CARRYING GUNS FOR PROTECTION: RESULTS FROM THE NATIONAL SELF-DEFENSE SURVEY

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The article reviews research on gun carrying and reports new findings from the National Self-Defense Survey on the prevalence, incidence, and patterns of adult gun carrying for protection. About 8.8 percent of adults carried guns in the preceding year, 3.7 percent carried guns on their person, and 6.5 percent carried guns in a vehicle. Within a given year, about 16.8 million U.S. adults carry a gun, 7.1 million who carry do so on the person and 12.4 million do so in a vehicle. On an average day, 2.7 million U.S. adults carry a gun for protection on their person and 5.0 million carry one in a vehicle. Less than one in a thousand instances of gun carrying involves a violent gun crime. Carrying was more common among males, Blacks, people in the South and West, people with a job requiring a gun, those who know someone who was recently the victim of a crime, believe that crime is above average in their neighborhood, have been a robbery victim, or believe people must depend on themselves for protection.

Millions of Americans carry firearms in public places, both on their person and in their vehicles. Most of this carrying violates gun carry laws, yet it is not necessarily done by people intending, or even likely, to commit some other crime with the gun. By 1995, at least 31 states had passed laws making it easy for adult residents without a criminal conviction to get a license to carry a concealed firearm (U.S. Bureau of Justice Statistics 1996b:120-1). Yet, because of a narrow research focus on carrying by juveniles, virtually nothing is known about gun carrying by adults. This article reviews research on gun carrying and reports findings from a national survey on the prevalence and incidence of carrying among adults and on the kinds of people who carry.

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WHY GUN CARRYING MATTERS

Criminogenic Effects of Gun Carrying

Carrying guns in public places, as distinct from merely keeping them in private homes, can have significant implications for both legal and illegal activities associated with crime. The frequency of carrying will affect how often criminals have guns available for criminal uses. Occasional carrying may be a part of planned crimes, whereas routine daily carrying may facilitate the commission, or influence the outcomes, of unplanned crimes, such as spontaneous fights or opportunistic robberies committed impulsively in response to contact with vulnerable or lucrative victims. In 1993, there were about 1.02 million crime incidents committed by offenders who possessed guns (but only some of whom actually used the guns) (U.S. Bureau of Justice Statistics 1996a:72). About 77 percent of all violent crimes in 1993 were committed in public places (p. 67) where the offender would have had to carry a gun to use it in the crime.

When guns are used in violent crimes, it increases the likelihood the crime will be completed (e.g., property is taken in a robbery or burglary), reduces the likelihood that the offender will attack and injure the victim, but increases the likelihood that any injury inflicted will be fatal (Cook 1991; Kleck 1991, chap. 5; Kleck and McElrath 1991). Thus, increased gun carrying by those with criminal propensities could contribute to increases in robberies and other violent crimes, such as assaults, committed in public places, and to higher fatality rates in those crimes.

DEFENSIVE USES OF GUNS CARRIED IN PUBLIC PLACES

On the other hand, the frequency of carrying also affects how often prospective crime victims, both criminal and noncriminal, will have guns available for self-defense. It is a mistake to think of gun carrying as something done largely for criminal purposes, except in the definitional sense that most concealed carrying without a permit is itself a crime. As will be documented, most nonrecreational carrying is done for noncriminal purposes of self-defense. Self-defense gun carrying is worth taking seriously for two reasons. First, the empirical literature is unanimous in portraying defensive gun use as effective, in the sense that gun-wielding victims are less likely to be injured, lose property, or otherwise have crimes completed against them than victims who either do nothing to resist or who resist without weapons (for reviews, see Kleck 1997, chap. 5; Kleck and DeLone 1993).

Second, the literature is nearly unanimous (with a single dissenting source of survey information) in indicating that defensive gun use (DGU) is commonplace, though largely invisible to governments.[1] At least 15 surveys have yielded results implying anywhere from 760,000 to 3.6 million DGUs per year, with evidence from the first survey specifically designed to estimate DGU frequency, the National Self-Defense Survey (NSDS), indicating about 2.5 million instances of DGU per year (Kleck and Gertz 1995; for a recent confirming estimate, see Cook and Ludwig 1997:61-3).[2]

More specifically relevant to current concerns, the NSDS indicated that 26.8 percent of those 2.5 million DGUs occurred in some location away from the user's home, and another 35.9 percent occurred in places near the defender's home (yard, carport, street adjacent to home, etc.) where possession of the gun could be regarded in legal terms as carrying. Thus, anywhere from 670,000 to 1,570,000 DGUs a year occur in connection with gun carrying in a public place. To put this in perspective, in 1993 there were about 1.02 million crime incidents committed by offenders who appeared to possess guns (U.S. Bureau of Justice Statistics 1996a). Because some of these crimes, such as cases of domestic violence, were committed in the offender's home and thus did not entail gun carrying, the estimated number of crimes involving gun carrying would be less than 1 million. Thus, there appear to be about as many defensive uses of guns connected with carrying by victims as there are criminal uses by gun carrying offenders.

DETERRENT EFFECTS OF GUN CARRYING BY PROSPECTIVE VICTIMS

Widespread gun carrying by potential victims may also exert a deterrent effect on rates of criminal behavior, especially for types of crimes commonly committed in public places, such as robberies. That is, quite apart from their effects in disrupting crimes that have already been initiated, gun carrying among prospective victims may discourage some crimes from being attempted in the first place, due to criminals anticipating greater risks of injury to themselves and lower rates of success completing the crimes. Consistent with this hypothesis, Kleck and Patterson (1993:269) found that cities with higher gun prevalence (and presumably higher gun-carrying rates) had lower rates of robbery, a crime typically committed in public places. This association was not significant for total and gun robberies but was significant for nongun robberies. This fits closely with the expectation that robbers lacking guns themselves would be the ones most likely to be deterred by the prospect of victims with guns. Deterring these robbers is especially important in light

of the fact that prior research has consistently indicated that unarmed robbers are more likely to injure victims than are armed robbers (see findings of Kleck and DeLone 1993, and 16 earlier studies summarized on p. 62 of that article).

Likewise, in a comprehensive pooled cross-sections time series analysis of virtually all 3,141 U.S. counties, Lott and Mustard (1997) found that robbery rates, as well as homicide (both with and without guns), rape, and aggravated assaults, declined after states passed laws making it easier for noncriminals to obtain carry permits. They interpreted the results as indicating that allowing more citizens to legally carry guns reduced rates of crimes involving direct offender-victim contact by raising robbers' perception of risk from armed victims. Although it is debatable how much of this pattern reflected causal effects of new laws (Kleck 1997, chap. 6), the results strongly undercut the conclusions of McDowall, Loftin, and Wiersema (1995), based on univariate (or bivariate) analyses of homicide trends in just seven nonrandomly selected counties (clustered into five areas), that such laws increase gun homicides, supposedly because they indirectly stimulate offender gun carrying (see Britt, Kleck, and Bordua 1996 for a critique of interrupted time series evaluations of legal interventions).

PURPOSES AND MOTIVES FOR CARRYING GUNS

Most of the nonrecreational carrying of guns by civilians, whether resulting in a DGU or not, is very likely illegal. Although national surveys of the general population (to be reviewed later) indicate that perhaps 5-11 percent of U.S. adults admit to carrying guns on their person for self-protection, only about 1 percent of the population has a permit to carry a concealed weapon, and only about 2 percent even in states like Florida where it is relatively easy to get one. All but one of the states either prohibit civilians altogether from concealed carrying on the person or require a permit to do so (Cramer and Kopel 1994; National Rifle Association 1996). Therefore, probably about 80-90 percent of those who report carrying guns on their person away from their homes do so illegally. This suggests that there are probably still more carriers who are unwilling to report their illegal activity to surveyors. We assume that this defensive carrying is nearly all concealed, in the absence of any reports of widespread open carrying of guns.

