

CITIZEN GUN OWNERSHIP AND CRIMINAL DETERRENCE: THEORY, RESEARCH, AND POLICY*

GARY S. GREEN

The University of Evansville

Research on the general and specific deterrents emanating from citizen-owned firearms is examined under assumptions about deterrence. Only slight and indirect empirical evidence for deterrence exists in the area of citizen gun ownership. The crime-reducing effects associated with public policies that support civilian gun ownership are balanced in light of other, negative public health factors associated with citizen-owned guns.

One of the more hotly debated topics within and without criminal justice circles is the extent to which citizens (that is, nonmilitary and nonpolice civilians) should have access to firearms. The issue has been approached from many perspectives, including the legal/constitutional one (Do citizens have a right to own guns?) (Halbrook, 1986, 1984; Kates, 1983, 1986); the safety perspective (Does gun ownership increase injury and fatality through accidents and suicides?) (McDowall and Loftin, 1985; Lester and Murrell, 1980); the prohibition of choice perspective (Should citizens be precluded from owning handguns or long guns?) (Kleck, 1986, 1984a); the criminogenesis approach (Does allowing citizens to own guns increase crime by providing a ready source of firearms for persons to use criminally?) (Newton and Zimring, 1969; Kleck, 1984b); and the anticriminogenesis approach (Does citizen gun ownership reduce crime through specific and general deterrence?) (Kleck and Bordua, 1983).¹ This latter question of criminal deterrence through citizens' guns is the focus of the present discussion.

Persons may own a variety of guns that fulfill a variety of functions. Tonso (1982: 21-40), in his work on the relativistic aspects of guns and gun ownership, has discussed three basic functions that firearms have in individual lives. First, guns can be used symbolically, as in an ornamental adornment over a fireplace or by a collector with an authentic desire to remember the Old West.

* The author would like to thank Don B. Kates, Jr., Raymond G. Kessler, Bill Donfo, and Gary Kleck for their comments on an earlier draft. This paper was presented at the 1986 annual meeting of the American Society of Criminology.

1. Kates (1983: 270-272) has pointed out that citizen-owned guns may act as a general and specific deterrent to governmental encroachment (domestic and foreign), independent of their deterrent effect on criminal encroachment. He cites numerous international cases from recent times in which armed insurgent citizens have successfully fought their own government (and the United States) with guns (see also Marina, 1984; Kessler, 1984).

Second, firearms can be used recreationally, as they are by target shooters and hunters. Third, citizens' guns have a variety of practical functions. In terms of self-defense, firearms can aid in the thwarting of a criminal or animal attack. Regarding the present work, the ownership of firearms by citizens, independent of the function(s) for which they are owned, may be practical in a utilitarian sense as well, if ownership were to act as a basis for criminal deterrence.

The following discourse on criminal deterrence through citizen gun ownership comprises three parts: (1) an application of general theoretical assumptions about deterrence to the specific case of citizen gun ownership; (2) a critical review of the research literature on the topic; and (3) a discussion of other public policy implications of the research findings.

CITIZEN GUN OWNERSHIP AND DETERRENCE THEORY

SELF-DEFENSE VERSUS DETERRENCE

Consider the following anecdote: "two prowlers disappeared when a 67-year-old . . . widow shouted at them, but two hours later, they returned, smashing down her front door and storming into her living room. She picked up a pistol left by her late husband and, firing a gun for the first time in her life, wounded both men; they then fled."

In this story, taken from the monthly feature entitled "The Armed Citizen" in the National Rifle Association's *American Rifleman* (National Rifle Association, 1985: 6), the 67-year-old woman successfully defended herself from an actual criminal attack. She did not "deter" the crime. Because the crime (or at least its attempt) occurred, one could not say that it was deterred; more accurately, it was thwarted (see confusion in Wright, 1984: 323). In the present discussion, deterrence refers to the prevention of crimes from occurring altogether rather than to the altering of crimes already in progress.

There are two varieties of deterrence, specific and general. General deterrence refers to the punishment of criminals for the purpose of threatening (by example) persons in the general public with a similar sanction, thereby discouraging the commission of offenses by the general public. In the case of citizen gun ownership, the sanction to be considered by the potential offender is being shot (or held at bay) by an armed victim. Specific deterrence refers to punishing an individual in order to dissuade him/her from future criminal action. The sanction must be experienced personally to be a specific deterrent. In this case, actually being shot (or shot at) by an armed victim, or possibly even meeting one, could act as a specific deterrent.

The woman's use of the gun in the NRA anecdote would act as a specific deterrent if it were to prevent some future crime by those two particular

would-be assailants, due to their fear of meeting another victim-wielded gun; however, that is unknown from the facts at hand. And, had the attackers who fled told others that they received gunshot wounds from their victim, those others may refrain from attacking the same victim or others in the future (because of a fear of experiencing a similar episode), in which case the others would be generally deterred; but, again, that is unknown from the facts at hand. Any discussion of deterrence based on the perspective of a self-defending citizen is erroneous; deterrence must be based on the perspective of the potential criminal. It is sometimes difficult, however, to separate the concepts of self-defense and deterrence because deterrence arises from perceptions about others' use of self-defense. (For a discussion of the success of citizens' use of firearms in self-defense, see Wright, 1984; Kleck and Bordua, 1983; Wright, Rossi and Daly, 1983: Chapter 7. For a discussion of the legal doctrines promoting the use of self-defense, see Kates and Engberg, 1982.)

