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Rates of Bidirectional Versus Unidirectional Intimate Partner Violence Across Samples, Sexual Orientations, and Race/Ethnicities: A Comprehensive Review

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One hotly debated topic within the field of intimate partner violence (IPV) is the degree to which IPV can be understood as primarily a unidirectional versus bidirectional phenomena; this topic forms a key component of the gender symmetry versus asymmetry of domestic violence debate. Resolution of this controversy has important prevention and intervention implications. In the current study, a comprehensive review of the literature was conducted, and 48 studies that reported rates of bidirectional versus unidirectional physical violence (male-to-female and female-to-male) were uncovered using a variety of search engines and key terms; one rele vant meta-analysis and one seminal book chapter were also identified. Included empirical studies were published in 1990 or later, appeared in peer-reviewed journals, and contained empirical data directly related to bidirectionality of violence. Studies that only reported correlations between self-reported perpetration and victimization were excluded from these analyses. Qualifying studies were then categorized by the nature of the sample they assessed (i.e., large population samples; smaller community; purposive or convenience samples; clinical or treatment-seeking samples; legal/

ONLINE TABLES: Detailed summaries of the 49 studies reviewed in this article can be found in six tables available online at http://www.springerpub.com/pa. Click on the link to "The Partner Abuse State of Knowledge Project," and go to Topic 3 in the online document.

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criminal justice-related samples; and samples assessing the relationships of gay, lesbian, and/or bisexual individuals). Rates of bidirectional versus unidirectional violence (male-toward-female vs. female-toward-male) were summarized directly as reported or were derived on the basis of data contained within the article.

All obtained studies (48 empirical, 1 meta-analysis, 1 book chapter) were then entered into an online summary table for public review; however, additional results were specifically calculated for the current article. These results indicate that bidirectional violence was common across all types of samples (population-based to criminal justice). This suggests that the role of women in violent relationships is important to consider, even if all aspects of women's perpetration of IPV are not symmetrical to men's perpetration of IPV. A second finding to emerge was that the ratio of unidirectional female-to-male compared to male-to-female IPV differed significantly among samples with higher rates of female-perpetrated unidirectional violence found in four of the five sample types considered. Higher ratios of male-to-female unidirectional violence were found only in criminal justice/legal studies that relied on police reports of IPV perpetration and/or in samples drawn from the U.S. military. Competing explanations for the differing ratios were offered in the current discussion. These need to be tested empirically in order to fully understand the expression of IPV across samples and settings. Differences in the directionality of the expression of IPV were not found in samples of gay, lesbian, or bisexual individuals; however, rates of bidirectional violence appear to vary by race/ethnicity with higher rates of bidirectional violence among Black couples. Overall, it is suggested that if one resolution of the gender symmetry/asymmetry debate is to argue that there are subtypes of male and female domestic violence perpetrators (Johnson, 2005; Johnson, 2006), or that there are different patterns of violence among different types of relationships characterized by IPV (Stets & Straus, 1989), researchers and clinicians will need to work together to determine how to reliably and meaningfully make these determinations in ways that will facilitate our ability to effectively prevent and treat all types of IPV.

KEYWORDS: bidirectional; mutual; reciprocal; unidirectional; intimate partner violence; gender

Early domestic violence theorists predominantly focused on unidirectional violence perpetrated by men and directed toward women (see Hamel, 2007 for review). Several terms were used to describe this kind of violence; for example, wife battering, wife abuse, domestic violence, and violence against women. Consequently, most early studies of intimate partner violence (IPV) focused on the victimization of women and girls, rather than men and boys (see Williams, Ghandour, & Kub, 2008 for a more in-depth discussion of this issue). This focus made sense from theoretical, practical, and political perspectives.

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Historically, violence against women has been a neglected topic with abuse of women being ignored, denied, made light of, or worse; at times, it has been legitimized and supported by cultural norms (Dobash, Dobash, Wilson, & Daly, 1992). Theoretically, men's violence against women has been understood as a consequence of a patriarchical societal structure in which women were expected to subjugate themselves to men. Wives were considered to be the property of their husbands. In this context, men's violence can be understood as a way of maintaining social dominance and thwarting home-based insurrections. Practically, it has also made sense to focus on men's violence toward women in light of the compelling evidence that women sustain more injuries and other negative consequences as a result of experiencing men's violence than men experience as a result of women's perpetration of similar acts of abuse (e.g., Archer, 2000; Holtzworth-Munroe, Smutzler, & Bates, 1997; Holtzworth-Munroe, Smutzler, & Sandin, 1997; Tjaden & Thoennes, 2000; Vivian & Langhinrichsen-Rohling, 1994). In light of these realities, the acknowledgment and study of women's violence toward men was considered either unnecessary or even taboo, as it appeared to blame the victim for their plight.

Moreover, several studies indicate that in virtually every measured circumstance, particularly in crime-related contexts, men were more prone toward violence than were women. Such conclusions appeared to be supported by multiple sources, including crime statistics, assault rates, and self-reported peer violence. Focusing attention on reducing men's general propensity to use violence to solve problems or get their way has seemed logical, given the number of areas in which men's violence has historically exceeded women's violence (e.g., rape, physical assault, stalking; Tjaden & Thoennes, 2000).

Finally, from a political perspective, the effort to maintain the focus on men's violence directed toward women has been deemed necessary to activate gender-sensitive legislative practices, garner sufficient political will to address the well-being of women and children, and enhance efforts to fund and maintain support for human services that were tasked with keeping women and children safe (i.e., battered women's shelters, women's advocacy centers). These latter efforts also have been predicated on the assumption that IPV is asymmetrical, with most dangerous violence being perpetrated by men toward women (see Hamel, 2007 for additional details).

However, over the past 20 or 30 years, the gender asymmetry of IPV assumption has been increasingly challenged. The first challenge came from data gathered in a variety of national surveys (e.g., Stets & Straus); most used the Conflict Tactics Scale (CTS; Straus, 1979) to assess the prevalence of IPV. Results from several surveys revealed that the rates with which women reported being violent toward their male partners was similar to, if not even in excess of, the rates with which men reported being violent toward their female partners (e.g., Kimmel, 2002). Further supporting this conclusion, a recent meta-analysis of 82 studies by Archer (2000) confirmed that women's and men's rates of engagement in IPV are quite similar. In fact, women's rates of physical violence perpetration in relationships slightly exceeded men's rates. These results added fuel to what has become known as the gender symmetry of

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violence controversy (Allen, Swan, & Raghavan, 2009; Dobash, et al., 1992; Johnson, 2006; Kimmel, 2002; Langhinrichsen-Rohling, 2010).

Those advocating that at least some intimate partner violence may be best understood from a gender symmetry position argue that IPV tends to flow in both directions: from males-to-females and from females-to-males. Violence perpetrated by either partner has damaging effects for all involved, including children who witness violence perpetrated by either parent. Furthermore, repeated reports of substantial rates of bidirectional violence suggest that risk factors for relationship dissatisfaction and common communication deficiencies between partners may need to be addressed as part of a national effort to prevent the occurrence of IPV (Langhinrichsen-Rohling, 2010).