On the other hand, very little of this enormous amount of generally unlawful gun carrying is done for purposes of committing a crime (apart from violations of gun laws themselves). Only a tiny fraction of gun carrying results in a crime committed with a gun. We later present an estimate of 975 million

instances (person-days) of adult gun carrying on the person per year. There are less than a million violent crimes committed with guns (based on victim surveys, and counting both crimes reported to the police and those unreported), and 81 percent of persons arrested for violent crimes in 1994 were aged 18 or older (U.S. Federal Bureau of Investigation 1995:227), implying about 800,000 gun crimes committed by adults. Even if we assumed, somewhat implausibly, that all of these gun crimes involved gun carrying (i.e., occurred in places requiring carrying for a gun to be present), it is still clear that less than one in one thousand instances of gun carrying on the person result in a crime committed with a gun.

If carrying guns is rarely done for the purpose of committing a crime, this suggests that self-protection is a more common motive for any one instance of carrying, among criminals and noncriminals alike. Prior research has found either that most of both illegal carriers and legally permitted carriers express protection-related motives for carrying or that the carrying is associated with crime-related variables such as anticipation of future victimization, prior victimization, fear of crime, or exposure to risk factors for victimization, such as drug-selling or gang membership. These patterns are evident among adults in the general population (Bryant and Shoemaker 1988; Hassinger 1985), juveniles in the general population (Arria, Wood, and Anthony 1995; Bjerregaard and Lizotte 1995; Callahan and Rivara 1992; Fagan 1990; Sheley and Brewer 1995; Sheley, McGee, and Wright 1992; Smith and Sheley 1995; Webster, Gainer, and Champion 1993), adult offenders (Schultz 1962; Wright and Rossi 1986), and juvenile offenders (Ash et al. 1996; Callahan, Rivara, and Farrow 1993; Knox et al. 1994; Sheley 1994; Sheley and Wright 1993, 1995).

None of this implies that gun carrying cannot contribute to crime increases. Some gun crimes are committed in public places by offenders who did not plan the crime but who possessed a gun at the time of the offense only because they were carrying for self-protection. Criminals have a far higher-than-average risk of victimization themselves, and thus should be especially likely to carry guns for defensive reasons (Wright and Rossi 1986). Some of this defensively motivated carrying could increase the number or seriousness of unplanned crimes committed in public places. Gun carrying among criminals could, however, also deter victimization attempts by other criminals just as carrying among noncriminals may do.

The fact that most gun carrying, even by criminals, is done without a concomitant violent crime also does not mean that criminals do not carry guns for criminal purposes. When criminals commit crimes, they often find guns useful for intimidating and controlling their victims, and even for avoiding hurting them (Sheley and Wright 1995:67-9; Wright and Rossi 1986:127-31).

Thus, two perfectly consistent assertions are supported by the evidence: (a) Only a small share of incidents of gun carrying, even by criminals, is done for the purpose of committing violent crimes and (b) on those less frequent occasions when offenders *do* commit violent crimes, they often commit them with guns that were carried to the scene, either because the offenders believed that weapons would be useful in controlling victims and otherwise ensuring a successful outcome of the crime or because the offenders were initially carrying guns for self-protection (or "just in case") but became involved in an unplanned crime.

SOME CONCEPTUAL DISTINCTIONS

Gun carrying can be divided up into categories according to the carrier's dominant motivation. Thus, carrying is sometimes done by criminals specifically for the purpose of ensuring that a gun will be available to help carry out a crime. Far more common, even among criminals, is carrying for reasons of self-protection (Sheley and Wright 1995; Wright and Rossi 1986). There is also "carrying" of guns for purely recreational reasons or other reasons unrelated to crime, such as hunting or target shooting. Although this is probably not the sort of carrying that interests most researchers or policymakers, it may well be the kind of carrying that some survey respondents (Rs) have in mind when they report, in response to imprecisely worded questions, that they "carry" guns. This problem will be discussed later at greater length.

Among juveniles, there may also be another common motive that can, for lack of a better term, be labeled "showing off." A typical scenario might be something like the following: A noncriminal adolescent boy sneaks a parent's handgun out of the home and takes it to school or to a friend's house, where he shows it off to his friends. The gun is then returned home without incident. Although this sort of thing is unlikely to be a reason for routine or frequently repeated carrying, or an important or common motive for carrying among adults, it could be a common motive for isolated instances of relatively inconsequential carrying by noncriminal adolescents.

Carrying guns may also be categorized according to the manner in which it is done. Very likely the gun carrying that most researchers are primarily concerned with is concealed carrying of handguns (and primarily loaded handguns), rather than carrying of long guns or the open carrying of handguns. Although some might automatically assume that concealed handgun carrying refers only to carrying on the person, a Gallup survey of adults in 1993 indicated that carrying guns for protection in motor vehicles, which would often include carrying in a glove compartment or similar hidden

location, is even more common than carrying on the person (Table 1). This may be partly due to the fact that the criminal law in many states is less restrictive concerning gun possession in vehicles, in effect treating citizens' vehicles as extensions of their homes (National Rifle Association 1996; Wright, Rossi, and Daly 1983:252-3). Previous surveys usually do not distinguish between carrying in vehicles and carrying on the person, despite the fact that the former is often legal whereas the latter usually is not.

PRIOR RESEARCH

Gun carrying received very little scholarly or public attention before the 1990s. This changed after 1987, when Florida's legislature passed a law making it easier for adult residents without a criminal conviction to get a carry permit, followed by a wave of similar "shall issue" or nondiscretionary carry permit laws enacted elsewhere. By 1996, 31 states had "shall issue" carry laws (U.S. Bureau of Justice Statistics 1996b:120-1). A wave of studies, many funded by the federal Centers for Disease Control and Prevention (CDC) or the Justice Department, soon appeared, beginning around 1992.

Almost all of the resulting publications, however, concerned juveniles (Arria et al. 1995; Ash et al. 1996; Callahan and Rivara 1992; Callahan et al. 1993; Knox et al. 1994; Lizotte et al. 1994; Sheley 1994; Sheley and Brewer 1995; Sheley et al. 1992; Sheley and Wright 1993, 1995; Smith and Sheley 1995; Webster et al. 1993). This was an unfortunately narrow focus, given that the vast majority of carrying is done by adults and the vast majority of gun crimes, presumably including the bulk of those involving gun carrying, are committed by adults—77 percent of persons arrested for weapons violations and 81 percent of persons arrested for violent crimes in 1995 were aged 18 or older (U.S. Federal Bureau of Investigation 1996:224).

Furthermore, with respect to law-making, there is very little at stake in connection with juvenile gun carrying. All concealed carrying of handguns in public places by minors has long been completely illegal virtually everywhere in the United States (excepting Vermont), in that such carrying is, depending on the state, either prohibited for civilians of any age or requires a carry permit that minors are not eligible to receive (National Rifle Association 1996; Sheley and Wright 1995:150). Although there is certainly room for improvement in the enforcement of existing carry laws (Kleck 1991:347-53, 441-2), laws permitting the confiscation of guns from juveniles are already "almost universal" (Blumstein 1995:32-3). This did not, however, prevent at least 18 state legislatures in the early 1990s from passing largely redundant bans on juvenile gun carrying anyway (Toch 1993).

