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Male Partner Violence Against Women in Stepfamilies: An Analysis of Risk and Explanations in the Canadian Milieu

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Using a representative sample of 2,703 Canadian women living in either a stepfamily or a biological family, this investigation assesses the extent of women's elevated risk for violence in stepfamilies relative to biological families as well as explanations for this relationship. Canadian women living in stepfamilies are shown to be twice as likely as their counterparts in biological families to experience violence. Differences between the two groups are greatest on some of the most severe forms of violence, suggesting that women in stepfamilies are at particular risk for severe violence. Institutional incompleteness (number of children; depression; alcohol consumption), duration of relationship, evolutionary psychology (sexual possessiveness; sexual jealousy; female employment; education compatibility) and selection factors (previous marriage/common-law union; previous partner violence; marital status) are applied and tested. Results show partial support for each explanation and that no explanation alone accounts for the disproportionate risk of violence in stepfamilies. Rather, a combination of elements from all explanations is required to account for the higher odds of violence against women in stepfamilies.

Keywords: intimate partner violence; domestic violence; stepfamily; Canada; abuse

Although stepfamilies have existed for centuries in the Western world, prior to the 1970s stepfamilies were a virtually unstudied phenomenon. In Canada as elsewhere, changes in divorce legislation that facilitated obtaining a divorce in the latter half of the 20th century had the side effect of an increase in the number of stepfamilies. The trend toward more stepfamilies has continued in Canada. The most recent available data show that while 10% of all Canadian couples with children were stepfamilies in 1995, by 2001 this figure had increased to 12% (Statistics Canada, 2002b).

Due to their increasing numbers, scholarly interest in stepfamilies burgeoned in the 1980s (Ganong & Coleman, 1994). Considerable attention was paid to problems associated with stepfamily living, particularly the fact that remarried couples tend to have a slightly higher divorce rate than first marriage couples (1994). It is also well established in the literature that child abuse is more common in stepfamilies. Indeed, Daly and Wilson (1996, p. 22) concluded that "Living with a stepparent has turned out to be the most powerful predictor of severe child abuse risk yet discovered." A far less researched phenomenon, however, is the increased risk for partner violence against women in these families.

The purposes of the present study are to use a recent representative sample of Canadian women to determine the extent to which those who are in stepfamilies are at an elevated risk for violence and to obtain an improved understanding of this risk through testing hypotheses derived from explanations for violence against women in stepfamilies.

Kalmuss and Seltzer (1986) were the first to investigate the effect of remarriage on spousal violence. Using data from the 1976 National Survey on Family Violence in the United States, these researchers found that couples in which at least one spouse was divorced had twice the likelihood of violence as those couples in which neither of the spouses had been divorced. The impact of remarriage on violence existed regardless of whether the divorced person had brought children from the previous marriage to the remarriage.

While Kalmuss and Seltzer (1986) found evidence of remarriage as a risk marker for spousal violence, Daly, Singh, and Wilson (1993) were the first to investigate specifically whether stepfatherhood is a risk marker for violence against women. Noting that stepchildren are at particular risk for assault and homicide in Canada and beyond, these researchers set out to determine whether women with children fathered by previous partners were also at elevated risk of violence. Based on a sample of 170 mothers who used a women's shelter in Hamilton, Ontario, between 1986 and 1987, Daly and colleagues (1993) found an overrepresentation of women with children fathered by previous partners. These women used shelters at a per capita rate about five times greater than same-age mothers whose children were fathered by their current partner (Wilson & Daly, 1998).

In a subsequent study, Daly, Wiseman, and Wilson (1997) looked at the effect of stepfatherhood on uxoricide (wife killing).[1] Based on data from Hamilton, Ontario, these researchers found that among murdered mothers with coresiding children, one-half had children from previous partners. Data on the population at large showed that only 7% of mothers with coresiding children in the Hamilton-Wentworth region had children from previous partners. In other words, Daly and associates (1997) demonstrate that women with children from previous unions are also at a disproportionate risk of lethal violence.

Yet another indication of a greater problem with violence among stepfamilies comes from the Canadian National Longitudinal Survey of Children and Youth (NLSCY). Data from the NLSCY show that children in stepfamilies are twice as likely to witness physical fights between parents compared to biological families (Dauvergne & Johnson, 2001). Not only do these results reflect the fact that children in stepfamilies are more likely to be abused, including abuse in the form of witnessing violence, but they are also consistent with the research discussed above suggesting an increased likelihood for partner violence in stepfamilies.

Taken together the aforementioned research studies provide a strong indication that women in stepfamilies are at an elevated risk for partner violence. However, there are important gaps in our knowledge of violence against women in stepfamilies that remain to be filled. Daly and colleagues (1993, p. 210) concluded that "attention to this issue is urgently needed." Yet, aside from the research studies cited above, a decade later no study could be found that attempts to improve our understanding of women's elevated risk of violence in stepfamilies. No new nationally representative sample data have been used to investigate this phenomenon since Kalmuss and Seltzer's (1986) study, which is based on data almost 30 years old. Moreover, existing research has its limitations. Kalmuss and Seltzer's (1986) data are not directly applicable to the Canadian situation. Although there are other indications that an elevated risk for violence in stepfamilies in Canada exists, the nonrepresentative and small samples used to obtain this information dramatically limit their generalizability. Daly and Wilson (1996) admit that the presence of stepchildren is not established conclusively as a risk marker for violence against women in their research on women's use of shelters. The demonstration of an elevated risk for uxoricide by Daly and

associates (1997, p. 62) also does not prove the presence of stepchildren as a risk marker for non-lethal violence since, as these researchers note, "demographic risk patterns for uxoricide differ in some details from those for nonlethal wife assault." A final major gap in our knowledge is that, although there are several potential explanations for an elevated risk of violence against women in stepfamilies, no study has taken a holistic approach and attempted to evaluate the impact of risk makers derived from each potential explanation.

