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Mutuality, severity, and chronicity of violence by Father-Only, Mother-Only, and mutually violent parents as reported by university students in 15 nations☆

Murray A. Straus*, Yahayra Michel-Smith

Family Research Laboratory, University of New Hampshire, Durham, NH 03824, USA

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ABSTRACT

This article aims to provide a more complete description of the violence between parents experienced by children than is usual in research and to suggest the practicality and importance of doing so. It presents results on the percent of parents in each of three *Dyadic Types*: Father-Only (the father assaulted the mother and the mother did not assault), Mother-Only (mother assaulted and the father did not assault), and Both-Assault; and on differences between these three types in the chronicity and severity of assaults. Questionnaires were completed by convenience samples of university students in 15 nations ($N = 11{,}408$). Violence between parents was measured by the short form of the Conflict Tactics Scales. Fourteen percent of the students reported one or more instances of physical violence between their parents, including 6% who reported a severe assault. Cross classification of assaults by the father and the mother to identify Dyadic Types found 25% Father-Only, 22% Mother-Only, and 52% Both-Assaulted. The percentage in each Dyadic Type based on reports by male or female students were similar. They were also consistent with percentages found by previous studies identifying the Dyadic Types of violent couples. In respect to chronicity, when violence between parents occurred, in 82% of the cases, it occurred more than once. Research on children experiencing violence between parents, and prevention and treatment of inter-parental violence, are likely to be enhanced if it takes into account that Both-Violent is the most frequent pattern to which children are exposed and that Mother-Only is about as frequent as Father-Only. Consideration of the severity, and chronicity, of the inter-parental violence needs to replace simply classifying parents as violent. Achieving this is possible using instruments which take only three to five minutes and which can be completed by only one of the parents or by the child.

There have been a large number of empirical studies of children exposed to physical violence between their parents, but only a few provided data on which parent assaulted the other parent or compared the effects on children of growing up in what, in this article, are called *Dyadic Types* (DTs). Data on three DTs are presented: Father-Only, Mother-Only, and Both-Assaulted. This is a descriptive article with two objectives: The first and main objective is to present data on the following

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* Corresponding author.

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questions: (a) What percent of samples of university students in 15 nations grew up with parents who were physically violent to each other? (b) Among those who experienced inter-parental violence, what percent of cases were in each of the three DTs? (c) How severe and chronic were the inter-parental assaults to which these students were exposed?

The second objective is to draw attention to the value of not simply identifying if a child has been exposed to violence between parents but also identifying the severity and chronicity of the assaults and which of the three DTs the child has experienced. It is argued that taking into account the DT of violence between parents is likely to improve research and treatment and also prevention steps to reduce the exposure of children to violence between their parents. Methods of obtaining the information needed to classify parents into the Father-Only, Mother-Only, and Both-Assault types that are feasible and practical for almost all caseworkers and researchers are identified.

Importance of dyadic measurement of inter-parental violence

Identifying whether the child was exposed to violence by both parents, or by only one, whether it was the father or mother, needs to be taken into account in theories about the effects of exposure to parental violence and in prevention and treatment efforts. Yet, as was mentioned, few studies obtain this information, and it is virtually absent from the theoretical and clinical literature. Therefore, one objective of this article was to give the phenomenon a convenient name (DT), identify studies which have reported the percent of cases in each DT, and present new cross-national data on the prevalence of each DT. The hope is that this study will further use of the DT typology, perhaps making it a standard part of intake diagnosis child abuse.

One reason information on which DT the child experienced is needed is that previous studies that have classified cases of partner violence into DTs have tended to find that, of the three types, the Both-Assault type tends to be about half the cases, and among the other half, Male-Partner- and Female-Partner-Only types tend to occur equally (Langhinrichsen-Rohling, Selwyn, & Rohling, 2012; Straus, 2013a). This finding is probably contrary to what most professionals concerned with exposure to inter-parental violence would expect. Consequently, additional data are needed to clarify this issue.

Information on the prevalence of DTs is also needed because previous research suggests that which type a child experiences is associated with differences in behavior problems of the child. For example, Straus (1992) studied 20 child behavior problems and found that of the 17 for which there were significant differences between the three DTs in the level of problems experienced by the child, for nine (60%) of them, the Mother-Only type had the strongest relationship to child behavior problems. Further research on differences between DTs in their effects on the child is needed, but it is not the purpose of this article, which is simply to describe the prevalence of the DTs and differences in the severity and chronicity of violence associated with each DT. We believe the needed research on differential effects is more likely if the research community is aware of the percentage of children who experience each of the three types. Similarly, we believe that clinicians working with children exposed to inter-parental violence are more likely to take into account which of the DTs the child has experienced if they have information on the prevalence of each DT and differences between DTs in the severity and chronicity of the violence.

The value of explicitly categorizing inter-parental violence as DTs is also suggested by a study by McDonald, Jouriles, Ramisetty-Mikler, Caetano, and Green (2006). They presented data on the percent of children exposed to violence by the father (13%), mother (18%), and either parent (21%). This represents an advance over the typical pattern because, as they point out, little is known about how, or whether, male and female violence differentially influence children's adjustment.

