

National Trends in Intimate Partner Homicides

Explaining Declines in Canada, 1976 to 2001

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In the past decade, research has begun to identify factors that may be contributing to declines in spousal homicide. The authors address two gaps in the Canadian literature: (a) the documentation of trends, including subgroup variations, and (b) the identification of factors that may be associated with declines. Using Statistics Canada data, the authors assess the association of declines with various factors. Results indicate that shifts in relative employment and divorce rates appear to be associated with declining rates for women, whereas shifts in men's education and divorce rates appear to be associated with declining rates of spousal homicide for men.

Keywords: *declines; gender; intimate partner homicide; violence*

During the past several decades, the homicide rate has been declining in North America (Blumstein & Wallman, 2000; Savoie, 2003; Travis, 1998). In particular, substantial declines have been noted for killings that occur between intimate partners (Greenfeld et al., 1998; Puzone, Saltzman, Kresnow, Thompson, & Mercy, 2000). Paralleling these declines has been increased public interest in intimate violence and, in particular, the violent victimization of women by their intimate male partners. Sweeping changes have occurred in the laws pertaining to intimate violence, and there has been an increase in social and legal resources that respond to this type of violence. These parallel trends—declines in intimate partner homicide and increasing awareness of intimate violence as a serious social problem—have prompted researchers in the United States to examine the extent to which the social and legal responses to domestic violence have contributed to these declines (Browne, Williams, & Dutton, 1999; Dugan, Nagin, & Rosenfeld, 1999, 2003; Rosenfeld, 2000).

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To date, despite similar trends, there has been little systematic examination of this issue in Canada (but see Pottie Bunge, 2002).¹ In response to this gap in the research, our purpose is twofold: (a) to describe trends in spousal homicide in Canada and (b) to identify and examine the factors that may be associated with observed declines. To do so, we adopt the exposure reduction framework that U.S. researchers have used to explain declines in their country (Dugan et al., 1999, 2003). Below, we briefly describe this framework and how it structures our analysis.

Explaining Declines in Intimate Partner Homicide

Reducing Exposure to Violence in Intimate Relationships

In the past decade, researchers in the United States have moved beyond documenting declines in intimate partner homicide to identifying factors that may be contributing to recent trends. The emphasis in this body of research has been on sources of *exposure reduction*—factors that may prevent or reduce the likelihood of violence between intimate partners (Browne & Williams, 1989; Dugan et al., 1999, 2003; Rosenfeld, 2000). The exposure reduction framework is premised on the well-documented finding that chronic and persistent violence in intimate relationships often precedes intimate partner homicide (Browne, 1987; Browne et al., 1999; Campbell, 1992; Chimbos, 1978; Gartner, Dawson, & Crawford, 1999; Goetting, 1995). Based on this finding, researchers have argued that mechanisms that help abused partners exit from violent relationships or inhibit the development of such relationships in the first place may reduce the rate of lethal victimization between intimate partners (Dugan et al., 1999).

Although this argument has implications for the killing of both male and female intimate partners, U.S. researchers have noted that decreases in their country have been substantially greater for male victims of lethal violence than for female victims. To explain this differential decrease, researchers have highlighted two other well-documented facts about the different motives and/or situations in which men and women kill intimate partners. First, women are more likely to kill male partners after prolonged abuse and/or when they fear continued or more serious violence against themselves or their children. In other words, victim precipitation is more common in cases that involve women who have killed their male partners, whereas this situational characteristic is rare in cases where men kill female partners (Campbell, 1992; Goetting, 1995; Jurik & Winn, 1990; Rasche, 1993; Silverman & Mukherjee, 1987; Wilson & Daly, 1992).² Therefore, where mechanisms are available to help women exit abusive or threatening relationships, female victims of abuse may feel they have more viable

options other than lethal violence to end their abuse, thereby decreasing the number of men killed in this context (Browne & Williams, 1993; Dugan et al., 1999).

In contrast, a second well-documented finding is that the most common motive behind the killing of a female by her male partner is the male's rage or despair over the actual or impending estrangement. As a result, domestic violence services may not hold the same protective potential for women who have escaped (or are attempting to escape) a violent relationship because it is often their move to end a relationship that acts as the impetus for the lethal outcome (Browne et al., 1999; Gartner et al., 1999; Wilson & Daly, 1993).

Based on these two findings, Dugan et al. (1999, 2003) argued that attempts to reduce opportunities for intimate partner violence may actually result in reactive violence, particularly by a male against a female partner who is attempting to leave the relationship (also see Whaley & Messner, 2002). "A little exposure reduction (or unmet promises of exposure reduction) in severely violent relationships can be worse than the status quo" (Dugan et al., 2003, p. 194). As a result, the lethal victimization of women may increase as a result of attempts to reduce their exposure to further violence.

Based on this research, three important social changes have been identified that coincide with the decline in intimate partner homicide: (a) increases in gender equality, (b) changes in the structure of intimate relationships, and (c) the domestic violence movement. Next, drawing from work by Dugan and her colleagues (1999, 2003), we describe how these social changes may be associated with declines in the lethal victimization of intimate partners.

Increasing Gender Equality and Homicide: Theory and Research

During the past few decades, there have been significant improvements in women's socioeconomic status, and this has implications for the killing of both women and men by intimate partners. For example, with improved socioeconomic status, fewer women may feel trapped in abusive and/or threatening relationships, and, as a result, they may be less likely to kill male partners out of desperation or in self-defense. With respect to their own lethality, women's rising socioeconomic levels may provide increased access to opportunities and resources that, in turn, help reduce their economic and emotional dependency on men. As a result, women may be less likely to enter into and more likely to exit from unsatisfactory and often abusive relationships, decreasing their risk of lethal victimization. In short, this argument—often referred to as the ameliorative hypothesis—predicts that where gender equality is high, rates of violence against women should be low (e.g., Williams & Holmes, 1981).

Alternatively, the backlash hypothesis draws attention to the potential negative outcomes that may be associated, at least initially, with increased levels of gender

equality (e.g., Russell, 1975). Proponents of this view argue that any protection produced by women's increased socioeconomic levels may be counterbalanced by negative reactions—primarily from men—to increasing gender equality. Simply put, women's improved status may leave men feeling that their privileged position is being threatened. As a result, there may be corresponding increases in the violent victimization of women by men who want to maintain the status quo. It is expected, however, that the backlash effect should ebb over time as gender equality becomes more normative in society.

Four key dimensions have dominated the literature on gender equality and homicide: income, education, employment, and occupation levels.³ Research in the United States underscores the importance of examining both absolute levels of female achievement as well as the relative status of females compared to males. With regard to the absolute status of women, the basic hypothesis is that females who have achieved higher income, education, employment, and occupation levels will be better protected against victimization (e.g., Bailey & Peterson, 1995). On the other hand, the rationale underlying the examination of the role played by women's status relative to men is, if the subordinate status of women relative to men contributes to female victimization, then the male–female gap in socioeconomic status may be more important in explaining lethal victimization rates than the absolute status of women in society (Bailey & Peterson, 1995).

Findings from research examining the association between gender equality and homicide, however, are far from consistent and often contradictory. In addition, differences in analytical techniques, sources of data, time periods covered, and research focus prevent accurate comparisons from being made and make it difficult to arrive at conclusions. In reviewing the literature, we may tentatively conclude that there is more support for the backlash hypothesis than for the ameliorative argument, at least under certain conditions (Dawson, 2001). For example, researchers have highlighted the importance of societal norms surrounding female status in understanding the relationship between gender equality and violence against women. Using the female share of enrollment in higher education as one indicator of female status, Gartner, Baker, and Pampel (1990) demonstrated that in countries where female status was high, women's adoption of less traditional labor force and domestic roles did not lead to higher rates of lethal victimization. In contrast, where women's status was low, women appeared to be more vulnerable to lethal victimization. Based on their findings, the authors concluded that the normative status of females in society appears to condition the association between gender equality and lethal victimization.

Other factors that were found to condition the association between gender equality and homicide were the time period examined (Gartner & McCarthy, 1991), race and/or ethnicity (Avakeme, 1999), socioeconomic levels of the cities being studied (Gauthier & Bankston, 1997), and, finally, the type of intimate relationship (Dugan et al., 1999). For example, a Canadian study that examined both total femicide rates and disaggregated rates (spousal vs. nonintimate femicide) found that employment

status was positively associated with rates of femicide generally but with spousal femicide rates only in the early period (Gartner & McCarthy, 1991). Prior to 1970, women who were employed were at a greater risk of lethal victimization than women who were not employed. This risk diminished in the later period, providing some support for the hypothesis that any backlash from increased gender equality will ebb over time as norms about female status in society change.