Over the past 10 years, the gender symmetry versus asymmetry debate regarding IPV has evolved in a variety of different directions. Some researchers have focused on the fact that most studies finding similar rates of perpetration between genders have utilized the CTS as the instrument for assessing IPV (Kimmel, 2002). As a result of the frequency of the use of the CTS in research settings, it has been criticized for three main reasons: (a) its inability to contextualize IPV in terms of motivations (e.g., self-defense vs. coercive control), (b) its lack of focus on who initiated the violence, and (c) its inability to measure the degree to which physical and mental health impacts from the violence may be disproportionally shouldered by women victims as opposed to men victims. In short, many have argued that the CTS is insensitive to important aspects of gender asymmetry in IPV (Dobash et al., 1992; Kimmel, 2002). On the other hand, many others have argued that the behavioral focus of the CTS, in conjunction with its relative lack of context, makes this instrument ideal for assessing the prevalence of IPV in a variety of samples and measurement circumstances (Dutton & Nicholls, 2005; Straus, 1999). Consequently, in the current study, we also choose to code the instrument used to assess IPV to determine the frequency with which the CTS, the CTS2 (Straus, Hamby, Boney-McCoy, & Sugarman, 1996), or a modification of the CTS was used to determine the bidirectional versus unidirectional nature of the IPV perpetration.

Another strategy proposed to disentangle this gender symmetry/asymmetry controversy was to investigate if there were multiple subtypes of IPV occurring (Holtzworth-Munroe, 2005; Johnson & Leone, 2005) such that some types of IPV had greater gender symmetry (i.e., situational couple violence) than did others (intimate terrorism). Specifically, Johnson and Leone (2005) have been asserting that IPV is a heterogeneous phenomenon. They have suggested that some of the confusion within the IPV literature results from our inability to separate different types of IPV from one another (Johnson, 2005). Johnson also argues that different types of intimate partner violence are more or less likely to occur in different types of samples (Johnson, 2006). Consequently, this study will determine if the rates of bidirectional versus unidirectional violence differ as a function of sampling characteristics. A priori, we expected that more male-to-female unidirectional and terroristic violence would be present in legal or criminal justice samples as compared to epidemiological or population-based

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samples. Conversely, epidemiological or population-based samples were expected to have higher rates of bidirectional violence as compared to other types of samples.

The current research efforts to disentangle rates of bidirectional from unidirectional violence are consistent with studies determining that relationships characterized by bidirectional versus unidirectional IPV have different associated risk factors. For example, bidirectional IPV is predicted by the presence of a partner with depressive symptoms and lower education levels, whereas illicit drug use emerges as an important predictor of unidirectional IPV (Melander, Noel, & Tyler, 2010).

A further strategy offered to clarify the gender symmetry/asymmetry debate regarding the perpetration of IPV has focused on disentangling the elements of violence (Kimmel, 2002). For example, to have gender symmetry, is it sufficient to have females assault or threaten males as often as males' assault or threaten females? Or, must there also be symmetry in motives, i.e., must both genders perpetrate IPV for generally the same reasons? Another consideration is the impact of IPV on each of the individuals involved. If IPV results in more fear and injury to females than to males, then will the function of the violence in the relationship create greater asymmetry in IPV over time?

One of the main reasons to conduct the overarching Partner Abuse State of Knowledge Project (PASK; Hamel, Langhinrichsen-Rohling, & Hines, in press) was to review the literature related to each of these questions. As such, our review of the directionality of IPV across samples, sexual orientation, genders, and races/ethnicities may provide an important first step in determining how society should best understand and respond to violent intimate partner behavior. Related components within the PASK Project included reviewing and evaluating gender differences in motives for perpetrating IPV (i.e., Langhinrichsen-Rohling, McCullars, & Misra, in press) and reviews of the consequences experienced by the different genders, and by children as a result of witnessing parental IPV.

Consequently, in the current article, we propose to address the gender symmetry/asymmetry debate by examining and reviewing the rates of bidirectional versus unidirectional violence across a variety of different samples. Although it is likely that bidirectional violence is not always symmetrical because some is likely to be initiated out of self-defense and the two partners may not match in the severity and frequency of violence they are perpetrating, a similar prevalence of bidirectional violence across a variety of samples with different base rates of violence (i.e., population studies, community or purposive samples, school or university samples, clinical/treatment-seeking, or legal/justice samples) would challenge some assumptions associated with the gender asymmetry of IPV position. Findings of substantial rates of bidirectional violence across various types of samples would also highlight the importance of considering both partners' behavior within a relationship that contains IPV, regardless of how that IPV has come to be identified. Consequently, determining the rates of bidirectional versus unidirectional IPV across various samples is the primary purpose of our investigation.

Second, we sought to review all existing studies reporting rates of bidirectional versus unidirectional IPV to delineate what proportion of unidirectional IPV occurs

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from male-to-female versus from female-to-male. Again, these proportions were calculated based on the data reported by the respective researchers from which the articles were written. A priori, it was expected that a similar prevalence of unidirectional male-to-female (M-to-F) and female-to-male (F-to-M) would provide support for the gender symmetry of IPV argument. In contrast, findings of higher rates of unidirectional male-to-female violence across a variety of types of samples would lend credence to the gender asymmetry of IPV view. Findings of higher rates of unidirectional female-to-male violence would support the call for focusing greater attention on the role of women's perpetration in relationships characterized by IPV (Langhinrichsen-Rohling, 2010).

Third, relatively little is known about the expression and directionality of IPV in gay, lesbian, and bisexual relationships. However, the gender symmetry of violence theory might assert that similar rates of bidirectional and unidirectional IPV would occur within all three of these types of relationships. In contrast, the gender asymmetry position might assert that there would be higher rates of bidirectional violence in gay relationships, and lower rates of violence overall in lesbian, as compared to other types of unions.

Fourth, some have argued that there are cultural differences in the expression of violence within intimate relationships such that males raised in more patriarchical cultures (e.g., Hispanic) might be at higher risk for unidirectional M-to-F perpetration. In contrast, males residing in more matriarchal cultures (e.g., African American) could be expected to experience more bidirectional violence and unidirectional F-to-M violence. Furthermore, gender symmetry in the expression of violence within relationships might occur more often in cultures that emphasize relational equality between genders (i.e., among younger White individuals in the United States). To the extent possible, these four considerations will be examined in the current comprehensive PASK review.

METHOD

Inclusion and Exclusion Criteria

Studies eligible for the current review were those that directly investigated IPV and reported a rate of mutual or bidirectional violence as compared to unidirectional violence. Studies that reported only correlations between IPV perpetration and victimization were not included. In addition, included studies were required to report empirical data, be written in English, make use of a Western population (e.g., samples within the United States, Canada, Australia, and European countries were allowable), and have been published during or after 1990 in a peer-reviewed scientific journal. Articles that were opinion/editorials, review or theoretical articles, case studies, and/or published as a book or a book chapter were excluded from analyses. However, data from a book chapter by Stets and Straus (1989) were also included in this review because of their seminal nature; these data are also included in the online table that corresponds to this publication.

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Data Sources and Search Strategy

Databases that were utilized in searching for articles included the following: Academic Search Premier, Education Resources Information Center, Medical Literature Analysis and Retrieval System Online, PsycINFO, CINAHL, Biomedical Reference Collection, and SocINDEX. Articles were searched using date criteria from January 1990 to September 2011. All combinations of the following terms were searched in two separate fields: IPV, domestic violence, spousal abuse, dating violence, or partner violence and mutual, bidirectional, directionality, symmetry, reciprocal, two-sided, gender symmetry.