SOCIAL CONTROL THROUGH CITIZEN GUN OWNERSHIP: DISTINGUISHING THREE ANTICRIMINOGENIC EFFECTS

According to Grasmick and Green (1980), three major kinds of inhibitors operate to promote social control of deviant behavior: fear of formal (governmental) sanctions, fear of informal sanctions, and what may be generally termed "morality" (inhibition of a behavior because it is contrary to one's values). First, regarding the fear of formal sanctions, citizen gun ownership may increase a potential criminal's perceived probability of formal punishment because being wounded or held at bay by an armed citizen would increase chances of apprehension by the police and, concomitantly, chances of conviction and legal punishment. Second, injury or death at the hands of an armed citizen could certainly be classified under "informal sanctions," although that category usually refers to "social" sanctions (for example, loss of significant others' respect) rather than "physical" ones such as a gunshot wound.

Third, regarding morality, there is a large group of individuals (call it Group A) who need not be deterred by any sanction threat, for they refrain from crime primarily because they are morally against such behavior (independent of any threat of receiving gunshot wounds from citizens or the police or being apprehended for the criminal justice system by citizens or the police). On the opposite end are those individuals (Group B) who cannot be deterred because they would, without regard for any possible gun-inflicted injury to themselves or a possible prison term, recklessly commit a crime. It is persons constituting a deterrable, Hobbesian-like third group (Group C)—those who will or will not commit a crime, depending upon their perceptions of the certainty of receiving gunshot wounds inflicted by citizens (or the police) or being held at bay for the criminal justice system by a citizen armed

with a gun (or the police—who are relevant to a discussion on criminal deterrence (see general descriptions of these groups in van den Haag, 1985: 190-191). The relative sizes of these three groups vary at any given time.² Although these groups' exact relative sizes can never be known, the extent to which the size of Group C exceeds the sizes of Groups A and B is the extent to which citizens' guns are important from a deterrent-based criminal control policy standpoint. Thus, if Group C is small relative to the sizes of Groups A and B, then the pool of potential offenders to be deterred by citizens' guns is also relatively small.

From the point of view of the persons in Group C, then, citizen ownership of firearms can offer the threats of both formal legal sanctions and the possible infliction of gunshot wounds, both of which (individually or collectively) could act as effective deterrents in addition to the deterrent factors presented by the possibilities of being shot and/or captured by the police without citizen intervention. It would be difficult to determine whether potential offenders in Group C are more likely to be deterred by the threats offered by armed citizens (gunshot wounds, capture) or the threats offered by the police (gunshot wounds, capture); however, from criminals' opinions, it appears that they are more afraid of being caught and being sent to prison than they are of being shot (either by the police or an armed citizen).³ These two fears (of the police and of armed citizens) operate simultaneously (and maybe synergistically) to varying degrees in Group C; they should not operate at all in Groups A and B.

In a matter related to the anticriminogenic effects of morality, Gibbs (1975: Chapter 3) has emphasized the importance of "normative validation" in the study of the nondeterrent deviance-reducing effects of sanction threat (see also Andenaes, 1974, Chapter 2). This is a process by which an individual's moral condemnation of a deviant act is encouraged by a formal or informal sanction (or threatened one) for the commission of that act. Along the same

2. The relative sizes of these groups vary because it is possible for an individual to move from group to group. For example, a person in Group A or C may move to Group B in the heat of passion or for a political cause. And one could conceivably move from Group C to Group A or vice versa. Further, it is unknown which group the infants of today will eventually enter.

3. Wright and Rossi (1985) have conducted an extensive survey of convicts about their attitudes toward armed victims and the police; that survey will be discussed in more detail later. Their data reveal that offenders do not take more seriously the threat of being shot by a victim ("just over a third") than they do of being caught (54%) (50% thought "regularly" or "often" about going to prison before committing a crime) (Wright and Rossi, 1985: 28). Although the Wright and Rossi (1985: 27) data indicate that over half (57%) of those surveyed believed others were more afraid of armed victims than the police, respondents indicated they are *personally* more afraid of the latter than the former. However, the Wright and Rossi respondents' fears of being *shot* by the police are equal (34%) to their fears of being shot by a victim.

lines in the present case, it is conceivable that citizen gun ownership could be perceived by at least some potential criminals to represent a negative attitude toward predatory crime, which could act as a type of normative validator against predatory criminal behavior (those for whom this is true would be in Group A). The extent to which normative validation exists here is the extent to which crime reductions from citizen gun ownership are not due to Group C individuals' fears of being injured/killed or captured by an armed citizen. Isolating empirically the differential anticriminogenic effects of these three deviance inhibitors emanating from citizen gun ownership (fear of formal sanctions, fear of informal sanctions, normative validation) is problematic for researchers.

THE PROPER FRAMING OF THE DETERRENCE QUESTION

The proper framing of the question seems to be: to what extent is crime reduced because persons (in Group C) perceive citizens generally to have immediately accessible firearms that will be used to thwart an attack? The question is not whether citizen gun possession postpones crime under certain circumstances or in specific cases but, rather, whether citizen firearm accessibility *reduces* crime through deterrence. These are two very different questions, because preventing a crime in one area or at one time while concomitantly displacing it to another area or time does not reduce crime. In order to reduce crime overall, criminals (and potential criminals) would have to diminish the amount of their criminal activity.

The framing of the above question also emphasizes a potential offender's perceived certainty of randomly meeting a citizen in the course of criminal activity who is armed and willing to shoot in self-defense or to protect others. In Group C, persons' perceptions of the certainty of being shot or captured (rather than the true certainty of being shot or captured) is the relevant independent variable in the study of the general and specific deterrent effects of an armed citizenry (see discussion on perceived certainty in Gibbs, 1975: 7). Hence, analyses are of no value if they employ criminals' true probability of being shot/captured (rather than their perceived probabilities of these events) (for example, Kleck and Bordua, 1983: 281-284).

