



ARMED SELF-DEFENSE: THE CANADIAN CASE

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ABSTRACT

There is a vigorous debate over the frequency with which private citizens resort to the use of firearms for self-defense. No information has been previously available about how often firearms are used defensively outside of the United States. This article estimates the frequency with which firearms are used for self-protection by analyzing three telephone surveys of the general public in Canada and a fourth survey of the general public in the United States. Canadians report using firearms to protect themselves between 60,000 and 80,000 times per year from dangerous people or animals. More importantly, between 19,000 and 37,500 of these incidents involve defense against human threats. The results of the American survey confirm estimates about the frequency of firearms used for self-protection in the United States (Kleck, 1988, 1991). In comparison with the number of households with firearms, the frequency with which Canadians use firearms to defend themselves against human threats is somewhat less than that of Americans. Policymakers in both the United States and in Canada should be aware the private ownership of firearms has benefits as well as costs for society. Firearm bans may cost more lives than they save. © 1996 Elsevier Science Ltd

INTRODUCTION

Self-defense is a troublesome right. On the one hand, it would seem obvious that all people have—or should have—the inherent right to use physical force to defend themselves from assault. Not surprisingly, the criminal codes of many countries include self-defense as a legitimate justification for the use of deadly force. On the other hand, the right of self-defense threatens our faith in the rule of law. It is too easy for revenge or even aggression to be confused with legitimate self-defense. The intensity

of this debate increases when the use of firearms in self-defense is considered.

Self-defense can be distinguished from all other reasons for using force, such as revenge. Self-defense entails those acts intended to protect one's physical safety or property, or to protect the safety or property of others. Clearly, one is morally and legally justified to use force to protect oneself, or one's family, from dangerous animals, such as grizzly bears. As well, it is morally and legally proper to use physical force, even deadly force under certain conditions, in order to protect oneself, one's family,

or one's property from criminal aggression. Revenge, however, involves retribution, or an attempt to punish an offender. The desire to punish, or to revenge oneself against a criminal, is not a legal reason for the use of force of any degree, especially not deadly force. Certainly in a given incident, elements of vengeance might be mixed with a concern with self-defense, but logically, retribution is not necessarily involved in self-defense.

Criminologists have tended to ignore self-defense, possibly because of its ethical ambiguity, and have preferred to view victims as either sharing culpability or as being passive targets for criminal aggression. Many scholars view victims as involved in "mutual combat" and therefore as blameworthy as the offender (Wolfgang, 1958). Other scholars reject the "mutual combat" model, at least for family violence, rape, or violence against children (Berk et al., 1983). In this perspective, a woman being attacked by a rapist is seen as a passive target for the rapist, but most male-on-male violence would be viewed as "mutual combat." Despite the ethical ambiguity of self-defense, it is not difficult to find exceptions to the "mutual combat" model. For example, women may legitimately use violence to resist becoming a rape victim, store owners (men or women) may legitimately use violence to avoid being robbed or killed by an armed robber, or anyone may use force to resist attack by a stranger. As a consequence, criminologists have begun to expand the model of moral inequality to include situations where the victim is not passive, but instead takes forceful actions that are largely defensive (Kleck, 1988).

The question of the defensive use of firearms has recently attracted the interest of criminologists. A hot debate has arisen over the frequency with which citizens use firearms to defend themselves or their families. Kleck (1988, 1991) estimated that between 700,000 and 1,000,000 people in the United States use a firearm in self-protection each year. After making a number of methodological improvements, this estimate was later increased to between 2.1 million and 2.5 million defensive gun uses annually (Kleck and Gertz, 1995). An alternative estimate is that there are about 80,000 and 82,000

uses annually (Cook, 1991). Differences in methodology account for this enormous discrepancy. Cook's estimate is based upon the prestigious National Crime Victimization Survey (NCVS), which involved interviews with 59,000 households, while Kleck's earlier analysis was based upon a collection of thirteen representative surveys of the general public. The surveys used by Kleck were conducted by a variety of professional survey organizations for diverse clients. These clients range from Pat Caddell, for Handgun Control Inc., to the NRA and include media and independent academics. Kleck and Gertz (1995) argue that the NCVS is unsuited to estimate defensive gun use because it is a nonanonymous survey conducted by a branch of the federal government and was not designed to sample people who use firearms to resist criminal violence. First, it is easy to withhold information about a defensive gun use in the NCVS. Not only are respondents screened for victimhood before they are asked if they did anything to protect themselves, but respondents are never directly asked if they used a firearm to defend themselves. Second, because a defensive gun use is legally controversial, even under the best circumstances, many respondents would be expected to be afraid of admitting to someone conducting a survey for the U.S. Department of Justice that they may have committed an illegal act, or that they may be in possession of an illegal gun.