However, *either parent* is not a measure of Both-Assault. Suppose, for example, the 21% in the either parent group consisted of 10% in which the fathers assaulted and *a different* 10% in which the mothers assaulted. In such a situation, 20% of the children would have experienced violence between their parents, but *none* would have been in household in which both parents assaulted. The importance of identifying children in the Both-Assault type is that those relationships are more likely to involve severe assaults, more likely to be chronic (Straus & Gozjolko, in press; Whitaker, Haileyesus, Swahn, & Saltzman, 2007), and to have the most adverse effects on children (Straus, 1992, 2013b).

In addition to identifying the Both type of parents, DTs unambiguously identify cases in which the father is the only parent who assaults and the mother is the only parent who assaults the other parent. This information about the violence to which children have been exposed is theoretically and therapeutically crucial.

Severity and chronicity

Although an essential first step is to determine if the aggression is Father-Only, Mother-Only, or Both-Assault, as previously noted, information about other characteristics of the inter-parental violence are important and often mentioned but rarely empirically investigated. For this study, we investigated the severity and the chronicity of the assaults perpetrated by parents in each DT. Chronicity is the frequency of assault among those who assault.

A study which did distinguish between severe and less severe violence between parents (Park et al., 2012) found that severe violence between parents was a much stronger predictor of criminal behavior by the child than exposure to less severe violence between parents. The chronicity of assaults between parents is also rarely analyzed, even though it is reasonable to assume that children who experience inter-parental violence repeatedly are more likely to be harmed.

Studies of children's exposure to dyadic perpetration types

Langhinrichsen-Rohling et al. (2012) identified 48 studies which reported the percent of couples in each of the three categories of DTs. None used the term *Dyadic Type* because it only recently appeared in the literature. Few were studies in which the issue of interest was whether the child was exposed to inter-parental violence. However, we located seven with this focus. They provided 11 distributions of DTs. The column headed Father-Only in Table 1 indicates that the percentage in this dyadic type ranged from 6% to 69%, with a median percent of Father-Only violence of 25%. The Mother-Only column indicates that the percentage in this DT ranged from 5% to 50% with a median of 25% Mother-Only. The Both-Assault column of Table 1 shows that the percentages ranged from 8% to 89% with a median of 47% Both-Assault. These medians are almost identical to what Langhinrichsen-Rohling et al. (2012) found for 48 studies.

Summarizing the statistics on the prevalence of each dyadic type in another way: (a) the Father-Only type was the least frequent in four of the 11 dyadic type distributions; (b) the percent of cases in the Mother-Only type was greater than the percent in the Father-Only type in six of the 11 distributions; and (c) of the 11 distributions of DTs, seven (64%) found that the most prevalent type was Both-Assault. Two specific examples of large, high quality studies which found Both-Assault to be the predominant type are the National Comorbidity Study (Kessler, Molnar, Feurer, & Appelbaum, 2001) and the National Longitudinal Study of Adolescent Health (Whitaker et al., 2007). Nevertheless, it is also important that four of the 11 distributions of DTs (see Table 1) did not show that Both-Assault was the most frequent type, including one of the most comprehensive studies (Hamby, Finkelhor, Turner, & Ormrod, 2011), which found only 9% in the Both-Assault category. This indicates the need for additional research.

The current study was designed to provide further information on whether Both-Violent is the most frequently occurring DT and the Mother-Only type the second most frequent among parents of university students in the United States and 14 other nations The current study also goes beyond the nine studies reviewed by providing data on the chronicity and severity of the violence by parents in each DT and on parents.

Research questions

For the reasons given in the introduction to this article, we believe there is a need for additional research to provide researchers and practitioners with basic descriptive information about the prevalence of the three DTs and the severity and frequency of violence which characterizes each of the types. An article now in preparation will provide additional information on the extent to which these three aspects of exposure to inter-parental violence have different effects on children. The present article addresses the following specific questions:

1. What percent of university students in 15 nations were exposed to violence between their parents?
2. Among students who experienced inter-parent violence, in what percent of those cases was it Father-Only, Mother-Only, or Both-Assault, and does this apply when the violence is severe?
3. Among the violent parents, how severe and how chronic was the violence, i.e., how often did it occur?
4. What are the theoretical, policy, and practice implications of the results?

Method

The data for this study were obtained as part of the International Parenting Study (IPS) conducted by a consortium of researchers located in 15 nations between October 2007 and March 2010. Each IPS consortium member used the same core questionnaire, except for the final section, which was for each member to add questions about issues of specific local or theoretical interest. A description of the study, including the questionnaire and all other key documents can be obtained at http://pubpages.unh.edu/~mas2.

The procedures for the IPS were reviewed and approved by the University of New Hampshire IRB and by the equivalent board or administrator at each of the 31 participating universities. The sites are located in Asia, Europe, North America, and Israel. Participation was restricted to students age 18 or older. Potential participants read a consent form which stressed that participation was entirely voluntary and that they were free to not answer any question they chose to omit. To ensure the privacy and anonymity of the data, the questionnaire did not include the name of the study participant or any identifying code. The recruitment and questionnaire format varied by site, but the majority of students were recruited and completed the questionnaire during a class period. After completing the questionnaire, participants received a debriefing form which further explained the purpose of the study and included a list of mental health referrals to use if the study participant was interested in such assistance.