Study Selection

The initial search yielded 320 journal articles. After two researchers reviewed the abstracts obtained in the initial search, 210 articles were deemed irrelevant because they did not report rates of bidirectional or mutual violence. Thus, 110 eligible articles were retained after Phase 1 of this study. These 110 studies were obtained in full text for further examination. In Phase 2 of this project, studies were further excluded because they did not investigate bidirectional or mutual IPV ($n = 43$); they were conducted outside the United States, Canada, Australia, or European countries ($n = 5$); or they were review articles without codable empirical data ($n = 17$). Using this process, 45 empirical articles were retained for the current comprehensive review. In a third step, the reference sections of all eligible articles and located review articles were also investigated for additional related articles. Three previously unidentified but relevant articles were located in this manner. One book chapter that appears to be the first to report these types of data was also located (Stets & Straus, 1989); this chapter was also summarized. Thus, a final total of 48 empirical articles, one meta-analysis, and one seminal book chapter were obtained and included in this review. Twenty-eight of the 48 articles explicitly used some variant of the CTS or the CTS2 to assess violence (58%); data in the book chapter were also based on the CTS. Of the studies not using the CTS or a variant ($n = 20$), several large epidemiological studies used only one or two questions to assess IPV ($n = 6$ of 15 or 40%; the remaining studies in this group all measured violence with some version of the CTS). As a contrast, seven studies (54%) within the group of the legal/criminal justice studies and treatment-seeking studies ($n = 13$) relied on reviewing and coding archival data and police reports to determine the prevalence of bidirectional versus unidirectional violence. No other type of study included in this review used archival data to determine bidirectionality of violence.

Data Abstraction Process

The topic leaders and directors of the PASK project (Hamel et al., in press) worked together to develop the structure for a data extraction table. This structure was used throughout all articles included as part of the larger PASK project in order to record relevant information from eligible studies in a consistent manner across topics and

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authors. The table was developed in an iterative fashion with extensive communication among PASK and subproject leaders. It was agreed that the final online table would include the full reference for the manuscript. Separate columns would contain information on sample size, sample characteristics (e.g., demographics, setting), methodology and design used to collect data (e.g., cross-sectional, self-report), measures used to collect data, and relevant results. Furthermore, the table was organized into methodologically related groups of studies. Studies were grouped by sampling strategy (e.g., large population studies, community samples, treatment-seeking or clinical samples, criminal justice/legal samples and meta-analyses). Within each group, studies were ordered by year of publication and were alphabetized within the year. Across the included studies, information about rates of bidirectional, unidirectional, M-to-F only partner violence, and F-to-M only partner violence were presented in a variety of ways. To ease comparisons across studies, percentages of each type of violence in the total sample and within the violent group were reported or were calculated if the appropriate data was available within the manuscript (e.g., sample size, *n*'s for each IPV group, and/or percentages). If rates were available for different reporters (e.g., males vs. females) or for different subsamples (e.g., Whites, African Americans, or Hispanics), these results were also reported. This information forms the online table that is associated with this publication.

RESULTS

As stated previously, the overall table that contains the summaries and results from each of the 48 included empirical articles, the seminal book chapter, and the additional related meta-analysis is available online through the journal, *Partner Abuse*. In the current article, these studies were coded to directly address the question of the commonality of bidirectional versus unidirectional violence across the different types of samples. Second, within studies reporting rates of unidirectional violence, the relative proportion of M-to-F versus F-to-M violence was determined. These proportions were again compared across the different types of samples. Third, all studies that reported the rates of bidirectional versus unidirectional violence among the intimate relationships of gay, lesbian, and bisexual individuals were amassed and compared. Finally, a table was organized in order to compare the rates of bidirectional, unidirectional M-to-F, and unidirectional F-to-M among different racial/ethnic groups. Each of these results are described and presented later.

As shown in Table 1, 7 of the 11 studies that examined the issue of bidirectional versus unidirectional violence within a large population sample and are included in the online table were retained for further analysis. Eight of the 15 studies summarized in the online table were not included in the analyses presented in this manuscript. Four of these studies were derived from the same data set (a representative sample of married couples in the 48 contiguous United States); to preserve data independence only one of these studies was retained for further analysis ($n = 3$ excluded; Caetano, Ramisetty-Mikler, & Field, 2005; Caetano, Vaeth, & Ramisetty-Mikler, 2008; Field &

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TABLE 1. Overall Rates of Violence and Comparisons of Rates of Bidirectional and Unidirectional Violence Within the Violent Group Among the Large Population Samples

Population Samples (Larger Samples)	Reporting Source	Total *n*	% of IP Violence w/in Total	% of Bidirection w/in IPV	% of Unidirection w/in IPV	M-to-F Unidirection w/in IPV	F-to-M Unidirection w/in IPV	Ratio of F-to-M: M-to-F
Anderson, 2002	Couples	7,395	9.5	68.5	31.5	10.5	21.0	2.00
Williams et al., 2005	F = 1,792 M = 1,727	3,519	18.4	49.0	51.0	20.0	31.0	1.55
Whitaker et al., 2007	F = 6,151 M = 5,219	11,370	24.0	49.7	50.3	14.5	36.2	2.57
McKinney et al., 2008	Couples	1,615	28.0	53.0	47.0	14.0	33.0	2.33
Straus, 2008	F = 9,662 M = 3,947	13,609	30.0	68.6	31.3	9.9	21.4	2.16
Renner et al., 2010	F = 6,661 M = 5,652	12,313	39.8	59.2	40.3	17.0	23.2	1.36
Roberts et al., 2011 Wave 2	F = 20,089 M = 15,564	35,653	7.8	45.5	54.4	17.3	37.1	2.14
Overall total *n's*	F = 44,930 M = 38,906	82,836	13,525	7,827	5,698	1,868	3,830	—
Weighted *M* %	54.2% female	7 samples	16.3	57.9	42.1	13.8	28.3	2.05
Unweighted *M* %		7 samples	22.1	55.9	44.1	14.8	29.3	2.02

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Caetano, 2005). The retained study was the most recent, included data from Wave II, and contained the largest sample size (McKinney, Caetano, Ramisetty-Mikler, & Nelson, 2008). Two separate studies also relied on data from the National Survey of Families and Households; again, only the study with the most recent data and largest sample was retained (Anderson, 2002), as Umberson, Anderson, Glick, and Shapiro (1998) was excluded. Two separate studies were also produced from data gathered from the National Comorbidity Survey; the most recent and inclusive study was chosen for retention (Williams & Frieze, 2005); Kessler, Molnar, Feurer, and Appelbaum (2001) was excluded. Another population study was excluded from these analyses because rates of M-to-F and F-to-M unidirectional violence could not be computed from the data included in the article (Cunradi, 2007).

Finally, two of the national population studies were conducted on special samples (gay, lesbian, bisexual individuals; Kelly, Izienicki, Bimbi, & Parsons, 2011; or a utilization study of HIV costs and services; Galvan et al., 2004). Both of these studies were also removed prior to calculating the rate of bidirectional versus unidirectional violence (M-to-F and F-to-M) found in large population studies. Instead, these two final studies are included in Table 6 that directly considers the rates of bidirectional versus unidirectional violence in samples focusing on or containing significant numbers of individuals with gay, lesbian, or bisexual sexual orientations.

