FINAL REPORT

Gun Ownership and Use
By Chicago Adult Male Arrestees

Treatment Alternatives for Safe Communities, Inc.

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Introduction

Despite the popular belief that America is one of the most crime-ridden nations in the world, data show that property crime rates in the United States are comparable to those found in other developed countries (Donziger, 1996). Crime in general, and violent crime in particular, has been declining over the past few years in America (Federal Bureau of Investigation, 1997). The United States distinguishes itself from other industrialized countries, however, with its prodigious rates of life-threatening violence and murder. Hence, it is not necessarily the amount of crime, but its lethal nature that sets America apart from the rest of the industrial world (Moran, 1997).

Violence is an expected, pervasive, and central feature in the lives of many urban residents in this country (National Research Council, 1993). The United States has a murder rate four to eighteen times greater and a significantly higher rate of crimes involving firearms than in other developed countries (Zimring & Hawkins, 1997). For example, a recent Centers for Disease Control (1997) study found that the average firearm homicide rate for American children is sixteen times higher than it is for children living in the twenty-five other countries included in the study. Zimring and Hawkins (1997) have argued that the country's excessive rates of death and serious injury are not a product of having more crime or more criminals. These authors believe that we need to make a distinction between violence and crime and recognize that a great deal of America's high rate of lethal violence is not the byproduct of crime per se. Instead, as quoted in a very recent article in the NY Times, Zimring attributes the high levels of lethal violence in this country to three factors that are often inter-related: "… a highly violent illegal drug trade, large numbers of handguns, and a tradition of male honor that includes 'a willingness to use extreme violence' to settle problems" (Butterfield, 1997). If one can make the argument that the willingness to use extreme violence to settle problems is often dramatically epitomized in the rules of conduct used by street gangs (e.g., in retributive drive-by shootings or to enforce territorial boundaries) then one can extend Zimring and Hawkin's position further to argue that a good portion of lethal violence in America is attributable to guns, drug sales, and gangs.

Guns, Drug Sales, and Gangs

There is no escaping the fact that gun availability plays a major role in the county's elevated homicide rates. According to Cook and Moore (1995), "Guns [in America] are the immediate cause of almost 40,000 deaths a year and are used to threaten or injure victims in hundreds of thousands of robberies and assaults" (p. 267). In the words of Cook (1983), "Since gun attacks are intrinsically more deadly than attacks with other weapons, gun availability is directly related to the homicide rate" (p. 84). Though they have legitimate uses for activities such as hunting and for self-protection, guns, especially handguns, are very often associated with criminal activity and with the lethal violence among juveniles in particular.

A recent study by Decker, Pennell, and Caldwell (1997) found that handgun ownership is very prevalent among persons who have been arrested. Using the Drug Use Forecasting (DUF) Program as a research platform, they interviewed more than 7,000 arrestees in eleven cites, including Atlanta, Los Angeles, Miami, and St. Louis, asking a series of questions related to gun possession and use. Their study, referred to as the gun addendum study and funded by the National Institute of Justice (NIJ) reported that among arrestees, handgun possession and use is common and "accepted as the norm" (p. 1). For example, in the overall sample, 14 percent of the respondents reported that they carried guns all or most of the time. Decker et al. also found that for most arrestees guns are easy to procure either through illegal purchases or thefts. Arrestees were likely to carry guns to protect themselves in their neighborhoods and, to a lessor extent, earn the respect of their peers. Gun ownership, theft, and use were unrelated to drug *use* (i.e., respondents who used drugs were no more likely than those in the overall sample to own or use guns) but were strongly associated with age, gang membership, and drug *sales*. Among juvenile males and avowed gang members, the percentage saying they carried guns all or most of the time rose from 14 percent to 20 percent and 31 percent, respectively. In addition, juvenile males, gang members, and drug sellers were more likely to report that they had stolen a gun and that they had used a gun when committing crimes. They were also more likely to agree with the statement that "It's OK to shoot someone who disrespected you."

Consistent with Decker et al.'s findings regarding the likelihood of gun ownership among youth, data on juvenile arrests indicate that juvenile crime has become more serious. Between 1980 and 1990, the percentage of all homicide arrests involving juveniles rose from 10 percent to 14 percent. And between 1984 and 1992, the number of persons under the age of fifteen arrested for homicides increased 50 percent, and the rate for those sixteen to twenty-years-old more than doubled (Krauss, 1994). Between 1985 and 1992, the homicide rate among eighteen-year-olds doubled and the rate for sixteen-year-olds increased 138% (National Institute of Justice, 1995). According to Greenwood (1995), recent trends in juvenile violent crime can be explained by "increasing involvement in street-level drug selling; the increased availability and lethality of firearms; and the glorification of violence in the movies, videos, and rap music" (Greenwood, 1995, p. 97); a close restatement of Zimring and Hawkin's explanatory model.

Although there has been some evidence linking drug use to weapons carrying and violence, the most consistent findings have been that drug sales is more closely associated with these two factors in general and with lethal violence in particular. The findings of Decker et al. (1997) described above are one example. Another example is a study by Altschuler and Brounstein (1991) who found that levels of violent crime, weapons carrying, and weapons use were significantly higher among drug sellers in their sample when compared with drug users. Additional studies have similarly implicated drug sales as leading to an increased likelihood of owning and carrying a firearm and to the commission of violent crimes (Callahan & Rivara, 1992; Callahan, Rivera, & Farrow, 1993; Lizotte & Tesorerio, 1991).

Other studies, though, have found an association between drug use and weapons carrying (Black & Ricardo, 1994; Buss, Abdu & Walker, 1995). Black and Ricardo studied a cohort of low-income, African-American drug-abusing boys ages nine through fifteen. They found that high-risk behaviors co-occurred: boys involved with drugs as either sellers or users were significantly more likely than those who were not to smoke cigarettes, to drink alcohol, to carry a weapon, to engage in sexual intercourse, and to fail in school. Conversely, boys who carried weapons were more likely to report their own future plans to use and sell drugs. Buss et al. (1995) found that drug users were more likely to have used a

weapon to attack another person and to have received a penetrating wound themselves. And finally, results from a longitudinal study led Huizinga et al. (1995) to the general conclusion that drug involvement leads youth to possess, carry, and use weapons.