THEORETICAL BACKGROUND AND PROPOSITIONS

A review of the literature on stepfamilies resulted in four explanations that can be applied to understanding an elevated risk for violence against women in stepfamilies. Each will be discussed in turn below.

Institutional Incompleteness

Cherlin (1978) developed the institutional incompleteness explanation for the higher divorce rate in stepfamilies. Cherlin (1978) argued that, due to remarriage being an "incomplete institution," stepparents in remarried families lack formalized guidelines and norms to help guide their behaviors in their families. This absence of guidelines and norms, combined with the more complex family dynamics in stepfamilies, leads to greater stress on the remarriage. Greater stress, in turn, leads to more divorces.

Cherlin's (1978) hypothesis has also been applied to interpartner conflict and violence (Kalmuss & Seltzer, 1986; MacDonald & DeMaris, 1995). Kalmuss and Seltzer (1986) argued that there is empirical evidence for a link between stepfamilies and stress as well as between stress and violence. It is, indeed, well documented that stepfamilies experience stress (Ganong & Coleman, 1994; Giles-Sims & Finkelhor, 1984). Based on Cherlin's (1978) explanation, if the complexity of stepfamilies makes them more likely to experience stress, they will have a higher rate of violence against women.

The institutional incompleteness explanation has not been without its critiques. Cherlin (1978) asserted that other societies exist in which complicated kinship rules are institutionalized and therefore they have a stable family system. On the other hand, Daly and Wilson (1996, p. 21) argue that "All available evidence suggests that steprelationships are more conflictual than corresponding genetic relationships in all societies, regardless of whether steprelationships are rare or common and regardless of their degree of institutionalization." Although Cherlin (1978) and Daly and Wilson (1996) disagree, the critique of the latter does not rule out the essential insight that can be derived from Cherlin's work; the possibility that higher conflict in stepfamilies could be due to stress that results from the greater complexity of stepfamily relationships.

A direct challenge to this assertion comes from Kalmuss and Seltzer (1986). These researchers compared stepfamilies to remarried families without stepchildren and families in which both spouses were married for the first time. Cherlin (1978) argued that a lack of institutional support was less serious when no stepchildren were present since most of the norms from the first marriage apply. Thus, remarried families without stepchildren should be similar to families of first marriages. However, Kalmuss and Seltzer's (1986) comparison showed that remarried families with and without stepchildren had similarly higher rates of spousal violence relative to first marriage families. These findings led Kalmuss and Seltzer (1986, p. 117) to conclude that "Whether the divorced person has brought children from a previous marriage into the remarriage has less of an effect on the likelihood of marital aggression than the remarriage experience itself." It may, however, have

been premature for Kalmuss and Seltzer (1986) to have ruled out the special case of stepfamilies based on their analysis. The research discussed above concerning increased shelter use and increased risk for lethal violence against women in stepfamilies suggests that there is something operating specifically with respect to violence against women in stepfamilies. Also, Kalmuss and Seltzer (1986) studied spouse abuse either perpetrated or experienced by male and female respondents. Their sample thus confounds female perpetrated with male perpetrated violence, leaving open the question of whether violence against women is more common in stepfamilies. Kalmuss and Seltzer's (1986) analysis may also be overly simplistic. In their analyses they control only for income. Most importantly, these researchers do not control for duration of the union; a point which is a potential explanation for an elevated risk of violence against women in stepfamilies in its own right.

Duration of Relationship

Based on Cherlin's (1978) work, MacDonald and DeMaris (1995) set out to test the hypothesis that marital conflict is more frequent in stepfamilies than in biological families. Using a nationally representative sample from the United States conducted in the late 1980s, these researchers found that there is an impact of stepchildren on marital conflict. However, the impact depends on the duration of the marriage. In marriages of longer duration, partners having only stepchildren experienced more conflict than those who had only biological children. Contrary to what one would expect based on Cherlin's work, however, conflict was higher in families with only biological children in shorter duration marriages. MacDonald and DeMaris (1995) reasoned that the lack of norms for couples in stepfamilies and a period of trial parenting during dating may make for an easier initial period in the early years of the marriage. Eventually, however, these initial advantages are overtaken by the complexity of living in a stepfamily. Although this research does not support Cherlin's (1978) explanation, it nevertheless employs the essence of the explanation in terms of complexity leading to stress. Extrapolating from the work of MacDonald and DeMaris (1995), if the duration of the relationship between couples in stepfamilies is long, then the likelihood of violence against women in these families will increase. On the other hand, if the duration of the relationship between couples in biological families is short, then the likelihood of violence against women in these families will increase.

For the purposes of the present study, the greatest limitation of the MacDonald and Demaris (1995) investigation is that it tests the impact of stepfamilies on perceived conflict rather than violence. While conflict and violence are undoubtedly strongly related, the group of individuals who take conflict to a violent level may well possess some characteristic(s) that differentiates them from those who restrict themselves to open disagreements, as tapped by MacDonald and DeMaris (1995). Thus, the question of whether duration of relationship will operate in the same manner in understanding violence against women in stepfamilies remains unanswered.