This procedure resulted in retaining seven epidemiological/population-based studies with a total of 82,836 sampling units (44,930 females and 38,906 males). Each obtained rate was weighted by the sample size from which it was derived in order to determine that the overall rate of IPV reported in these studies was 16.3% (22.1% average unweighted by sample size). Among those reporting IPV and using weighted averages, across these samples, 57.9% of the violence reported was bidirectional. Correspondingly, 42.1% of the violence reported was unidirectional in nature. Within the 42.1% unidirectional violence, 13.8% was coded as perpetrated only from the man toward the woman (M-to-F unidirectional), whereas 28.3% of the reported unidirectional violence was from the woman toward the man (F-to-M unidirectional). These numbers are similar to those originally reported by Stets and Straus (1989), based on their sample of 5,005 married, 237 cohabiting, and 526 dating couples. According to this book chapter, based on data collected in the 1980's, 50% of violent dating couples engage in bidirectional IPV (39.4% female-to-male only, 10.5% male-to-female only). Among cohabitating violent couples, 52.4% were classified as bidirectionally violent (26.9% female-to-male only, 20.7% male-to-female only); whereas 48.2% of married violent couples were bidirectionally violent (28.6% female-to-male only, 23.2% male-to-female only). Among the seven current large population studies that were used in this analysis, the overall ratio of unidirectional female-to-male compared to unidirectional male-to-female IPV was 2.05 weighted (2.02 unweighted ratio). This indicates that there were approximately two women engaging in unidirectional perpetration in the relationship compared to every one man.

A similar procedure was followed to create Table 2. Seven of the 12 identified community sample studies were retained for analysis. Five community studies that

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TABLE 2. Overall Rates of Violence and Comparisons of Rates of Bidirectional Versus Unidirectional Violence Within the Violent Sample Among Smaller Community and Purposive Studies

Community Samples (Smaller Samples)	Reporting Source	Total *n*	% of IP Violence w/in Total	% of Bidirection w/in IPV	% of Unidirection w/in IPV	M-to-F Unidirection w/in IPV	F-to-M Unidirection w/in IPV	Ratio of F-to-M: M-to-F
Kwong et al., 1999	F = 351 M = 356	707	29.0	57.1	42.9	16.5	26.4	1.60
Capaldi et al., 2001	Couples at-risk	159	24.3	56.5	43.5	8.7	34.8	4.00
Temple et al., 2005	Low- income	835	77.4	68.9	31.1	19.6	11.6	0.59
Forgey & Badger, 2006	F enlisted	248	59.7	76.3	23.2	18.2	5.0	0.27
Jaeger et al., 2008	M Seeking health care	128	31.0	26.0	74.0	29.0	45.0	1.55
Rhodes et al., 2009	M Seeking health care	712	36.0	30.0	70.0	15.0	55.0	3.67
Panuzio et al., 2010	Couples newlyweds	202	36.6	74.3	25.7	8.1	17.6	1.60
Overall total *n's*	F = 1,615 M = 1,376	2,991	1,405	838	567	246	321	—
Weighted *M* %	54.0% female	7 samples	47.0	59.6	40.4	17.5	22.9	1.30
Unweighted *M* %			41.9	55.6	44.3	16.4	27.9	1.98

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were summarized in the online tables were not included in Table 2. Two of the five excluded studies reported on the same sample that was used in a separate article (Capaldi, Kim, & Shortt, 2007; Weston, Temple, & Marshall, 2005). These studies were removed to preserve data independence. The other three studies were removed either because they did not report the rates of M-to-F and F-to-M unidirectional violence (Tyler, Melander, & Noel, 2009) or because they sampled gay and lesbian adolescents, a group that we already determined warranted a separate analysis (e.g., Kelly et al., 2011; Stanley, Bartholomew, Taylor, Oram, & Landolt, 2006). The final sample of included studies consisted of 2,991 sampling units (1,615 females and 1,376 males). The weighted rate of violence across these samples was 47.0% and the weighted rate of reported bidirectional violence was 59.6%. Correspondingly, 40.4% of the reported violence was unidirectional with 17.5% of the unidirectional violence being categorized as M-to-F and 22.9% of the unidirectional violence categorized as F-to-M. The weighted ratio of female-to-male as compared to male-to-female unidirectional violence in this sample group was 1.30 (unweighted ratio = 1.98)

All but one of the college, high school, and middle school samples included in the online table was retained for analysis in the current article. The Testa, Hoffman, and Leonard (2011) study was removed from these analyses because it was an outlier (with a ratio of female-to-male over male-to-female unidirectional violence of 14 to 1) and had a relatively small sample size for this type of study. As shown in Table 3, across the 13 included studies, the total number of participating reporters was 17,444 (8,990 females and 8,454 males). The weighted average percent of violence among the school samples was 39.2%. The weighted average of bidirectional or mutual violence reported across these studies was 51.9%. Correspondingly, 48.1% of the IPV reported within school, college, or university samples was unidirectional in nature. In this sample category, the weighted rate of reported M-to-F unidirectional violence was only 16.2%, whereas the rate of F-to-M unidirectional violence was 31.9%. The weighted ratio of female-to-male unidirectional violence compared to male-to-female unidirectional violence was 1.96 (2.18 unweighted).

As shown in Tables 4 and 5, the studies focusing on bidirectional versus unidirectional violence and using legal or clinical/treatment-seeking samples were split into two groups. Table 4 consists of studies that sampled from female-oriented treatment-seeking populations or from clinical populations that were not associated with the military. The treatment being sought in these three studies included marital therapy ($n = 1$), alcohol-related treatment for women ($n = 1$), and treatment for women convicted of a domestic violence offense (DV) ($n = 1$). Two studies were excluded from this table; one because the article did not contain information for all the relevant analysis cells (Robertson & Murachver, 2007). Another article was excluded (Vivian & Langhinrichsen-Rohling, 1994) because essentially the same sample was used in another included study, and we were seeking to preserve data independence.

A total of 235 participants or couples formed the basis for the analyses presented in Table 4 (189 were female and 46 were male). The overall sample size weighted rate of violence in these treatment-seeking studies was 70.6%. Bidirectional violence

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TABLE 3. Overall Rates of Violence and a Comparison of Rates of Bidirectional and Unidirectional Violence Within the Violent Group as Reported in University/School Samples

College, High School (HS), & Middle School (MS) Samples	Reporting Source	Total *n*	% of IP Violence w/in Total	% of Bidirection w/in IPV	% of Unidirection w/in IPV	M-to-F Unidirection w/in IPV	F-to-M Unidirection w/in IPV	Ratio of F-to-M: M-to-F
Henton et al., 1983 University sample	F = 293 M = 351	644	12.0	71.0	29.0	12.0	32.0	2.67
Gray & Foshee, 1997	MS & HS	185	42.0	66.0	34.0	14.5	14.5	1.00
Billingham et al., 1999 Reporting in 1986	F college	603	37.0	61.0	39.0	10.0	29.0	2.90
Billingham et al., 1999 Reporting in 1986	M college	603	32.8	62.0	38.0	19.0	19.0	1.00
Billingham et al., 1999 Reporting in 1992	F college	414	29.4	53.0	47.0	11.0	36.0	3.27
Billingham et al., 1999 Reporting in 1992	M college	414	32.0	50.0	50.0	22.0	28.0	1.27
Billingham et al., 1999 Reporting in 1996	F college	571	17.0	44.0	56.0	22.0	34.0	1.55
Billingham et al., 1999 Reporting in 1996	M college	571	13.1	62.0	38.0	11.0	27.0	2.45
Hines & Saudino, 2003	F col = 308 M col = 173	481	39.0	54.0	45.0	12.0	32.0	2.08
Orcutt et al., 2005	F college	457	45.0	63.0	37.0	12.0	25.0	2.10
Straus, 2008	F & M college	4,239	31.0	69.0	31.0	10.0	21.0	2.26
Swahn et al., 2010	F MS & HS	4,131	48.0	50.0	50.0	23.0	27.0	1.17
Swahn et al., 2010	M MS & HS	4,131	52.0	39.0	61.0	11.0	50.0	4.55
Overall total *n's*	F = 8,990 M = 8,454	17,444	6,840	3,551	3,289	1,111	2,177	—
Weighted *M* %	51.5% female	13 samples	39.2	51.9	48.1	16.2	31.9	1.96
Unweighted *M* %		13 samples	33.1	57.2	42.7	15.0	29.3	2.18

Note. MS = Middle School and HS = High School, F = female and M = male.

