



A huge volume of empirical evidence now supports the idea that defensive gun use is common in the U.S., occurring about 2.5 million times a year. The best estimates of defensive gun use frequency exceed even the highest estimates of the number of crimes committed with guns. But regardless of how common defensive gun use may be, is it effective? That is, are crime victims who use guns to protect themselves less likely to be hurt or to lose property than those who do not resist or adopt other self-protection measures? Under what circumstances does defensive gun use occur? How is it related to the carrying of firearms in public places, and how often do people carry guns? Does the ownership and defensive use of guns deter criminals from attempting crimes in the first place? This chapter addresses these and related questions.

Issues of Armed Resistance to Criminals

The belief that guns provide effective self-protection for at least some people some of the time is nearly universal. Even proponents of stringent

286 **ARMED**

gun control who assert that guns are not effective defensive devices for civilians nearly always make exceptions for police officers and the like. The rationale for police having guns is based at least partly on the idea that police need and can effectively use guns to defend themselves and others. Doubts about the defensive utility of guns, then, appear to rest on any of three beliefs: (1) civilians do not need any self-protective devices, because they will never confront criminals, or at least will never do so while they have access to a gun; (2) they can rely on the police for protection, or (3) they are not able to use guns effectively, regardless of need.

There is certainly some merit to the first belief. Most Americans rarely face a threat of serious physical assault, and some will never do so. Nevertheless, NCVS estimates indicate that 83 percent of Americans will, sometime over the span of their lives, be victims of violent crime, an event that, by definition, involves direct confrontation with a criminal.¹ Further, the most common location for such a confrontation is in or near the victim's home, i.e., the place where victims would be most likely to have access to a gun if they owned one.² While it cannot be stated what share of these incidents will transpire in a way that would allow the victim to actually use a gun, it is clear that a large share of the population will experience such an incident.

The second idea, that citizens can depend on police for effective protection, is plainly false. It implies that police can serve the same function as a gun in disrupting a crime in progress, before the victim is hurt or loses property. Police cannot do this, and indeed do not themselves even claim to be able to do so. Instead, police primarily respond reactively to crimes *after* they have occurred, questioning the victim and other witnesses in the hope that they can apprehend the criminals, make them available for prosecution and punishment, and thereby deter other criminals from attempting crimes. Police officers rarely disrupt violent crimes or burglaries in progress; even the most professional and efficient urban police forces rarely reach the scene of a crime soon enough to catch the criminal "in the act."³ More generally, the idea that the modern police are so effective in controlling crime that they have rendered citizen self-protection obsolete is wildly at variance with a large body of evidence that police activities have, at best, only very modest effects on crime.⁴ In any case, the fact that huge numbers of crimes still occur is obvious proof that the existence of modern police forces has not made other ways of dealing with crime, whether or not involving victim self-defense, unnecessary.

AMINATION

GUNS FOR SELF-PROTECTION 287

The third idea, that civilians are not generally able to use guns effectively, requires more extended consideration. Gun control proponents sometimes argue that only police have the special training, skills, and emotional control needed to wield guns effectively in self-defense. They hint that would-be gun users are ineffectual, panic-prone hysterics, as likely to accidentally shoot a family member as a burglar.⁵ Incidents in which householders shoot family members mistaken for burglars and other criminals do indeed occur, but they are extremely rare. Studies reviewed elsewhere indicate that fewer than 2 percent of fatal gun accidents involve a person accidentally shooting someone mistaken for an intruder.⁶ With about 900 fatal gun accidents in 1998, this implies that there were fewer than eighteen incidents of this sort that year.⁷ Compared with 2.55 million annual defensive uses of guns, this translates into about a 1-in-142,000 chance of a defensive gun use resulting in this kind of accident.

Evidence pertaining to police use of firearms also indicates that civilians who use guns for self-protection are actually less likely to shoot innocent parties than police officers. To be fair, though, crime victims usually have the advantage of knowing who the offender in the crime is, while police officers often enter crime situations where they cannot distinguish offenders from victims or bystanders (chapter 1).

It is important to distinguish at this point two discrete issues addressed in this chapter: (1) the effectiveness of individual instances of civilian gun use against criminals in preventing injury and the completion of the crimes involved, and (2) whether such actions, and gun ownership in general, can deter criminal attempts from being made in the first place. Actual defensive use of guns by victims in specific criminal attempts could disrupt the attempt, preventing the criminal from injuring the victim or obtaining property (disruptive effects). On the other hand, the general fact of widespread civilian gun ownership, or ownership by specific individuals or identifiable groups, could deter some criminals from making the criminal attempts in the first place (deterrent effects). We turn first to the disruptive effects of actual defensive gun use on the outcomes of crime incidents.

The Effectiveness and Risks of Victim Resistance with Guns

Violent crimes and burglaries are inherently dangerous events, and no victim strategy, including nonresistance, is completely safe. Victim actions may improve the victim's situation, make it worse, or may simply be ineffectual. In the 1991 National Crime Victimization Survey (NCVS), 61.5 percent of victims thought that their self-protection actions helped their situation, while only 8.8 percent thought that it hurt their situation (the rest thought there was no effect or mixed effects).² But these were merely subjective impressions, and victims may be biased toward viewing their actions as effective, because to do otherwise would be to perceive their choices as foolish or ineffectual. Thus, it is preferable to use more objective information, based on the actual outcomes of crimes in which victims adopted various self-protection strategies.

The NCVS provides the largest, most nationally representative samples of crime incidents available. Further, it provides detailed data on the self-protection actions of victims and the outcomes of crime incidents. Thus, it provides the most authoritative basis we have for judging the effectiveness and risks of victims' defensive actions. The most current data from the NCVS cover the period from 1992 to 1998.

The rates of injury, property loss, and other measures of crime outcomes are shown for each self-protection measure, by crime type, in table 7.1. For the most part, crime incidents have been divided according to the NCVS "Type of Crime" classification, whereby each incident is classified according to the most serious crime elements that were involved. "Robbery" includes incidents where the offender used or threatened force in an attempt, successful or not, to obtain property. "Assault" covers crimes where a threat or attack occurred, but there were no elements of robbery or rape. Finally, "confrontational burglaries" is not a "Type of Crime" class, but rather encompasses all crimes occurring in the respondent's home that involved a offender who was not authorized to be in the home; who was getting into, or trying to get into, the home; and that occurred while the respondent was home. Thus, these are cases of illegal entry where a confrontation was possible and some direct self-protection measure could have been taken by the victim during the incident. These are mostly cases that

LAURELTON

GUNS FOR SELF-PROTECTION 289**Table 7.1 Effectiveness and Risks of
Victim Self-Protection Measures (percentages)⁹**

(Data weighted by Incident Weight)

Crime Type: ^a	Confrontational							
	Robbery			Assault			Burglary ^b	
	Post-SP			Post-SP			Post-SP	
SP Measure	Injury	Injury	Loss	Injury	Injury	Injury	Injury	Loss
Attacked O with gun	8.5	0.0	8.5	48.9	5.9	26.5	0.0	4.2
Threatened O with gun	13.5	9.0	16.3	24.9	3.0	10.0	2.6	16.6
Any SP with gun	12.8	7.7	15.2	27.9	3.6	9.5	2.2	15.0
Attacked O with other weapon	41.9	1.6	34.4	60.7	7.8	30.4	7.3	6.3
Attacked O without weapon	52.1	7.7	46.9	82.7	8.6	64.3	5.4	13.5
Threatened O with other weapon	15.9	0.0	23.3	30.6	2.8	15.8	0.0	0.0
Threatened O without weapon	30.0	5.8	29.3	57.1	13.6	28.5	7.1	20.8
Defended self, property ^c	51.4	9.8	52.1	83.3	10.0	61.9	12.8	12.0
Chased, tried to catch O	34.4	9.6	60.3	58.2	9.0	10.2	0.0	26.7
Yelled at O, turned on lights	40.2	10.6	49.8	63.3	10.8	17.0	4.4	9.7
Cooperated with O, pretended to	12.6	6.5	81.5	37.6	14.7	38.1	15.5	37.9
Argued, reasoned with O	31.0	14.1	52.8	56.9	15.2	39.3	11.7	11.8
Ran/drove away, tried to	32.3	4.9	41.5	38.4	5.4	36.2	29.3	14.9
Called police, guard	23.6	3.4	56.0	48.5	4.6	12.9	2.8	14.3
Tried to attract attention	45.6	14.0	41.1	70.4	6.7	39.5	21.2	16.1
Screamed from pain, fear	69.3	22.0	68.6	94.1	12.6	73.6	21.6	19.4
Other self-protection measures	25.2	8.4	58.8	42.4	6.8	8.2	2.3	10.5
All SP measures	34.0	7.2	52.8	58.1	7.8	20.4	4.1	12.5
No SP measures at all	23.6	—	83.6	55.2	—	6.6	—	52.8
All incidents	30.2	4.5	69.9	57.4	5.9	14.2	2.2	30.5

Notes:

- a. Crime type of each incident was defined according to Bureau of Justice Statistics Type of Crime classification, which is based on the most serious crime element in the incident.
- b. Unauthorized person entered or tried to enter R's home while R was in the home.
- c. Struggled, ducked, blocked blows, held onto property.

started out as residential burglaries, and thus crimes of stealth, but a few may be home invasion robberies where offenders intended to confront victims, or crimes with elements of sexual assault or other kinds of assaults.

Several outcome measures can be distinguished. "Injury" measures whether the victim suffered any kind of physical injury. "Loss" refers to whether the victim lost any property during the crime. Finally, a significant

290 ARMED

recent improvement in the NCVS allows analysts to separately identify injuries inflicted after the victim engaged in some form of self-protection ("post-SP injury"). This is important, because these are injuries that could have been provoked by the SP measure and thus could be regarded as a cost of self-protection, whereas injuries inflicted before the victim used the self-protection measure could not be so regarded. Of course, it should be stressed that even among post-self-protection injuries, some might have been inflicted even in the absence of self-protection, so the rate of post-self-protection injury should be regarded as an upper limit estimate of the rate of injury that was provoked by victim self-protection.

Consistent with the chapter 6 discussion, no victims of rape or sexual assault reported using a gun to either attack or threaten an offender, so it is impossible to directly assess defensive gun use for these crimes. The self-protection measures most similar to defensive gun use were attack or threat with other (nongun) weapons, but there were also few cases of these self-protection measures in connection with rape. The limited data indicate that these were the most effective methods of avoiding completion of the rape and of avoiding additional injury. Thus, if guns are more intimidating than knives to criminals, by extension one would expect defensive gun use to be the most effective measure for avoiding rape completion and additional injury (see p. 294-95 for a more detailed discussion of rape).

In general, self-protection measures of all types are effective, in the sense of reducing the risk of property loss in robberies and confrontational burglaries, compared to doing nothing or cooperating with the offender. The most effective form of self-protection is use of a gun. For robbery the self-protection measures with the lowest loss rates were among victims attacking the offender with a gun, and victims threatening the offender with a gun. For confrontational burglary, attacking with a gun had the second lowest loss rate of sixteen self-protection measures, bested only by another mode of armed self-protection, threatening the offender with a nongun weapon.

Regarding injury, although many victims are hurt in personal contact crimes, few are injured after using self-protection measures, and thus there is little injury that could have been provoked by victim resistance. Almost all the injury comes before, or simultaneous with, defensive actions. For example, only 11.8 percent of rape victims who used some self-protection measure were injured after doing so, while the figures are 10.8 percent for

GUNS FOR SELF-PROTECTION 291

sexual assault victims (results not shown in table 7.1), 7.2 percent for robbery victims, 7.8 percent for assault victims, and 4.1 percent for victims of confrontational burglaries. Further, nonresistance does not guarantee safety, since 23.6 percent of robbery victims who did not resist were injured, while the rate was 55.2 percent for nonresisting assault victims, and even 6.6 percent in confrontational burglaries. Likewise 26.8 percent of rape victims who did not resist nevertheless suffered some additional injury, as did 27.4 percent of nonresisting sexual assault victims.

Victims who used guns were less likely to be injured than crime victims who did not resist, but their post-self-protection injury rates were not significantly different from those of victims using many other self-protection measures. Robbery victims who used guns were about as likely as other resisting victims to suffer a post-self-protection injury, while gun-wielding assault victims were somewhat less likely to suffer such an injury, as were burglary victims who used guns. Victim resistance rarely provokes offenders into attacking the victim, regardless of the form the resistance takes. Consequently, while defensive gun use is generally safe, it does not appear to be as uniquely safe among self-protection methods as data from earlier NCVS data suggested.¹⁰ Nevertheless, there does not appear to be any increase in injury risk due to defensive gun use that counterbalances its greater effectiveness in avoiding property loss.

It has been conjectured that these low rates of injury and property loss are not really due to victim defensive gun use, but rather are attributable to the victim having some opportunity for advanced preparation to deal with the crime. The argument is that crimes with defensive gun uses are unusual in that the criminal failed to surprise the victim, allowing the victim to retrieve a gun, and that this lack of surprise would also make the criminal more vulnerable to any form of self-defense.¹¹ This is a clever speculation that cannot be tested with the NCVS or any other existing body of evidence. The NCVS does, however, provide some data relevant to the general underlying idea that defensive gun users face more favorable crime circumstances.

These data indicate that victims who use guns for self-protection actually face *less* favorable circumstances than other victims, and that the post-self-protection injury rates for defensive gun use, low though they are, may still be misleadingly high compared to other self-protection measures because victims who use guns faced tougher crime circumstances. More

LAURELTON

292 ARMED

dangerous situations apparently prompt victims to adopt more dangerous self-protection measures. Two pieces of information available in the NCVS support this view. First, victims who used guns were substantially more likely than victims in general or victims using other self-protection measures to face offenders armed with guns—32.7 percent of victims who attacked the offender with a gun, and 21.3 percent of those who threatened the offender with a gun, faced offenders with guns, compared to only 6.8 percent of all victims who used self-protection measures, and 2.2 percent of all victims.¹² Second, victims who used guns were more likely to face multiple offenders—33.2 percent of victims who attacked offenders with a gun and 34.5 percent of those who threatened with a gun confronted multiple adversaries, compared to 20.6 percent of all those who used self-protection measures, and 6.2 percent of all victims. These findings are consistent with the view that crime circumstances likely to appear more dangerous to victims are more likely to push victims into using guns. They are contrary to the speculation that crime outcomes are better for gun-wielding victims merely because other circumstances of the crime made successful outcomes more likely.

Based on the 1992-1998 NCVS data, 20.8 percent of robberies, assaults, and confrontational burglaries in which a victim used a gun for self-protection resulted in some kind of injury to the victims. But most of this injury occurred prior to the victim's use of any self-protection measures. Only 3.6 percent of all gun-using victims in these crimes were injured after use of self-protection. Even if one made the extreme assumption that all of this post-self-protection injury was provoked by the victim gun use (i.e., none of it would have occurred anyway, in the absence of victim gun use), it is fair to say that victim gun use almost never provokes a criminal into attacking the victim.¹³

How serious are the injuries suffered by those who use guns to resist criminals? The NCVS ask victims about whether they received medical care for their injuries, and if so, what kind of care. This can be regarded as a rough measure of the seriousness of injuries, though it necessarily reflects availability of medical care as well. Of all gun-using victims, 1.3 percent were injured and received some sort of medical care, including self-treatment. Most of this was not, however, professional medical care. Only 0.6 percent of all gun-using victims received medical care at a doctor's office,

GUNS FOR SELF-PROTECTION 293

clinic, emergency room, and/or hospital. Finally, none of the gun-using crime victims in the NCVS dataset were injured and received treatment requiring an overnight stay in a hospital. Professional medical treatment was apparently limited to that which could be delivered prior to the patient being released the same day. In sum, defensive gun use rarely provokes criminals to attack victims, and on the rare occasions that gun-using victims are injured after using their guns, the injuries are almost always minor.

Multivariate Analysis of Robbery and Armed Resistance

The simple rates of injury and property loss associated with each method of SP reflect the influence of other crime circumstances as well as that of the SP measure itself. To better isolate the effect of the self-protection measures alone, it is important to statistically control for other crime circumstances that might influence injury or crime completion. Thus, an analyst can compare crimes where the victim used a given self-protection measure with crimes without such self-protection used, using multivariate statistical procedures to control for other factors. The results of such a multivariate analysis provide a response to those who assert that one cannot know how an incident would have turned out had the victim not used the self-protection measure that they in fact used. When one compares, for example, crimes in which the victim engaged in defensive gun use with otherwise similar crimes in which the victim did not engage in defensive gun use, the latter cases in effect show how the former cases would have turned had the victim not engaged in defensive gun use.

Multivariate analysis is especially important in judging the relative effectiveness and safety of different self-protection tactics because, as noted, crime victims who use guns seem to face tougher crime circumstances than those who adopt other tactics—more numerous adversaries who are more likely to be themselves armed with guns. Thus, simple analyses of self-protection and the crime outcome alone can be misleading because they confound the effects of victim self-protection actions with the effects of associated crime circumstances.

The simple percentage table results concerning robbery completion and

LAUREN TON

294

injury rates are, however, supported by more sophisticated multivariate analysis of NCVS robbery incidents. In a logistic regression analysis, Kleck and Miriam DeLone found that robbery victims who used guns in self-protection were significantly less likely to either be injured or lose their property than victims who used any other form of self-protection or who did nothing to resist.¹¹ This was true even when controlling for other characteristics of the robbery situation that could influence the effectiveness of defensive actions, such as the number of robbers, the number of victims, whether the robbery occurred in a private place, whether it occurred when it was dark, whether the robbers were armed, the age and gender of victims, and so on. Thus, there is no support for the speculation that gun defenders do well merely because of other advantageous crime circumstances associated with defensive gun use.