The other two perception variables in deterrence are of the celerity and severity of a sanction. Because one can assume that the potential criminal in Group C perceives both a quick (it is immediate) and a severe (it can cause death) informal sanction from being shot by an armed citizen (in addition to his/her perceptions of the celerity and severity of a formal sanction from the criminal justice system that would be encouraged by being wounded or held at bay by a citizen-wielded firearm), the only perception question remaining to be examined is whether that person believes the certainty of being shot by a citizen is sufficient to cause him/her to curtail or desist criminal activity.

The study of the gun ownership and criminal deterrence question is particularly problematic, because, as Wright (1984: 309) has noted, "crimes that are never . . . attempted because of advance knowledge that the potential victim is armed would never appear in any data source." Benson (1984: 339), too, has pointed out that "the deterrent effect cannot be accurately measured since we cannot count the number of crimes not committed for fear of confronting an armed victim." Isolating the net effects of the three anticriminogenic forces emanating from citizens' guns (threat of injury/death, threat of being captured, and normative validation) is difficult, particularly if one were to consider any criminogenic effects that their guns may produce and any independent anticriminogenic effects produced by the police (injury/death, capture) and the criminal justice system (imprisonment and normative validation).

Despite these inherent conceptual difficulties, several individuals have attempted to determine, through a variety of empirical approaches, whether citizens' guns deter crime. The discussion that follows critically reviews their work in terms of the deterrence question offered above, and their efforts are divided into three basic approaches: (1) research examining the effects of gun laws and gun ownership rates on crime rates; (2) research on perceptions of known criminals; and (3) the natural quasi-experiment.

CITIZEN GUN OWNERSHIP AND DETERRENCE RESEARCH

RESEARCH EXAMINING THE EFFECTS OF GUN LAWS AND GUN OWNERSHIP RATES ON GUN CRIME RATES

In what appears to be the most popular approach to the evaluation of civilian gun policies, researchers have applied techniques of varying sophistication (usually regression analysis) to examine how gun laws and gun ownership rates as independent variables affect gun crime rates. However, depending upon the direction of one's gun politics and the observed direction of the relationship, there are several conflicting gun policy interpretations one can infer from these types of analyses. For example, if gun crime rates are shown to be higher in states with lenient gun controls and/or high firearm ownership, one inference is that easier and widespread gun possession is criminogenic because more citizens' weapons are used in crime (for example, Newton and Zimring, 1969; Geisel, Roll, and Wettick, 1969; Seitz, 1972). However, an opposite causal ordering may be equally as plausible because, as Kleck (1984b) tries to demonstrate, such a relationship may indicate that citizens are arming themselves for self-defense in response to rising crime rates (that is, crime causes citizens to own guns rather than vice versa). And, if the opposite occurs (that is, lenient control/high ownership jurisdictions have

lower crime rates), the inference is that easy and widespread citizen gun possession is anticriminogenic because of its general and specific deterrent value (Blackman, 1985a). But here, again, there is a question about causal ordering, because as Polsby (1986: 97) notes, "it is reasonable to assume that many jurisdictions have adopted stringent gun control laws to combat existing high rates of violence [and] jurisdictions with low violence rates will have felt much less pressure to ban guns." His point is that gun laws may be a function of gun crime rates rather than vice versa. As Wright et al. (1983: 124) caution in their discussion of the alternative interpretations that one can derive from these kinds of analyses, "private weaponry [could] *respond* to some crimes [by citizens obtaining them for use in self-defense], *deter* others, and *cause* still others, all at the same time" (emphasis original). Thus, even if there are no differences found in crime rates according to gun laws and gun ownership (Lester and Murrell, 1981; Magaddino and Medoff, 1984; DeZee, 1983; Murray, 1975), anticontrol advocates could still argue that the rates would be higher with more controls while procontrollers could still argue that the rates would be lower with more controls. It is impossible to isolate accurately the net deterrent effects from these gun law/crime rate analyses.

These approaches have other inherent interpretational difficulties. For instance, the amount of gun availability may be unrelated to the incidence of gun crime (Magaddino, 1972), gun ownership in a given area may not be linked geographically to places where most crimes occur, and the type of weapon owned may not be linked to the kinds of weapons used in crime (Wright et al., 1983: 13). In additional, differences in gun violence may be a function of geographically specific cultural peculiarities rather than differences in gun laws or gun prevalence. A case in point is in the South, where higher gun crime rates may be caused by that area's greater subculture of violence rather than by its higher rate of gun possession (Gastil, 1971; Hackney, 1969; for a thorough critique of this work, see Loftin and Hill, 1974; Wright et al., Chapter 6). And, because the dependent variable usually employed in this kind of analysis is crime rates recorded by the police (which, except for criminal homicide, are subject to gross error and manipulation), the validity of the studies' results can be questioned even further. The adage that correlation does not imply causation seems especially apropos in this type of research. There is an even more fundamental problem with this kind of research as it relates to deterrence particularly—it does not raise the deterrence question from the viewpoint of the persons that are supposed to be affected (those in Group C). That is, before one uses these independent variables (gun laws and gun ownership) that assume a deterrent impact on potential criminals, one must first ascertain whether possible offenders (Group C) perceive citizens as being immediately armed under conditions of lenient gun laws and widespread gun ownership, and whether they perceive citizens in strict control/low ownership states as being immediately unarmed. As yet,

this has not been demonstrated.⁴ Considering the numerous methodological and interpretational difficulties associated with this rate comparison approach, the works have no value for examining directly the question of net criminal deterrence based on civilians' guns.