Evolutionary Psychology

An evolutionary perspective argues that there is an "evolutionary tendency of parents to protect their own reproductive efforts and not those of others" (Ganong & Coleman, 1994, p. 88). Stemming from this insight are two main factors that are proposed to explain an elevated risk for violence against women in stepfamilies. First, Daly and associates (1993, p. 209) suggest that stepfathers "may resent their predecessors' children as living violations of their monopoly over their wives." This stems from the evolutionary need for a man to ensure paternity, which results in sexual possessiveness and jealousy. In other

words, stepchildren play on the man's evolutionary need to have sexual control over his wife. This, in turn, may create sexually proprietary insecurity in the male and become a source of conflict and violence against the woman. Thus, if the presence of stepchildren makes men in stepfamilies feel more sexually possessive and jealous, then they will be more inclined to be violent. Second, drawing on literature regarding sources of conflict in remarriages, Daly and Wilson (1996, p. 18) note that the essence of the two main sources of conflict, children and money, is that "The genetic mother wanted more of the stepfather's resources invested in her children than he was inclined to volunteer." The fewer the resources a woman contributes to the family, the less likely she is to have power to determine the allocation of the family's resources. Given that stepfathers tend to be less inclined to put equal resources into their stepchildren, if the woman has fewer resources relative to her partner, then there will be an increased likelihood of conflict between the couple and violence against the woman.

These insights remain to be tested as an explanation for an elevated risk of violence against women in stepfamilies. While evolutionary psychology may well play an important role, it is essential to assess risk markers derived from this theory in the context of those from other theories to see the extent to which those derived from evolutionary psychology account for an elevated risk for violence against women in stepfamilies.

Selection Factors

An application of a selection explanation to understanding an elevated risk of violence against women in stepfamilies suggests that stepfamilies contain a select group of people that predisposes them to violence. Selection factors vis-à-vis stepfamilies include the fact simply of having been previously married, violence in a previous relationship, and cohabitation.

Extrapolating from Kalmuss and Seltzer's (1986) study discussed previously, it is possible that violence against women in stepfamilies is due to one or both of the partners having been in a previous marriage. "Adults bring attitudes and behaviors from their first marriages into subsequent marriages" (Kalmuss & Seltzer, 1986, p. 114). Those who are previously married have been through a relationship that did not work and may therefore be more prone to relationship problems in general, including violence. If those who have been previously married are more prone to relationship problems, then they may also be more prone to relationship violence.

A second selection possibility, as suggested by Kalmuss and Seltzer (1986, p. 114), is that "marriages ended by divorce are more likely to have involved violence than those not ending in divorce." Thus, the pool of individuals in remarried families might contain a higher percentage of people prone to violence. In this vein, if those who have been previously married are more likely to have experienced violence in that union, then they will also be more likely to experience violence in their current union.

Critics of the notion that problems in remarriage are due to selection characteristics of individuals who have had a previous marriage "would say that the theory ignores the fact that divorce and remarriage often result from a desire for a better family life" (Ganong & Coleman, p. 90). However, while those who leave a marriage may have a desire for a better family life, this does not necessarily mean that they will realize this desire. This is even less likely to be the case if they possess characteristics that are related to the problems they experienced in their first marriage. As discussed above, Kalmuss and Seltzer's (1986) study suggested that it is the characteristics of divorced adults that lead to an elevated risk of spouse abuse rather than the presence of stepchildren. Kalmuss and Seltzer (1986) posited previous marriage and previous partner violence as rationales for this explanation.

However, their own analysis did not directly address the impact of previous marriage and previous partner violence on violence in stepfamilies. Thus, the specific impact of these variables on violence in stepfamilies remains unknown.

A final potential selection factor, which has not previously been identified as such in the literature on stepfamilies and violence against women, is cohabitation. In Canada 50% of stepfamilies in 2001 were common-law couples (Statistics Canada, 2002a). Living common-law is a risk marker for violence against women (Brownridge, in press; Brownridge & Halli, 2002). If stepfamilies are more likely to live common-law and cohabitation is linked to an elevated risk for violence against women, then women in stepfamilies who are cohabiting will be more likely to experience violence by their partner.

The only analysis to date that sheds light on whether there is a link between cohabitation and an elevated risk for violence in stepfamilies is the study of lethal violence by Daly and colleagues (1997). These researchers found an almost equal proportion of uxoricide victims with stepchildren in common-law (4 out of 8 victims) and marital unions (7 out of 15 victims). Thus, these data do not suggest support for cohabitation playing a role in an elevated risk of violence against women in stepfamilies. However, as noted above, findings concerning lethal violence are not directly applicable to nonlethal violence. Moreover, the study by Daly and colleagues (1997) is based on a small sample from Hamilton, Ontario, and thus is not generalizable to all of Canada.

HYPOTHESES

The first hypothesis of the study is that women in stepfamilies will have a higher prevalence of partner violence than will women in biological families.[2] Based on the application of explanations to understanding violence against women in stepfamilies and available indicators, ten additional hypotheses will be tested in the present study. They are as follows:

Institutional Incompleteness

1. The presence of dependent children in a family has been linked to increased stress in couples (Salari & Baldwin, 2002). It follows that with more dependent children, stress levels may increase. The number of children in a family has, indeed, been shown to be positively related to violence against women (Brownridge, 2002, 2003). Demographic data suggest that stepfamilies are more likely than biological families to have a large family size. In 2001, half of stepfamilies in Canada contained only the children of the female partner. Only 10% contained just the male partner's children. The remaining 40% were blended, containing either biological children of the new couple or children born in previous unions from both spouses (Statistics Canada, 2002a). The large percentage of stepfamilies that are blended implies that they are more likely to have a larger family size than biological families. Thus, it is hypothesized that women in stepfamilies will be more likely than women in biological families to report having a large family size and that having a large family size will be linked to an increased likelihood of violence.
2. Depression has been shown to result from marital stress (Kung, 2000). Research also demonstrates that women who are depressed are more likely to experience violence (Brownridge & Halli, 2002). Hence, it is hypothesized that women in stepfamilies will be more likely to report being depressed and that depression will be linked to an increased likelihood of violence against women.

3. Alcohol consumption has been identified as a mechanism that men use for coping with stress (Umberson, Anderson, Williams, & Chen, 2003). Research has shown that men's alcohol consumption is positively related to violence against women (Johnson, 2001). It is therefore hypothesized that women in stepfamilies will be more likely to report that their partners consume alcohol heavily and that heavy alcohol consumption will be linked to an increased likelihood of violence against women.