Multivariate Analysis of Rape and Armed Resistance

The NCVS data did not permit anything meaningful to be said about gun resistance in rape because there were no relevant sample cases to analyze. However, we may gain some strong hints about the results of gun resistance from an analysis of all forms of armed resistance by rape victims. Grouping together instances of resistance with guns, knives, or other weapons, Kleck and doctoral student Susan Sayles found, in a multivariate analysis of national victim survey data from 1979 to 1985, that rape victims using armed resistance were less likely to have the rape attempt completed against them than victims using any other mode of resistance.¹⁵ These results confirmed those of criminologist Alan Lizotte using city victim surveys.¹⁶ Further, there was no significant effect of armed resistance causing the rapist to inflict additional injury beyond the rape itself. Again, these multivariate results indicate that there is no empirical evidence to support the speculation that successful outcomes of armed resistance to rapists are due to the crime circumstances associated with such resistance.

In light of the robbery and assault findings indicating that gun resistance is at least as effective as armed resistance using other weapons, it is a reasonable inference that the same would be true for rape. Indeed, this would seem especially likely with rapes, given that rape victims are nearly

GUNS FOR SELF-PROTECTION 295

all women, and guns are the weapon type whose effectiveness is least dependent on the physical strength of its user.

A recent multivariate study of assaults against women lumped all forms of self-protection together, but distinguished post-self-protection injury from pre-self-protection injury. Controlling for twelve other possible determinates (only three of which had a significant association), the authors found that women who used self-protection were less likely to suffer injury. The most interesting finding of the research was that the apparent effect of resistance on injury was actually reversed when the analysts distinguished post-self-protection injury from other injury. This indicated that previous research without this refinement that had suggested detrimental effects of resistance was misleading.¹⁷

The Police Chief's Fallacy

Joseph McNamara, former chief of the San Jose, California, police department, testified before a Congressional committee considering gun legislation: "We urge citizens not to resist armed robbery, but in these sad cases I described, the victims ended up dead because they produced their own handguns and escalated the violence. Very rarely have I seen cases where the handgun was used to ward off a criminal." Likewise, Quinn Tamm, former executive director of the International Chiefs of Police, once asserted that most persons possessing firearms "are a menace to themselves and their families."¹⁸ In light of the foregoing evidence, why do some police say such things? While some, like Chief McNamara and Mr. Tamm, strong gun control advocates, may be motivated by political considerations, it is doubtful that this is true for all officers. Instead, police advice may well logically follow from the resistance experiences of victims with whom officers have had contact. The problem with relying on this sample of resistance cases is that it is substantially unrepresentative of the experiences of crime victims in general—the cases McNamara and other police officers have seen are not like the far more numerous cases they have not seen.

Most crimes are not reported to the police, and the crimes most likely to go unreported are the ones that involve neither injury nor property loss, i.e., those that had successful outcomes from the victim's viewpoint. For

296 ARMED

example, among robberies reported to the NCVS, only 24 percent of those with no injury or property loss were reported to police, while 72 percent of those with both were reported. Likewise, assaults without injury are less likely to be reported than those with injury.¹⁹ By definition, all successful defensive gun uses fall within the no-injury/no-property-loss category, and thus are largely invisible to the police. Consequently, police never hear about the bulk of successful defensive gun uses, instead hearing mostly about an unrepresentative minority of them dominated by failures. To conclude that armed resistance is ineffective or dangerous, based on the experiences of this sort of unrepresentative sample of victims, can be called, in honor of former Chief McNamara, “the police chief’s fallacy.” At present, advising victims to not use guns to resist criminal attempts seems imprudent at best, reckless at worst. As criminologists Edward Ziegenhagen and Dolores Brosnan concluded: “victims can and do play an active part in the control of crime outcomes regardless of well-intentioned but ill-conceived efforts to encourage victims to limit the range of responses open to them. Victims can, and do, exercise a range of optional responses to robbery far beyond those conceived of by criminal justice professionals.”²⁰

The Myth of Criminals Taking Guns from Gun-wielding Victims

It has often been claimed that many people who attempt to use guns for self-protection have the gun taken from them by the criminal and used against them.²¹ This type of incident is in fact virtually nonexistent. In the 1992-1998 NCVS sample, it was possible to identify crime incidents in which the victim used a gun for self-protection and lost a gun to the offender(s). Only 0.2 percent of incidents involving defensive gun use also involved the victim losing a gun to an offender—there was only a single sample case of such a thing happening in the NCVS dataset. Even this single case did not necessarily involve the offender seizing a gun from a victim using it for self-defense. Instead, a burglar might, for example, have been leaving a home with one of the household’s guns when a resident attempted to stop him, using a different household gun. Thus, the 0.2 percent figure represents an upper limit estimate of the relative frequency of these events.

MIRRETON

GUNS FOR SELF-PROTECTION 297

Researchers Albert Reiss and Jeffrey Roth tried to support this argument by citing misleading data on the frequency with which police officers are killed with their own guns. They reported that sixty-four police officers, 19 percent of those killed with guns in 1984-1988, were killed "when their service weapons were turned against them."²² The purpose of citing the 19 percent figure was not made explicit, but in context the number clearly hinted that defensive gun use, even by experienced gun users like police, frequently leads to tragedy. This hinted inference was illogical, and the data do not in any way support the idea that defensive gun use frequently leads to a gun being taken away from the user by the criminal.

A meaningful measure of risk would have compared the number of police officers killed with their own gun with a measure of exposure to this risk, such as the number of police officers, or the number of times that they carried or used their guns defensively. There are about 600,000 police officers in the United States.²³ Virtually all of them carry guns for defensive purposes, essentially every working day, 250 or more days per year. Even if each averaged just one actual defensive use of a gun (e.g., it was drawn and at least pointed at someone) per year, this would imply 600,000 annual defensive gun uses by police, with thirteen or fewer per year resulting in an officer losing his gun and being killed with it, or 0.002 percent.

Even taking the Reiss-Roth figure at face value, it is misleading—the authors misadded killings (there were sixty-three deaths of this type, not sixty-four), and the 19 percent (actually 18 percent) figure was drawn from an unrepresentative time period. For the entire 1974-1990 period, the share of killings involving the officer's gun was 13.5 percent, a third less than 19 percent. And for the most recent year available to Reiss and Roth, 1990, there were only three officers killed with their own guns in the entire United States, 5.4 percent of the total killed.²⁴

Finally, even on those rare occasions when police officers are killed with their own guns, the event almost never involves a gun being taken from an officer trying to use it defensively. A study of eleven such cases indicated that only one involved the gun being taken from the officer's hand. Instead, the gun is usually snatched from the officer's holster.²⁵ That is, officers have their guns taken from them when they are *not* using them for self-protection. Contrary to Reiss and Roth, gun owners of any kind, police or civilian, almost never, while using guns for protection, have their weapons taken from them and used against them.

298 ARMED

Self-Defense Killings and Woundings of Criminals

Most uses of guns for either criminal or defensive purposes are much less dramatic or consequential than one might think. Only a tiny fraction of criminal gun assaults involve anyone actually being wounded, even nonfatally, and the same is true of defensive gun uses. Neither victim nor offender is hurt in the vast majority of cases. Indeed, it is partly because defensive gun use is as effective as it is in preventing further harm that most defensive gun use incidents turn out to be as undramatic and inconsequential as they do.

In the typical defensive gun use, the victim merely points the gun at the offender, or displays or verbally refers to the weapon in a threatening way ("Stop right there—I've got a gun"), and this is sufficient to accomplish the ends of the victim. Nevertheless, most gun owners questioned in surveys assert that they would be willing to shoot criminals under some circumstances. A 1989 *Time/CNN* survey found that 80 percent of gun owners thought that they would get their guns if they believed someone was breaking into their home, and 78 percent said they would shoot a burglar if they felt threatened.²⁶

Despite this stated willingness of gun owners to shoot under certain circumstances, few defensive gun uses in fact involve shooting anyone. The rarest but most serious form of self-defense with a gun is a defensive killing. These events are too rare to show up in surveys, even those with huge samples. The only national data bearing on their frequency is a partial count of civilian justifiable homicides compiled by the FBI based on police reports. This count, however, excludes (1) homicides ultimately ruled noncriminal by prosecutors, judges, or juries but reported to the FBI as criminal homicides because that is how initial police investigations routinely classify such events; (2) cases that local police label as civilian justifiable homicides but that are not reported as such to the FBI; and (3) defensive homicides recorded as "excusable" rather than justifiable homicides. These apparently are mostly cases of self-defense against assault but with no other felony (such as a robbery or rape attempt) involved. Detailed local homicide data suggest that the total number of civilian lawful defensive homicides could be four times higher than the FBI civilian justifiable homicide count.²⁷

In 1993, there were 167 firearms civilian justifiable homicides

LAURELTON

GUNS FOR SELF-PROTECTION 299

reported to the FBI, compared to 379 in 1980 and 316 as recently as 1994.²⁸ These counts imply perhaps 668 lawful defensive killings with guns in 1998, while the number was 1264 in 1994, and 1516 in 1980. These estimates are all very rough, but regardless of which are used, defensive killings occur in less than a 10th of 1 percent of the estimated 2.5 million annual defensive gun uses.

Nonfatal gun woundings are far more frequent than fatal shootings. Cook reviewed data that indicated that only about 15 percent of gunshot wounds known to the police are fatal, implying a ratio of about 5.67 (85 percent nonfatal/15 percent fatal) nonfatal gun woundings known to the police to each fatal one.²⁹ However, police are unlikely to learn of many defensive woundings because the victims were criminals, some of whom were shot in the course of attempting crimes. Medical personnel are required by law to report treatment of gunshot wounds. Therefore, criminal victims of defensive gun use woundings who want to avoid a police interrogation about how they were wounded are unlikely to seek professional medical care for any but the most life-threatening wounds.³⁰ Consistent with this view, even among the presumably mostly noncriminal victims who reported suffering gunshot wounds in crime incidents in the NCVS in 1992 through 1998, 25.8 percent did not receive any professional medical care.³¹

The 1994 National Self-Defense Survey (NSDS) found that 8.3 percent of victims reporting a defensive gun use claimed that they had wounded the criminal, but interviews did not establish how the respondent knew that the criminal was wounded.³² The marksmanship implied by this many woundings, compared to the number of incidents in which victims tried to shoot criminals, was implausibly high, the "hit rate" exceeding that of police officers. Therefore, it is likely that in many of these cases, victims who had fired their guns were merely guessing that they had shot the criminal. Reanalysis of data from the 1994 Police Foundation survey indicates that of eight reported woundings of criminals, the victim actually saw blood in only four cases.³³ If half of the supposed defensive woundings reported in the NSDS were actual woundings, this indicates that about 4.15 percent of the 2.55 million defensive gun uses involved a wounding, implying about 106,000 defensive woundings in 1993. But since this estimate relies on a wounding rate based on only a handful of sample cases, this estimate is subject to huge sampling error, and so should be taken with a large grain of salt.

AMERITON

300

It is unknown how many of the criminal victims of these woundings would have received professional medical care, but the share is likely to be small given that most gunshot wounds require no more medical care than a lay person can deliver. This implies that most criminals shot in the course of attempting a crime could afford to rely exclusively on self-treatment, and thereby avoid contact with police and the attendant risks of incarceration for the crime that provoked the wounding. And, of course, few of those criminals who were treated in emergency rooms or hospitals would be recorded in hospital records as victims of DGU, since medical personnel would ordinarily have no basis for knowing this, unless the patient foolishly confessed it to them. More likely, the criminals would simply be recorded as victims of "gun assaults," otherwise unspecified. Consequently, estimates of emergency room/hospital-treated wounds are of little use in estimating the frequency of defensive woundings.³⁴

Keeping Loaded Guns in the Home

That defensive gun uses are common is not surprising in light of how many Americans own guns for defensive reasons and keep them ready for defensive use. A 1994 national survey found that 46 percent of gun owners have a gun *mainly* for protection, while in a 1989 survey, 62 percent said that protection from crime was at least *one* of the reasons they owned guns. A December 1993 Gallup poll indicated that 49 percent of U.S. households contained a gun, and 31 percent of U.S. adults personally owned a gun.³⁵ With 97,107,000 households and 192,323,000 persons age eighteen or over in 1994, these figures translate into about 47.6 million households with guns, 59.6 million adults who personally owned a gun, 27.4 million adults who owned guns mainly for protection, and about 37.0 million who owned them at least partly for protection. Thus, the 2.55 million people using guns defensively each year are only 4 percent of all who personally own guns and less than 7 percent of those who have guns for defensive reasons.

Further, many gun owners, and almost certainly a majority of those who own guns primarily for protection, keep a household gun loaded. The 1994 Police Foundation survey found that 16.4 percent of all guns, and 34.0 percent of handguns, were kept loaded and unlocked, i.e., ready for immediate use

GUNS FOR SELF-PROTECTION 301

(referred to hereafter as "the ready status"). Applied to the national gun stock at the end of 1994 of 84.7 million handguns, 150.0 million long guns, and 235.7 million total guns, these figures imply 23.8 million handguns, 9.9 million long guns, and 33.7 million total guns kept loaded and unlocked at any one time. Thus, three quarters of the guns kept in this status are handguns, which are most commonly kept in the bedroom, where they are ready for nighttime use.³⁶

Reanalysis of these data indicates that of handguns kept loaded and unlocked, 33.3 percent were owned by persons who said their most important reason for owning a handgun was "self-defense or protection." Very likely most, and probably nearly all, of the remaining 16.7 percent also owned handguns for self-defense, as a secondary reason (secondary motives were not addressed in this survey).³⁷ It is a common failing of studies of gun storage practices that they do not separately identify gun owners for whom protection is a secondary reason for owning a gun, or fail to determine reasons for ownership at all.³⁸ This flaw conceals or obscures the fact that virtually everyone who keeps a gun in the ready status owns the gun at least partly for defensive reasons, thereby blurring the extent to which gun owners have what they would regard as a rational reason for storing guns this way.

Some scholars have claimed that, by storing guns loaded and unlocked, many gun owners keep guns in violation of safety rules promulgated by gun owner organizations such as the National Rifle Association (NRA). They then profess to be puzzled by their finding that this "unsafe" storage pattern is as common, or more common, among those who have received formal firearms safety training.³⁹ This is misleading because the NRA in fact supports keeping guns unloaded and locked, *except* when the gun is kept for defensive reasons, stating that "a gun stored primarily for personal protection must be ready for immediate use. It may be kept loaded, as long as local laws permit and every precaution is taken to prevent careless or unauthorized individuals from gaining access."⁴⁰ Some writers misrepresent the NRA's position by not mentioning the exception for defensive guns.⁴¹ Since nearly all of the guns kept in this ready status are owned for defensive reasons, this means that in fact very few gun owners violate the safety rules concerning gun storage that are promulgated by the NRA.

The most common argument against keeping guns in the ready status for self-defense is that it could lead to accidents or other violence involving guns because unauthorized persons, especially small children, could gain

302 ARMED

access to the gun. This argument is of limited relevance for several reasons. First, it is common for adolescents, especially in small towns and rural areas, to personally own guns with their parents' knowledge and approval. A member of this group would not be an "unauthorized person," but rather would be the gun's owner and thus would often be the person with the key or combination to any lock on the gun. And among adolescents who possess their own gun without a parent's knowledge (e.g., an urban gang member), access to these guns obviously could not be affected by their parents' locking and storage practices. The failure of gun owners in other households to secure their guns against theft is more likely to play a role in such an adolescent obtaining a gun.

Excluding accidents among preadolescent children (under age thirteen), there is no evidence that any significant number of misuses of guns are committed by persons gaining unauthorized access to guns. More than 99 percent of all suicides and homicides are committed by persons age thirteen or over, that is by persons old enough to own their own guns.⁴² As far as we know, virtually everyone who commits an assaultive act of violence or attempts suicide with a gun, and virtually every adult or adolescent who accidentally shoots someone, had "authorized" access to the gun that was used, most commonly because it was the shooter's own gun.

Second, gun accidents among preadolescent children, which *are* likely to involve unauthorized users, are extremely rare. In the entire United States in 1996, there were only 78 FGAs involving victims under age thirteen (compared to 855 accidental deaths in this age group due to drowning, 724 due to fire, and 2,415 due to motor vehicle accidents). Analysis of 1979-1994 Mortality Detail File data indicates that 36.35 percent of FGAs involving victims under age thirteen involved a handgun (among cases with a known gun type).⁴³ Thus, for 1996, an estimated twenty-eight FGAs with preadolescent victims involved handguns, the type of gun that accounts for at least three quarters of guns kept in the ready status.

Third, most gun-owning households have neither children nor adolescents (and probably rarely or never have visits from youngsters). More specifically, the practice of keeping guns in the ready status is largely confined to households without children or adolescents. Data from a large-scale 1994 national survey indicated that 79 percent of U.S. households that kept at least one gun unlocked and either loaded or stored with ammunition had no chil-

GUNS FOR SELF-PROTECTION 303

dren under the age of eighteen (and data from another 1994 national survey put this figure at 76 percent). Data from the 1994 Police Foundation survey indicate that only 5.4 percent of households with children under age eighteen owned guns and kept at least one gun loaded and unlocked.⁴⁴

Further, data indicated that households with preadolescent children are only about half as likely to keep guns in the ready status as those with only adolescents.⁴⁵ Thus, perhaps 4 percent of households with preadolescent children, and perhaps 8 percent of households with only adolescents (which would roughly average out to the aforementioned 5.4 percent for households with children of any age), have guns kept loaded and unlocked. In the Police Foundation survey, among households with a gun in the ready status, 16.6 percent had children under eighteen, so a reasonable rough estimate would be that perhaps 10-14 percent had preadolescent children.⁴⁶ Thus, the risk of a resident preadolescent child obtaining access to a gun is irrelevant for 86 to 90 percent of households with guns in the ready status.

Finally, the argument is one-sided in not taking account of deaths and injuries that are prevented because a crime victim had quick access to a gun and was able to use it effectively for self-protection. We do not know how many of the 2.55 million annual defensive gun uses, or the nearly one million defensive gun uses in the home, were only possible because the victim had quick access to a gun.⁴⁷ The number is not, however, likely to be zero, in light of the fact that criminals rarely give their victims advance warning of their criminal plans, and thus time to make preparations.

