevalent throughout domestic violence research in the 1970s and 1980s (Frieze, 2005).

The conceptualization of intimate partner violence (IPV) perpetration as a male dominated activity was challenged when Straus, Gelles, and Steinmetz (1980) reported findings from a national survey that indicated that women were aggressive toward their partner as frequently as men. These controversial findings were met with considerable criticism. It was argued that these figures were misleading because they did not capture the context of the violent behaviors (Saunders, 1988; Walker, 1984). Thus, it was argued that a woman's violence represented defensive actions to protect herself from an abusive partner, or a pre-emptive strike to prevent further violence. Others suggested that women may use violence against their partner, but primarily at intensities that do not cause significant injury (Dobash & Dobash, 1979).

Over the past 25 years, the finding that the prevalence of female-perpetrated IPV equaled or exceeded the prevalence of male-perpetrated IPV in community samples has been replicated numerous times (cf Archer, 2000; also Bates, Graham-Kevan & Archer, 2014; O'Leary et al, 1989). In a comprehensive meta-analysis, Archer (2000) reviewed 82 studies and concluded that women were slightly more likely to perpetrate IPV than men. Men, however, were more likely to injure their partners, although a third of those reporting injuries were men (Archer, 2000). Also, Cascardi and Vivian (1995) found that women attribute their aggression to self-defense less than one-fourth of the time; thus, indicating that there are other reasons for their IPV.

Increasingly, studies have eschewed simple comparisons of male and female perpetrated violence in favor of examining dyadic combinations of male and female violence. Johnson, for example, (1995) argued that there were two broad types of violence, *patriarchal terrorism* and *common couple violence*. While these two dyadic combinations are hypothesized to differ primarily in terms of the motivation of the men to control their partners, Johnson also observed that they were differentially present in shelter versus survey samples. Moreover, he suggested that the patriarchal terrorism group, observed primarily in shelter samples, differed from common couple violence in that patriarchal terrorism was more severe and more frequent, and that it tended to escalate over time. As implied by the name, it was viewed primarily as being perpetrated by the male partner (Johnson (2005) now refers to it as intimate terrorism and has acknowledged that sometimes it is perpetrated by females). The violence by the woman in patriarchal terrorism was viewed as less frequent and as defensive in nature. Common couple violence, on the other hand, was conceptualized as involving mutual aggression of a lower frequency and severity, often resulting from conflicts in everyday life (Johnson, 1995). Subsequently, Johnson (2006) expanded and modified this approach, renaming *common couple violence* as *situational couple violence*, and describing two additional groups, *violent resistance* and *mutual violent control*. Using cluster analyses, Johnson (2006) found a group of *violent resistance* couples with violent

and controlling husbands, and violent and non-controlling wives. *Mutually violent control* couples were couples in which both the husband and wife were violent and controlling. A number of studies have examined the distinctions between different dyadic types of violence with supportive as well as non-supportive findings (e.g. Anderson, 2008; Bates, Graham-Kevan & Archer, 2014; Johnson & Leone, 2005).

Another approach has been to characterize the couple as to whether violence was perpetrated by the male only, the female only, or by both. Across a number of studies, the most frequent pattern has been mutual violence by both partners, followed by violence by the female only (Capaldi, Kim, & Shortt, 2007; Whitaker, Haileyesus, Swahn, & Saltzman, 2007; Williams & Frieze, 2005). For example, Stets and Straus (1989) examined data from a large national survey and a large dating sample and found couples reported mutual violence in 49%, husband-only violence in 23%, and wife-only violence in 28% of cases. The findings of more mutual than unidirectional violence and comparable or higher levels of female-only than male-only violence are also apparent after accounting for the severity of the violence (Stets & Straus, 1989; Williams & Frieze, 2005). In addition, several studies report that the occurrence of mutual violence is associated with more frequent and more severe aggression and injury for both men and women (Gray and Foshee, 1997; Teten, Sherman, & Han, 2009; Whitaker, et al, 2007). For example, Whitaker, et al, (2007) reported that individuals in reciprocal violent couples were more than 4 times as likely to report an injury as individuals in non-reciprocal violent couples.

While viewing partner violence at the dyadic level provides an important perspective, there are at least two fundamental limitations in the literature to date. First, the classification has typically ignored the frequency of each partner's violence, even when considering the severity. As a result, couples in which one has engaged in many aggressive acts and the other only a few are called mutually aggressive. From the patriarchal terrorism position, this could combine patriarchal terrorism couples in which the male is frequently aggressive and the female is occasionally aggressive with common couple violence in which both are occasionally aggressive.

A second problem is that the classification provides a static picture of the violence in the couple. Although a considerable body of research has demonstrated an overall stability in violence among the members, this does not preclude shifts in the gender balance of the violence. Indeed, most of the longitudinal research has either examined desistance or overall stability. For example, Quigley and Leonard (1996) found that only 24% of premaritally aggressive husbands completely desisted from aggression over the next 2 years, and that desistance was related to the frequency and severity of violence, a finding replicated by Lorber and O'Leary (2004) in a very different sample of newlyweds over 30 months. Similarly, Lorber and O'Leary (2012) examined the stability of the frequency of aggression over the 30 months and concluded that aggression frequency was a "somewhat stable" trait. Despite a general stability and a gradual reduction in aggression, there may be subgroups that change substantially. In particular, Johnson (2005) has suggested that husbands in couples that fit the concept of intimate terrorism are likely to escalate the violence over time. While we do know that desistance is less likely among those who engage in frequent

violence (e.g. Quigley & Leonard, 1996), the nature and extent of changes within dyadic types is not clear, and there is limited prospective data addressing this issue.