Duration of Relationship

4. Based on the findings of MacDonald and DeMaris (1995), it is hypothesized that duration of relationship will be positively related to violence against women in stepfamilies and negatively related to violence against women in biological families.

Evolutionary Psychology

5. Sexual possessiveness and jealousy have been shown to be positively related to violence against women (Brownridge & Halli, 2002). Evolutionary psychology points to men in stepfamilies being more sexually possessive and jealous. Hence, it is hypothesized that men in stepfamilies will be more likely to be sexually possessive and jealous, and that sexually possessive and jealous behavior will be linked to an increased likelihood of violence against women.
6. Women who do not work are likely to have less power in the family in terms of resource allocation. According to an evolutionary perspective, this will be particularly problematic in stepfamilies as a result of the man's tendency not to invest resources in the progeny of others. Research shows that remarried wives are more likely to be employed outside of the home (Ganong & Coleman, 1994) and, hence, it is expected that women in stepfamilies will be less likely to be unemployed than women in biological families. Nevertheless, in keeping with evolutionary psychology, it is hypothesized that women in stepfamilies who are unemployed will be more likely than unemployed women in biological families to experience violence.
7. It has been noted that remarried couples tend to be less compatible on demographic characteristics such as education (Ganong & Coleman, 1994). An application of evolutionary psychology leads to the prediction that the fewer educational resources women in stepfamilies have relative to their partner, the more likely they will be to report experiencing violence. Hence, couples in stepfamilies are hypothesized to be more educationally incompatible than couples in biological families and education incompatibility favoring the male will be positively linked to violence against women in stepfamilies.

Selection Factors

8. Since, as noted above, the vast majority of stepfamilies contain children from the woman's prior relationship, women in stepfamilies are expected to be more likely than women in biological families to have had a previous marriage or common-law union. Having had a previous marriage or common-law union is, in turn, hypothesized to be linked to an increased likelihood of violence.
9. Women in stepfamilies will be more likely than women in biological families to have experienced violence by a previous partner. Having experienced violence by a previous partner will be linked to an increased likelihood of violence.
10. Women in stepfamilies will be more likely than those in biological families to be living common-law and living common-law will be linked to an increased likelihood of violence.

MATERIALS AND METHODS

The Data Set

The data employed in this study are from Statistics Canada's Cycle 13 of the General Social Survey (GSS). In 1999, a random sample of 25,876 men and women 15 years of age or older completed in-depth telephone interviews concerning the nature and extent of their criminal victimization, including experiences of partner violence. Since the present study concerns male partner violence against women currently in a stepfamily or biological family, the sample of the GSS used consists of 2,703 heterosexual women living married or common-law and with at least one child under age 15 living in the household at the time of the survey. Of these women, 250 are in a stepfamily and 2,453 are in a biological family. In all analyses, the weighting scheme suggested by Statistics Canada (2000) has been followed.[3]

Measurement

Independent Variables. The number of children refers to how many children, aged 0 to 14 years, were reported by the respondent to be residing in the household. Depression is measured with an item that asks respondents if they had used drugs or medication (prescription or over the counter) to help them get out of depression in the month prior to the interview. Heavy alcohol consumption is measured with a question that asks the respondent how many times in the month prior to the interview that her partner had five or more drinks on one occasion. Duration of relationship is measured with a variable derived from the respondent's report of the year in which she became married or began living with her common-law partner. Sexual possessiveness is measured with an item asking the respondent if her partner demands to know who she is with and where she is at all times. The measure of sexual jealousy is based on a question asking the respondent if her partner is jealous and does not want her to talk to other men. Woman's employment refers to whether her main activity in the 12 months prior to the interview was looking for work, caring for children, or housework (unemployed) or working at a paid job or business (employed). Education compatibility is obtained by calculating the ratio of the respondent's years of education to the couple's total years of education. For the descriptive analyses education compatibility was grouped into the following categories: the woman has much less education (ratio < 0.46); the woman has less education (ratio = 0.46-0.49); the woman has the same years of education as her partner (ratio = 0.50); the woman has more education (ratio = 0.51-0.54); and the woman has much more education (ratio > 0.54). Due to concerns of linearity with such calculations (Anderson, 1997), for the multivariate analyses a squared transformation was used to account for a possible curvilinear relationship. Previous marriage/common-law union refers to whether the woman had ever been in any other marriage or common-law relationship with a person other than her current partner. Previous partner violence refers to whether or not a respondent was threatened and/or physically or sexually attacked by a previous husband/common-law partner in the 5 years preceding the interview. In terms of marital status, only heterosexual women currently married or living common-law are included in the study.

Dependent Variable. This study employs a modified version of the Conflict Tactics Scales (Statistics Canada, 2000). Male partner violence against women is defined as acts of physical assault (being pushed, grabbed, or shoved in a way that could hurt; being slapped; being choked; having something thrown that could hurt; being hit with something that could hurt; being threatened with or having a knife or gun used; being kicked, bit, or

hit with a fist; being beaten), psychological aggression (being threatened to be hit with a fist or anything else that could hurt), and sexual assault (being forced into any sexual activity by being threatened, held down, or hurt in some way) perpetrated by a woman's current marital or common-law partner within a specified time frame preceding the interview. Hence, if respondents reported having experienced any of the aforementioned forms of violence within the specified time frame preceding the interview they are coded as having experienced violence. Two referent periods are employed in the study, namely, 1-year and 5-year time frames.