To describe storing a gun in the ready status as "unsafe" implies a one-sided focus on danger to household members from the household gun, and effectively prejudices the question of whether the harm of shootings committed with the household gun by unauthorized users outweighs the benefit of quick access to guns for self-protective purposes.⁴⁸ This is unreasonable, given that it would require only a tiny fraction of the one million home defensive gun uses to involve a life saved due to quick access to a gun to counterbalance the subset of twenty-eight deaths of preadolescent children in handgun accidents that might have been caused by the gun being stored in the ready status.

In any case, there are compromise modes of storage that permit guns to be safely kept loaded, yet secured in some way—storage modes that provide both security against unauthorized access and quick access by autho-

304 ARMED

rized users for defensive purposes. For those who can afford to spend \$150 or more, a handgun can be safely stored, in a loaded condition, inside a lockbox that can be quickly opened, but only by persons with the correct combination or key. With the better variants of these products, the user can gain access to the gun in under ten seconds, yet unauthorized users cannot gain access at all. I know of no documented case where a person was killed in an act of gun violence as a result of a lockbox being defeated. Further, the lockbox, if securely fixed to a relatively immovable object, can strongly discourage gun theft.⁴⁹

For those who cannot afford a lockbox, locks that are placed on the gun, such as trigger locks, cable locks, and various other gun locks offer cheap, next-best alternatives. These cost as little as \$10 and are also effective in preventing unauthorized use of the gun. They also have various shortcomings that could theoretically allow, or cause, accidents when used on loaded guns.⁵⁰ In the absence of evidence on whether these risks have actually resulted in real-world injuries or deaths, about all that can be said is that there is a potential risk to storing a gun loaded using the less expensive security alternatives. Nevertheless, they are clearly better than not securing the gun at all, and for many gun owners may be the only security measure that they can afford. Further, locks that go on a gun, even if they in fact render the gun unusable for unauthorized persons, may nevertheless fail to deter some gun thieves, and some gun locks do nothing to make theft physically difficult or impossible.

Given that most gun criminals acquire their guns directly or indirectly as a result of theft, probably the strongest rationale for keeping guns stored in a secure manner of some sort is to reduce gun theft and thereby reduce acquisition of guns by criminals.⁵¹ It is far more common for violence to be committed by criminals using stolen guns than for it to be committed by persons gaining unauthorized access to guns in their own home. Therefore, arguments for keeping guns stored more securely are more sensibly grounded in efforts to reduce gun theft than in dubious efforts to persuade people of the dangers of guns kept in their own homes.

Perhaps the most prominent example of such dubious efforts is the case-control homicide study of physician Arthur Kellermann and his colleagues, who claimed that because homicide victimization was 2.8 times more likely among persons who kept guns in their homes than among per-

CONFIDENTIAL

GUNS FOR SELF-PROTECTION 305

sons in gunless homes, this meant that home gun ownership caused a higher risk of being murdered.⁵² The more empirically supported interpretation of their findings is that the same factors that put people at greater risk of violent victimization (e.g., engaging in dangerous activities, frequenting dangerous places, or associating with dangerous people) also motivate people to acquire guns for self-protection.

The credibility of Kellermann's interpretation collapsed when it was found that his own data indicated that no more than 1.67 percent of the homicides committed in the three urban counties he studied were committed with a gun kept in the victim's home. Guns in the victim's household almost never had anything to do with his or her murder, and could not have caused a tripling of the risk of being murdered. People may well be endangered by guns possessed by dangerous people outside their own homes, but their risk of being victimized is not significantly increased by the guns kept in their own homes.⁵³

Carrying Guns for Protection

Carrying firearms for protection in public places is one of the most active forms of gun use for both defensive and criminal purposes. Unlawful carrying of guns probably accounts for the majority of arrests for weapons violations, and virtually all gun crime committed in public places necessarily involves carrying of firearms by criminals. On the other hand, about 0.7 to 1.6 million defensive gun uses occur each year in public places and thus entail gun carrying.⁵⁴

Persons who wish to have guns available for defensive purposes in public spaces must necessarily carry guns, legally or illegally, to do so. This carrying is done either on the carrier's person (e.g., in a holster, purse, etc.) or in a vehicle. The latter is more common than the former, possibly because legal controls are less strict over carrying in a vehicle than on the person.⁵⁵ The gun is usually carried concealed, a practice facilitated by the fact that 93 percent of the guns carried for self-protection are handguns.⁵⁶ While there are no sound data on the question, almost certainly the vast majority of these guns are carried loaded. Thus, protective gun carrying is typically concealed carrying of a loaded handgun.

EXHIBIT

The NSDS indicated that 3.3 percent of American adults carry a gun on their person for protection, 6.6 percent carry in their vehicles, 2.1 percent do both, and a total of 8.3 percent do either kind of gun carrying for self-defense. The mean number of days carried each year per carrier was 138 days of carrying on the person and 146 days of carrying in a vehicle (figures that could overlap due to days on which people did both kinds of carrying). For the entire adult population, there were nearly a billion person-days of carrying on the person and 1.3 billion person-days of carrying in a vehicle in 1992. One implication of these figures is that the NSDS estimate of one million annual defensive gun uses in public places represents less than one in a thousand of the number of instances of carrying guns.⁵⁷

Because criminals are especially likely to become crime victims themselves, they have especially strong reasons to carry guns for self-protection, as well as for criminal purposes. Further, most gun carrying by Americans is clearly unlawful. Although national surveys indicate that 5 to 11 percent of U.S. adults carry guns outside their home for protection, only about 1 percent of U.S. adults have a permit to carry firearms.

Nevertheless, most people who carry guns for protection are not criminals other than in the sense that they are violating gun laws, and nearly all instances of gun carrying are done without any intent to commit a crime, apart from the unlawful carrying itself. This can be inferred from the facts that even the highest estimates of gun crime indicate that there are less than a million violent crimes committed with guns each year, many of which did not involve carrying in public, while the NSDS indicated that there are over a billion person-days of gun carrying for protection each year. Thus, less than one in a thousand instances of gun carrying results in a gun crime. Unless criminals almost never follow criminal intentions with criminal actions, only a tiny fraction of instances of gun carrying are done with the intention of committing a violent crime.

This has important implications for the enforcement of laws forbidding gun carrying. If the vast majority of instances of gun carrying are for exclusively defensive purposes, and less than one in one thousand will result in a gun crime, this implies that practically none of the gun carriers that police officers might randomly stop and frisk in public places would be criminals on their way to or from a crime. Only to the extent that police are able to somehow distinguish, presumably based on visible cues, gun car-

GUNS FOR SELF-PROTECTION 307

riers with criminal intentions from gun carriers with purely noncriminal intentions, will a nonnegligible share of street searches be of criminals on their way to or from a gun crime. Thus, few crimes are directly disrupted or prevented by the arrest of the prospective offender for unlawful carrying.

Instead, the value of enforcement of carry laws is more likely to lie in its deterrent effect on carrying of guns by criminals. Even with a low "batting average" in identifying criminal gun carriers, with enough searches police can generate significant numbers of carry detections and arrests in high crime areas. While most carrying, even among criminals, is for defensive reasons, it is also true that most gun crimes, because they do not occur in the offender's home, necessarily involve carrying a gun through public spaces. Thus, reducing gun carrying by criminals, however achieved, could have significant crime control value.

The problem is that enforcement of carry laws will deter carrying among noncriminals and criminals alike. Indeed, even when police try to avoid arresting "otherwise innocent persons" found in unlawful possession of a firearm in a public place, many of those arrested have no prior criminal record.⁵⁸

Thus, to indiscriminantly deter all gun carrying, regardless of whose carrying is deterred, implies deterring the gun carrying that makes possible effective defensive uses of guns, as well as deterring the carrying that facilitates crime. And if criminals are less likely to be deterred from carrying than noncriminals, enforcement of carry laws would reduce defensive uses of guns in public places more than criminal uses. Since the number of defensive gun uses in public places (approximately one million) is at least as large as the number of gun crimes that involve carrying guns, this cannot be dismissed as a trivial consideration.⁵⁹

Kleck and Gertz suggest that one way out of this dilemma is to make a sharper distinction among criminal and noncriminal gun carriers, by making it easier for noncriminal adults to get legal permits to carry guns.⁶⁰ Then, when police arrested people for unlawful, i.e., unlicensed, carrying, a larger share of the arrestees would be criminals in some significant sense, beyond their status as gun law violators. Likewise, purely defensive carrying would not be deterred as much since a larger share of it would be lawful and thus not subject to arrest.

Implementation of this policy is effectively already underway in over

308 ARMED

thirty states, inasmuch as that many states now have nondiscretionary "shall issue" laws that require authorities to grant carry permits to resident adult applicants without criminal records. Some critics feared that expanding access to carry permits would increase gun violence in public places, but evaluations of these laws generally indicate either no impact on crime rates or beneficial effects.⁶¹

Further, permit revocation data indicate that there is virtually no violent gun crime among permit holders that could be attributable to licensed carrying. There is little foundation for the fear that these laws would result in many carry permit holders committing violent crimes in public with their guns. In the first thirteen years after Florida passed its carry law, of 697,553 licenses issued (including renewals), only 123 had been revoked as a result of conviction for a violent crime involving a gun (about 9.6 per year), representing about one-twentieth of one percent of the 248,049 permits valid as of June 30, 2000. Further, no permit holder has committed a criminal homicide resulting from gun carrying authorized by the permit.⁶²

While the carry law evaluations generally show no impact on crime rates, none directly assessed the impact of the laws on rates of defensive carrying or use of guns. It is possible that they increase the number of defensive gun uses in public, and thereby increase the share of crimes that victims successfully disrupt, and thus the number of crimes in which they are able to avoid injury or property loss. A lower fraction of crimes resulting in injury or property loss would not show up in ordinary crime rate statistics.

Psychological Effects of Keeping Guns for Protection

If some people get guns in response to crime or the prospect of being victimized in the future, does gun ownership have any reassuring effects? Once a gun is acquired, does it make its owner feel safer? Reducing fear would be an intangible benefit distinct from the objective utility that a gun has when it is actually used for defensive purposes.

A 1989 national survey of U.S. gun owners asked them: "Does having a gun in your house make you feel more safe from crime, less safe, or doesn't it make any difference?" While 42 percent of the gun owners felt more safe,

GUNS FOR SELF-PROTECTION 309

only 2 percent felt less safe, and the rest said it made no difference.⁶³ Since only 27 percent of the owners had a gun mainly for protection from crime, and only 62 percent had a gun even partially for protection from crime, it is not surprising that some owners felt having a gun made no difference in their feelings of safety. It presumably was not supposed to make any difference, since their guns were owned for recreational reasons. Assuming that those who felt safer fell largely among those 62 percent (or 27 percent) of owners who had guns for protection, one can infer that most defensive gun owners feel safer from crime as a result of their gun ownership.

A 1990 national survey directly confirmed this. Among persons whose primary reason for owning a gun was self-defense, 89 percent replied yes to the question "Do you feel safer because you have a gun at home?" Among gun owners who did not feel safer, 96 percent were persons whose primary reason for owning was something other than defense.⁶⁴ When asked: "Overall, do you feel comfortable with a gun in your house or are you sometimes afraid of it?" 92 percent of gun owners in the *Time/CNN* poll said that they were comfortable, 6 percent were sometimes afraid, and 2 percent were not sure.⁶⁵

Gun owners also believe that gun ownership actually makes them safer. For example, in a national survey conducted in January 1981, respondents were asked: "How do you feel about having a gun in your house? Do you think it makes things safer or do you think it makes things more dangerous?" This question wording differed from that of the *CNN/Time* and Mauser polls in that it focused on the respondent's beliefs concerning the actual effect of guns on their safety, rather than how gun ownership made them feel. Among respondents in gun owning households giving valid responses, 58 percent felt having a gun in their house "makes things safer," 30 percent felt things were about the same, and 11 percent felt it made things more dangerous.⁶⁶ In sum, most gun owners, including many who do not even have a gun for defensive reasons, feel comfortable with guns, feel safer from crime because of them, and believe their guns actually make them safer.

Finally, even among those who do not personally own guns but live in a household with guns, few feel less safe because of the guns. In the 1994 Police Foundation survey, only 4.8 percent of gunless residents of gun households felt "not at all safe" or "not very safe" "knowing that someone in your household has a gun."⁶⁷

It has been claimed that higher rates of gun ownership reduce commu-

310 ARMED

nity feelings of safety, based on a single survey's finding that most people responded "less safe" to the question "Thinking specifically about guns, if more people in your community were to acquire guns, would that make you feel more safe, less safe, or the same?"⁶⁸ The problem with this question is that it does not distinguish between more guns among criminals and more guns among noncriminals. As far as one can tell from these ambiguous results, everyone who responded "less safe" was exclusively concerned with increases among criminals or other high-risk subsets of the population.

In any case, this conclusion depended on respondents' assessments of a hypothetical (as well as ill-defined) future situation. In contrast, another study directly assessed the impact of actual gun ownership rates on fear of crime among a nationally representative sample of urban residents, estimating the association between survey measures of fear and gun levels in the city in which each respondent lived. The findings indicated that community gun ownership rates, as distinct from the individual's own gun ownership, reduce the fear of walking in one's own neighborhood at night, and have no effect on feelings of safety in one's home. These patterns prevailed among both gun owners and nonowners.⁶⁹ This combination of findings makes sense, since people might benefit from other people's possession and defensive use of guns when outside their homes, but are unlikely to benefit from other people's gun ownership when in their own homes.

These results support the view that the Hemenway findings were a reflection of a narrow fear of criminals having guns, and not of fear generated by higher gun ownership levels in the community as a whole. In sum, research indicates that gun ownership not only makes gun owners feel safer, but also may indirectly reduce some kinds of fear of crime among nonowners.

The Nonsense Ratio

When gun control advocates and public health scholar/advocates discuss ownership of guns for defensive purposes, they often bring up one of the oddest statistics in the gun control debate. In 1975 four physicians published an article based on data derived from medical examiner files in Cuyahoga County (Cleveland). They noted that during the period of 1958 to 1973, there were 148 fatal gun accidents (73 percent of them in the home) and 23 "bur-

GUNS FOR SELF-PROTECTION 311

glars, robbers or intruders who were not relatives or acquaintances” killed by people using guns to defend their homes. They stated that there were six times as many home fatal gun accidents as burglars killed. (This appears to have been a miscalculation—the authors counted all 148 accidental deaths in the numerator, instead of just the 115 occurring in the home.) On the basis of these facts, the authors concluded that “guns in the home are more dangerous than useful to the homeowner and his family who keep them to protect their persons and property” and that “the possession of firearms by civilians appears to be a dangerous and ineffective means of self-protection.”⁷⁰

These conclusions were a complete non sequitur. The authors presented no evidence of any kind bearing on the issue of whether guns are “ineffective” means of self-protection, no counts of defensive uses, and no estimates of the fraction of defensive uses that prevented completion of crimes or resulted in injury. Even concerning the accidental gun deaths, the authors did not establish that any of the accidents occurred in connection with defensive uses or even that the guns involved were owned for defensive reasons. The connection between the accidents and defensive gun ownership was simply assumed rather than demonstrated.

The authors clearly treated the six-to-one ratio as if it were somehow a cost-benefit ratio, a comparison that could say something about the relative benefits and risks of defensive gun ownership. The ratio cannot serve such a purpose. The numerator is not a meaningful measure of risk for the average gun-owning household, and the denominator has no bearing at all on the defensive benefits of keeping a gun. Gun accidents are largely concentrated in a very small, high-risk subset of the population.⁷¹ For everyone else, the risks of a fatal gun accident are negligible, so the population-wide accident rate is an exaggeration of the risk borne by the typical gun-owning household.

More importantly, the number of burglars killed does not in any way serve as a measure of the defensive benefit of keeping a gun. As scholar Barry Bruce-Briggs wryly noted, “The measure of the effectiveness of self-defense is not in the number of bodies piled up on doorsteps.”⁷² Thus, the one protection-related event the authors did count is not even itself a benefit. Defensive gun owners do not have guns for the purpose of getting a chance to “bag a burglar.” Being forced to kill another human being, burglar or not, causes psychic trauma that may endure for years. To assess defensive benefits would entail estimating the number of burglars captured, frightened off,

EXHIBIT 1

312 JAMES

deterred from attempting burglaries, or displaced to unoccupied premises where they could not injure any victims. The authors measured none of these things. As previously noted, well under 0.1 percent of defensive gun uses involve a criminal being killed, so a count of justifiable homicides covers a minuscule share of defensive gun uses beneficial to crime victims.

This study was unwittingly replicated eleven years later by two other physicians who apparently were unaware of the Cleveland et al. study (or at least did not cite it) or of the criticism to which it had been subjected. This later analysis had all the same problems as its predecessor, measured no beneficial uses of guns, used the same specious reasoning, and arrived at the same non sequitur conclusion: "The advisability of keeping firearms in the home for protection must be questioned."⁷³

Bruce-Briggs described this sort of study as "ingeniously specious" and briefly dismissed it.⁷⁴ Most serious gun scholars ignore these studies (e.g., the massive review by Wright et al. [1983] did not mention the Rushforth et al. study at all), and even the strongly procontrol Philip Cook conceded that the nonsense ratios entail a "strange comparison," but they are favorites of procontrol propagandists and scholars who publish in medical journals. Those who have uncritically cited the Kellermann and physician Donald Reay evidence as if it were relevant to an assessment of the relative risks and benefits of keeping guns for self-defense also include criminologists David McDowall and Brian Wiersema, as well as Reiss and Roth.⁷⁵

The benefit of defensive gun ownership that would be parallel to lives lost to guns would be lives saved by defensive use of guns. However, it is impossible to directly count lives saved, so it may never be possible to form a meaningful ratio of genuinely comparable quantities. Nevertheless, it is worth considering what a more meaningful comparison of lives lost and saved due to guns might look like. In 1993, there were 39,595 deaths involving guns, including homicides, suicides, fatal gun accidents, deaths by legal intervention, and deaths where it was undetermined whether the injury was accidentally or purposely inflicted—the highest gun death total in U.S. history.⁷⁶ Results from the NSDS indicated that in 1992 there were about 340,000 to 400,000 defensive uses of guns where the user would state, if asked, that the use almost certainly saved a life.⁷⁷ Even if as little as a tenth of these subjective assessments reflected objective reality, the number of life-saving defensive uses of guns would equal the number of gun-related deaths.