This study examines aggression within newlywed couples from a longitudinal dyadic perspective (Capaldi & Kim, 2007) and empirically characterizes the gender differences in aggression at the time of marriage. This study is based on a longitudinal study of couples identified as they applied for their marriage license. In this paper, we focus on the baseline assessment (T1) and assessments at the first (T2) and second anniversaries (T3). In contrast to studies that have used a priori definitions that do not consider the frequency of aggression, we utilize cluster analysis to define empirically based groups of couples with different frequencies of partner violence. We describe these clusters with respect to severity of violence, injury, and marital functioning, as well as with respect different constructs which are relevant to hypothesized differences between common couple violence and patriarchal terrorism. Moreover, we track changes in violence over time as a function of the dyadic clusters. Based on research in community samples, we hypothesized the following: 1) we would identify a large cluster of mutually aggressive couples and substantially smaller clusters of husband only and wife only aggression; and 2) we would observe declines in aggression across these clusters. On the basis of clinical and community samples, we also hypothesized (3) that we would identify a gender asymmetric group with a high frequency of husband aggression and a low, nonzero frequency of wife aggression, corresponding to a patriarchal terrorism group and (4) this group, but not the others, would escalate in their aggression, and display characteristics of the prototypic patriarchal terrorism couple, such as higher husband control and antisocial behaviors.

## Method

### Participants

Participants were 634 couples recruited as part of the Adult Development Study (ADS) in Buffalo, NY. The ADS is a longitudinal study of newlyweds designed to examine alcohol use as it relates to other developmental changes. Participants were approached as they applied for their marriage license. They were eligible for inclusion in the study if both partners were over 18, not previously married, were English-speaking, and literate.

At the time of marriage, husbands had an average age of 28.7 ( $SD = 6.3$ ) and wives had an average age of 26.7 ( $SD = 5.8$ ) years. Nearly 60% of the husbands (59.2%) were European American and one-third were African American. Similarly, 62% of the wives were European American, and about 32% were African American. The remaining husbands and wives reported a variety of ethnic backgrounds including Native American, Asian, and Hispanic. Thirty-nine percent of husbands and 43% of wives had children prior to marriage. Most of the husbands had completed high school (25%) or had college degrees (39%) with only 8% not having a high school diploma. Wives were similar with 6% not graduating high school, 25% with a high school diploma, and 40% with a college degree. About 70% of couples were living together prior to marriage, with a median length of cohabitation of 18.0 months.

## Procedure

Couples were approached after they applied for their marriage license for the first marriage for both husband and wife. These couples were asked to participate in a brief paid screening (\$10) and 93% agreed. Of the 970 couples who were screened, 887 were eligible and agreed to participate in the longitudinal study (13 couples did not marry and 70 declined participation). There were few significant socio-demographic differences between participants and those who declined participation. Couples who agreed to participate had lower incomes, and the wives were more likely to have children than couples who declined participation ( $p < .05$ ). Couples who agreed to participate were given a survey packet with a pre-addressed return envelope to complete independently within two weeks. Participants were asked not to discuss the questionnaires with their partner until after the packets were returned. To improve response rates, reminder calls and letters were utilized over the 3 months after initial contact was made. Participants were compensated \$40 for the 2 to 3 hours it took to complete. The T1 assessment was completed by 634 (71%) of the couples who agreed to participate.

At their first and second wedding anniversaries, T2 and T3, we mailed questionnaires separately to each member of the couple. As with T1, participants were asked to complete the questionnaires independently and to return them in the postage-paid envelopes. Each spouse received \$40 for participating in each of these assessments. We maintained 91% and 85% of wives, and 86% and 79% of husbands, at T2 and T3, respectively. We have violence data from at least one member of the couple for 581 couples (92%) at T2 and 548 couples (86%) at T3. We have complete couple data for 544 couples at T2 (86%) and 499 couples at T3 (79%). These procedures were approved by the Institutional Review Board at the University at Buffalo.

## Measures

Intimate Partner Violence in the preceding year was measured using the physical violence and injury subscales of the Conflict Tactics Scale – Revised (CTS-2; Straus, Hamby, Boney-McCoy, & Sugarman, 1996). Both partners in the relationship were asked to report on their own behavior as well as their partner's behavior. Because the response choices on the CTS encompass a range of frequencies, we recoded the response choices to the midpoint of the category, except for the “20 or more” category, which was assigned a frequency of 20, before summing them into scales. We computed husband to wife physical violence as the maximum of husband report of his violence and wife report of his violence. We used a similar maximum report for injury and for wife to husband violence and injury.

Because current concepts of mutual or bidirectional violence connote relatively equal violence, we focused our analyses on measures of the differential extent of violence within couples. To classify the couples, we derived three measures from the CTS. The first was Differential Aggression, the simple difference between the frequency of husband to wife and wife to husband aggression, which was negative if wife aggression exceeded husband. However, the meaning of Differential Aggression differs depending upon the extent of violence in the couple. For example, if husband engages in 6 more episodes than his wife, the meaning is different when the husband engaged in seven acts and the wife in one act as

opposed to when the husband engaged in 50 acts and the wife in 44 acts. This led us to include a measure of the Total Aggression, which was the sum of husband to wife and wife to husband aggression, and an Aggression Ratio, which was the ratio of Differential Aggression to Total Aggression to describe the differential proportion of violence in the couple. The Aggression Ratio was 1 when the husband engaged in all of the violence, 0 when the husband and wife engaged in exactly the same number of episodes, and a -1 when the wife engaged in all of the violence. The correlation between Total Aggression and Differential Aggression was  $r=.01$ . The correlation between the Aggression Ratio and the Differential Aggression was  $r=.42$  ( $p < .01$ ), but the correlation between the Aggression Ratio and the Total Aggression was only  $r=.14$  ( $p < .05$ ). These correlations are substantially lower than the correlations between husband to wife aggression and wife to husband aggression ( $r=.60$ ,  $p < .01$ ) and the correlations between these and Differential Aggression ( $r=.45$  for H->W and  $r=-.44$  for W->H,  $p < .01$ ).