The seeming discrepancy between studies that find a relationship between drug use, gun ownership and violence on the one side, and other studies that find no such relationship or only a weak relationship on the other, may be explained by the findings of a study conducted by Sheley (1994). He found that youth who used drugs heavily and who sold drugs (but did not use them) were more likely to possess and carry firearms when compared with non-heavy drug users and non-dealers. Thus, the key factor could be the intensity of drug use. Heavy users of illegal drugs (i.e., those involved in using drugs like heroin and cocaine on a daily basis or near daily basis) may be more likely to be involved in gun-related violent crime than those who use drugs less frequently. This is precisely what Speckart and Anglin (1986) found in an earlier study of heroin addicts. During periods of more intense drug use, the cohort of heroin addicts followed by these authors were more likely to commit violent crimes such as robbery because of the potential for raising larger sums of money more quickly than non-violent crimes such as burglary or larceny.[1]

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[1] There is a large literature discussing the relationship between the physiological effects of drug use and violence, the summary of which is beyond the scope of this paper. Fagan (1990) has written a recent article that provides an excellent overview of the literature on intoxication and aggression. Briefly, the general finding is that among all drugs, alcohol use has the strongest relationship with the commission of violent acts by virtue of alcohol's psychophysiological effects. However, even the effects of alcohol appear to be mediated through learned behaviors and cultural expectations. It is clear that many violent acts carried out with guns, including homicides and suicides, may be attributed directly or indirectly to the use of alcohol. The psychophysiological effects of drug use are to be distinguished from the instrumental and psychological motivations underlying the need of some drug users to acquire money to obtain drugs that may in turn lead them to use violent methods such as robbery. Excepting possibly amphetamines and barbiturates, there does not appear to be a direct psychophysiological relationship between violence and the use of other drugs such as marijuana, cocaine and heroin. In fact, the use of these substances, especially heroin and marijuana, correlates with a *reduced* likelihood of violence (see Swartz, 1990).

High rates of gun carrying, drug use, and violence among drug sellers are indicative of what Goldstein (1985) calls the systemic violence inherent in the drug trade. The gun use that accompanies drug sales and possession was first recognized as a major problem in 1985 when crack cocaine became widespread in major metropolitan areas such as New York City and Washington, D.C. The struggle to gain control over the initially unstable and highly lucrative crack cocaine market was led by well-armed and ruthless drug dealers (McBride & Swartz, 1990), engaging in systemic violence, the causes of which are aptly described by Robertson and Waters (1994):

> The drug business has territorial disputes, disputes over who's in charge, and disputes over who works for whom. Informers are punished, bad drugs are sold, customers are "ripped off" and others do not pay debts. Dealers are afraid that if they do not act, they will be acted upon. In the "streets," as the way of life is often called, all of these reasons can lead to violence or murder. (p. 175)

During the late-1980s, the media was abound with reports attributing the increase in urban violence to drug-dealing gangs operating in inner city communities. For example, a Los Angeles Times story noted that "almost all" of the gang-related homicides in the city involved disputes over drug territory or sales (Washington, 1988).

Research, however, is less clear on the relationships among drug selling, gang membership, and violence (Spergel, 1995). For example, Fagan (1989) found that drug use and sales were unrelated to whether gangs in Chicago, Los Angeles, or San Diego engaged in violent activities. Recognizing that violent incidents do occur because of conflicts over drug dealing, in his view, most gang violence stemmed from more traditional causes such as status and territory than it did from drug sales. Similarly, Klein, Maxson, and Cunningham (1988) reported that the proliferation of drug homicides that occurred in Los Angeles in the late 1980s was more nongang-related than gang-related. As quoted in Spergel (1995), Klein et al. (1988) concluded that drug-connected homicides among gang members "[are] more limited than public reports would suggest . . . [drugs are] not often not a motive of gang homicide" (pp. 645-646).

Blumstein (1994) posits a framework to further explicate the relationships among youth violence, guns, and illicit drug markets that goes beyond the internecine wars of drug-

selling gangs. In his model, the precipitous rise in drug arrests for African Americans, which began in 1985, coincided with changes in drug enforcement polices and the advent of crack cocaine sales. To meet the demands of expanding inner-city drug markets and to replace adult drug dealers who were going to prison in unprecedented numbers, unemployed youths were recruited as drug sellers. These dealers armed themselves for protection, status, and power. Blumstein (1994) maintains that the close social networks of juveniles in schools and in neighborhoods diffused guns throughout the community and put firearms into the hands of youths outside the drug trade. Thus, in Blumstein's model, the violence and the pervasive use of guns to retain territories and enforce market share that started within the illegal crack-cocaine trade operated predominantly by gangs, diffused outward to the larger community creating an endemic culture of violence with its own ethos.

Violent Crime in Chicago

To date, there have been relatively few if any studies or statistics on gun availability in Chicago; hence, the need for the current study. However, there have been studies of and figures on violent crimes in Chicago, many of which have been gun-related. In this section, as context for the present study, we discuss the levels of violent crime in Chicago with an emphasis on those deemed to be gun-related.

In Chicago, as in many other major American cities, economic disparities, gangs, and a flourishing illegal drug trade have all contributed over much of the past decade to elevated levels of violent crime, including gun-related homicides. Chicago's violent crime rate of more than 2,000 per 100,000 residents in every year between 1984 and 1995, is the highest in Illinois. Reported violent crime in the city, which increased steadily from 1985 to 1991 and has declined each year since then, constituted more than sixty percent of the violent crime in the state in 1995 (Illinois Criminal Justice Information Authority, 1997). In 1992, for example, more than 70 percent of Illinois's homicides and more than 80 percent of its reported robberies occurred in Chicago. Therefore, violence offense patterns in Chicago largely determine violent crime trends across the state (Lurigio, 1995).

By far, Chicago has led the state in homicides. From 1969 through 1994, the city averaged 803 murders a year. The numbers of homicides in 1991 (927), 1992 (941), and

1994 (930) were among the four highest ever recorded in the city (Lurigio, 1995). The homicide rate in 1992 of 33 per 100,000 residents was the highest in Chicago's history (Lurigio, 1995). A thirty-year analysis of Chicago homicides, from 1965 to 1995, demonstrated that growth in the numbers of murders committed in the city corresponds to an increase in the number of gun-related homicides, which, by 1995, accounted for 73 percent of all Chicago's murders compared with only 54 percent of the city's murders in 1987 (Illinois Criminal Justice Information Authority, 1997).