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TABLE 4. Rates of Overall Violence and a Comparison of Rates of Bidirectional Versus Unidirectional Violence Among the Violence Group Among the Legal and Treatment-Seeking Samples: Women and/or Nonmilitary

Clinical Sample	Reporting Source	Total *n*	% of IP Violence w/in Total	% of Bidirection w/in IPV	% of Unidirection w/in IPV	M-to-F Unidirection w/in IPV	F-to-M Unidirection w/in IPV	Ratio of F-to-M: M-to-F
Cascardi et al., 1992	Couples marital tx	93	71.0	86.0	14.0	7.0	7.0	1.00
Drapkin et al., 2005	F alc abuse	109	61.0	68.0	32.0	15.0	16.0	1.07
Goldenson et al., 2007	F IPV perps	33	100.0	55.0	45.0	21.0	24.0	1.14
Overall total *n's*	F = 189 M = 46	235	166	120	46	22	24	—
Weighted *M* %	80.4% female	3 samples	70.6	72.3	27.7	13.3	14.4	1.09
Unweighted *M* %		3 samples	77.3	69.7	30.3	14.3	15.7	1.07

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TABLE 5. Rates of Overall Violence, and the Breakdown of Bidirectional Versus Unidirectional Violence Among the Violent Group Within Legal and Treatment-Seeking Samples: At-Risk or Military Males

Clinical Sample	Reporting Source	Total *n*	% of IP Violence w/in Total	% of Bidirection w/in IPV	% of Unidirection w/in IPV	M-to-F Unidirection w/in IPV	F -to-M Unidirection w/in IPV	Ratio of F-to-M: M-to-F
Langhinrichsen-Rohling, Neidig, & Thorn, 1995	Couples mil mandate tx	199	98.0	83.0	15.0	12.0	3.0	0.25
McCarroll et al., 2004	F IPV vics in U.S. army	20,959	100.0	42.0	58.0	42.0	16.0	0.38
Taylor & Pittman, 2005	M IPV perps USAF	7,253	100.0	42.0	58.0	39.0	19.0	0.49
Capaldi et al., 2009	M at-risk delinquents	206	100.0	43.0	57.0	51.0	6.0	0.12
McCarroll et al., 2009	F IPV vics in Army	25,526	100.0	36.0	64.0	46.0	18.0	0.39
Overall total *n's*	F = 46,585 M = 7,558	54,143	54,139	21,289	32,850	23,502	9,348	—
Weighted *M* %	86.0% female	5 samples	99.9	39.3	60.7	43.4	17.3	0.40
Unweighted *M* %		5 samples	99.6	49.2	50.4	38.0	12.4	0.33

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was commonly reported (72.3% of the violence within the violent group was flowing between both relationship partners). Of the remaining 27.7% that was reported as unidirectional violence, 13.3% involved M-to-F perpetration only and 14.4% involved F-to-M perpetration only. The weighted ratio for this sample group was 1.09, as the unidirectional violence that was reported was roughly equally divided between that solely perpetrated by women and that solely perpetrated by men.

Table 5 consists of all the studies that utilized a sample drawn from individuals receiving DV treatment within the U.S. military ($n = 4$) or from at-risk males ($n = 1$) who had been followed across time and were in the study because they had documented perpetration of IPV as per police records. Two of these samples relied on data collected from men. Likewise, two of the samples relied on data collected from women. The remaining study utilized data collected from both members of military couples who were mandated to conjoint treatment for the violence within their relationships. The total sample size for these analyses was 54,143 individuals (46,585 were female and 7,558 were male). Across these studies, 99.9% of the individuals within these samples had documented IPV in their relationship. Interestingly, the weighted rate of bidirectional or mutual violence in these samples was relatively low (39.3%). Moreover, within the 60.7% of unidirectional violence, most were reporting M-to-F violence (43.4%) as compared to F-to-M violence (17.3%). The weighted ratio of female-to-male unidirectional compared to male-to-female unidirectional violence within this group is 0.40 (0.33 unweighted by sample size).

Using the unweighted data portrayed in each of the first five tables in order to maintain the ability to conduct parametric analyses, comparisons across the five sample types are shown in Table 6. Not surprisingly, the samples differed significantly from one another in terms of the rates of IPV obtained, $F\,(4, 30) = 30.63, p \leq .0001$. Follow-up comparisons indicated that the unweighted rate of violence in the school sample did not differ significantly from the unweighted rate of violence in the large population and community samples. However, all other comparisons revealed significant differences with the epidemiological studies yielding the lowest rates of reported IPV and the legal/criminal justice samples yielding the highest rates of violence, as expected.

Although the overall violence reported in the different types of samples differed considerably, these analyses indicate that the unweighted percentages of bidirectional versus unidirectional violence found within those reporting IPV did not differ significantly among any of the five different types of samples either for the bidirectional, $F\,(4, 30) = 0.98, p = .43$ or for the unidirectional comparisons, $F\,(4, 30) = 0.92$, $p = .46$. Rates of bidirectional as compared to unidirectional violence are similar across all five types of samples.

However, within the group of unidirectional violence perpetrators, significantly higher rates of unidirectional male-to-female violence (38.05% of the violent sample unweighted) were found among the military treatment/legal samples. These rates were significantly elevated in comparison to the rates of unidirectional male-to-female IPV found among all other sample types, $F\,(4, 30) = 9.84, p < .0001$. Correspondingly,

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TABLE 6. A Comparison of Unweighted Overall Rates of Violence, Rates of Bidirectional and Unidirectional Violence, Rates of M-to-F and F-to-M Unidirectional Violence, and Ratios of Female-to-Male as Compared to Male-to-Female Unidirectional Violence Across the Five Different Types of Samples

Metrics	Population Studies	Community Studies	School Studies	Treatment Legal Women	Treatment Legal Military	*F*	*df*	*p*
Samples	7	7	13	3	5	—	—	—
% Bidirectional	55.9	55.6	57.2	69.7	49.2	0.98	4, 30	.4325
% Unidirectional	44.1	44.3	42.7	30.3	50.4	0.92	4, 30	.4643
% M-to-F unidirect	14.8[a]	16.4[a]	15.0[a]	14.3[a]	38.0[b]	9.84	4, 30	< .0001
% F-to-M unidirect	29.3[a]	27.9[a]	29.3[a]	15.7[a,b]	12.4[b]	3.03	4, 30	.0329
Ratio: F-to-M:M-to-F	2.02[a]	1.98[a]	2.18[a]	1.07[a,b]	0.33[b]	4.26	4, 30	.0076
% Overall violence	22.1[a]	41.9[b]	33.1[a,b]	77.3[c]	99.6[d]	30.63	4, 30	< .0001

Note. Metrics with different superscripts differ significantly from one another at the $p < .05$ level.