TABLE 1: Prevalence of Gun Carrying in Recent National Surveys

A. Adults

Date Fielded	*Survey Firm*	*On Person or in Vehicle?*	*Protection?* [a]	*Question Asked of:*	*Percentage Carry* [b]
February 7-10, 1991	Princeton	Any	No	All Rs	10
May 16-19, 1991	Gallup	Vehicle	No	Personal handgun owners	8.2
August 18-22, 1991	CBS/NY Times	Any	No	All Rs	5
April 3-12, 1993	LH Research	Person	No	Rs in gun households	10.5
December 17-19, 1993	Gallup	Vehicle	Yes	Personal gun owners	7.75
		Person	Yes	Personal gun owners	5.27
April 16-19, 1994	L.A. Times	Any	Yes	All Rs	11
November 12, 1994	Chilton	Any	Yes	Personal gun owners	7.5

B. Youth

							Percentage Carried	
Year Fielded	*Survey*	*Sample*[c]	*Recall Period*	*Protection?* [a]	*Weapon*	*Gun*	*Weapon on School Property*	*Gun to School*
1989	NCVS	A 12-19	6 months	Yes			2	.05
1990	YRBS	G 9-12	Past 30 days	Yes	19.6	4.1[d]		
1991	YRBS	G 9-12	Past 30 days	No	26.1	2.9[e]		

1992	YRBS	A 14-17	Past 30 days	No	17.1			
		A 12-19	Past 30 days	No	15.7			
1993	NCES	G 6-12	School year	Yes			3.2	.19
1993	LHRI	G 6-12	c. 8 months	No			15-22	4
			Past 30 days	No		15		
1993[f]	YRBS	G 9-12	Past 30 days	No	22.1	7.9	11.8	
1995[f]	YRBS	G 9-12	Past 30 days	No	20.0	7.6	9.8	

SOURCES: DIALOG (1995), Bastian and Taylor (1991), U.S. Centers for Disease Control and Prevention (1991, 1992, 1994a, 1994b, 1995, 1996), LH Research (1993a, 1993b), Cook and Ludwig (1997), U.S. National Center for Education Statistics (1996).
NOTE: NCVS = National Crime Victimization Survey, YRBS = Youth Risk Behavior Surveillance, NCES = U.S. National Center for Education Statistics, LHRI = LH Research, Inc.
a. Did question specify carrying for protection against crime?
b. Percentage of entire sample reporting carrying.
c. A = ages, G = grades.
d. Students were counted as gun carriers only if a gun was the weapon they "usually" carried.
e. Students were counted as gun carriers only if they carried guns more often than any other weapon.
f. The 1993 and 1995 YRBS surveys were the first pair of YRBS surveys whose carry results are directly comparable.

One would expect adult carrying to look very different from juvenile carrying. Some of the former is legally authorized, whereas very little of the latter is. Much adult carrying is done in vehicles, whereas low driving rates among juveniles younger than age 16 would imply less juvenile carrying in vehicles. Whereas some carrying of guns by juveniles might be done in schools, very little by adults is done there. A significant minority of adult carrying might be linked to jobs requiring a gun (police officer, security guard), whereas virtually none of juvenile carrying would be so linked. Conversely, a good deal of juvenile carrying would be linked to membership in street gangs (Bjerregaard and Lizotte 1995; Callahan and Rivara 1992; Decker and Pennell 1995), whereas among adults such links are likely to be limited to a few younger adults. Consequently, one might expect the correlates of adult gun carrying to differ from the correlates of juvenile carrying. Broadly speaking, adult carrying is likely to look more legitimate.

The few studies of adult carrying have typically relied on less satisfactory types of samples. Some confined their analyses to small nonprobability samples of carry permit holders or applicants (Hassinger 1985; Northwood, Westgard, and Barb 1978). Because no noncarriers were studied, these studies could shed little light on how carriers differ from noncarriers. Further, permit holders are likely to be especially legitimate gun carriers, unrepresentative of all carriers. For example, Hassinger (1985) found, contrary to the typical profiles of either criminals or crime victims, that permit holders typically were married, well-educated, middle-aged, upper-middle-class Whites.

On the other hand, another study used a sample of 50 persons arrested for weapons carrying (Schultz 1962), cases confined to the opposite end of the legitimacy continuum, resulting in the opposite sample bias. Nevertheless, what permit holders and arrestees had in common is that both were likely to carry weapons because of concerns about future victimization. Among Hassinger's permit holders, the most frequently endorsed reason for carrying a pistol was, "I understand the police cannot be everywhere; the pistol is a prudent precaution" (1985:192). Likewise, 70 percent of Schultz's arrestees carried weapons mainly because they were "anticipating attack," by far the most commonly endorsed reason (1962:477). Note that concerns about future victimization do not necessarily imply either past victimization or fear. Northwood and his colleagues found that only 18.5 percent of their permit applicants claimed prior victimization as a reason for carrying. Likewise, research on handgun ownership indicates an association with residence in high-crime areas and anticipation of future victimization but little consistent relationship with fear or prior victimization (see studies reviewed in Kleck 1997, chap. 3).

Three studies of adult gun carrying used probability samples of state populations. Bryant and Shoemaker (1988) found no association between

gun carrying and prior victimization or fear of crime in a 1984 mail survey of Virginia motor vehicle registrants. The only two significant correlates found were sex and community size: Males and persons from smaller communities were more likely to carry. With a return rate of only 33 percent, it is questionable whether the survey's sample was representative. A mail survey of Louisiana driver's licensees (c. 1985) had the same problem (Bankston and Thompson 1989; Bankston et al. 1990). Although national surveys indicate that only 5-11 percent of adults carry guns for protection (and, according to the present survey, 20 percent of households in the West South Central region of Louisiana, Texas, Oklahoma, Arkansas), 34 percent of the households in this sample reported carrying for protection, suggesting pronounced sample bias. Paralleling the Virginia findings, Bankston and Thompson (1989) found gun carrying to be significantly more common among males, younger persons, and those who perceived guns as effective in reducing crime. Carrying was only weakly and indirectly related to fear or a perception of being at greater risk of future victimization, and was unrelated to prior victimization (see also Bankston et al. 1990).

Finally, Nelson and his colleagues (1996) surveyed Oregon adults by telephone in 1992 to 1993 and found, like Bryant and Shoemaker, carrying a loaded gun to be significantly more common among males in less densely populated areas. They did not measure fear, prior victimization, or similar crime-related variables.

THE MEANING OF GUN "CARRYING" IN SURVEYS

Table 1 summarizes estimates of gun and weapon carrying prevalence in recent national surveys using probability samples. Perhaps even more than with other phenomena, estimates of the frequency of gun carrying appear to be radically affected by seemingly minor variations in question wording. For many survey Rs, imprecisely worded questions about "carrying" guns can be interpreted literally, as referring to any and all physical conveying of guns. Thus, moving a gun from one room of the owner's home to another room, from a drawer to a gun cabinet, or from the cabinet to the owner's vehicle would all entail physically carrying the gun. Even a question confined to locations away from the owner's home could still encompass carrying guns from a gun store to the owner's home, or carrying for recreational purposes such as target shooting or licensed hunting during appropriate hunting seasons. It is unlikely that either the authors of the survey questions or the consumers of research results had these kinds of gun carrying in mind. Whereas

some Rs might guess the surveyors' intended meaning, one would not be justified in assuming that all of them do.

