

# The Intergenerational Transmission of Relationship Violence

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This study explored the intergenerational transmission of violence in a community sample. A telephone survey of 1,249 adults in the City of Vancouver assessed family-of-origin violence (father to mother, mother to father, father to self, and mother to self), as well as physical and psychological abuse in intimate relationships. All forms of family-of-origin violence were predictive of all forms of relationship abuse, consistent with a general social learning model of relationship violence. There was no evidence of gender-specific or role-specific patterns of transmission. For example, father-to-mother violence was not specifically predictive of men's perpetration and women's victimization in adult relationships. Nor was parent-to-self violence more predictive of victimization than perpetration. The methodological and theoretical implications of these findings are discussed.

Considerable research has tested the proposition that experiencing or witnessing violence in one's family of origin increases the likelihood of experiencing violence in one's future intimate relationships. Indeed, several large representative surveys have shown this effect (e.g., Jackson, 1996; Kalmuss, 1984; Straus, Gelles, & Steinmetz, 1980). For example, Kalmuss (1984) found that people who observed parental hitting during childhood had twice the odds of experiencing severe marital aggression as those who did not report family violence.

These results are often explained from a social learning perspective, which argues that growing up in an abusive family teaches individuals that the use of aggression is a viable means for dealing with interpersonal conflicts and increases the likelihood of becoming involved in future aggression (Bandura, 1973). Though this is the most general model of social learning, some studies have also investigated more specific modeling hypotheses. For example, a gender-specific model might hypothesize that individuals model their same-sex parents' role, such that father-to-mother violence would be predictive of men's perpetration and women's victimization in adult relationships. Alternatively, a role-specific model might predict that individuals learn a particular role in interaction with their parents, such that being hit by one's father would result in greater subsequent victimization for either gender, as it is the victim role that is being learned.

Some studies have not found any gender-specific associations between family-of-origin violence and subsequent relationship violence (e.g., Cappell & Heiner, 1990; Kalmuss, 1984; MacEwen, 1994). Others have demonstrated

gender differences in intergenerational effects, though with conflicting results. For example, some studies have identified an association between family-of-origin violence and subsequent relationship violence for females but not for males (e.g., Follette & Alexander, 1992; Mihalic & Elliott, 1997), whereas others have found an association for males but not for females (e.g., O'Keefe, 1997; O'Leary, Malone, & Tyree, 1994). Still other studies have reported associations between family-of-origin violence and relationship violence for both genders, although the specific patterns differed for men and women. For example, Marshall and Rose (1988) found that parent-to-child family violence predicted both perpetration and victimization for men, but only victimization for women.

A recent meta-analysis examined the associations between witnessing or experiencing family-of-origin violence and engaging in subsequent marital violence as either a perpetrator or victim (Stith et al., 2000). Weak to moderate associations were found between these types of violence. There was no differential effect for the two types of family violence when predicting perpetration, although experiencing family violence was more predictive of victimization than was witnessing violence. Moderator analyses indicated that both types of family violence had a greater effect on perpetration for men than for women. In contrast, experiencing (but not witnessing) family violence had a greater effect on victimization for women than for men. These findings must be interpreted with caution because tests of homogeneity showed that significant within-group variance remained. In addition, this meta-analysis had narrow criteria for inclusion and, as a result, excluded a number of large community studies, including studies on dating violence, studies that combined physical abuse with any other kind of abuse (e.g., psychological, sexual, or child abuse), and studies that did not have the data required for calculating at least one effect size.

There are several limitations of past studies on the intergenerational transmission of violence, some of which may account for the unexplained variance in Stith et al.'s (2000)

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meta-analysis. First, past studies have generally overlooked the potential influence of the bidirectionality of relationship aggression. Several representative surveys (e.g., Magdol et al., 1997; Morse, 1995; Stets & Straus, 1990) have shown that the majority of respondents who report experiencing relationship violence acknowledge that both partners have engaged in violence. For example, Stets and Straus (1990) found that 49% of respondents who disclosed violence identified both spouses as perpetrators. In a sample of young adults, over one half of respondents reporting any relationship violence indicated that the violence was bidirectional (Morse, 1995). Similarly, high correlations between perpetration and receipt of violence were obtained in a sample of undergraduate dating couples (for females,  $r = .77$ , and for males,  $r = .75$ ; Follette & Alexander, 1992).

The failure to partial out the associations between perpetration and receipt of relationship violence could be related to the lack of consistency in predicting these variables. For example, Kalmuss (1984) examined a gender-specific model of marital aggression on a subset of respondents who reported only father-to-mother violence and no other type of family-of-origin violence. However, she did not control for the effect of bidirectional violence in the current marital relationship. Contrary to her prediction that exposure to father-to-mother violence would increase the likelihood of husband-to-wife violence, but not wife-to-husband violence, she found that the likelihood of both types of violence was increased. This result may have been due to the bidirectional nature of relationship violence. Despite clear evidence of bidirectionality in relationship violence, we are aware of only three studies that have controlled for bidirectionality when investigating the association between family violence and subsequent relationship violence (Cappell & Heiner, 1990; Follette & Alexander, 1992; O'Keefe, 1997). Unfortunately, these studies combined father-to-mother and mother-to-father violence into one variable representing witnessing of family violence. Therefore, these studies cannot address specific gender linkages in the intergenerational transmission of violence. In fact, many previous studies have combined family violence variables into more general categories of experienced or witnessed family violence. This approach precludes the exploration of specific gender links because one cannot examine the separate effects of the violent parent's gender on men's versus women's subsequent relationship violence.

Most representative survey studies have focused on violence experienced in the current relationship, usually within the past 12 months. However, because the majority of people who have experienced relationship violence indicate that it occurred in the past rather than the present (e.g., Schwartz, 1989; Statistics Canada, 1993), limiting analyses to recent relationship aggression excludes a large proportion of respondents relevant to the research question. If the primary question is whether exposure to family-of-origin violence is a risk factor for relationship aggression, then it makes more sense to look at relationship aggression experienced ever in one's life rather than just in the 12 months prior to the survey. Though it can be argued that memory issues may compromise recall of past abuse (compared with current abuse), people can report more reliably on the past

if asked whether they experienced a particular act rather than if asked how many times the act occurred (Moffitt et al., 1997).

Many of the survey studies assessing the transmission of family violence used data from either the first or second National Family Violence Survey (e.g., Cappell & Heiner, 1990; Choice, Lamke, & Pittmann, 1995; Jackson, 1996; Kalmuss, 1984; Straus & Gelles, 1986; Straus, Gelles, & Steinmetz, 1980; Straus & Kantor, 1994). Studies conducted with other representative samples would test the generalizability of results. Further, most previous research excluded participants who were not currently married or in a marriage-like relationship. Excluding people who are single, divorced, or separated may have deflated rates of reported violence as higher rates of relationship violence have been found in samples of dating couples (e.g., DeKeseredy & Schwartz, 1998) and separated or divorced women (e.g., Schwartz, 1989) than in samples of married couples.