The debate over the use of firearms in self-protection has been almost entirely restricted to the United States. In Canada, for example, the prevailing attitude appears to be that there is no need for self-defense (Friedland, 1984). Not only do the police actively discourage self-defense in general, but armed self-defense is widely considered to be illegal. Exceptionally few Canadian organizations argue that citizens have the right to defend themselves with weapons.¹ The most dramatic illustration of the official discouragement of armed self-defense is the recent passage of an omnibus bill by the Canadian Parliament that, among other provisions, prohibits and confiscates without compensation, over one-half of all legally owned handguns in Canada on the grounds that they are small and so might be used for self-defense.²

This lack of debate is particularly surprising because Canada and the United States "probably resemble each other more than any other two countries on earth" (Lipset, 1985:109). Both countries were former British colonies, both have had a "frontier experience," and both have shared similar waves of immigration (Lipset, 1985; Tonso, 1982). Almost one-third of Canadian households (30 percent) have firearms as compared with one-half of households in the United States, and the violent crime rate in Canada (1,132 per 100,000) is apparently higher than that in the United States (746 per 100,000) in 1993 (Mauser and Margolis, 1992; Statistics Canada, 1994; Federal Bureau of Investigation, [FBI], 1994).³ Despite the strong similarities, Canada differs in many ways from the United States. Some scholars have even argued that the United States is unique in the world, particularly with respect to its gun culture (Hofstadter, 1970; Friedland, 1984). Canada has long had much more strict firearms laws than the United States. Handguns have been registered since 1934, and a police permit has been required to purchase a firearm since 1978 (Hawley, 1988). Unfortunately, little is known about how often Canadians use weapons to defend themselves from criminal violence. Although a few studies have investigated the carrying of weapons by Canadians (Sacco, 1995; Kong, 1994), and others have examined attitudes towards the use of firearms in self-defense (Mauser, 1990; Mauser and Margolis, 1992), there are virtually no published studies that estimate the frequency with which firearms are used in self-defense in Canada.⁴ It is possible that Canada's "gun culture" resembles the United States more than has been assumed.

This article examines the extent to which firearms are used in self-defense in Canada, and compares these estimates with the available estimates of how often Americans use firearms to protect themselves. In view of the similarities between the two countries, it is argued here that Canadians do not differ from Americans as much as has been thought with respect to the defensive use of firearms. The first section of the article briefly compares the two countries, the legal situation, the nature of violent crime, and the sociology of firearms ownership. The

main section of the article estimates the frequency with which Canadians use firearms in self-defense and compares these rates with those in the United States. The approach taken is based upon questions that have been asked by other researchers so that the results are comparable with similar studies in the United States (Kleck, 1988, 1991).

THE CANADIAN SITUATION

Unlike the United States, the Canadian constitution, in Section 92(14), mandates that the federal government is responsible for enacting criminal law and that provinces are principally responsible for enforcement (Hogg, 1992). Some variability inevitably arises across the country, but there is a high degree of national uniformity because there are frequent conferences among the provincial attorneys general, and most provinces rely upon the Royal Canadian Mounted Police to act as the local police force. Despite disavowals by police officials, the Canadian criminal code does include the right of citizens to use deadly force to protect themselves (sections 34, 35, and 37). The key provision in the Canadian criminal code (§34) is that, no one may use "more force than is necessary" and then only when "he believes on reasonable grounds that he can not otherwise preserve himself from death or grievous bodily harm." In section 35, the code goes on to require that one must show that "he declined further conflict and quitted or retreated from it [the assault] as far as it was feasible to do so before the necessity of preserving himself . . . arose." Moreover, the right to use physical force to defend non-family members is more limited than it is in many states, as are the Canadians' rights to repulse trespassers on their property, or to use force to stop the commission of serious or violent crimes (viz. sections 24, 40, and 41).

Self-defense is also circumscribed in Canada by more conditions than are typically found in the United States. A wide range of self-defensive weapons (e.g., Mace, pepper spray, small handguns) are prohibited.⁵ Ownership of any of these weapons is punishable by nearly ten years

imprisonment. For all practical purposes, it has been impossible to own a handgun for self-protection since 1977.⁶ Recent firearms legislation now requires firearms to not only be unloaded when stored in one's residence, but must also be put under lock and key (Section 86 (3) of the Canadian Criminal Code).⁷

Another important difference between the United States and Canada is enforcement. Judging from newspaper reports, anyone who uses a weapon in self-defense is much more likely to be charged in Canada than would be the case in the United States; even if the attacker is not injured seriously. The charges may be "possession of a prohibited weapon," "careless use," or "unsafe storage of a firearm," rather than "assault" or "attempted murder." Apparently, the Crown is determined to discourage people from using "violence" to defend themselves.⁸ Any-one who uses a firearm to defend him or herself must be financially able to prove in court that he or she acted in self-defense.

The murder rate is typically much higher in the United States than in Canada. In Canada, the murder rate in 1993 was two per 100,000 residents; this is only one-fifth of the murder rate in the United States that year, where it was ten per 100,000. Despite the existence of "violent crime rate" indices, the murder rate is perhaps the best way to compare the two countries. This is due to the exceptional reliability of homicide statistics as well as the ambiguity of indices of "violent crime."

A few crime rates are higher in Canada than in the United States. In 1993, the burglary rate in Canada, at 1,414 per 100,000, was almost 50 percent higher than the U.S. rate of 1,099 per 100,000. Even more striking is the comparison between the two countries in sexual assault. The Canadian "forcible rape" rate, at 121 per 100,000, is much higher than the rate in the United States, forty-one per 100,000. This, however, may be artificially high due to the difficulty of estimating forcible rape from Canadian crime data. There is no category identical to forcible rape in the Canadian criminal code, so it has had to be approximated, and therefore the comparison may be too inclusive.⁹ The burglary comparison is more trustworthy than rape, as burglary is defined the virtually same way in

both countries. Nevertheless, international comparisons are always problematic as there may be differences in the reliability of the police reports.