Paralleling national crime trends, teens and young adults are increasingly becoming the victims of homicide in Chicago. In 1994, for example, the percentage of murder victims between the ages of eleven and twenty (30 percent) was twice the percentage it was in 1974 (16 percent) (Lurigio, 1995). Over the past thirty years, the risk of homicide in the city rose most dramatically for persons between the ages of fifteen and twenty-four--the only age group that experienced an increase in the risk of murder during the early 1990s (Illinois Criminal Justice Information Authority, 1997).

Among the communities that comprise the city are enclaves of disaffected and impoverished individuals who, owing to complex social and historical factors, have relatively little opportunity for economic advancement. For many (though not most) in these communities, selling drugs and belonging to a gang represents their most expedient means of obtaining money and having a group of supportive peers and close friendships. Interviews conducted by TASC researchers, with both male and female Chicago gang members, found that entire families belong to the same gang, completely structuring their work and personal lives around gang activities (Chang, 1994).

Chicago has had a longstanding problem with gangs. In recent years, gangs in Chicago and throughout Illinois have been committing more violent and drug-related crimes (Block, Christakos, Jacob, & Przybylski 1996). Last year, the Chicago Police Department estimated that there were 132 street gangs in Chicago (Block et al., 1996). Between 1987 and 1994, police data indicated that more than 63,000 street gang-related Crimes were committed in Chicago (Block et al., 1996). During this same time period, the number of gang-related homicides increased fivefold (Block & Christakos, 1995). By

far, firearms have been the most common weapon used in Chicago's gang-related violent crimes and homicides. According to Block et al. (1996), from 1987 to 1994, firearms were employed in 96 percent of street gang homicides, 51 percent of aggravated batteries, and 24 percent of robberies (p.16). Gang activities in Chicago tend to be specialized, with African American gangs engaging in more entrepreneurial activities (i.e., drug sales) and Latino gangs engaging in more turf-related violent activities (Block & Block, 1993). The most volatile situations occur when two gangs "are involved in escalating battles over street boundaries or over drug territory. In Chicago, the fiercest battles over turf are more likely to involve smaller Latino or Non-Latino White gangs protecting a narrowly circumscribed territory. Among Chicago's African American gangs, violence is discouraged because it interferes with business. However, when it does occur, violence is committed in the context of a struggle for or drug markets, such as the one that took place after the introduction of crack into the city in the late 1980s and early 1990s. The two types of gang-related violence are concentrated in certain neighborhoods or "hot spots", found mostly in Chicago's West and South Side communities (Block & Block, 1993).

From 1965 to 1995, 9 percent of the homicides in Chicago were classified as street gang-motivated. In 1994, street gang-motivated homicide reached a peak, climbing to 26 percent of all homicides and becoming the most common type of homicide in the city. The vast majority of street gang-motivated murders in 1994 (97 percent) involved firearms. From 1987 to 1994, the number of street gang-motivated homicides committed with semiautomatic weapons grew tremendously (from 11 to 150), compared with moderate increases in the use of non-automatic handguns (from 22 to 52) and undetermined types of firearms (from 13 to 24) (Illinois Criminal Justice Information Authority, 1997).

Illegal drug use and its supporting drug trade is relatively common and problematic in Chicago as well. Since the monitoring of illegal drug use by arrestees through the DUF study was begun in 1987, Chicago has had one of the highest rates of illegal drug use among those cities monitored. In a typical collection quarter, between 70 percent and 80 percent of Chicago arrestees test positive for some illicit drug, most often, cocaine. Chicago has also historically had one of the highest rates of heroin use in the country, possibly because it is a transshipment point for heroin distribution throughout the midsection of the country.

Though the DUF data and other indicators showed that Chicago lagged behind the coastal cities in the onset of the crack-cocaine epidemic, crack-cocaine use is now relatively common among those who use cocaine. Smoking crack cocaine remains the preferred administration route among those interviewed as part of the DUF study.

During the past 30 years, only 2 percent of Chicago's gang-related homicides involved a drug motive. Although the numbers of gang murders tied to drugs has grown larger in each decade since the mid-1960s, they are greatly eclipsed by the numbers of nongang drug homicides. Nongang-related drug homicides rose to peaks of 116 in 1989, 128 in 1992, and 117 in 1994 compared with gang-related drug homicides of 2, 2, and 6 in each of those respective years.

Purposes of the Current Study

The information generated by the NIJ gun addendum study, conducted by Decker, et al. (1997), was useful in providing an initial prevalence estimate of the use and possession of illegal firearms by arrestees in selected cities. As we have also discussed, their study confirmed the relationships between gun use, and drug sales. Until the third quarter of 1996, however, similar data were not collected at the Chicago DUF site because the city had been participating instead in NIJ's Drug Trafficking and Distribution Initiative. Thus, the pilot study reported on by Decker et al. (1997) did not include DUF data from Chicago arrestees. Therefore, we wanted to know if the findings reported in that study were similar for Chicago.

The current research is designed to analyze the first three quarters of Chicago's DUF firearms data, comprising the last two quarters of 1996 and the first quarter of 1997. It examines the percentages of Chicago adult male arrestees reporting ownership and use of firearms; the types of firearms possessed; whether firearms were used during the commission of current offenses; and the relationships between gun ownership and drug use, arrest charge, and gang membership. Between 80 percent and 90 percent of the DUF cases in Chicago provide geographically valid addresses that can be geo-coded and

mapped. Hence, the current research also analyzes DUF gun addendum results geographically to demonstrate in which of Chicago's 77 community areas the perceived availability of guns is highest. Finally, the present research compares Chicago's gun addendum data with the data gathered from the other 23 DUF sites participating in the national DUF gun addendum study.