In surveys where the question wordings do not specify the more problematic and often unlawful types of carrying, that is, carrying for criminal or defensive purposes, it is quite possible that the *majority* of Rs reporting carrying may be referring only to recreational or other innocuous types of carrying. Consider, for example, a large-scale national survey of high school students. The 1995 Youth Risk Behavior Surveillance (YRBS) survey, fielded by CDC, found that 7.6 percent of the students reported carrying a gun (anywhere, not just in school) in the preceding 30 days. The carry question did not specify carrying for protection, and thus a student who had done some target shooting or hunting in the previous 30 days could accurately answer "yes." A 1991 national survey indicated that 10 percent of persons aged 16 to 17 had hunted in the previous year (U.S. Fish and Wildlife Service 1993:75), and a 1989 national survey indicated that 12.9 percent of persons aged 12 to 17 had engaged in target shooting in the previous year (American Sports Data Inc. 1989:237). Similarly, among adults, about 8.5 percent hunted with firearms in 1993 (U.S. Bureau of the Census 1995:260) and 7.2 percent engaged in target shooting (American Sports Data Inc. 1989:237). Thus, there are easily enough recreational shooters to potentially account for *all* of those reporting gun carrying in surveys not excluding carrying for recreation (Table 1).

Even a question specifying "for protection" is ambiguous if it does not further specify "against crime or criminals," or words to that effect, because people in rural areas carry guns for protection against poisonous snakes and other dangerous animals. The 1990 YRBS, for example, asked about protection but did not limit the question to protection against human threats. Due to crucial variations in question wordings, none of the carry estimates in Table 1 up through 1993 are strictly comparable with any of the others; even the earlier YRBS surveys each used different question wordings concerning gun carrying. Thus, people who used the YRBS results to judge trends in youth gun carrying are mistaken. For example, Ash et al. (1996:1754) interpreted the 1990 and 1993 YRBS surveys to indicate huge increases in youth gun carrying. Actually, the difference in self-reported carry rates may have been due to nothing more than the fact that the 1990 question was limited to protection-related carrying whereas the 1993 question was not. Further, the 1990 survey only counted gun carriers who carried guns more often than other weapons, whereas the 1993 survey counted all gun carriers (based on unpublished copies of YRBS survey instruments). The first pair of surveys whose results could be directly compared, the 1993 and 1995 YRBS surveys, indicated that weapon and gun carrying among youths was declining slightly (Table 1).

PREVALENCE OF GUN CARRYING IN PREVIOUS NATIONAL STUDIES

The focus here is on national surveys of probability samples of the U.S. population. None of the national surveys of adults (Table 1, panel A) is satisfactory for estimating the prevalence of gun carrying. Some of the surveys did not specify carrying for protection against crime, so they could include a good deal of carrying linked with recreational uses of guns. Two of the surveys that did specifically ask about carrying for protection asked the question only of Rs reporting that they personally owned guns. This procedure excludes people who carry guns belonging to other members of their household, a practice likely to be more common among women. The estimates indicate that between 5 and 11 percent of U.S. adults at least occasionally carry guns in public places. None of the surveys asking carry questions of all adults asked how often carriers carried their guns, so it is not possible to estimate the incidence of carrying or what fraction of the population is carrying on any given day.

One survey fielded after ours yielded national carry prevalence estimates, but they are flawed in important ways. Due to errors in the questionnaire, a Police Foundation (PF) survey fielded in November-December 1994 asked the gun carrying questions only of Rs who reported personally owning a gun (Chilton Research Services 1994). Because our survey indicated that nearly a quarter of carriers claimed (accurately or not) to not personally own a gun, that flaw alone could have caused the PF survey to miss about a quarter of gun carriers. Furthermore, the PF questions pertaining to whether guns were carried on the person or in a vehicle were not asked of persons who carried guns while commuting to and from their jobs or for other work-related reasons (about 28 percent of carrying was for "work-related" reasons in the PF survey—Cook and Ludwig 1997:54-5). Thus, that survey did not yield estimates of all gun carrying on the person or in vehicles and cannot be compared with ours. The PF survey was also afflicted by an unacceptably low interview completion rate of 42 percent (completions divided by completions plus refusals—see Cook and Ludwig 1997:7), compared to, for example, 61 percent (computed the same way) in the present survey.

THE NATIONAL SELF-DEFENSE SURVEY

Methods

The data presented here are drawn from the National Self-Defense Survey, the first national survey ever devoted to the subject of armed self-defense. We

used the most anonymous possible national survey format, that of the anonymous random digit dialed telephone survey. We did not know the identities of those who were interviewed and made this fact clear to the Rs. We interviewed a large, nationally representative sample covering all adults (aged 18 and over) in the lower 48 states and living in households with telephones. The quality of sampling procedures was well above the level common in national surveys. Our sample was not only large and nationally representative, but it was also stratified by state. That is, 48 independent samples of residential telephone numbers were drawn, one from each of the lower 48 states, providing 48 independent, albeit often small, state samples. To gain a larger raw number of sample DGU cases, we oversampled in the South and West regions, where previous surveys have indicated gun ownership is higher. We also oversampled within contacted households for males, who are more likely to own and carry guns, by initially asking to speak to the male head of household. Finally, because the survey was designed to yield information on defensive use of guns, we oversampled for persons who reported, early in the interview, a DGU by interviewing all of them whereas interviewing only a randomly selected one in three of all other Rs. Data were later weighted to adjust for oversampling by region, sex, and involvement in a DGU. The results reported here are based on responses of all 1,832 persons who were given the full interview.

A professional telephone polling firm, Research Network, of Tallahassee, Florida, did the sampling and interviewing. Interviews were conducted from February through April of 1993. Only the firm's most experienced interviewers were used on the project. Interviews were monitored at random by survey supervisors. Up to 10 calls were made in an attempt to contact initial sample members. Of all eligible residential telephone numbers called where a person (rather than an answering machine) answered, 61 percent resulted in a completed interview (i.e., a 39 percent refusal rate among persons contacted). A 20 percent random sample of interviews was validated by supervisors with call-backs. Our sample's demographic distribution (weighted) closely resembled that of the U.S. adult (18+) population: 47 percent male (48 percent in the U.S. population), 84 percent White and 9 percent Black (85 percent and 11 percent, respectively, in the population), and 14 percent aged 18-24 (14 percent), 23 percent aged 25-34 (23 percent), 25 percent aged 35-44 (21 percent), 27 percent aged 45-64 (26 percent), and 12 percent aged 65 and older (17 percent). A fuller description of the methods is in Kleck and Gertz (1995), and a full copy of the questionnaire and the data can be obtained from the senior author.

Following directly after questions about gun ownership, the questions on gun carrying were phrased as follows: "*In the last 12 months*, have you ever

carried a gun away from home, either on your person or in a vehicle, for protection against crime? Do not count carrying for recreation or in connection with duties in law enforcement, work as a security guard, or in the armed forces" (emphases in original survey instrument). Those who replied "yes" were then asked, "Was this carrying done on your person—for example, in a pocket, holster, or bag—or was it only in a motor vehicle?" Those responding "on person" or "both" were then asked, "About how many days in the past 12 months did you carry a gun on your person for protection against crime?" Those responding "in vehicle" or "both" were asked, "About how many days in the past year did you carry a gun in a motor vehicle for protection against crime?" The frequency questions were open-ended—interviewers recorded the number of days Rs reported, from 0 to 365.

Because this was a survey of the general population of adults, it is unlikely to include many Rs who carry guns for criminal purposes. Thus, this study contributes information primarily about the largest, but least studied, segment of the carrying population, largely noncriminal adults. In this way, it adds to, but is distinct from, the substantial body of knowledge concerning carrying among adolescents and criminal adults.