Psychological abuse is a key aspect of the dynamics of relationship violence, yet it has been overlooked in much of the violence research. In a large birth cohort, Moffitt et al. (1997) found correlations between physical and psychological abuse of .74 for perpetration and .78 for victimization. The exclusion of psychological abuse in violence research results in the loss of valuable information that could contribute to an understanding of the dynamics of violence. Further, there is evidence that emotional abuse, in comparison with physical abuse, may have an equally, if not more, devastating effect (Follingstad, Rutledge, Berg, Hause, & Polek, 1990). A longitudinal study found that emotional abuse was more predictive of marital dissatisfaction and dissolution than was physical abuse (Jacobson, Gottman, Gortner, Berns, & Wu Shortt, 1996). Hence, psychological abuse is an important variable in its own right, and its exclusion from much of the past research on relationship violence has limited our understanding of the nature of abuse in intimate relationships and the possible transmission of abuse across generations.

The final limitation of past research relates to measurement. Relationship violence has been quantified in various ways, though most studies have used the Conflict Tactics Scales (Straus, 1979). Many studies have dichotomized violence in order to form violent and nonviolent groups (e.g., Cappell & Heiner, 1990; Kalmuss, 1984). Others have used weighted frequency scores, which transform raw frequencies into a 6-point scale<sup>1</sup> (e.g., Jackson, 1996; MacEwen, 1994). These variations in measurement may contribute to the inconsistencies in findings.

Traditionally, violence has been quantified dichotomously because the frequency distributions are so skewed that correlational analyses are inappropriate (Straus, 1979). Thus, participants are often classified as violent if they endorse one or more violent acts and as not violent if they do not endorse any violent acts. This method results in a heterogeneous violence group that combines people who may

<sup>1</sup> Weighted frequency scores are derived as follows: 1 = 1 incident, 2 = 2 incidents, 3 = 3–5 incidents, 4 = 6–10 incidents, 5 = 11–20 incidents, and 6 = more than 20 incidents.

have pushed a partner once in their lifetime with people who may have beaten up their partner on a regular basis. Another weakness of this procedure is that categories are burdened by the unreliability of single items (Moffitt et al., 1997).

Although the frequency of violent acts is an aspect of violence severity, frequency measures are also problematic (cf. Moffitt et al., 1997). In addition to the problem of skewed distributions, people cannot report reliably on how often something has happened, especially if they are reporting about a long time period or if the event has occurred frequently. Also, by summing items into a frequency score, more weight is given to acts that are less serious but more common, whereas less weight is given to acts that are serious but infrequent. For example, if someone pushed their partner a number of times, they would obtain a higher violence score than someone who beat up their partner a couple of times.

Variety scores are an alternative measure of violence severity (Moffitt et al., 1997). They are calculated by summing the number of different violent acts endorsed by participants. For example, if a person reported slapping their partner three times and pushing them five times, they would receive a variety score of two because they endorsed two different acts. There are several advantages to variety scores: (a) They are less skewed than frequency scores as each act is only counted once; (b) the endorsement of more acts generally indicates greater severity as the most severe acts are least frequent; (c) they are highly correlated with frequency scores but may be more reliable if people can report more accurately on whether something happened than on how many times it happened; and (d) they are less influenced by the unreliability of single items than are categorical measures. As expected, interpartner agreement is substantially higher for variety scores than for dichotomous violence measures (Moffitt et al., 1997).

The improved psychometric properties of variety scores may also enable a more accurate assessment of psychological abuse. Researchers have often avoided investigations of psychological abuse because it is even more subjective and thus harder to quantify than physical violence. Cutoff scores for psychological abuse are very arbitrary. For example, when Magdol et al. (1997) categorized psychological abuse as the endorsement of any act of verbal aggression in the past 12 months, they obtained incidence rates of 95% for women and 86% for men. Though a frequency score would provide information about the severity of emotional abuse, people may find it difficult to report on the frequency of such things as how often a partner controlled their behavior or criticized them in front of other people.

The present study extends previous research in several ways. First, the four forms of family-of-origin violence (father to mother, mother to father, father to self, and mother to self) were kept separate so that their independent effects could be investigated. Men's and women's reports of relationship abuse also were kept separate to investigate whether specific patterns of abuse transmission held up across genders. Second, we controlled for bidirectional abuse to explore whether significant effects in the predictions of abuse perpetration and victimization remained. Third, relationship abuse was categorized and analyzed both

as current (occurred in the year prior to the survey) and ever (occurred at any time in the person's past). Measures of current abuse enabled comparisons with previous research, whereas measures of ever abuse allowed a more appropriate test of the intergenerational transmission of abuse. Fourth, we included people who were single, divorced, separated, or widowed, as well as people who were married or cohabiting. Fifth, both physical violence and psychological abuse were included. Finally, relationship violence was measured as both a dichotomous variable and as continuous variables (frequency scales and variety scores). The enhanced reliability of the variety scores was expected to provide a better test of the intergenerational transmission hypothesis compared with traditional measures of aggression. Further, the different measurement methods were compared to see whether the patterns of results were consistent.

Three social learning models of cross-generational violence were explored. A general modeling hypothesis was tested by analyzing whether exposure to any form of family-of-origin violence was associated with an increased risk of becoming involved in subsequent relationship violence (either as a victim or perpetrator). A role-specific modeling hypothesis was tested by analyzing whether being hit as a teenager by one's parents was more predictive of victimization than perpetration in subsequent relationship violence. A gender-specific modeling hypothesis was assessed by determining whether gender moderated the associations between family-of-origin violence and subsequent relationship violence. According to this hypothesis, father-to-mother violence should predict perpetration for males and victimization for females, whereas mother-to-father violence should predict the opposite pattern.

## Method

The criteria for inclusion in the study was (a) being 19 years of age or older and (b) being a resident of the City of Vancouver. Participants were contacted in 1997 via random-digit dialing and completed a 10- to 15-min telephone survey that assessed physical and emotional abuse in intimate relationships as well as family-of-origin violence. The survey was conducted in English, Mandarin, and Cantonese. The response rate, calculated as the number of completed interviews ( $N = 1,249$ ) over the number of known eligible respondents ( $N = 2,933$ ), was 42.6%. The overall sampling error for the total data at the 90% confidence level was 2.3% based on 1,249 interviews.

## Participants

The sample consisted of 614 men and 635 women. The survey included respondents with any relationship experience, not only married or cohabiting respondents.<sup>2</sup> Reported marital status of the sample was as follows: married (31%), living with someone (11%), single and never married (44%), divorced

<sup>2</sup> Thirty-seven of the respondents who reported that they had no previous relationship experience were excluded from all analyses.