GUNS FOR SELF-PROTECTION 313

Further, a meaningful comparison would take account of the fact that many deaths involving guns would have occurred even in the absence of the guns, so the gun death count is not a count of deaths that are attributable to guns, i.e., that would have been avoided had guns not been available. That number would necessarily be smaller than the number of deaths in which a gun was used. For example, 57 percent of gun deaths in 1998 were suicides, and most gun suicides would probably occur even if a gun were not available.⁷⁸ Conversely, no one can be sure a death would have occurred had a victim not used a gun defensively, so we cannot obtain a conclusive count of lives saved by defensive uses of guns either. The preceding discussion serves only to indicate what a more meaningful comparison of comparable quantities would require, and to show that one cannot dismiss out of hand the possibility that gun use saves as many, or more, lives as it takes. In contrast, the nonsense ratios computed by Kellermann and Reay and their predecessors have no bearing whatsoever on the relative merits of keeping a gun in the home for self-defense.

The Nature of Defensive Gun Use

The National Self-Defense Survey provides details on exactly who is involved in defensive gun uses and what they do in those incidents.⁷⁹ The data support a number of broad generalizations. First, much like the typical gun crime, many of these cases were relatively undramatic and minor compared to fictional portrayals of gun use. Only 24 percent of the gun defenders reported firing the gun, and only 8 percent reported wounding an adversary. This parallels the fact that criminals shot at victims in only 17 percent of the gun crimes reported in the NCVS and inflicted gunshot wounds on victims in only 3 percent of the incidents.⁸⁰ Further, low as it is, even an 8 percent wounding rate is probably too high, for reasons previously discussed—in only about 4 percent of defensive gun uses did the victim claim to have wounded the criminal and to have seen the offender's blood, allowing the victim to be confident that the criminal was wounded.

About 37 percent of these incidents occurred in the defender's home, with another 36 percent near the defender's home. This implies that the remaining 27 percent occurred in locations where the defender must have

314 ARMED

carried a gun through public spaces. Adding in the 36 percent that occurred near the defender's home and that may or may not have entailed public carrying, 27 to 63 percent of the defensive gun uses entailed gun carrying.

Guns were most commonly used for defense against burglary, assault, and robbery. Cases of "mutual combat," where it would be hard to tell who is the aggressor, or where both parties are aggressors, would be some subset of the 30 percent of cases where assault was the crime involved. However, only 19 percent of all defensive gun use cases involved *only* assault and no other crime where victim and offender are more easily distinguished. Further, only 11 percent of all defensive gun use cases involved only assault and a male defender (there was no information on sex of offenders); some subset of these could have been male-on-male fights. Thus, very few of the reported defensive gun uses fit the "mutual combat" model of a fight between two males, where both parties are at once victim and aggressor. This is not to say that such crimes where a gun-using combatant might claim that his use was defensive are rare, but rather that few of them are in this sample. Instead, cases where it is hard to say who is victim and who is aggressor apparently constitute an additional set of questionable defensive gun uses lying largely outside of the universe of more one-sided events that survey respondents are willing to report.

The kinds of incidents that respondents are willing to report as defensive gun uses to interviewers tend to be particularly clear-cut crimes, i.e., the kinds of events in which it is clear that some sort of crime was being committed and in which it is clear which combatant was the victim and which was the offender. Ambiguous or borderline cases, no matter how frequently they may in fact occur, contributed almost nothing to the NSDS estimate of defensive gun use frequency.

One reason crime victims are willing to take the risks of forcefully resisting the offender is that most offenders faced by victims choosing such an action are unarmed, or armed only with less lethal weapons. Relatively few victims try to use a gun against adversaries who are themselves armed with guns—offenders were armed with some kind of weapon in 48 percent of defensive gun use incidents, but had guns in only 18 percent of them. On the other hand, the NCVS data indicated that crime victims who use guns are more likely to face gun-armed offenders than victims adopting other strategies.

GUNS FOR SELF-PROTECTION 315

The distribution of guns used in defensive gun uses is similar to that of guns used by criminals. NCVS and police-based data indicate that about 90 percent of guns used in crime are handguns, and the NSDS indicated that 80 percent of the guns used by victims were handguns.⁸¹

Incidents where victims use a gun defensively are almost never gun-fights where both parties shoot at one another. Defenders fired their guns in only 24 percent of the crimes and shot at their adversaries in only 16 percent of the incidents. Likewise, the offender shot at the defender in only 4.5 percent of the cases. Consequently, it is not surprising that only 3 percent of all of the incidents involved both parties shooting at each other. More typically, crime incidents are asymmetric—only one party has a gun, and that party dominates the incident and determines its outcome.

The offenders were strangers to the defender in nearly three quarters of the incidents. This may partly reflect the effects of sample censoring. Just as the NCVS appears to detect less than a tenth of domestic violence incidents, the NSDS probably missed some cases of defensive gun use against family members and other intimates.⁸²

While victims face multiple offenders in only about 23 percent of *all* violent crimes, the victims in the NSDS sample who used guns faced multiple offenders in 53 percent of the incidents.⁸³ This mirrors the observation that criminals who use guns are also more likely than unarmed criminals to face multiple victims.⁸⁴ Having a gun allows either criminals or victims to successfully confront a larger number of adversaries. Many victims facing multiple offenders probably would not resist at all if they were without a gun or some other weapon. Another possible interpretation is that some victims will resort to a defensive measure as potentially consequential as wielding a gun only if they face the most desperate of circumstances.

Another way of assessing how serious these incidents appeared to the victims is to ask them how potentially fatal the encounter was. Respondents were asked: "If you had *not* used a gun for protection in this incident, how likely do you think it is that you or someone else would have been *killed*? Would you say almost certainly not, probably not, might have, probably would have, or almost certainly would have been killed?" About 15.7 percent of the respondents stated that they or someone else "almost certainly would have" been killed, with another 14.2 percent responding "probably would have" and 16.2 percent responding "might have." Thus, nearly half

LAURELTON

316 ARMED

claimed that they perceived some significant chance of someone being killed in the incident had they not used a gun defensively.

It should be emphasized that these are just stated perceptions of participants, not objective assessments of actual probabilities. Further, the assessments were offered only because interviewers asked for them, not because respondents volunteered them. Crime victims obviously do not have the ability to know how crimes would have turned out had they behaved differently, and respondents in the NSDS did not claim to have such abilities. Rather, they were merely responding helpfully to a necessarily hypothetical question posed to them by the interviewers. Some defenders also might have been bolstering the justification for their actions by exaggerating the seriousness of the threat they faced.

Who Is Involved in Defensive Gun Use?

What do the NSDS data tell us about the kinds of people who use guns for self-protection and how they might differ from other people? Nearly 40 percent of the people reporting a defensive gun use claimed they did not personally own a gun at the time of the interview. Some might have used someone else's gun, while others may have gotten rid of a gun since the defensive gun use incident. About a quarter of the defenders reported that they did not even have a gun in their household at the time of the interview, irrespective of who it belonged to. Some gun owners were probably falsely denying their ownership of a gun.

Gun defenders are more likely to carry a gun for self-protection, consistent with the large share of defensive gun uses that occurred away from the defender's home. They were also obviously more likely to have been a victim of a burglary or robbery in the past year, a finding which is a tautology for those respondents whose defensive gun use was in connection with a robbery or burglary committed against them in the preceding year. Gun defenders were also more likely to have been a victim of an assault since becoming an adult.

Spending time away from home at night places people at greater risk of victimization, but defenders spend no more of their time like this than other gun owners, and these two groups spend only slightly more time like this than those who do not own guns.

GUNS FOR SELF-PROTECTION 317

Defenders are more likely to believe that a person must "be prepared to defend their homes against crime and violence" rather than letting "the police take care of that," compared to either gun owners without a defensive gun use or nonowners. Whether this attitude is cause or consequence of defenders' defensive actions is impossible to determine with these data.

It might be suspected that some supposedly defensive uses of guns were actually the aggressive acts of vengeful vigilantes intent on punishing criminals. If this were true of gun defenders as a group, one would expect them to be more supportive of punitive measures like the death penalty. In fact, those who reported a defensive gun use in the NSDS were no more likely to support the death penalty than those without such an experience, and were somewhat *less* likely to do so compared with gun owners as a group. Similarly, gun defenders were no more likely than others to endorse the view that the courts in their area do not deal harshly enough with criminals.

Perhaps the most surprising finding of the NSDS was the large share of reported defensive gun uses that involved women. Both because of their lower victimization rates and lower gun ownership rates, one would expect women to account for far less than half of defensive gun uses. Nevertheless, 46 percent of the reported defensive gun uses involved women. This finding could be an artifact of males reporting a lower fraction of their defensive gun uses than women. If a larger share of men's allegedly defensive uses of guns were actually partly aggressive actions, this would imply that a larger share would be at the "illegitimate" end of the scale and thus less likely to be reported to interviewers. Further, men may be less likely than women to report their defensive gun uses because the former believe they are more likely to be prosecuted for their actions. Consequently, although women may well use guns defensively as often as this survey indicates, males may account for a still larger number, and larger share, of defensive gun uses than the NSDS data indicate.

A disproportionately large share of defenders are black or Hispanic, compared to the general population, and especially in comparison to gun owners. Likewise, defenders are disproportionately likely to reside in big cities compared to other people, and especially so when compared to gun owners, who are disproportionately from rural areas and small towns. Finally, defenders are disproportionately likely to be single. These patterns are all probably at least partly due to the higher rates of crime victimization

318 ARMED

among minorities, big city dwellers, and single persons.⁸⁵ On the other hand, defenders are not especially likely to be poor. The effect of higher victimization among poor people may be cancelled out by the lower gun ownership levels among the poor.⁸⁶

Deterrence of Crime Due to Fear of Gun-Armed Victims

To deter a crime means to cause a criminal to refrain from even attempting the crime, due to fear of some negative consequence. If there is a deterrent effect of defensive gun ownership and use, it should be facilitated by a criminal being able to realistically anticipate a potential victim using a gun to disrupt the crime, and possibly injure or even kill the criminal. The types of crimes most likely to be influenced by this possibility are crimes occurring in homes—where victims are most likely to have access to a gun—and in the kinds of business establishments where proprietors keep guns. In line with the preceding information about where defensive uses commonly occur, crimes such as assault in the home, residential burglary, and retail store robbery would seem to be the most likely candidates to be deterred. About one in eight residential burglaries occurs while a household member is present, and, by definition, all robberies, rapes, assaults, and homicides involve direct contact between a victim and an offender.⁸⁷ To be sure, in many of these incidents the offender has the initiative, often taking the victim by surprise, and the situations often develop too quickly for victims to get to their guns. On the other hand, the most common single location for violent crimes, especially homicides and assaults between intimates, is in or near the home of the victim or the home of both victim and offender where access to a gun would be easier.⁸⁸

In 1993 there were twice as many defensive gun uses against violent offenders and burglars as arrests for violent crime and burglary—arrests numbered about 1,160,000 in the United States in 1993. Being threatened or shot at by a gun-wielding victim is thus a more likely consequence of such criminal activity than arrest, and far more likely than conviction or incarceration. This is not surprising since there are only about 600,000 police officers in the United States, fewer than a quarter of whom are

GUNS FOR SELF-PROTECTION 319

duty at any one time.⁸⁹ There are, on the other hand, tens of millions of civilians who have immediate access to firearms and are well motivated to disrupt crimes directed at themselves, their families, or their property.

There is direct, albeit not conclusive, evidence on the deterrent effects of victim gun use from surveys of imprisoned criminals. Wright and Rossi interviewed 1,874 felons in prisons in ten states and asked about their encounters with armed victims and their attitudes toward the risks of such encounters. Among felons who reported ever committing a violent crime or a burglary, 42 percent said they had run into a victim who was armed with a gun, 38 percent reported they had been scared off, shot at, wounded, or captured by an armed victim (these were combined in the original survey question), and 43 percent said they had at some time in their lives decided not to commit a crime because they knew or believed the victim was carrying a gun.⁹⁰ Note that the 38 percent of felons who were scared off, etc., by an armed victim are necessarily a subset of the 42 percent who encountered an armed victim. This implies that 90 percent ($38/42=.90$) of the prisoners who had encountered an armed victim had been scared off, shot, wounded or captured at least once by such a victim.

Concerning the felons' attitudes toward armed victims, 56 percent agreed with the statement that "most criminals are more worried about meeting an armed victim than they are about running into the police," 58 percent agreed that "a store owner who is known to keep a gun on the premises is not going to get robbed very often," and 52 percent agreed that "a criminal is not going to mess around with a victim he knows is armed with a gun." Only 27 percent agreed that committing a "crime against an armed victim is an exciting challenge."⁹¹ Further, 45 percent of those who had encountered an armed victim reported that they thought regularly or often about the possibility of getting shot by their victims. Even among those without such an encounter the figure was 28 percent. These results agree with findings from informal surveys of prisoners.⁹²

Clearly, prisoners are biased samples of criminals and prospective criminals, since their presence in prison itself indicates that deterrence was not completely effective with them. In light of this bias, prison survey results supporting a deterrence hypothesis are all the more impressive, given that the most deterrable criminals and those deterred from crime altogether will not be included in prison samples. Further, being "scared off by

GUNS FOR SELF-PROTECTION 321

of trends in deterrable crimes. Further, unlike gradual increases in mass gun ownership, the impact of these programs can be examined because they have specific times of onset and specific spans of operation which make it easier to say when they might be most likely to affect crime. Nevertheless, the limited work in this area has precisely the same shortcomings as work on permissive concealed carry laws, as well as being based on far more circumscribed bodies of data.

From October 1966 to March 1967 the Orlando (Florida) police department trained more than 2,500 women to use guns.⁹⁴ Organized in response to demands from citizens worried about a sharp increase in rape, this was an unusually large and highly publicized program. It received several front page stories in the local daily newspaper, the *Orlando Sentinel*, a cosponsor of the program. An analysis of Orlando crime trends showed that the rape rate decreased by 88 percent in 1967, compared to 1966, a decrease far larger than in any previous one-year period. The rape rate remained constant in the rest of Florida and in the United States. Interestingly, the only other crime to show a substantial drop was burglary. Thus, the crime targeted decreased, and the offense most likely to occur where victims have access to guns, burglary, also decreased.⁹⁵

Criminologist Gary Green interpreted the results of the Orlando study as indicating a partial "spillover" or displacement of rape from the city to nearby areas, i.e., a mixture of absolute deterrence of some rapes and a shift in location of others. Green also suggested that the apparent rape decrease might have been due to allegedly irregular crime recording practices of the Orlando city police department, but did not present any evidence of changes in police reporting practices over this period, beyond the sharp changes in the rape rates themselves.⁹⁶

Criminologists David McDowall, Alan Lizotte, and Brian Wiersema applied Box-Tiao ARIMA methods to the annual Orlando rape data. Despite their claims to the contrary, fourteen time points are not sufficient for purposes of diagnosis and model identification, and it is generally considered inappropriate to apply ARIMA methods to such short series.⁹⁷ Further, such a small sample makes it unlikely that any but the most extreme causal effects could pass a significance test. As the authors blandly put it: "small numbers of observations imply . . . low power against a maintained hypothesis."⁹⁸ In this case, a more informative observation would have

322 ARMED

been that even the largest possible causal effect, i.e., the total elimination of rape in Orlando, would not have been statistically significant. Since Orlando averaged fourteen rapes per year before the training program, the authors' impact parameter of -11.3846 implied an 81 percent drop ($-11.3846/14 = -0.81$), virtually identical to the simple before-and-after percentage drop of 88 percent), yet this huge decrease was statistically insignificant, largely due to the authors' very small sample. A parameter of -14, implying a 100 percent drop, would also have been insignificant.

Given this, the purpose of applying significance tests in this analysis was hard to discern. The authors stated that the observed crime changes "could easily be attributed to chance" (p. 504), by which they apparently meant that there was at least a 5 percent chance of this. Since the series was not selected by a random chance selection process, it is unclear exactly what chance process the authors thought produced the huge drops in rape. If the significance test result is set aside as inappropriate or unimportant, then the main finding of McDowall et al. was that the Orlando program was indeed associated with a huge (81 percent) drop in rape, the ARIMA results confirming the conclusions of the earlier study.⁹⁹ Interestingly, in a previous study, when a statistically insignificant finding supported a hypothesis they favored, McDowall and Loftin favorably cited and accepted the finding as relevant and supportive, with no emphasis on the significance of the test results.¹⁰⁰

A much smaller firearms training program for business operators was conducted with 138 people from September through November of 1967 by the Kansas City (Missouri) police, in response to retail businessmen's concerns about store robberies.¹⁰¹ The city had a population of 507,000, so the per capita participation rate was less than 1/90th of that achieved in Orlando.¹⁰² Nevertheless, results from the Kansas City program support the hypothesis that the program caused crime rates to be lower than they otherwise would have been. While the frequency of robbery increased sharply from 1967 to 1968 by 35 percent in the rest of Missouri, 20 percent in the region, and 30 percent in the United States, it essentially leveled off in Kansas City and declined by 13 percent in surrounding areas, even though robberies had been increasing in the five years prior to the training program and continued to increase again in 1968. Thus, the upward trend showed a distinct interruption in the year immediately following the program.