Results—Prevalence and Incidence of Protective Gun Carrying among U.S. Adults

Table 2 presents the data pertaining to the frequency of gun carrying among U.S. adults. There were 1,832 total Rs, and 1,799 who answered the initial question about carrying, of whom 159 (8.8 percent) reported gun carrying and 1,640 did not. Of the 159 carriers, 29 carried on the person but not in a vehicle, 39 carried both ways (for a total of 68 who carried on the person), 80 carried only in a vehicle (for a total of 119 who carried in a vehicle), and 11 carried a gun but would not say whether they carried on their person or in a vehicle (weighted frequencies). The weighted prevalence results indicate that 8.8 percent of U.S. adults carry a gun in some way for protection each year (95 percent confidence interval: 7.5-10.1 percent), 3.8 percent carry on their person (2.9-4.7 percent), 6.6 percent do so in a vehicle (5.5-7.8 percent), and 2.1 percent carry in both ways (these last are a subset of the previous two segments, not an additional segment). Applying these percentages to the estimated 1993 U.S. resident adult (age 18+) population of 190,673,523 (U.S. Bureau of the Census 1995:13) indicates that about 16.8 million adults carried guns for protection that year, 7.1 million adults carried on their person, 12.4 million carried guns in a vehicle, and 4.0 million did both. In comparison, applying the 1993 YRBS estimate of high school–aged gun carrying prevalence (7.9 percent) to the estimated U.S. population aged 13-17 of

TABLE 2: Prevalence and Incidence of Adult Gun Carrying in the United States, 1993—Results from the National Self-Defense Survey

	Type of Carrying			
	On Person	*In Vehicle*	*Both*	*Any*
Prevalence—percentage who carry	3.8	6.6	2.1	8.8[a]
Estimated number of carriers in population	7,054,920	12,393,779	4,004,144	16,779,270
Mean number of days per carrier per year	138.18	145.92		
Annual person-days of carrying	974,848,894	1,808,500,232		
Estimated number carrying on average day	2,670,819	4,954,795		

a. Includes persons who carry but would not say whether it was on the person or in a vehicle.

17,746,048 (pp. 12-13) implies only about 1.4 million adolescent carriers in the past month, only a fraction of whom carry for protection. Even taking account of the difference in recall periods, adults almost certainly account for the vast majority of defensive gun carrying.

As with most surveys, Rs can fail to report events that did occur or report events that occurred prior to the recall period, that is, "telescope" events into the recall period. Based on technical studies of the National Crime Victimization Survey (NCVS), Kleck and Gertz reported that reports of crime victimization experiences could be no more than 21 percent too high due to telescoping. This problem, however, is balanced out by a roughly equal amount of failure to recall events that did occur (1995:171-2). Assuming reports of gun carrying are the same as reporting of crime incidents in this respect, there is no reason to believe that telescoping was common enough to make carry estimates too high.

It is worth stressing that we told Rs not to include carrying done as part of their work duties as police officers, security guards, or in the military. However, even if one speculated that some Rs ignored this instruction and reported such carrying anyway (and we have no reason to believe that any Rs did this), it could inflate our prevalence estimates by no more than a factor of 1.07, in that only 7 percent of the gun carriers ($n = 11$) had such an occupation (Table 3).

The data on frequency of carrying, among those who carry guns, indicate that those who carry on the person do so an average of about 138 days a year,

TABLE 3: Comparison of Gun Carriers with Other People (weighted percentages)

	Sample					
	All Gun Carriers	*Carry on Person*	*Carry in Vehicle*	*Own Gun, No Carry*	*No Carry*	*All Persons*
Personally owns gun	76.1	82.4	79.0	100.0	19.6	24.6
Gun in household	81.1	86.8	84.9	100.0	32.6	36.9
Burglary victim, past year	11.4	7.4	10.2	4.0	4.9	5.5
Robbery victim, past year	5.1	6.5	4.2	1.6	2.3	2.6
Assault victim as adult	31.0	41.2	30.5	31.0	21.5	22.4
Know crime victim?	50.0	54.4	47.5	33.6	28.1	30.1
Nights away from home, monthly average						
0	8.4	7.5	6.8	5.6	8.2	8.2
1-6	27.9	25.4	31.4	24.7	31.5	31.2
7-13	24.7	19.4	27.1	27.5	23.7	23.8
14+	39.0	47.8	34.7	42.2	36.6	36.8
Must depend on self rather than cops	85.4	88.2	84.0	64.7	52.8	55.7
Supports death penalty	82.9	83.8	85.7	82.2	69.3	70.5
Courts not harsh enough	82.8	91.2	84.7	76.4	73.2	74.0
Gender (percentage male)	62.9	70.6	63.9	76.1	44.9	46.7
Age						
18-24	11.3	11.8	10.1	11.8	14.0	13.7
25-34	27.7	25.0	30.3	22.0	22.3	22.8
35-44	27.0	32.4	26.9	23.9	25.1	25.3
45-64	28.3	29.4	26.9	30.1	26.4	26.5
65+	5.7	1.5	5.9	12.1	12.2	11.6
Race						
White	79.9	79.1	83.9	90.6	84.4	84.0
Black	11.9	11.9	9.3	5.0	8.8	9.1
Hispanic	4.4	4.5	4.2	3.8	4.8	4.7
Other	3.8	4.5	2.5	.6	2.1	2.3
Place of residence						
Large city (more than 500,000)	24.7	27.9	22.0	14.0	22.4	22.6
Small city	31.6	29.4	29.7	31.5	29.1	29.4
Suburb of large city	26.6	23.5	30.5	28.7	31.4	31.0
Rural area	17.1	19.1	17.8	25.9	17.1	17.1
Marital status						
Married	65.4	64.2	66.7	67.2	59.3	59.8
Widowed	4.5	3.0	6.8	1.9	6.1	6.0
Divorced/separated	12.1	13.5	10.2	15.8	12.1	12.1
Never married	17.9	19.4	16.2	15.2	22.5	22.1

(continued)

TABLE 3: Continued

	Sample					
	All Gun Carriers	*Carry on Person*	*Carry in Vehicle*	*Own Gun, No Carry*	*No Carry*	*All Persons*
Annual household income						
Less than $15,000	9.1	11.5	8.2	8.1	14.0	13.5
$15,000-29,999	23.1	14.8	22.7	25.7	27.5	27.1
$30,000-44,999	25.2	27.9	27.3	30.6	24.4	24.4
$45,000-59,999	17.5	18.0	19.1	18.0	19.3	19.2
$60,000-79,999	11.9	11.5	11.8	10.9	8.6	8.9
$80,000 or more	13.3	16.4	10.9	6.7	6.2	6.9
Gun-related occupation	7.0	13.2	5.9	4.1	2.8	3.2

or 38 percent of the days, whereas those who carry in vehicles do so about 146 days a year, or 40 percent of the days. The figures imply that each year in the United States, there are about 980 million person-days of carrying on the person and about 1.8 billion person-days of carrying in vehicles. It was impossible to tell from our results how much overlap there was between these two sets of numbers, though there almost certainly were more than a billion person-days of carrying total. Because the annual number of crimes committed by persons with guns is less than 1 million, there are less than a million person-days of carrying linked with gun crimes, implying that less than one in a thousand instances of gun carrying involve a violent crime committed with a gun.

One might speculate that some instances of carrying were done by persons ready and willing to commit crime but that they just did not come across a provocation or suitable opportunity for doing so. Although this is undoubtedly true for some carrying, the only way it could reasonably be thought to characterize much carrying is if one assumed that persons of this sort came across criminal opportunities or provocations, by plan or by chance, less than one in a thousand times. We think the one-in-a-thousand figure is more compatible with the interpretation that most of this carrying is done without any intention of committing a crime or even any inclination to do so.

Note also that it was estimated that there are about 670,000 to 1,570,000 DGUs connected with instances of gun carrying (Kleck and Gertz 1995:174, 184-5). This implies that there are more than a thousand times as many instances of carrying guns outside the home as would be needed to account for all of the DGUs away from the home, thereby strengthening the plausibility of the DGU estimates.