Given the theoretical positions of hostile, controlling, and antisocial behaviors for common couple violence and intimate partner terrorism, we also assessed these constructs. The patriarchal terrorism literature suggests that such men utilize violence as part of a broader context of controlling the partner's behavior. We included two subscales of the Autonomy/Relatedness Scale, Control and Hostile Control (Hall & Kiernan, 1992), which each person completed with respect to their partner's behaviors in the relationship. Each subscale consists of 4 items on a 5 point scale that were mixed with other items describing positive aspects of the relationship. The scales describing husband control and hostile control (wife report) had alphas of .77 and .79, respectively. The scales of wife control and hostile control (husband report) had alphas of .77 and .81, respectively. Although antisociality is not a defining characteristic of intimate terrorism, it has been linked to this form of violence (Johnson, 2006). Antisocial behavior was assessed with a 28 item scale derived from Zucker and Noll (1980). We excluded low base rate items and a number of items that were not appropriate for a questionnaire completed at home (e.g. sexual affairs, other sexual behaviors). This scale is highly reliable, with an alpha of .86 for wives and .90 for husbands. Common couple violence is characterized as arising from escalating conflict, and should be associated with hostile motivations and feelings (Johnson, 1995). Hostility was assessed with 10 items rated on a 4-point scale ranging from 0 to 3, rated with respect to the last two weeks. Example items included, "I was argumentative with people," "I had a hard time controlling my temper," and "I did not feel angry or mad" (reverse coded). This scale was highly reliable for husbands (alpha=.82) and wives (alpha=.81). We have found this scale to be a longitudinal predictor, either alone or in interaction, of husband and wife aggression (Schumacher, Homish, Leonard, Quigley & Kearns-Bodkin, 2008).

We also included several measures to characterize marital satisfaction and stability. We used the Marital Adjustment Test (MAT; Locke & Wallace, 1959), a 15-item self-report measure of general relationship satisfaction with good reliability and validity (Hunt, 1978). The MAT has a range of 2-158, with higher score indicating greater dyadic adjustment. Finally, we used the Closeness to Divorce scale (Heyman, Brown, Lawrence, & O'Leary, 1993), an 8-item measure representing progressive steps toward divorce. We utilized this scale to determine whether a couple had a marital disruption (i.e. separation, filed for divorced, got divorced) in the past year. Classification of couples' dyadic interaction pattern of IPV.



In order to examine the dyadic patterns of IPV, we defined couples with no husband or wife IPV at baseline as NonViolent couples (NV). For the remaining couples, we conducted a two-step cluster analysis using Total Aggression, Differential Aggression and the Aggression Ratio at baseline. This procedure has been identified as one of the more superior approaches across different data sets (Gelbard, Goldman, & Spiegler, 2007) and is better suited for large sample applications than other approaches. In this approach, each case is sequentially scanned and a series of “pre-clusters” are formed. In the second step, hierarchical clustering is conducted on the “pre-clusters”. We utilized the minimum Schwarz's Bayesian Criterion to determine the number of clusters. Because this approach can sometimes produce different results depending on the order that the cases are scanned, we conducted the analyses with alternative orderings, and found the same clusters and cluster membership.

## Results

### Cluster Analysis

The cluster analysis revealed 5 clusters. The Total aggression, Differential Aggression, and Aggression Ratio for couples in each of the clusters appear in Table 1. There are two clusters with very high scores on Total Aggression, one that is mostly husband to wife aggression, (Very High-Husband to Wife aggression; High-H>W) and the other mostly wife to husband (Very High, Wife to Husband; High-W>H). The three other clusters have low to moderate Total Aggression and relatively small Differential Aggression; one of these had a strong positive Aggression Ratio (Low to moderate, Husband to Wife Aggression; Low:H>W), one a strong negative Ratio (Low to moderate, Wife to Husband aggression; Low:W>H), and one a Ratio close to 0 (Low to Moderate, both aggressive; Low:H=W).

### Characteristics of Clusters

We examined the sociodemographic characteristics of the NV group and the 5 clusters with Chi Square analyses and one way ANOVAs. In general, the NV group tended to be older, and better educated, and to have higher incomes than the other groups. They were the least likely to live together or have children prior to marriage. In contrast, the two groups with very high levels of violence, the High:H>W and High:W>H groups, were the youngest, and had the least education and lowest income of the groups. The three moderate violence groups, Low:H>W, Low:W>H, Low:H=W, were similar to each other in many respects, but differed from each other in a couple of distinct ways. Specifically, the groups that were higher in male violence were less likely to be European-American and tended toward lower educational attainment.

Two way analyses of variance were conducted examining cluster, member (husband vs. wife), and cluster by member differences in hostile and antisocial characteristics (Table 1). There were significant effects of cluster for antisocial behavior  $F(5, 626) = 14.46, p < .001, \eta^2 = .10$ , hostility  $F(5, 626) = 17.44, p < .001, \eta^2 = .12$ , control  $F(5, 626) = 41.91, p < .001, \eta^2 = .25$ , and hostile-control  $F(5, 626) = 40.92, p < .001, \eta^2 = .25$ . There were also significant effects of member for three of the four measures (antisocial behavior  $F(1, 626) = 96.12, p < .001, \eta^2 = .13$ ; control  $F(1, 626) = 36.78, p < .001, \eta^2 = .06$ ; and hostile-control