Methods

Subjects

Data for this study were collected from the 630 adult male arrestees interviewed in Chicago during the three collection quarters between August of 1996 and March of 1997. These data were collected as part of the national Drug Use Forecasting (DUF) Study. DUF is funded by the National Institute of Justice (NIJ) and is presently conducted in 22 major cities across the country. Each of the 24 sites participating in the DUF project collect quarterly data on approximately 225 male arrestees. At most sites, data are also collected on smaller samples of female arrestees and at 11 sites, on juvenile detainees.[2]

The DUF study protocol and subject selection criteria have been described in detail elsewhere (National Consortium of TASC Programs, 1989). Briefly, the DUF study surveys arrestees for recent and past drug use through the administration of a self-report questionnaire and urine testing. In addition to drug use data, the self-reported information includes demographics, arrest charges, drug and alcohol use and treatment history, perceived need for treatment, and HIV risk behaviors such as injection practices and number of sexual partners. The urine test battery screens for the presence of 10 drugs:

[2] NIJ plans to greatly expand and modify DUF over the coming year to include over 70 sites. The additional sites will consist of the next tier of cities population-wise. In addition to the expansion of the study, there will be changes in the sampling protocol and study instrumentation. The expanded and modified study will be called the Arrestee Drug Abuse Monitoring study (ADAM).

opiates, cocaine, marijuana, barbiturates, PCP, amphetamines, benzodiazepines (i.e., Valium), methaqualone, propoxyphene (i.e., Darvon), and methadone.[3]

In Chicago, the DUF study has been administered since its inception in 1987 by Illinois TASC. Each quarter, TASC research staff collect data from adult male arrestees brought to the holding cells of the Cook County Jail to be processed for a Night Bond Court hearing. Typically, these arrestees are transported to the jail from each of the 25 police district offices across the city. There have been no studies of the comparability of those arrestees who have a night bond court hearing with those whose bond hearings occur during the day. Moreover, arrestees requiring a bond hearing do not include those charged with less serious offenses and less extensive criminal histories who consequently are released on their own recognizance at the police station. Thus, we do not know the representativeness of the DUF sample for all Chicago arrestees per se, though it is likely to be biased towards including more serious and chronic offenders. Prior studies in other cities comparing estimates of drug use derived from DUF samples with estimates derived from the total population of offenders, however, have found the two sets of estimates to be very close (cf. Chaiken & Chaiken, 1993).

In addition to data on Chicago adult male arrestees, this study also used a data set consisting of DUF Gun Addendum data collected in 1996 from adult male arrestees at 22 DUF sites. [4] This data set contains information on a total of 15,285 adult male arrestees, including 484 Chicago cases.[5] The Chicago cases in the national data set represent the

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[3] The majority of participating sites send their urine samples to a central laboratory for testing where a complete battery of the 10 tests is done. In addition, the testing procedures employed by the national laboratory can distinguish between different types of amphetamines including: methamphetamine, ephedrine, pseudoephedrine, phenylpropanolamine, and over-the-counter amphetamines. Thus, technically speaking, arrestee urines are tested for 16 drugs.

[4] Data from San Diego and New Orleans were not included in the national data set provided for this study.

[5] The total of 15,285 national cases may contain some duplicates. However, there is presently no method for determining duplicate cases in the DUF data set. Based on our own observations of the collection of data in Chicago, we estimate that the proportion of duplicates in the data set is small, representing less than 5% of all cases.

third and fourth collection quarters in 1996 when the collection of DUF Gun Addendum information was begun.[6] These cases overlap with the main data set used in this study, which adds information from the first collection quarter of 1997. Since the main purpose of the national data set was to compare Chicago with other American cities, the comparative analyses were restricted to using only the Chicago DUF Gun Addendum data collected over the same time period as in the other cities. Thus, the comparisons between Chicago and other cities used only the Chicago Gun Addendum data collected in the last two quarters of 1996. The national DUF data set made available for this study contained only DUF Gun Addendum information and did not include demographic, drug use, or arrest information (see below). To an appreciable extent, this limited the number of comparisons that could be made.

Instruments

The data on gun ownership, use and acquisition were collected using the DUF Gun Addendum Form developed by NIJ. The DUF Gun Addendum was first tested by NIJ in 1995 in a pilot study involving 11 DUF sites (Decker et al., 1997). Subsequent to the pilot study, NIJ broadened administration of the DUF Gun Addendum, phasing it in at the rest of the DUF sites in 1996. A copy of the DUF Gun Addendum is included in the Appendix to this report. The form includes questions covering the following specific areas: 1) lifetime and past 30 days victimization through being threatened or injured by guns or other weapons; 2) attitudes towards gun use and ease of attainment within the subject's neighborhood; 3) gun ownership including the type of guns owned, where obtained, and the method of attainment; 4) whether a subject was armed at or near the

[6] There is some discrepancy between the number of Chicago cases represented in the national data set for the third and fourth quarters (484) and the number of cases in the local data set 443. This is because the national data set includes the Gun Addendum information from those subjects who did not provide urine samples for testing. In the local sample, we only included Gun Addendum data from those subjects from whom we had complete information. It does not appear that inclusion of these additional cases would have significantly affected the results or conclusions drawn from the analyses of the local data. For instance, based on the 484 Chicago cases over two collection quarters in the national data set, 20% of the subjects said they had ever owned a gun. In comparison, 18.3% of the 630 cases over the three collection quarters in the local Chicago data set said they had been gun owners.

time of their current arrest and with what type of gun; 5) whether they used a gun during the commission of the crime for which they were arrested; and 6) whether or not a subject is currently or has ever been a member of a gang, and/or has ever bought or sold illicit drugs.

In addition to the DUF Gun Addendum data, the analyses presented in this report used information from three additional sources. The standard DUF questionnaire provided basic demographic data such as race/ethnicity, age, and self-reported drug use. A copy of the DUF questionnaire also appears in the Appendix. The Chicago police arrest reports (i.e., the "Golden Rods, so named because forms are bright yellow in color) that accompany each arrestee when they are transported to the jail provided information about the arrest location as well as the arrest charge. Finally, information on current drug use was obtained from the urinalysis results.

