

Using Dyadic Concordance Types to Understand Frequency of Intimate Partner Violence

Denise A. Hines, PhD

Department of Social Work, College of Health and Human Services, George Mason University, Fairfax, Virginia

Murray A. Straus, PhD

Department of Sociology, University of New Hampshire, Durham, New Hampshire

Emily M. Douglas, PhD

Department of Social Science and Policy Studies, Worcester Polytechnic Institute, Worcester, Massachusetts

Findings regarding women's perpetration of physical partner violence (PV) and bidirectional PV are a major source of controversy in the family violence literature. Questions remain as to how frequently women use PV, in comparison to men, when they are the sole perpetrators of PV and when involved in bidirectionally violent relationships. We also do not know much about women's perpetration and the bidirectionality of nonphysical forms of PV. To answer these questions, we used dyadic concordance types to categorize couples into bidirectionally violent, male-only violent, and female-only violent, and then analyzed the frequency with which the men and women used violence. We conducted these analyses for physical PV, verbal sexual PV, severe psychological PV, and controlling behaviors, among a population-based sample of 1,601 men, ages 18–59, who reported ever having a romantic relationship with a woman. Results indicated that for physical PV, severe psychological PV, and controlling behaviors, bidirectional PV was the most common, followed by female-only perpetration. Within bidirectionally aggressive relationships, women committed significantly more physical PV and controlling behaviors; there were no sex differences in frequency of PV perpetration for these three forms of PV for male-only versus female-only PV. The exception to this pattern was verbal sexual aggression, with men committing significantly

more of these acts and male-only perpetration just as common as bidirectional aggression. Bidirectionally aggressive relationships were also the most aggressive. These findings lend support to a family systems perspective when seeking to understand PV and for assessing both victimization and perpetration when investigating PV.

KEYWORDS: domestic violence; mutual partner violence; bidirectional partner violence; psychological aggression; sexual aggression; controlling behaviors

Hundreds of studies show that women perpetrate just as much physical partner violence (PV) as men (e.g., Archer, 2000), and a recent review of 48 studies that showed that within violent couples, about half experience bidirectional violence, a quarter experience male-only violence, and a quarter experience female-only violence (Langhinrichsen-Rohling, Misra, Selwyn, & Rohling, 2012). However, several issues regarding women's PV perpetration remain unclear. First, within bidirectionally violent relationships, are men and women equal in the frequency with which they perpetrate violence? Second, is there equal frequency in the perpetration of PV between the male-only and female-only perpetration categories? Third, do the same patterns exist when we consider other types of abuse that perpetrators of PV engage in (e.g., sexual PV, psychological PV, controlling behaviors)? To answer these questions, we will use a relatively new technique, dyadic concordance types (DCTs), which will allow us to categorize couples into bidirectionally violent, male-only violent, and female-only violent, and then analyze the frequency with which the men and women use violence. We will conduct such analyses for physical PV, as well as verbal sexual PV, severe psychological PV, and controlling behaviors.

WOMEN'S PERPETRATION OF PV AGAINST MEN

Estimates of PV in general U.S. population surveys range from 8.4% to 18.4% for any type of physical violence and from 3.2% to 5.5% for severe physical violence, with approximately equal rates of male and female perpetration (Black et al., 2011; Caetano, Vaeth, & Ramisetty-Mikler, 2008; Hale-Carlsson et al., 1996; Kessler, Molnar, Feurer, & Appelbaum, 2001; Schafer, Caetano, & Clark, 1998; Smith et al., 2018; Sorenson, Upchurch, & Shen, 1996; Straus, 1995). Many of these same surveys also find that the dominant pattern of PV is bidirectional;—that is, both partners use physical PV to some extent (e.g., Kessler et al., 2001; Langhinrichsen-Rohling et al., 2012; Straus, 2008a, 2008b; Whitaker, Haileyesus, Swahn, & Saltzman, 2007). In fact, over 200 studies show that bidirectional violence is the dominant pattern of PV, with up to 80% of violent relationships showing some reciprocity (Langhinrichsen-Rohling et al., 2012; Straus, 2006).

These findings are controversial because of disagreements over how much symmetry truly exists in PV perpetration (Langhinrichsen-Rohling, 2010). One major argument is that these findings of female perpetration and bidirectional PV reflect the fact that most women, if not all, are acting out of self-defense or retaliation (e.g., Belknap

& Melton, 2005; ; Loseke & Kurz, 2005; Saunders, 1988). However, this assumption has been refuted by several findings: (a) many studies of different types of samples find that in at least a quarter of violent relationships, women are the sole perpetrators (e.g., Hines & Saudino, 2003; Kessler et al., 2001; Langhinrichsen-Rohling et al., 2012; Straus, 2008a, 2008b; Whitaker et al., 2007); (b) women are slightly more likely to initiate PV within the family, according to their own self-reports (Straus, 2004), and (c) by their own self-reports, the majority of women do not cite self-defense or retaliation as their motive for PV perpetration (Langhinrichsen-Rohling, McCullars, & Misra, 2012).

What remains unknown is whether men and women use violence with similar frequency within bidirectionally violent relationships. If women are acting in self-defense or retaliation, we would expect to see lower frequencies of violence in comparison to their male counterparts. Moreover, if women are using physical PV in retaliation or self-defense for men's perpetration of other forms of PV, we would expect to see lower frequency of PV among female-only physical PV perpetrators than among male-only physical PV perpetrators.