Results—Gun Carriers Compared to Other People

Table 3 shows how persons who carry guns for protection in various ways differ from those who personally own a gun but who do not carry, from all those who do not carry (regardless of gun ownership), and from the adult population as a whole. Three groups of carriers are distinguished: all who carry guns in any way, those who carry on the person (including some who also carry in a vehicle), and those who carry in a vehicle (including some who also carry on the person).

An example will aid in interpretation. The first row of Table 3 shows that 76.1 percent of gun carriers reported personally owning a gun, compared to 24.6 percent of the entire sample. The fact that considerably less than 100 percent of gun carriers personally own a gun shows why the PF survey, which asked the carry question only of Rs reporting personal gun ownership, missed many gun carriers, and it indicates that some carriers apparently carry guns belonging to other people, such as a spouse. The fact that 19 percent of gun carriers claim there was no gun belonging to anyone in their household could indicate either that some were carrying guns belonging to people outside their household (e.g., guns borrowed from a friend or relative) or that some carriers were falsely denying gun ownership. Some may also have understood the gun ownership question as pertaining only to guns kept inside the home and failed to report guns kept in a vehicle or place of business.

Gun carriers were more likely to have been the victim of a burglary, robbery, or assault than noncarriers, though they were the same as noncarrying gun owners with respect to assaults. Those who carried on their person, but not vehicle carriers, spent more nights away from home than noncarriers, and thus were more at risk of crimes committed in public places. Not surprisingly, carriers are more likely to believe they have to depend on themselves for protection rather than on the police, even compared to gun owners who do not carry.

Two measures of punitiveness toward criminals were included: whether Rs supported the death penalty for murderers and whether they thought the courts were not harsh enough toward criminals. Gun owners are more likely to endorse the punitive views, regardless of whether they carry. Carriers are only slightly more likely to support capital punishment than noncarrying gun owners. On the other hand, carriers were more likely to believe that the courts are not harsh enough, compared to noncarrying gun owners. Whether this association reflects a causal effect will have to await results of the multivariate analysis.

Although gun owners in general are overwhelmingly male, this is much less true for those who carry guns, as 37 percent of carriers are women. This means that given personal ownership of a gun, women are more likely to

carry it for protection than are men. This is consistent with an observation of Lizotte and Bordua (1980) that women gun owners are especially likely to own primarily for defensive reasons. It also mirrors, and helps explain, the finding from the present survey that women account for a surprisingly large 46 percent of reported DGUs (Kleck and Gertz 1995:178).

The age distribution of gun carriers resembles that of gun owners and the general population, except that the elderly account for much less than their share of carrying, especially carrying on the person. This may reflect a lower level of activity outside the home.

Blacks are less likely than Whites to own guns, but they claim more than their share of carrying. Thus, given gun ownership, Blacks are more likely to carry a gun. Paralleling the findings for women, this reflects the larger share of Black gun ownership that is due to defensive motives (Lizotte and Bordua 1980).

Unlike the distribution of crime, gun ownership is more common in rural areas and small towns. Carrying of guns, however, is much more common in big cities than one would expect based on gun ownership levels. Compared to noncarrying gun owners, carriers are more likely to live in big cities.

Mirroring the findings from studies of carry permit holders, results indicate carriers are disproportionately likely to be married and to have higher incomes, contrary to what one would expect based on the distribution of crime victimization. This may simply reflect the fact that gun ownership is higher among those better able to afford to buy them, an idea that can be tested in the multivariate analysis by controlling for income.

Finally, although persons with gun-related occupations such as police officer, security guard, or member of the military account for only 7.0 percent of the carriers, and 13.2 percent of those who carry on the person, they are much more likely to carry than either noncarrying gun owners or the general population. Given that Rs were instructed not to report job-related carrying, carrying among these Rs should reflect carrying off the job, but it could also reflect either Rs who carry job-related guns to and from work or Rs simply failing to follow instructions.

Table 4 displays carry prevalence rates in subsets of the U.S. adult population. They are interesting and potentially useful in their own right but nonetheless reflect simple bivariate associations and should not be interpreted as necessarily indicating causal effects. Tentative causal interpretations should await the multivariate analysis. Some of the associations survive multivariate controls, whereas others do not. In particular, many of the patterns in this table are likely to primarily reflect patterns of gun ownership, without necessarily revealing anything useful about gun carrying itself.

Carrying guns for protection is more common among gun owners (though not nonexistent among nonowners); men; Blacks; younger adults; separated

TABLE 4: Carry Prevalence Rates by Population Subgroups

	Percentage Who Carry		
	Any Way	*On Person*	*In Vehicle*
Entire population	8.8	3.7	6.5
Gun in household?			
Yes	19.5	8.8	15.1
No	2.6	.8	1.5
Personally own gun?			
Yes	27.3	12.5	21.0
No	2.8	.9	1.8
Sex			
Male	12.0	5.6	8.9
Female	6.1	2.0	4.4
Race			
Black	11.8	5.0	6.9
White	8.5	3.5	6.5
Hispanic	8.3	3.5	5.8
Other	15.4	7.7	7.3
Age			
18-24	7.4	3.3	4.9
25-34	10.8	4.2	8.8
35-44	9.6	4.8	7.0
45-64	9.5	4.1	6.6
65+	4.3	.5	3.3
Marital status			
Married	9.6	4.0	7.2
Widowed	6.5	1.8	7.3
Divorced	8.0	3.7	4.9
Separated	11.3	5.6	7.4
Never married	7.1	3.3	4.8
Income			
$0-15,000	6.3	3.3	4.3
15,001-30,000	8.0	2.1	6.0
30,001-45,000	9.6	4.5	8.0
45,001-60,000	8.5	3.7	7.1
60,001-80,000	12.5	5.1	9.5
80,000+	18.1	9.4	11.3
Region			
New England	3.2	2.1	.0
Middle Atlantic	5.1	3.2	2.5
East North Central	2.2	1.3	1.6
West North Central	3.0	.7	3.0
South Atlantic	11.9	4.7	8.7
East South Central	14.3	3.6	11.5
West South Central	20.0	7.1	16.2

(continued)

TABLE 4: Continued

	Percentage Who Carry		
	Any Way	*On Person*	*In Vehicle*
Region			
Mountain	17.9	9.4	13.4
Pacific	8.0	3.6	6.4
Size of place			
City of 500,000+	9.7	4.6	6.3
Suburb of large city	7.6	2.8	6.4
Small city	9.5	3.7	6.6
Rural area, place < 10,000	8.8	4.2	6.8
Gun occupation?			
Yes	19.6	15.8	12.3
No	8.5	3.4	6.4
Robbery victim?			
Yes	17.4	6.5	10.9
No	8.6	3.6	6.3
Assault victim?			
Yes	12.2	6.8	8.8
No	7.8	2.8	5.8
Burglary victim?			
Yes	18.4	5.0	12.0
No	8.2	3.6	6.1
Must depend on self?			
Yes	13.5	5.9	9.8
No	2.9	1.8	2.3
Favor death penalty?			
Yes	10.4	4.5	8.0
No	5.1	2.1	3.2
Courts not harsh enough?			
Yes	10.0	4.7	7.5
No	5.9	1.3	3.9

persons; wealthier people; those living in the South and West; people with a job requiring a gun (police, security guards, military); people who have been victims of robbery, assault, or burglary; those who believe they must rely on themselves, rather than the police, for protection; supporters of the death penalty for murder; and those who feel the courts are not harsh enough toward criminals.