Changing Structure of Intimate Relationships: Theory and Research

The changing nature of intimate relationships has been identified as another factor that may be contributing to declines in intimate partner homicide, at least in the United States (Browne et al., 1999; Dugan et al., 1999; Rosenfeld, 2000). Referred to as the “declining domesticity” argument, researchers have highlighted that males and females have increasingly delayed entry into first marriage or remarriage during the past few decades.⁴ As a result, common-law unions and dating relationships of longer duration have become more common. Researchers speculate that the decreasing popularity of marriage has contributed, to some extent, to the reduction in intimate partner killings. In short, the argument suggests that falling marriage rates have reduced the number of opportunities for intimate partner homicide (Rosenfeld, 2000). Greater documented declines in marital partner homicide relative to nonmarital partner killings in the United States appear to support this contention. In addition, it is argued that delayed first marriages may also mean that there is greater selectivity when choosing an intimate partner, thereby reducing the proportion of violent relationships among intact marriages (Dugan et al., 1999; Rosenfeld, 1997, 2000).

Rosenfeld (1997), who examined intimate partner homicides over a 25-year period in St. Louis, Missouri, found that about 30% of the decline in spousal homicides among African Americans during this period was attributable to declining *domesticity*, a term used to denote long-term intimate relationships (also see Gillis, 1986, 1996). Rosenfeld (1997) argued that falling marriage rates and rising rates of separation and divorce among this population subgroup contributed the most to decreases in intimate partner homicide. He concluded that the role played by declining marriage rates today may be similar to the role played by divorce in earlier periods when increasing divorce rates acted as a safety valve, contributing to declines in domestic homicide (also see Gillis, 1996).

As part of their larger analysis of the effect of various exposure reduction factors, Dugan et al. (1999) examined the impact of changing “domesticity” on intimate partner homicide rates over time in 29 U.S. cities. They demonstrated that domesticity was related to the rate of spousal homicide; the higher the marriage rate, the higher the rates of both husband- and wife-perpetrated marital homicide. In addition, they found that high divorce rates reduced the rate at which wives killed husbands, but not vice versa. However, the authors also found evidence of a substitution effect:⁵

Declining marital domesticity, as measured by divorce rates, was associated with an increase in the rate of unmarried males killing their partners. Overall, the authors concluded that declining domesticity had a greater impact on declining rates of male and marital lethal victimization than on female and nonmarital lethal victimization (also see Rosenfeld, 2000).⁶ In later analyses, Dugan et al. (2003) expanded their examination to a larger number of cities and a slightly longer time period and found that divorce was positively correlated with spousal homicide; as divorce increased, the spousal homicide rate also increased. They argued that this was not surprising given that prior research demonstrated that the ending of a relationship increases the risk of lethal victimization (Campbell, 1992; Gartner et al., 1999; Goetting, 1995). Research does show that when women are separating from a male partner, their risk of spousal homicide increases (e.g., Dawson & Gartner, 1998; Johnson & Hotton, 2003), particularly in the first few months. After divorce, however, studies have found little to no risk of lethality (Gartner et al., 1999; Johnson & Hotton, 2002).

The Domestic Violence Movement: Theory and Research

In the United States and Canada, the increasing availability of domestic violence services as well as changes in legislation that target this type of crime have coincided with the decline in intimate partner homicide. For example, before the 1970s, police and criminal justice decision makers responded with ambivalence to intimate partner violence. Over a period of time, however, the interests and concerns of feminists, victim advocates, and, later, politicians and others prompted a series of reforms. Since then, countless agencies and programs have been developed to address the negative effects of intimate violence and, more specifically, to reduce violence against women and children.

To date, only a few studies have examined the association between the domestic violence movement and rates of intimate partner homicide. For example, Browne and Williams (1989) found that the availability of domestic violence resources was strongly associated with the rate at which women killed their male partners but only slightly linked to the rate at which men killed their female partners. They also noted that it was the availability of shelters and crisis lines that had the strongest impact on declines. In a later study, Dugan et al. (1999) identified a significantly stable and negative impact of hotlines and legal services on the rate at which women killed their husbands but no effect for shelters. More recently, Dugan and her colleagues (2003) found that some resources were linked to lower levels of intimate partner homicide, whereas other resources were associated with increased levels of homicide. Beyond this research, despite the proliferation of domestic violence resources in the past three decades, their impact on lethal and nonlethal violence among intimates has received surprisingly little attention from researchers despite the numerous implications for policy initiatives. One reason for this may be the paucity

of data available that document increases over time in the availability of such resources.

Summary

U.S. researchers have identified three important social changes that may be useful in explaining declines in intimate partner homicide in their country. Because similar social changes have occurred in Canada, we argue that an examination of these factors and their contribution to declines in this country is worthy of study. In this analysis, then, we begin to assess the validity of the exposure reduction framework for explaining declines in the Canadian context. Our primary objectives are twofold: (a) to identify what exposure reduction factors may be contributing to declines in spousal homicide rates and (b) to determine whether these factors differ for female and male victims of spousal homicide. Below, we describe the measures and hypotheses used to frame our analysis.

The Present Study

Data

The data presented in this article were drawn from Statistics Canada's annual Homicide Survey that collects detailed information on all homicide incidents, victims, and accused persons since 1974.⁷ Police departments across the country complete a survey questionnaire following each homicide incident. In accordance with Canadian law, the Homicide Survey classifies criminal homicide as first-degree murder, second-degree murder, manslaughter, or infanticide. Deaths caused by criminal negligence, suicide, or accidents and those that have been defined as justifiable homicides are not included. In addition, we use data from a combination of other statistical data sources, primarily the Census and Labor Force Survey, to construct our independent variables. Below, we describe the variables considered in our analysis (see Table 1 for descriptive statistics).⁸

Measures

Our dependent variable is the annual rate of male and female spousal homicides per million couples between 1976 and 2001.⁹ Spousal homicides include killings that occur between legal spouses or common-law partners, both current and estranged. To calculate annual homicide rates, census and annual population estimates were used to estimate the number of women and men aged 15 and older who were married, in a common-law union, or separated or divorced from legal marital partners. This study uses denominator data that are specific to the population at risk

Table 1
**Summary Statistics for Measures of Spousal Homicide,
 Gender Equality, and Changing Relationships, 1976 to 2001**

Variable	<i>M</i>	<i>SD</i>	Minimum	Maximum
Spousal homicide rate (per million couples)				
Female victims	10.5	2.4	6.3	14.7
Male victims	3.2	1.1	1.3	5.2
Gender equality				
Absolute socioeconomic status				
Female employment rate per 100 Canadians older than 15 years of age	50.1	4.1	42	55.6
Male employment rate per 100 Canadians older than 15 years of age	68.6	2.9	64.6	73
% female with university degree	9.4	2.9	5	14.7
% male with university degree	12.4	2.2	9.1	16.3
Relative socioeconomic status (ratio)				
Female–male gap in education	1.4	0.23	1.1	1.8
Female–male gap in employment	1.4	0.16	1.2	1.7
Changing relationships				
Female marriage rate aged 15 to 24 ^a	20.1	6.6	11.6	30.3
Male marriage rate aged 15 to 24 ^b	10.1	3.7	5.2	16
Female marriage rate aged 25 to 34 ^c	71.7	7.6	61.1	83.3
Male marriage rate aged 25 to 34 ^d	61.7	9.9	48.8	76.5
Divorce rate ^e	263	32.4	225	364
Female average age first married	25.4	1.7	22.7	27.7
Male average age first married	27.4	1.6	25	29.7
Female average age first child	25.7	0.95	23.9	27.1
Controls				
% females aged 15 to 24	16.2	2.7	13.1	19.6
% males aged 15 to 24	17.1	2.6	14	20.2
% females aged 25 to 34	16.8	1.2	14.3	18.3
% males aged 25 to 34	17.3	1.2	14.9	19
Alcohol consumption ^f	90.8	7.8	80.4	101.3

a. Number of married and divorced females 15 to 24/number of females 15 to 24 years of age in the population \times 100,000.

b. Number of married and divorced males 15 to 24 years of age/number of males 15 to 24 years of age in the population \times 100,000.

c. Number of married and divorced females 25 to 34 years of age/number of females 25 to 34 years of age in the population \times 100,000.

d. Number of married and divorced males 25 to 34 years of age/number of males 25 to 34 years of age in the population \times 100,000.

e. Number of divorces/total population \times 100,000.

f. Per capita level of alcohol consumption is based on per capita disappearance of alcohol in Canada (expressed in liters)/total population.

(e.g., legally married, separated, common-law married, and divorced women; also see Puzone et al., 2000).