Defining PV

At the heart of the arguments over female-perpetrated and bidirectional PV is the issue of how exactly PV should be defined. In most surveys, physical assault is analyzed, but many argue that PV is a combination and pattern of physical, psychological, controlling, and/or sexual aggression (e.g., DeKeseredy, 2000; Saltzman, 2000; Stark, 2010). Indeed, Stark (2010) asserts that the one partner controlling the other is the heart of PV and says that there is no "evidence that female partner assault evolves into the patterned subjugation that typifies women who use shelters, emergency rooms or other services" (p. 205). The assumption is that men engage in all forms of PV at higher rates and frequencies.

The 2015 National Intimate Partner and Sexual Violence Survey (NISVS) is a national study of 5,758 women and 4,323 men that provides information on victimization from sexual violence, partner physical violence, and stalking by an intimate partner (Smith et al., 2018). When considering the percent of PV victims who were men versus women, the NISVS shows that a substantial portion of PV victims are men. For lifetime rates, the NISVS showed that approximately 46.1% of any contact sexual violence, physical violence, and/or stalking victimization by an intimate partner were men, whereas approximately 46.8% of all PV victims (contact sexual violence, physical violence, and/or stalking) in the past year were men (calculated from Smith et al., 2018). Thus, according to a comprehensive definition of PV that encompasses physical violence, sexual violence, and stalking, the NISVS shows that close to half of PV victims over a lifetime and in a 1-year time period are men.

Overall, recent data suggests that even with a comprehensive definition of PV, there are many male victims of PV. However, the data are problematic because they only focus on victimization. Surveys that assess both victimization and perpetration within a given relationship show that bidirectional violence is clearly the

most common form of violence for both minor and severe PV (Kessler et al., 2001; Langhinrichsen-Rohling et al., 2012; Straus 2008b; Whitaker et al., 2007). Even among clinical samples of PV victims and perpetrators, bidirectional violence is the norm (e.g., Giles-Sims, 1983; Hines & Douglas, 2011b; McDonald, Jouriles, Tart, & Minze, 2009; Saunders, 1988). Thus, we do not know the extent to which these other forms of PV are bidirectional, male-only, and female-only, and we do not know whether there is similar frequency with which men and women use these forms of PV within bidirectionally abusive relationships. Further, we do not know whether men and women use these forms of PV at similar rates when they are perpetrated by only the men versus only the women.

Dyadic Concordance Types

DCTs are a simple and powerful conceptual and methodological approach to understanding aggression and violence in family relationships (Straus, 2015). DCTs classify family dyads,—such as couples,—into whether both aggressed or only one partner aggressed, and if only one partner aggressed, which one. Because the present article deals with heterosexual couple relationships, we will use the terms male-only and female-only. The most general theoretical basis for DCTs is the assumption that violent relationships are not homogeneous (Cantos & O'Leary, 2014; Dutton, 2010; Felson, 2002; Hamel, 2013; Straus, 1990; Stuart, 2005). Therefore, it is necessary to identify ways in which PV differs that are theoretically and practically salient. What each partner does in a couple relationship is crucial for understanding, preventing, and treating the aggression. These are long-standing theoretical principles, particularly in family systems theory (Straus, 2015).

Systems theorists argue that PV takes place within a dyadic system and the system works in such a way as to maintain those dysfunctional interactional styles. Interactions within couples are bidirectional, and both members interact in ways that promote PV. It is, therefore, difficult to change a person's behavior without also working to change the system in which that person belongs (Ross & Babcock, 2010). Thus, PV is not simply one member of the couple abusing the other, but is a function of the stresses of everyday life in which conflicts arise, negative interactions escalate, and violence is sometimes a response (e.g., Giles-Sims 1983; Ross & Babcock 2010). Systems theory is supported by empirical findings that many PV situations are bidirectional (Langhinrichsen-Rohling et al., 2012) and that there is assortative mating for antisocial behaviors (Capaldi, Kim, & Shortt, 2004; Moffitt, Robins, & Caspi, 2001; Serbin et al., 2004). DCTs use this underlying theoretical principle, and provide a mode of conceptualizing and analyzing aggression in couple relationships that incorporates its dyadic nature (Straus, 2015).

In order to elucidate DCTs, one must engage in concordance analysis, which is a two-phase process (Straus & Kemmerer, 2015). The first phase is descriptive, and its aim is to determine the percent of couples in each of the DCTs: —no violence, bidirectional violence, male-only violence perpetration, and female-only violence perpetration (Straus & Kemmerer, 2015). In the current study, we classify the participants

in our sample into these four DCTs; further, within couples reporting a specific type of PV, we report the percent that were bidirectional, male-only, and female-only. The second phase is hypothesis-testing, where one examines a selected outcome variable to test hypotheses about what is distinctively related to each DCTs (Straus & Kemmerer, 2015). For our purposes, the outcome variable is the frequency of the particular type of PV being investigated. We tested whether:

1. There are gender differences in the frequency of each form of PV within bidirectionally violent relationships.
2. There are gender differences in the frequency of each form of PV between the male-only and female-only perpetration categories.