Methods of Data Analysis

The analysis is conducted in two stages. To document the prevalence of violence among respondents in stepfamilies and biological families and investigate risk markers, the first stage consists of descriptive analyses in which bivariate relationships are examined using cross-tabulations with chi-square tests of significance. In the second stage, more elaborate analyses are conducted using multivariate statistical techniques. These analyses allow an assessment of the impact of the independent variables and determination of the importance of the independent variables for understanding the higher prevalence of violence against women in stepfamilies. The multivariate technique used for this purpose is logistic multiple regression. Logistic regression is an appropriate technique for predicting a dichotomous dependent variable from a set of independent variables. This technique also has a very simple interpretation. For a given variable it simply provides a ratio of the odds of violence occurring. If the value of the odds is greater than one, the variable is positively related to violence. If it is less than one, the variable is negatively related to violence.

RESULTS

Descriptive Analysis

Violence by Stepfamily/Biological Family Status. The results show that women in stepfamilies are twice as likely as those in biological families to report experiencing violence in both the 5-year and 1-year periods preceding the interview. Within the 5-year time frame, 11.3% of women in stepfamilies compared to 5.2% in biological families reported violence having occurred ($p < 0.01$). Similarly, within the year prior to the interview, 5.1% of women in stepfamilies compared to 2.2% in biological families reported the occurrence of violence ($p < 0.05$) (results not shown).[4]

Table 1 contains the results of each component of violence cross-tabulated with stepfamily/biological family status. Not only are women in stepfamilies more likely to experience violence overall, but they are also significantly more likely to report experiencing seven of the ten items measuring violence. Women in stepfamilies are twice as likely as those in biological families to be pushed, grabbed, or shoved in a way that could hurt, to be slapped, to have something thrown at them that could hurt, and to be hit with something that could hurt. The greatest differences are on some of the most severe forms of violence. Women in stepfamilies are three times as likely as those in biological families to be choked and four times as likely to beaten and to be forced to engage in sexual activity.

Risk Markers by Stepfamily/Biological Family Status. Table 2 provides the results of the cross-tabulations of the independent variables by stepfamily/biological family status. Table 2 shows that stepfamilies are more likely than biological families to have

TABLE 1. 5-Year Prevalence of Each Component of Violence by Stepfamily/Biological Family Status (%)

	Physical Threat	Physical Assault								Sexual Assault
	Threaten	Push	Slap	Choke	Throw	Hit	Threaten With Gun	Kick	Beat	Sex
Stepfamily	5.1	8.9	3.1	1.6	4.3	1.6	0.0	1.6	2.3	1.2
Biological family	3.2	3.7***	1.5*	0.5**	2.0**	0.6*	0.1	1.0	0.6***	0.3*

*$p \leq 0.10$. **$p < 0.05$. ***$p < 0.01$ (p values refer to chi-square tests of significance).

a large family size. Women in stepfamilies are more likely to be depressed. No significant difference was found between the two groups, however, in terms of partner's alcohol consumption. Stepfamilies tend to have much shorter duration relationships than biological families. Men in stepfamilies are not significantly more likely to be sexually possessive in terms of insisting on knowing the respondent's whereabouts. However, men in stepfamilies are more likely to be sexually jealous. Women in stepfamilies are less likely to be unemployed and couples in stepfamilies are more likely to be educationally incompatible than those in biological families. Women in stepfamilies are much more likely than those in biological families to have had a previous marriage or common-law union, to have experienced violence by a previous partner, and to be living in a common-law union.

Multivariate Analysis

Separate Logistic Regressions for Stepfamilies and Biological Families. Table 3 provides the results of the logistic regressions on the 5-year prevalence of violence for stepfamilies and biological families. The results show that, controlling for all other variables in the models, having a large family size is not linked to a significantly increased likelihood of violence. On the other hand, depression is linked to an increased likelihood of violence against women. Although the impact of depression on violence is strong for both groups, it is particularly large for women in stepfamilies. Heavy alcohol consumption is linked to increased odds of violence. However, the impact of this variable is larger for women in biological families than for those in stepfamilies. For each additional occasion in the month prior to the study that a woman's partner consumed alcohol heavily, women in biological families faced 9.5% increased odds of violence compared to an increase of 4.7% in stepfamilies.

The results regarding the duration of relationship variable show that the longer the relationship duration, the lower are the odds of violence. For each additional year that a couple has been together, the odds of violence decrease by 3% for women in biological families and by 4% for women in stepfamilies.

In terms of the indicators of evolutionary psychology, having a partner who is sexually possessive through insisting on knowing a woman's whereabouts is linked to increased odds of violence against women for both groups. However, the impact of this variable is larger for women in biological families. Those who have a partner who exhibits sexually possessive behavior in biological families have 450% increased odds of violence compared to an increase of 188% for their counterparts in stepfamilies. Having a jealous partner is also linked to increased odds of violence. In this case, however, the impact of jealousy on the odds of violence appears to be much larger for women in stepfamilies. While unemployment does not significantly impact the odds of violence against women in biological families, unemployed women in stepfamilies face 478% increased odds of violence. On the other hand, education incompatibility favoring the male does not have a significant positive impact on the odds of violence for either group of women.

Finally, with respect to selection factors, the results show that having had a previous marriage or common-law union is not linked to increased odds of violence for women in biological families but is linked to increased odds of violence for women in stepfamilies. Among women in stepfamilies, those who had a previous marriage or common-law union face 696% higher odds of violence than do those who had not previously been in a marriage or common-law union. Women who had experienced violence by a previous marital or common-law partner do not have increased odds of violence by their current partner in either group. In fact, while the odds of violence for women in biological families do not

TABLE 2. Independent Variables by Stepfamily/Biological Family Status (%)