Sample

Sample characteristics. The sample consists of 11,408 university students in 15 nations. Seventy percent of the sample for this study is female, which reflects the gender composition of the psychology, sociology, nursing, education, family studies, and social work courses from which most of the participants were recruited. Their mean age was 21 ($SD = 3.93$) with a range of 18–40. Eighty-nine percent of the sample was under age 25, which corresponds with college student populations. The

Table 1
Studies of effects of exposure to violence between parents which used dyadic aggression types.

Study	Sample type[a]	*N*[b]	Measure of dyadic types	Severity	Father-Only	Mother-Only	Both
Forsstrom-Cohen and Rosenbaum (1985)	Students[a]	164	Buss–Durkee Inventory	Minor only	25%	25%	48%
Davies, DiLillo, and Martinez (2004)	Students[a]	Female = 142	Child Maltreatment Interview Schedule	Any	40%	13%	47%
Hamby et al. (2011)	General Population Children	4,549	Developmental Victimization Survey	Severe	69%	23%	9%
Straus (2009c)	Students[a]	Male = 367	Conflict Tactics Scales	Any	10%	29%	62%
		Female = 941		Any	13%	19%	68%
		Male = 367		Severe	12%	12%	77%
		Female = 941		Severe	6%	5%	89%
Straus (1992)	General Population	6,002	Conflict Tactics Scales	Any	19%	50%	31%
Fehringer and Hindin (2008)	General Population	Male = 187	Conflict Tactics Scales	Any	32%	39%	30%
		Female = 285		Any	26%	52%	23%
Wright and Fagan (2012)	General Population	1,517	Conflict Tactics Scales	Severe	26%	35%	39%

[a] University student reports of violence between their parents.
[b] M = data provided by male study participants. F = data provided by female study participants. If M or F not indicated, both men and women provided the data and results were not reported separately by gender or study participant.

Table 2
International Parenting Study. Sample characteristics for 15 nations.

Region	Nation	*N*	% female	Mean age
All		**11,408**	**70%**	**21**
Asia	Hong Kong	425	67%	23
	Taiwan	463	58%	20
Europe	Belgium	889	74%	20
	Greece	968	73%	21
	Italy	260	78%	22
	Norway	375	73%	22
	Poland	173	51%	21
	Russia	1,122	58%	20
	Scotland	189	67%	20
	Slovenia	195	86%	22
	Spain	532	89%	22
	Switzerland	106	95%	24
Middle East	Israel	366	70%	24
North America	Canada	1,581	75%	23
	United States	3,712	68%	20

overwhelming majority were undergraduate students, as graduate students were included in only three of the 31 universities surveyed. Ninety percent of the sample was born in the country of data collection, and 80% self-identified as belonging to the majority racial or ethnic group. Table 2 gives the sample size, percent female, and mean age of the students in each of the 15 nations.

Eighty-nine percent of the students reported on both biological parents. The educational attainment of the fathers and mothers was similar: 42.8% of fathers and 41% of mothers completed a college degree. More fathers than mothers were employed full-time (93% of fathers, 55% of mothers).

Validity of the data. Because the study participants are students, they are not representative samples of each nation. The IPS is still in the data-collection stage and has not yet tested the validity of the data. However, the concurrent validity of data from another cross-national study of similar convenience samples of university students in 32 nations is relevant. This was investigated by computing the correlation of measures based on aggregating the student data with published statistics for the 32 nations. The correlations ranged from .43 to a high of .69, with a median *r* of .51 (Straus, 2009b). The −.69 correlation was between scores on a scale to measure male dominance in dating relationships and the Gender Inequality Index (United Nations Development Program [UNDP], 2010). This correlation shows that nation-to-nation differences in student reported male dominance in dating relationships correspond with nation-to-nation differences in national statistics on gender inequality. This correlation, together with the other 17 correlations reported in Straus (2009b), indicates that valid nation-to-nation differences can be obtained using convenience samples, if the convenience basis for selecting the samples is comparable across nations. The explanation suggested for this finding is that even unrepresentative convenience samples can provide valid cross-national comparisons because the *national context effect* tends to affect most segments of the population (Straus, 2009b).

Measure of partner violence

Inter-parental violence was measured by the short form of the revised Conflict Tactic Scales (CTS2; Straus & Douglas, 2004; Straus, Hamby, Boney-McCoy, & Sugarman, 1996). Over the past 30 years, the CTS2 has been used in about 500 studies, mostly in North America, but also in more than 50 other nations, including studies sponsored by the World Health Organization, the United Nations, and the Pan American Union. It has demonstrated cross-cultural reliability and validity (Archer, 1999; Straus, 2004, 2012; Straus & Mickey, 2012). The items and psychometric data are available in Straus et al. (1996). The short form (Straus & Douglas, 2004) has been shown to have high validity but to underestimate prevalence. Thus, the rates to be presented are lower-bound estimates.

The students were asked to respond to the CTS2 questions about the discipline methods used by the parents and about what happened between their parents when they were 10 years old. This age was used because one of the main purposes of the IPS was to investigate the relation of early violent socialization to behavior problems such as a depression, delinquency, and criminal behavior. An age prior to the typical onset of these problems was needed. However, it also needed to be an age which was within the recall ability of the students.