METHOD

Participants and Procedure

Participants were from a population-based sample of 1,601 men. To be eligible, the men had to speak English, live in the United States, and be between the ages of 18 and 59; they also had to have been involved in an intimate relationship with a woman lasting at least 1 month in their lifetimes. Their data were collected by the Internet survey research firm, Knowledge Networks (KN). KN offers the only Internet research panel of about 43,000 adults that is representative of the U.S. population. Panel members are chosen through an intensive, list-assisted random digit dial methodology, supplemented by traditional mailing addressed-based sampling to reach cell-phone only populations. They are invited to participate in the Web panel, and those who agree (56%) are enrolled in the panel. Those who do not have Internet access are sent an Internet appliance and are provided with Internet access through KN. As incentives, panelists are enrolled in a points program where they accumulate points by completing surveys and then trade them in for prizes.

To increase the likelihood of the panel members' participation in our study, KN provided extra incentives and sent reminder emails three times during the month of data collection. KN's email was sent to male panel members between the ages of 18 and 59, and it informed them about a study, supported by the National Institutes of Health (NIH), on how well men and women get along, and men's health. Of the 3,536 men who were invited to participate, 2,174 (61.5%) entered the survey; 90% of them consented to participate, and of those who consented, 82.5% were eligible. Demographic information on this sample can be found in Table 1.

The methods for this study were approved by the boards of ethics at our institutions of higher education. All participants were apprised of their rights as study participants. Participants participated confidentially. KN links the data from each survey to the demographic and other information that it maintains on each participant. However, KN did not release any identifying information to the investigators on this project. Participants were informed that their responses would remain confidential, that their confidentiality would be protected with a Certificate of Confidentiality obtained from the NIH, that KN would not release any identifying information to

TABLE 1. Demographics ($n = 1,601$)

	Percentage or M (SD)
Male Participant Demographics	
Age	41.77 (11.35)
White	76.5
Black	10.2
Hispanic/Latino	11.8
Asian	1.9
Native American	1.4
Income (in thousands)	48.5 (27.6)
Educational status	3.68 (1.83)
Female Partner Demographics	
Age	40.28 (11.60)
White	75.5
Black	8.1
Hispanic/Latina	9.9
Asian	4.0
Native American	1.4
Income (in thousands)	36.8 (23.5)
Educational status ^a	3.79 (1.78)
Relationship Demographics	
Currently in a relationship	86.5
Relationship length (months)	150.09 (122.86)
Time since relationship ended (in months)	6.55 (29.91)
Minors involved in the relationship	41.6
Number of minors involved in relationship	0.79 (1.12)

Note. SD = standard deviation.

^aEducational status: 1 = less than high school, 2 = high school graduate or GED, 3 = some college/trade school, 4 = 2-year college graduate, 5 = 4-year college graduate, 6 = at least some graduate school.

the investigators, and that they could not be personally identified in any reports that resulted from their participation. In addition, steps were taken to ensure all participants' safety: At the completion of the survey the participants were given information about obtaining help for PV victimization or psychological distress, and on how to delete the history on their Internet web browser.

Measures

The men completed questionnaires regarding demographics, aggressive behaviors that they and their female partners may have used, their mental health, their physical health, various risk factors for PV, and if applicable, their children's witnessing

of PV, their children's mental and physical health, and other risk factors for their children. Only the questionnaires used in the current analyses are described here.¹

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

Revised Conflict Tactics Scales (CTS2). The CTS2 (Straus, Hamby, Boney-McCoy, & Sugarman, 1996) was used to measure the extent to which the men in the study perpetrated and sustained psychological, physical, and sexual aggression in their relationships. The items used for this study included four items assessing severe psychological aggression (e.g., threatening to hit or throw something at partner, calling partner fat or ugly), 12 items assessing physical aggression (e.g., slapping, beating up), and four items assessing verbal sexual aggression (e.g., insisting on or using threats to have sex when the partner did not want to).

Consistent with previous research on male victims (e.g., Hines & Douglas, 2010a, 2010b; Hines & Douglas, 2011a), we supplemented the CTS2 with nine items from the Psychological Maltreatment of Women Inventory (PMWI; Tolman, 1995) that focused on controlling behaviors and could be applied to men as victims. A factor analysis (Hines & Douglas, 2010b) showed that these items represented a unique factor that was distinct from the severe psychological aggression items of the CTS2. The CTS2 has been shown to have good construct and discriminant validity and good reliability (Straus et al., 1996). Reliability statistics for the current samples ranged from .69 (perpetration of severe psychological aggression) to .94 (victimization from physical aggression).

Participants responded to items depicting each of the conflict tactics by indicating the number of times these tactics were used by the participant and his partner. Participants indicated on a scale from 0 to 7 how many times they experienced each of the acts, 0 = never; 1 = 1 time in previous year; 2 = 2 times in previous year; 3 = 3–5 times in previous year; 4 = 6–10 times in previous year; 5 = 11–20 times in previous year; 6 = more than 20 times in previous year; 7 = did not happen in the previous year, but has happened in the past. In order to obtain an approximate count of the number of times each act occurred in the previous year, we recoded the original items in the following way: 0 = 0 acts in previous year (includes never and did not happen in the past year but has happened before); 1 = 1 act in the previous year; 2 = 2 acts in the previous year; 3 = 4 acts in the previous year; 4 = 8 acts in the previous year; 5 = 16 acts in the previous year; 6 = 25 acts in the previous year; and 7 = 0 times in the previous year. We also recoded each item according to whether it happened during the previous year, where 0 and 7 = no, and 1 through 6 = yes. So, for example, if a participant reported on a relationship that was more than a year ago, he was coded as not being involved in a violent relationship in the past year. Similarly, if he reported on a current relationship that had been violent in the past, but was not violent within the