$F(1, 626) = 47.25, p < .001, \eta^2 = .07$ ). Finally, the cluster by member interaction was significant for all four measures (antisocial behavior  $F(5, 626) = 5.80, p < .001, \eta^2 = .04$ ; hostility  $F(5, 626) = 2.68, p < .05, \eta^2 = .02$ ; control  $F(5, 626) = 3.37, p < .01, \eta^2 = .03$ ; and hostile-control  $F(5, 626) = 3.05, p < .05, \eta^2 = .02$ ). Tests of simple effects of cluster revealed differences that were generally consistent across measure and across self and spouse report. In general, scores were lowest for the NV group, intermediate for the low frequency clusters, and high for the high frequency clusters. In addition, men scored higher on antisociality than women. Scores on controlling and hostile controlling behavior were higher for women than for men, but this was according to partner report. Finally, there was a slight variation on these general patterns for antisociality and hostility. For these measures, the more aggressive member in the two high frequency groups manifested the highest scores, while the less aggressive member did not differ from the same gender individuals in other groups. Specifically, husbands in the High:H>W were significantly higher than husbands in all other clusters on these two measures, while their wives did not differ from wives in any cluster. Also, wives in the High:W>H were higher than wives in all other groups by comparable amounts, (although not all of the pairwise comparisons were significant, see Table 1), while their husbands did not differ from the other men in the aggressive clusters.

### Longitudinal Analyses

In order to examine the changes over time, we examined several variables over the first two years of marriage, specifically, continued participation, the frequency of violence and injury for husbands and wives, and marital stability and satisfaction over the two year period.

**Attrition**—Although we recruited the participants as couples, our follow-up assessments involved individually mailed questionnaires. As a result, there were couples in which one member continued to participate while the other partner did not. There was greater attrition among men than among women (14% vs 9%) ( $t=4.91, df=633, p < .01$ ) at T2 and T3 (21% vs 16%) ( $t=4.63, df=633, p < .01$ ). We then examined attrition at T2 and T3 separately for husbands and wives in the six groups. There are several aspects of this analysis that are important to note. First, the only statistically significant difference occurred for husbands' attrition at T2. (Chi square = 15.20,  $df = 5, p < .05$ ). The largest attrition occurred in the High:W>H group, with 28% attrition, but surprisingly attrition in the High:H>W group was quite low. Second, attrition in the NV group was uniformly the lowest. Third, although the group differences were not significant at T3, the husbands in the High:H>W had a 50% attrition rate, while the other groups were similar to each other. Because we collected marital disruption and violence data from both husbands and wives, we have data from the wife's perspective for most of the couples in the High:H>W group, despite the high attrition of the husbands in this group at T3. Because violence and marital disruption could be ascertained from one member's, we only excluded couples from the longitudinal analyses of violence they were missing both husband and wife violence reports. For marital satisfaction, we analyzed husbands and wives separately and excluded individuals who were missing a score on the marital satisfaction scale.

**Frequency of IPV and injury**—The frequency of IPV, the frequency of severe IPV, and the occurrence of injury for each group over the 3 assessments are shown in Table 2. All



variables of interest were examined using a repeated measures mixed ANOVA, with cluster as a between subjects factor, and time and member as within subjects factors. Follow-up simple effects analyses were conducted for significant interactions. Effects involving time were examined as non-orthogonal pairwise contrasts. For the frequency of physical violence, there were significant effects for Cluster,  $F(5, 533) = 116.44, p < .001, \eta^2 = .52$ ; Member,  $F(1, 533) = 25.88, p < .001, \eta^2 = .05$ ; and Cluster X Member interaction,  $F(5, 533) = 62.88, p < .001, \eta^2 = .37$ . These effects largely reflect the fact that Cluster membership was defined on the basis husband and wife violence. There were also significant effects for Time,  $F(2, 532) = 42.82, p < .001, \eta^2 = .14$ ; Cluster X Time interaction,  $F(10, 1062) = 13.43, p < .001, \eta^2 = .12$ ; Member X Time interaction,  $F(2, 532) = 6.61, p < .001, \eta^2 = .02$ , and finally, Cluster X Member X Time interaction,  $F(10, 1062) = 15.55, p < .001, \eta^2 = .13$ . Given the highly significant three-way interaction, we conducted simple effects tests of this interaction. There are several noteworthy aspects of these simple effects tests. First, among the very high frequency clusters, there were significant and very large reductions in violence by the more frequently violent member by the T2, and a stabilization between T2 and T3. The less frequently violent member also reduced the frequency of violence, although this did not occur until T3. Moreover, the more frequently violent member engaged in significantly more frequent violence at all three timepoints. Second, in the low to moderate groups, there were significant *increases* in the frequency of violence for the less violent members in the Low:H>W and Low:W>H clusters. The gender difference in frequency was maintained in the Low:W>H group, but not in the Low:H>W group. Finally, the Low:H=W and the NV groups did not experience any changes in the frequency of violence across time.

For the frequency of severe violence, there were significant effects for Cluster,  $F(5, 533) = 59.09, p < .001, \eta^2 = .36$ ; Member,  $F(1, 533) = 6.40, p < .05, \eta^2 = .01$ ; and Cluster X Member interaction,  $F(5, 533) = 33.56, p < .001, \eta^2 = .24$ . There were significant effects of Time,  $F(2, 532) = 6.31, p < .01, \eta^2 = .02$ ; Cluster X Time interaction,  $F(10, 1062) = 3.33, p < .001, \eta^2 = .03$ ; Member X Time interaction,  $F(2, 532) = 11.31, p < .001, \eta^2 = .04$ , and Cluster X Member X Time interaction,  $F(10, 1062) = 5.03, p < .001, \eta^2 = .04$ . Table 2 displays the average frequency of severe violence. For the High:H>W, husbands engaged in significantly more serious violence than wives at every assessment. However, the frequency of husband's severe violence did not change over time. For wives in this group, there is a dramatic increase in severe aggression from T1 to T2, followed by a more dramatic drop at T3. This group contrasts with the High:W>H group in which the husbands' severe violence was significantly lower than wives at each time, and did not change over time, while wives' severe aggression was significantly reduced by T3. For the Low:H>W cluster, wives significantly increased their severe violence at T3. Although husbands engaged in significantly more severe violence at T1, wives engaged in significantly more severe violence than husbands by T3. Both husband and wife in the Low:W>H group increased the frequency of severe violence from T1 to T2, but did not change significantly at T3.