Our key independent variables capture the role played by increasing gender equality and the changing structure of intimate relationships in declining rates of spousal homicide. Specific measures of domestic violence resources were not available for this analysis.¹⁰ We discuss the role of gender equality and relationships in more detail below.

Gender equality. We include measures of both relative and absolute socioeconomic levels to examine the role of gender equality. For *absolute* socioeconomic status, we include separate measures that capture the percentage of the female population and the percentage of the male population with a university degree. In the past several decades, there has been an increase in the number of women and men who have attained postsecondary education in Canada. For example, in 1996, 12% of women aged 15 years and older had a university degree, double the figure in 1986 and 4 times that in 1971 (Statistics Canada, 2000). Similarly, in 1996, 14% of men aged 15 years and older had a university degree, compared to 7% in 1971 (Statistics Canada, 2000). Drawing from the exposure reduction framework, we hypothesize that increasing education levels for both women and men will contribute to declines in spousal homicide rates. More specifically,

Hypothesis 1a: As education levels increase for females, their rates of spousal homicide victimization will decrease.

Hypothesis 1b: As education levels increase for males, their rates of spousal homicide victimization will decrease.

We also include separate measures of female and male employment levels. During the past few decades, Canada and other countries have witnessed a dramatic growth in the share of women who are part of the labor force. For example, in Canada in 1999, 55% of women aged 15 and older had jobs, up from 42% in 1976 (Statistics Canada, 2000). Most of this growth took place in the 1970s and 1980s. As a result, we hypothesize,

Hypothesis 1c: As employment levels increase for females, their rates of spousal homicide victimization will decrease.

Hypothesis 1d: As employment levels increase for males, their rates of spousal homicide victimization will decrease.

However, as noted above, measures of the absolute socioeconomic status of women and men capture only part of the picture with respect to gender equality. Therefore, we also examine *relative* socioeconomic status. Research has noted that relative status may be more appropriate than absolute socioeconomic levels for determining rates of violence because the former may reflect structural inequalities in society and, in

particular, the subordinate position of women in relation to men (Bailey & Peterson, 1995). Therefore, we include two measures of relative gender equality: (a) education equality, the percentage of adult males versus the percentage of adult females who have a university degree (expressed as a ratio), and (b) employment equality, male versus female rates of employment (expressed as a ratio).¹¹

With respect to relative education levels, women and men today are almost equally likely to have a university degree (Statistics Canada, 2003). This is in comparison to historical figures that have shown that traditionally there has been a larger gap in the education levels of men and women (Statistics Canada, 2000). For example, although increases in educational attainment have been documented for both women and men, this growth has been more significant for the female population. As already noted, Canadian women were 4 times as likely to have a university degree in 1996 compared to 1971, whereas men were only twice as likely to have a university degree in 1996 compared to 1971. Therefore, this differential growth in education levels has considerably reduced the female–male education gap. In 1971, the percentage of women with a degree was 3%, less than half the figure for men that year at 7%. In contrast, today those numbers are more similar—12% and 14% for women and men, respectively (see Figure 1; Statistics Canada, 2000). Therefore, drawing from the exposure reduction framework (and consistent with the ameliorative hypothesis), we hypothesize,

Hypothesis 1e: As the gap in education levels for females and males decrease, the rate of spousal homicide against women and men will also decrease.

With respect to relative employment levels, similar trends have been noted. For instance, although women’s employment increased primarily during the 1970s and 1980s, men’s employment levels fell (Statistics Canada, 2000), thereby reducing the gender gap in paid work. Similar to female employment levels, however, male employment levels are again slowly beginning to increase, but the current level of 68% is well below the prerecession level of more than 70% for males. As a result, women still accounted for well more than half (57%) of the workforce in 2003, up from 42% in 1976 (see Figure 2). Therefore, we hypothesize,

Hypothesis 1f: As the gap in employment levels for females and males decrease, the rate of spousal homicide against women and men will also decrease.

The gender equality hypotheses outlined above are based on the assumption that women’s increased access to financial and other resources may act to reduce their economic (and, potentially, their emotional) dependence on men (Dugan et al., 1999). Furthermore, we argue, as others have, that women with greater opportunities and resources may be more capable of leaving a relationship if it turns violent or, alternatively, of avoiding such relationships in the first place than women with fewer opportunities and resources. And although we were not able to include a measure of annual earnings,¹²

Figure 1
Percentage of the Population With a University Degree, 1976 to 2001

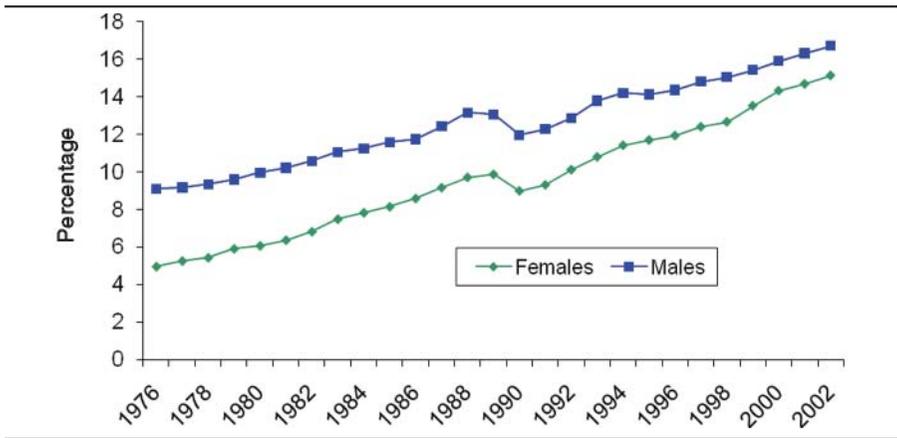
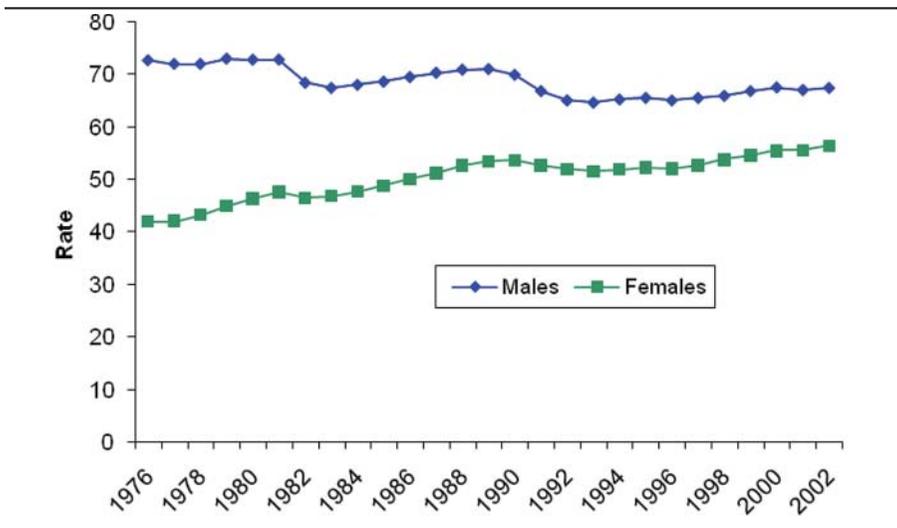


Figure 2
Employment Rate of Canadians, 15 Years and Older, 1976 to 2001



women’s income levels have also increased in Canada during the past several decades, in large part because of their increased education and labor force participation (Statistics Canada, 2000). Therefore, although women today still generally have lower incomes than men, female income levels are growing faster than income levels

for men, thereby reducing the gender gap in income. We argue, as a result, that measures of education and employment may also represent proxies for income levels.

Changing structure of intimate relationships. In Canada, during the past three decades, the structure of living arrangements and relational lifestyles chosen by women and men has undergone fundamental changes. Specifically, the rate of marriage, especially among young adults, has been declining. For example, in 1980, 61% of those aged 20 to 24 years had never been married, whereas by 2000 this number had increased to 81%. Consequently, the age at first marriage has also risen for both women and men. To illustrate, in 1974, the average age at first marriage was 22 years for women and 24 years for men. In contrast, in 1997, it was 28 years for women and 30 years for men (Villeneuve & Geran, 2001). Although fewer people have been getting married during this period, more people have been getting divorced. In 1997, there were 225 divorces for every 100,000 people in Canada, compared to 55 per 100,000 in 1968 (Statistics Canada, 2000). This has resulted, in part, from revisions in legislation regarding divorce implemented in 1968 and 1986 that eased restrictions on marital dissolution (see Figure 3).