Procedure

Research staff collect DUF data quarterly on consecutive evenings over a two week period. Following admission to the jail and security clearance, research staff review and record the arrest charge and location from the arrest history forms. From this initial pool of all arrestees, staff recruit subjects who meet the following criteria: 1) their most serious arrest charge was a felony offense; and 2) they had not been detained for more than 48 hours from the time of arrest — to insure valid drug-testing results. Additionally, per national DUF protocol, no more than 20% of the final sample could have a most serious arrest charge that was drug-related (i.e., drug possession or drug manufacturing, sale or delivery.) All eligible subjects are told that their participation in the study is voluntary and that the data collected will be confidential and anonymous. Interviewers then administer the DUF questionnaire followed by the DUF Gun Addendum to all subjects who agree to participate. Following the interview, subjects are then asked to provide urine specimens. A small proportion of subjects who consent to the interview decline to provide a urine specimen. For the three quarters that the data for this study were collected, 733 subjects met the inclusion criteria and were asked to participate in the study. Of these, 712 subjects (98%) agreed to be interviewed. Of these, 661 (90% of the total eligible) also provided urine specimens. Because of an administrative error, staff did

not collect Gun Addendum information from 31 of these subjects and their data were discarded for the purpose of this study. This yielded a final data set of 630 subjects with complete information representing 85% of all eligible subjects. Of these, 236 (37%) were interviewed in August-September 1996, 207 (33%) in November-December 1996, and 187 (30%) in March 1997.

All interview data were first checked for consistency and completeness by TASC research staff and then by staff at Aspen Systems, a consulting group providing technical administration of the DUF study. Where possible, the interview data were corrected and invalid data are flagged as missing or incomplete. The proportion of invalid data is typically less than 1% of all the data collected. The interview data were then entered by Aspen staff where they were merged with the urinalysis information into an SPSS (SPSS, Inc. 1997) system file. Each quarterly data set was then placed on an electronic bulletin board for downloading. At TASC, the three quarterly data sets were downloaded and merged into a single SPSS system file for the analyses.

The national data set for this study was obtained from Aspen Systems, the NIJ consultant on the DUF project. These data were mailed via diskette and were also in the format of an SPSS system file. As noted, only the Gun Addendum information was available for these subjects.

All statistical analyses were performed using SPSS for Windows version 7.5. The geographical analyses were done with MapInfo Professional for Windows, version 4.1.

Results

Sample Description

Demographics. Demographic information on the Chicago DUF arrestee sample are shown in Table 1. The average Chicago DUF subject is a 28 year old, single,

Table 1. Chicago DUF Sample Demographics

	(n = 630)
Race	
African-American	70.2 %
White	10.0
Hispanic	18.9
American Indian	0.0
Asian	0.2
Other	0.2
Age	
15 - 20	27.0
21 - 25	21.4
26 - 30	16.2
31 - 35	13.8
36+	21.1
Mean Age (Years)	28.7
Median Age (Years)	26.0
Marital Status	
Single, Never Married	54.9
Married	13.2
Separated, Divorced	7.8
Living Common Law	24.1
Living Arrangement – Past Month	
Public Housing	6.7
Private Apartment	57.1
House	32.2
Shelter	1.4
Jail/Prison	0.2
On the Street	1.9
Other	0.3
Main Income Source	
Full Time	33.8
Part Time	21.0
Working Odd Jobs	16.0
Unemployed	3.8
Welfare, SSI	12.4
Dealing/Drug Sales	4.8
Other Illegal	1.9
No Income	6.2
Other	2.4
Education	
Less than High School	7.9
Some High School	31.7
High School Graduate/GED	47.5
Some College	0.3
Still in School	7.3

African-American male. About half of the DUF subjects indicated they were employed on either a full-time or a part-time basis. About 40% of the subjects said they did not have either a high school degree or a GED. Most subjects reported that they had lived in either a house or private apartment in the preceding month.

The DUF questionnaire includes a series of questions on monthly income from both legal and illegal sources, as well as a question on the amount spent on drugs in the preceding 30 days. For the Chicago sample of adult male arrestees, the average reported monthly legal income was about $710.00. The distribution of incomes, though, was highly skewed. Thus, the median monthly legal income was only $456.00. A small percentage of the subjects (14%) also reported having an illegal income which, for the entire sample, averaged $220.00. The questionnaire, unfortunately, does not include a question on the source or sources of the illegal income. Over half of the subjects, 58%, said that they had spent money purchasing drugs in the past month with the mean expenditure being about $195.00. If the analysis of money spent on drugs in the past month is restricted to those subjects reporting such expenditures, however, the mean amount spent increases to $338.00. Therefore, many of these subjects appear to be spending a considerable portion of their rather limited financial resources on obtaining drugs.

Arrest Information. The Chicago sample arrest data are shown in Table 2. Almost all of the top arrest charges (99%) represented by the study sample were for felony offenses. The most common top charge at arrest was drug possession (25.4%)[7] followed by larceny/theft (25%), assault (13.7%), and weapons offenses, primarily for unlawful possession (12.9%). The data in Table 2 are further aggregated by general arrest charge category into violent offenses, income-generating crimes, drug-related offenses, and other

[7] The ceiling of 20% cases imposed by NIJ is a goal. In Chicago, because of the high number of drug-related arrests, representing approximately 40% to 50% of the arrestees brought to Night Bond Court, it is sometimes difficult to meet this requirement for any given sampling period. Hence, the Chicago sample sometimes includes a higher proportion of drug-related arrests than the 20% ceiling because of the difficulty in obtaining a sample quota of 225 cases in 14 days while simultaneously restricting the number of drug-related arrests.

Table 2. Chicago DUF Sample
Most Serious Arrest Charge

	(n = 630)
Most Serious Arrest Charge	
Assault	13.7 %
Kidnapping	0.2
Homicide	0.8
Violent Crimes Subtotals	**14.6**
Burglary	7.5
Fraud	0.2
Larceny/Theft	24.9
Robbery	5.9
Stolen Property	0.3
Stolen Vehicle	5.9
Income Generating Crime Subtotals	**44.6**
Drug Possession	25.4
Drug Sale	0.2
Drug Crime Subtotals	**25.6**
Bribery	0.2
Damage/Destroy Property	0.2
Flight/Escape/Warrant	0.2
Obstructing Justice	0.2
Probation/Parole	0.0
Public Disturbance/Trespassing	0.6
Weapons	12.9
Other	0.8
Other Crimes Subtotals	**14.9**
Arrested on warrant only	1.6
Offense Class	
Misdemeanor	0.3
Felony	99.0