Similar to the previous analyses, the analysis of injury indicated significant effects for Cluster,  $F(5, 533) = 71.98, p < .001, \eta^2 = .40$ ; Member,  $F(1, 533) = 63.81, p < .001, \eta^2 = .11$ ; and Cluster X Member interaction,  $F(5, 533) = 8.60, p < .001, \eta^2 = .08$ . There were significant effects of Time,  $F(2, 532) = 3.66, p < .05, \eta^2 = .01$ ; Cluster X Time interaction,

$F(10, 1062) = 5.48, p < .001, \eta^2 = .05$ ; Member X Time interaction,  $F(2, 532) = 49.31, p < .001, \eta^2 = .08$ , and Cluster X Member X Time interaction,  $F(10, 1062) = 5.15, p < .001, \eta^2 = .05$ . The simple effects for the three way interaction for injury revealed a different pattern of results than was seen in the frequency measure. Of most importance, no matter what the gender difference was at the first assessment, by the third assessment, wives in every group were more likely to be injured than husbands, even when the wives engaged in severe violence more frequently. This occurred in some groups because of dramatic increases in the proportion of wives having an injury, as in the Low:H=W, Low:W>H, and NV clusters. In other clusters, the gender difference was primarily the result of dramatic decreases in the proportion of husbands injured, as in the High:H>W and High:W>H. In the Low:H=W and the LM Husband clusters, the gender differences appeared due to moderate increases in wife injury and moderate decreases in husband injury.

**Marital Stability and Functioning**—At T2 and T3, husbands and wives reported whether they had filed for divorce, were currently separated, or had separated in the past year but were now together. Because couples who were separated during the first year of marriage did not necessarily experience a separation in the second year of marriage, this measure reflects marital disruption in the preceding year, but is not cumulative. The likelihood of any of these marital disruptions was related to cluster membership at both T2 (Chi-Square (df=5, n=573) = 41.65,  $p < .001$ ) and T3 (Chi square (df=5, n=548) = 37.26,  $p < .001$ ). Couples in the High:H>W and High:W>H clusters experienced a significantly higher rate of marital disruptions at T2 (High:H>W, 71%; High:W>H 52%) and T3 (71% and 50%) than the overall sample. The NV couples had a significantly lower rate at T2 (12%) and T3 (15%). Couples in the Low:H=W experienced a rate of 24% at T2, which was not different from the overall sample. However, at T3, couples in the Low:H=W group also had a significantly higher rate of disruption (34%). Disruption for the Low:H>W was 24% at T2 and 29% at the T3. Similarly, the rates for the Low:W>H were 22% at both T2 and T3.

We also examined the marital satisfaction of husbands and wives over the three assessments. Given the different levels of attrition for husbands and wives, separate repeated measures analysis of variance was conducted for husband and wife marital satisfaction. For both husbands,  $F(5, 475) = 14.66, p < .001, \eta^2 = .13$ , and wives,  $F(5, 515) = 18.45, p < .001, \eta^2 = .15$ , there was a significant effect of cluster. There was also a significant effect of time for both husbands,  $F(2, 950) = 20.40, p < .001, \eta^2 = .04$ , and wives,  $F(2, 1030) = 42.30, p < .001, \eta^2 = .08$ . The interaction of time and cluster was not significant for husbands,  $F(10, 950) = 1.10, p = ns, \eta^2 = .01$ , or wives,  $F(10, 1030) = 1.69, p < .10, \eta^2 = .02$ . Tests of simple effects of cluster were conducted separately for husbands and wives. Husbands in the NV cluster had higher marital satisfaction scores ( $M=120.01$ ) than every cluster and marginally higher scores than the High:H>W cluster ( $M=89.47$ ) ( $p < .07$ ), due to the small cluster size and the 50% attrition in this latter group. The only other significant pairwise comparison was that husbands in the Low:H>W cluster had higher scores ( $M=106.69$ ) than husbands in the High:W>H ( $M=89.44$ ). For wives, the findings were very similar. Wives in the NV cluster ( $M=120.01$ ) had significantly higher scores than women in any of the other clusters. Wives in the High:H>W ( $M=83.56$ ) were very similar to wives in the High:W>H cluster ( $M=86.69$ ), and did not differ significantly from any of the other clusters except the NV

cluster, again probably due to the size of this group. Wives in the High:W>H group were less satisfied than wives in the Low:H>W (M=106.39) cluster and in the Low:H=W cluster (M=105.53) and marginally less satisfied than wives in the Low:W>H cluster (M=104.34,  $p < .10$ ). Overall, the pattern of means suggest that couples in the two very high frequency groups have similar levels of marital functioning and that these two groups have lower functioning than the three low to moderate groups. These low to moderate groups were similar to each other on marital functioning and were lower than the NV group.