Drawing from work by Rosenfeld (1997, 2000) and Dugan et al. (1999, 2003), we measure changes in relational lifestyles of Canadian women and men using divorce rates and rates of marriage.¹³ Specifically,

Hypothesis 2a: As marriage rates decrease for females and males, their spousal homicide victimization rates will also decrease.

Hypothesis 2b: As divorce rates increase for females and males, the spousal homicide rate will increase.¹³

We also include a measure that captures the average age at first marriage for both men and women (see Figure 4), and the average age of women at birth of their first child (see Figure 5),¹⁴ to test the following hypotheses:

Hypothesis 2c: As the average age at time of first marriage increases for women and men, rates of spousal homicide will decrease.

Hypothesis 2d: As the average age at birth of first child increases for women, spousal homicide rates will decrease for women.

We argue that the average age of women at birth of their first child may also represent changes in family or relational structures. That is, if women are having fewer children later in life, there may be fewer obstacles to leaving a relationship if it turns violent (i.e., staying together because of the children).

Control variables. Because rates of intimate partner homicide may also be affected by factors that affect homicide rates generally, we include measures that

Figure 3
Divorce Rate per 100,000 Population, 1976 to 2001

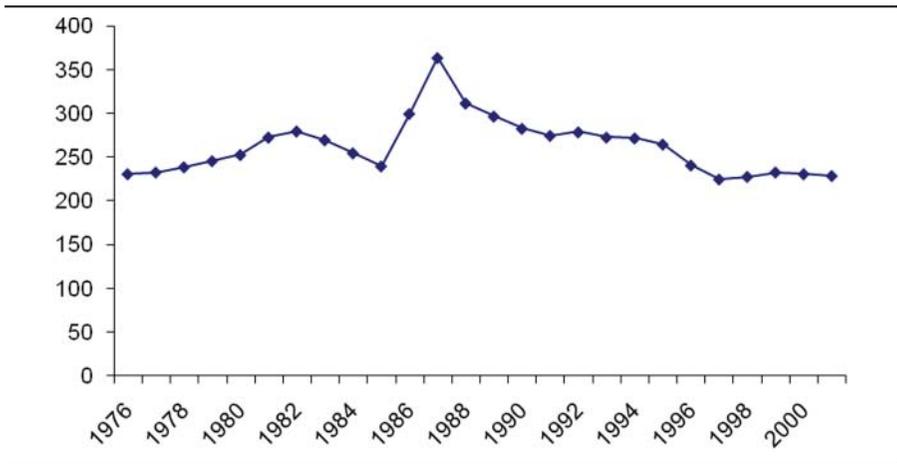


Figure 4
Average Age at First Marriage, 1976 to 2001

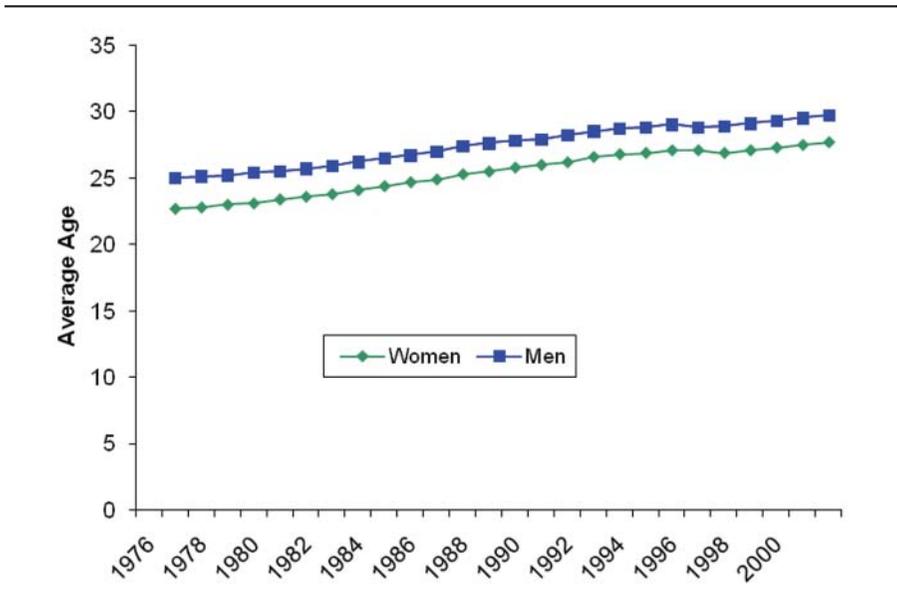
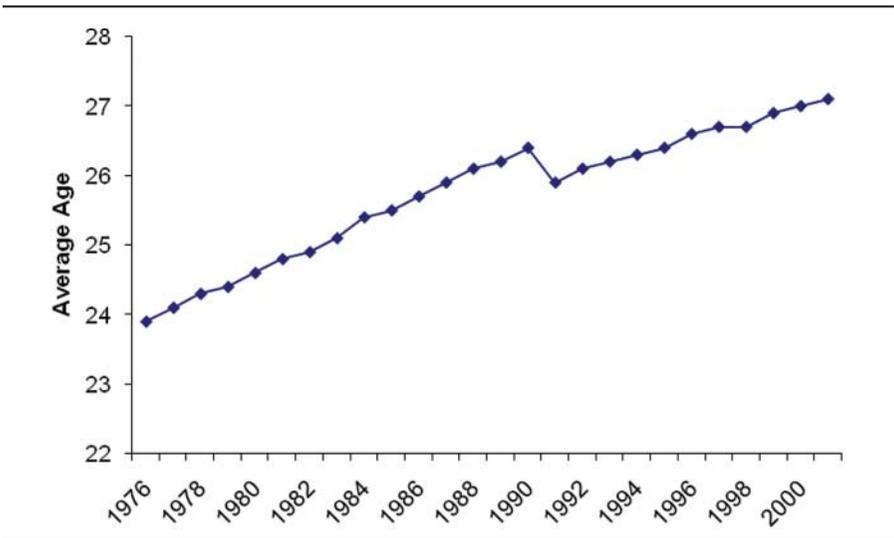


Figure 5
Mother's Average Age at Birth of First Child, 1976 to 2001



capture the changing age composition of the population as well as the rate of alcohol consumption.¹⁵ Overall, crime rates have been shown to decline with decreases in the number of individuals in crime-prone age groups (e.g., Carrington, 2001). Other researchers, however, have found that the age composition of the population contributes little to the overall crime rate (Levitt, 1999). To allow for this possibility, we include a measure of the percentage of the population aged 15 to 24 and 25 to 34, those groups believed to be the most crime prone. Specifically, we examine shifts in the composition of males and females in these two age groups and their association with rates of spousal homicide.

Research also indicates that alcohol may contribute to crime through the disinhibiting effect it has on cognition and perceptions (R. N. Parker, 1995). Alcohol can act on cognition so as to impair perceptions of the actions and signals of others and the ability to respond appropriately, sometimes resulting in violent responses when drinking. Heavy drinking can also increase the probability of misinterpretation of social cues and can reduce the actor's ability to cope with stressful situations. Individuals may also drink to work up courage to commit criminal acts (Pernanen, Cousineau, Brochu, & Sun, 2002). We argue, then, that aggregate rates of alcohol consumption may affect rates of violent crime, and, as a result, we include a variable that captures the rate of per capita alcohol consumption in our analysis.

Analytic Procedures

In this analysis, we explore the extent to which changes over time in the dependent variable—female and male spousal homicide rates—can be explained by changes in independent variables, a selection of indicators that capture changes in gender equality and relational lifestyles. However, the independent variables being examined may move in a similar way to the spousal homicide rate over time but have no causal relationship with that rate. As a result, modeling the independent variables as they are using either simple correlation analysis or multiple regression techniques could lead to false conclusions that causal relationships exist when, in reality, they do not. This problem exists because the spousal homicide rate and other indicators included in the model are not stationary in the mean (i.e., average) or in their variance over time. What this means is if, over the whole time series from 1976 to 2001, repeated samples were taken from shorter time series for each variable, the variable's mean and its variance would be different across the samples.