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significantly lower unweighted rates of F-to-M unidirectional violence (12.4% of the violent sample) were also reported in the military treatment/legal samples. However, these low rates of unidirectional female-to-male perpetrated violence were not found to differ in post hoc analyses from the similarly low rates of F-to-M unidirectional violence reported in the female-oriented treatment-seeking/legal samples. In contrast, the rates did differ significantly from the rates of F-to-M unidirectional violence reported in every other type of sample, $F\,(4, 30) = 3.03, p < .05$.

As shown in Table 6, this exact same pattern of findings was obtained when comparing the ratio of female-perpetrated to male-perpetrated unidirectional violence across the five types of samples, $F\,(4, 30) = 4.26, p < .01$. High ratios of female-to-male violence compared to male-to-female violence were found in epidemiological, community, and school samples. Equal rates of unidirectional violence were obtained in the treatment-seeking samples and high ratios of male-to-female compared to female-to-male violence were found in the military legal/justice samples.

As shown in Table 7, only three located studies directly measured the issue of bidirectional versus unidirectional violence among predominantly gay, lesbian, or bisexual individuals or couples. Furthermore, only one of these three studies included data that allowed a determination of rates of male-perpetrated unidirectional violence versus female-perpetrated unidirectional violence. Thus, this next set of analyses should be considered exploratory in nature. The total number of individuals contained within these three studies was 3,690 (females = 922 and males = 2,768). The overall weighted rate of violence within these samples was 37.3%. Similar to the other samples, 51.5% of the reported violence was coded as bidirectional and 48.5% of the violence was unidirectional in nature. Among the unidirectional violence, 20.4% was solely perpetrated by a male and 28.1% was solely perpetrated by a female for a weighted and unweighted ratio of 1.27.

Additional preliminary analyses were conducted to determine if the rates of bidirectional versus unidirectional violence differed significantly by race. As shown in Table 8, among the nonmilitary samples, the rates of bidirectional violence differed significantly by race. Specifically, only 50.9% of IPV was bidirectional according to White reporters and 49.0% of IPV was bidirectional among Hispanic reporters. However, among Black reporters, 61.8% of the reported IPV was bidirectional. Among those engaging in unidirectional violence, significantly different ratios of female-to-male as compared to male-to-female violence were obtained across the three racial/ethnic groups. The ratio was 2.75 for Black reporters, 2.26 for White reporters, and 1.34 for Hispanic reporters. However, as noted at the bottom of Table 8, these ratios differ dramatically from those reported earlier when the sample is drawn from the military (0.50 for White reporters, 0.61 for Black reporters, and 0.00 for Hispanic reporters). Race was also considered in several other articles that couldn't be coded as per Table 8. In the study by Galvan et al. (2004), among people with HIV, bivariate analyses indicated that African Americans and Latinos had significantly elevated probabilities of being both perpetrators and victims of IPV as compared to Whites. In a study of 71,764 individuals recruited to participate in the National Household

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TABLE 7. Rates of Overall Violence and the Breakdown of Bidirectional Versus Unidirectional Violence Among the Violent Group Within Samples Focusing on Gay, Lesbian, or Bisexual Individuals

Samples of Gay, Lesbian, & Bisexuals	Reporting Source	Total *n*	% of IP Violence w/in Total	% of Bidirection w/in IPV	% of Unidirection w/in IPV	M-to-F Unidirection w/in IPV	F-to-M Unidirection w/in IPV	Ratio of F-to-M: M-to-F
Galvan et al., 2004	F = 504 M = 917 HIV sample	1,421	26.8	48.0	52.0	—	—	—
Stanley et al., 2006	M = 69 Gay, Bi	69	39.0	50.0	50.0	22.0	28.0	1.27
Kelly et al., 2011	F = 418 M = 1,782 GLB	2,200	44.1	53.0	47.0	—	—	—
Overall total *n's*	F = 922 M = 2,768	3,690	1,378	710	668	6	8	
Weighted *M* %	25.0% female	3 samples	37.3	51.5	48.5	20.4	28.1	1.27
Unweighted *M* %		3 samples	36.6	50.3	49.7	22.0	28.0	1.27

Note. GLB = Gay, Lesbian, Bisexual

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TABLE 8. Rates of Bidirectional and Unidirectional Violence Reported Among White, Black, and Hispanic Ethnic Groups From the Same Sample

	Sample Racial Characteristics	White			Black			Hispanic		
Among those with IPV		% Bi-dir	% M-to-F	% F-to-M	% Bi-dir	% M-to-F	% F-to-M	% Bi-dir	% M-to-F	% F-to-M
Caetano et al., 2005		44	17	38	61	8	31	45	19	35
Caetano et al., 2008		63	10	27	67	12	20	60	23	16
Field & Caetano, 2005 (1995 data)		44	22	34	53	13	34	43	21	35
Field & Caetano, 2005 (2000 data)		64	9	27	69	10	21	60	23	17
McKinney et al., 2008		49	16	35	66	7	27	50	18	32
Orcutt et al., 2005		56	15	28	73	8	19	—	—	—
Nonmilitary Avg. percent		50.9	14.8	31.5	61.8	11.6	23.7	49.0	20.8	27.0
Ratio of F-to-M:M-to-F				2.26			2.75			1.34
Forgey & Badger, 2006	F = 248 enlist & spouse	58	28	14	63	23	14	53	47	0
McCarroll et al., 2004	20,959 vics in US Army	36	—	—	42	—	—	36	—	—
Military avg. percent		47.0		0.50	52.5		0.61	45.5		0.00

Note. Several additional studies included findings related to race that were not codable according to this format. These findings are included in the in-text discussion.

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Survey on Drug Abuse, Cunradi (2007) conducted separate analyses for men versus women by race/ethnicity. The odds of being in a relationship characterized as mutually or bidirectionally violent were significantly elevated for both Non-Hispanic Black men as compared to White men (2.48 to 1.00) and for Non-Hispanic Black women as compared to White women (3.09 to 1.00). Elevated risks for mutually violent relationships were not obtained for Hispanic men or Hispanic women in comparison to White men and White women. A related study by Próspero and Kim (2009) studied 676 university students in heterosexual relationships. Males and females from four different ethnic groups (African American, Asian American, Latino, and European Americans) were assessed for IPV perpetration and IPV victimization in their relationships. Strong positive correlations between physical IPV perpetration and victimization were obtained for women and men from all four ethnic groups (range from $r = 0.62$ for White women to $r = 0.94$ for Asian men). These results were interpreted in support of the contention that bidirectional violence is common across all ethnic groups, as reported by both men and women.