## Discussion

The present study provides important and novel insights regarding partner violence across the early years of marriage. Studies of husband and wife violence typically classify couples as husband only, wife only, or both violent, and usually report that patterns of mutual violence predominate, with the implication that both members engage in comparable rates of violence. Using the typical definitions in which mutual violence is present when both members endorse at least one episode of perpetration, 35% of our sample would be categorized as mutually violent, 2.5% as husband only, and 13.2% as wife only. Thus, of all the couples experiencing some aggression, nearly 70% would be classified as mutually violent. The results from the cluster analysis show a different and more complex picture. Contrary to hypothesis 1, many fewer aggressive couples (43%) engaged in mutual violence in which husbands and wives had comparable frequencies of aggression, i.e. the Low:H=W cluster. Instead, most of the violent couples displayed a pattern of asymmetric violence in which perpetration was markedly different between the members, either in terms of the raw frequency or the ratio of one member's violence to the total. Of the couples who reported husband or wife violence at T1, 57% were classified in one of the asymmetric groups, nearly double the level that would be classified as husband only or wife only. Also contrary to our hypothesis, we identified two, rather than one, clusters of very high frequency gender asymmetric groups, with High:W>H cluster having a greater prevalence than High:H>W. These results suggest that while reciprocal violence is common, the extent of gender asymmetric violence and the extent of women aggressors involved in asymmetric violence have been understated.

Previous research has also suggested that the risk for injury is higher among mutually violent couples than among husband only or wife only couples (Gray & Foshee, 1997; Whitaker, et al, 2007). The present results suggest that this may due to combining several different dyadic patterns into the mutually violent group. Couples with very high levels of asymmetric violence had the highest rates of injury. This was the case for both men and women in the High:H>W and the High:W>H clusters. Overall, the results suggest that among couples with low to moderate aggression, the husbands are more at risk for injury in Low:H=W couples than in Low:H>W or Low:W>H couples. However, the extent of injury for wives in the low to moderate couples appeared to be more related to the extent of their partner's violence than to the configuration of the violence in the couple.

The longitudinal perspective on the clusters provides a critically important and unexplored perspective, both with respect to the nature of the clusters and to changes in violence over the early years of marriage. Although there have been assertions that partner violence either



husbands in the nonviolent group. Although they were not significantly different from husbands in the other clusters, this is likely due to the low power associated with the very small cluster size ( $n=8$ ). Finally, couples in this cluster were more likely to have experienced a marital disruption. Overall, the above characteristics are consistent with depictions of intimate terrorism (Johnson & Leone, 2005).

The identification of a cluster with a very high frequency of aggression in which the woman engages in substantially more aggression than the man is of considerable interest. This finding is consistent with a number of studies (e.g. Robertson & Murachver, 2007; Whitaker, et al, 2007; Williams & Frieze, 2005). Similar to these other studies, this cluster was more prevalent than the cluster of high frequency aggression in which the man engages in more aggression. The present study provides several additional elements to this observation. The women in this cluster maintain characteristics that are similar to the men in the High:H>W cluster, they have the highest level of antisociality of all of the other women, and levels of controlling behavior (as reported by their husbands) that exceed every cluster except the High:H>W group. Finally, the gender asymmetry with respect to the frequency of any violence and of severe violence is maintained over the three assessments. However, there are several important distinctions between the High:W>H cluster and the High:H>W cluster that should be emphasized. First, while the gender asymmetry is maintained in the High:W>H cluster, it is substantially diminished. Second, even though the woman in the High:W>H cluster engaged in more aggression than their husbands, by T3, the women were more likely to be injured than their husband. Hence, while this cluster initially appears similar to intimate terrorism, over time they appear to move in the direction of mutual violence at a very high rate. This suggests that there may be a common genesis for the High:H>W and the High:W>H, but the trajectories differ, possibly due to the responses of the initially less aggressive partners in these couples.

### Limitations

In evaluating the results of this study, there are several limitations that should be considered. First, the sample is based on couples recruited at the time of marriage. Second, our measures of intimate violence are based on self-report and the maximum of husband and wife report. We examined the cluster characteristics based on husband report and wife report and found that the results were very comparable across these definitional changes. Third, although the overall recruitment figures were quite good, it is possible that certain types of couples were less likely to participate in the study. For example, highly violent couples may have been less likely to participate, a possibility suggested by Johnson (1995). Similarly, although the overall retention was quite good, there was a differential loss of High:H>W and High:W>H couples, in part, because of marital disruptions. Because the violence measures were based on the maximum report, this differential loss appears to have had a limited impact on the changes in violence, but may have impacted the analysis of marital satisfaction. Finally, while the identification of a cluster of High:H>W couples was hypothesized and the findings for this cluster were in accord with expectations, the small sample size requires us to exercise caution with respect to these findings. Clearly, further research on these asymmetrically and highly violent men in community samples is needed before firm conclusions regarding their characteristics and marital trajectories can be accepted.

One key issue that requires more extensive consideration is whether other approaches to identifying clusters, such as Latent Class Analysis (LCA), would replicate the five clusters that our analysis revealed. We conducted supplemental analyses with LCA and found that only two clusters were revealed. One of these clusters involved all of the High:H>W couples and most of the High:W>H couples, despite dramatic differences between these clusters in Differential Aggression and the Aggression Ratio. The other cluster revealed by LCA included all of the couples in the Low:H>W, Low:H=W, and Low:W>H, again despite dramatic differences among these groups on these two variables. Thus, it appears that the LCA clustered couples solely based on the Total Aggression, and was not sensitive to the Differential Aggression or Aggression Ratio. Whether the five clusters that we identified represent qualitatively different groups or simply groups that represent extremes in terms of extent and gender balance of violence, the overall conclusions would seem to be comparable; 1) gender asymmetry in violence is more common than “mutual violence” at the time of marriage ; 2) couples in which the husband has engaged in very high rates of aggression prior to marriage maintain that gender asymmetry and are the most likely to result in wife injury and marital disruptions; 3) couples in asymmetric groups at marriage appear to become more symmetric over time; and 4) by the T3, the injury rates of women significantly exceed the injury rates for men, even among couples in which the women initially engaged in higher rates of aggression than men.