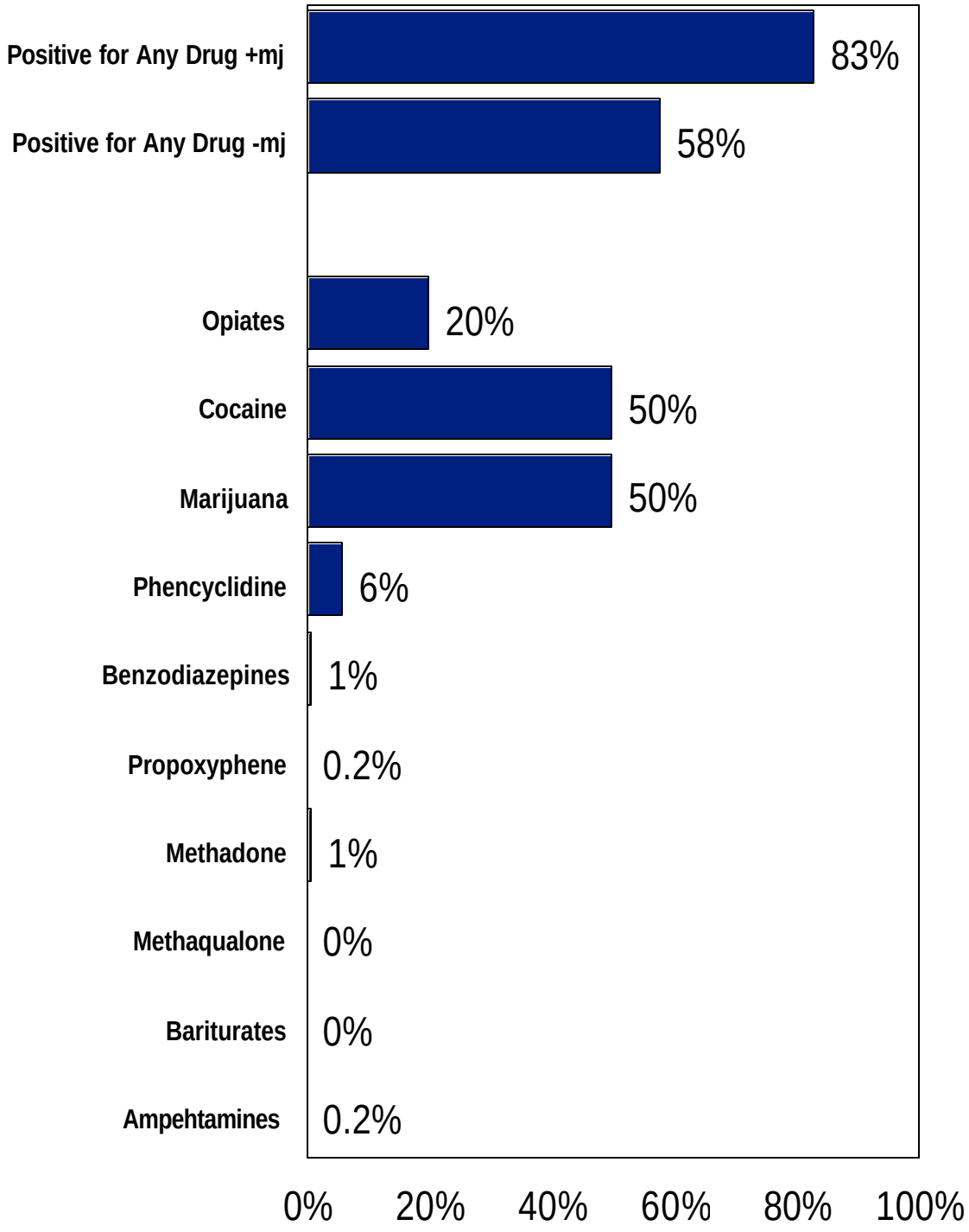
crimes. The majority of crimes committed fell into the income-generating crimes category (38.7%), followed by violent offenses (33.3%), and by drug-related offenses (25.6%). It should be noted, however, that the ceiling on drug-related offenses imposed by the national DUF protocol on subject selection greatly reduces the proportion of drug-related cases. It is likely that if this ceiling were not imposed, drug-related cases could easily make up over 50% of the sample.

Urinalysis Results. Figure 1 shows the urinalysis results for the 10 drugs tested. In total, 83% of the sample tested positive for any drug including marijuana. When marijuana is not considered, 58% continue to test positive for other substances. The substances most commonly used by the subjects were marijuana and cocaine with half of the subjects testing positive for each. Opiates, most likely heroin, were used by 20% of the sample with the large majority of opiate users (78%) also testing positive for cocaine. The use of any other drugs was relatively low. Only 6% of the sample testing positive for PCP (Phencyclidine), the next most commonly used drug. Despite recent concerns over the spread of amphetamines to the Midwest, fewer than 1% of the sample tested positive for this class of drugs.

Allowing for minor fluctuations, these results are typical of the DUF urinalysis results obtained over the past five years. Cocaine use has remained steady at between 50% to 60% of the sampled cases over this time. During the early 90s, opiate use began increasing from a rate of 15% to 20% positive and eventually peaked at 38% positive in November of 1993. Since that time, opiate use has declined and stabilized at about a rate of 20% positive. Marijuana use has shown the most dramatic increases, going from 35% to 40% positive to 50% positive within the past two years of DUF data collection. In short, the DUF data continue to show, and the data on these subjects are no exception, that illegal drug use among Chicago arrestees remains the norm rather than the exception to a considerable extent.

Geographical Distribution of Arrests. The Chicago DUF data were analyzed to determine the geographical distribution of cases within Chicago. For the purposes of this analysis, Chicago was divided into 77 communities on the basis of 1990 census

Figure 1. Chicago DUF Arrestees Urinalysis Results



tract information. These communities are commonly used by the city and by state agencies for planning purposes (see, for example, Sherman, Gillespie, & Diaz, 1996) and are designated by both a name and a number. Each subject's record in the data file was then geocoded (i.e., given geographic coordinates using mappings software) so that it could be superimposed on a map of the city. Of the 630 cases analyzed, 80 (13%) either did not have a valid address recorded or, in a very few instances, were arrested outside of the city limits. Figure 2 shows the results of plotting the remaining 550 cases by community of arrest.