GUNS FOR SELF-PROTECTION 323

This cannot be attributed to some general improvement in conditions generating robbery rates elsewhere in the nation, region, or state, since robbery rates were increasing elsewhere. Nor can it be attributed to improvements in conditions producing violent crime in general in Kansas City, since robbery was the only violent crime to level off. Something occurred in the Kansas City area in the 1967-1968 period that caused an upward trend in robberies to level off, something that was not occurring in other places and that was specifically related to robbery. Interestingly, Kansas City also experienced a leveling off in its sharply upward trend in burglary, suggesting a possible "byproduct" deterrent effect like that suggested by the Orlando data.¹⁰³

The finding of no change in robberies in Kansas City, while robberies were increasing in control areas, suggests that the training program had a "dampening" effect, preventing the city from experiencing the increases occurring elsewhere. McDowall et al. (1991) confirmed these findings with ARIMA methods (pp. 548-9), yet concluded that they indicated "no effect."¹⁰⁴ Interestingly, two of the authors (McDowall and Wiersema), when faced with an essentially identical combination of findings in another study (no significant change in the target crime, combined with significant increases in control series), concluded that the intervention had a "dampening effect."¹⁰⁵ The most obvious difference is that the intervention they felt had a dampening effect was a gun control law. Applying a more consistent set of interpretive standards, the McDowall et al. Kansas City results confirmed those of the earlier study.

The two gun training episodes are not unique. They resemble instances of crime drops following gun training programs elsewhere, including decreases in grocery robberies in Detroit after a grocer's organization began gun clinics, and decreases in retail store robberies in Highland Park, Michigan, attributed to "gun-toting merchants."¹⁰⁶

Awareness of the risks of confronting an armed victim may also be increased by highly publicized individual instances of defensive gun use. After Bernhard Goetz used a handgun to wound four robbers on a New York City subway train on December 22, 1984, subway robberies decreased by 43 percent in the next week, compared to the two weeks prior to the incident, and decreased in the following two months by 19 percent, compared to the same period in the previous year, even though nonrobbery subway

crime increased and subway robberies had been increasing prior to the shootings. However, because New York City transit police also increased the number of officers on the subway trains immediately after the shootings, any impact uniquely attributable to the Goetz gun use was confounded with potential effects of the increase in numbers of officers.¹⁰⁷

The hypothesis of deterrent effects of civilian gun ownership is also supported by the experience of Kennesaw, Georgia, a suburb of Atlanta with a 1980 population of 5,095.¹⁰⁸ To demonstrate their disapproval of a ban on handgun ownership passed in Morton Grove, Illinois, the Kennesaw city council passed a city ordinance requiring heads of household to keep at least one firearm in their homes. The step was consciously symbolic, as only a token fine of \$50 was provided as a penalty, citizens could exempt themselves simply by stating that they conscientiously objected to gun possession, and there was no active attempt to enforce the law by inspecting homes. It is doubtful that the law substantially increased household gun ownership; the mayor of Kennesaw guessed that "about 85 percent of Kennesaw households already possessed firearms before the ordinance was passed."¹⁰⁹ Instead, the significance of the ordinance and the associated publicity is that they presumably increased the awareness among criminals of the prevalence of guns in Kennesaw homes.

In the seven months immediately following passage of the ordinance (March 15, 1982, to October 31, 1982), there were only five residential burglaries reported to police, compared to forty-five in the same period in the previous year, an 89 percent decrease.¹¹⁰ This drop was far in excess of the modest 10.4 percent decrease in the burglary rate experienced by Georgia as a whole from 1981 to 1982, the 6.8 percent decrease for south Atlantic states, the 9.6 percent decrease for the nation, and the 7.1 percent decrease for cities under 10,000 population.¹¹¹

This decrease, however, is not conclusive evidence of a deterrent effect, since small towns have small numbers of crimes and it is not clear that any deterrent effect, no matter how large, would be detectable in an area with monthly crime trends as erratic as those found in small towns. For example, an ARIMA analysis of monthly burglary data found no evidence of a statistically significant drop in burglary in Kennesaw.¹¹² This study, however, was both flawed and largely irrelevant to the deterrence hypothesis. The Kennesaw ordinance pertained solely to home gun ownership, and

LAW OFFICES

GUNS FOR SELF-PROTECTION 325

thus its deterrent effects, if any, would be evident with *residential* burglaries. This study blurred any such effects by using a data source that lumped residential and nonresidential burglaries together. The difference between the two numbers apparently can be very large—the authors report thirty-two total burglaries for 1985, while a *New York Times* article (which the authors cited) reported only eleven “house burglaries” for that year.¹¹³ The authors also used raw numbers of burglaries rather than rates. Kennesaw experienced a 70 percent increase in population from 1980 to 1987. Burglary increases due to sheer population growth would obscure any crime-reducing effects of the ordinance. The effects of these two errors can be very large, as indicated below:¹¹⁴

	Total Burglar- ies or Just Residential?	Percent Change	
		1981-82	1981-86
Raw	Total	-35	-41
Rate ^a	Total	-40	-56
Raw	Residential ^b	-53	-80
Rate ^a	Residential ^b	-57	-85

a. Based on linear interpolation of 1980 and 1987 population figures

b. Based on “house burglaries” reported in the aforementioned *New York Times* article.

Thus the authors’ methods apparently obscured much of the decrease in the residential burglary rate—an 85 percent reduction in the residential burglary rate was buried inside a far more modest 35 percent reduction in the raw number of total burglaries.

Also, the use of total burglary data ignores the implications of an extended discussion (immediately following Kleck’s Kennesaw discussion, cited by McDowall et al.), in which it was argued that a major effect of residential gun ownership may be to displace burglars from occupied homes to less dangerous targets (see also next section).¹¹⁵ Since nonresidential targets, especially stores and other businesses left unoccupied at night, would fit into the latter category, one would expect a displacement from residential burglaries to nonresidential burglaries, as well as a shift from occupied residences to unoccupied ones. Thus, the hypothesized deterrent effect on occupied residential burglary could occur with no impact at all on total bur-

glaries. Consequently, the exercise by McDowall and his colleagues has no clear relevance to the gun deterrence hypothesis.

McDowall et al. tried to test the gun deterrence hypothesis with data pertaining to the impact of handgun bans passed in two Chicago suburbs, Evanston and Morton Grove, Illinois, passed local bans on handgun possession in the 1980s. Both ordinances applied only to handguns, allowing homeowners to remain armed with the more lethal shotguns and rifles. Therefore, the only households that hypothetically could have become gunless as a result of the ordinances would have been those that (1) owned only handguns, (2) obeyed the law and got rid of all handguns, and (3) did not replace the handguns by acquiring long guns. Although half of U.S. households own guns, only 7 percent own only handguns. Thus, only some very law-abiding subset of this 7 percent would be disarmed by a handgun ban.

Citizens would have to have been very law-abiding indeed to be disarmed by these bans, since authorities depended almost entirely on voluntary compliance. The ordinances were not seriously enforced; the Evanston deputy police chief publicly announced that the police would not actively search out handguns. Only 74 charges were brought for violations over the first three years after the Evanston ordinance was passed, and only 116 handguns were handed in or confiscated, in a city with over 5,000 admitted handgun owners.¹¹⁶

Applying ARIMA methods to monthly burglary counts, McDowall et al. detected burglary declines in both cities (significant in Morton Grove and not significant in Evanston). The authors believed that passage of the ordinances should have led burglars to believe that fewer homes were armed with guns, leading to a reduced deterrent effect of guns and an increase in burglary, if a gun deterrence effect had previously been operating. The lack of significant increases in burglaries, they argued, was evidence that no such deterrent effect had been operating.¹¹⁷

McDowall et al. were puzzled by the burglary declines, stating that "there is no convincing mechanism to explain how a handgun ban could generate such a reduction" (pp. 553-54). There is, however, such a mechanism, though perhaps not one that would be convincing to these authors. There is little reason to believe that there was any actual reduction in gun-armed households in either Evanston or Morton Grove, and certainly no evidence that prospective burglars believed that there was a reduction. Indeed, to the extent

EVANSTON

GUNS FOR SELF-PROTECTION 327

that burglars perceived any change at all, some might have reasonably supposed that at least a few gun owners upgraded their weapons by exchanging their less-lethal handguns for more lethal long guns.

Both of the Evanston and Morton Grove measures, however, were preceded by extended and highly publicized debate, with advocates stressing the "handgun scourge" in their communities and emphasizing the need to reduce the excessive prevalence of handguns. Thus, in the absence of any significant amount of actual disarming, the dominant effect of these episodes could have been an increased awareness, among prospective criminals, of continuing victim gun possession, engendered by the public debate over the measures. Thus, the problem with these episodes as tests of the gun deterrence hypothesis is that one could reasonably expect either increases or decreases in crime following the bans, even if the hypothesis were correct.

It needs to be stressed that the results of these "natural experiments" are not cited for the narrow purpose of demonstrating the short-term deterrent effects of gun training programs or victim gun use. There is no reason to believe that citizens used the gun training in any significant number of real-life defensive situations, nor any solid evidence that gun ownership or defensive uses increased in the affected areas. Rather, the results are cited as evidence on the question of whether routine gun ownership and defensive use by civilians have a pervasive, ongoing impact on crime, with or without such programs or incidents. This ongoing impact is merely intensified and made more detectable at times when criminals' awareness of potential victims' gun possession is dramatically increased, thereby offering an opportunity to detect an effect that is ordinarily invisible. A few diverse examples of how this awareness might come to be increased have been described. Other examples would be general stories in the news media about gun ownership, increases in gun sales, and so on.

All of these cases, although consistent with the gun deterrence hypothesis, can provide only weak anecdotal evidence. There is no technically sound nonexperimental methodology that allows researchers to conclusively separate the effects of an intervention, whether a gun training program or a new gun control law, from the effects of thousands of contemporaneous changes in variables which affect crime trends. Consequently, at present it seems unlikely we will ever have strong evidence bearing on the gun deter-

328 ARMED

rence hypothesis, or at least none based on local case studies like those discussed here. In particular, the univariate interrupted time series design of the type relied on by McDowall and his colleagues, with or without ARIMA analysis, cannot be considered adequate for this purpose.¹¹⁸

Guns and the Displacement of Burglars from Occupied Homes

Residential burglars devote considerable thought, time and effort to locating homes that are unoccupied. In interviews with burglars in a Pennsylvania prison, criminologists George Rengert and John Wasilchick (1985) found that nearly all of the two hours spent on the average burglary was devoted to locating an appropriate target, casing the house and making sure no one was home. There are at least two reasons why burglars make this considerable investment of time and effort: to avoid arrest and to avoid getting shot. Several burglars in this study reported that they avoided late night burglaries because it was too difficult to tell if anyone was home explaining, "That's the way to get shot."¹¹⁹ Burglars also stated that they avoided neighborhoods occupied largely by persons of a different race because "you'll get shot if you're caught there" (p. 62). Giving weight to these opinions, one of the thirty-one burglars admitted to having been shot on the job (p. 98). In the Wright-Rossi survey, 73 percent of felons who had committed a burglary or violent crime agreed that "one reason burglars avoid houses when people are at home is that they fear being shot."¹²⁰

The nonconfrontational nature of most burglaries in the United States is a major reason why associated deaths and injuries are so rare—an absent victim cannot be injured. Don Kates has argued that victim gun ownership is a major reason for the nonconfrontational nature of burglary and is therefore to be credited with reducing deaths and injuries by its deterrent effects.¹²¹ This possible benefit would be enjoyed by all potential burglary victims, not just those who own guns, because burglars seeking to avoid confrontations usually cannot know which homes have guns, and must therefore to avoid any that are occupied.

If burglary victims did not have guns, the worst a burglar would ordinarily have to fear would be breaking off a burglary attempt if faced with

GUNS FOR SELF-PROTECTION 329

unarmed occupant who called the police. A typical strong, young burglar would usually have little reason to fear attack or apprehension by unarmed victims, especially if the victim confronted was a woman or an older person. Further, there are obvious advantages to burglarizing occupied premises—the burglar has a much better chance to get the cash in victims' purses or wallets, and cash is the most attractive of all theft targets.

To be sure, even under no-guns conditions, many burglars would continue to avoid occupied residences simply because contact with a victim would increase their chances of apprehension by the police. Others may have chosen to do burglaries rather than robberies because they were emotionally unable or unwilling to confront their victims and thus would avoid occupied premises for this reason. However, this does not seem to be true of most incarcerated burglars. Prison surveys indicate that few criminals specialize in one crime type, and most imprisoned burglars report having also committed robberies. In the Wright and Rossi survey, of those who reported ever committing a burglary, 62 percent also reported committing robberies.¹²² Thus, most of these burglars were temperamentally capable of confronting victims, even though they presumably preferred to avoid them when committing a burglary.

Results from victim surveys in three foreign nations indicate that in countries with lower rates of gun ownership than the United States, residential burglars are much more willing to enter occupied homes. A 1977 survey in the Netherlands found that residents were home in 48 percent of burglaries, compared to just 9 percent in the United States the previous year. In the British Crime Surveys of 1982, 1984, 1988, and 1992, researchers found that 43 percent of burglaries were committed with someone at home. And criminologists Irvin Waller and Norman Okihiro reported that 44 percent of burglarized Toronto residences were occupied during the burglaries, with 21 percent of the burglaries resulting in confrontations between victim and offender.¹²³ The huge differences between the United States and Great Britain and Canada cannot be explained by more serious legal punishment in this country, since the probability of arrest and imprisonment and the severity of sentences served for common crimes were, at the time, no higher in the United States than in these other nations.¹²⁴

If widespread civilian gun ownership helps deter burglars from entering occupied premises, what might this imply regarding the level of

330 **ARMED**

burglary-linked violence? NCVS data indicate that when a residential burglary is committed with a household member present, it results in a threat or attack on the victim 30.2 percent of the time.¹²⁵ While only 12.7 percent of U.S. residential burglaries are against occupied homes, the occupancy rate in the aforementioned three low gun-ownership nations averaged about 45 percent. What would have happened if U.S. burglars had been just as willing to enter occupied premises? In 1985 the NCVS counted 5,594,420 household burglaries, about 214,568 of which resulted in assaults on a victim ($5,594,420 \times .127 \times .302$). Assume that 30.2 percent of the occupied premise burglaries resulted in assaults on a victim (the same as now), but also assume that the occupancy rate had increased to 45 percent, as in the low gun-ownership nations. This would imply about 760,282 assaults on burglary victims ($5,594,420 \times .45 \times .302 = 760,282$), 545,713 more than actually occurred. This change alone would have represented a 9.4 percent increase in all NCVS-estimated violent crime in 1985. If high home gun ownership rates in the United States really do account for the difference in burglary occupancy rates between the United States and other nations, these figures indicate that burglary displacement effects of widespread gun ownership may have a significant downward impact on violence rates.

Conclusions

Gun use by private citizens against violent criminals and burglars is a more common negative consequence for violent criminals than legal actions like arrests, a more prompt negative consequence of crime than legal punishment, and is more severe, at its most serious, than legal system punishments. On the other hand, only a small percentage of criminal victimizations transpire in a way that results in defensive gun use; guns certainly are not usable in all crime situations.

Serious predatory criminals perceive a risk from victim gun use that is roughly comparable to that of criminal justice system actions, and this perception may deter criminal behavior. Nevertheless, a deterrent effect of widespread gun ownership and defensive use has not been conclusively established, any more than it has been for activities of the legal system. Given the nature of deterrence, it may never be conclusively established.

GUNS FOR SELF-PROTECTION 331

Nevertheless, the most parsimonious way of linking these facts is to conclude tentatively that civilian ownership and defensive use of guns deters violent crime and reduces burglar-linked injuries.

Victim gun use is associated with lower rates of property loss in robberies and confrontational burglaries, and is not significantly different from other self-protective measures with respect to victim injury. Less than 6 percent of gun-using victims are injured following their gun use, and nearly all of the injuries suffered are minor. Thus, defensive gun use is effective.

Economic inequality, a history of racism, and other factors have created dangerous conditions in many places in America. Police cannot provide personal protection for every American. While gun ownership is no more an all-situations source of protection than the police, it can be a useful supplementary source of safety in addition to police protection, burglar alarms, guard dogs and all the other resources people exploit to improve their security. These sources are not substitutes for one another. Rather, they are complements, each useful in different situations. Possession of a gun gives its owner an additional option for dealing with immediate danger. If other sources of security are adequate, the gun does not have to be used, but where other sources fail, it can preserve bodily safety and property in some situations.

One can dream of a day when governments can eliminate violence and provide total protection to all citizens. In reality, the American legal system has never even approximated this state of affairs, and is unlikely to do so in the foreseeable future. Given the oppressive governmental practices that might be necessary to provide complete protection, it is not even clear that this would be a desirable goal. If predatory crime can be reduced, the private resort to violence for social control should decline. Indeed, as noted earlier, the drop in violent crime in the United States in the 1990s was accompanied by a sharp drop in civilian justifiable homicides and probably a corresponding drop in total defensive gun use.

Nevertheless, the widespread defensive use of guns against criminals will persist as long as Americans believe crime is a serious threat and that they cannot rely completely on the police as effective guardians. Until then, scholars interested in gun control, crime deterrence, victimology, the routine activities approach to crime, and in social control in general need to consider more carefully the significance of millions of potential crime victims armed with deadly weapons.

332 ARMED**Implications for Crime Control Policy**

Undesirable though such a state of affairs may be, much of social order in America may depend on the fact that millions of people are armed and dangerous to criminals. The availability of deadly weapons to the violence-prone contributes to violence by increasing the probability of a fatal outcome of combat. However, this very fact may raise the stakes in disputes to the point where only the most incensed or intoxicated disputants resort to physical conflict, with the risks of armed retaliation deterring attack and coercing minimal courtesy among otherwise hostile parties. Likewise, rates of commercial robbery, residential burglary, injury, and rape might be still higher than their already high levels were it not for the dangerousness to the prospective victim population.

Thus, gun ownership among prospective victims may well have as large a crime-reducing effect as the crime-increasing effects of gun possession among prospective criminals. This would account for the failure of researchers to find a significant net effect on rates of crime like homicide and robbery of measures of gun ownership that do not distinguish between gun availability among criminals and availability in the largely noncriminal general public. The two effects may roughly cancel each other out.¹²⁶

Guns are potentially lethal weapons whether wielded by criminals or by victims. They are frightening and intimidating to those they are pointed at, whether these be criminals or victims. Guns thereby empower both those who would use them to victimize and those who would use them to prevent the victimization. Thus, they are a source of both social order and disorder, depending on who uses them, just as is true of the use of force in general.