### Clinical and Policy Implications

From a clinical perspective, there are several important implications of the findings. The finding that violence for most dyadic types of violence did not decline in a clinically meaningful fashion even among the clusters showing low to moderate frequencies of aggression should bolster our commitment to finding efficacious treatments. The nature of these treatments may very well differ between the low to moderate frequency couples and the very high frequency couples, given the high levels of antisociality and controlling behavior associated with both the High:H>W and the High:W>H couples. Across all of the aggressive clusters, the high rates of marital disruption and low levels of marital functioning further support this perspective. In particular, there may be a tendency to minimize low to moderate aggression in which the wife is the primary aggressor. However, the longitudinal prospects for this cluster are no better than for other couples engaging in low to moderate aggression. Although the current study does not necessarily address the relative merits of individual versus couple interventions, it does suggest that interventions for the less aggressive individual in an aggressive couple should not be neglected. The less aggressive individuals with a more aggressive partner increased their aggression over time and this suggests that it may be important to address the behavior of the less aggressive individual at the same time that efforts to reduce aggression from the more aggressive partner are being undertaken.

In considering the clinical implications of the present study, it is of critical importance to recognize that the nature of husband and wife IPV and its implications are likely to be quite different at the beginning of marriage than when the individuals come to the attention of clinicians. As a result, developing specific guidelines regarding the specific frequency and gender differential that would demarcate couples as one of these different types of couple



that would be valid across the variety of clinical settings might not be possible. Instead, the overall clinical implications of the study are that the observed gender balance in violence at the time of treatment may not represent the gender balance at the beginning of the relationship, and that the initial gender balance may provide insights into whether it is only or both of the members that may have aggression control issues.

The fact that couples with very high rates of violence prior to marriage maintain high levels throughout the first two years of marriage raises the potential importance of premarital interventions. In particular, the continued gender asymmetry among couples in which the husband has, before marriage, exhibited very high levels of aggression identifies this group as a very high risk group for potential harm. While intervening prior to marriage is quite difficult to accomplish, the prospect of alerting women to the potential outcomes of the relationship should be considered by the field, recognizing the inevitable ethical dilemma that this presents.

### Research Implications

This study represents one of the first to longitudinally examine IPV at the dyadic level and to provide support for this dyadic perspective (Capaldi and Kim, 2007). The study supports the differentiation of intimate terrorism and common couple violence in a community sample and suggests that there are similarities between high frequency husband and high frequency wife aggression, but important distinctions as well. The results also suggest that much of the common couple violence is actually gender asymmetric, reflecting aggressive behavior primarily by one member of the couple, rather than the equal levels evoked by the terms “mutual”, “reciprocal”, or “bidirectional”. However, over time, the less aggressive individuals in these asymmetric couples become more aggressive, and the more aggressive individuals maintain their aggression, suggesting a movement toward stable mutual aggression. Further research needs to examine the longitudinal, dynamic and transactional changes in dyadic violence, as well as other individual and situational factors that lead to these changes.

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Table 1

## Cluster Characteristics

	NV	High-H>W	High-W>H	Low:H>W	Low:W>H	Low:H=W
Sample size	N=313	N=8	N=25	N=43	N=106	N=139
Percent of sample	49%	1.3%	3.9%	6.8%	16.7%	21.9%
Total violence	0	131.5	86.32	10.8	5.6	11.29
Differential	0	60.5	-33.4	6.58	-4.8	-1.2
Aggression Ratio	Undef	.50	-.46	.74	-.93	-.09
Husband antisocial behavior**	1.45 <sup>a</sup>	2.24 <sup>b</sup>	1.74 <sup>c</sup>	1.67 <sup>c</sup>	1.58 <sup>c</sup>	1.60 <sup>c</sup>
Husband hostility**	1.56 <sup>a</sup>	2.69 <sup>b</sup>	1.99 <sup>c</sup>	1.71 <sup>ac</sup>	1.68 <sup>ac</sup>	1.69 <sup>ac</sup>
Husband controlling (wife report)**	1.76 <sup>a</sup>	2.59 <sup>bcd</sup>	2.97 <sup>c</sup>	2.58 <sup>bc</sup>	2.07 <sup>d</sup>	2.39 <sup>b</sup>
Husband hostile control (wife report)**	1.68 <sup>a</sup>	2.75 <sup>bc</sup>	2.88 <sup>b</sup>	2.29 <sup>bc</sup>	1.92 <sup>d</sup>	2.25 <sup>c</sup>
Wife antisocial behavior**	1.31 <sup>a</sup>	1.43 <sup>abc</sup>	1.62 <sup>b</sup>	1.44 <sup>abc</sup>	1.39 <sup>ac</sup>	1.40 <sup>c</sup>
Wife hostility**	1.55 <sup>a</sup>	2.06 <sup>abc</sup>	2.18 <sup>b</sup>	1.80 <sup>bc</sup>	1.65 <sup>ac</sup>	1.74 <sup>c</sup>
Wife controlling (husband report)**	2.05 <sup>a</sup>	3.60 <sup>b</sup>	3.36 <sup>b</sup>	2.58 <sup>c</sup>	2.66 <sup>c</sup>	2.68 <sup>c</sup>
Wife hostile control (husband report)**	1.90 <sup>a</sup>	3.78 <sup>b</sup>	3.20 <sup>bd</sup>	2.66 <sup>cd</sup>	2.48 <sup>c</sup>	2.58 <sup>c</sup>

Note. Clusters that do not share a superscript were significantly different in simple effects tests.