(7%), separated (3%), and widowed (4%).<sup>3</sup> Of the participants not married or cohabiting, 33% were in ongoing romantic or sexual relationships at the time of the survey. Regarding age levels, 48% of respondents were between the ages of 19 and 34, 39% were between 35 and 54, and 13% were 55 years of age or older. Education levels were as follows: 22% of respondents had some high school, 61% had some college or university education, and 16% had some post-graduate education. The ethnic breakdown of the sample was as follows: British (29%); other European (24%); Chinese/East Asian (18%); Latin, Central, or South American (2%); and other (17%). Some respondents did not identify a specific ethnic background (10%). The distribution of personal income in Canadian (and U.S.) dollars was as follows: less than \$20,000 (\$14,500): 29%; \$20,000 to \$29,999 (\$14,500 to \$21,749): 20%; \$30,000 to \$39,999 (\$21,750 to \$28,999): 16%; \$40,000 to \$49,999 (\$29,000 to \$36,249): 11%; and \$50,000 or more (\$36,250): 18%. A comparison with the 1996 Canadian Census data revealed that, in comparison with the adult population of the City of Vancouver,<sup>4</sup> the current sample was younger (12% more were in the 19–34-year-old category and 13% less were in the 50 or older category), had a higher education (11% fewer had some high school and 19% more had some university or college education), and had a higher personal income (27% more had an income greater than \$20,000). Despite translating the survey into Cantonese and Mandarin, the Chinese ethnicity was under-represented by approximately 10%.

## Measures

### Family-of-Origin Violence

Two aspects of violence in the family of origin were assessed: aggression between parents and aggression from parent to teenager. For aggression between parents, respondents were asked about both father-to-mother and mother-to-father aggression. Specifically, respondents were asked to think over their whole childhood and report whether there were ever any occasions when either parent hit or was otherwise physically aggressive toward the other. For aggression between parent and teenager, respondents were asked about both father-to-self and mother-to-self aggression. Specifically, respondents reported on whether, as a teenager, their father or mother hit or was otherwise physically aggressive toward them. Corporal punishment in adolescence has been associated with an increased risk of adult problem behaviors, including physical abuse of children and husband-to-wife violence (Straus & Kantor, 1994). Many studies on the intergenerational transmission of violence have used this approach of measuring family-of-origin violence (e.g., Cappell & Heiner, 1990; Choice et al., 1995; Jackson, 1996; Kalmuss, 1984; Mihalic & Elliott, 1997; O'Leary et al., 1994; Straus & Kantor, 1994). Each of these four variables was scored dichotomously as yes or no.

### Physical Aggression Scale

Relationship violence was assessed with a modified version of the Revised Conflict Tactics Scales (CTS2; Straus, Hamby, Boney-McCoy, & Sugarman, 1996). This measure was comprised of 14 items of physical aggression. Appendix A contains the physical aggression items and wording. Respondents were first asked to report whether each item had ever happened. Only if respondents endorsed an item were they asked how often this had happened in the past 12 months. Self- and partner reports

were given back-to-back for each item. This procedure yielded reports of perpetrated and received violence.

Reported violence was classified into two time periods: ever and current. The ever time period included any violence that was either current or had happened in the past. Each item was scored dichotomously as yes (at least one occurrence) or no (no incident reported). Variety scores were calculated by summing the total number of different violent acts ever inflicted or received. The current category consisted of any incidents of violence experienced in the 12 months prior to the survey. This was scored in three ways: dichotomously, as variety scores, and as weighted frequency scores.

### Psychological Aggression Scale

Psychological aggression was assessed with 13 items derived from the CTS2 and the Psychological Maltreatment of Women Inventory (PMWI; Tolman, 1989). Items were chosen to include the domains of dominance, isolation, threats of violence, and emotional-verbal abuse. Some items were reworded into more general acts. For example, "called a partner fat and ugly" was changed to "called a partner hurtful names." The procedures for administering and scoring these items were the same as those for the physical aggression scale. Appendix B contains the psychological aggression items and wording.

### Data Analyses

Five main research questions were investigated: First, which social learning model is best supported by the data? Second, how does accounting for bidirectionality affect the association between family-of-origin violence and subsequent relationship violence? Third, what are the patterns of association between family-of-origin violence and psychological abuse? Fourth, does it matter whether dichotomous or continuous measures of violence are used? Fifth and finally, does it matter whether current or ever measures of violence are used? To look at these questions, we used four sets of analyses: (a) correlations among family violence and relationship abuse variables; (b) multiple regression analyses to examine the combined and independent contributions of the family-of-origin violence variables to subsequent relationship abuse;<sup>5</sup> (c) moderator analyses to assess the role- and gender-specific social learning models; and (d) regression analyses con-

<sup>3</sup> Marital status categories are mutually exclusive. For example, divorced, separated, and widowed categories specify that the person is not remarried or living with someone.

<sup>4</sup> The 1996 Canadian Census data consist of individuals 15 years of age and older, living in the City of Vancouver. No direct comparison data of individuals 19 years of age and older is available for this geographic region.

<sup>5</sup> Another approach to analyzing count data is the negative binomial regression model, which may more accurately capture the features of this data (Gardner, Mulvey, & Shaw, 1995). However, this model has not been shown to substantially affect the associations between the predictors and dependent variable, and its main advantage is for predicting the behavior of an individual. Therefore, it was not used for the current study.

trolling for the association between the perpetration and receipt of relationship abuse.<sup>6</sup>

Correlations were examined for the sample as a whole, as well as separately for men and women.<sup>7</sup> However, because there were no differences in the general pattern of correlations for men and women, the correlation table presents results only for the whole sample. Differences between men's and women's correlations were tested and are reported when significant. Each set of regressions was conducted in a hierarchical format to control for the effects of gender and age. Because some previous surveys have found higher rates of female-to-male than male-to-female violence (e.g., Bland & Orn, 1986; Grandin & Lupri, 1997; Magdol et al., 1997), it was important to control for this potential effect. Age also has been found to be negatively associated with relationship violence. For example, surveys of young adults (e.g., DeKeseredy & Schwartz, 1998; Magdol et al., 1997) have found higher rates of relationship violence than have surveys of adult populations (e.g., Straus & Gelles, 1986). Therefore, gender and age were entered on the first step of all regression analyses. Findings for gender and age are reported only if significant.

## Results

### *Descriptive Analyses*

#### *Prevalence Rates*

Approximately half of the sample reported never experiencing any family-of-origin violence. Of the participants who reported family violence, prevalence rates of each type of family violence were approximately 25%, except for mother-to-father violence, which was reported by 14% of the sample. Rates of ever relationship violence were 27.5% for perpetration and 33.3% for receipt. Rates of relationship violence within the past year were 6.9% for perpetration and 8.5% for receipt.

#### *Correlations Among Relationship Abuse Variables*

Table 1 presents correlations among the relationship abuse variables. These variables include measures of ever and current relationship abuse, assessed as both dichotomous variables and continuous variety scores (number of different acts endorsed). There are a total of eight measures of physical violence. Dichotomous and continuous/variety measures of the same construct were highly correlated ( $r_s = .71$  to  $.81$ ). There were moderately high correlations between reports of perpetrated and received violence ( $r_s = .47$  to  $.66$ ). Current and ever physical violence were also moderately correlated ( $r_s = .40$  to  $.44$ ). This was expected as reports of current violence are embedded in reports of ever violence (i.e., respondents were only asked about current if they had already endorsed ever violence).