Independent Variables	Stepfamily	Biological Family
Institutional Incompleteness		
Children < 15		
One	39.4	42.3
Two	35.6	42.3
Three or more	25.0	15.4***
Depressed		
Yes	9.8	3.6***
No	90.2	96.4
Heavy drinking (past month)		
None	73.0	75.2
Once	12.4	11.5
2-4 times	12.4	10.3
5 or more times	2.1	3.0
Duration		
Duration of relationship		
Less than 4 years	40.0	7.1
4-9 years	40.4	25.7
10 or more years	19.6	67.2***
Evolutionary Psychology		
Know whereabouts		
Yes	5.8	4.1
No	94.2	95.9
Jealousy		
Yes	8.6	4.9**
No	91.4	95.1
Woman's employment		
Did not work in past year	27.8	35.2**
Worked past year	72.2	64.8
Education compatibility		
Woman has much less education	18.0	13.2
Woman has less education	13.9	16.2
Woman has same education	24.6	34.5
Woman has more education	23.4	20.8
Woman has much more education	20.1	15.3**
Selection Factors		
Previous marriage/common-law union		
Yes	78.5	15.0***
No	21.5	85.0
Previous partner violence		
Yes	34.4	17.2
No	65.6	82.8**
Marital status		
Common-law	48.3	12.0***
Married	51.7	88.0

**$p < 0.05$. ***$p < 0.01$ (p values refer to chi-square tests of significance).

TABLE 3. Results of Logistic Regressions on 5-Year Prevalence of Violence for Stepfamilies and Biological Families

Covariates	Model 1 Stepfamily $n = 218$	Model 2 Biological Family $n = 2{,}176$
Institutional Incompleteness		
Children < 15		
One	1.000	1.000
Two	0.472	1.360
Three or more	0.501	1.634
Depressed		
Yes	33.077***	3.566***
No	1.000	1.000
Heavy drinking	1.047	1.095***
Duration		
Duration of relationship	0.955	0.966*
Evolutionary Psychology		
Know whereabouts		
Yes	2.877	5.497***
No	1.000	1.000
Jealousy		
Yes	29.573***	3.948***
No	1.000	1.000
Woman's employment		
Did not work in past year	5.783**	0.810
Worked past year	1.000	1.000
Education compatibility	9.322	13.393
Selection Factors		
Previous marriage/common-law union		
Yes	7.959*	1.108
No	1.000	1.000
Previous partner violence		
Yes	0.246*	0.489
No	1.000	1.000
Marital status		
Common-law	0.210**	1.798**
Married	1.000	1.000
Constant	0.006**	0.016***
-2 Log likelihood	84.0	737.0
χ^2	71.0	151.0

*$p \leq 0.10$. **$p < 0.05$. ***$p < 0.01$.

significantly differ between those who did and did not experience violence by a previous partner, women in stepfamilies who had experienced violence by a previous partner actually have significantly lower odds of violence than those in stepfamilies who had not experienced violence by a previous partner. Specifically, women in stepfamilies who experienced violence by a previous partner have 75% lower odds of violence than do women in stepfamilies who had not experienced violence by a previous partner. Regarding marital status, women in biological families who are living common-law face 80% increased odds of violence compared to their married counterparts. Women in stepfamilies who are living common-law, on the other hand, have 79% lower odds of violence compared to their married counterparts.

Logistic Regressions for Stepfamilies and Biological Families Combined. Recalling that one of the main purposes of the present study is to understand why women in stepfamilies are at an elevated risk for partner violence, the decision was made at this stage of the analysis to include only those variables that, based on the analyses heretofore, seem to hold promise for understanding this relationship. The next stage of the analysis, then, was to enter these indicators into the logistic regression model sequentially based on the potential explanation from which they were derived. Among the utilities of this analysis is that one can see whether variables derived from any single explanation account for the elevated risk for violence against women in stepfamilies.

Table 4 provides the results of the sequential logistic regressions. The first model in Table 4 contains the results of the stepfamily/biological family variable without any controls. The difference in prevalence for the two groups translates to women in stepfamilies having significantly higher odds of violence than women in biological families, 129% to be specific. The second model in Table 4 controls for the depression variable derived from the institutional incompleteness explanation. Although controlling for depression reduces the difference in odds of violence between stepfamilies and biological families by 29%, the difference between the two groups remains significantly large. The third model in Table 4 controls for the duration variable. The results show that controlling for duration of relationship reduces the difference in odds by 42%. Again, the difference between the two groups remains significantly large. The fourth model controls for the variables derived from the evolutionary psychology explanation. Controlling for these variables reduces the difference in odds by only 18%. The fifth model in Table 4 controls for the selection factor of having been in a previous marriage or common-law union. Although controlling for this variable reduces the difference in odds by 36%, as in the previous models, women in stepfamilies still have significantly higher odds of violence. The final model in Table 4 controls for the variables from all of the explanations simultaneously. The results show that when all variables are controlled the difference in odds of violence against women between stepfamilies and biological families are reduced by 90% and the significance of the difference disappears. In other words, controlling for the variables derived from all explanations removes the significantly higher odds of violence against women in stepfamilies compared to women in biological families.

DISCUSSION AND CONCLUSION

We now have definitive evidence that Canadian women in stepfamilies are at double the risk for partner violence than their counterparts in biological families. This rate of relative risk is consistent with that found by Kalmuss and Seltzer (1986) vis-à-vis spousal violence which, as noted earlier, was based on American data from nearly 30 years ago.