Table 2

Group Differences at Each Assessment Point

	At Marriage	1 <sup>st</sup> Anniversary	2 <sup>nd</sup> Anniversary	Simple effects of time
<b>Very High-H&gt;W</b>				
H->W IPV frequency**	86.00 (16.57) <sup>a</sup>	49.86 (44.73) <sup>a</sup>	50.43 (68.48) <sup>a</sup>	T1>T2=T3
W->H IPV frequency**	31.57 (20.52) <sup>b</sup>	31.29 (44.23) <sup>b</sup>	9.43 (17.08) <sup>b</sup>	T1=T2>T3
H->W Severe violence	25.14(10.48) <sup>a</sup>	22.14(22.98) <sup>a</sup>	22.00(32.57) <sup>a</sup>	
W->H Severe violence**	7.14(5.64) <sup>b</sup>	15.57(22.40) <sup>b</sup>	2.43(6.00) <sup>b</sup>	T1<T2>T3
Wife injury*	1.00 (.00)	.57 (.54)	.86 (.38) <sup>a</sup>	T1>T2,T2=T3,T1=T3
Husband injury***	.86 (.38)	.57 (.54)	.14 (.38) <sup>b</sup>	T1<T2<T3
<b>Very High-W&gt;H</b>				
H->W IPV frequency**	23.74(15.26) <sup>b</sup>	19.37(20.32) <sup>b</sup>	15.16(18.52) <sup>b</sup>	T1=T2=T3,T1>T3
W->H IPV frequency**	54.84(18.95) <sup>a</sup>	27.74(27.60) <sup>a</sup>	22.68(23.16) <sup>a</sup>	T1>T2=T3
H->W Severe violence	6.63(8.00) <sup>b</sup>	4.89(6.51) <sup>b</sup>	4.68(6.82) <sup>b</sup>	
W->H Severe violence**	15.84(8.43) <sup>a</sup>	12.42(16.20) <sup>a</sup>	10.32(13.81) <sup>a</sup>	T1=T2=T3, T1>T3
Wife injury	.74(.45) <sup>b</sup>	.63(.50)	.68(.48) <sup>a</sup>	
Husband injury**	.90(.32) <sup>a</sup>	.63(.50)	.47(.51) <sup>b</sup>	T1>T2=T3
<b>Low-Moderate H&gt;W</b>				
H->W IPV frequency	7.27(8.47) <sup>a</sup>	5.73(9.62)	4.54(9.89)	
W->H IPV frequency <sup>+</sup>	1.70(2.11) <sup>b</sup>	4.89(10.48)	6.54(21.75)	T1=T2=T3, T1<T3
H->W Severe violence	1.54(2.08) <sup>a</sup>	1.73(3.97)	.81(2.48) <sup>b</sup>	
W->H Severe violence*	.19(.46) <sup>b</sup>	1.78(8.27)	2.84(13.82) <sup>a</sup>	T1=T2=T3, T1<T3
Wife injury*	.40(.50) <sup>a</sup>	.40(.50)	.60(.50) <sup>a</sup>	
Husband injury*	.19(.40) <sup>b</sup>	.32(.48)	.16(.37) <sup>b</sup>	T1=T2>T3
<b>Low-Moderate W&gt;H</b>				
H->W IPV frequency*	.41(.97) <sup>b</sup>	4.07(23.22) <sup>b</sup>	3.22(10.96) <sup>b</sup>	T1<T2=T3
W->H IPV frequency	4.96(5.95) <sup>a</sup>	8.72(27.68) <sup>a</sup>	5.79(11.96) <sup>a</sup>	

	At Marriage	1 <sup>st</sup> Anniversary	2 <sup>nd</sup> Anniversary	Simple effects of time
H->W Severe violence *	.02(.15) <sup>b</sup>	1.60(12.67) <sup>b</sup>	.88(4.02)	T1<T2, T2=T3, T1=T3
W->H Severe violence *	1.06(2.69) <sup>a</sup>	3.29(14.70) <sup>a</sup>	1.61(4.81)	T1<T2, T2=T3, T1=T3
Wife injury **	.08(.27)	.11(.32)	.43(.50) <sup>a</sup>	T1=T2<T3
Husband injury	.12(.33)	.13(.34)	.11(.32) <sup>b</sup>	
Low-Moderate H=W				
H->W IPV frequency	5.21(4.71) <sup>b</sup>	5.14(9.05)	4.27(7.56)	
W->H IPV frequency	6.26(5.60) <sup>a</sup>	7.52(15.61)	5.85(11.66)	
H->W Severe violence	.70(1.17) <sup>b</sup>	1.03(2.86)	1.00(2.69)	
W->H Severe violence	1.18(1.65) <sup>a</sup>	2.29(8.24)	1.50(4.68)	
Wife injury **	.34(.48)	.26(.44)	.63(.48) <sup>a</sup>	T1=T2<T3
Husband injury **	.34(.48)	.26(.44)	.21(.41) <sup>b</sup>	T1=T2=T3, T1>T3
NonViolent				
H->W IPV frequency	0.00(.00)	.92(3.28)	1.04(5.08)	
W->H IPV frequency	0.00(.00)	1.34(5.60)	1.32(5.20)	
H->W Severe violence	0.00(.00)	.19(1.03)	.20(1.34)	
W->H Severe violence	0.00(.00)	.45(3.44)	.41(2.64)	
Wife injury *	0.00(.06)	.07(.25)	.18(.39) <sup>a</sup>	T1<T2<T3
Husband injury	0.00(.00)	.06(.24)	.03(.18) <sup>b</sup>	

Note. Significant simple effects of Time within Cluster and Member are denoted by asterisks, and the pairwise contrasts of time are shown in column 4. Significant differences between husband and wife within cluster and time are denoted by superscripts, with means with an "a" superscript being significantly higher than means with a "b" superscripts.

\*\*\* p<.01

\* p<.05

+ p<.10