RESEARCH ON PERCEPTIONS OF CONVICTED CRIMINALS

An approach that hits the deterrence nail more squarely on its head examines known criminals' opinions about armed citizens. Before turning to the most extensive of these convict surveys, it must be noted that deterrence inquiries that employ known criminals as respondents are based on what Zimring and Hawkins (1973: 30-32) have referred to as the "warden's survey fallacy." Such approaches are fallacious because this type of a sample is of no help in determining the number of persons in the general population (in this case, Group C) who are deterred from crime because of a threatened sanction (in this case, gunshot wounds and/or capture by an armed citizen). Further, one could argue that the fact that they are convicted criminals severely questions the validity of any of their responses that support the deterrent effectiveness of citizen gun ownership, because it is obvious in their cases that citizens' guns did not deter them from crime, at least entirely. And, as Polsby notes about the sample (1986: 97), "as a group, [they] are remarkable neither for honesty nor acute introspection."

The convict survey by Wright and Rossi (1985), cited previously, seems to be the most comprehensive of its kind, for it included some 1,800 incarcerated felons in 10 states. Selected portions of the Wright and Rossi piece have recently been cited, rather incorrectly it seems, by advocates of the deterrent value of citizens' guns (for example Kleck and Bordua, 1983: 283; Blackman, 1985b; Kleck, 1986: 46), although Wright and Rossi may not have intended the cited portions to be direct measures of deterrence.

For example, consider the following statements: (1) "A criminal is not going to mess around with a victim he knows is armed with a gun"; (2) "A smart criminal always tries to find out if his potential victim is armed"; and (3) "A store owner who is known to keep a gun on the premises is not going to get robbed very often." These are statements with which 56%, 81%, and 58% (respectively) of the respondents agreed (Wright and Rossi, 1985: 27). Blackman (1985b: 35) and Kleck (1986: 46) cite these findings as supporting general deterrence. However, the only inference one can take from these

4. This information may be obtainable from an analysis of state-specific convict survey data (regarding their beliefs about meeting armed citizens in the course of criminal activity), in which the states would represent gun laws varying from easy legal access for concealed weapon permits to more restrictive firearms controls. However, even the most extensive of these convict surveys (Wright and Rossi, 1985), which included prisons from ten states, only included one state (Georgia) that at the time of the survey allowed easy access to carrying-a-concealed-weapon permit.

results, it seems, is that potential criminals will avoid crimes against victims perceived to be armed and attack those perceived as unarmed, which would indicate crime displacement rather than crime deterrence. Moreover, as Wright and Rossi point out in a footnote (1985: 29), "Unless a victim were a policeman, a security guard, or carrying his weapon in a very obvious way, it would normally be rather difficult to make the determination [of whether the victim had immediate access to a firearm], most of all in committing a conventional crime (robbery, burglary, assault) against a conventional victim." Thus, even if a citizen *is* armed, there is no guarantee that the criminal will be aware of that fact prior to the commencement of an attack. One could even argue a counterproductive escalation effect associated with citizen-owned guns because, as Wright and Rossi found (1985: 23), among those who had used a firearm in criminal activity, one half saw the "chance victim would be armed" as a *very* important reason to carry a gun (although the respondents may have been referring here more to commercial victims than noncommercial ones), and a quarter (most of whom were predatory gun criminals) saw armed victims as an "exciting challenge" (Wright and Rossi, 1985: 27).

Blackman (1985b: 34) and Kleck (1986: 46) also seem to cite erroneously the following statement [to which 74% of surveyed convicts agreed (Wright and Rossi, 1985: 27)] as support for crime reduction through general deterrence: "One reason burglars avoid houses when people are at home is that they fear being shot." The implication of agreement to this statement is similar to that from an affirmative response to the above three items. It seems to imply only that the criminal will look for unoccupied premises or wait until the targeted premises are unoccupied, in which case burglary would not be reduced overall.⁵ However, importantly, although the incidence of burglary would not be reduced overall, agreement with this statement by convicts would still imply that victim-offender confrontation in burglary would be reduced overall, which should reduce overall the injury and death inflicted on victims by burglary offenders (Kates, 1983: 268-269).

Blackman (1985b) and Kleck (1986) also cite the only Wright and Rossi (1985: 28) item that in any way directly addresses the crime reduction/general deterrence issue: "Was there ever a time in your life when you decided not to do a crime because you knew or believed that the victim was carrying a gun?" Three-fifths (61%) said that such an experience had not occurred, while one in ten said it occurred once, one in five (22%) said that it occurred "a few times," and 8% claimed that it happened "many times." Maximally, this could mean that for about 40% of criminals, the total amounts of their

5. In a related claim, Kleck and Bordua (1983: 282) cite one of Conklin's (1972: 85) professional robbers, who states he substituted robbery for burglary because of his perception that homeowners are often armed with a gun. This represents a displacement to a more serious crime type as opposed to displacement of time and/or place of victimization; there is no indication of deterrence, however.

criminal acts have been reduced to varying extents through citizen gun ownership. Minimally, however, it could mean only that in cases in which the offender chose not to do the crime because he thought a potential victim was armed, he found a replacement victim who was perceived as unarmed. If respondents' actions fall somewhere within this maximum and minimum, there would be at least some reduction in crime through deterrence. Inferences about absolute net crime reductions through general deterrence from responses to this question, however, are unwarranted without further qualification.