The failure to fully acknowledge this reality can lead to grave errors in devising public policy to minimize violence through gun control. While some gun laws are intended to reduce gun possession only among relatively limited "high-risk" groups such as convicted felons, through measures such as background checks, others are aimed at reducing gun possession in all segments of the civilian population, both criminal and noncriminal. Examples would include the Morton Grove and Evanston handgun possession bans, near approximations of such bans in New York City, Chicago, and Washington, D.C., "assault weapon" bans, prohibitions of handgun sales, and laws banning the carrying of concealed weapons in public places.

GUNS FOR SELF-PROTECTION 333

By definition, laws are most likely to be obeyed by the law-abiding, and gun laws are no different. Therefore, measures that theoretically apply equally to criminals and noncriminals are almost certain to reduce gun possession more among the latter than the former. Because very little serious violent crime is committed by persons without previous histories of serious violence, there are at best only slight direct crime-control benefits to be gained by reductions in gun possession among noncriminals, even though reductions in gun possession among criminals could have more substantial crime-reducing effects.¹²⁷

Consequently, one has to take seriously the possibility that “across-the-board” gun control measures could decrease the crime-control effects of noncriminal gun ownership more than they would decrease the crime-causing effects of criminal gun ownership. For this reason, more narrowly targeted gun control measures like bans on felon gun possession and background checks are preferable.

Skeptics sometimes argue that while a world in which there were no guns would be desirable, it is also unachievable. The evidence presented here raises a more radical possibility—that a world in which no one had guns would actually be *less* safe than one in which nonaggressors had guns and aggressors somehow did not. As a practical matter, the latter world is no more achievable than the former, but the point is worth raising as a way of clarifying what the goals of rational gun control policy should be. If gun possession among prospective victims tends to reduce violence, then reducing such gun possession is not, in and of itself, a social good. Instead, the best policy goal to pursue may be to shift the distribution of gun possession as far as practical in the direction of likely aggressors being disarmed and currently armed nonaggressors being left armed. To disarm noncriminals in the hope that this might somehow indirectly help reduce access to guns among criminals, e.g., by reducing gun theft, is not a risk-free policy.

These categories are, of course, simplifications. Some serious aggressors are also victims of serious aggression, and most people are at least occasionally aggressors in some very minor way. However, while it is clear these two groups overlap to some extent, it is equally clear that they can be, and routinely are, distinguished in law, e.g., in statutes that forbid gun possession among persons with a criminal conviction and allow it among those

334 ARMED

without one. Further, while a great deal of violence is committed by persons without criminal convictions, it is also true that convicted felons are far more likely to be violent aggressors in the future than nonfelons. The idea that a significant share of serious violence is accounted for by previously nonviolent "average Joes," as in a "crime-of-passion" homicide, is a myth.¹²⁸

Consequently, a rational goal of gun control policy could be to tip the balance of power in prospective victims' favor, by reducing aggressor gun possession while doing nothing to reduce nonaggressor gun possession. This would contrast sharply with across-the-board restrictions that would affect nonaggressors as much as, or more than, aggressors.

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336 ARMED

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338 **ARMED**

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310

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GUNS FOR SELF-PROTECTION 341

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342 ARMED

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AMMUNITION

EXHIBIT 68

Crime Control Through the Private Use of Armed Force*

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Legal defensive violence by private citizens armed with firearms is a significant form of social control in the United States. Evidence indicates that private gun use against violent criminals and burglars is common and about as frequent as legal actions like arrests, is a more prompt negative consequence of crime than legal punishment and is often far more severe. In 1980 about 1,500-2,800 felons were legally killed by gun-wielding civilians, about 8,700-16,000 were nonfatally wounded and guns were used defensively about one million times. Victim resistance with guns is associated with lower rates of both victim injury and crime completion for robberies and assaults than any other victim action, including nonresistance. Survey and quasi-experimental evidence is consistent with the hypothesis that the private ownership and use of firearms deters criminal behavior.

In his 1972 Presidential Address to the American Sociological Association, William Goode argued that because sociologists share a humanistic tradition that denies the importance of physical coercion, they have failed to accurately assess the degree to which social systems rest on force. While affirming his personal dislike for the use of force, Goode urged social analysts to put aside their "kindly bias" against the effectiveness of threats and punishment and recognize the degree to which force is a crucial element in the social structure, in democracies as well as tyrannies, in peacetime as well as in war. He stated that "in any civil society . . . everyone is subject to force. All are engaged in it daily, not alone as victims but as perpetrators as well . . . We are all potentially dangerous to one another" (Goode, 1972:510). This paper addresses the social control effects of private citizens' uses of guns in response to predatory criminal behavior, particularly violent crime and residential burglary.

The prevalence and defensive use of guns in America are important topics for many research questions, yet they have been almost entirely ignored. For example, the "routine activities" approach to crime sees criminal incidents as the result of the convergence of "likely offenders and suitable targets in the absence of capable guardians" (Cohen and Felson, 1979:590). While this view has broadened criminologists' interests beyond the supply of "likely offenders," it ignores the extent to which being armed with a deadly weapon would seem to be an important element of capable guardianship. Given that about half of U.S. households and a quarter of retail businesses keep firearms (Crocker, 1982; U.S. Small Business Administration, 1969), gun ownership must surely be considered a very routine aspect of American life and of obvious relevance to the activities of criminals.

Victimology is concerned with, among other things, the response of victims to their victimization. Yet, despite evidence that people buy guns to defend against becoming victims of crimes (Kleck, 1984), victimology scholars have largely ignored victim gun ownership and use. Similarly, the recent wave of interest in private crime control has been largely limited to either the "privatization" of police and corrections services and the use of commercial security services by businesses and other large institutions (e.g., Cunningham and Taylor, 1985) or to nonforceful private crime control efforts like neighborhood watch activities (Greenberg et al., 1984). Finally, nearly all of the considerable literature on deterrence of criminal behavior focuses on the effect of public criminal justice agencies. Conventional definitions of deterrence are often limited to the crime preventive effects of legal punishment, arrest and prosecu-

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tion (e.g., Gibbs, 1975). This precludes considering private ownership and use of firearms as a deterrent to crime. That victim gun use may be one of the most serious risks a criminal faces is only beginning to be recognized (Wright and Rossi, 1986).

Without denying the possible criminogenic effects of gun ownership, I want to establish as plausible and worthy of research the hypothesis that when citizens own and use guns to defend themselves, the amount of violent crime is reduced to a degree that could rival the effect of the criminal justice system. Toward that end I consider three kinds of evidence: the frequency and nature of private citizens' defensive uses of firearms against criminals, the effectiveness and risks of such actions and the potential deterrent impact on crime of defensive gun ownership and use. Finally, I discuss the implications of this evidence for crime control policy (see also, Kleck, 1987).

The Frequency and Types of Defensive Gun Use

Overall Use, Including Display and Firing

At least six national and state-wide surveys have asked probability samples of the adult population about defensive gun use. The most informative of the surveys is the 1981 Hart poll of 1,228 registered voters (see Table 1). It is the only survey to cover a national population, ask about defensive uses in a specific, limited time period, ask the question of all respondents, distinguish civilian use from police and military uses and distinguish uses against humans from uses against animals. Note, however, that the five other national and state surveys, while not as satisfactory as the Hart poll, yield results that are compatible with the results of that survey. These results as reported here have never been published; they were obtained privately from Peter D. Hart Research Associates, Inc. (Garin, 1986).¹ In this survey, 6 percent of the adults interviewed replied "yes" to the question: "Within the past five years, have you yourself or another member of your household used a handgun, even if it was not fired, for self-protection or for the protection of property at home, work, or elsewhere, excluding military service or police work?" Those who replied "yes" were then asked "Was this to protect against an animal or a person?" Of the total sample, 2 percent replied "animal," 3 percent "person" and 1 percent "both." Therefore, 4 percent of the sample reported gun use against a person by someone in their household.

Like crime victimization prevalence figures, the defensive gun use percentages are small. They represent, however, large numbers of actual uses. In 1980 there were 80,622,000 U.S. households (U.S. Bureau of the Census, 1982). Extrapolating from the 4 percent Hart figure yields an estimate of 3,224,880 households with at least one person who used a handgun defensively during the period 1976-1981. Conservatively assuming only one use per household and dividing by five (the number of years covered), I estimate there were about 645,000 defensive uses of handguns against persons per year, excluding police or military uses.²

The Hart sample was of registered voters, who are older and wealthier than the general public. This implies a population less frequently victimized by crime, especially by violent crime, and thus less likely to have used a gun defensively. Since gun ownership increases with income (Wright et al., 1983:107-8), however, there should be more gun owners in a sample of registered voters. It is unclear what the net effects of these sample biases might be on the estimate of defensive uses.

1. This poll was sponsored by the now defunct National Alliance Against Violence. The Hart firm has conducted polls for many well-known political figures, including former Vice President Walter Mondale and Senators Edward Kennedy, Frank Church and the late Hubert Humphrey. The data cannot be analyzed further because the original data set has been lost and only a record of the marginals remains.

2. The 95 percent confidence interval estimate of the proportion of household handguns used defensively against persons over the five year period is .0290-.0510, implying from 468,000 to 822,000 uses per year.

Table 1 • Defensive Gun Use, Information from Six Surveys

Survey	Field Poll	Cambridge Reports	DMI ^a	DMI ^a	Hart Poll	State of Ohio
Area Covered	California	U.S.	U.S.	U.S.	U.S.	Ohio
Year of Interviews	1976	1978	1978	1978	1981	1982
Population covered	noninstitutionalized adults	noninstitutionalized adults	registered voters	registered voters	registered voters	"residents"
Gun Type Covered	handguns	handguns	all guns	all guns	handguns	handguns
Time Span of Use	ever/1,2 years	ever	ever	ever	5 years	ever
Distinguished Uses	No	No	No	Yes	Yes	No
Against Persons	Yes	No	Yes	Yes	Yes	No
Excluded Military, Police Uses	Protection	Protection or self-defense	Protection	Protection	Protection	Self-defense
"Self-defense" or "protection"?	All Rs	Protection handgun owners	All Rs	All Rs	All Rs	Handgun owners
Defensive question asked of:	Respondent	Respondent	Household	Household	Household	Respondent
Defensive question refers to:						
Percent Who Used Gun	8.6 ^b	3	15	12/7 ^c	4	6.5
Percent Who Fired Gun	2.9	2	6	n.a. ^d	d.k. ^e	2.6

Notes:

- a. DMI = Decision/Making/Information
- b. 8.6 percent ever, 3 percent in past two years, 1.4 percent in past year.
- c. Defensive uses against persons or animals, 12 percent. Use against persons only, 7 percent
- d. n.a. = not available
- e. d.k. = don't know

Sources:

Field Institute (1976); Cambridge Reports (1978); DMI (1978); Garin (1986); Ohio (1982).

The Hart survey asked only about handgun use, ignoring defensive uses of the far more numerous longguns (rifles and shotguns). And the DMI (Decision-Making-Incorporated) surveys, which did ask about all gun types, did not ask about a specific time period. The best all-guns estimate is based on an extrapolation of the Hart survey handgun results. According to the December, 1978 DMIB survey (Table 1), 45 percent of respondents in handgun-owning households reported handguns were owned primarily for "self-defense and protection at home," while the corresponding figure for all gun types combined was 21 percent. It was estimated that at the end of 1978, the total private stock of handguns in the United States was about 47 million and the stock of all guns was about 156 million (Kleck, 1984:112). Combining these figures, there were about 21 million handguns and 33 million guns of all types, including handguns, owned primarily for protection or defense in December, 1978. If among guns owned primarily for defense, we assume both types of guns are equally likely to be so used, we can multiply the handguns defensive uses figure of 645,000 by the ratio $33/21$ to very roughly estimate that guns of all types are used for defensive purposes about one million times a year.

The magnitude of these figures can be judged by comparison with an estimate of the total number of crimes in which guns were somehow used in 1980, based on the Uniform Crime Reports (UCR) count of homicides and National Crime Survey (NCS) victimization survey estimates of assaults, robberies and rapes. Including minor assaults in which the gun was not fired and including both crimes reported to the police and unreported crimes, the total for handguns was about 580,000, while the corresponding figure for all gun types was about 810,000 (Kleck, 1986b:307). Thus the best available evidence suggests that handguns may be used about as often for defensive purposes as for criminal purposes, and guns of all types are used substantially more often defensively than criminally.

Firing

Most of the surveys listed in Table 1 did not delve into the exact circumstances in which guns were used defensively or the manner in which they were used. However, most did ask whether the gun was fired. Results generally indicate the gun was fired in somewhat less than half of the defensive uses; the rest of the times the gun presumably was merely displayed or referred to in order to threaten or frighten away a criminal.

Killings and Woundings

Although shootings of criminals represent a small fraction of defensive uses of guns, Americans shoot criminals with a frequency that must be regarded as remarkable by any standard. While the FBI does not publish national statistics on all types of self-defense killings, its unpublished counts of civilian justifiable homicides (CJH) gathered through the Supplementary Homicides Reports (SHR) program provide a starting point for producing a national estimate. For a variety of reasons the FBI SHR totals for CJHs represent only a minority of all civilian legal defensive homicides (CLDHs). First, some cases which even police label as CJHs are not reported as such to the FBI. Wilbanks (1984:3) helps explain this by noting that some police in Dade County (Miami) were unwilling to spend much time recording homicides where prosecution of the killer was not to be pursued. Second, many homicides ultimately ruled noncriminal by prosecutors or judges are reported to the FBI as criminal homicides because that is how the initial police investigation labelled them. Third, and most significantly, in jurisdictions which follow legal distinctions between justifiable and excusable homicides fairly closely, most CLDHs will be recorded as excusable rather than justifiable, and thus will not be counted by the FBI (Kleck, 1987). Cases in which the killer legally defends only against an assault, i.e., purely self-defense killings, are defined by the FBI as "excusable"

homicides; but those in which the killer is the victim of some other felony *in addition to* assault, e.g., cases in which a robbery, burglary or rape victim kills a criminal committing the related felony, are defined as "justifiable" homicides.

Because no national data exist distinguishing the different types of CLDHs, we must rely on data from single legal jurisdictions such as cities and counties. Table 2 summarizes information on the legal classifications of homicides in six unusually detailed local homicide studies. Although the true distribution of homicides may differ somewhat from city to city, the results suggest that there also are sharp differences from place to place in the way authorities classify homicides as noncriminal. For example, row 12 of the table indicates that the fraction of intentional civilian homicides labelled as CLDHs varies from 1.6 percent to 19.5 percent over the six studies. Because the Detroit and Dade County results are more "middling," are from two regionally distinct parts of the country and are also the most recent, they seem more likely to be representative of the contemporary United States. I use these results, in combination with the national SHR counts of civilian justifiable homicides, to roughly estimate national CLDH totals. The reader should note that because Detroit and Dade County are high crime areas, it is possible that a higher fraction of their homicides are declared justifiable, but we have no data sufficient to test this.

One way to estimate these totals is to assume that self-defense homicides grow out of criminal threats to life, as indexed by murders and nonnegligent manslaughters reported to the FBI, and that the ratio of the former to the latter will be roughly the same for the United States as it is for Detroit and Dade County. In the 1980 Uniform Crime Reports a combined total of 1,062 killings in these two local areas were counted by the FBI as murders and non-negligent manslaughters (U.S. FBI, 1981:74,107). Row 11 of Table 2 shows that 145 killings were CLDHs, giving a ratio of the latter to the former of 0.1365. Multiplying this number times the national total of 23,044 murders and nonnegligent manslaughters (U.S. FBI, 1981:41) yields an estimate of 3,146 CLDHs for the United States in 1980. Another estimation method is to use the national counts of civilian justifiable homicide reported to the FBI as a starting point and adjust for its incomplete coverage of CLDHs. In 1980 there were 145 CLDHs in our two sample jurisdictions, of which only 36 were reported to the FBI as CJHs (tabulations from 1980 SHR dataset, ICPSR, 1984), a ratio of 4.167 CLDHs to every CJH counted in the SHR program. Multiplying this times the 1980 national SHR total of 423 CJHs yields an estimate of 1,704 CLDHs. Of the 423 CJHs, 379 or 89.6 percent involved guns, so our best estimate is that from 1,527 ($.896 \times 1,704$) to 2,819 ($.896 \times 3,146$) felons were legally killed by gun-wielding civilians in self-defense or some other legally justified cause in 1980.

These estimates are rough, but they support the claim that civilians use guns to legally kill a large number of felons each year. The various estimates are summarized in Table 3, along with data on justifiable homicides by police officers, included for comparative purposes. The police homicide estimates are simple totals as compiled by the vital statistics system (Estimation Method I, U.S. NCHS, 1983:Table 1:35-36), which were then doubled (Estimation Method II) because only about half of the killings by police are reported as such to the national vital statistics system (Sherman and Langworthy, 1979:552). FBI/SHR counts of police justifiable homicides are also reported here. Regardless of which counts of homicides by police one uses, the results indicate that civilians legally kill far more felons than police officers do.

Nonfatal woundings by guns are far more frequent than fatal shootings. Cook (1985) reviewed data which indicate that about 15 percent of gunshot wounds are fatal, implying a ratio of about 5.67 (85/15) nonfatal gun woundings to each fatal one. If the same applies to legal civilian defensive shootings, there were about 8,700-16,600 nonfatal, legally permissible woundings of criminals by gun-armed civilians in 1980. Therefore, the rest of the one million estimated defensive gun uses, over 98 percent, involved neither killings nor woundings but rather warning shots fired or guns pointed or referred to.