The physical assault scale of the CTS2 short form has one item to measure *minor* assaults ("Your father pushed, shoved, or slapped your mother") and one to measure more severe assaults ("Your father punched or kicked or beat-up your mother"). These two questions were also asked about the behavior of the mother. The response categories were: *this never happened; not in that year, but it happened before or after; once in that year; twice in that year; 3–5 times in that year; 6–10 times in that year; 11–20 times in that year; more than 20 times in that year*. We combined the minor and severe assault items to create a

measure of whether any assault occurred, regardless of severity. However, the etiology and the effects of severe assault may be different (e.g., there may be a greater gender difference in perpetration of severe violence). Consequently, the analyses were replicated for severe assaults. We used these four items (minor and severe assault by the father and by the mother) to create the variables.

Prevalence. This variable addresses the percent of parents who assaulted the other parent during the year the student was 10 years old, regardless of whether it was once or many instances. We computed prevalence rates for *any* assault (i.e., regardless of severity) and for *severe* assaults. Separate rates were computed for fathers, for mothers, and for whether either parent assaulted.

Chronicity. This variable was created for cases with at least one act of violence. It indicates, for those cases, how many assaults occurred during the year. To create this variable, the response categories listed in the previous section were recoded as the estimated midpoints of each category, namely: 1, 2, 4, 8, 15, and 25. Chronicity data are only available for what happened in the reporting year, which in this study is when the student was 10 years old. The variable was subsequently dichotomized so that any violent incidents that occurred more than once (coded as *2*) could be differentiated from single or isolated events (coded as *1*).

DTs. This typology classifies the parents into one of three DTs: Father-Only, Mother-Only, and Both-Assault. They were created by cross-tabulating perpetration by the father with perpetration by the mother. The percentages in each type are computed after excluding the cases in the no-assault cell. Thus, the Dyadic Perpetration Type does not indicate the prevalence of violence in the relationship; it indicates who assaults in the subset of relationships in which there was violence. DTs were created for any violence and for severe violence.

To understand the meaning of the results on DTs, it is important to keep in mind that they refer to the minority of cases in which an assault did occur – about 14% in this study. Thus 25% Father-Only does not mean that 25% of fathers assaulted. It means that, within the subgroup of parents where there was physical violence, in 25% of those cases, only the father assaulted.

Results

Prevalence of assaults between parents

Entire sample. The first pair of rows of Table 3 is for the total sample. The upper row of the pair is for any assault regardless of severity. It shows that 3.5% of students reported their father had assaulted their mother when they were 10 years old, and 10% reported that the mother had assaulted their father that year. Combining these indicates violence in the relationship of the parents of at least 14% of the students in this study. This is remarkably close to the prevalence rate found by many U.S.-based surveys of married and cohabiting relationships (Straus & Gelles, 1990a).

Nation difference in any assault. The rows for each of the 15 nations in Table 3 show both important differences between nations and also similarities. For any assault, the percent of fathers who assaulted the mother ranged from 0.3% (Norway) to 9.9% (Slovenia) with a median of 3.8%. The percent of mothers who assaulted the father ranged from 1.7% (Spain) to 24.9% (Poland) with a median of 8%. The column headed *Either* gives the prevalence rate for violence between the parents of the students regardless of who assaulted. This rate ranged from 2.1% (Norway) to 30.8% (Poland) with a median of 13.3%. With only two exceptions (Israel and Slovenia), students reported higher rates of perpetration of any assault by mothers than by fathers.

Nation difference in severe assault. The lower row for each nation in Table 3 shows the percent of parents who severely assaulted. The percent of fathers who severely assaulted the student's mother ranged from 0 to 6.3%, with a median of 1.6%. The percent of mothers who severely assaulted the student's father perpetration ranged from 0.3 to 11.2%, with a median of 3.8%. Thus, the students in this study reported a larger percent of mothers than fathers who severely assaulted.

Gender of student differences in reporting

We also created tables (not shown) following the same pattern as Table 3 but separately for the data provided by male and female students. For *any* violence, in 12 out of the 15 nations, both male and female students reported a somewhat larger percent of mothers assaulting fathers than fathers assaulting mothers. For *severe* assaults, the rate of perpetration by mothers as reported by male students was greater than by father in 11 out of the 15 nations (73%), whereas in the data provided by female students, more fathers than mothers severely assaulted in 12 out of the 15 nations (80%). What could explain these gender-of-student differences in reporting violence by fathers and by mothers? It does not seem likely that the sex of the child influences violence between parents, except possibly in very male dominant nations where failure to produce male children is a significant problem.

A more likely explanation is that the tendency for male students to report more violence by mothers and female students to report more violence by fathers reflects a greater identification with and concern with assaults by the parent of the opposite sex on the parent of their own sex. This could result in a greater probability in perceiving or remembering violence in which the parent of the same sex is the victim.