Convicts' responses might also be used to examine the specific deterrent effects of civilian gun ownership, but it would involve different assumptions than when measuring general deterrent effects. In specific deterrence, one must show that after having an actual experience with an armed victim, offenders reduced or resisted their criminal activity. However, again, although the Wright and Rossi convict survey items flirt with the (specific) deterrence question, they do not come to grips with it directly.

Over a third of all convicts surveyed (37%) admitted to having ever encountered a victim who was armed with a gun and about the same proportion (34%) stated that they had been scared off, shot at, wounded, or captured by an armed victim at some previous point in their careers. A fear of being shot by a victim was associated with those who had personally encountered an armed victim. Among those who had never encountered an armed victim, about half (48%) said they "never" thought about being shot by their victim; among those who had encountered an armed victim, 23% never thought about it. Further, among those who had at some time confronted an armed victim, 45% thought about being shot by their victim "regularly" or "often"; among the remainder, the comparable figure was 28% (Wright and Rossi, 1985: 28). It appears that personal experiences with armed victims make criminals evaluate more critically the potential gun-inflicted danger in future criminal attacks. However, there is no direct indication that any experiences with armed victims has caused them to curtail their criminal activity as a whole. Perhaps a more cogent general and specific deterrence-based question (unpiloted) that might be posed to known criminals is: "Have your thoughts about meeting armed victims ever caused you to reduce the overall amount of your criminal activity?"

RESEARCH USING THE NATURAL QUASI-EXPERIMENT

To assess accurately whether any sanction (threatened or actual) acts as a general or specific deterrent, the optimal design is an experiment. This method takes a measurement of the deviance rate (pretest), then introduces a sanction (specific deterrence) or threatens a sanction (general deterrence), and, finally, remeasures the deviance rate (posttest) to ascertain whether the intervention of the sanction or threat had any effect on the rate (a follow-up

rate measurement may also be utilized to assess the duration of the deterrent). A control group can be employed to insure that any changes found in the posttest measurement were attributable to the sanction or threat (rather than some other confounding variable). Although many approaches to the measurement of deterrence have been attempted, experimentation is the methodology that draws the fewest criticisms (for critical reviews of experimental and nonexperimental deterrence methodologies, see Zimring and Hawkins, 1973; Pontell, 1978; Green, 1985).

However, a deterrence experiment is only as valid as its measurements, and if an experimenter pretests and posttests representative samples of the universe of deviance, there are very few ways to criticize the validity of a deterrence experiment's results. The controlled field experiment (in which the researcher manipulates the introduction of the deterrent intervention) is more desirable than the naturally occurring quasi-experiment (in which the researcher is limited to measurements before and after some naturally occurring phenomenon) (Campbell and Stanley, 1963), but only the natural quasi-experiment is practical in the study of the general deterrent effect of citizen gun ownership (a natural quasi-experiment might also be used to investigate the specific crime-deterrent effects of civilian gun ownership).⁶

Kleck and Bordua (1983) have conducted a natural quasi-experiment that, with its attempt to utilize the equivalent of "control" groups, constitutes a viable design to study the general deterrent impact of citizen gun ownership in a single jurisdiction. These researchers took the forcible rape rate (which includes attempts) recorded in the *Uniform Crime Reports* for the periods before, during, and after a program that trained some 6,000 women in the safe use of firearms in Orlando, Florida (the program, which was highly publicized, took place between October, 1966, and March, 1967, and the major comparison rates were 1966 and 1967). As controls, Kleck and Bordua compared the before/after City of Orlando rates (where the program was undertaken) with rates in unincorporated Orlando areas and in Florida (excluding the entire Orlando area). If the recorded rape rate in Orlando city was noticeably lower than that for the remainder of Florida after the program went into effect, then Kleck and Bordua would conclude that the firearms

6. Such a natural quasi-experiment would conduct a pretest measure of the "velocity" (Green, 1978), or speed and force, of a criminal's career which existed *before* any encounters with an armed victim (such encounters would become known to the researcher *post facto* through surveys of known criminals). Subsequent velocity measurements (post-test) would then be taken for the period *after* the encounter to ascertain whether the actual confrontation with an armed victim had any specific deterrent effect. Naturally, one would have to control for variables such as the "burnout" that is naturally associated with advances in age, any rehabilitative or specific deterrent effects that are a result of a prison term, and several other factors associated with individual desistance from crime. This particular quasi-experiment has several difficulties and may be impractical.

program had a general deterrent effect above and beyond any general deterrent effects already produced by the criminal justice system.

According to the authors, the rate differences were obvious—the City of Orlando experienced a dramatic drop (88%) in the recorded rape rate from 1966 (35.9/100,000) to 1967 (4.18/100,000), while the outlying Orlando area and the rest of Florida did not experience such dramatic recorded rape decreases for the same time period (11.05:10.02 and 14.2:15.01, respectively). The authors contend the following to buttress their conclusion of the excellent general deterrent effect of the women/firearms program: (1) the Orlando rape rate decrease was considerably larger than would be expected on the basis of variation in that rate during the recent past; (2) Orlando city, the surrounding area, and the rest of the State of Florida experienced increased or steady rates in virtually all nonrape crimes after the program was carried out; and (3) where there was a nonrape decrease, it was in the City of Orlando's burglary rate, which further emphasizes the deterrent benefits of the program because "burglaries would seem to be the next most likely crime target to be effected [sic] by a program that trained women in firearms use. . . ." (Kleck and Bordua, 1983: 287).