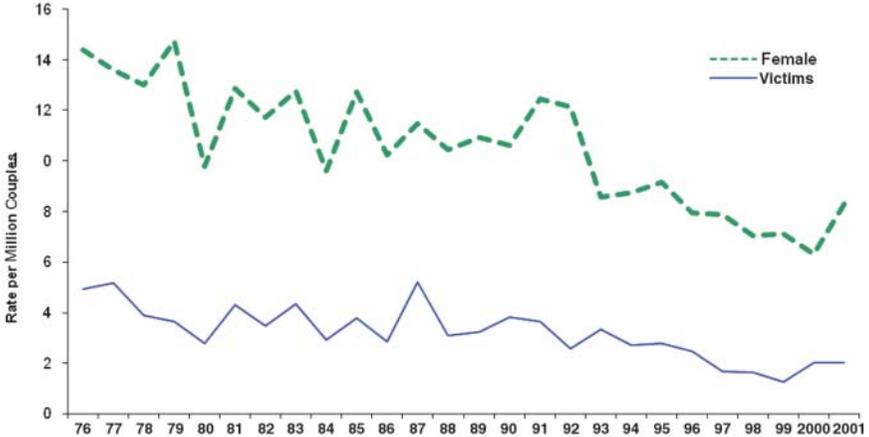
To address this problem, we use time series techniques to determine which variables have the most predictive power in explaining the declines in female and male spousal homicide rates. Time series analysis is appropriate here because it is able to deal with time-ordered variables (see Box & Jenkins, 1976). In the following section, we briefly describe the documented declines in spousal homicide in Canada before moving to our examination of which factors have contributed to the declines for females and males.

Documenting Declines

As noted above, we define spousal relationships as those couples who are common-law married, legally married, separated, or divorced.¹⁶ Although spousal homicide rates for women and men have fluctuated during the past several decades, there has been an overall decline between 1976 and 2001 (see Figure 6). Specifically, the female spousal homicide rate decreased by 51% (from 16.5 to 8.0 women per million couples), whereas the male spousal homicide rate dropped by 55% (from 4.4 to 2.0 men per million couples).¹⁷ These trends parallel those documented in the United States between 1976 and 2000, where declines were also more significant for male victims.¹⁸ In addition, similar to the United States, declines in Canada were documented for all age groups with the exception of males aged 15 to 24 years for which a slight increase was noted (see Figure 7).

Although firearms remain the most frequently used method in wife killings, the rate at which both wives and husbands were killed by firearms declined between 1976 and 2001. In 1976, 6.6 wives per million couples were killed with a firearm compared to 2.2 in 2001, a decrease of 67%. Similarly, the rate at which husbands were killed with

Figure 6
Spousal Homicide Rates Generally Declining, 1976 to 2001

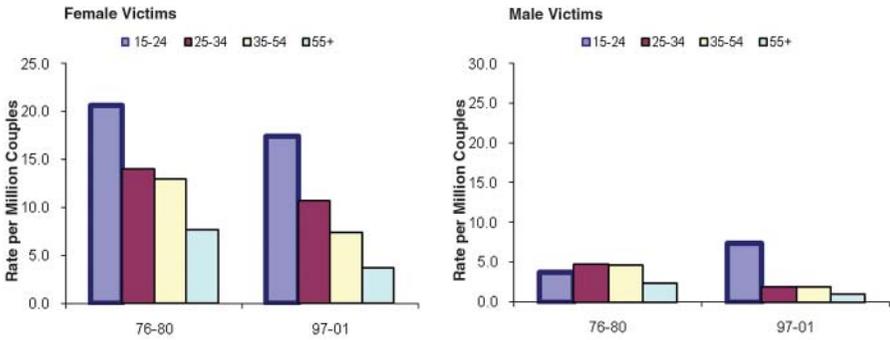


¹Rate per 1,000,000 legally married separated, divorced, and common law in males and females.

Rates are based on population estimates, Demography Division, July 1, 2002.

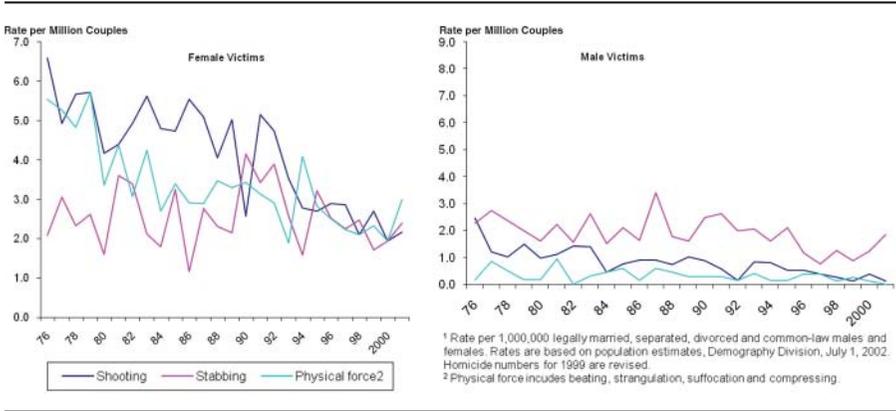
²Same-sex partners were excluded from the analysis because Census data on same-sex couples are unavailable and therefore rates cannot be calculated.

Figure 7
Rates of Spousal Homicide Against Women Have Declined in Most Age Groups



a firearm during the same period decreased from 2.5 husbands per million couples to 0.1, a decrease of 96% (see Figure 8). Similar trends have been documented in the United States, where the decline in gun use in intimate partner homicides has been

Figure 8
Use of Firearms in Spousal Homicide Decreasing, 1976 to 2001



more pronounced than the decline of any other method during the same years. The rate at which wives were killed by physical force declined by 45% (5.5 wives per million couples in 1976 to 3.0 in 2001) and the rate at which men killed by knives decreased by 17% (2.3 husbands per million couples in 1976 to 1.9 in 2001).

In summary, many of the patterns documented in the United States with respect to intimate partner homicide are paralleled by trends in spousal homicide in Canada. Thus, we expect that some of the social changes identified by U.S. researchers as potentially contributing to the declines may also play a role in Canada. We turn to this question below.

Explaining the Declines: Multivariate Time Series Analyses

The first step in time series modeling is to transform the variables to be included in the model in a way that reduces the risk of spurious or false correlations by creating a stationary mean and variance. Taking the logarithm of a variable is a common technique to transform variables to achieve this goal, particularly when the variables have a large range and a high variability among the values. For these time series models, the log of each variable to be included in the models was calculated and then the growth rate was calculated, resulting in a transformed data series for each variable. Using the transformed variables, bivariate models were constructed to determine which independent variables had a statistically significant relationship with male and female spousal homicide rates (see Table 2). Multivariate models were then constructed by testing different combinations of independent variables that were significant in the bivariate models.

Table 2
Results of the Bivariate Models, 1976 to 2001

Variable	Female Spousal Homicide Rates					Male Spousal Homicide Rates				
	Coefficient	Residuals				Coefficient	Residuals			
		Lag 6	Lag 12	Lag 18	Lag 24		Lag 6	Lag 12	Lag 18	Lag 24
Gender equality										
Relative socioeconomic status										
Female-male gap in education	7.42***	0.28	0.07	0.15	0.28	1.85***	0.15	0.01	0.03	0.05
Female-male gap in employment	1.58***	0.05	0.01	0.02	0.05	2.20***	0.03	0.00	0.00	0.01
Absolute socioeconomic status										
Female employment rate	-2.08***	0.01	0.0	0.0	0.02	-2.86***	0.01	0.00	0.00	0.00
Male employment rate	3.68***	0.11	0.44	0.59	0.51	5.17***	0.05	0.20	0.27	0.39
% female with university degree	-7.96***	0.23	0.05	0.13	0.24	-0.84***	0.19	0.02	0.08	0.09
% male with university degree	-8.28***	0.23	0.05	0.14	0.23	-1.515***	0.21	0.05	0.15	0.13
Changing relationships										
Female marriage rate aged 15 to 24	4.16***	0.01	0.0	0.0	0.01	0.377***	0.01	0.01	0.10	0.00
Male marriage rate aged 15 to 24	3.76***	0.01	0.0	0.0	0.01	0.49***	0.01	0.00	0.01	0.01
Female marriage rate aged 25 to 34	4.14***	0.01	0.0	0.0	0.01	2.11***	0.01	0.00	0.00	0.01
Male marriage rate aged 25 to 34	4.73***	0.02	0.0	0.01	0.02	1.50***	0.03	0.00	0.00	0.01
Divorce rate	1.21 ^{ns}	0.0	0.01	0.0	0.0	0.20**	0.00	0.03	0.01	< .0001
Female average age first married	-6.51***	0.13	0.01	0.04	0.11	-3.87***	1.14	0.01	0.04	0.05
Male average age first married	-6.59***	0.16	0.01	0.04	0.1	-4.55***	0.16	0.01	0.04	0.05
Female average age first child	-6.8***	0.07	0.0	0.0	0.01	-6.94***	0.12	0.00	0.01	0.01
Sociodemographic variables										
% females aged 15 to 24	6.13***	0.05	0.0	0.0	0.01	1.56***	0.05	0.00	0.00	0.01
% males aged 15 to 24	6.07***	0.05	0.0	0.0	0.0	1.63***	0.06	0.00	0.00	0.01
% females aged 25 to 34	3.98***	0.0	0.06	0.01	0.0	2.5***	0.16	0.58	0.56	0.00
% males aged 25 to 34	4.15***	0.0	0.1	0.0	0.0	2.66***	0.15	0.51	0.42	0.00
Alcohol consumption	5.91***	0.09	0.0	0.0	0.0	2.93***	0.09	0.03	0.05	0.01