Table 3
Percent of parents who assaulted other parent, by national context.[a]

Region	Nation	*N*	Severity	Father to mother	Mother to father	Either Parent[b]
All		**11,167**	Any	**10.4%**	**10.0%**	**13.4%**
			Severe	**5.5%**	**4.6%**	**6.6%**
Asia	Hong Kong	440	Any	9.5%	8.0%	10.5%
			Severe	5.9%	5.2%	6.8%
	Taiwan	469	Any	11.3%	8.7%	13.9%
			Severe	8.5%	6.8%	10.9%
Europe	Belgium	869	Any	8.7%	5.6%	9.6%
			Severe	2.9%	2.3%	3.3%
	Greece	955	Any	14.8%	9.8%	16.3%
			Severe	7.2%	4.4%	7.9%
	Italy	258	Any	11.2%	7.0%	11.6%
			Severe	3.1%	3.5%	5.1%
	Norway	376	Any	1.3%	1.9%	2.1%
			Severe	0.3%	0.3%	0.3%
	Poland	169	Any	24.9%	24.9%	30.8%
			Severe	14.2%	11.2%	16.0%
	Russia	1,059	Any	15.5%	19.4%	23.4%
			Severe	9.8%	8.0%	12.5%
	Scotland	186	Any	9.1%	13.4%	15.6%
			Severe	3.2%	1.1%	3.2%
	Slovenia	192	Any	16.1%	8.9%	18.7%
			Severe	10.4%	4.7%	11.0%
	Spain	522	Any	1.5%	1.7%	2.5%
			Severe	1.0%	0.8%	1.3%
	Switzerland	104	Any	4.8%	3.8%	5.8%
			Severe	2.9%	1.9%	2.9%
Middle East	Israel	361	Any	12.5%	5.3%	13.3%
			Severe	5.0%	3.0%	5.0%
North America	Canada	1,559	Any	8.3%	7.6%	10.5%
			Severe	3.5%	2.9%	4.2%
	United States	3,648	Any	10.4%	11.8%	14.3%
			Severe	5.8%	5.8%	7.2%

[a] The text of the article refers to these percentages as prevalence rates. They are based on the reports of *all* students surveyed, whereas the percentages for the Dyadic Types given in the text and Table 4 are based on the *subset* in which one or more violent incidents were reported.
[b] "Either Parent" differs from the Dyadic Type "Both-Assault" because as explained in the text, it is theoretically possible for the Either Parent rate of 13.4% to be entirely assaults by the father. The Both-Assault rate would then be zero.

DTs

Fig. 1 provides an overview of the results on the second research question: "Among students whose parents were violent to each other, in what percent of those cases was it Father-Only, Mother-Only, or Both-Assaulted, and does this apply when the violence is severe? It shows that the most prevalent type is Both-Assault and that this applies to both any violence (left side of Fig. 1) and severe violence (right side of Fig. 1). For both *Any Violence* and *Severe Violence*, the Both-Assault type characterized just over half of the violent parents in the study.

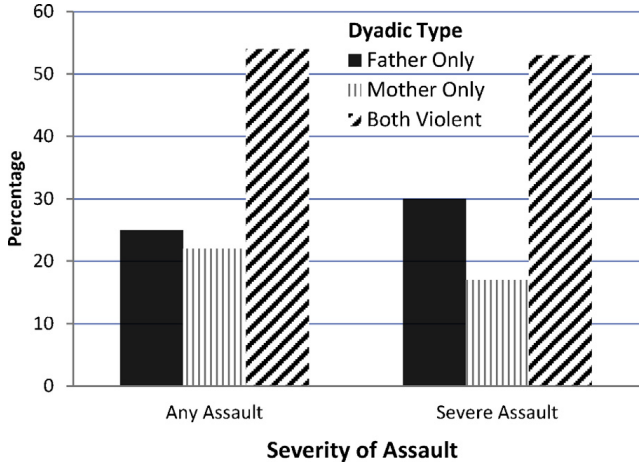

Fig. 1. Dyadic types, for any assault and severe assault.

Table 4
Dyadic types for violence between parents, by region and severity of assault.

Region	*N*	Father-Only	Mother-Only	Both-Assault
A. Any assault				
All regions	1,485	**25.4%**	**22.4%**	**52.3%**
Asia	110	30.9%	14.5%	54.5%
Europe	655	28.5%	21.7%	49.8%
Israel	48	60.4%	6.3%	33.3%
North America	672	18.9%	25.4%	55.7%
B. Severe assault				
All regions	733	**30.2%**	**16.5%**	**53.3%**
Asia	81	32.1%	18.5%	49.4%
Europe	313	38.3%	15.7%	46.0%
Israel	18	38.9%	0.0%	61.1%
North America	321	21.2%	17.8%	61.0%

Note: The percentages refer to the minority of cases in which an assault did occur – about 14% in this study.

The bars in Fig. 1 for Father-Only and Mother-Only show that for any assault, the half of the cases where the violence was not mutual are about equally divided between a quarter in which the father was the only violent parent and about a quarter in which the mother was the only violent parent. The Father-Only dyadic type is only slightly greater than the Mother-Only dyadic type. On the other hand, the results for severe assaults in the right side of Fig. 1 show that among the half of the cases where the severe violence was not mutual, a much larger percent were in the Father-Only type.

Although there were differences by nation, overall the pattern of results in Fig. 1 persisted when we analyzed the data separately for male and female students who participated in the study. However, as was found in the section on gender differences in the prevalence of assaults by fathers and mothers, male students reported a slightly higher percent of Mother-Only assault (20.0% vs. 22.1%) while female students reported a somewhat higher percent of Father-Only assault (28.3% vs. 22.5%). These gender differences, although small, were significant, $X^2 = 14.27$, $df = 2$. $p < .001$.