Despite the generally lower crime rate in Canada, intensive media coverage of brutal crimes has frightened the general public. This concern is reflected in the results of various surveys. The 1993 General Social Survey found that 25 percent of Canadians age fifteen years or older say that they feel somewhat or very unsafe walking home alone in their neighborhood after dark.¹⁰ Women are four times as likely as men to say that they feel somewhat or very unsafe walking alone in their neighborhood after dark (Sacco, 1995). A related question generated a similar response. One in four Canadians reported feeling very or somewhat worried when alone in their homes at night. Again, women said they were more worried than did men (Sacco, 1995).

Self-defense courses for women are available at many Canadian universities and community centers. Many women's groups encourage women to learn how to protect themselves against rapists. The market for self-defense items (e.g., dogs, martial arts courses, bear sprays, and personal alarms) is estimated to be \$11–15 million annually in British Columbia alone, Canada's westernmost province (Lai, 1994). Although it is a prohibited weapon, "bear spray" is widely sold by women's groups.¹¹ Surprisingly, a nationally recognized columnist recently called for women to arm for self-defense (Amiel, 1995).

Before examining firearms in Canada and the United States, it is important to compare the ownership and use of firearms in the two countries. Substantially fewer Canadians have firearms than Americans. Between 28 percent and one-third of Canadian households have one or more firearms, while between 45 percent and 50 percent of households in the United States do so. Canadians have almost as many rifles (29 percent) as Americans (32 percent), but they have far fewer handguns. Estimates of Canadian households having one or more handguns range between 3 percent and 7 percent, while between 22 percent and 27 percent of households in the United States do so (Mauser and

Margolis, 1992; Mauser and Buckner, in press). For the most part, Canadians own firearms for the same reasons that Americans do. The principal reason given for owning firearms in either country is "hunting." Between 5 percent and 10 percent of Canadians as well as Americans cite "target shooting" or "part of a gun collection" as their primary reason for firearm ownership. The principal difference has to do with self-defense. Canadians are much less likely (5 percent) than Americans (22 percent) to volunteer "self-defense" as their main reason for owning a firearm.

METHODS

This article is based upon three telephone surveys of the general public in Canada and a fourth survey of the general public in the United States, all of which have been conducted under the direction of the author during the past de-

cade (see Table 1). All four surveys involved professional survey firms and random digit dialing methods to generate representative samples of the general public. All respondents were interviewed over the telephone by professional interviewers. The most recent survey was conducted by Canadian Facts (CF), between January 18 and 23, 1995 and used stratified random sampling methods to interview 1,505 respondents, eighteen years of age or older, in all ten provinces, but not in either of the territories (Mauser and Buckner, in press).¹² Canadian Facts is one of the largest private survey companies in Canada.

Early in 1990, a survey of the general public in the United States was undertaken simultaneously with a survey of the Canadian general public (Mauser and Margolis, 1992). Both of these surveys were conducted by the Center for Social and Urban Research (CSUR) at the University of Pittsburgh.¹³ Representative samples of adult residents, eighteen years of age or

TABLE 1
THE TELEPHONE SURVEYS THAT ASKED ABOUT FREQUENCY OF DEFENSIVE USE OF FIREARMS

Survey research firm	Sowden 1988	CSUR 1990	CSUR 1990	Canadian Facts 1995
Year of interview				
Target population	British Columbia residents	Canada residents	United States residents	Canada residents
Population covered				
Telephone interview	yes	yes	yes	yes
Sample size	403	393	344	1,505
Stratified random sampling	yes	yes	yes	yes
Random digit dialing	yes	yes	yes	yes
Professional interviewers	yes	yes	yes	yes
Gun type covered	all firearms	all firearms	all firearms	all firearms
Distinguished uses against persons	yes	yes	yes	yes
Excluded military and police uses	yes	yes	yes	yes
Defensive questions asked of	all respondents	all respondents	all respondents	all respondents
Defensive question refers to	household	household	household	household
Time frame of question about defensive use of firearms	ever	five years	five years	one and five
Percent who used a firearm against animals or humans	4.0%	3.1%	4.1%	2.1%
Implied total annual number of defensive uses of firearms	80,000	62,500	754,000	66,000
Percent who used a firearm against human threat	1.9%	1.6%	3.8%	0.6%
Implied annual number of defensive uses of firearms against human threats	37,500	32,000	700,000	19,000

older, were drawn using stratified random sampling methods to ensure adequate representation from both countries. Professional interviewers completed 393 telephone interviews in all Canadian provinces (including ninety-three interviews of residents in Quebec conducted in French), but not in either of the territories, and 344 in the United States during the period of March 20 through April 10, 1990. The target population in the United States included all states, except Hawaii and Alaska, and the District of Columbia.

A third survey of the general public in Canada was conducted by Sowden Research between April 5 and 9, 1988 (Mauser, 1990). Sowden Research is a professional survey research firm in British Columbia.¹⁴ In this study, a representative sample of adult residents, eighteen years of age or older, was drawn using stratified random sampling methods to ensure adequate representation of all households in British Columbia. Professional interviewers completed 403 interviews over the telephone throughout British Columbia.