Results—Multivariate Analysis of Gun Carrying

A logistic regression analysis was performed to estimate separate causal effects on gun carrying of the attributes discussed in the previous section.

TABLE 5: Variables Used in Logistic Regression Analysis[a]

Variable Name	*Description*[b]	*Mean*	SD
CARRY	Carries gun for protection	1.09	.28
CARYPERS	Carries gun on person	1.04	.19
CARYVEH	Carries gun in vehicle	1.06	.25
MALE	R is male	1.47	.50
BLACK	R is African American	1.09	.29
AGE	Age in years	42.10	15.72
MARRIED	R is presently married	1.60	.49
INCOME	Household income (six-point scale)	3.03	1.41
SOUTH	R lives in South	1.34	.48
WEST	R lives in West	1.21	.40
BIGCITY	R lives in city with more than 500,000 population	1.23	.42
GUNHSLD	R lives in household with gun(s)	1.36	.48
GUNOCC	Employed as police officer, security guard, or in military	1.03	.17
ROBVICT	Victim of robbery in past year	1.03	.16
ASLTVICT	Victim of assault as adult	1.22	.42
BURGVICT	Victim of burglary in past year	1.05	.23
KNOWVICT	R knows victim of serious crime	1.30	.46
CRIMNBHD	R sees crime higher/lower in neighborhood? (five-point scale)	2.18	1.03
CRIMWORK	R sees crime higher/lower in area where R works? (five-point scale)	2.52	1.12
MUSTDEP	R believes must depend on self for protection rather than police	1.56	.50
FAVORDP	R favors death penalty for murder	1.71	.46
CRTSNHE	R feels courts not harsh enough	1.74	.44

a. Descriptive statistics are based on weighted data for all cases with valid data on a given variable.
b. Except where noted, variables were coded 2 for cases with the indicated attribute, 1 for cases without.

Table 5 lists the variables used in the analysis, and Table 6 shows the resulting parameter estimates. Any variables shown in Table 5 but not appearing in Table 6 were found to not be significantly associated at the .20 level with any form of gun carrying, controlling for the other variables in the equations.

It should be stressed that all analyses control for whether there was a gun in the R's household. Failing to do this would result in findings that could reflect patterns of gun ownership rather than carrying. Thus, the findings in Table 6 show how variables are associated with carrying, controlling for gun ownership. All Rs with the requisite data were included in the samples analyzed, regardless of whether they owned guns, because people can carry guns belonging to others.

There were three analyses: one for all forms of gun carrying combined, one for carrying on the person, and one for carrying in a vehicle. Note that some Rs reported carrying a gun but would not say whether they carried it on their person or in a vehicle. These Rs would be coded as carriers on the variable measuring any kind of carrying but would be missing on the two more specific carry measures.

Gun carriers are, other things being equal, more likely to be male, from the South or West, to hold a job requiring a gun, to be Black, or to believe that people must depend on themselves for protection rather than on the police. Whether a belief in self-reliance for protection encourages gun carrying or is a view strengthened by the experience of carrying, or both, is impossible to tell in a one-time survey.

Carriers are not more likely to have been crime victims than noncarriers. The one minor exception is that prior assault victimization shows a near-significant association with carrying guns on the person. These findings also raise the issue of causal order—it is possible that victimization stimulates gun carrying, but that once initiated, the carrying deters further victimization. The result would be that in a cross-sectional survey conducted at a single point in time, the prior victimization experiences of carriers would look much like those of noncarriers. The same issue has been raised in connection with the link between gun ownership and fear and victimization (Kleck 1991:29; Wright et al. 1983:129).

Once other correlated predictors are controlled, the measures of punitiveness do not show consistent significant associations with gun carrying. Persons who carry guns on the person are significantly more likely to believe that the courts are not harsh enough, whereas persons who carry in a vehicle are not. Support for the death penalty is unrelated to carrying on the person (whether or not the courts' harshness measure was included in the model) while showing a near-significant association with carrying in a vehicle. Thus, a view of gun carriers as vengeful vigilantes set on punishing criminals receives weak, mixed support at best.

Finally, controlling for other determinants of carrying, residents of big cities (a half million or more people) are significantly more likely to carry guns on the person. Given that robbery rates of big cities exceed those of smaller places to an especially pronounced degree, even more than with other crime types (U.S. Federal Bureau of Investigation 1995:196-7), this association may reflect higher rates of robbery and other violent crimes committed in public places. The fact that big city residents are more likely to carry on the person but not in vehicles may reflect the greater amount of walking and lower motor vehicle ownership among people living in densely populated areas.

TABLE 6: Multivariate Correlates of Gun Carrying—Logistic Regression Estimates

Dependent Variable:	*Carrying*					
Independent Variable	*Any Way*	*OR* [a]	*On Person*	*OR*	*In Vehicle*	*OR*
GUNHSHLD	1.8976	6.67	2.2147	9.16	2.0227	7.56
	(.227)		(.378)		(.274)	
SOUTH	1.1719	3.23	.5635	1.76	1.6039	4.97
	(.244)		(.337)		(.301)	
WEST	.9757	2.65	.8297	2.29	1.3825	3.98
	(.279)		(.374)		(.336)	
MUSTDEP	1.1775	3.25	1.4167	4.12	.9630	2.62
	(.247)		(.414)		(.269)	
BLACK	.6903	1.99	.6483	1.91		
	(.320)		(.440)			
MALE	.4559	1.58	.6117	1.84	.4556	1.58
	(.193)		(.288)		(.216)	
GUNOCC	.9681	2.63	1.7799	5.93	.6521[b]	1.92
	(.407)		(.466)		(.471)	
KNOWVICT	.6013	1.82	.7056	2.03	.4939	1.64
	(.189)		(.270)		(.209)	
CRIMAREA	.2256	1.25				
	(.087)					
FAVORDP	.3988[b]	1.49			.4527[b]	1.57
	(.251)				(.289)	
CRTSNHE			.9332	2.54		
			(.443)			
BIGCITY			.5718	1.77		
			(.305)			
Constant	−14.7846		−18.1646		−14.5416	
−2 log likelihood	790.873		428.448		660.485	
Model chi-square improvement	252.715		138.829		202.850	
Sample size	1,712		1,726		1,772	

NOTE: Estimates of coefficients, with standard errors in parentheses. Variables appearing in Table 5 but not appearing in this table were found to have no significant association with any form of gun carrying at even the .20 level (one-tailed).
a. OR = Odds ratio. For example, the odds ratio of 6.67 for GUNHSHLD in the Carrying Any Way equation means that persons in a household with a gun are 6.67 times more likely, other things being equal, to carry a gun than persons in a household without a gun.
b = $.05 < p < .20$, one-tailed. All other coefficients: $p < .05$.

As suggested earlier, the higher levels of carrying among higher income persons disappears once gun ownership is controlled, indicating that, whereas having more money increases one's ability to purchase guns, it otherwise has no net effect on gun carrying.

When the 11 gun carriers with gun carrying occupations were removed from the sample and the multivariate estimations were repeated, the results were almost all substantively identical (i.e., no change in the sign of the coefficient or whether it was significant). The only exceptions were in the equation for carrying on the person, where the marginally significant results for courts' harshness and big city residence became definitely nonsignificant (results available from senior author).

Two limitations should be especially salient in interpreting these results. First, given that most gun carrying, especially on the person, is unlicensed and usually illegal, many Rs probably falsely denied carrying. A large body of research on the validity of self-reports in surveys addressing illegal behavior indicates that it is usually underreported, that is, that false negative responses outnumber false positives (see studies reviewed in Kleck and Gertz 1997). Leaving aside one-sided speculation about false positives (e.g., Hemenway 1997), there is no basis for believing that survey reporting of (mostly illegal) gun carrying or defensive use of guns is any different in this respect. Therefore, on the assumption that illegal gun carrying is like other illegal behaviors in this respect, false reports of carrying should be less common than false denials, and the prevalence and incidence estimates should be regarded as conservative.