National context and regional differences in dyadic types. We created a table displaying the DTs for each of the 15 nations. Because DTs can be created only with the minority of cases where there was violence between the parents, for low-violence nations such as Norway and Switzerland, the resulting statistics were based on less than 10 cases when the typology is based on *any* violence and under five cases when it is based on *severe* violence. It did not seem appropriate to compute the percent of three of four cases that are Father-Only, Mother-Only, or Both-Assault. We therefore replaced the table listing the 15 nations separately with Table 4, which gives the distribution of DTs for each of four geographic regions. Each region has enough cases to permit an analysis.

The Both-Assault column of Table 4 shows that for seven of the eight regional comparisons, when there was violence between the parents, it was in the form of Both-Assault for about half or more of those parents. The one exception is in the data on *any* assault for the Israel sample.

Table 4 also shows that Father-Only is the second most common dyadic type in this study, again with only one exception. The exception is the data on *any* assault for the parents of students in North America. For this region, the percent in the Mother-Only category is somewhat higher (25.4% Mother-Only vs. 18.9% Father-Only). For severe assaults, the percent in the Father-Only category tended to exceed the percent Mother-Only by more than for any assault. We also did an analysis separately for male and female students and found that the results by region in Table 4 tend to apply regardless of whether the data were provided by male or female students.

For severe assaults, the percent in the Father-Only type was about double the percent in the Mother-Only type. The lone exception is North America where the percent Mother-Only is slightly greater for any assault and only slightly less than the Father-Only types for severe assaults. It is also important that 14–25% of violent parents in this study were in the Mother-Only category. These are substantial percentages that, as we noted in the introduction, tend to be ignored in research on children who have experienced violence between their parents.

Chronicity

Chronicity of assaults by fathers and mothers. There can be a large difference for both the parents and the children when violence is a single rare incident and when it is chronic. To the extent that this is correct, it is important to determine not only if violence occurred but also how often. We found that, when violence between parents occurred, it was typically something that happened two or more times rather than an isolated incident. Among the violent fathers, 74.6% assaulted the mother two or more times in the year the student was 10 years old. Among the violent mothers, 73.3% assaulted the father two or more times that year. Thus, in about three quarters of the cases where one parent assaulted the other, it was a chronic pattern. The data taking the couple as the unit of analysis show greater percent of chronic violence. If either parent assaulted, there were two or more instances of violence that year for 82% of such couples. These percentages may overstate the chronicity of inter-parental violence because the data for this study are what students were able to recall about events that occurred when they were 10 years old. If the violence was chronic, it may be more likely to be remembered.

Chronicity of assault by dyadic types. Three measures of chronicity were analyzed: the percent who assaulted more than once, and the median and mean number of assaults. For the Father-Only type, 65% of the parents in this dyadic type assaulted two or more times. For the Mother-Only type, 59% did it two or more times that year. Among the parents in the Both-Assault dyadic type, 80% of the fathers and 80% of the mothers assaulted two or more times that year. Approximately the same percentages who assaulted two or more times were found when the analysis was based on the reports of male and female students.

For *any* assault, the median number of assaults was two for the Father-Only and also for the Mother-Only type. Parents in the Both-Assault type each did it median of four times. For *severe* assault, the highest level of chronicity was for Father-Only (Mean = 10), which was twice as much as Mother-Only (Mean = 5). When both severely assaulted, it occurred a median of six times.

The results for means need to be interpreted cautiously because they are influence by the very high frequency of assault in the top fifth of the distribution. Keeping this in mind, the results show that fathers in the Father-Only type assaulted an average of 8.7 times that year, compared to an average of five assaults by the mothers in the Mother-Only type. The fathers in the Both-Assault group averaged 7.9 assaults that year, and the mothers assaulted an average of 7.3 times, i.e., in the Both-Assault type, there was little difference in how often the fathers and the mothers assaulted.

Discussion

Most prior research on children exposed to violence between parents has focused exclusively on assaults by fathers. For example, Grip, Almqvist, Axberg, and Broberg (2013) defined partner violence as "self-reported *behaviors directed to the mother by a current or former male partner*" (p. 239). This study gives equal consideration to two other DTs: Mother-Only and Both-Assault. It did so by investigating the prevalence of physical assaults perpetrated by the mothers and the fathers of university students in 15 nations. We found that overall about 14% of students reported one or more instances of physical assault between their parents. This rate was similar to those found by other studies which, like this study, obtained the data from adult children (e.g., Centers for Disease Control and Prevention, 2010). They were also similar to rates found by studies which obtained the data directly from married and cohabiting partners (Archer, 2000; Straus & Gelles, 1990b).

This study went beyond the studies just cited by providing the percent of children exposed to inter-parental violence for students in 15 nations and by identifying three important aspects of exposure to inter-parental violence which have not received sufficient attention: which parent or parents assaulted, the severity of the assaults, and the chronicity of the assaults. The results indicate that about the same percent of mothers and fathers assaulted the other parent: About half the assaults were severe. Somewhat more fathers than mothers severely assaulted. The most important finding is that, among students who were exposed to inter-parental violence, by far the largest percentage was in the Both-Assault type (52%), followed almost equally by the Father-Only type (25%) and the Mother-Only type (22%). However, when the DTs are based on perpetration of *severe* assaults, although the Both-Assault type remained at about half, mothers were rarely the sole-perpetrators (17%).