Although none of these studies had self-defense as its principal focus, each study included a short series of questions about the use of firearms for self-protection. These questions were based upon Kleck's (1988, 1991) analysis of a similar series of questions originally used in the 1981 Hart Poll. Nearly identical questions were asked in both the CSUR and CF studies. In the CF study, respondents were first asked: "Within the past five years, have you, yourself, or another member of your household used a gun, even if it was not fired, for self-protection, or for protection of property at home, at work, or elsewhere? Please do not include military service, police work, or work as a security guard." If the respondent answered, "yes," he or she was then asked, "Was this to protect against an animal or a person (or both)?" The questions used in the CSUR study were almost identical. Respondents in both Canada and the United States were first asked: "Aside from military service or police work, in the past five years, have you, yourself, or a member of your household, used a gun for self-protection, or for protection of property at home, at work, or elsewhere, even if it wasn't fired?" If the respondent

answered, "yes," he or she was then asked, "Was this to protect against an animal or a person (or both)?"

Despite the small differences among these questions, the formulation used in these surveys is superior to the original 1981 Hart question. First, this version asks about the defensive use of *all types of guns*, not just handguns. Second, it is more precise because it asks about a specific time period rather than the vague "have you ever used a gun." Third, it asks about the self-defense of people as well as the protection of property. Fourth, it excludes the defensive uses of firearms as part of military and police duties. Finally, it distinguishes between defensive uses against animal threats and human threats. Both the Hart and Mauser questions, however, ask about firearms use by anyone in the family, not just those of the respondent. As others have shown, this leads to substantial underreporting of the defensive firearm uses of other household members (Kleck and Gertz, 1995). It is preferable to rely upon the experiences of the respondents themselves.

The CF study also included two further follow-up questions, "Did this incident or any of these incidents happen in the past twelve months?" and, "Was it you who used a gun defensively or did someone else in your household do this?" The first question facilitates annual estimates of firearm use, and the second question, by identifying how many (if any) of the incidents involved the respondent, helps to increase confidence in the analysis.

The question used in the 1988 Sowden study differed the most from the other studies in that it asked if respondents had "ever" used a firearm for self-protection, rather than asking if they had used a firearm for self-protection "in the past five years." (See Table 1 for a comparison of the question wordings.) It is preferable to ask about a fixed time period rather than leaving it open because problems with memory loss have been found to increase with the use of longer periods of recall (Sudman and Bradburn, 1973). Because relatively few people use their firearms in self-protection, it was felt that a relatively long time period was required. Therefore, it was decided to use a five-year period. In hindsight, a one-year time period would have been better. In

all surveys, respondents were asked these questions without screening for gun ownership or for prior victimization. This point is important because some respondents may not have firearms now, but may have used firearms defensively when they did have access to firearms. Similarly with screening for victimhood: Respondents may not report being a victim because they do not consider themselves a victim, having successfully frightened off the attacker with a firearm.

The similarity of the questions used in these Canadian surveys permits greater confidence in comparing the Canadian results with those conducted in the United States. The CSUR study is particularly important in this regard. In this study, surveys were conducted simultaneously of the general publics in both the United States and in Canada. A number of surveys of the general adult population in the United States have used basically similar questions.¹⁵

THE USE OF FIREARMS IN SELF-DEFENSE

This section estimates how often Canadians use firearms to defend themselves, and compares these estimates with how often Americans are estimated to use firearms to protect themselves. For purposes of estimation, the two best surveys were the CSUR and CF studies because they were based upon nationwide samples and the question was limited to a five-year period. Table 2 presents the percentages from each of the four surveys and estimates the numbers of people who used firearms to protect themselves against human or animal threats, or both. In the CF survey, 2.1 percent of respondents report that someone in their household had used a firearm for self-protection during the past five years, and in the CSUR survey, 3.1 percent of respondents report having done so. The Sowden survey estimated that 4.0 percent of respondents reported that someone in their household had used a firearm for self-protection during the past five years. These are very small percentages, but, when it is realized that there were 10,079,442 households in Canada in 1991, they translate into surprisingly large numbers of Canadians.

The three Canadian survey results are quite similar and mutually reinforcing. The Canadian Facts survey, with a sample size of 1,505, has the smallest random sampling error. The 95 percent confidence interval estimate for the CF survey is plus or minus 0.7 percentage points for the five-year estimate. The confidence interval estimates for the other two surveys are larger because the sample sizes are smaller. The 95 percent confidence interval estimate for the CSUR survey is 1.7 percentage points for the five-year estimate, and it is 1.9 percentage points for the Sowden survey.

In order to estimate annual frequencies, three simple and logical steps were taken. First, it was conservatively assumed that only one person in the household had used a firearm for self-protection during this time period, and had done so only once. This is very conservative because it has been found that more than one member of a household has used a firearm in self-defense and that it is not uncommon for household members to have used a firearm in self-defense more than once (Kleck and Gertz, 1995). Second, it was assumed, when other information was lacking, that the probability of use was the same for each of the years during this time period, thus, the total was simply divided by five. Given that there is a greater likelihood of forgetting incidents the earlier the event occurred, this probably underestimates the frequency with which firearms were used during the past twelve months. Third, this percentage was multiplied by the number of households in the 1991 Canadian census.