Second, all patterns observed in any survey reflect both reality and patterns of response bias. We suspect that underreporting of carrying is not random, but rather is likely to be highest among persons who perceive themselves as especially vulnerable to arrest and punishment for unlawful behavior. Thus, underreporting may be most common among lower income persons, members of racial and ethnic minorities, people in areas where carry laws are more aggressively enforced, and perhaps males in general. If this suspicion is correct, it means that carry rates are higher than reported in these groups and patterns of carrying are accordingly distorted to some degree.

CONCLUSION

Carrying guns in public places is common in the United States, is primarily done for protection, and is rarely done for purposes of committing a violent crime. About 17 million U.S. adults report carrying a gun for protection in the past year, carrying firearms on more than a billion different person-days, whereas fewer than a million instances of gun carrying result in the carrier committing a violent crime with the gun. There are about as many defensive uses of guns by crime victims carrying guns as there are violent crimes committed by gun-carrying criminals. Nevertheless, most of the carrying is

probably illegal, done by persons lacking the permit required to carry a concealed weapon.

Controlling for gun ownership, gun carrying for protection is more common among males, Blacks, residents of the South and West regions, and persons who have a gun-related occupation such as police officer or security guard. Carrying on the person is also more common in big cities. There are only weak, inconsistent hints that gun carrying is associated with greater punitiveness toward criminals. Generally, carrying is not associated with prior victimization, though causal order assumptions are clouded by the possibility that past carrying deterred past victimization attempts.

The present survey of the general population reveals at least 17 million adults carrying guns for protection in public, only a small fraction of whom have permits allowing them to do this legally. Almost none of the billion-plus instances of gun carrying are done in connection with committing a violent crime with a gun. This suggests some difficulties in enforcing laws prohibiting unlicensed carrying of guns, in that those violating the laws are almost never carrying the gun on the way to committing a violent crime. Technological developments are making it easier for concealed guns to be detected at a distance (Sherman and Rogan 1994), but these cannot distinguish guns carried for criminal purposes from those carried for genuinely defensive ones. Unless police officers are very good at distinguishing, on the basis of visible cues alone, those suspects who are unlawfully carrying guns for criminal purposes from those who are carrying unlawfully, but solely for purposes of self-protection, this implies that most of those stopped and frisked for weapons will be guilty of a weapons charge, but otherwise innocent of violent intentions. This in turn suggests limits on the value of enforcing carry laws.

Many have advocated increased enforcement of carry laws as a way of reducing violent crime (Blumstein 1995:32-3; Kleck 1991:441-2; Sherman and Rogan 1994; Wilson 1994). One component of such a policy would be seizure of guns carried in the streets, in addition to making arrests for unlawful carrying. Sherman and Rogan (1994) claimed that in a 1992 police experiment, police seizure of just 29 more guns than normal caused a 49 percent drop in gun crimes in a single police beat of Kansas City, allegedly with no displacement to surrounding areas. The results are, however, less impressive than portrayed by the authors, in that the drop of 83 gun crimes in the target area was in fact accompanied by an increase of 52 gun crimes in contiguous beats, with the possibility of other crimes displaced to noncontiguous beats. Furthermore, their detailed trend data suggest that the seemingly impressive drop was little more than a return to the average gun crime level that had prevailed up until about a year before the beginning of the experiment. The year immediately preceding the start of the experiment (June 1991 to June 1992)

had an unusually high gun crime rate, which exaggerated the postexperiment drop. Excluding this anomalous period, the postintervention gun crime level was no lower than the preintervention level. Whether either increased gun seizures or increased carry arrests can actually reduce gun crime therefore remains to be seen.

Although those recommending improved enforcement have addressed the issue of successfully identifying which potential suspects are carrying weapons, they have not taken full account of the sheer volume of carrying that is unlicensed but done for otherwise noncriminal purposes. If a large share of carry arrests are of generally noncriminal, albeit unlicensed, gun carriers, this is a serious cost that may deter some police departments from pursuing an increased enforcement policy as aggressively as advocates might like. Some hints of what may happen are provided by research on a 1976 Massachusetts law that established a mandatory penalty for unlicensed carrying. Interviews with Boston police officers indicated that 89 percent of them became more selective about whom to frisk for weapons because they did not want to risk having to arrest "otherwise innocent" persons (Carlson 1982:6). At a minimum, this suggests an awareness by police officers that many of those they might arrest for unlawful carrying are otherwise not serious public threats. Nevertheless, even after Boston police became more selective about searches, 33 percent of those charged with carry violations had no prior court record (Beha 1977:133).

One way out of this dilemma is to sharpen the distinction between carriers the police would want to arrest, because they represent a significant threat to public safety, and those they would not want to arrest, by increasing the share of noncriminal carriers that have carry permits. Violence among carry permit holders appears to be extremely low. Nine years after Florida made permits easily available to noncriminal adult residents, after 239,666 persons had been issued permits (excluding renewals), a total of 72 had had their permits revoked for convictions for crimes in which a firearm was used, or about 1 in 3,329 persons ever issued a permit. This was about eight gun crime revocations per year, that is, 1 in 24,294 of the permits valid as of October 31, 1996 (Florida Department of State 1996), or about 4.12 per 100,000.

Likewise, expanding noncriminal access to carry permits is not generally followed by violence increases. Based on a sophisticated multivariate pooled cross-sections time series analysis of virtually all U.S. counties, Lott and Mustard (1997) found that state laws loosening access to carry permits for adult residents without a criminal record were generally followed by *decreases* in violence, including gun violence. These laws did not necessarily increase the total number of carriers but may instead have allowed more noncriminal carriers to legitimate their carrying. The higher the share of

noncriminal carriers who have licenses to carry, the less cost there will be to increased enforcement of laws forbidding unlicensed carrying and the more enforcement of carry laws can be concentrated on persons likely to use guns to commit violent crimes.

NOTES

1. The single survey supposedly indicating few defensive uses of guns (DGU) is the National Crime Victimization Survey (NCVS), which does not, however, directly ask about DGUs. For a detailed explanation of why the NCVS estimate is grossly inaccurate, see Kleck and Gertz (1995):

> One assertion made in defense of the NCVS estimates is that they are based on enormous sample sizes. Larger samples have no implications with respect to whether a prevalence estimate will be larger or smaller, but rather is relevant only to the precision of the estimate. For example, Kleck's (1988) analysis of the 1979-1985 NCVSs was based on interviews in about 400,000 households with about 700,000 persons, while the cumulative sample size of the 15 gun use surveys on which Kleck and Gertz based their DGU estimates is slightly more than 20,000. If one estimates the frequency of a behavior with a 1.3% annual prevalence (as was estimated for DGUs) using a sample of 700,000 cases, the 95% confidence interval estimate, assuming simple random sampling, would be 1.3% ± 0.03%. However, with a sample of 20,000 cases, it is 1.3% ± 0.16%. In short, the gain in estimation precision from increasing sample size from 20,000 to 700,000 is negligible, especially in comparison with nonsampling errors. (Pp. 153-7)

2. There has been virtually no empirically based challenge to the claim that DGUs are common. Challenges instead have consisted almost entirely of one-sided speculations about possible sources of overestimation (e.g., Cook and Ludwig 1996; Cook, Ludwig, and Hemenway 1997; Hemenway 1997). A detailed rebuttal of these critiques may be found in Kleck and Gertz (1997).

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