TABLE 2. Dyadic Concordance Types for Perpetration of Various Types of PV Within the Previous Year

	Percentage of Sample in Each Category			
	Neither	Male-only	Female-only	Both
Full Sample				
Severe psychological aggression (<i>n</i> = 1,586)	80.5	3.0	7.3	9.2
Controlling behaviors (<i>n</i> = 1,578)	84.7	2.9	5.6	6.8
Physical assault (<i>n</i> = 1,579)	85.4	1.5	5.1	8.0
Verbal sexual aggression (<i>n</i> = 1,594)	84.3	7.0	2.3	6.5
Within Relationships With that Form of PV				
Severe psychological aggression (<i>n</i> = 309)	–	15.4	37.4	47.2
Controlling behaviors (<i>n</i> = 241)	–	18.7	36.5	44.8
Physical assault (<i>n</i> = 230)	–	10.4	34.8	54.8
Verbal sexual aggression (<i>n</i> = 250)	–	44.4	14.4	41.2

Note. PV = partner violence.

past year, he was coded as not being involved in a violent relationship in the past year. The results reported in the next section reflect past-year prevalence and frequency only.

RESULTS

Descriptive Statistics on DCTs

Table 2 presents the descriptive information on the percentage of the sample that formed each DCT. The top half of Table 2 shows that the majority of the sample did not report any of the types of PV in the previous year. The most common form of PV was severe psychological aggression, reported by 19.5% of the sample; the least common form was physical assault, reported by 14.6% of the sample.

The bottom half of Table 2 focuses on participants who reported that either they and/or their partner perpetrated the specified type of aggression in the previous year; the data are then divided into the percentage of participants who reported male-only perpetration, female-only perpetration, or both partners perpetrating in the previous year. For all forms of PV except verbal sexual aggression, the most common pattern was both partners perpetrating, with 41.2% (verbal sexual aggression) to 54.8% (physical assault) being perpetrated by both partners. Male-only and female-only perpetration were less common. For severe psychological aggression, controlling

behaviors, and physical assault, the least common pattern was male-only perpetration (10.4% for physical assault through 15.4% for severe psychological aggression), followed by female-only perpetration (34.8% for physical assault through 37.4% for severe psychological aggression). For verbal sexual aggression, the least common pattern was female-only perpetration (14.4%), followed by bidirectional aggression (41.2%), and male-only perpetration (44.4%).

Frequency of Past-Year Aggression Across DCTs

Figures 1–4 display the mean number of times in the past year men and women perpetrated the various forms of PV within female-only perpetrated, male-only perpetrated, and both aggressive relationships. For both aggressive relationships, the aggression is divided into women’s frequency of aggression perpetration and men’s frequency of aggression perpetration. As displayed, for all types of PV, there was less frequent past-year aggression when only one partner was aggressive than when both partners were aggressive.

Table 3 presents the results of independent samples *t* tests investigating differences *within* genders on the past-year frequency of aggressive behaviors across DCTs. The results for men’s perpetration are displayed in columns 2–5, whereas the results for women’s perpetration are presented in columns 6–9. Men perpetrated significantly more aggression when they were involved in relationships in which both partners

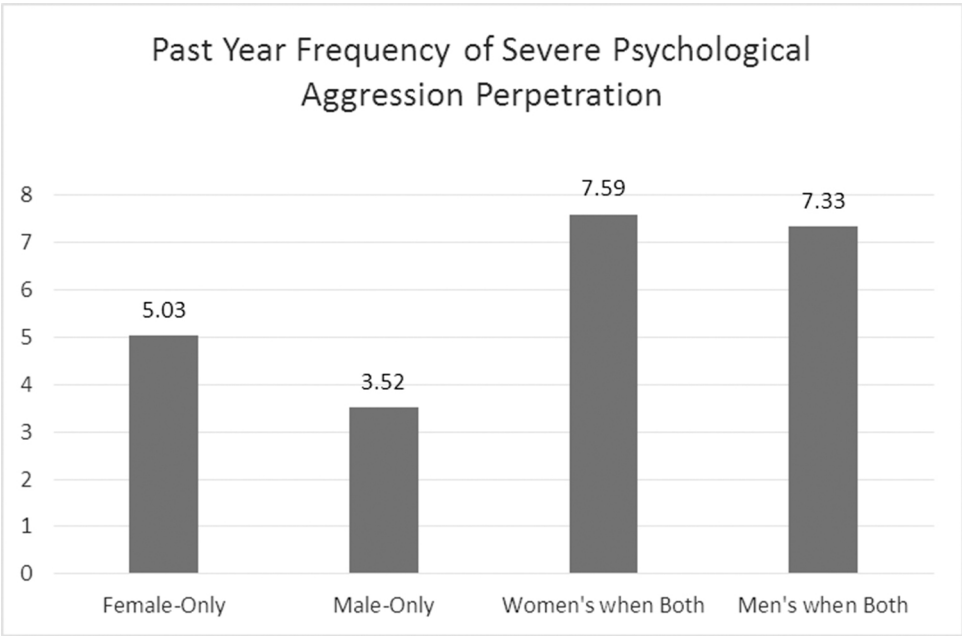


Figure 1. Past year frequency of severe psychological aggression perpetration.