DISCUSSION

Our comprehensive review of the literature was designed to address four questions related to the gender symmetry/asymmetry of IPV. First, we wanted to determine what the rates were of bidirectional versus unidirectional IPV across various types of samples. Second, we wished to determine what was the ratio of F-to-M perpetration was as compared to M-to-F perpetration among individuals from the same sample identified as perpetrating unidirectional IPV. Would these ratios differ as function of sample type? Third, we wanted to determine the prevalence of bidirectional versus unidirectional violence among gay, lesbian, and bisexual individuals. How might these rates compare to which was reported by heterosexual couples? Fourth, we wanted to investigate the differences in the rates of bidirectional versus unidirectional violence reported by White, Black, and Hispanic couples. Moreover, within the unidirectional violence reported by White, Black, and Hispanic individuals, how does the rate of F-to-M IPV compare to that of M-to-F IPV. Each of these questions is discussed in turn, with limitations to this review being delineated as they arise. Last, suggestions for clinical practice and future research will be offered.

The first finding to emerge from this comprehensive review was that the amount of violence reported by participants differed significantly among the samples (see Desmarais, Reeves, Nicholls, Telford, & Fiebert, in press, for a comprehensive PASK review of the prevalence of IPV among men and women). The lowest rates of violence were obtained in the large population based or epidemiological studies. Overall, approximately 22% of the individuals in these samples indicated the occurrence of relationship violence. It is worth noting that assessment strategies in the large population studies typically consisted of using a smaller subset of questions derived from the CTS or by assessing the occurrence of relationship violence victimization and perpetration with a very small number of idiosyncratic questions. This methodological

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strategy may also be contributing to the relatively lower rates of IPV identified in these samples.

In contrast, rates of violence rose to 33% in the school samples, 42% in the community or purposive samples, 77% among the female-oriented treatment-seeking samples, to virtually 100% in the male-oriented legal/justice oriented samples. The rate of violence obtained among samples focusing on gay, lesbian, and bisexual individuals is most similar to that obtained in the school samples (32% of the GLB sample reported IPV). These sample-specific prevalence results can be compared to findings by Straus (2007) garnered from university students in 32 nations, all of whom completed the CTS2. In this large international college student sample, the overall prevalence of any physical violence within these disparate college student relationships was a strikingly similar rate of 31.2%. These findings may also be relatively steady across time as another study of undergraduate students in the United States, which was conducted nearly 30 years ago, reported that the rate of IPV was approximately 30% with 15% of the college men in the sample reporting abusing a partner compared to 21% of the college women (Bernard & Bernard, 1983).

Of primary interest to the current article, however, is the finding that although the overall amount of IPV found within these samples differed dramatically, the percent of this violence that could be categorized as bidirectional in nature did not differ significantly as a function of sample. Across the five types of samples, the average amount of reported IPV that was bidirectional in nature was 57.5% (ranging from a low of 49.2% among the female-oriented, nonmilitary treatment-seeking samples to a high of 69.7% among the male-oriented, military legal/justice samples).

Clearly, bidirectional violence is a very common IPV pattern. It is, in fact, the most common pattern in most types of samples considered in the current review. These findings provide support for the notion that relationship dynamics, communication patterns, problem-solving skills, partner selection efforts, and conflict management styles are likely to be important considerations for many types of IPV prevention and intervention efforts (Hamel, 2009; Langhinrichsen-Rohling & Turner, in press; Ridley & Feldman, 2003). Models delineating some of the interactional processes underlying bidirectional violence have been constructed (Langhinrichsen-Rohling, 2010). Efforts to disentangle which types of IPV are primarily relationship oriented versus character logical in nature may also enhance treatment efficacy efforts (Goldonson, Spidel, Greaves, & Dutton, 2009) as will a focus on how bidirectional IPV may differ in specific relationship contexts and over time (e.g., cohabitation versus marriage, Brownridge & Halli, 2002; Stets & Straus, 1989).

However, the substantial rate of bidirectional violence found across all types of samples should necessitate that treatment providers in all settings acknowledge that many violent relationships, regardless of how they are identified, include acts of perpetration from both partners. Failure to assess and address this reality is likely to result in less effective interventions and a reduced understanding of how each partner in the relationship is experiencing the IPV; it may also interfere with the development of clinical rapport with all participants in treatment. This suggestion

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is augmented by findings from a recent study that showed that use of a bidirectional violence screening in contrast to a basic or healthy relationship screening elicited more reports of recent victimization. This type of screen was received as positively as the two other screening types by both patients and health care providers (Rickert et al., 2009). The findings from this review support the need for regular bidirectional IPV screening processes in all health care settings.

Likewise, even researchers who are focused on understanding experiences of victimization for women should assess for co-occurring perpetration and how that may impact the victimization experiences the women are describing (see Kelly, Cheng, Peralez-Dieckmann, & Martinez, 2009 on the dating violence experiences of 590 girls in an urban juvenile justice system for an article that could benefit from this suggestion). Women's use of violence has been associated with destructive communication patterns in relationships (Ridley & Feldman, 2003) and may be a particularly provocative and dangerous way to get a male relationship partner to listen or pay attention (Straus, 1997). Unfortunately, as was noted by Langhinrichsen-Rohling (2010), estimates of the bidirectionality of IPV are notably absent from many types of research articles and are also not included in federally funded crime surveys such as National Crime Victimization Survey (NCVS) and the National Violence Against Women Survey (NVAWS).

However, these results should also be treated with some caution because most studies in this review (54%) used the CTS or a derivative of this measure to assess violence. Bidirectionality was typically determined solely by the co-occurrence of reporting both perpetration and victimization in the relationship, as per behavioral indices (although some exceptions were noted such as the strategy utilized by Weston, Temple, & Marshall, 2005). As has been noted repeatedly, bidirectional violence is not necessarily gender symmetrical or mutual. Bidirectional violence, as currently measured, can occur on different days and involve different types of acts by each perpetrator. There can be a primary initiator of the violence or initiation of the violence may alternate between partners. And certainly, the presence of bidirectional violence does not necessitate the presence of symmetrical impacts for men versus women. For example, Langhinrichsen-Rohling, Neidig, and Thorn (1995) reported a high rate of bidirectional violence within a sample of military couples mandated to treatment for verified domestic violence. However, the men in the sample were more likely to use severe violence, less likely to be injured, and they were less fearful of their spouses. Husbands and wives also had different gender-specific childhood predictors of marital perpetration and victimization. Careful assessment of multiple dimensions of the frequencies and types of IPV both partners are perpetrating and experiencing will be crucial (Langhinrichsen-Rohling, 2010).

It is also likely that partners in mutually violent relationships may continue to view their own violence and their partner's differently; clinicians might consider these different views to be another expression of relationship dysfunction, rather than accept one partner's view as the truth. In a study of discrepancies in reports of IPV among marital couples, couples with differing viewpoints on the severity of

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the violence perpetrated by each spouse had greater marital distress and negative impacts in the their marriage than did couples who viewed and reported the IPV in their marriage similarly (Langhinrichsen-Rohling & Vivian, 1994)

Care should also be exercised; however, if assuming that couples engaged in bidirectional violence are less in need of safety-oriented services than those in unidirectionally violent relationships. In support of this contention, a study by Gray and Foshee (1997) of adolescent dating relationships indicated that individuals in mutually violent relationships were receiving and perpetrating more violence than those in unidirectionally violent relationships; the odds of injury were also elevated in the bidirectionally as compared to unidirectionally violent relationships. A reexamination of how we shelter individuals in all types of dangerously violent relationships may be warranted in order to keep women, children, and men safe.