Table 2 • Number Civilian Legal Defensive Homicides by Category in Six Local Studies

Row	Homicide Category ^a	Study, Location, Period Covered					
		Bensing and Schroeder (1960); Cuyahoga County (Cleveland), 1947-1953	Wolfgang (1958); Philadelphia, 1948-1952	Rushforth et al. (1977); Cuyahoga County (Cleveland), 1958-1974	Lundsgaarde (1977); Houston, 1969	Dietz (1983); Detroit, 1980	Wilbanks (1984); Dade County (Miami), 1980
(1)	Total sample homicides	662	625	3371	c. 312	583	569
(2)	Criminal homicides	505	588	n.a. ^c	282	493	478
(3)	Murders, nonnegligent manslaughters	505	c. 502 ^b	n.a.	281	487	478
(4)	Estimated unintentional excusable homicides	d.k. ^f	23	n.a.	< 12	c. 4	5
(5)	Involuntary/negligent manslaughters	d.k.	c. 86 ^b	d.k.	1	6	0
(6)	Justifiable police homicides	35	14	c. 110	10	13	14
(7)	Estimated intentional civilian homicides ^c	627	502	c. 3261	c. 289	560	550
(8)	Justifiable civilian homicides (CJH)	122	8	c. 329	19	16	72
(9)	CJH reported on SHRs ^d	n.a.	n.a.	n.a.	n.a.	12	24
(10)	Other civilian legal defensive homicides	0	n.a.	d.k.	< 1	57	0
(11)	Total civilian legal defensive homicides (CLDH) ^e	122	8	c. 329	< 20	73	72
(12)	Ratio, (11)/(7)	.195	.016	.101	< .069	.130	.131
(13)	Ratio, (11)/(1)	.184	.013	.098	< .064	.125	.127
(14)	Ratio, (11)/(3)	.242	.024	n.a.	< .071	.150	.151

Notes:

- a. Homicides were classified according to their final legal classifications as reported in the study, whether police, coroner, or court-determined.
- b. 14.7% of criminal homicide offenders prosecuted were charged with involuntary manslaughter. .147 x 588 = 86. 588 - 86 = 502.
- c. Row (7) = (1) - (4) - (5) - (6); Row (11) = (8) + (10).
- d. SHRs = Supplementary Homicide Reports of the FBI.
- e. n.a. = not available, usually because authors did not report any frequencies for such categories.
- f. d.k. = don't know

Sources:

Bensing and Schroeder (1960: 5-59,80); Wolfgang, (1958: 24,228,301,303); Rushforth et al. (1977: 531-33); Lundsgaarde (1977: 68-69,162,219,236,237); Dietz (1983: 203); Wilbanks (1984: 29-30,57,70-72,154).

Table 3 • Number Reported and Estimated Police and Civilian Legal Defensive Homicides, by Homicide Type, U.S., 1980

<i>Homicide type</i>	<i>Justifiable Homicides, Reported to FBI/SHR^a</i>	<i>Estimated Legal Defensive Homicides</i>	
		<i>Method 1^b</i>	<i>Method II^b</i>
Police, gun	368	303	606
Police, nongun	14	8	16
Police, total	382	311	622
Civilian, gun	379	2819	1527
Civilian, nongun	44	327	177
Civilian, total	423	3146	1704

Notes:

a. SHR = Supplementary Homicide Reports.

b. Estimation methods — see text.

Sources:

Analysis of 1980 U.S. Supplementary Homicide Reports computer tape; U.S. NCHS (1983:35-36).

Effectiveness and Risks of Armed Resistance to Criminals

It has been argued that resistance by crime victims, especially forceful resistance, is generally useless and even dangerous to the victim (Block, 1977; Yeager et al., 1976). Evidence is moderately consistent with this position as it applies to some forms of resistance. However, the evidence does not support the claim as it pertains to resistance with a gun.

Preventing Completion of the Crime

The figures in Table 4 are from analysis of the 1979-1985 incident-level files of the National Crime Survey (NCS) public use computer tapes (ICPSR, 1987b). They contain information on over 180,000 sample crime incidents reported by nationally representative samples of noninstitutionalized persons aged 12 and over. The surveys asked respondents if they had been victims of crimes. Those who reported crimes involving personal contact with the offender were asked if they used any form of self-protection, if they were attacked, if they suffered injury and if the crimes were completed. For assaults, "completion" means injury was inflicted; thus completion data convey nothing beyond what injury data convey. For robberies, "completion" refers to whether the robber took property from the victim. The figures in column 1 of Table 4 show that victims who resisted robbers with guns or with weapons other than guns or knives were less likely to lose their property than victims who used any other means of resistance or who did nothing.

Avoiding Injury

Attack and injury rates for each self-protection method are reported in columns two and three for robbery and columns five and six for assault. For both robbery and assault, victims who used guns for protection were less likely either to be attacked or injured than victims who responded any other way, including those who did not resist at all. Only 12 percent of gun resisters in assault and 17 percent in robberies suffered any kind of injury.

After gun resistance, the course of action least likely to be associated with injury is doing nothing at all, i.e., not resisting. However, passivity is not a completely safe course either

8

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Table 4 • Attack, Injury and Crime Completion Rates in Robbery and Assault Incidents, by Self-Protection Method, U.S., 1979-1985^a

Method of Self-Protection	Robbery			Assault			
	(1) Percent Completed	(2) Percent Attacked	(3) Percent Injured	(4) ^b Number Times Used	(5) Percent Attacked	(6) Percent Injured	(7) ^b Estimated Number Times Used
Used gun	30.9%	25.2%	17.4%	89,009	23.2%	12.1%	386,083
Used knife	35.2	55.6	40.3	59,813	46.4	29.5	123,062
Used other weapon	28.9	41.5	22.0	104,700	41.4	25.1	454,570
Used physical force	50.1	75.6	50.8	1,653,880	82.8	52.1	6,638,823
Tried to get help or frighten offender	63.9	73.5	48.9	1,516,141	55.2	40.1	4,383,117
Threatened or reasoned with offender	53.7	48.1	30.7	955,398	40.0	24.7	5,743,008
Nonviolent resistance, including evasion	50.8	54.7	34.9	1,539,895	40.0	25.5	8,935,738
Other measures	48.5	47.3	26.5	284,423	36.1	20.7	1,451,103
Any self-protection	52.1	60.8	38.2	4,603,671	49.5	30.7	21,801,957
No self-protection	88.5	41.5	24.7	2,686,960	39.9	27.3	6,154,763
Total	65.4	53.7	33.2	7,290,631	47.3	29.9	27,956,719

Notes:

a. See U.S. Bureau of Justice Statistics (1982) for exact question wordings, definitions, and other details of the surveys.

b. Separate frequencies in columns (4) and (7) do add to totals in "Any self-protection" row since a single crime incident can involve more than one self-protection method.

Sources:

Analysis of incident files of 1979-1985 National Crime Survey public use computer tapes (ICPSR, 1987b).

since 25 percent of robbery victims and 27 percent of assault victims who did not resist were injured anyway.

Finally, columns four and seven show that using guns for protection in robberies and assaults is considerably less common than milder, less forceful methods not requiring weapons. This presumably is at least partly due to the fact that so many crimes occur in circumstances where victims do not have effective access to their guns.

Some analysts of robbery data have assumed that where crimes involve victims who resisted and were also injured, resistance somehow caused the injury by provoking the offender into an attack (e.g., Yeager et al., 1976). Although the NCS does not yet routinely ask questions about the sequence of attack and self-protection acts by the victim, such questions were included in a special Victim Risk Supplement questionnaire administered to 14,258 households as part of the regular NCS in February of 1984. In only 9.8 percent of assaults involving both forceful self-protective actions and attack did the actions occur before the attack. For assaults involving nonforceful self-protective actions, only 5.7 percent of the actions preceded the attack. For cases involving both robbery and attack, forceful self-protective actions never preceded attack, while in only 22 percent of similar incidents involving nonforceful self-protective actions did the actions precede the attack. Thus, even among the minority of cases where forceful self-protective acts were accompanied by attacks on the victim, few incidents support the contention that the victim's defensive action provoked the attack.

Crime Control Effects of Civilian Gun Ownership and Use

When victims use guns to resist crimes, the crimes usually are disrupted and the victims are not injured. This does not necessarily imply that such resistance has any general deterrent effect on crimes. Whether criminals are deterred by the prospect of armed resistance is an issue separate from how effective defensive gun use is for victims who resist. In this section, I consider the kinds of crimes most likely to involve victim defensive gun use and the kinds of crimes most likely to be deterred by such use. I also consider evidence on the deterrent effect of civilian gun ownership and on the effects of possible confrontation by a gun-wielding citizen on burglars and burglaries in occupied homes.

Crimes Involving Defensive Gun Use

What crimes are defensive gun users defending against? Evidence from NCP surveys suggests that about 64,000 rapes, robberies and assaults involved a victim using a gun for self-protection in 1983 (U.S. Bureau of Justice Statistics, 1985c:12,69,70). However, this figure is unreliable since it is well established that victim surveys seriously underestimate violent crime among nonstrangers (Gove et al., 1985:464-65). Because such crimes are especially likely to occur in the home, where guns are available to their owners, the victim surveys must also underestimate victim defensive uses of guns. Further, commercial robberies are no longer covered in these surveys, and the doubts victims may have about the legality of their gun uses may further contribute to an underreporting of defensive uses. Finally, since crimes involving victim gun use usually involve neither property loss nor victim injury, victims are especially likely to forget or otherwise fail to report them to interviewers, just as they fail to report them to police.

There are no published data on the number of defensive gun uses in burglary. The best that can be done is to estimate the number of opportunities for victim gun use. NCS data indicate that about 12.7 percent of residential burglaries occur while a household member is present (U.S. Bureau of Justice Statistics, 1985a:4) and that there were an estimated 6,817,000

household burglaries in 1980 (U.S. Bureau of Justice Statistics, 1982:22). Averaging the results of two national surveys in 1980, I estimate that about 46 percent of U.S. households have at least one gun (Crocker 1982:255). If it is assumed that gun ownership is at least as high in burglarized homes as in homes in general, about 400,000 residential burglaries occurred in gun-owning households while a household member was present ($6,817 \times 0.127 \times 0.46 = 398,249$).

If all of the opportunities for victims to use guns during burglaries were actually taken, they would constitute about 40 percent of the estimated one million annual defensive gun uses. However, two very different sources of information suggest that burglary-related uses are less numerous than that and that assaults at home are the most common crimes involving victim gun use. Table 5 displays the results of the 1976 Field poll of California (Field Institute, 1976) and data from medical examiner records concerning civilian justifiable homicides committed in Dade County in 1980 (compiled from Wilbanks, 1984:190-374). The Field poll addresses only handgun use and indicates locations of gun uses, while the medical data cover all gun types but do not usually indicate the location of homicides. Nevertheless, the results are consistent concerning the crimes with which defensive gun uses are associated.

Table 5 • Crimes Associated with Defensive Uses of Guns, Frequency and Percent

<i>Crime</i>	1976 Survey of California Adults ^a		<i>Crime</i>	1980 Dade County (Miami) ^b	
	<i>Frequency</i>	<i>Percent</i>		<i>Frequency</i>	<i>Percent</i>
Assault or rape at home	40	41	Assault	46	64
Assault elsewhere	20	21	Rape	1	1
Theft at home	19	20	Burglary	6	8
Theft elsewhere	11	11	Robbery	19	26
All other reasons for use	7	7			
Total	97	100%	Total	72	100%

Notes:

- a. Handgun use only
- b. Civilian justifiable homicides

Sources:

California survey, Field Institute (1976); Dade County justifiable homicides compiled from short narrative descriptions in Wilbanks (1984: 190-374).

The California survey data indicate that 62 percent of uses are connected to assault or rape. The medical examiner data indicate a figure of 65 percent for these offenses, while also showing that nearly all of these uses are connected to assault rather than rape. "Theft at home" in the California survey includes burglary, and the justifiable homicide data suggest that burglary accounts for most of the cases in this category. "Theft elsewhere" in the California survey includes retail store robberies, and the robbery category among justifiable homicides may consist largely of uses linked to such crimes. This interpretation is supported by information on the locations of civilian justifiable homicides in California in 1982, 86 percent of which involved guns. Police records showed that 32 percent occurred in the killer's residence, 23 percent in a business location (especially in robbery-prone businesses like liquor stores and bars), 14 percent on the street or sidewalk and 30 percent elsewhere (California 1983:67). This set of California homicides excludes pure self-defense homicides (i.e., killings not involving any other felonies besides an assault on the defender) and thus is not strictly comparable with the Dade County defensive homicides, most of which are pure self-defense killings. This at least partially accounts for the smaller share of California homicides occurring in the home, since it means that cases like those involving women defending themselves against abusive husbands or boyfriends would ordinarily be excluded. Therefore the Califor-

nia data do not undercut the conclusion that most defensive gun uses occur in the home and involve defense against assaults. Home defenses against burglars and retail store defenses against robbers each account for substantial minorities of the uses.

Gun Deterrable Crimes

If there is a deterrent effect of defensive gun use, it would depend on a criminal being able to realistically anticipate a potential victim using a gun to disrupt the crime. The types of crimes most likely to be influenced by this possibility are crimes occurring in homes—where victims might have access to a gun—and in the kinds of business establishments where proprietors keep guns, i.e., crimes such as residential burglary, assault in the home and retail store robbery. About one in eight residential burglaries occurs while a household member is present (U.S. Bureau of Justice Statistics, 1985a:4), and, by definition, all robberies, rapes, assaults and homicides involve direct contact between a victim and an offender. In many of these incidents the offender has the initiative, often taking the victim by surprise. Further, the situations often develop too quickly for victims to get to their guns. The most common single location for violent crimes, especially homicides and assaults between intimates, is in or near the home of the victim or the home of both victim and offender (U.S. Bureau of Justice Statistics, 1980:22; Curtis, 1974:176).

Strategic attributes of some crime types make them better than average candidates for disruption by armed victims. For example, violent acts between intimates are typically part of a persistent, ongoing pattern of violence (Wilt et al., 1977). While prospective victims of such violence may not ordinarily be able to predict the exact time of the next violent episode, they often are able to recognize the usual precursors of repetitive violence. Wives and girlfriends of violent men, for example, may understand well the significance of their husband/boyfriend getting drunk and verbally abusive. This implies a distinct tactical difference between violence among intimates and other crimes. Victims of intimate violence can take advantage of behavioral cues which serve as advance warning signs and ready themselves accordingly. In the most threatening situations, advance preparations could include securing a weapon.

Deterrence Effects

Demonstrating deterrent effects of criminal justice system punishment has proven difficult (e.g., Blumstein et al., 1978) and the same must certainly be true for the private use of force, which is even less well measured than the risk-generating activities of the criminal justice system. Therefore, the following evidence should be regarded only as suggestive. Nevertheless, while more limited in quantity, this evidence is quite diverse, consistent and in some ways as compelling as evidence cited in favor of the deterrence thesis for criminal justice system activity.

Results from deterrence research have been highly mixed and often negative. Why should we expect deterrence from the armed citizenry when the criminal justice system appears to have so little impact? The deterrence doctrine states that punishment deters as its certainty, severity and celerity (promptness) increase (Gibbs, 1975). One obvious difference between the risk from criminal justice activity and that from civilian gun use for the criminal is that the maximum potential severity of citizen self-help is far greater than legal system responses to crime. The maximum legal penalty a burglar, robber or even a murderer is likely to face is a few years in prison; only 20 persons were legally executed, all for murders, between mid-1967 and mid-1984 (U.S. Bureau of Justice Statistics, 1984). Since thousands of criminals are killed by gun-wielding private citizens every year, criminals following a "minimax" strategy (i.e., acting to minimize their chances of experiencing the maximum po-

tential negative consequence of their actions) should be influenced more by the risks of civilian gun use than by risks from the legal system. How many criminals are guided by such a strategy is unknown.

The frequency of defensive gun uses roughly equals the total number of U.S. arrests for violent crime and burglary, which numbered about 988,000 in 1980 (U.S. FBI, 1981:190). Being threatened or shot at by a gun-wielding victim is about as probable as arrest and substantially more probable than conviction or incarceration. This is not surprising since there are only about 600,000 police officers in the United States, fewer than a quarter of whom are on duty at any one time (U.S., Bureau of the Census, 1982:184). There are, on the other hand, tens of millions of civilians with immediate access to firearms, obviously well motivated to deter or disrupt crimes directed at themselves, their families or their property.

Finally, victims almost always use guns defensively within minutes of the attempted crime. In contrast, when an arrest occurs, it can follow the crime by days or even weeks. At the very quickest, it comes after the minutes it takes a patrol car to respond to a citizen's call. In any case, the average celerity of even arrest is much lower than for citizen gun use, while the celerity of conviction and punishment is lower still.

Evidence from Surveys of Criminals. There is direct, albeit not conclusive, evidence on the deterrent effects of victim gun use from surveys of apprehended criminals. Wright and Rossi (1986) interviewed 1,874 felons in prisons in ten states and asked about their encounters with armed victims and their attitudes towards the risks of such encounters. Among felons who reported ever committing a violent crime or a burglary, 42 percent said they had run into a victim who was armed with a gun, 38 percent reported they had been scared off, shot at, wounded or captured by an armed victim (these were combined in the original survey question) and 43 percent said they had at some time in their lives decided not to do a crime because they knew or believed the victim was carrying a gun (my tabulations from ICPSR, 1986).

Concerning the felons' attitudes towards armed victims, 56 percent agreed with the statement that "most criminals are more worried about meeting an armed victim than they are about running into the police," 58 percent agreed that "a store owner who is known to keep a gun on the premises is not going to get robbed very often," and 52 percent agreed that "a criminal is not going to mess around with a victim he knows is armed with a gun." Only 27 percent agreed that "committing a crime against an armed victim is an exciting challenge" (my tabulations from ICPSR, 1986). Further, 45 percent of those who had encountered an armed victim reported that they thought regularly or often about the possibility of getting shot by their victims. Even among those without such an encounter the figure was 28 percent (Wright and Rossi, 1986:149). These results agree with earlier findings from less sophisticated surveys of prisoners (Firman, 1975; Link, 1982).