TABLE 4. Results of Sequential Logistic Regressions on 5-Year Prevalence of Violence

Covariates	Stepfamily/ Biological Family n = 2,603 Odds Ratio	Institutional Incompleteness n = 2,561 Odds Ratio	Duration n = 2,557 Odds Ratio	Evolutionary Psychology n = 2,558 Odds Ratio	Selection Factor n = 2,598 Odds Ratio	Full Model n = 2,511 Odds Ratio
Stepfamily/						
Biological family						
Stepfamily	2.285***	1.995***	1.865**	2.109***	1.930**	1.389
Biological family	1.000	1.000	1.000	1.000	1.000	1.000
Institutional Incompleteness						
Depressed						
Yes		6.007***				4.987***
No		1.000				1.000
Duration						
Duration of relationship			0.977*			0.982
Evolutionary Psychology						
Jealousy						
Yes				11.887***		10.918***
No				1.000		1.000
Woman's employment						
Did not work in past year				0.936		0.923
Worked past year				1.000		1.000
Selection						
Previous marriage/C-l union						
Yes					1.313	1.227
No					1.000	1.000
Constant	0.055***	0.048***	0.075***	0.040***	0.053***	0.045***
-2 Log-likelihood	1,138.0	1,084.0	1,127.0	1,007.0	1,136.0	968.0
χ^2	12.0	55.0	14.0	126.0	14.0	156.0

*$p \leq 0.10$. **$p < 0.05$. ***$p < 0.01$.

Taking previous research and the current study into consideration, it appears that an elevated risk for violence against women in stepfamilies is an enduring and cross-cultural phenomenon. Moreover, the present investigation has demonstrated that the difference in risk is greatest on some of the most severe forms of violence. This finding is consistent with Daly and colleagues (1993) and Daly and associates (1997) showing that women with children fathered by previous partners are disproportionate in terms of shelter use and their risk of lethal violence. Clearly, the results of these studies and the present investigation suggest that Canadian women in stepfamilies are at particular risk for severe violence.

While many of the hypotheses derived from explanations for the elevated risk of violence against women in stepfamilies were supported in the present study, the results also fail to find support for several others. What follows will discuss the results as they pertain to each explanation and close with the main conclusions of the study.

Institutional Incompleteness

Among indicators used to study institutional incompleteness in the present study, the one that is most directly linked to complexity of family relationships is family size. That is, family interactions should be more complicated with a greater number of people in the family. Interestingly, the results of the present study suggest that the number of children does not make a difference to the likelihood of violence against the woman in a stepfamily. In other words, the impact of being in a stepfamily on violence against women is not a matter of complexity in terms of managing relationships with multiple children. Rather, it appears that being in a stepfamily with just one child may be sufficiently complicated to induce stress and, hence, violence. Of course, this result does not rule out the influence of complexity in terms of other family relationships, such as the relationship between the nonresidential biological parent and the stepparent. The results also show that, if the complexity of stepfamilies leads them to experience stress and violence, heavy alcohol consumption does not mediate the link between stress and an elevated risk of violence against women in stepfamilies. The one indicator derived from the institutional incompleteness explanation that does operate as hypothesized is depression. Women in stepfamilies are more depressed and the depression variable does account for some of the difference in odds of violence between women in stepfamilies and biological families. To the extent that depression experienced by women in stepfamilies is due to stress that results from the complexity of being in a stepfamily, these results provide limited support for the institutional incompleteness explanation. However, based on the fact that only one out of three such hypothesized connections are supported by the data as well as the finding that the one variable that operates as expected does not fully account for the significantly higher odds of violence against women in stepfamilies, it appears that much more is operating in the relationship between stepfamilies and violence against women than simply differential levels of stress.

Duration

Contrary to expectations, as with biological families, the likelihood of violence against women in stepfamilies decreases the longer the couple has been together. Thus, MacDonald and DeMaris' (1995) suggestion regarding the operation of duration of relationship and conflict, that the initial period of the relationship may be an easier experience for stepfamilies but that the complexity of stepfamily living catches up with them later in the relationship, does not apply to women's experience of violence in stepfamilies. Rather, duration of relationship has a similar inverse impact on violence for both groups. This finding also suggests that working out the complexity of stepfamily relationships in the initial period of the

union does not impact violence against the female partner much more than does working out the complexities of the relationship in the early years of biological families. Rather, the importance of the duration variable seems to have more to do with the fact that stepfamilies are much more likely to have shorter duration relationships. Of all indicators derived from explanations for this relationship, controlling for duration had the largest impact on reducing the difference in odds of violence between stepfamilies and biological families.

Evolutionary Psychology

The results do not support the hypothesized relationship between the measure of sexual possessiveness as a differentiating factor for violence against women in stepfamilies. On the other hand, the results do support the hypothesized relationship between sexual jealousy and violence against women in stepfamilies. Thus, it appears that the presence of stepchildren does not make men feel more sexually possessive, but being in a stepfamily is linked to male sexual jealousy. It is difficult to speculate within the logic of evolutionary psychology as to why men in stepfamilies are not more sexually possessive than men in biological families. It is possible, however, that the measure of sexual possessiveness is not sexual enough. That is, while a man insisting on knowing who his female partner is with and where she is at all times is sexual possessiveness, this measure may be tapping a more general element of controlling behavior, rather than sexual control, that men in both types of families are relatively equally likely to express. On the other hand, being jealous of a female partner talking to other men is clearly a sexually based insecurity that, as evolutionary psychology predicted, is a behavior in which men in stepfamilies are more likely to engage.

Although couples in stepfamilies are less compatible in terms of relative education resources, education incompatibility favoring the male did not have a significant impact on violence for either group. On the other hand, unemployed women in stepfamilies are particularly likely to experience violence. Consistent with the application of evolutionary psychology, women in stepfamilies who lack employment resources may be less able to direct resources toward their own biological children, resulting in greater tension and violence in the relationship. The mixed results regarding educational and employment resources, then, indicate that this explanation is dependent on the specific resources used to test it. While relative education resources are a potential source of power differential in a relationship, it appears that more tangible resources are more important for understanding the elevated risk of violence against women in stepfamilies.

Despite some measure of support for the hypotheses derived from evolutionary psychology, the analyses in the present study also show that controlling for evolutionary psychology variables alone has the least impact on reducing the difference in odds of violence between stepfamilies and biological families. Based on the present study, evolutionary psychology cannot fully explain women's elevated risk for violence in stepfamilies.