Overall, an unbiased understanding of gender differences in the motivations for, function, context, and impact of violence both types of violence as they occur in relationships over time and across different relationship partners will be necessary (Hamel, 2007), as different types of IPV may have symmetrical or asymmetrical components (Johnson, 2006). National policy needs to work for all citizens and should be predicated on the latest and most robust empirical findings, even though "conducting science and presenting data in a politically charged field" is fraught with controversy (Holtzworth-Munroe, 2005). Further attention to the developmental processes underlying men and women's IPV may also be informative; as considerable heterogeneity and age of onset differences are likely to exist among unidirectional IPV perpetrators (Goldenson, Spidel, Greaves, & Dutton, 2009; Williams, et al., 2008). Specifically, the importance of the co-occurrence of violence with coercive control has been repeatedly stressed (Dobash et al., 1992; Johnson, 2005; Johnson, 2006; Próspero, 2008). However, in order for the argument that there are subtypes of batterers to realize its maximum use, clinicians will need strategies to identify different types of perpetrators with sensitivity and specificity. That this can be done with existing IPV assessments has not been well established (Langhinrichsen-Rohling, Huss, & Ramsey, 2000).

The role of alcohol in the perpetration of bidirectional versus unidirectional violence is also receiving increased attention (Drapkin, McCrady, Swingle, & Epstein, 2005; Friend, Langhinrichsen-Rohling, & Eichold, 2011; McCarroll, Fan, & Bell, 2009). The role of alcohol use in the perpetration of IPV may differ for men as compared to women and in ways that may be surprising to some. For example, the review of risk factors by Capaldi, Knoble, Shortt, and Kim (in press), included in this issue of *Partner Abuse*, indicates that alcohol abuse may be more closely associated with IPV perpetrated by women than by men. Continued efforts to unpack what aspects of IPV are gendered and what aspects are less so are going to be vital as some have argued persuasively that gender symmetry does not equal gender equality (Orcutt, Garcia, & Pickett, 2005).

In the current article, the next set of analyses revealed that although the relative rates of bidirectional and unidirectional violence were strikingly similar across violent couples recruited from all types of samples, the extent of female-to-male

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unidirectional violence as compared to male-to-female unidirectional violence differed significantly as a function of type of sample. Specifically, in three of the sample types (large population/epidemiological, smaller community/purposive, and school), many more women than men perpetrated unidirectional violence. For example, in two of the types of samples, approximately two women were perpetrating unidirectional violence to every one man. This finding is consistent with what has been reported in several previous review articles (e.g., Dutton & Nicholls, 2005). In the fourth sample, which consisted of female-oriented treatment-seeking samples, the ratio of unidirectional violence was essentially equivalent between women and men. In the current article, the only sample type in which higher rates of unidirectional violence were perpetrated by men toward women, rather than vice versa, was in the male-oriented, primarily military-based, legal/justice samples. Of note, this was also the only type of sample that primarily relied on the analysis of archival DV incident data rather than reports gathered through self-report instruments such as the CTS or the CTS2; it was also the only group of articles that relied on samples that were already identified as perpetrating DV.

There are many ways to interpret this finding, including (a) police-related data are skewed toward unidirectional male-to-female violence as a result of size, power, and potential to inflict injury differences between men and women—these differences might be expected to be especially profound among military men versus their spouses; (b) there may be reluctance to arrest women in situations of unidirectional female-to-male violence because of societal beliefs that minimize the impact or importance of women's violence—again, these beliefs might be especially activated within the U.S.; (c) military men or men at high risk for delinquency might be especially reluctant to consider or acknowledge themselves as victims of IPV—they may be even less likely than other men to view their partner's behavior as a crime (Dutton & Nicholls, 2005); (d) men who join the U.S. military might be especially prone to engage in unidirectional violence against their relationship partners and/or their partner's might be especially unlikely to engage in violence against them as a result of their male partner's military connection or training. Further studies of violence within military marriages using a variety of informants and data gathering strategies will be essential.

It is worth noting, however, that there still are an identifiable number of women engaging in unidirectional IPV in all studied samples, and that these same samples also include a significant number of women engaging in bidirectional violence. This pattern occurs across all samples and all measurement strategies. Women's violence needs to be understood as a part of the picture of domestic violence as it may be a key aspect of more effective prevention and intervention strategies for IPV (i.e., Capaldi & Langhinrichsen-Rohling, in press; Dutton & Nicholls, 2005). These results provide additional support for the contention that domestic violence can be a "human" and "relational problem" (Hamel, 2009), regardless of whether it is also heterogeneous in nature and contains gender-specific aspects.

Two other preliminary analyses were conducted via the current review. First, the rates of bidirectional versus unidirectional violence in samples composed largely of

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gay, lesbian, and bisexual individuals was determined. At approximately 30%, the rate of violence among this sample was shown to be similar to the prevalence of violence typically obtained in college student samples across the world (Straus, 2008). In addition, the percentage of bidirectional violence found among the violent group contained within the GLB studies was remarkably similar to what was obtained across the other five types of samples studied. Although this result doesn't negate the gender asymmetry of violence argument, it does suggest that at least some types of IPV may function similarly in heterosexual, homosexual, and bisexual relationships. However, further studies of the characteristics of IPV over time within the relationships of individuals with GLB sexual orientations are warranted.

Ethnic/race differences in the directionality of IPV were also noted; although relatively few samples contained this type of codable data. Preliminary findings from this comprehensive review suggest that rates of bidirectional and unidirectional female-to-male violence may be especially elevated among African American couples in the United States, whereas female-to-male violence may be more infrequent among Hispanic couples. However, it should be noted that different conclusions were reached by Renner and Whitney (2010) who did not find elevated rates of perpetration for Black females. Instead, they report elevated rates of sexual violence in relationships as perpetrated by Black males as compared to White males. Their study reminds us of the necessity of also considering the interplay among types of violence (emotional, physical, sexual, neglect) as they mutually interact and unfold in relationships over time. Understanding these cultural, developmental, interactional, and contextual issues in the expression of IPV within relationships will require additional resources, large samples, and rigorous methodological designs (Langhinrichsen-Rohling & Capaldi, in press). Finally, only one identified study considered the expression of IPV in interracial couples (Fusco, 2010). Because these couples are a growing group within the United States, and results suggest that interracial couples are at increased risk for prior IPV, bidirectional assault, and perpetrator arrest in a DV incident as compared to monoracial couples, this special population deserves both directed research and clinical attention.

In conclusion, this study conducted a comprehensive, state of the art review of studies reporting rates of bidirectional versus unidirectional violence as indicated by individuals and couples in romantic relationships. Bidirectional violence was common across all types of samples and was the most prevalent pattern in most types of samples considered. Clearly, the role of women in violent relationships is important to consider, even if all aspects of women's perpetration of IPV are not symmetrical to men's perpetration of IPV. A second finding to emerge was that the ratio of unidirectional female-to-male compared to male-to-female IPV differed significantly among samples with higher rates of female-perpetrated unidirectional violence found in four of five sample types considered. Higher ratios of male-to-female unidirectional violence were only found in criminal justice/legal studies that relied on police reports of IPV perpetration or in samples drawn from the U.S. military. Competing explanations for differing ratios need to be tested empirically in order to fully understand the expression

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of IPV across samples and settings. In addition, if one resolution of this debate is to argue that there are subtypes of male and female domestic violence perpetrators or that there are different patterns of violence among various types of relationships (as noted by Stets & Straus, 1989), researchers and clinicians will need to work together to determine how to reliably and meaningfully make these determinations in ways that will facilitate our ability to effectively prevent and treat all patterns of IPV.

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