Many objections to prison survey research on deterrence concern flaws the correction of which would tend to strengthen conclusions that there are deterrent effects. For example, Zimring and Hawkins (1973:31-32) discuss the "Warden's Survey fallacy" whereby wardens concluded that the death penalty could not deter murder since all the killers on death row to whom they spoke said the penalty had not deterred them. Clearly, prisoners are biased samples of criminals and prospective criminals since their presence in prison itself indicates that deterrence was not completely effective with them. However, prison survey results supporting a deterrence hypothesis are all the more impressive in light of this bias. Such doubts about the validity of prisoners' responses to surveys are discussed throughout the Wright and Rossi book (1986, but especially 32-38). Given that being "scared off" by a victim is not the sort of thing a violent criminal is likely to want to admit, incidents of this nature may well have been underreported, if misreported at all. Even more significantly, the most deterrable prospective criminals and those deterred from crime altogether will not be included in prison

samples. These results, therefore, may reflect a minimal baseline picture of the deterrent potential of victim gun use.

Quasi-Experimental Evidence. Increases in actual gun ownership are ordinarily fairly gradual, making interrupted time series analyses of such increases impractical. However, highly publicized programs to train citizens in gun use amount to "gun awareness" programs that could conceivably produce sharp changes in prospective criminals' *awareness* of gun ownership among potential victims. The impact of these programs can be assessed because they have specific times of onset and specific spans of operation which make it easier to say when they might be most likely to affect crime.

From October, 1966 to March, 1967 the Orlando Police Department trained more than 2,500 women to use guns (Krug, 1968). Organized in response to demands from citizens worried about a recent sharp increase in rape, this was an unusually large and highly publicized program. It received several front page stories in the local daily newspaper, the *Orlando Sentinel*, a co-sponsor of the program. An interrupted time series analysis of Orlando crime trends showed that the rape rate decreased by 88 percent in 1967, compared to 1966, a decrease far larger than in any previous one-year period. The rape rate remained constant in the rest of Florida and in the United States. Interestingly, the only other crime to show a substantial drop was burglary. Thus, the crime targeted, rape, decreased, and the offense most likely to occur where victims have access to guns, burglary, also decreased (Kleck and Bordua, 1983:282-88).

Green (1987:75) has interpreted the results of the Orlando study as indicating a partial "spillover" or displacement of rape from the city to nearby areas, i.e., a mixture of absolute deterrence of some rapes and a shifting in location of others. Unfortunately, this possibility of displacement can never be eliminated when considering any location-specific crime control effort, be it a local job training program, an increase in police manpower or patrol frequency or a gun training program.

Green also suggests that the apparent rape decrease might have been due to allegedly irregular crime recording practices of the Orlando city police department, without, however, presenting any evidence of police reporting changes over time beyond the sharp changes in the rape rates themselves. Although largely speculative, Green's comments point to potential problems that could affect interpretation of this sort of quasi-experimental evidence.

A much smaller training program was conducted with only 138 persons from September through November, 1967 by the Kansas City Metropolitan Police in response to retail businessmen's concerns about store robberies (U.S. Small Business Administration, 1969:253-56). Table 6 displays crime trends in Kansas City and its metropolitan area, as well as robbery trends in the rest of Missouri, the West North Central (WNC) region of which Kansas City is a part, and in the United States. While the frequency of robbery increased from 1967 to 1968 by 35 percent in the rest of Missouri, by 20 percent in the WNC region and by 30 percent in the United States, it essentially levelled off in Kansas City and declined by 13 percent in surrounding areas. Robberies had been increasing in the five years prior to the training program and continued to increase again in 1968. Thus, the upward trend was distinctly interrupted in the year immediately following the gun training program. This cannot be attributed to some general improvement in the social conditions generating robbery rates in the nation, region or state, given the upward trends in robbery elsewhere. Nor can the effect be attributed to improvements in conditions producing violent crime in general in Kansas City, since robbery was the only violent crime to level off. Something occurred in the Kansas City area in the 1967-1968 period which caused an upward trend in reported robberies to level off, something not generally occurring elsewhere and something not related to other violent crime categories. Interestingly, Kansas City also experienced a levelling off in its sharply upward trend in

Table 6 • Crimes Known to the Police, Kansas City and Comparison Areas, 1961-1974

Year	Kansas City, Missouri ^a					Kansas City SMSA ^c , excluding Kansas City							Missouri excl. K.C. SMSA			Robbery		
	Robbery	MNNM ^b	Aggravated Assault	Rape	Burglary	Auto Theft	Robbery	MNNM	Assault	Rape	Burglary	Auto Theft	Missouri excl. K.C. SMSA	West	North	Central	U.S.	
1961	1169	49	1194	222	6020	1995	202	14	135	42	2430	622	2266	5702			106670	
1962	1069	49	946	147	5337	2336	239	21	184	38	2680	840	2166	5597			110860	
1963	1164	60	935	197	5600	2911	347	20	234	47	2937	958	2277	6241			116470	
1964	1180	48	1126	205	6484	2701	270	26	745	83	3416	1109	2505	6594			130390	
1965	1212	71	1180	209	7219	3054	261	25	770	100	4234	1148	2722	6938			138690	
1966	1574	59	1315	205	7495	3689	432	27	674	124	4917	1414	2763	8022			157990	
1967	2120	62	1711	231	9455	4835	644	41	760	93	6612	1925	3241	10624			202910	
1968	2171	92	1995	307	10020	4929	563	33	874	170	6219	2319	4374	12724			262840	
1969	2679	105	1921	375	12269	6926	559	33	879	174	6733	2810	5245	14272			298850	
1970	2982	120	1805	401	11265	5570	712	38	1102	183	7554	2815	5699	16279			349860	
1971	2473	103	1961	371	11550	5408	641	48	1389	173	8104	2666	5419	14582			387700	
1972	2092	71	1960	344	9472	3921	742	35	1295	200	8391	2607	5513	14928			376290	
1973	2333	81	2433	302	10394	3884	715	64	1288	185	10073	2554	6153	16571			384220	
1974	3002	109	2575	363	13406	3719	1087	57	1856	201	12585	2761	6364	19894			442400	
Percent change, 1967-68	2	48	25	33	6	2	-13	-20	15	83	-6	20	35	20			30	

Notes:

- a. Figures before 1961 for Kansas City are not comparable with later years (U.S. FBI, 1962: 131). The Kansas City Metropolitan Police Department firearms training program sessions were held in September through November 1967.
- b. MNNM = murders and nonnegligent manslaughter.
- c. SMSA = standard metropolitan statistical area.

Sources:

Annual issues, *Uniform Crime Reports* (U.S. FBI 1962-1975).

burglary, suggesting a possible "by-product" deterrent effect much like the one indicated by the Orlando data.

The results of these natural quasi-experiments are not cited for the narrow purpose of demonstrating the short-term deterrent effects of gun training programs. Indeed, there is no evidence as to whether citizens used the training in any significant number of real-life defensive situations and no solid evidence that gun ownership increased in the program areas. These results, however, do support the argument that routine gun ownership and defensive use by civilians has an ongoing impact on crime, with or without such programs, an impact which is intensified at times when prospective criminals' awareness of potential victims' gun possession is dramatically increased. Gun training programs are just one source of increased awareness; publicity surrounding citizen gun use against criminals would be another, as would general stories in the news media about gun ownership and increases in gun sales. The two examples cited resemble instances of crime drops following gun training programs elsewhere, including decreases in grocery robberies in Detroit after a grocer's organization began gun clinics and decreases in retail store robberies in Highland Park, Michigan attributed to "gun-toting merchants" (Krug, 1968:H571).

After "subway vigilante" Bernhard Goetz used a handgun to wound four robbers on a New York City subway train on December 22, 1984, subway robberies decreased by 43 percent in the next week, compared to the two weeks prior to the incident, and decreased in the following two months by 19 percent, compared to the same period in the previous year, even though nonrobbery subway crime increased and subway robberies had been increasing prior to the shootings (*Tallahassee Democrat*, 1985; *New York Times*, 1985a, 1985b). However, because New York City transit police also greatly increased manpower on the subway trains immediately after the shootings, any impact uniquely attributable to the Goetz gun use was confounded with potential effects of the manpower increase. (There were no correspondingly large increases in police manpower in Orlando in 1966-1967 or in Kansas City in 1967-1968. See U.S. FBI, 1967-1969).

Finally, the deterrent effect of civilian gun ownership is supported by the experience of Kennesaw, Georgia, a suburb of Atlanta with a 1980 population of 5,095 (U.S. Bureau of the Census, 1983:832). To demonstrate their disapproval of a ban on handgun ownership passed in Morton Grove, Illinois, the Kennesaw City council passed a city ordinance requiring heads of households to keep at least one firearm in their homes. In the seven months following passage of the ordinance (March 15, 1982 to October 31, 1982), there were only five reported residential burglaries, compared to 45 in the same period in the previous year, an 89 percent decrease (Benenson 1982). This drop was far in excess of the modest 10.4 percent decrease in the burglary rate experienced by Georgia as a whole from 1981 to 1982, the 6.8 percent decrease for South Atlantic states, the 9.6 percent decrease for the United States, and the 7.1 percent decrease for cities under 10,000 population (U.S. FBI, 1983:45-47, 143).

Guns and the Displacement of Burglars from Occupied Homes

Residential burglars devote considerable thought, time and effort to locating homes that are unoccupied. In interviews with burglars in a Pennsylvania prison, Rengert and Wasilchick (1985) found that nearly all the two hours spent on the average suburban burglary was devoted to locating an appropriate target, casing the house and making sure no one was home. There are at least two reasons why burglars make this considerable investment of time and effort: to avoid arrest and to avoid getting shot. Several burglars in this study reported that they avoided late night burglaries because it was too difficult to tell if anyone was home, explaining, "That's the way to get shot" (Rengert and Wasilchick, 1985:30). Burglars also stated they avoided neighborhoods occupied largely by persons of a different race because "You'll get shot if you're caught there" (Rengert and Wasilchick, 1985:62). Giving weight to

these opinions, one of the 31 burglars admitted to having been shot on the job (Rengert and Wasilchick, 1985:98). In the Wright-Rossi survey, 73 percent of felons who had committed a burglary or violent crime agreed that "one reason burglars avoid houses when people are at home is that they fear being shot" (unpublished tabulations from ICPSR, 1986).

The nonconfrontational nature of most burglaries at least partly accounts for the infrequency of associated deaths and injuries. Don Kates (1983:269) has argued that because victim gun ownership is partly responsible for the nonconfrontational nature of burglary, it is therefore to be credited with reducing deaths and injuries by its deterrent effects. The benefit is enjoyed by all potential burglary victims, not just those who own guns, since burglars are rarely in a position to know exactly which households have guns and thus must attempt to avoid confrontations in all their burglaries.

Under hypothetical no-guns circumstances, the worst a burglar would ordinarily have to fear is having to break off a burglary attempt if confronted by a householder who managed to call the police. A typical strong, young burglar would have little reason to fear attack or apprehension by unarmed victims, especially if the victim confronted was a woman, a smaller male or an elderly person. Further, there would be positive advantages to burglary of occupied premises since this would give the burglar a much better chance to get the cash in victims' purses or wallets.

Even under no-guns conditions, many burglars would continue to seek out unoccupied residences simply because contact with a victim would increase their chances of capture by the police. Others may have chosen to do burglaries rather than robberies because they were emotionally unable or unwilling to confront their victims and thus would avoid occupied premises for this reason. However, this certainly does not seem to be true of all burglars. Prison surveys indicate that few criminals specialize in one crime type, and most imprisoned burglars report having also committed robberies. In the Wright and Rossi survey, of those who reported ever committing a burglary, 62 percent also reported committing robberies (my secondary analysis of their dataset, ICPSR 1986). Thus, most of these burglars are temperamentally capable of confronting victims, even though they clearly prefer to avoid them when committing a burglary.

Results from victimization surveys in at least three nations indicate that in countries with lower rates of gun ownership than the United States, residential burglars are much more likely to enter occupied homes, where confrontation with a victim is possible. In the 1982 British Crime Survey, 59 percent of attempted burglaries and 26 percent of completed burglaries were committed with someone at home (Mayhew, 1987). A 1977 survey in the Netherlands found an occupancy rate of 48 percent for all burglaries, compared to 9 percent in the United States the previous year (Block, 1984:26). And Waller and Okihiro (1978:31) reported that 44 percent of burglarized Toronto residences were occupied during the burglaries, with 21 percent of the burglaries resulting in confrontations between victim and offender. The differences between the United States and Great Britain and Canada cannot be explained by differences in legal threats since the probability of arrest and imprisonment and the severity of sentences served for common crimes are at least as high in the latter nations as in the United States (Wilson, 1976:1819; U.S. Bureau of Justice Statistics, 1987).

Implications for Crime Control Policy

I have argued that gun use by private citizens against violent criminals and burglars is common and about as frequent as arrests, is a more prompt negative consequence of crime than legal punishment, and is more severe, at its most serious, than legal system punishments. Victim gun use in crime incidents is associated with lower rates of crime completion and of victim injury than any other defensive response, including doing nothing to resist. Serious

predatory criminals say they perceive a risk from victim gun use which is roughly comparable to that of criminal justice system actions, and this perception appears to influence their criminal behavior in socially desirable ways.

The evidence presented here is, of course, subject to multiple, differing interpretations. I believe, however, that the simplest and most plausible interpretation is that the civilian ownership and defensive use of guns has a deterrent and social control effect on violent crime and burglary. None of the foregoing can establish exactly how many crimes are deterred by the civilian possession and use of firearms. We cannot precisely calculate the social control impact of gun use and ownership any more than we can do so for the operations of the legal system. However, available evidence is compatible with the hypothesis that gun ownership among potential crime victims may exert as much effect on violent crime and burglary as do criminal justice system activities.

The paucity of scholarly attention to civilian use of guns for defense may be partially due to the very limited visibility of such acts. No criminology text reports estimates of the frequency of defensive uses of guns. Published police-based crime statistics like those found in the Uniform Crime Reports do not cover the subject, and such incidents are rarely reported in the national news media, the Bernhard Goetz case notwithstanding. It is also possible that scholars feel shooting or threatening to shoot another person, even in self-defense, is so morally wrong that it is preferable not to address the subject at all (Goode, 1972; see also Tonso, 1984 on scholars' attitudes towards firearms). It could even be argued that to study the matter seriously might imply some endorsement and encourage the indiscriminant spread of the behavior.

Nevertheless, much social order in America may precariously depend on the fact that millions of people are armed and dangerous to each other. The availability of deadly weapons to the violence-prone probably contributes to violence by increasing the probability of a fatal outcome of combat (but see Wright et al., 1983:189-212). However, it may also be that this very fact raises the stakes in disputes to the point where only the most incensed or intoxicated disputants resort to physical conflict, the risks of armed retaliation deterring attack and coercing minimal courtesy among otherwise hostile parties. Likewise, rates of commercial robbery and residential burglary might be far higher than their already high levels were it not for the dangerousness of the prospective victims. Gun ownership among prospective victims may even have as large a *crime-inhibiting* effect as the *crime-generating* effects of gun possession among prospective criminals. This would account for the failure of researchers to find a significant net relationship between rates of crime like homicide and robbery and those measures of gun ownership which do not distinguish between gun availability among criminals and availability in the largely noncriminal general public (e.g., Cook, 1979; Kleck, 1984). The two effects may roughly cancel each other out (see also Bordua, 1986).

Guns are potentially lethal weapons whether wielded by criminals or crime victims. They are frightening and intimidating to those they are pointed at, whether these be predators or the preyed-upon. Guns thereby empower both those who would use them to victimize and those who would use them to prevent their victimization. Consequently, they are a source of both social order and disorder, depending on who uses them, just as is true of the use of force in general. The failure to fully recognize this can lead to grave errors in devising public policy to minimize violence through gun control.

Some gun laws are intended to reduce gun possession only among relatively limited "high-risk" groups such as convicted felons, e.g., laws licensing gun owners or requiring permits to purchase guns. However, other laws are aimed at reducing gun possession in all segments of the civilian population, both criminal and noncriminal. Examples would be the aforementioned Morton Grove handgun possession ban, near approximations of such bans (as in New York City), prohibitions of handgun sales (such as those in Chicago and Washington, DC) and most laws restricting the carrying of concealed weapons. By definition, laws are most

likely to be obeyed by the law-abiding, and gun laws are no different. Therefore, measures applying equally to criminals and noncriminals are almost certain to reduce gun possession more among the latter than the former. Because very little serious violent crime is committed by persons without previous records of serious violence (Kleck and Bordua, 1983), there would be little direct crime control benefit to be gained by reductions in gun possession among noncriminals, although even marginal reductions in gun possession among criminals could have crime-reducing effects. Consequently, one has to take seriously the possibility that "across-the-board" gun control measures could decrease the crime-control effects of noncriminal gun ownership more than they decreased the crime-causing effects of criminal gun ownership. For this reason, more narrowly targeted gun control measures like gun owner licensing and purchase-to-permit systems seem advisable (see Kleck, 1986a for an extended discussion).

Having an armed victim population is obviously not without risks. Some victims are also offenders, and their possession of guns may embolden them to commit assaults and other crimes they otherwise would not have attempted. And the use of guns in assaults instead of likely substitutes such as knives or fists probably increases the fraction of assaults which result in death. However, evidence gathered to date on these questions has been very mixed and is no more conclusive than the evidence presented here concerning defensive effects of guns (see Wright et al., 1983, esp. 129-38, 189-212; Kleck, 1986a). Similarly ambiguous conclusions apply to evidence concerning gun involvement in suicides and accidental deaths. The number of gun suicides which would not have occurred in the absence of guns appears to be fairly small (Kleck, 1986c). And gun accidents appear to be less a by-product of routine gun ownership and use by ordinary citizens than the result of unusually hazardous activities with guns by a small, extremely reckless minority of gun owners. For example, insurance company studies indicate that many gun accidents occur when the shooter handles a gun while intoxicated, "plays" Russian roulette with a revolver or points a loaded gun at another person "in fun." And examination of police and traffic records indicates that accidental shooters have histories of arrests for violent acts, alcohol-related arrests, traffic citations and highway crashes far in excess of those of matched controls (Kleck, 1986d).

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