Selection Factors

Consistent with what was expected, women in stepfamilies are more likely to have had a prior live-in relationship and this subgroup of women faces much higher odds of violence than those in stepfamilies without prior union experience. Interestingly, women in biological families who had a live-in relationship with someone other than their husband do not face significantly higher odds of violence than their counterparts who are in their first marriage or common-law union. This suggests that an elevated risk for violence against remarried women is not a matter simply of having been in a previous live-in relationship,

as Kalmuss and Seltzer's (1986) research implies. Rather, there is something specific about the stepfamily experience that makes women who have had a prior live-in relationship particularly prone to violence.

It is possible that the different impact of a prior live-in relationship on violence for women in stepfamilies and biological families could be related to a second selection variable, previous partner violence. Although women in stepfamilies are, indeed, more likely to have experienced violence by a previous partner, the results also show that these same women have significantly lower odds of experiencing violence in their current union than their counterparts who have not experienced violence by a previous partner. Thus, the strong impact of having had a previous live-in relationship on the odds of violence for women in stepfamilies is not a matter of women in stepfamilies being prone to violent unions.

Although women in stepfamilies are far more likely to be living common-law than are women in biological families, those in stepfamilies that do live common-law actually face significantly lower odds of violence than their married counterparts. This is particularly surprising since it is a ubiquitous finding in the research that women in common-law relationships are at increased risk for violence (Brownridge, in press). The research of Daly and colleagues (1997) was somewhat unusual in the sense that it showed an almost equal likelihood of violence, albeit lethal violence, between a group of women in common-law and marital unions. The results of the present study dealing with nonlethal violence are even more novel in showing a lower rate of violence for women living in common-law unions in stepfamilies. Consistent with critics of the selection explanation, it appears that women in stepfamilies who have had a past violent relationship have left that union and achieved a better family life in their current union, at least in the sense of living in a nonviolent relationship. Similarly, it may also be the case that those women in stepfamilies who choose to live common-law are doing so out of cautiousness because of the failure of their past union. This same cautiousness may lead them to select better partners in general, including partners who are less likely to be violent.

The experience of a prior live-in relationship is also demonstrated as an important factor in understanding the higher odds of violence for women in stepfamilies relative to biological families, having the second largest reduction in the difference in odds between the two groups. It is noteworthy that the selection factor of a prior live-in relationship does not, in and of itself, account for the significantly higher odds of violence against women in stepfamilies. If, based on Kalmuss and Seltzer's (1986) analysis, the key factor is remarriage itself rather than the presence of stepchildren, one would expect that controlling for prior live-in relationship would remove the significantly higher odds of violence for women in stepfamilies. The results demonstrate this not to be the case. It is not possible in the present study to specify precisely why the stepfamily experience makes women who have had a prior live-in relationship particularly prone to violence. Nevertheless, contrary to the conclusion of Kalmuss and Seltzer (1986), it appears that this unknown mechanism is somehow related to the presence of children from a prior union in stepfamilies.

It is prudent at this point to note that this study is somewhat limited with respect to indicators of the explanations that were available in the data. Future research needs to be conducted to collect data with more complete indicators of the explanations and that will allow identification of the specific mechanisms through which the key variables are linked to violence against women in stepfamilies. For example, this study is unable to identify the specific sources of stress that lead women in stepfamilies to have higher rates of

depression and the precise mechanism through which their depression influences their experience of violence. More complete information on these mechanisms is needed for identifying specific prevention strategies.

Despite this caveat, the present investigation provides clear evidence that women in stepfamilies are at elevated risk for violence, particularly severe violence. No single explanation accounts for this disproportionate risk. Rather, elements from all explanations are required to account for women's higher odds of violence in stepfamilies. Depression, short relationship duration, unemployment, partner jealousy, and having been in a previous live-in relationship, all combine to account for the elevated risk of violence against women in families with a prior union child. Interestingly, these elements do not appear to fit neatly into some other explanation that has been overlooked. Rather, it seems that a unique theoretical logic underlies indicators from each explanation. In the final analysis, the elevated risk of violence against women in stepfamilies appears to be a multifactorial problem, the explanation of which requires insights from institutional incompleteness, duration, evolutionary psychology, and selection factor explanations.

NOTES

1. Although Daly and colleagues (1997) used the term uxoricide, their sample included victims in common-law unions.

2. The key factor in defining a stepfamily/remarried family is the presence of children from a previous relationship. For example, a remarried family has been defined as "one in which at least one of the adults has a child or children from a previous relationship" (Ganong & Coleman, 1994:8). The present study uses the term "stepfamily" rather than remarried family to recognize the distinction between stepfamilies in which the couple is cohabiting rather than legally married. For the purposes of the present study, then, a stepfamily refers to a family in which at least one of the children in the household is from a previous relationship of one of the parents. That is, at least one of the parents is a stepparent. In biological families, on the other hand, all children in the household are from the current union.

3. Since the GSS does not consist of a simple random sample, it is necessary to weight the data so that the population is adequately represented. In an analysis of a subsample of the GSS, the weights provided with the data must be rescaled in a manner that preserves the variability of the original weights but that has an average value of one. This is accomplished by first calculating the average weight for those respondents in the analysis and then dividing each respondent's weight by this average. The resulting weighting factor is used in the analysis.

4. 1t is possible that risk markers of violence will operate differently depending on the time frame of the dependent variable. However, Brownridge and Halli (2001) have shown that controls for duration of relationship can attenuate this problem. Given that the 5-year prevalence is a more adequate account of all women in sample who have experienced violence by their partners, the fact that the 5-year and 1-year rates contain almost identical relative proportions of victims, and the fact that the multivariate analyses include a control that helps account for the longer time frame (i.e., duration of relationship), the remaining analyses are conducted with the 5-year prevalence rate.

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