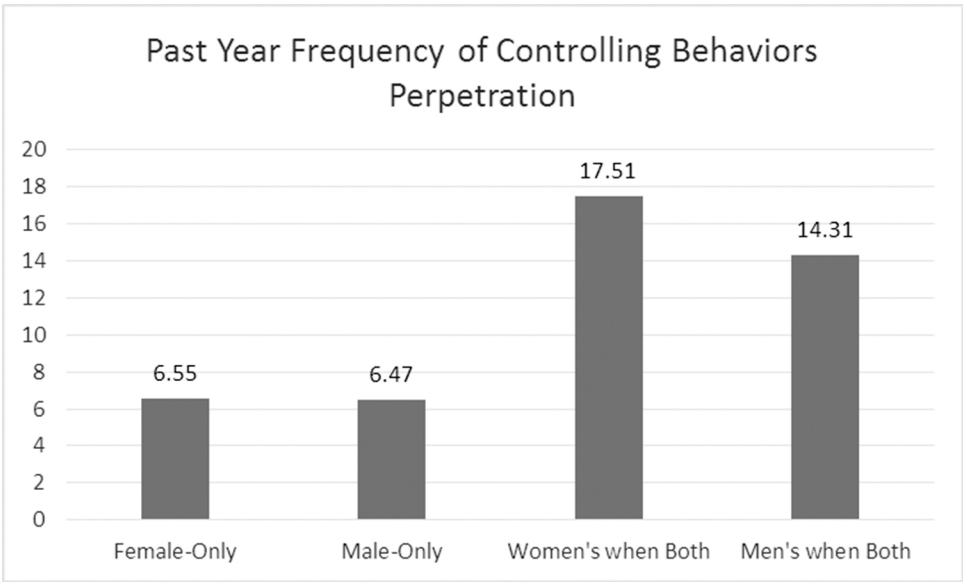


Figure 2. Past year frequency of controlling behaviors perpetration.

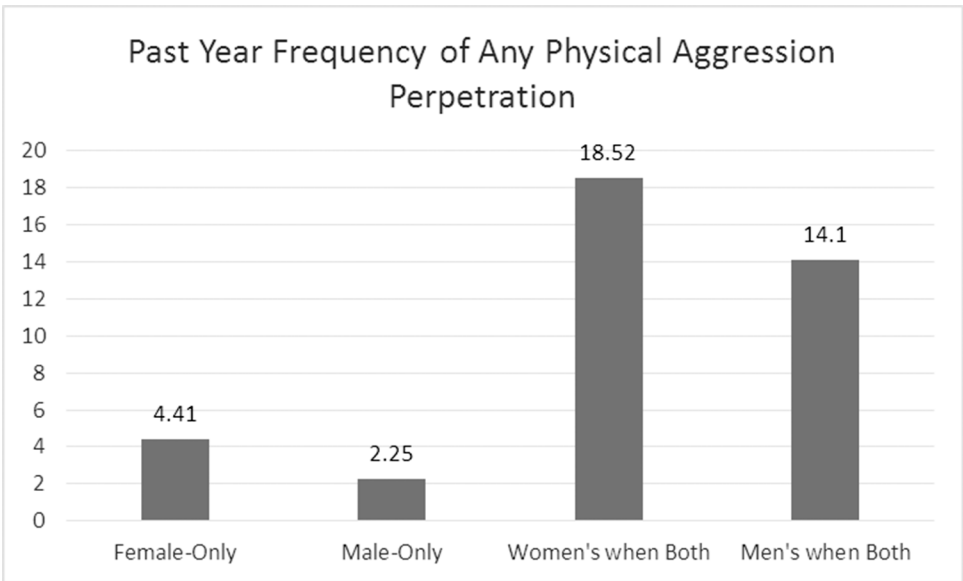


Figure 3. Past year frequency of any physical aggression perpetration.

used that form of PV in the previous year. This was true for all forms of PV except verbal sexual aggression; there were no differences in frequency of verbal sexual aggression perpetration for men across DCTs. For women, the same pattern held for all forms of PV: in comparison to women who were the sole perpetrators of each form