In the 1995 CF survey, it was not necessary to divide the five-year reports by five, because 32 percent of respondents reported that some of these incidents had occurred during the past twelve months. Thus it is possible to know that 0.67 percent of the total sample used a firearm for self-protection at least once during the past twelve months. If it is conservatively assumed that only one such incident occurred during this period, to only one individual in a household, then this implies some 66,000 individuals used a firearm for self-protection during past twelve months. In the 1990 CSUR survey, no follow-up question was included, so it is unknown how many of the reported incidents occurred during

TABLE 2
ESTIMATING THE ANNUAL FREQUENCY OF DEFENSIVE GUN USE

	Sowden ^a	Canadian Facts ^b	CSUR Canada ^c	CSUR United States ^c
Percentages				
Animal	2.1%	1.5%	1.5%	0.3%
Person	1.4%	0.5%	1.3%	3.5%
Both	0.5%	0.1%	0.3%	0.3%
Total	4.0%	2.1%	3.1%	4.1%
Number, in past five years				
Animal	211,700	147,000	151,200	275,800
Person	141,100	52,000	131,000	3,218,200
Both	50,400	8,600	30,200	275,800
Total	403,200	207,600	312,400	3,769,800
Number, per year				
Animal	42,500	47,100	30,200	55,200
Person	27,500	16,600	26,300	643,600
Both	10,000	2,700	6,000	55,200
Total	80,000	66,400	62,500	754,000

Source: Survey of the British Columbia general public conducted in 1988 (Mauser, 1990); survey of Canadian general public conducted in 1995 (Mauser and Buckner, in press); surveys of general publics in the United States and Canada conducted in 1990 (Mauser and Margolis, 1992).

Note: There were 10,079,442 households in Canada in 1991 (Statistics Canada, 1993). There were 91,947,410 households in the U.S. in 1990 (Bureau of the Census, 1991). The U.S. population age eighteen or over was 186,532,400 in 1990. The annual estimate for the Sowden and CSUR surveys are based upon the assumption of equal probability during the past five years. The annual estimate for the Canadian Facts survey is based upon respondents' statements that 32 percent of these incidents occurred in the past twelve months.

^aThe wording of the question asked by Sowden was "Aside from military service or police work, have you yourself, or a member of your household, ever used a gun for self-protection, or for protection of property at home, at work, or elsewhere, even if it wasn't fired?" A follow-up question asked, "Was this to protect against an animal or person (or both)?"

^bThe wording of the question asked by Canadian Facts was, "Within the past five years, have you yourself, or another member of your household used a gun, even if it was not fired, for self-protection, or for protection of property at home, at work, or elsewhere? Please do not include military service, police work, or work as a security guard." Then the respondent was asked, "Was this to protect against an animal or a person (or both)?" A follow-up question was, "Did this incident or any of these incidents happen in the past twelve months?"

^cThe wording of the question asked by CSUR in both the United States and in Canada was, "Aside from military service or police work, in the past five years, have you yourself, or a member of your household, used a gun for self-protection, or for protection of property at home, at work, or elsewhere, even if it wasn't fired?" A follow-up question asked, "Was this to protect against an animal or a person (or both)?"

the past twelve months. Thus, to estimate annual frequencies, it was necessary to assume that respondents were equally likely to have used a firearm in self-protection throughout the five-year period. If only one such incident occurred during the past five years, then this implies that approximately 0.62 percent of respondents, or 62,500 individuals, used a firearm during the past twelve-month period. (These calculations are shown in Table 2.)

The 1988 Sowden survey, while still useful, is less satisfactory than either the CF or CSUR surveys. First, the target population was the general public in British Columbia, not the Canadian general public, so, strictly speaking, the

results may only be generalized to British Columbia. Despite this limitation, the British Columbia results have been extrapolated to Canada in order to compare them with the two national results by simply multiplying the percentage of households that report using firearms in self-defense by the number of households in Canada. This is not unreasonable as British Columbia has the same percentage of households with firearms as the Canadian national average. Second, the question asked respondents in the British Columbia study if they had "ever" used a firearm for self-protection, rather than asking if they had used a firearm for self-protection "within the past five years," as in both the

CSUR and CF studies. Despite these limitations, these results are still indicative. In the Sowden survey, 8.0 percent of respondents reported that at least one person in their household had "ever" used a firearm in self-protection. In order to approximate the frequency with which firearms were used during the previous five years, the estimates generated by the Sowden study were divided in half to give 4.0 percent. Due to memory loss, respondents would be expected to have forgotten a greater percentage of earlier events. A review of previous surveys shows that this is a conservative correction, and it gives a proportion more in line with the findings of the other two surveys in this study.¹⁶ These percentages were then projected to the national level, as has been done with the CSUR and CF surveys, giving an estimate of 80,000 defensive uses of firearms during the past twelve months. Despite the limitations, this survey estimate, although somewhat higher than the two national estimates, still falls within the limits of sampling error.