The lower section of Table 1 presents correlations among the physical violence and psychological abuse variables. The psychological abuse variables were all measured as variety scores and include ever and current abuse. Thus, there were four measures of psychological abuse. The associations among perpetrated and received psychological abuse were high ( $r_s = .69$  to  $.77$ ). The correlations among current and ever psychological abuse were moderately high

( $r_s = .45$  to  $.49$ ) as were the associations among psychological and physical abuse ( $r_s = .42$  to  $.59$ ).

#### *Which Model Is Best Supported by the Data?*

The main purpose of this study was to investigate which social learning model, if any, best explained the intergenerational transmission of relationship violence. Results are presented by the type of analysis conducted.

#### *Correlations Among Predictors and Relationship Abuse Variables*

Table 2 presents correlations among the predictors and relationship abuse variables. The first two sections pertain to dichotomous and continuous (variety) measures of physical violence. In general, these correlations were very small, though most were significant. Gender and physical violence receipt were positively correlated, indicating that males reported significantly more receipt than females. Age was negatively correlated with all of the physical violence variables, indicating that younger respondents tended to report more physical violence than older respondents. The correlations among family-of-origin violence and subsequent physical violence were small, though almost all (46 of 48) were significant. The only nonsignificant correlations were between mother-to-father violence and current perpetration. The pattern of correlations was not consistent with either gender- or role-specific modeling. For instance, in examining continuous measures of ever physical violence, parent-to-teen violence had approximately the same correlation with perpetration as it did with receipt. Separate correlations by gender did not reveal any gender-specific patterns of association. The only significant difference between correlations by gender was the association between age and the dichotomous measure of past perpetration (for men,  $r = -.03$ ; for women,  $r = -.17$ ;  $z = 2.45$ ,  $p < .01$ ). Given that only one of 48 possible gender differences was significant, we do not feel that it is appropriate to interpret this finding.

#### *Regression Analyses*

Hierarchical regression analyses were also conducted to assess the associations between violence in the family of

<sup>6</sup> Analyses of continuous variables were done with both variety scores and weighted frequencies of relationship violence. The pattern of results was similar, but the  $R^2$  change coefficients were generally smaller for weighted frequencies. Correlations between the two types of continuous measures were high (range =  $.88$  to  $.92$ ) and reliabilities were comparable (weighted frequencies range =  $.64$  to  $.88$ ; variety scores range =  $.63$  to  $.83$ ). Because variety scores can be used to measure both past and current abuse, we only present these scores here.

<sup>7</sup> The association between dichotomous variables was calculated with a Pearson correlation. Although the phi coefficient is easier to calculate for dichotomous variables than the Pearson correlation, the two are mathematically equivalent (Ghiselli, Campbell, & Zedeck, 1981). However, it is the case that the upper bound for a correlation between dichotomous variables is lower than that for continuous variables (and depends on the distributions of the two dichotomous variables).

Table 1  
Correlations Among Physical Violence and Psychological Abuse Dependent Variables

Dependent variable	Dichotomous violence				Continuous violence				Psychological abuse			
	Ever perp	Ever receipt	Current perp	Current receipt	Ever perp	Ever receipt	Current perp	Current receipt	Ever perp	Ever receipt	Current perp	Current receipt
Dichotomous violence												
Ever perp	—											
Ever receipt	.57**	—										
Current perp	.44**	.19**	—									
Current receipt	.28**	.43**	.47**	—								
Continuous violence												
Ever perp	.74**	.52**	.33**	.24**	—							
Ever receipt	.52**	.71**	.19**	.33**	.66**	—						
Current perp	.36**	.21**	.81**	.49**	.41**	.26**	—					
Current receipt	.22**	.32**	.43**	.73**	.26**	.40**	.61*	—				
Psychological abuse												
Ever perp	.53**	.46**	.21**	.18**	.54**	.47**	.23**	.16**	—			
Ever receipt	.45**	.58**	.15**	.25**	.44**	.59**	.17**	.23**	.69**	—		
Current perp	.37**	.25**	.42**	.38**	.37**	.26**	.42**	.33**	.49**	.26**	—	
Current receipt	.35**	.36**	.39**	.51**	.31**	.33**	.39**	.46**	.37**	.45**	.77**	—

Note. Continuous measures of physical and psychological abuse include variety scores only. Perp = perpetration. Listwise  $n = 1,165$ . \* $p < .05$ . \*\* $p < .01$ .

origin and relationship violence. Unlike the previously reported correlation analyses, the regression analyses control for the potential confounds of sex and age. In addition, they indicate the proportion of variance accounted for by the family violence variables as a group, and they signify which family violence variables independently predict relationship violence.

*Current relationship violence.* For dichotomous measures of relationship violence, hierarchical logistic regressions were conducted to predict current relationship violence receipt and perpetration from the four family-of-origin violence variables. The effects of gender and age were statistically controlled.<sup>8</sup> Table 3 presents the results. An odds ratio is computed for each predictor to estimate the change in the odds of membership in a particular target group for a one-unit increase in the predictor (Pedhazur, 1997). For example, the odds of perpetrating current relationship violence are 2.00 times greater for people who have experienced mother-to-self family violence than for people who have not endorsed this item, after controlling for the influence of the other predictors.<sup>9</sup>

The odds ratio for gender indicated that the odds of receiving violence were 1.83 times greater for men than women. The odds ratios for age were less than 1.00 and significant, indicating that each year of age decreased the odds of violence slightly. Family-of-origin violence added significantly to both models, supporting the general modeling hypothesis. Though all of the predictors were generally correlated with the perpetration and receipt of current relationship violence, the only predictor that consistently increased the odds of experiencing current relationship violence was mother-to-self violence. Specifically, mother-to-self violence doubled the odds of relationship violence perpetration and receipt after controlling for the effects of the other predictors. Father-to-mother violence was also an independent predictor for relationship violence receipt, but not for perpetration.

Parallel analyses were conducted with current relationship violence measured as variety scores (number of different acts endorsed). As shown in Table 3, the pattern of results was similar. Gender was positively associated with violence receipt, indicating that men reported significantly more violence receipt than women. Age was negatively associated with violence, indicating that younger respondents tended to report more violence. The family-of-origin violence variables accounted for a small but statistically significant proportion of variance in the prediction ( $R^2$ s = .01 to .02). Mother-to-self violence independently predicted current relationship violence perpetration (but not receipt), and father-to-mother violence independently predicted current relationship violence receipt.

*Ever relationship violence.* Parallel analyses were conducted with both dichotomous and variety score measures of ever relationship violence. Consistent with previous analyses, gender and age were predictors. As presented in Table 4, family-of-origin violence variables added significantly to the predictions. However, father-to-mother violence did not independently predict relationship violence. Across all analyses, father-to-self violence independently predicted ever relationship violence, either as a perpetrator or as a victim. In addition, mother-to-father violence consistently predicted being a victim, but not a perpetrator, of ever relationship violence. Only the logistic regressions showed mother-to-self violence as independently predicting ever relationship violence. In summary, the regression analyses were consistent with a general modeling hypothesis of violence, but not with a role-specific model.

<sup>8</sup> Females were coded 0; males were coded 1.

<sup>9</sup> The  $\Delta\chi^2$  statistic is analogous to a test of the increment in the proportion of variance accounted for by a variable at its entry point in multiple regression (Pedhazur, 1997).