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 3
Autoregressive Integrated Moving Average Models,
Female Spousal Homicide Rates, 1976 to 2001

Independent Variables	Parameter Value ^b	Residual <i>p</i> Values (White Noise Test) ^a			
		Lag 6	Lag 12	Lag 18	Lag 24
1. % of females with a university education	-0.568***	.1352	.3163	.3908	.451
Divorce rate	0.643***				
2. Employment ratio	1.59***	.5622	.4459	.6707	.7995
% of females 25 to 34 years of age	0.649***				
3. Employment ratio	1.574***	.4271	.3632	.5818	.7783
Divorce rate	0.329***				

a. In the case of time series, errors will themselves constitute a time series. The goal of the white noise test is to render the residuals nonsignificant (or devoid of any structure) by extracting the correlation in the error terms. The white noise test checks for autocorrelation up to Lag 6 (6 years previous), Lag 12 (12 years previous), and so on. Time series models must be modified until values at Lag 6, 12, 18, and 24 are nonsignificant.

b. The value of the parameter indicates how much change there will be in the dependent variable when there is a 1% shift in the independent variable. For example, in the case of homicide, a 1% shift in unemployment will be associated with a .39% shift in homicide rates (in the same direction).

p* < .05. *p* < .01. ****p* < .001.

Table 4
Observed and Forecasted Female Spousal Homicide
Rates per 1,000,000 Population, 2002

Model	Observed Spousal Homicide Rates	Forecasted Spousal Homicide Rates	Error Percentage
Employment ratio	7.95	7.93	-0.20
Divorce rates			
% of females with a university degree	7.95	6.8	-14.14
Divorce rates			
Employment ratio	7.95	7.4	-6.99
% of females with a university degree			

Note: The forecasting error is calculated by subtracting the observed value (O) from the forecast value (F) divided by the observed value (O), in other words (F-O)/O*100.

In any modeling exercise, and with time series models, it is usually not possible to include all the variables that may be important to explaining changes in the dependent variable. Error in the models resulting from the possibility of missing variables is referred to as the *residual*. Although it is rare for models to eliminate

Table 5
Autoregressive Integrated Moving Average Models,
Male Spousal Homicide Rates, 1976 to 2001

Ranking	Independent Variables	Parameter's Value ^b	Residual <i>p</i> Values (White Noise Test) ^a			
			Lag 6	Lag 12	Lag 18	Lag 24
1	% of males with a university education	-1.50***	.5727	.7839	.8528	.6511
	Divorce rate	0.874***				
	MA term of order 3 (in the error)^c	0.448*				
2	Employment ratio	2.145***	.6401	.1941	.367	.4476
	Divorce rate	0.078*				
	MA term of order 2 (in the error)	-0.473*				
3	Education ratio	1.82***	.7474	.3883	.5183	.5204
	% of males 25 to 34 years of age	0.188***				
	MA term of order 2 (in the error)	-0.367*				

a. In the case of time series, errors will themselves constitute a time series. The goal of the white noise test is to render the residuals nonsignificant (or devoid of any structure) by extracting the correlation in the error terms. The white noise test checks for autocorrelation up to Lag 6 (6 years previous), Lag 12 (12 years previous), and so on. Time series models must be modified until values at Lag 6, 12, 18, and 24 are nonsignificant.

b. The value of the parameter indicates how much change there will be in the dependent variable when there is a 1% shift in the independent variable. For example, in the case of homicide, a 1% shift in unemployment will be associated with a .39% shift in homicide rates (in the same direction).

c. The MA (moving average) term order describes the history of the error process and is used only for forecasting purposes.

* $p < .05$. ** $p < .01$. *** $p < .001$.

error, it is still important to accurately interpret how significant the variables included in the model are in explaining changes in the spousal homicide rate over time. In short, to avoid false or spurious results, this error or “residual” must be random. In time series models, autocorrelation coefficients are key statistics that measure whether the dependent variable, in this case spousal homicide rates, is correlated with itself—last year’s spousal homicide rate (lag of 1 period), spousal homicide rates 6 years ago (lag 6), or 12 years ago (lag 12), and so on. Autocorrelation within the data indicates, for example, that some of the variance in spousal homicide rates may be explained by the past history of the spousal homicide rate itself. The presence of autocorrelation in the models results in residuals that are not random but that have a pattern to them. Lag variables are included in the time series models to test for the presence of autocorrelation. Models in which these lag variables are statistically insignificant pass the “white noise test,” meaning that the residuals in the models are random.

As the fit of the models were to be further tested by examining their ability to predict future values, the residuals themselves could contain information about the movement in other important variables that are missing from the models. This information can help us develop better models to predict future spousal homicide rates. Moving average (MA) terms were added to the models to capture any information in the residuals over time that could improve the models' predictive ability (Box & Jenkins, 1976). As a result, the time series models developed for these analyses were ARIMA models (autoregressive integrated moving average models). The results of all models were then compared using the following three criteria to determine the models that "best fit" male and female spousal homicide rates: (a) independent variables included had statistically significant parameters, (b) residuals were rendered random (white noise test was passed), and (c) highest accuracy of the forecasts resulting from the models. Tables 3 to 6 present the competing models with the "best fit" model highlighted in bold. We examine the models for female spousal homicide rates followed by the models for male spousal homicide rates.

Results yielded three statistically significant competing models for explaining the decline in female spousal homicide rates as shown in Table 3. To determine which of the three models appeared to be the best fit, we used a common test for determining the significance of time series models: the ability of the data to predict future values as noted above. Table 4 includes observed and forecasted female spousal homicide rates for each of the statistically significant models as well as the error percentage of each model. The lower the error percentage, the better the predictive power of the model. When predictive models were run, Model 3, which included relative measures of employment and divorce rates, was found to have the best predictive power (see Table 4). The results of this model can be interpreted as follows:

$$\text{Logwiv} = 1.574 \text{ logempr} + 0.329 \text{ log divorce} + e(t)$$

This means that there is a positive relationship between relative employment levels and female spousal homicide rates so that when relative employment levels for men and women vary by 1%, rates of female spousal homicide vary by about 1.57 in the same direction. More specifically, supporting our hypothesis (Hypothesis 1f) with respect to female rates, when the gap in female–male employment levels decreases, so too do rates of female spousal homicide. Furthermore, this finding underscores the importance of relative rather than absolute socioeconomic status in predicting the lethal victimization of women in intimate relationships. In addition, divorce rates were also significantly associated with female rates of spousal homicide. When divorce rates vary by 1%, female spousal homicide rates will vary by about 0.33% in the same direction.

Table 6
Observed and Forecasted Male Spousal Homicide
Rates per 1,000,000 Population, 2002

Model	Observed Spousal Homicide Rates	Forecasted Spousal Homicide Rates	Error Percentage
% of males with a university education			
Divorce rate	2	1.9	-3.58
MA term of order 3 (in the error) ^a			
Employment ratio			
Divorce rate	2	2.1	5.05
MA term of order 2 (in the error)			
Education ratio			
% of males 25 to 34 years of age	2	2.3	15.60
MA term of order 2 (in the error)			

Note: The forecasting error is calculated by subtracting the observed value (O) from the forecast value (F) divided by the observed value (O), in other words (F-O)/O*100.

a. The MA (moving average) term order describes the history of the error process and is used only for forecasting purposes.