However, as mentioned above, an experiment's results are only as valid as its measurements, and there are considerable questions about the reliability of the dependent variable here (police-generated crime rates recorded in the *Uniform Crime Reports*). The crime rates presented by Kleck and Bordua may not necessarily reflect actual differences in the incidence of crime; rather, they may merely reflect differences caused by variations in citizen reporting of crime to the police and/or by police recording of crime for inclusion in the *UCR*.

Regarding the authors' first contention (that the reduction is too great to be considered random), the City of Orlando seems to have experienced a rather jagged yearly rate history for recorded forcible rape (including attempts) in the years prior to the firearms campaign. For example, one infers from any recorded rape/attempted rape rate of 0.0 (in 1963) for a city as large as Orlando that the recording procedures there are questionable. The recorded decrease in the City of Orlando from 1959-1960 was 58%, the decrease from 1961 to 1962 was 88%, and, of course, the decrease from 1962-1963 was 100%. Recorded fluctuations in rape in Orlando from 1964-1966 are similarly extreme. Hence, the authors' assertion (1983: 287)—that Orlando had not experienced a similarly large decrease prior to 1967 than in 1967—is misleading, given the changes in the rate recorded in, say, 1962-1964.

The second contention by Kleck and Bordua to buttress their conclusion of a strong general deterrent in the Orlando program involves their control groups. They assert that, because rates other than Orlando's rape (and burglary) rate were on the increase or stable directly after the program's implementation, the decrease in the City of Orlando's recorded rape rate

immediately after the program cannot be attributable to an overall decrease in crime; instead, it must be attributable to the program's general deterrent effect. However, a somewhat different interpretation emerges if one examines the recorded rape rates for aggregated periods before the program (1964-1966) and after it (1967-1969). The aggregated differences for the two time periods indicate that the rate decreased by 60.7% in the City of Orlando, yet the rate *increased* by 60.5% in the outlying (noncity) areas of Orlando. Assuming the statistics are valid, there seems to be a strong possibility that the women/firearms program has displaced at least some rapes to the outlying areas rather than having reduced rape absolutely. In favor of Kleck and Bordua, however, given that Floridians living entirely outside the Orlando area experienced a 41% increase in recorded rape over the two aggregated periods, one could say that at least some of the 60.5% increase in outlying Orlando is due to an overall rise in Florida rapes generally (excluding the City of Orlando). However, there is still room for some "spillover" or displacement of rape from the City to the suburbs of the City, in which case the strong deterrence conclusion of Kleck and Bordua needs more qualification.

Their third assertion—that the drop in the City's burglary rate is not unexpected, given the nature of the firearms awareness program—makes sense, but the burglary rate in the City of Orlando dropped only about 22% from 1966-1967, and, given fluctuations in crime rates recorded by the police in Orlando, the difference might seem relatively insignificant. In addition, the rate differences for the periods 1964-1966 and 1967-1969 show that the burglary rate *increased* by 20% in the City. From these figures, it is hard to draw any firm inferences on the effect (especially a lasting one) of the firearms/women program on Orlando's burglary rate.

In sum, the allegedly clear general deterrent effect of Orlando's program seems to be more suspect if one considers the City's recording practices and jagged rate variation, comparative rates for aggregated periods, and displacement. However, in support of deterrence, the recorded rape rate in Orlando did not reach its preprogram level until 1972, a half decade after the program was implemented, while the rest of Florida had steadily increased its recorded rape rate during that period to almost twofold. Ignoring the problems associated with the dependent variable, of all the works reviewed here thus far, the design and the findings of the Orlando quasi-experiment are the most convincing in terms of isolating a general deterrent effect of civilian gun ownership.

Other jurisdictions have also implemented, apparently successfully, media campaigns about their heavily armed citizens. For example, in Kennesaw, Georgia, persons were required to own guns through a city ordinance passed in 1982. Within a year, the recorded burglary rate dropped by 89% (cited by Kleck, 1986). Firearms training programs such as that in Orlando seem to have produced similar decreases in armed robbery of retail merchants (from

80 to zero in 2 successive 4-month periods in Highland Park, Michigan), drug store robbery (from 3 per week to 3 in 6 months in New Orleans, Louisiana), and grocery store robbery (90% in Detroit, Michigan) (cited by Silver and Kates, 1979: 167). As presented by Kleck and by Silver and Kates, however, these instances are essentially anecdotal in nature and, without data for analysis, no conclusions can be drawn about their validity.

COMMENTS ON CIVILIAN GUN POLICY IN RELATION TO DETERRENCE

The review of empirical work presented above has attempted to uncover any evidence of a reduction in crime caused by current levels of citizen gun ownership, in light of theoretical assumptions about deterrence. Only slight and indirect evidence of a crime-reducing deterrent effect (both general and specific) was found from convicts' opinion. In the quasi-experiment, general deterrence seems to have been directly demonstrated for a particular offense in one jurisdiction for a short while. Where evidence has been found to support absolute crime reduction through deterrence, it has been marred by concerns about displacement. However, displacement should be considered a positive finding for crime reduction if the displacement is to a less serious kind of offense. For instance, it was shown that convicted criminals claim to avoid premises they perceive to be occupied because they fear being shot by the dweller; this ought to displace at least some burglaries into situations less likely to result in injury and death to the victim (and offender).