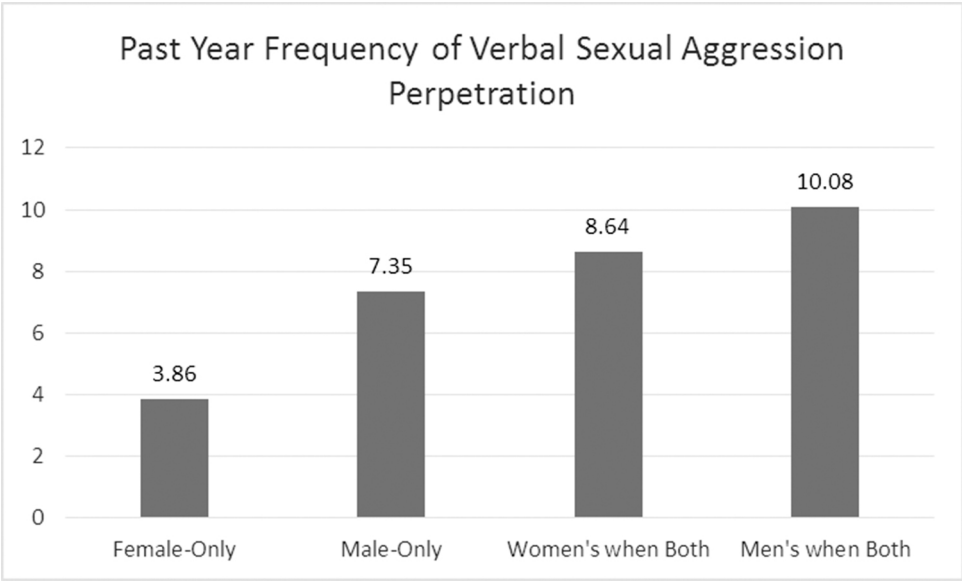


Figure 4. Past year frequency of verbal sexual aggression perpetration.

of PV, women involved in relationships where both partners were aggressive in the previous year used significantly more aggression.

Table 4 presents the results of inferential tests of the differences *between* genders in frequency of past-year aggression. Columns 2–5 present independent samples *t* tests comparing men’s and women’s frequency of aggression perpetration in the previous year when only one partner in the relationship was aggressive, whereas columns 6–10 present paired-samples *t*-tests comparing men’s and women’s use of aggression when both partners were aggressive.

When looking at gender comparisons where only one partner was aggressive in the previous year, the results showed that there were no gender differences in frequency of past-year aggression for any type of PV, except verbal sexual aggression. For this form of PV, men ($M = 7.35, SD = 10.48$) perpetrated significantly more acts of aggression in the previous year than did women ($M = 3.86, SD = 4.85$).

When looking at comparisons between genders when both partners were aggressive in the previous year, the results showed that there were no significant gender differences in past-year frequency of perpetration for severe psychological aggression. For controlling behaviors and physical assault, women (Controlling behaviors: $M = 17.51, SD = 30.26$; Physical assault: $M = 18.52, SD = 35.58$) were significantly more aggressive than men in the previous year (Controlling behaviors: $M = 14.31, SD = 30.01$; Physical assault: $M = 14.10, SD = 31.91$). For verbal sexual aggression, men ($M = 10.08, SD = 14.54$) were significantly more aggressive than women ($M = 8.64, SD = 12.64$).

TABLE 3. Comparing Frequency of Aggression Perpetration wWithin Genders Across One-Partner-Only Perpetration and Both Partners Perpetrating

	Men's Frequency of Aggression Perpetration				Women's Frequency of Aggression Perpetration							
	Male-only		Both partners		Female-only		Both partners					
	<i>M (SD)</i>	<i>n</i>	<i>M (SD)</i>	<i>n</i>	<i>M (SD)</i>	<i>n</i>	<i>M (SD)</i>	<i>n</i>				
Severe psychological aggression	3.52 (6.31)	<i>n</i> = 48	7.33 (11.75)	<i>n</i> = 146	2.86	.005	5.03 (8.67)	<i>n</i> = 115	7.59 (11.82)	<i>n</i> = 146	2.01	.045
Controlling behaviors	6.47 (13.63)	<i>n</i> = 45	14.31 (30.01)	<i>n</i> = 108	2.22	.028	6.55 (10.08)	<i>n</i> = 88	17.51 (30.26)	<i>n</i> = 108	3.53	.001
Physical assault	2.25 (3.86)	<i>n</i> = 24	14.10 (31.91)	<i>n</i> = 126	4.02	<.001	4.41 (6.17)	<i>n</i> = 80	18.52 (35.58)	<i>n</i> = 126	4.35	<.001
Verbal sexual aggression	7.35 (10.48)	<i>n</i> = 111	10.08 (14.54)	<i>n</i> = 103	1.56	.120	3.86 (4.85)	<i>n</i> = 36	8.64 (12.64)	<i>n</i> = 103	3.22	.002

Note. *SD* = standard deviation.

TABLE 4. Comparing Past-Year Frequency of Aggression Perpetration Across Gender in Relationships Where Only One Partner Was Aggressive and Within Relationships Where Both Partners Were Aggressive

	Only One Partner Aggressive				Both Partners Aggressive			
	Male-only		Female-only		Male		Female	
	perpetration <i>M (SD)</i> <i>n</i>		perpetration <i>M (SD)</i> <i>n</i>	<i>t</i> <i>p</i>	perpetration <i>M (SD)</i> <i>n</i>		perpetration <i>M (SD)</i> <i>n</i>	<i>t</i> <i>p</i>
Severe psychological aggression	3.52 (6.31) <i>n</i> = 48		5.03 (8.67) <i>n</i> = 115	1.09 .275	7.33 (11.75)		7.59 (11.82)	146 0.47
Controlling behaviors	6.47 (13.63) <i>n</i> = 45		6.55 (10.08) <i>n</i> = 88	0.04 .970	14.31 (30.01)		17.51 (30.26)	108 2.11
Physical assault	2.25 (3.86) <i>n</i> = 24		4.41 (6.17) <i>n</i> = 80	1.62 .108	14.10 (31.91)		18.52 (35.58)	126 2.75
Verbal sexual aggression	7.35 (10.48) <i>n</i> = 111		3.86 (4.85) <i>n</i> = 36	2.72 .007	10.08 (14.54)		8.64 (12.64)	103 2.01

Note. *SD* = standard deviation.