Table 2  
Correlations Among Predictors and Dependent Variables

Dependent variable	Predictor					
	Gender	Age	Father to mother	Mother to father	Father to self	Mother to self
Dichotomous violence						
Ever perpetration	-.03	-.10**	.11**	.12**	.12**	.16**
Ever receipt	.07*	-.15*	.10**	.13**	.15**	.19**
Current perpetration	-.05	-.14**	.07*	.03	.08*	.11**
Current receipt	.08**	-.17**	.12**	.13**	.07*	.14**
Continuous violence						
Ever perpetration	-.04	-.08**	.10**	.11**	.13**	.10**
Ever receipt	-.00	-.09**	.07*	.12**	.13**	.11**
Current perpetration	-.01	-.12**	.07*	.03	.07*	.09**
Current receipt	.08**	-.11**	.12**	.10**	.07*	.06*
Psychological abuse						
Ever perpetration	-.12**	-.10**	.15**	.18**	.17**	.17**
Ever receipt	-.04	-.10**	.13**	.15**	.15**	.17**
Current perpetration	-.14**	-.27**	.10**	.11**	.10**	.15**
Current receipt	.00	-.22**	.10**	.12**	.14**	.17**

Note. Continuous measures of physical and psychological abuse are variety scores only.  
Listwise  $n = 1,165$ .  
\* $p < .05$ . \*\* $p < .01$ .

Moderator Analyses

*The role-specific social learning model.* As discussed, the pattern of zero-order correlations did not support a role-specific model of violence. To formally test this model, we entered interaction terms for the family-of-origin violence variables as a block into the analyses after entering the original family violence predictors. If a particular combination of family violence is more predictive of one direction of relationship violence (e.g., receipt) than another (e.g., perpetration), specific interaction terms should be significant. To support the role-specific model, for example, experiencing both father-to-self and mother-to-self violence should be more predictive of relationship violence receipt than perpetration. None of the interaction terms was significant.

*The gender-specific social learning model.* As with role-specific modeling, correlational analyses did not support gender-specific modeling. To directly test this model, we entered interaction terms for family-of-origin violence by gender into the analyses after entering the original family violence predictors. Significant interactions would indicate whether a particular type of family violence is differentially predictive of relationship violence for men or for women (e.g., whether witnessing father-to-mother violence is more predictive of perpetration for men than for women). None of the interaction terms was significant.

Accounting for the Bidirectionality of Violence

The correlations between the perpetration and receipt of violence ranged from .47 to .57 for dichotomous variables

Table 3  
Regressions for Current Relationship Violence

Variable	Logistic regressions				Multiple regressions			
	Perpetration		Receipt		Perpetration		Receipt	
	Odds ratio	$\Delta\chi^2$	Odds ratio	$\Delta\chi^2$	$\beta$	$\Delta R^2$	$\beta$	$\Delta R^2$
Block 1								
Gender	0.69		1.83*		-.01		.08*	
Block 2 <sup>a</sup>								
Age	0.94***	30.63***	0.94***	42.01***	-.12***	.02***	-.11***	.01***
Block 3 <sup>b</sup>								
Family violence		14.98*		29.45***		.01*		.02*
Father to mother	1.72		1.85*		.06		.09*	
Mother to father	0.70		1.44		-.03		.03	
Father to self	1.30		1.04		.03		.03	
Mother to self	2.00*		2.13*		.07*		.02	

Note. Logistic regressions ( $n = 1,165$ ): The dependent variable is perpetration or receipt of relationship violence scored dichotomously. Multiple regressions: The dependent variable is perpetration or receipt of relationship violence scored continuously as variety scores.  
<sup>a</sup> $df$  for  $\Delta\chi^2 = 1$ . <sup>b</sup> $df$  for  $\Delta\chi^2 = 4$ .  
\* $p < .05$ . \*\*\* $p < .001$ .

Table 4  
*Regressions for Ever Relationship Violence*

Variable	Logistic regressions				Multiple regressions			
	Perpetration		Receipt		Perpetration		Receipt	
	Odds ratio	$\Delta\chi^2$	Odds ratio	$\Delta\chi^2$	$\beta$	$\Delta R^2$	$\beta$	$\Delta R^2$
Block 1								
Gender	0.86		1.32*		-.04		-.00	
Block 2 <sup>a</sup>								
Age	0.98***	13.51***	0.98***	25.68***	-.08*	.01*	-.09*	.01*
Block 3 <sup>b</sup>								
Family violence		37.82***		50.45***		.03***		.03***
Father to mother	1.25		1.07		.03		-.02	
Mother to father	1.39		1.50*		.07*		.10*	
Father to self	1.38*		1.57*		.10*		.11***	
Mother to self	1.72*		1.84***		.05		.05	

Note. Logistic regressions ( $n = 1,165$ ): Dependent variable is perpetration or receipt of relationship violence scored dichotomously. Multiple regressions: Dependent variable is perpetration or receipt of relationship violence scored continuously as variety scores.

<sup>a</sup> $df$  for  $\Delta\chi^2 = 1$ . <sup>b</sup> $df$  for  $\Delta\chi^2 = 4$ .

\* $p < .05$ . \*\*\* $p < .001$ .

and from .61 to .66 for variety scores. To partial out the associations between relationship violence perpetration and receipt, we conducted parallel analyses for all of the previous regressions, controlling for either perpetration or receipt, to test whether any significant effects for family violence remained. For example, in cases in which ever relationship violence perpetration was the dependent variable, ever relationship violence receipt was entered as a step in the regression before the family violence variables. For all analyses of violence perpetration (current or ever and dichotomous or variety scores), controlling for violence receipt eliminated the significant effects for the family violence variables. Analyses for violence receipt showed that some of the effects of family violence remained significant. However, the contribution of these variables to the models was reduced substantially. For example, with the continuous dependent variables, the proportion of variance explained by family violence was reduced from 1.5% to 0.7% for current relationship violence receipt and from 2.9% to 0.6% for ever violence receipt. Thus, the majority of the variance in violence receipt explained by family violence overlapped with the variance explained by perpetration (and vice versa). Further, there were no consistent patterns in the family violence variables that independently predicted relationship violence receipt, after controlling for perpetration.

*Psychological Abuse*

*Correlations*

The lower section of Table 2 presents the correlations among the predictors and psychological abuse. The pattern of findings was similar to that for physical violence. Gender had a small, negative correlation with abuse perpetration, indicating that women reported perpetrating more psychological abuse than men. Age was negatively correlated with all of the psychological abuse variables, indicating that younger respondents tended to report more abuse than older

respondents. The correlations among family-of-origin violence and subsequent psychological abuse were generally small, though almost all (22 of 24) were significant. As with the findings from physical abuse, the pattern of correlations for psychological abuse was not consistent with either gender- or role-specific modeling. Gender comparisons revealed no significant differences.