With respect to male spousal homicide rates, results also yielded three statistically significant competing models for explaining declines (see Table 5). Table 6 includes observed and forecasted male spousal homicide rates for each of the statistically significant models as well as the error percentage of each model. When models were run to determine their predictive value, Model 1, which included the percentage of men with a university degree and divorce rates, was found to be the best fit (lowest error percentage). The results of this model can be interpreted as follows:

$$\text{Loghus} = -1.50 \log \text{medc} + 0.87 \log \text{divorce} + 0.448 e(t-3) + e(t)$$

This means that there is a negative relationship between the percentage of males with a university degree and male spousal homicide rates so that when the percentage of males with a university degree varies by 1%, rates of male spousal homicide vary by about 1.5% in the opposite direction. Supporting our hypothesis (Hypothesis 1b) with respect to male rates, then, when male education levels increase, there will be a subsequent decrease in male spousal homicide rates. Conversely, there is a positive relationship between divorce rates and male spousal homicide rates such that when divorce rates increase (or decrease) by 1%, there is a corresponding increase (or decrease) of about 0.87% in male spousal homicide rates. This finding supports our hypothesis (Hypothesis 2b) that higher divorce rates will lead to higher rates of lethal victimization.¹⁹

Discussion and Conclusion

Various social changes have occurred during the past three decades that have had a significant impact on the lives of women and men. In this study, we examine how some of these social changes have affected female and male spousal homicide rates over time. Drawing from U.S. research adopting an exposure reduction framework, we used several indicators of gender equality and changing relational lifestyles and found that some of these changes are also associated with declines in spousal homicide in Canada. Supporting the exposure reduction thesis, we found that as the gap in female–male employment levels decreased, so too did the rate at which women were killed by male spouses. This provides some support for the gender equality argument that as women became more financially independent, they may be more likely to exit violent relationships or be more selective in entering relationships initially, thereby decreasing their potential for victimization by a male partner. Also supporting the exposure reduction framework, we found that as the level of university education increased for males, the rate at which men were killed by female spouses decreased. We speculate that increasing education levels for both females and males are associated with access to better jobs and higher incomes and, therefore, more opportunities to leave violent relationships. However, with respect to higher education levels for men and the role they play in reducing men's rates of lethal victimization, it may be that better educated males have a better understanding of women's roles in society that translates into less traditional and more liberal attitudes toward gender roles. This, in turn, might result in less conflict in the home and, therefore, fewer women killing out of desperation, thereby decreasing male spousal victimization rates. Future research, however, needs to examine these issues further, and until then only speculative explanations can be offered.

Finally, on the surface, our finding that divorce is positively associated with female and male spousal homicide rates seems to contradict the exposure reduction framework that draws from cross-cultural and historical research to highlight the integral role of divorce as a nonviolent mechanism for exiting a threatening relationship (Erchak & Rosenfeld, 1994; Gillis, 1996; Levinson, 1989). However, this finding is consistent with other research on the exposure reduction framework specifically and homicide research generally that has shown the opposite appears to be true: Higher divorce rates lead to higher rates of spousal homicide and other types of homicide generally. One explanation for this association argues that divorce can be seen as an indicator of social disorganization in society (e.g., Bailey & Peterson, 1995), and, therefore, one should expect that it would be positively related to rates of homicide generally. That is, as social disorganization increases in society and social controls break down, rates of crime, including violence, also increase. Supporting this theory, the positive relationship between divorce rates and homicide rates has been a consistent finding in virtually all aggregated homicide studies (for a review, see K. F. Parker, McCall, & Land, 1999). Therefore, given our findings and

those of previous research (Bailey & Peterson, 1995; Dugan et al., 2003), divorce does not appear to act as an exposure reduction mechanism that can explain current declines in intimate partner or spousal homicide. How, then, can we reconcile the literature that suggests divorce can act as a safety valve, reducing lethal violence between intimates, with research that has consistently found that high divorce rates are associated with lethal violence and, in particular, spousal homicide?

One interpretation has drawn from literature that emphasizes that the ending of a relationship increases the risk of lethal victimization for women (Campbell, 1992; Gartner et al., 1999; Goetting, 1995). Drawing from research on motivational and situational differences in female- and male-perpetrated spousal homicides, a dominant motive behind the killing of women by male partners has been identified as the women's attempt to leave the relationship (or the fact that they have already left; Campbell, 1992; Polk, 1994; Wilson & Daly, 1993). Thus, where the divorce rate is high, women are more likely to be killed by their abusers, as shown in our analysis and by Dugan et al. (2003). In contrast, women often kill after prolonged abuse by a male partner or when they fear for their own lives or the lives of their children. Thus, where the divorce rate is high (i.e., women have such an option for exiting a relationship), women may be less likely to kill their abusers. This would explain Dugan et al.'s (1999) earlier finding discussed above that high divorce rates reduced the rate at which wives killed husbands but not vice versa. However, such an explanation does not explain Dugan et al.'s (2003) later finding that divorce rates were positively correlated with male spousal homicide rates, an association that was supported by our analysis as well.

An alternative explanation may be more plausible. In their earlier analysis of the exposure reduction framework, Dugan et al. (1999) found evidence of a substitution effect: Declining marital domesticity, as measured by divorce rates, was associated with an increase in the rate of unmarried males killing their partners. As a result, they argued that high divorce rates lead to increases in other types of intimate relationships such as common-law or extended dating relationships that may be more violent. Recent figures in Canada demonstrate that there has been an increase in less formal, cohabiting or common-law relationships (Le Bourdais, Neill, Turcotte, Vachon, & Archambault, 2000), and, compared to couples in legal marriages, common-law partners are more likely to be poor, young, unemployed, and childless—all factors associated with higher homicide rates (Johnson, 1996; Stets, 1991). Moreover, common-law or cohabiting relationships tend to be shorter in duration and less stable than legal marriages, leading to more frequent break-ups. Estrangement and/or separation is a key risk factor for intimate partner or spousal violence (for a review, see Dawson, 2001), and, therefore, higher rates of estrangement and separation should be associated with higher rates of lethal violence between intimate partners. We argue, then, that the increasing number of common-law relationships and/or separations are at least in part because of the rise in divorce. Thus, higher divorce rates indirectly lead to higher rates of spousal homicide through the resulting increase in relationships that have a high risk of lethal violence.

Despite the plausibility of this explanation for the relationship between divorce rates and rates of spousal homicide, it is difficult to test its validity. For example, much of the U.S.-based research categorizes legal and common-law unions, both current and former, in the category of marital homicide. Only recently in Canada have data been collected on more distinct intimate partner categories, such as separated unions (noted above as the primary reason why this analysis focused on spousal homicides only). Despite the fact that these data are now being collected in Canada, common-law unions and, in particular, estranged common-law unions remain difficult to measure. Adding to the complexity of such an examination is the difficulty of measuring boyfriend–girlfriend or dating relationships. As a result, despite the fact that common-law status and estrangement are risk factors for intimate partner homicide and may explain the positive association between divorce and spousal homicide, these relationship types are difficult to measure given our current data, precluding a systematic examination of this issue at least for now.

In summary, then, three variables appear to be consistently associated with spousal homicide rates as shown in the multivariate models: employment ratio, divorce rates, and education levels. This suggests that these factors appear to have had the most influence on declining rates of male and female spousal homicide during the past several decades. With respect to gender differences, the best predictive model for females included employment ratio and divorce rates, whereas the best predictive model for males included percentage of males with a university degree and divorce rates. However, because of the limited time series data, it is too soon to say with certainty whether different factors are at play for women and men. We can say, however, that the magnitude of the impact of each of these variables is different for women and men.

Future Research: Documenting Domestic Violence Resources

One social change identified by U.S. researchers—the increasing availability of domestic violence resources—may be equally important in understanding declining rates of spousal homicide in this country. Although we did not have the data to examine this question here, such an examination should be a priority for future research. During the past 25 years, there has been improvement in both policy and legislation as well as in programs and services for victims of domestic violence and, in particular, female victims of intimate partner violence. These efforts may be contributing to the declines in lethal victimization between intimate partners; however, there has yet to be any systematic studies of this question in Canada. The paucity of research cannot be attributed to a lack of skilled or interested researchers; rather, it stems from the scarcity of data available that detail the growth and existence of the wide range of services that now target domestic violence in this country. Although such a task is daunting given the number of changes that have taken place, the collection of this

information is crucial if researchers are to systematically assess the relative impact of these and other social trends on the victimization experiences of Canadian women and men. U.S. researchers have shown that the relationship between domestic violence resources and lethal victimization among spouses in their country is a complex one (Dugan et al., 2003). Some resources have been linked to lower levels of intimate partner homicide, whereas other types of resources are related to higher levels of spousal homicide. Dugan and her colleagues (2003) argue that this may be explained by the retaliatory response of male partners to females who are leaving them prompted by some interventions that were not adequately countered by exposure reducing resources. In short, "A little exposure reduction (or unmet promises in exposure reduction) in severely violent relationships can be worse than the status quo" (p. 169).

Although trend data on the availability of domestic violence resources are sparse, we can make a speculative attempt to link increases in programs and services as well as key changes in legislation and policy to spousal homicide rates that support the need for future research in this area. With respect to programs and services, the number of shelter beds that serve abused women has increased rapidly in the past 30 years (Locke & Code, 2000). For example, in 1975, only 18 shelters existed in Canada. Between 1975 and 1999, however, there was a steady increase in the number of new shelters being established, particularly between 1979 and 1992 when more than 200 new shelters were opened. By 1999, 508 shelters were operating throughout Canada. Along with the increase in the number of shelters across the country, there has been a rise in the number of women using shelters in recent years (from 45,777 in 1992 to 57,182 in 2000).²⁰ The vast majority of these women (about 80%) were admitted for reasons of abuse.