As noted, the importance of civilian gun ownership to crime control policy is a function of the degree to which the size of Group C exceeds the sizes of Groups A and B. If Group C (those deterrable by citizens' firearms) is considerably smaller than Group A (those who do not commit predatory crime for moralistic reasons) and Group B (those who commit crimes without regard for citizens' guns), the policy question of whether gun ownership is a deterrent is a minimal one. However, if Group C is in any way large relative to the sizes of Groups A or B, then citizens' guns become much more important to a crime-control policy. Unfortunately, the previously discussed "warden's survey fallacy" described by Zimring and Hawkins precludes using known criminals as a measure of Group C, and one cannot expect valid responses from persons in the general public about whether they are in Group A, B, or C. One is left, then, with having to guess at the relative size of Group C.

If, for a moment, one were to infer any policy implications strictly from a utilitarian deterrence standpoint without knowing the relative size of Group C, notice must be taken of findings from known criminals indicating that at least some of them seem to view rationally the possibility that potential victim-citizens could be immediately armed (and, therefore, criminals would

seek victims perceived as being immediately unarmed). The crime control implication seems to be that the only way to minimize displacement of criminal victimization to those perceived as unarmed is to make criminals believe that more victims have immediate firearm accessibility. This would mean legal policies that would make constant and immediate gun possession more available to citizens (by relaxing laws against carrying concealed weapons) while at the same time severely penalizing criminal misuse of a gun. To increase normative validation and deterrence, publicity campaigns should emphasize the heavily armed citizenry, any cases of successful gun-inflicted self-defense, and any formal punishments given to gun criminals by the criminal justice system. Additionally, ancillary legal policies would have to be developed, such as those that relax restrictions against civilian use of deadly force (Polsby, 1986) and those that consider state compensation for "crime intervenors" (for example, as in California), because the potential offender would also have to perceive that civilian victims and bystanders would be willing to shoot in self-defense and in defense of others, not merely that victims have immediate access to a gun. Utilitarian policy decisions cannot be based solely on deterrence, however.

To achieve the "greatest happiness for the greatest number," the lawmaker must balance all of the positive and negative ramifications of civilian gun policy relative to their strengths, as Wright et al. (1983) and Moore (1983) have attempted to do. Thus, while relaxing laws against citizen possession of firearms might, on the positive side, reduce crime through general and specific deterrence (and possibly even normative validation), negatively, citizens' firearms have been shown to have a counterproductive escalation effect on gun crime (Wright and Rossi, 1985: 23, 27), firearm accidents have been shown to increase with neophyte gun ownership (McDowall and Loftin, 1985), and a substantial number of criminals have been shown to steal the guns used in crime from citizens (Wright and Rossi, 1985). Ready access to guns may also aggravate injury and fatality in offenses where guns would not have been used had they been unavailable. Mass carrying of concealed weapons may even affect adversely the overall mental health of the public. However, given that criminals will obtain firearms if they so desire in any case (Wright and Rossi, 1985; Moore, 1983) and that the police have admitted that they are unable to protect citizens from criminal attack (Kates, 1984: 148-149), one could argue that citizens ought to have access to the means necessary to defend themselves during such an attack (Kates and Engberg, 1982), aside from any criminogenic or anticriminogenic effects from citizens' guns. Policy decisions about citizens' guns are particularly difficult when the policy maker is faced with evidence that is "six of one, half-dozen of the other." For instance, as Wright (1984: 323) finds, there is apparently an even tradeoff (1:1) between the incidences of firearm accidents and use of firearms in self-defense.

The policy debate about civilian gun ownership is likely to go on, perhaps

ad infinitum, especially given the numerous methodological difficulties in settling relevant questions and the overall tendency in this area to use science as a political tool. Independent of any positive or negative public policy implications, however, some have argued simply that Americans have the Constitutionally based individual right to keep and bear arms (Kates, 1983; Halbrook 1984, 1986).

REFERENCES

- Andenaes, Johannes
 1974 Punishment and Deterrence. Ann Arbor: University of Michigan Press.
- Benson, Bruce L.
 1984 Guns for protection and other private sector responses to the fear of rising crime. In Don B. Kates, Jr. (ed.), *Firearms and Violence*. Cambridge, MA: Ballinger.
- Blackman, Paul H.
 1985a Firearms and violence, 1983/84. Unpublished paper. Washington, D.C.: National Rifle Association Institute for Legislative Action.
 1985b The armed criminal in America. *American Rifleman* 133: 34-35,78.
- Campbell, Donald T. and Julian C. Stanley
 1963 Experimental and Quasi-Experimental Designs for Research. Chicago: Rand McNally.
- Conklin, John E.
 1972 Robbery and the Criminal Justice System. Philadelphia: Lippincott.
- DeZee, Matthew R.
 1983 Gun control legislation: Impact and ideology. *Law and Policy Quarterly* 5: 367-379.
- Gastil, Raymond D.
 1971 Homicide and a regional subculture of violence. *American Sociological Review* 36: 412-427.
- Geisel, Martin S., Richard Roll, and Stanton R. Wettick
 1969 The effectiveness of state and local regulation of handguns: A statistical analysis. *Duke University Law Journal* 4: 647-676.
- Gibbs, Jack
 1975 Crime, Punishment and Deterrence. New York: Elsevier.
- Grasmick, Harold and Donald E. Green
 1980 Legal punishment, social disapproval, and internalization as inhibitors of illegal behavior. *Journal of Criminal Law and Criminology* 71: 325-335.
- Green, Gary S.
 1978 Measuring the incapacitative effectiveness of fixed punishment. In James A. Cramer (ed.), *Preventing Crime*. Beverly Hills: Sage.
 1985 General deterrence and television cable crime: A field experiment in social control. *Criminology* 23: 629-645.