*Regression Analyses*

Table 5 presents the regression analyses for both current and ever psychological abuse (controlling for the effects of gender and age). As with the zero-order correlations, the results show that gender was negatively associated with abuse perpetration, indicating that women reported more abuse perpetration than men. Age was negatively associated with abuse, indicating that younger respondents reported more abuse (both inflicted and received) than older respondents. Family-of-origin violence added significantly to the predictions. Across all analyses, mother-to-self violence independently predicted experiencing abuse, as either a perpetrator or a victim. Mother-to-father and father-to-self violence independently predicted in three of the four models. However, father-to-mother violence did not independently predict for any analyses. There were no role-specific patterns in the results. For example, parent-to-teen violence independently predicted both perpetrated and received ever abuse. As with results for physical violence, then, the regression analyses were consistent with a general modeling hypothesis.

*Moderator Analyses*

As with physical violence variables, regressions were conducted with interaction terms for the family-of-origin variables as a direct test of the role-specific model of violence. Four regressions were conducted, with four possible

Table 5  
*Regressions for Psychological Abuse*

Variable	Current psychological abuse				Ever psychological abuse			
	Perpetration		Receipt		Perpetration		Receipt	
	$\beta$	$\Delta R^2$	$\beta$	$\Delta R^2$	$\beta$	$\Delta R^2$	$\beta$	$\Delta R^2$
Block 1								
Gender	-.14***		.00		-.12***		-.04	
Block 2								
Age	-.28***	.08***	-.22*	.05***	-.11***	.01***	-.10***	.01***
Block 3								
Family violence		.03***		.03***		.06***		.05***
Father to mother	.01		.01		.03		.03	
Mother to father	.07*		.06		.13***		.10*	
Father to self	.05		.09*		.12***		.10***	
Mother to self	.10***		.11***		.09*		.11***	

*Note.* Regressions: Dependent variable is perpetration or receipt of psychological abuse scored continuously as variety scores.  
 \* $p < .05$ . \*\*\* $p < .001$ .

interactions assessed in each. One of these regressions revealed a significant interaction term. In predicting past emotional receipt, the interaction term for father-to-mother violence and mother-to-self violence was significant. This finding, however, is not consistent with theory.

Moderator analyses were also conducted with interaction terms for family-of-origin violence by gender to test the gender-specific model of violence. Again, just one of four regressions resulted in a significant interaction. In predicting past emotional perpetration, the interaction between mother-to-self violence and gender was significant. Follow-up analyses indicated that there was a significantly higher correlation between mother-to-self violence and past emotional abuse perpetration for women ( $r = .22$ ) than for men ( $r = .11$ ). This finding is not consistent with theory, as mother-to-self violence would be expected to predict victimization rather than perpetration.

#### *Accounting for the Bidirectionality of Psychological Abuse*

As with relationship violence, parallel analyses were conducted to control for either perpetration or receipt. Though the effects of the family violence variables remained significant for two of the four analyses, there were no consistent patterns. In predicting current emotional receipt, father-to-self violence remained a significant independent predictor. In predicting past emotional perpetration, mother-to-father and father-to-self violence remained significant independent predictors. However, although the effects of the family violence variables remained significant in these cases, the contributions of family violence variables (change in  $R^2$ ) were reduced from .035 to .005 in predicting current emotional receipt and from .061 to .010 in predicting past emotional perpetration.

In summary, family violence appears to predict engaging in psychological abuse at least as well as it predicts physical abuse. The changes in  $R^2$  were at least double those found for physical abuse ( $R^2 = .03$  to .06), indicating that family

violence explains a larger proportion of variance for current and ever measures of psychological abuse.

#### *Does Type of Measurement Matter?*

##### *Continuous Variables Versus Dichotomous Variables*

Another question this study addressed was whether the inconsistent findings in previous research could be explained by different measurement practices. Correlations among dichotomous and continuous measures of abuse show that the two types of measures are highly correlated (Table 1). In addition, the pattern and size of correlations between predictors and dependent variables are similar for dichotomous and continuous measures of violence (Table 2). Another comparison can be made between the independent predictors identified by logistic versus multiple regressions (see Tables 3 and 4). These comparisons show that the findings were generally consistent. Although there was some inconsistency in specific findings between the two types of measurement and analysis, the general pattern of findings held across methods, suggesting that inconsistencies in the literature are probably not due to forms of measurement.<sup>10</sup>

##### *Ever Versus Current Measures of Violence*

A second measurement question addressed by this study is whether the intergenerational transmission of violence is better tested with measures of relationship violence ever experienced rather than with measures of violence experienced only in the past 12 months. Ever and current measures were moderately correlated (Table 1). Comparisons of these measures of physical violence (Tables 3 and 4) and psychological abuse (Table 5) showed that family-of-origin vio-

<sup>10</sup> Unfortunately, it is not possible to directly compare the coefficients of determination for multiple regression and logistic regression because these coefficients are not mathematically or conceptually equivalent (Menard, 2000).

lence explained a larger proportion of variance when the criterion was ever relationship abuse rather than current relationship abuse.<sup>11</sup> In addition, across all regression analyses, ever measures of physical and psychological abuse were predicted by more independent family violence variables than were current measures (15 vs. 9, respectively). These findings may be due, at least in part, to the improved psychometric properties of ever scales as compared with current scales. Specifically, the ever scores are less skewed than current scores, and there is more variability in ever than current scores.

### Discussion

Although past research has provided support for a general social learning model of relationship violence, the findings for more specific social learning models have been inconsistent. One possible explanation for these discrepancies may be variations across studies in how relationship violence has been quantified and analyzed. The current study included two methods of quantification (dichotomous and continuous) and analysis (logistic regression and multiple regression) in order to assess the consistency of findings across methods. It also extended the literature on relationship violence by addressing some of the methodological limitations of previous studies. Notably, most previous studies have not controlled for the bidirectionality of relationship violence, and many have combined family violence variables, thereby precluding appropriate tests of gender- or role-specific models. Finally, the present study included psychological abuse, an important variable that often co-occurs with physical abuse and provides valuable information as to the dynamics of violent relationships.

#### *Which Model Is Best Supported by the Data?*

Consistent with previous investigations, the current study found support for a general social learning model of relationship violence. There was no evidence to support either a gender-specific or a role-specific modeling hypothesis. Across all analyses, exposure to family-of-origin violence was associated with a greater likelihood of subsequent relationship abuse (perpetrated and received). Zero-order correlations revealed similar associations between family violence variables and measures of relationship abuse (physical and psychological). The only exception was the lack of a significant association between mother-to-father violence and current violence perpetration (both dichotomous and continuous measures). This finding may be due to the low endorsement rates of both of these variables. The undifferentiated pattern of correlations was evident for the whole sample as well as for men and women separately.

Regression analyses that controlled for the effects of gender and age in the prediction of relationship abuse (both physical and psychological) showed that family violence added a significant proportion of variance to all predictions. However, there were no consistent patterns in the specific types of family violence that independently predicted relationship abuse. For example, violence between parents was not more predictive of subsequent relationship violence than

parent-to-child violence. Neither was there any evidence that parent-to-child violence was more predictive of relationship violence receipt than perpetration (in either the initial regressions or the moderator analyses). Furthermore, in the moderator analyses, the family violence by gender interaction terms were not significant, indicating that respondents were not more likely to model the violent behavior of their same-sex parent than their opposite-sex parent. Overall, the pattern of findings suggests that all four types of family violence are relatively similar in their influence on relationship abuse. Perhaps individuals growing up in families with violence learn both roles when witnessing or experiencing abuse. Hence, social learning takes place but no particular linkages would be apparent.