Only a small number of arrests, from 0 to 5, occurred in forty of the Chicago communities. Conversely, as can be seen from Figure 2, a large proportion of the arrests occurred in a relatively small number of Chicago communities. In particular, a 10-community area on the west side and near west side of Chicago representing 13% of the 77 Chicago communities, accounted for 234 or 42% of all the geographically analyzable arrests in the sample. The arrest densities were particularly heavy in six of these communities which, together, accounted for 173 (31%) of the geographically analyzable cases. These six communities are: Humboldt Park, Austin, West Garfield Park, East Garfield Park, the Near West Side, and North Lawndale.[8] Immediately adjacent to these communities were 4 additional communities with moderately high

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[8] For the past four decades, the six community areas with the highest densities of arrests have been deteriorating. In general, the median family incomes and educational levels in these areas are below those in the city. Overall, the six communities have high rates of crime, poverty, unemployment, gang activity, and infant mortality. In addition, most have experienced continued declines in populations, housing stocks, economic investments, and manufacturing bases. Decayed or abandoned buildings, empty lots, and other signs of urban blight dot the landscape of these locations along with indicators of a decaying social fabric (Chicago Fact Book Consortium, 1995).

These community areas fit the profile of Chicago neighborhoods with low collective efficacy, which Sampson, Raudenbus, and Earls (1997) define as social cohesion and the willingness of residents to act on behalf of the common good. Sampson et al. (1997) found that Chicago neighborhoods lowest in collective social efficacy have the highest rates of violent victimizations.

(i.e., 11 to 20) numbers of arrests: Logan Square, West Town, Near North Side, and the Lower West Side. There were two other community clusters where there were a moderately high number of arrests. The first was a band of communities on Chicago's north side bordering on Lake Michigan (Rogers Park, Uptown, and Lakeview). The second was a looser cluster of about 7 communities on the south side (Douglas, Grand Boulevard, Washington Park, New City, West Englewood, Chicago Lawn, and, along the lake, South Shore.)

Chicago DUF Gun Addendum Results

Gun Ownership and Use. The analyses of gun use by study participants will be presented according to the 6 content areas of the DUF Gun Addendum described above. The simple univariate frequency distributions of these variables are examined first, followed by bivariate and multivariate models that examine the interrelationships among selected demographic characteristics, drug use, and arrest charge data on the one hand, and gun use and ownership on the other.

The first analyses to be presented deal with gun ownership and reasons for owning a gun. These analyses were restricted to the conditional percentages based on the subgroup of 115 subjects (18.3%) who reported ever owning a gun. The results are shown in Table 3. The large majority of gun-owning subjects (81%) said that they carried their gun only rarely or never outside of their homes. And only a small percentage (4%) said that they had ever used a gun to threaten or scare another person. About one-third (30% of the subsample, 5% of the total sample) of gun-owning subjects said that they had owned a gun within the past thirty days. Of the few subjects who said they were armed at or just prior the time they were arrested, the majority, 7 out of 9, said they were armed with a handgun. Only 9 subjects (8% of the subsample, 1% of the total sample) said that they had been armed within 24 hours of their arrest. Gun-owning subjects were further questioned as to the type and number of guns owned, their main reason for owning a gun, and whether or not they were armed within 24 hours of their current arrest.

Among gun-owning subjects, the most common type of gun owned was a non-automatic handgun (89%). The next most common type of gun owned was a semi-

Table 3. Gun Ownership, Types of Guns Owned, and Reasons for Owning

	(n 115)
Ever owned or possessed	
Fully automatic pistol or rifle	29.6 %
Semi-automatic pistol or rifle	46.1
Regular rifle or shotgun	40.0
Handgun	89.6
Mean Number of Guns Owned	4.0
Median Number of Guns Owned	2.0
Mean Number of Handguns Owned	2.8
Median Number of Handguns Owned	2.0
Owned or Possessed a Gun in the Last 30 Days?	30.4
Armed at arrest?	11.3
Kind of Gun Armed with:	
Regular handgun	53.8
Automatic/Semi-automatic handgun	30.8
Single-Shot Handgun	7.7
Regular Shotgun	7.7
Armed at the time you committed the crime?	76.9
Principle Reason for Owning a Gun:	
For hunting or target shooting	12.2
As part of a bonafide job	2.6
For protection/self-defense	67.8
To get someone	0.0
For status, or impress people	5.2
For use in the drug trade	0.9
For use in other criminal activity	0.0
Other	9.6

automatic pistol or rifle (46%) followed by a regular rifle (40%), and a fully automatic pistol or rifle (30%). Most of the arrestees who owned guns owned more than one. On average, gun-owning arrestees reported owning 4 guns, approximately 3 of which were handguns. City of Chicago statutes require that all firearms be registered while at the same time prohibiting the registration of handguns and of assault-type weapons in most instances. In effect, these statutes prohibit Chicago residents from owning a handgun or automatic or semi-automatic weapon. Moreover, ownership of *any* type of firearm by convicted felons is also prohibited by city ordinance. Thus, the majority of these guns were most likely illegally owned.

Though data on the acquisition of handguns are not shown in Table 3, subjects were asked how and where they had obtained their handguns. Of the 103 subjects who said they had ever owned a handgun, the most commonly reported method of acquisition was simply a purchase for cash (62%). Only relatively small percentages of subjects said they had stolen the gun (9%) or borrowed it from someone else (8%). Handguns were purchased from three primary sources: from a friend or family member (36%), at a gun store (28%), or off the street (27%).

Over two-thirds of the sample said that the main reason they carried a gun was for self-protection or defense. Far fewer subjects said that the main reason they owned a gun was for hunting or target shooting (12%) or for the purpose of impressing someone (5%). Owning and carrying guns primarily for protection was a point of emphasis throughout different areas of questioning.

Perceived Availability of Guns and Attitudes Towards Gun Use. The next series of Gun Addendum questions asked for subject's perceptions of whether there are many guns in their neighborhood, what owning a gun signifies to others, and under what circumstances it is acceptable to use a gun. There were also a number of questions asking subjects about the relationship between drug use, drug sales, and gun use. The results indicate that subjects perceived guns as being very prevalent; that guns are needed for self-protection; and that there is a clear link between selling drugs and carrying a gun. Alternatively, subjects do not seem to feel that it is ok to use a gun just to gain respect, to enforce neighborhood territories, to prove toughness, or even necessarily to settle scores.