When there was violence between the parents, it was rarely an isolated instance. If either parent assaulted, in 82% of the cases, there were two or more instances during the year the student was ten years old. Thus, Both-Assault, in addition to being the predominant pattern when violence was present, was also the more likely to be severe and chronic than Father-Only or Mother-Only.

Self-defense

The finding that over half of the assaults were in the Both-Assault category raises the question of whether this seeming mutuality of violence between the parents can be better described as a reflecting self-defense by the mothers. No doubt some of the assaults by the women in this and the other 200 studies which have found that about the same percent of women as men assault a partner (Archer, 2000; Fiebert, 2004; Straus, 1999; Sugarman & Hotaling, 1989) were acts of self-defense. However, a review of 17 empirical studies suggests that most were not (Straus, 2012). Nine self-labeling studies asked women and men if they had acted in self-defense and eight behavioral-report studies asked women who was the first to hit (Straus, 2012).

The nine self-labeling studies found that the percent of women who identified themselves as having acted in self-defense ranged from 5% to 47% with a median of 19%. None of the nine studies found that a majority of women acted in self-defense. Almost half found a higher percent of men than women labeled their behavior as self-defense. The eight behavioral-report studies found that the percent of women who said they were the first to hit ranged from 25% to 61%, with a median of 46%.

Limitations and strengths

Sample. The results presented are based on convenience samples of university students, which limits generalizability. However, these results also broaden our understanding because they show a cross-national consistency and because they refer to children in the general population, not to children in clinical samples. The type of cases in the clinical samples that are the basis for a large proportion of studies of children exposed to inter-parental violence are estimated to make up only

2% of the U.S. general population of children who experience spousal assault (Edleson, 1999). Moreover, what applies to a general population sample may not apply to a clinical sample, and vice versa (Straus, 1990). Information on both is needed.

Although the overall size of the sample is over 11,000, 86% of the cases could not be used for the analyses of the DTs because this typology applies only to the 14% of the sample where violence occurred during the referent year. Consequently, the planned analyses of nation-to-nation differences in the DTs could not be conducted because, when that 14% of the sample was divided among the 15 nations, the cell sizes were too small to permit the comparisons in several nations. As a result, the analyses had to be conducted by region rather than nation.

Measurement. All methods of measuring violence between marital and dating partners greatly underestimate the prevalence. The greatest underestimate occurs in official statistics and crime surveys. Only a tiny fraction of cases are known to the police or child protective services. The U.S. National Crime Victimization Survey uncovers far more cases, but the prevalence rate is still under one percent. Studies using the methodology of this study, the CTS2 (Straus et al., 1996), starting with the 1975 National Family Violence Survey, generally find the highest rates. Nevertheless, even what seemed to be a startlingly high prevalence rate at the time (16%) was judged to be at most half of the actual percentage (Straus, Gelles, & Steinmetz, 2006, p. 35). Although the prevalence of violence between parents reported here (14%) is within the range of other U.S. household surveys using the CTS2, it was obtained using the short form of the CTS2, which has been shown to underestimate prevalence rates (Straus & Douglas, 2004). Moreover, the reporting period was only the year the student was 10 years old, not the entire childhood period. In addition, the ability of young adults to recall events between parents when they are ten, even dramatic events such as a physical assault, is unknown. As a result, the rates in this article should be considered lower-bound estimates.

Another measurement problem associated with depending on recall of events that occurred at age 10 concerns the accuracy of the details. For example, the finding that the Mother-Only DT for assaulting the other parent is about as common as the Father-Only type raises the possibility that the statistic is partly a reflection of violence by women being a memorable event because in most spheres of life violence by women is unusual.

Limited to physical assault. The focus on physical assault ignores other forms of abuse that parents can inflict on each other. For example, psychological aggression between parents is much more frequent than physical aggression (Straus & Sweet, 1992) and might be even more damaging to children than physical attacks between the parents. An analysis of that issue for this sample is planned.

Implications for theories of partner violence

Although the percent of parents in the Father-Only type was consistently greater than the percent in the Mother-Only type. It is also important that, with the exception of the parents of students in Israel, from 14 to 25% of violent parents were in the Mother-Only category. Moreover, the most prevalent type was Both-Assault. If the percent in the Mother-Only type is combined with the half of the mothers who were in the Both-Assault type, it indicates that in two thirds to three quarters of the cases of children exposed to inter-parental violence, the mother assaulted. These results are consistent with the critiques of the *patriarchy theory* as the primary explanation for partner violence (Dutton, 2006; Felson, 2002, 2006; Straus, 2009a). Important as is male-dominance, it is only one of many causes of partner violence.

Methodological implications

Method of measuring inter-parental violence. If mutual violence is the most frequent type of inter-parental violence, research on all aspects of partner violence, including the effects on children, can be advanced by moving away from investigating partner violence as only a male-perpetrated phenomena. The movement away from the unilateral investigation of partner violence can be easily accomplished in original research and also in many studies using archived data. Survey questions can be designed to ask about both male and female perpetrated assaults. When conducting analyses of archived data sets, if information is available for mothers and fathers separately, we recommend avoiding the common practice of combining the information into one *parents* category as in the studies by Cui, Durtschi, Donnellan, Lorenz, and Conger (2010) and Moon (2000).