Furthermore, records (albeit incomplete) have also been maintained on the growth of treatment programs for violent men since 1984, when only 28 programs were in operation in Canada. Today, the number of programs has risen steadily to at least 204 in 1999 (Health Canada, 1999).²¹ Victimization surveys have also found that although only a minority of spousal violence victims report these crimes to the police, the percentage of reported cases has grown in recent years for female victims from 29% in 1993 to 37% in 1999 (percentages refer to the 5-year period preceding each of the surveys).²² The percentage of women who contacted a social service agency or advocacy group for help also increased from 37% in 1993 to 48% in 1999. Male victims, however, were much less likely to report their abuse to the police (15%) or to use social services (17%) in 1999.

With respect to legislative and policy changes, many Canadian jurisdictions have adopted zero-tolerance and/or no-drop policies during the past 20 years. Generally, these policies require the police to charge in cases of spousal violence where there are reasonable and probable grounds. They also require that cases be prosecuted when there is a reasonable likelihood of conviction. Various policy and legislative changes have also taken place during the same period, including the introduction of criminal harassment as an offense (Section 264 of the Criminal Code). Although the offense of

criminal harassment is not gender specific, the legislation was introduced primarily as a response to violence against women following several highly publicized cases of women who were stalked and killed by estranged partners in the early 1990s. These cases provided the impetus for the criminal harassment legislation with the idea that early intervention in response to stalking may prevent further or escalating violence.

Several provinces have enacted, or are about to enact, domestic violence legislation intended to provide protection to victims of domestic violence. The component most common to all family violence acts is the emergency intervention or protection order—essentially a short-term order that is available immediately, with the victim's consent, in cases where violence has already occurred and the situation is deemed urgent or serious. Also available in most jurisdictions are victim assistance orders that provide longer-term protection. These orders can address issues such as child visitation and custody as well as financial matters and may replace emergency intervention orders.

Finally, some jurisdictions now have specialized domestic violence courts. A specialized criminal justice system response was first developed in Winnipeg, Manitoba, in 1990. Similar programs in Ontario, Alberta, and the Yukon have been implemented more recently. The principle aim of these courts is to expedite the processing of domestic violence cases to ensure the safety of the victim, introduce early intervention for first-time offenders, allow for effective investigation and prosecution of these cases, and ensure accountability of the offender. Most of these courts have specialized prosecutorial units; specially designated courtrooms and dockets for intake, screening, and trials; and special units in the probation office to deliver court-mandated treatment programs. Legislative changes, specialized courts, training of criminal justice personnel, and increasing resource availability may have contributed to declining spousal homicide rates of both women and men, although at this point direct causal relationships are difficult to establish.

It is expected that the increase in mechanisms meant to respond to lethal and nonlethal violence between intimate partners during the past three decades should have had some impact on subsequent rates of this type of violence. As noted above, though, some of these programs and/or legislation have been implemented in only specific jurisdictions. Thus, to capture the role of domestic violence resources, future research could examine whether jurisdictional variations in rates of spousal violence can be explained by the varying availability of such resources. An examination of this question is crucial if we are to understand current declines and continue to respond to intimate violence as a serious social concern.

Notes

1. For a review of the literature on declines in intimate partner homicide in Canada, see Dawson (2001).
2. The term *victim precipitation* was first coined by Wolfgang (1958) to describe violent acts in which the victim makes a direct, positive contribution to his or her own victimization. Typically, this means that the victim was the first to use or threaten to use physical violence against the defendant, to show or to use a deadly weapon, or to strike a blow in an altercation.

3. These variables have been cited as conventional, multidimensional indicators of gender socioeconomic equality.

4. In the United States, the steady decline in the rate of marriage has been particularly noticeable among young adults—aged 20 to 29—the age group at highest risk of lethal victimization (Dugan, Nagin, & Rosenfeld, 1999; Rosenfeld, 1997).

5. The authors tested for the possibility that a decrease in marital domesticity would result in increases in nonmarital domesticity by including the marriage and divorce rate variables in the statistical model for nonmarried intimate partner homicides. They hypothesized that if there was a substitution effect, falling marriage rates should produce increases in homicides between nonmarital partners. Moreover, higher divorce rates should result in higher lethal victimization rates among unmarried intimate male and female partners.

6. Rosenfeld (2000) acknowledged that reliable trend data are not available for the nonmarital category (i.e., boyfriend–girlfriend relationships). As a result, it is difficult to determine accurately whether the rate of nonmarital intimate partner homicide is rising or falling. Although the number of such killings has risen slightly during the past 20 years, it follows from the declining domesticity argument that the number of these relationships has risen as well. As a result, he argued that declines in intimate partner killings, particularly among older couples, may be better explained by focusing on other social changes such as increases in the availability of domestic violence services and improvements in women's economic status.

7. The survey has collected summary data on the annual number of homicides since 1961.

8. While information was available for the majority of the variables for the entire study period, several were limited to the period 1980 to 2001.

9. In the 1990s, the Homicide Survey was revised and expanded to include a more detailed breakdown of the victim–offender relationship so that nonmarital intimate partners (e.g., dating relationships) and spousal subgroups (e.g., common law relationship and separated) could be captured. Despite these changes, information about lethal incidents between nonmarital intimate partners is limited because data exist for only the past decade. Therefore, we exclude nonmarital relationships from the multivariate analysis, examining trends only in spousal homicides because this information is available from 1974 to present.

10. The implications of this are discussed in the section on future research.

11. Prior research has included measures that capture absolute income levels for males and females (Bailey & Peterson, 1995). However, these data were not available for the entire study period and, therefore, were not included in our analysis.

12. Again, a measure of economic equality—that is, the ratio of male to female annual earnings—was not considered for this analysis because data were not available for the entire study period.

13. For the variable rates of marriage, we focus on the age groups 15 to 24 and 25 to 34, those at highest risk of lethal violence.

14. We acknowledge that the findings have not been consistent with respect to the association between divorce and lethal victimization. However, the majority of findings, in the literature on both spousal homicide and homicide generally, show a positive relationship between divorce and lethality.

15. Average age of mother at birth of first child in 2000 excludes 153 cases of women younger than 15 years of age and 70 cases of those aged 45 to 49. Data for 2001 exclude 115 cases of women younger than 15 and 81 cases of women between the ages of 45 and 49. Therefore, the average age of mother at birth of first child for 2000 and 2001 is slightly underestimated.

16. Overall, measures of poverty and income inequality are also frequently cited as risk factors for homicide. To capture these dimensions, we considered including the percentage of families living below the poverty line, the proportion of families receiving social assistance, and the proportion of families receiving unemployment insurance. However, data were unavailable prior to 1980.

17. As discussed above, the Homicide Survey has collected data on spousal relationships since 1974, whereas data for other intimate partners (e.g., boyfriends, girlfriends, same-sex partners) and spousal subgroups (e.g., common law relationship, separated, or divorced) have been collected only since 1991.

Between 1991 and 2002, 272 cases of homicide involving boyfriends, girlfriends, extramarital lovers, estranged lovers, same-sex partners, and “other” intimates were recorded. Although we would have liked to examine all types of intimate partner homicide and determine whether decreases in spousal homicide are giving rise to increases in nonmarital intimate partner homicide (i.e., the substitution effect), the small number of cases to date precludes us from doing this type of analysis.

18. Declines were noted for different relationship categories within the spousal group. Between 1991 and 2000, there were significant declines in the rate at which married, common-law married, separated, and divorced women were killed by their male partners. The rate at which women in common-law relationships were killed decreased by 32%, the rate at which married women were killed decreased by 29%, and the rate at which separated women were killed decreased by 21%. For men, rates of spousal homicide were highest in the common-law category, but this group demonstrated the largest decline of 56%. The rate at which husbands were murdered by their wives also declined during this period by 25%.

19. Trends documented in the United States, however, include all intimate partners: spouses, ex-spouses, boyfriends, and girlfriends.

20. An important factor affecting the number of women and children reporting using shelters includes changing availability over time as well as the changing number of shelters that respond to the Transition Home Survey each year. For example, 89% of shelters responded to the survey in 1993 and 83% in 2000. Consequently, these figures represent an underestimate of the number of women and children admitted to shelters each year.

21. This list is not comprehensive and excludes programs conducted within correctional institutions.

22. Data are unavailable for male victims for 1993.

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