In summary, Canadians reported using firearms between 62,500 and 80,000 times per year to protect themselves from wild animals or criminal violence. The best estimate is that firearms are used defensively around 66,000 times per year. The three surveys agree that most of these defensive uses of firearms were to protect against wild animals. The Canadian Facts survey found that 1.6 percent of respondents reported that someone in their household had used a firearm to protect him or herself against animal threats during the past five years. The CSUR Canadian survey found a nearly identical percentage (1.8 percent), and the Sowden survey found that 2.6 percent of respondents reported using a firearm to protect themselves against threats from wild animals. This contrasts starkly with the CSUR American survey which found that only 0.6 percent of respondents reporting using a firearm to protect against animal threats during the past five years. The findings of the CSUR American survey are consistent with other American surveys (Kleck, 1991).

Perhaps the most controversial question is how often do Canadians report using firearms to protect themselves against human threats. Based upon the three representative surveys described

in this article, the best estimate is that Canadians use firearms against human threats about 30,000 times per year. The two best surveys methodologically were the 1995 Canadian Facts survey and the 1990 CSUR survey. The CF survey found that firearms were used against human threats around 19,000 times annually, and the CSUR survey estimated that over 32,000 Canadians did so. The Sowden survey, as expected, had the highest estimate, 37,500 incidents annually.

How do these results compare with what is known about the frequency with which firearms are reported to have been used in self-defense in the United States? The best point of comparison are the two CSUR surveys, because they involved identically worded questions and were conducted simultaneously in both the United States and Canada by the same professional interviewers. Table 2 shows the frequency with which firearms are used in self-defense in the United States. According to the CSUR survey, conducted in 1990, firearms are used in self-defense over 750,000 times per year in the United States. The bulk of these defensive uses of firearms, approximately 700,000 uses, are to repel human threats. The remaining defensive uses of firearms deal with animal threats. As reported elsewhere, these results are consistent with Kleck's (1991:104–11) estimates that between 700,000 and 1,000,000 Americans used firearms defensively against human threats each year during this time period. Kleck's estimates are based upon thirteen surveys that were methodologically quite similar to the surveys presented in this article. Although not directly comparable due to methodological improvements, Kleck and Gertz (1995) sharply increased the estimate of Americans who use firearms annually to protect themselves from human threats to between 2.1 million and 2.5 million.

How does Canada compare to the United States in the extent to which firearms are used to defend against human threats? As may be seen in Table 2, 1.6 percent of the Canadian sample reported using firearms against human threats during the past five years, while 3.8 percent of the American sample did so. In other words, Canadians use firearms against human threats around 30,000 times per year, while an

estimated 700,000 Americans do so each year. Because Canada has roughly 10 percent of the adult population of the United States, Canadians use firearms to repel human threats less than half as often as do Americans. This lower level may be due to the smaller percentage of Canadians who are firearms owners (as fewer Canadian households have firearms than do American households) as well as to the lower level of violent crime in Canada.

How plausible are these estimates for Canadians using firearms in self-defense? Although at first they may seem surprising, these estimates are not out of line with the number of gun owners in Canada. Surveys show that between 28 percent and one-third of all households in Canada have at least one firearm (Mauser and Margolis, 1992). Thus, given that there were just over ten million households in 1991 in Canada, an estimate of 30,000 defensive uses of firearms implies that between 0.9 percent and 1.1 percent of these households use firearms for defensive purposes in any given year. In the United States, in the same year, there were 97.1 million households, an estimated 49 percent, or 47.6 million, households with firearms, and an estimated 700,000 minimum defensive uses of firearms per year.¹⁷ This yields 1.6 percent of American households that use firearms for defensive purposes in any given year. Thus, the Canadian rate is hardly implausible, as it is between one-half and three-quarters of the rate in the United States.

Would Canadians use firearms to defend themselves? Survey reports show that over one-half (60 percent) of Canadians say that, if they had a firearm, they would use it to protect themselves or their families (Mauser and Buckner, in press). Unsurprisingly, firearm owners report they are more willing to use a firearm to protect themselves or their families than are other Canadians (67 percent vs. 59 percent).

The percentages of Canadians found to use firearms in self-protection are not out of line with the other steps Canadians are taking to protect themselves from criminal violence. The 1993 General Social Survey found that 12 percent of Canadians reported that they carry something routinely to protect themselves from victimization. Women report taking greater pre-

cautions than do men: Seventeen percent of women report carrying something routinely for protection, while only 7 percent of men report doing so (Sacco, 1995). The GSS also found that 32 percent of Canadians fifteen years of age or older reported they had installed new locks, 15 percent reported they had installed a burglar alarm, 12 percent had obtained a dog, 10 percent had taken a self-defense course, and 2 percent reported they had obtained a gun (Sacco, 1995). The finding that 2 percent of the Canadian population reported they had "obtained a gun" to protect themselves or their property from crime provides additional confirmation of the findings of this study. The GSS, however, offers only indirect support for the findings of this study because the questions asked in the GSS differ importantly from those asked here. The GSS asked if the respondent "obtained a gun," while the question in this study concerned "using a gun." Also, the GSS question was limited to human threats, but the question asked in this study involved both animal as well as human threats. Furthermore, the GSS question did not include a specific time frame, while here the question focused upon the past five years. In the light of these results, it should not be too surprising that 3 percent of the adult population report having actually used a firearm for self-protection during the past five years.