Much of the research and reviews of research on exposure of children to partner violece proceeds as though mothers were always victims and never aggressors. A review by Wolfe, Crooks, Lee, McIntyre-Smith, and Jaffe (2003) points out many limitations of the measures of inter-parental violence but does not mention the failure of studies to distinguish between the child being exposed to assaults by the father, by the mother, or by both parents. The review by Holt, Buckley, and Whelan (2008) also notes many methodological problems, including issues concerning measuring the extent to which each parent used corporal punishment, but devotes only one line to female-perpetrated partner violence. McIntosh (2003) does warn about the widespread underreporting of domestic abuse by women but does not discuss the implications of this fact. Many studies of children's exposure to partner violence obtained the data using the CTS2 (Straus & Douglas, 2004; Straus et al., 1996) but either omitted the questions on assaults by the mother or did not report the results. Graham-Bermann et al. (2012) are among those who omitted the CTS2 questions on perpetration by the mother, but they are among the few who acknowledged this as a limitation of their study. They caution readers that because a large proportion of partner violence is bidirectional, the likely result is an underestimation of the level of violence in the home. In addition, by not measuring PV as a dyadic phenomenon, the opportunity to investigate the differential effects of Mother-Only, Father-Only, and Both-Violence

Dyadic Types was lost. Fortunately, this loss is not necessary in most research and clinical situation assessments because the data to identify the three DTs can be obtained by asking the questions on violence perpetration for each parent, as is done in the CTS2, including the short form of the CTS2 (Straus & Douglas, 2004) which takes less than five minutes.

Dyadic measures. An important characteristic of the CTS is that it is based on conflict theory and family systems theory. It therefore measures the behavior of both partners by repeating each item for what the study participant did and what the partner did. This characteristic enables DTs to be identified. Data to identify the types is an inherent part of the CTS2. Although the term Dyadic Types was not used until 2011 (Straus, 2011), the percent in each of the three DTs has been reported since the 1975 National Family Violence Survey (Straus et al., 2006, p. 37) and in more detail for the 1985 National Family Violence Survey (Stets & Straus, 1989), and for the short form of the CTS2 (Straus & Douglas, 2004). Dyadic types can be identified using any instrument that obtains data on perpetration of physical assaults by asking each item for the respondent and the respondent's partner or by testing both partners. Moreover, consistent with clinical practice, DTs can be measured for many aspects of parenting such as nurturance, corporal punishment, and supervision. For each of these, it is likely to make a difference for the child if only the father does it, only the mother, both, or neither.

Policy and practice implications

The results of this study suggest that policies designed to reduce partner violence should regard the problem as primarily one of violence, rather than one of gender (Felson, 2006). Gender is important for a number or reasons, including the greater injury experienced by women. However, it is also true that an equal percentage, and for young women a higher percentage, of women than men perpetrate physical assaults on a partner, and that it is not usually an act of self-defense. Mutual violence needs to be addressed because it is the most prevalent form of PV, the most chronic, the most severe, and results in the most injuries, especially to women (Straus & Gozjolko, in press; Whitaker et al., 2007).

Prevention of partner violence. Primary prevention of partner violence is likely to be enhanced if it includes *explicit* mention of, and examples of, girls and women hitting a partner. This is because gender-neutral programs to reduce domestic violence and intimate partner violence are perceived as referring to men hitting women. To change this view, the wording and examples need to refer to female offenders as often as male offenders. This may explain why a random assignment study of the Safe Dates program found a reduction in perpetration by boys, but no reduction of assaults by girls (Wolfe, Crooks, Chiodo, & Jaffe, 2009).

Treatment. If most partner violence is bi-directional, more effective treatment is likely if both the procedure and the content are changed to include *both* partners, not just the partner arrested, seeking help, or otherwise identified. The change in procedure is intake screening to determine if the violence is Male-Only, Female-Only, or Both-Assault rather than a priori assumption that it is Male-Only. Treatment also needs to be based on an empirical assessment to determine the likely causes rather than *assuming* the fundamental cause is male-dominance and misogyny. Ending violence *by* women is an essential part of the effort to end violence *against* women (Straus, 2005, 2009d, 2011, 2012). The evidence on perpetration by mothers in this study and many others (Desmarais, Reeves, Nicholls, Telford, & Fiebert, 2012) indicates that attention to violence by women is also an essential part of protecting children from the harmful effects of exposure to inter-parental violence.

Knowing that 14% of the university students in the 15 national contexts studied for this research experienced violence between their parents when they were children is important information but not sufficient information to provide an adequate understanding and basis for ameliorating this harmful childhood experience. In respect to clinical practice, we suggest that these children can be given better help if the effort takes into account whether violence was perpetrated by the father, mother, or both parents; whether the violence was relatively minor (e.g., slapping, throwing things) or more severe (e.g., punching, choking); and whether what the child experienced consisted of an isolated incident, relatively rare incidents, or a chronic pattern.

It is practical to obtain the basic information on the extent to which each parent is violent in only two to five minutes of interview or questionnaire time using an instrument such as the short form of the CTS2 (Straus & Douglas, 2004). This short timeframe puts it within reach of all caseworkers. Although this recommendation seems reasonable, empirical research is needed to determine if taking into account which of the three DTs of violence between parents actually improves the prognosis for the child.

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