DISCUSSION

The purpose of the current study was to use DCTs to further inform our understanding of gender differences in PV perpetration. Within a population-based sample of men, we looked at the DCTs of four different types of PV, and then compared the frequency of past-year PV across and within genders and the DCTs.

Physical PV, Severe Psychological PV, and Controlling Behaviors

Consistent with prior research (Langhinrichsen-Rohling et al., 2012), we found that the most common DCT for physical PV—experienced by about half of the violent couples—was bidirectional. Our new contribution to the literature was that this same pattern was also the case for severe psychological PV and controlling behaviors. Interestingly, the next most common DCT for these three types of PV was female-only perpetration, comprising about 1/3 of the couples experiencing PV. Although as a whole, the literature shows approximately equal rates of male-only and female-only physical PV perpetration (Langhinrichsen-Rohling et al., 2012), there are studies that show that female-only physical PV perpetration is more common than male-only (e.g., Hines & Saudino, 2003). Our finding that female-only perpetration is more common than male-only perpetration for severe psychological PV and controlling behaviors should be replicated in future research, particularly given the limitations of our sample that it is comprised of only men.

Our results also showed that for physical PV, severe psychological PV, and controlling behaviors, the highest rates of perpetration for both genders occurred in bidirectionally violent relationships. As reported by our male participants, men and women who perpetrated these forms of PV in bidirectionally violent relationships used significantly more of each form of PV than their counterparts in male-only and female-only perpetration DCTs. This is consistent with prior research that shows bidirectionally violent relationships to be the most violent (Kessler et al., 2001; Straus, 2011; Straus & Gozjolko, 2014; Whitaker et al., 2007), but we extend those findings to show that this is also the case for severe psychological PV and controlling behaviors.

These findings reiterate the call by many researchers to always assess both victimization and perpetration within a relationship so that we have an accurate understanding of the dynamics within the couple (e.g., Straus, 2015). This research is important since early indications are that both physical and psychological injuries are more severe among both men and women who experience bidirectional violence compared to those who experience unilateral violence (Hines & Douglas 2011b; Straus 2008b; Whitaker et al., 2007). It could also be the case that mental health problems are also more severe among both men and women who experience bidirectional severe psychological PV and controlling behaviors.

Interestingly, when we looked within bidirectionally aggressive relationships, we found no gender differences in the perpetration of severe psychological PV, but that *female partners* perpetrated significantly more physical PV and controlling behaviors than the male participants who reported on both partners' behaviors. This finding is

inconsistent with claims by some in the field that when women use PV within relationships, it is in self-defense or retaliation for their male partner's aggression (; Hammer, 2003). Another finding that contradicts this claim is that for physical assault, severe psychological PV, and controlling behaviors,—there were no reported gender differences in the frequency of aggression in the male-only and female-only categories. Thus, according to the male participants' reports, when women are the only aggressors of one of these forms of PV, they are just as aggressive as men when they are the only aggressors of one of these forms of PV. These findings are consistent with literature that shows that women can be just as aggressive as men in relationships (Archer, 2000; Black et al., 2011; Ehrensaft, Moffitt, & Caspi, 2004; Larocche, 2008; Smith et al., 2018), and thus, lend support to some researchers' calls to think about PV in a more complex way that includes the behaviors of both members of the dyad (Capaldi & Kim, 2007; Straus, 2011).

Sexual PV

The one exception to the above pattern of results was for verbal sexual PV. For verbal sexual PV, the most common pattern, according to the male participants' reports, was male-only perpetration, followed closely by bidirectional perpetration. For male perpetrators, there was no significant difference in the past-year frequency of perpetration between men who were the sole perpetrators and men who were in bidirectionally sexually aggressive relationships. However, according to the male participants, women in bidirectionally sexually aggressive relationships perpetrated significantly more past-year verbal sexual aggression than women who were the sole perpetrators. Finally, when comparing the genders (using the male participants' reports), male-only perpetrators used verbal sexual aggression at a significantly greater frequency in the previous year than female-only perpetrators, and within bidirectionally sexually aggressive relationships, men perpetrated verbal sexual coercion at significantly greater frequency than their partners.

These results are somewhat consistent with Michel-Smith and Straus (2015), who studied verbal sexual aggression DCTs across university students in 32 nations. Although they found that bidirectional verbal sexual aggression was more common than male-only, male-only perpetration was double that of female-only perpetration. Their finding that bidirectional DCTs were the most common form of DCTs were consistent with findings of many other studies (Abbey, Wegner, Pierce, & Jacques-Tiura, 2012; Costa et al., 2015; Fernández-González, O'Leary, & Muñoz-Rivas, 2014; Flanagan, Jaquier, Gordon, Moore, & Stuart, 2014; Hines & Saudino, 2003; Jose, O'Leary, Graña Gomez, & Foran, 2014; Panuzio & DiLillo, 2010; Renner & Whitney, 2012), but they contradict ours. Thus, replication of our finding that male-only verbal sexual aggression is just as common as bidirectional verbal sexual coercion should be replicated in future studies with a more diverse sample. The difference in findings may be a function of our sampling strategy of a population-based sample of men who had had intimate relationships with women, whereas the majority of the other studies used samples of young people or couples.