How could so many Canadians use firearms in self-defense without it having become common knowledge before this? The answer is that self-defense activity is basically invisible to government. First, there is no reason to report it, such as there is with property crimes or with crimes involving serious victimization. As well, both the defender and aggressor may have strong reason not to report the incident, given the moral ambiguity of the act. If the defender used a firearm (or any other weapon) to defend himself or herself, there is a strong possibility that she or he would face legal charges. Finally, even though medical doctors are required to report gunshot wounds, the available statistics suggest that self-defense uses of firearms rarely result in serious physical injury to either participant, so that in the vast bulk of the cases there is no injury that would require reporting (Kleck, 1991). An unknown number of minor wounds

probably go unreported. Criminals, due to the reporting requirements, would be expected to avoid seeking medical care for wounds from which they thought they could recover in order to avoid police notice.

The survey estimates presented here of the number of people who use firearms in self-defense are, if anything, probably too low. The underestimate is probably most severe for the defensive use of firearms against human threats. Given the sensitive nature of defensive use of firearms, it is possible that many respondents have concealed actual incidents so the true number is quite likely much higher than reported here. A number of criminologists have shown that survey estimates of criminal and defensive gun uses have been underestimated. Cook (1985) has shown that NCVS estimates of woundings with firearms are too low. Other researchers have argued that survey estimates of a large range of violent events have been underreported. For example, Loftin and MacKenzie (1990) have speculated that spousal violence and rapes might be many times more than reported in NCVS. An unknown number of defensive gun incidents would be expected to involve violent criminals defending themselves against other criminals (Wright and Rossi, 1986). Such incidents would not be expected to be reported in telephone surveys. Due to their high mobility, low income, and probable reticence to be interviewed, criminals are among the least likely persons to be interviewed in surveys of the general population (Cook, 1985; Kleck, 1991). This implies that a sample bias exists that underestimates the total number of people who use firearms to protect themselves against human threats.

Undoubtedly, some respondents may have included the "carrying," or the merely "having" the firearm available in case of an attack, as an example of use. There is ample evidence in criminological surveys, however, that improvements in the measurement procedures yield higher estimates of controversial behaviors. Kleck and Gertz (1995) found that the estimated number of defensive uses of firearms in the United States more than doubled when they improved the measurement procedures. Contrary to what some researchers have speculated, a large num-

ber of respondents were not found to have invented or exaggerated defensive gun use incidents. In their study, Kleck and Gertz (1995) found that by using a shorter time period (one year rather than five years), and by interviewing the family member who had been involved in the self-defense incident, rather than relying upon a family informant, the problem of forgetting about incidents that had happened years earlier was considerably reduced. As has often been the case in criminology, better measurement procedures have increased the estimate of the controversial behavior (Hindelang, Hirschi, and Weis, 1981).

CONCLUSIONS

The survey results reported here show that firearms are used in Canada more often than many had believed in the defense of people and property. Canadians were found to use firearms about 300,000 times per year against human threats, compared with around 700,000 Americans estimated to do so each year. Compared to the number of households with firearms, Canadians use firearms to protect themselves against human threats between one-half and three-quarters as often as Americans. These findings suggest that Canada is more similar to the United States than had been thought by some scholars. The lower proportion of firearms owners who do so in Canada than in the United States may, however, reflect the lower rate of criminal violence in Canada.

This article also estimated the number of Americans who used firearms to protect themselves or their families. The CSUR survey of the general public in the United States paper estimated that approximately 700,000 Americans use firearms defensively against human threats annually. This estimate is consistent with other survey estimates and it confirms Kleck's (1988, 1991) original estimate in 1988. These CSUR results constitute yet another independent survey that differs dramatically from estimates based upon the National Crime Victimization Survey.

This study provides the best available estimate of the frequency with which Canadians

use firearms for self-protection and it has significant implications for public policy. These estimates are only approximate, given the small sample size and the small incidence rates. The high level of agreement among the three samples of the general public, however, provides strong support that firearms are used in Canada to protect people against violence. Because firearms are used in Canada around 66,000 times each year to defend against either human or animal threats, and more importantly, approximately 30,000 times annually to protect against criminal violence, this implies that the private ownership of firearms contributes significantly to public safety. It is unknown how many lives are actually saved, but if a life were saved in only 5 percent of these incidents, then the private ownership of firearms would save more than 3,300 lives annually in Canada. To put this in perspective, it should be noted that firearms are involved in the deaths of around 1,400 people annually in Canada (about 1,100 of these are suicides). While the exact number may be debatable, the results of these three survey studies makes it plausible that the private ownership of firearms saves some Canadian lives.

The results of this study support the responsible ownership of firearms. These findings are consistent with moderate firearms regulations, but not with efforts to prohibit the private ownership of firearms. Given that firearms are potentially dangerous, laws or regulations are highly desirable that encourage responsible firearms ownership, such as background checks by the police, safety training, or safe storage of firearms. Moreover, it is reasonable to pass legislation in order to keep firearms out of the hands of children, ignorant users, or career criminals. The findings of this study suggest that the private ownership of firearms offers benefits to the community as well as costs. Thus, laws that are intended to discourage, or have the effect of discouraging, firearms ownership from otherwise responsible adults might act perversely to decrease public safety rather than to increase it. Because prospective victims without criminal records are more likely to obey gun bans than are criminals, gun bans would be expected to produce larger relative reductions in defensive gun use by noncriminal victims than

in criminal use of firearms. Additional firearm legislation may not act to save lives as claimed, but it may actually cost lives by rendering it too difficult to obtain a firearm when one is needed.