Hackney, Sheldon

- 1969 Southern violence. In H. Graham and T. Gurr (eds.), *The History of Violence in America*. New York: Bantam.

Halbrook, Stephen P.

- 1984 *That Every Man Be Armed*. Albuquerque: University of New Mexico Press.
- 1986 What the framers intended: A linguistic analysis of the right to "bear arms." *Law and Contemporary Problems* 49: 151-162.

Hardy, David T. and John Stampoly

- 1974 Of arms and the law. *Chicago-Kent Law Review* 51: 62-114.

Kates, Don B., Jr.

- 1983 Handgun prohibition and the original meaning of the Second Amendment. *Michigan Law Review* 82: 204-273.
- 1984 Handgun banning in light of the Prohibition experience. In Don B. Kates, Jr. (ed.), *Firearms and Violence*. Cambridge, MA: Ballinger.
- 1986 The Second Amendment: A dialogue. *Law and Contemporary Problems* 49: 143-150.

Kates, Don B., Jr., and Nancy Jean Engberg

- 1982 Deadly force self-defense against rape. *University of California, Davis, Law Review* 15: 873-906.

Kessler, Raymond G.

- 1984 The political functions of gun control. In Don B. Kates, Jr. (ed.), *Firearms and Violence*. Cambridge, MA: Ballinger.

Kleck, Gary

- 1984a Handgun-only control: A policy disaster in the making. In Don B. Kates, Jr. (ed.), *Firearms and Violence*. Cambridge, MA: Ballinger.
- 1984b The relationship between gun ownership levels and rates of violence in the United States. In Don B. Kates, Jr. (ed.), *Firearms and Violence*. Cambridge, MA: Ballinger.
- 1986 Policy lessons from recent gun control research. *Law and Contemporary Problems* 49: 35-62.

Kleck, Gary and David J. Bordua

- 1983 The factual foundation for certain key assumptions of gun control. *Law and Policy Quarterly* 5: 271-298.

Lester, David and Mary E. Murrell

- 1980 The influence of gun control laws on suicidal behavior. *American Journal of Psychiatry* 137: 121-122.
- 1981 The relationship between gun control statutes and homicide rates: A research note. *Crime and Justice* 4: 145-147.

Loftin, Colin and Robert H. Hill

- 1974 Regional subculture and homicide: An examination of the Gastil-Hackney thesis. *American Sociological Review* 39: 714-724.

Magaddino, Joseph P.

- 1972 Economic analysis of state gun control laws. Unpublished doctoral dissertation. Blacksburg and Radford: Virginia Polytechnic Institute.

- Magaddino, Joseph P. and Marshall H. Medoff
1984 An empirical analysis of Federal and state firearm control laws. In Don B. Kates, Jr. (ed.), *Firearms and Violence*. Cambridge, MA: Ballinger.
- Marina, William
1984 Weapons, technology, and legitimacy: The Second Amendment in global perspective. In Don B. Kates, Jr. (ed.), *Firearms and Violence*. Cambridge, MA: Ballinger.
- McDowall, David and Colin Loftin
1985 Collective security and fatal firearm accidents. *Criminology* 23: 401-416.
- Moore, Mark H.
1983 The bird in hand: A feasible strategy for gun control. *Journal of Policy Analysis and Management* 2: 185-195.
- Murray, Douglas R.
1975 Handguns, gun control laws, and firearm violence. *Social Problems* 23: 81-93.
- Newton, George D. and Franklin E. Zimring
1969 *Firearms and Violence in American Life: A Staff Report to the National Commission on the Causes and Prevention of Violence*. Washington, D.C.: U.S. Government Printing Office.
- National Rifle Association
1985 The armed citizen. *American Rifleman* 133: 6.
- Polsby, Daniel D.
1986 Reflections on violence, guns, and the defensive use of lethal force. *Law and Contemporary Problems* 49: 89-112.
- Pontell, Henry
1978 Deterrence: Theory vs. practice. *Criminology* 16: 3-22.
- Seitz, Stephen T.
1972 Firearms, homicides, and gun control effectiveness. *Law and Society Review* 6: 595-614.
- Silver, Carol Ruth and Don B. Kates, Jr.
1979 Self-defense, handgun ownership, and the independence of women in a violent, sexist society. In Don B. Kates, Jr. (ed.), *Restricting Handguns*. Croton-on-Hudson, NY: North River.
- Tonso, William R.
1982 *Gun and Society: The Social and Existential Roots of the American Attachment to Firearms*. Washington, D.C.: University Press of America.
- van den Haag, Ernest
1985 The neoclassical theory of crime control. In Robert F. Meier (ed.), *Theoretical Methods in Criminology*. Beverly Hills: Sage.
- Wright, James D.
1984 The ownership of firearms for reasons of self-defense. In Don B. Kates, Jr. (ed.), *Firearms and Violence*. Cambridge, MA: Ballinger.
- Wright, James D. and Peter H. Rossi
1985 *The Armed Criminal in America*. Washington, D.C.: U.S. Government Printing Office.

Wright, James D., Peter H. Rossi, and Kathleen Daly

1983 *Under the Gun: Weapons, Crime and Violence in America.* New York: Aldine.

Zimring, Franklin E. and Gordon J. Hawkins

1973 *Deterrence: The Legal Threat in Crime Control.* Chicago: University of Chicago Press.

Gary S. Green is Assistant Professor of Criminal Justice at the University of Evansville. His research interests include deterrence, public policies about civilian gun ownership, and occupational criminality.