Nonetheless, it is important to note that although men reported that they were significantly more verbally sexually aggressive than women in this study—both in past-year prevalence and frequency among perpetrators—women also engaged in verbal sexual coercion. Thus, it is necessary to understand the behaviors of both partners in order to understand how the dyad is functioning. Women who are the sole perpetrators of verbal sexual aggression have the lowest frequency of sexual aggression. However, women tend to be more verbally sexually aggressive when in a bidirectionally sexually aggressive relationship; in fact, if one looks at Figure 4, they may be just as sexually aggressive as men who are the sole perpetrators of verbal sexual aggression. For men, their partner's behavior does not seem to influence their frequency of verbal sexual coercion—whether their partner is coercive or not, their frequency of coercion is the same.

LIMITATIONS AND FUTURE RESEARCH

The current study has some limitations that should be considered in future research. Most importantly, the study consists of only male participants who reported on their own and their female partner's behavior. Although the sample was population-based, which lends itself to some generalizability, the results would be strengthened if we had gathered reports directly from their partners as well. Research shows that the typical pattern is underreporting of one's own use of undesirable behavior, but not of one's partner's undesirable behavior (Woodin, Sotskova, & O'Leary, 2013). However, even for the partner's behavior, underreporting is common because victims tend to feel embarrassed or humiliated by being abused (Follingstad & Rogers, 2013). Nonetheless, it is likely that the current study underestimated the men's use of all forms of PV, and therefore, future studies should strive to obtain information about PV from both partners to gain a more accurate understanding of the dynamics of the relationship.

Second, the sample was a U.S.-based sample, so it is unknown whether these results would generalize outside of the United States, particularly to non-Western nations. Although some initial analyses of DCTs across nations—both Western and non-Western—show similar patterns as we found here (see Straus, 2015), replication of our results on gender differences in the frequency of PV is necessary. Third, our results are specific to men reporting on heterosexual relationships. We do not know the extent to which the DCTs apply to same-sex relationships or to relationships where one or both parties were a gender minority, or whether there would be partner differences in the frequency of PV across and within DCTs within such relationships.

FUTURE RESEARCH

Because we are gaining more data that shows that bidirectional PV is the most common form of PV, even across different forms of PV, it is imperative that we more closely examine bidirectionally aggressive relationships in more detail. In all likelihood, there is probably heterogeneity in these relationships as well. Although, on average, both partners were equally aggressive in physical PV, severe psychological

PV, and controlling behaviors, it is likely that in some relationships, one partner is much more aggressive than the other. In heterosexual relationships, that may sometimes be the male and sometimes be the female, which is why on average, there is no gender difference. This heterogeneity, though, needs to be investigated in further detail because it could have implications for how to treat and prevent PV. Further, there needs to be investigation into important issues that provide the context for PV. Within and across both unidirectional and bidirectional PV relationships, what is the relative impact, motive, and context for each partner's perpetration?

Another area of future research that this study point toward is understanding cross-concordance of PV. Because there are several types of PV, understanding the DCT of just one form of PV may be too simplistic. Thus, perhaps women who are the sole perpetrators of physical PV in their relationships have male partners who are the sole perpetrators of sexual PV. Hines and Saudino (2003) showed that sustaining a particular type of PV is associated with perpetrating other forms of PV; however, they also found that for women participants, sustaining sexual aggression was not significantly correlated with women's perpetration of physical PV. Nonetheless, understanding how perpetration and victimization of various types of PV are interrelated and what those interrelationships mean for PV frequency and potential physical and mental health problems is an important area for future research.

CONCLUSIONS AND IMPLICATIONS

Analyses of the DCTs in our sample showed that for physical PV, severe psychological PV, and controlling behaviors, bidirectional PV was the most common, followed by female-only perpetration, and finally male-only perpetration. Moreover, within bidirectionally aggressive relationships, women committed significantly more past-year physical PV and controlling behaviors, and there were no differences in past-year frequency of PV perpetration for these three forms of PV for male-only versus female-only PV. Somewhat consistent with prior research (see Michel-Smith & Straus, 2015), the exception to this pattern was verbal sexual aggression, with the men in our study reporting significantly more perpetration of these acts within the past year and with male-only perpetration just as common as bidirectional aggression. Bidirectionally aggressive relationships were also the most aggressive. These findings lend support to a family systems perspective when seeking to understand PV.

Our findings have implications for the treatment and prevention of PV. First, it is important to understand both partners' behaviors when treating PV. Current widespread treatment models, such as the Duluth Model (Pence & Paymar, 1993) focus on the men's perpetration of PV. Thus, this treatment model only addresses a minority of the relationships characterized by PV, with bidirectionally aggressive and female-only perpetration being overlooked. Similarly, prevention models typically focus on men and boys as potential perpetrators (Straus, 2015), but should be more inclusive to specifically and explicitly address PV by women and girls.

NOTE

1. We did not include a social desirability measure in our survey due to concerns about participant burden. Also, research shows that social desirability accounts for only a small portion of the variance in PV (e.g., Visschers, Jaspaert, & Vervaeke, 2017).

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Correspondence regarding this article should be directed to Denise A. Hines, Department of Social Work, College of Health and Human Services, George Mason University, 4400 University Drive, MSN: 1F8, Fairfax, VA 22030. Email: dhines2@gmu.edu