Although there were no consistent gender-specific patterns in the associations between family violence and relationship abuse, it appeared that father-to-mother violence was the least predictive family violence variable (it was an independent predictor in only 2 of 12 analyses) and mother-to-self violence was the most predictive family violence variable (it was an independent predictor in 9 of 12 analyses). The predictions for mother-to-self violence, however, were not consistent with the role-specific modeling of violence: Mother-to-self violence predicted both perpetration and receipt of relationship violence and psychological abuse. Although mother-to-self violence had a prevalence rate similar to other types of family violence, it may have been a more salient experience for respondents and thus more predictive of subsequent relationship violence. Greater salience may be due to the mother-child relationship being more influential in development than the father-child relationship or to individuals being less likely to expect mothers to be violent. Because this finding is not consistent with social learning models or previous research, however, replication is essential before any definitive interpretations and conclusions can be made.

#### *Accounting for the Bidirectionality of Violence*

Bidirectionality appeared to be an integral feature of much relationship abuse. Perpetration and receipt of both physical and psychological abuse were highly correlated. Further, controlling for this association eliminated the significant effects for family violence when predicting relationship violence perpetration. When predicting receipt, the effect for family violence remained significant, though the proportion of variance explained by these variables was reduced substantially. This was most likely due to the higher base rate of victimization. These findings parallel those of Cappell and Heiner (1990), who found that controlling for the bidirectionality of violence eliminates the significant effects of witnessing family violence for perpetration but not for receipt. Controlling for bidirectionality in psychological abuse also led to sizable reductions in the variance explained by family violence, although there were no consistent patterns for the models in which the effects of family

<sup>11</sup> Reliabilities of ever and current measures were comparable (ever = .61 to .87; current = .63 to .83).

violence remained significant. These results indicate that abuse perpetration and receipt tend to coexist to such an extent that it may be difficult to test models that try to predict them separately.

### *Psychological Abuse*

The high correlations between psychological abuse and relationship violence provided additional evidence for the interrelatedness of different forms of abuse. These associations suggest that abusive relationships are not just about physical violence but, rather, that psychological and physical abuse tend to co-occur. Moreover, these two forms of abuse appear to be similarly influenced by family-of-origin violence. Like physical violence, exposure to family violence was associated with an increased risk of becoming involved in psychologically abusive relationships. This increased risk appears to be based on general modeling rather than on gender- or role-specific modeling.

### *Does Type of Measurement Matter?*

#### *Continuous Variables Versus Dichotomous Variables*

An important contribution of this study was the comparison of different methods of quantifying and analyzing associations between family violence and subsequent relationship violence. We tested an alternative method of measuring violence, variety scores (number of different acts endorsed), which have been shown to be more reliable than weighted frequency scales. However, our analyses showed high correlations, comparable reliabilities, and a similar pattern of results between these two types of scales. Because initial analyses revealed that predictors explained a larger proportion of variance in relationship abuse as assessed by variety scores than frequency scales, subsequent analyses conducted with continuous measures were restricted to variety scores. Overall, analyses for dichotomous and continuous variables yielded consistent findings. Thus, it is unlikely that inconsistencies in past findings are due to differences in measurement methods. Of the few discrepancies that occurred, there were no clear patterns, suggesting that the differences were most likely due to random error. Though unexpected, these results suggest that, at least for community samples, whether or not violence occurs is more significant than how much violence occurs when investigating patterns of intergenerational transmission.

#### *Ever Versus Current Measures of Violence*

Another contribution of this study was the inclusion of the ever time frame for relationship violence, allowing us to investigate the intergenerational transmission of violence by looking at individuals' complete history of relationship aggression, not just the 12 months prior to the survey. If individuals learn the use of aggression from their family of origin, one would expect their past behavior to be a more reliable indicator of their aggressive tendencies than only their current behavior. Consistent with this expectation, family violence had consistently stronger associations with

ever relationship abuse than with current relationship abuse (although these correlations did not significantly differ). In addition, although there were no clear patterns in the specific family violence variables that independently predicted relationship abuse, these variables explained a larger proportion of variance in the predictions of ever abuse than in predictions of current abuse.

One of the limitations of the current study is the measurement of family-of-origin violence. These variables were measured dichotomously, precluding analyses of the severity or frequency of these acts. Although only physical punishment during the teenage years was assessed, it is likely that harsh or abusive parenting during earlier childhood is also important in teaching or modeling violence as a means of dealing with conflict. Moreover, the family violence measures rely on retrospective reports, which are vulnerable to inaccuracies and biases. Individuals with current problems may be more sensitive to past problems and thus may systematically report more family violence than individuals with similar family backgrounds but more satisfactory current relationships. Finally, individuals who have acknowledged relationship violence may be more likely to also report family violence as a way of justifying their behavior (either consciously or unconsciously).

The issue of potential bias in reporting is especially important for abuse reports. There are many potential motives for inaccurate reporting. For example, perpetrators may try to deny or minimize their violent acts, and victims may underreport out of fear of reprisal or feelings of shame (see Moffitt et al., 1997, for a more thorough discussion of potential reporting biases). Archer (1999) conducted a meta-analytic study of reliability in reporting relationship violence on the CTS. Not surprisingly, he found that both genders tend to underreport their own aggression. Though meta-analysis provides important information about the general biases found in violence reports, it is impossible to determine which biases, if any, exist in a particular study.

The last point raises the issue of selection biases in surveys. It is possible that the most severely abused or violent individuals are underrepresented (Johnson, 1995). If this was the case in the present survey, then the range of violence reported would be restricted, reducing the associations between the variables. However, the rates of ever relationship violence found in this study were higher than those found in other Canadian surveys (e.g., Bland & Orn, 1986; Statistics Canada, 1993, 2000). It is also possible that the typical sampling methodology of using random-digit dialing may have systematically excluded the most assaultive or victimized individuals in a gender-specific way. Some battered women would be inaccessible, either because they do not have access to their phone or because they are in transition homes, and some highly abusive men would be incarcerated, making them inaccessible for the survey. This may have led to an underestimate of severe male-to-female abuse, making gender-specific associations more difficult to detect.

The community sample collected for this study was not representative of the adult population of Vancouver. Older, less educated, and lower income adults were underrepresented, as was the Chinese population. Therefore, general-

ization of these findings must be done with caution. Furthermore, the response rate of the survey was moderately low (43%). Although a review of previous literature does not indicate any simple or obvious relation between response rates and violence rates, the possibility of systematic biases in participation remains.