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NOTES

1. There is only one national group in Canada, the National Firearms Association, that supports the use of firearms in self-defense. Unlike the United States, it is extremely rare for a women's group to support firearms ownership for protection. Many women's groups, however, teach self-defense tactics and advocate (and sell) "bear spray," as well as "nonviolent" alternatives, such as whistles and alarms, for women's self-defense.

2. The Governor General assented to Bill C-68 on December 5, 1995. This bill will be proclaimed into law section by section over the next few years. Section 12(6) of this bill will prohibit all handguns that are .25 or .32 calibre or that have a barrel length of four inches or less. Justice Minister Allan Rock testified before the Justice Committee of the House of Commons in February 1995 that these firearms were to be prohibited and confiscated because they were likely to be used for self-defense.

3. In general, crime rates in Canada and the United States are comparable because both countries use the same definitions for violent crimes, the Uniform Crime Report system. Nevertheless, there are a few important exceptions, so that "violent crime" is defined somewhat differently in the two countries. Violent crime in the United States includes murder, nonnegligent manslaughter, forcible rape, robbery, and aggravated assault, but does not include abduction, or other sexual offenses, as does the Canadian category of violent crime. To properly compare the violent crimes indices in the two countries, a number of modifications are required. First, both abduction and other sexual offenses must be excluded from the Canadian data. Second, Canadian crime data should be recategorized to fit the definitions used by the FBI and the violent crime rate for Canada recalculated. A few terms are only used in the U.S. and are impossible to replicate exactly with Canadian statistics. To approximate aggravated assault, all categories of assaults were aggregated, except assault level 1 and sexual assaults, with attempted murder. To approximate the forcible rape category in the U.S., all Canadian sexual assaults were aggregated (levels 1, 2, and 3), but other sexual offenses were excluded. These adjustments reduced the Canadian

Violent Crime Index in 1993 from 1,132 to 428 per 100,000 (Statistics Canada, 1994).

4. The only exception is a brief outline of these studies in reply to published criticism of the author's unpublished conference papers (Mauser, 1995).

5. The Canadian Criminal Code prohibits the ownership of a wide variety of weapons (e.g., Mace, pepper sprays, certain types of knives, nunchakus). As well, it is illegal to carry anything that is intended to be used as a weapon (Sections 87, 88, 89, 90[c] and Orders-in-Council SOR/74/297 74-05-07, SOR/78-277 78-03-28, *inter alia*).

6. Bill C-51, passed by Parliament in 1977, removed "protection of property" from the list of legal reasons for most people to own "restricted weapons," 98 percent of which are handguns (CC§8D109.3 [c][iii]). Applicants who say they want to own a firearm for self-protection are routinely refused the appropriate permits. Nevertheless, a very small number of people (e.g., trappers, judges, geologists, politicians) in Canada are allowed to own handguns for self-protection under other sections (CC§109.3 [c][i] and [ii]).

7. Handguns require two locks: Not only must a handgun be locked in a "container" that "cannot readily be broken open," but it must also "be rendered inoperable by a secure locking device." The criminal code defines the general responsibility of the firearms owner (Greenspan, 1994) and is augmented by Royal Canadian Mounted Police regulations, *Regulations Respecting the Storage, Display, Handling, and Transportation of Certain Firearms*, CC§6, JUS-92-193-02.

8. An example will illustrate the situation: In January 1995, an eighty-one-year-old Palmerston, Ontario jeweller was charged with weapons and assault charges after firing his pistol at two burglars, neither of whom was injured. The court granted the jeweller a conditional discharge and ordered him not to possess a firearm for one year (Bellis, 1995).

9. As explained in note three, all Canadian sexual assaults were aggregated (levels 1, 2, and 3) and "other sexual offenses" were excluded in order to approximate the forcible rape category that is used by the FBI in the United States.

10. The GSS is a periodic survey, conducted by Statistics Canada, of the Canadian general population, aged fifteen years or over, living in all ten of the Canadian provinces, but excluding the territories ($N = 10,000$).

11. In principle, it is illegal to own prohibited weapons. Thus, it is difficult to understand why many police departments tolerate the open sale and ownership of "bear spray" by women. Bear spray is a stronger concentration of pepper spray (capsaicin) than "dog spray." The prohibition on the sale and ownership of Mace, due to its ineffectiveness as protection against animals, remains strictly enforced.

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14. This study was funded by a National Rifle Association hunter services grant.

15. See Kleck (1991) and Kleck and Gertz (1995) for an expanded analysis of these questions.

16. A review of the surveys reported in Kleck and Gertz (1995) shows that, on average, the percentage of respondents reporting they "ever" used a firearm in self-protection is more than twice as high as it is when respondents are asked if they used a firearm during the "past five years."

17. The U.S. Bureau of the Census reported that there were 97.1 million households in the United States in 1993. The December 1993 Gallup Survey reported that 49 percent of the households in the United States own firearms (Moore and Newport, 1994).

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