### *Conclusions*

Direct comparisons of this study with past research are difficult, as previous studies have not both controlled for the bidirectionality of violence and kept the different types of family violence separate in the analyses. In general, however, our pattern of results is not consistent with the meta-analysis (Stith et al., 2000) discussed earlier, which found some evidence for gender differences as well as a greater effect for experiencing than witnessing family violence when predicting victimization. It is possible that the inconsistency in results was due to the community sample that was investigated in the present study. The meta-analysis indicated that relationships between family-of-origin violence and subsequent marital violence were much stronger for clinical samples than for community samples. In addition, direct comparisons are difficult because Stith et al. (2000) limited their study to marital relationships, did not keep the gender of the perpetrator separate for each type of family violence, and did not control for the bidirectionality of violence.

The current study extends previous research by systematically testing the three social learning models, accounting for bidirectional relationship violence, and including psychological abuse. By keeping all family violence variables separate, the current study could test gender- and role-specific models predicted by social learning theory. The results support previous findings that the intergenerational transmission of relationship violence follows a general modeling principle rather than gender- or role-specific principles. Analyses controlling for bidirectionality of relationship violence demonstrate that it may be difficult to predict violence perpetration and victimization separately. The current findings also extend previous work by showing that family violence predicts psychological as well as physical abuse in intimate relationships. As with physical abuse, psychological abuse is a bidirectional phenomenon and appears to follow general, rather than role- or gender-specific, modeling.

Given the results of the present study and previous studies, it appears that abusive behaviors may be transmitted across generations in a general way. Furthermore, efforts to delineate more specific connections between the abusive behaviors of parents and their offspring may be difficult because of the high reciprocity of both physical and psychological abuse. Finally, although the associations between family violence and subsequent relationship abuse are consistent, they are not strong (Kalmuss, 1984). Social learning theory can only explain a small part of a very complex picture.

### *Implications for Application and Public Policy*

Almost all previous research on the intergenerational transmission of violence has focused on individuals as the unit of analysis. However, we expect that the interaction of both partners' family backgrounds would be more strongly predictive of subsequent relationship violence than only one partner's background. Social learning theory would predict that compared with people who have violent family backgrounds, people from nonviolent families are more likely to have developed positive models about relationships and effective ways of dealing with conflict. They are probably also less likely to tolerate abusive behavior from a partner. Therefore, a nonviolent family background could act as a protective factor against experiencing future relationship violence, and violence may be less likely to arise in couples in which only one partner has a background of family violence than in couples in which both partners have violence in their family background. An important direction for future research will be the investigation of intergenerational transmission of violence in couples.

Future research could also profitably investigate other developmental variables that may contribute to abuse potential. Consistent with previous research, our study found that family violence explained only a small (though significant) proportion of the variance: 1% to 3% for relationship violence and 3% to 6% for psychological abuse. Thus, relative to other factors, family-of-origin violence may play only a small role in the prediction of relationship abuse. For example, Magdol, Moffitt, Caspi, and Silva (1998) have found that socioeconomic deprivation, impoverished parent-child attachment, poor academic attainment, and a history of undercontrolled and aggressive conduct problems are predictive of subsequent relationship abuse. Interestingly, these risk factors were similar for physical and psychological abuse, for perpetration and receipt, and for men and women.

Notably, biological and genetic contributors to violence have generally been overlooked in the family violence literature (DiLalla & Gottesman, 1991). Yet, studies have demonstrated a link between genetic and physiological factors and violent crime. With respect to the current study, the greater influence of mothers' violence could be explained by genetic factors. It is likely that a proportion of the sample grew up in families with their biological mother and a stepfather. In such cases, one might expect mothers' violence to be more predictive. As DiLalla and Gottesman (1991) have pointed out, the integration of the social and biological literatures may provide researchers with greater insight into this complex problem.

Dutton (1999) pointed out that social learning models of intimate aggression are limited because they are based primarily on observational learning, which cannot account for the fact that the majority of people who have witnessed family-of-origin violence do not go on to perpetrate violence themselves. Such models also cannot account for seemingly irrational aggression that is generated more by internal cues than by cognitive appraisals of external events. For example, social learning cannot readily explain how being a victim of family violence could lead to perpetration

of relationship abuse. In contrast, a trauma model postulates that experiencing such violence produces an inability to modulate arousal, an unstable sense of self, insecure attachment, chronic anger, and externalization of blame, all of which can produce aggression. In summary, future research could contribute to our understanding of the intergenerational transmission of violence by shifting attention to a couples level of analysis and by looking more broadly at the developmental antecedents of relationship violence.

These findings also have implications for family violence policy. It is clear that relationship violence is perpetrated not only against women and children but also against men. Moreover, mothers' violence is as predictive of their children's future experience of relationship violence as is fathers' violence. These facts call into question policies, education programs, and interventions that conceptualize victims as only women and children and perpetrators as only men. For example, mandatory arrest of men in cases of spousal assault, though certainly essential in some cases, appears inadequate, even inappropriate, given the bidirectionality of much relationship violence and the similar influence of various forms of family violence. The current findings also highlight the importance of considering the broader context of violence in informing domestic violence policy. Whereas these findings are supportive of efforts to minimize children's exposure to family violence in order to break the intergenerational cycle of violence, interventions may be most helpful if they not only provide parents with the skills to model constructive conflict resolution strategies but also help to foster healthy parent-child attachment.

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## Appendix A

### Physical Aggression Scale

Have you ever:

1. pushed or shoved a partner? (If yes):  
In the past 12 months, how often have you done this?<sup>a</sup>  
Has a partner ever done this?<sup>b</sup> (If yes):  
In the past 12 months, how often has a partner done this?<sup>a</sup>
2. slapped a partner?
3. thrown something at a partner that could hurt?
4. twisted a partner's arm or hair?
5. used a knife or gun on a partner?
6. punched a partner?
7. hit a partner with something that could hurt?
8. choked a partner?
9. slammed a partner against a wall?
10. beaten up a partner?
11. grabbed a partner or held a partner down in anger?
12. burned or scalded a partner on purpose?
13. kicked a partner?
14. scratched or bitten a partner during a conflict?

<sup>a</sup>These follow-up questions were posed for each item to which the response was "yes."

<sup>b</sup>This follow-up question was posed for each item.

## Appendix B

### Psychological Aggression Scale

Have you ever:

1. shouted or yelled at a partner (If yes):  
In the past 12 months, how often have you done this?<sup>a</sup>  
Has a partner ever done this?<sup>b</sup> (If yes):  
In the past 12 months, how often has a partner done this?<sup>a</sup>
2. ignored, shut out, or given a partner the silent treatment?
3. called a partner hurtful names?
4. criticized or put down a partner in front of others?
5. limited a partner's contact with others such as family or friends?
6. controlled a partner's behavior or activities in any way?
7. acted jealous or suspicious of a partner's other relationships?
8. insulted or sworn at a partner?
9. intentionally destroyed something belonging to a partner?
10. threatened to hit, hurt, or throw something at a partner?
11. thrown, smashed, hit, or kicked something in a partner's presence?
12. threatened to hurt a partner if they left the relationship?
13. threatened to hurt yourself if a partner left the relationship?

<sup>a</sup>These follow-up questions were posed for each item to which the response was "yes."

<sup>b</sup>This follow-up question was posed for each item.

Received June 1, 2001  
Revision received May 21, 2002  
Accepted August 29, 2002 ■