Table 4 shows that although only 18% of the sample reported having ever owned a gun, and although only 17% said that most of their friends had guns, 67% said that there were "lots" of guns in their neighborhoods. Further, 38% said they felt it was "important" to have a gun for protection and 27% said that owning a gun brought respect from people in their "crowd." Few subjects though, thought it was "OK" to use a gun in circumstances where they had been disrespected (4%), where the other person did not belong in their neighborhood (2%), or just to get something done (2%). Only in the case of having been hurt by someone else, did an appreciable proportion of the sample (19%) indicate that it would be "OK" to use a gun.

The data on gun ownership and drug dealing, while somewhat inconsistent, indicate that a sizeable minority of subjects believe that drug dealers carry guns (41%) that they are a source of guns (40%) and that drug dealers are always trying to get "bigger and better guns" (57%). However, only 24% said drug dealers "always" carry guns. Subjects did not perceive drug use to have an especially strong relationship to having guns. Only 16% said they thought drug users were likely to have guns. The major inconsistency is that while 57% said that drug dealers were always trying to get bigger and better guns, only 24% said they thought drug dealers *always* carried a gun. It is possible that the discrepancy is due to the word *always* and that what the subjects are indicating is that while most think drug dealers *often* or *are likely* to have a gun, they do not carry a gun all the time.

Violent Victimization. The Chicago DUF subjects reported living in a very violent and threatening world. As shown in Table 5, over half of the subjects said they had been threatened by a gun (56%) with 13% saying this had occurred within the past month. Roughly similar proportions said that they had been shot at (54%), beaten up (49%) or robbed (43%). One-fourth of the sample said they had been injured by gunshot, while almost one-third said they had been injured with some other weapon at some point in their lives.

Table 4. Attitudes on Prevalence of Gun Ownership and Use

	(n = 630)
In your neighborhood, there are lots of guns.	67.3 (% agreeing)
In your crowd, people respect you if you have a gun.	27.3
In your neighborhood, it is important to have a gun for protection	38.1
Your friends would look down on you if you did not carry a gun.	5.2
If a guy has been wounded by gun, it shows he is tough.	7.3
These days, anyone involved in drug sales will carry a gun.	40.8
People who deal drugs always carry guns.	24.6
If you want a gun, drug dealers will be able to get one for you.	40.5
People who use drugs are more likely to have guns.	16.3
Drug dealers are always trying to get bigger and better guns.	57.1
It is OK to shoot somebody who doesn't belong in the neighborhood.	2.5
It is OK to shoot a person if the have disrespected you.	4.3
It is OK to shoot a person if they have done something to hurt you.	19.7
It is OK to shoot a person if that's what it takes to get something done.	2.9
Most of your friends have guns.	17.5

Table 5. Violence Victimization

	(n = 630)	
	Ever	Past month
Threatened with a gun?	55.6 %	13.7 %
Shot At?	54.0	9.8
Injured by gunshot?	25.6	1.3
Threatened with other weapon?	38.6	7.1
Injured with other weapon?	31.0	4.1
Beaten up?	49.8	11.0
Robbed?	43.3	5.9

These data explain, to a large degree, the sense of vulnerability and need for protection expressed in the responses to the questions on gun ownership and use.[9]

Finally, the 515 subjects who said they had never owned a gun were asked if they might ever want one. Of these, 91 or 17% said that they might. When these 91 subjects were asked how they might obtain a gun, most said they would buy it legally (73%) with the remainder saying they would buy it illegally. There appears to be a clear bifurcation in the subjects between those who feel it would be relatively easy for them to acquire a gun and those who feel it would be difficult and time-consuming. Thirty seven percent said it would take them a week or less to get a gun. However, 41% said it would take them a month or longer and 4% did not think they would ever be able to get a gun. Subjects bifurcated similarly when asked if it is easy "for people" to get a gun illegally in their neighborhood with approximately 40% saying yes, 40% saying no, and the remainder saying they did not know.

Perceived Prevalence of Guns in Chicago Communities. The geographical distributions of Chicago communities where subjects' perceived that there were "lots" of guns parallels to some extent the distribution of arrests shown in Figure 2. As this analysis reports on the percentages of subjects stating there were "lots" of guns, it was restricted to only those communities with 5 or more arrests. Initial inspection of the overall pattern in Figure 3 suggests that guns are perceived as being fairly prevalent in many of Chicago's communities. Figure 3 shows that in almost half of the 77 Chicago

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[9] A separate study of the prevalence of psychiatric illness among men at the Cook County Day Reporting Center, a group demographically and geographically similar to the subjects interviewed in this study, confirms the almost mundane commonality of violence in some Chicago neighborhoods. Among 210 subjects interviewed in April of 1997 using the Quick Diagnostic Interview Schedule, 22% met the DSM-III-R criteria for Post-Traumatic Stress Disorder. According to the more recent DSM-IV manual, estimates of the prevalence of PTSD in the general population range from 1% to 14% (DSM-IV, 1994). PTSD occurs when a person experiences, witnesses, or is confronted with an event or events that involve actual or threatened death or serious injury, or a threat to the physical integrity of self or others (DSM-IV, 1994; page 427). The symptoms include a restricted range of affect, feelings of detachment or estrangement from others, and sense of a foreshortened future. Thus, the likelihood that the threatening and often violent environments described by many of the subjects has taken a significant psychological toll, is quite high.

communities (36), at least 50% of the subjects reported there were "lots" of guns. Again, the perceived prevalence of guns was especially high within a cluster of communities on the west side (Humboldt Park, West Garfield Park, East Garfield Park, and South Lawndale) where relatively large numbers of arrests occur. However, guns were also perceived as being prevalent in another cluster of communities to the immediate north of this area (North Center, Portage Park, Irving Park, and Avondale) and to the east and south in a discontinuous band of communities located along and near Lake Michigan (Near North Side, Near South Side, Douglas, Englewood, and Greater Grand Crossing). Thus, despite restrictions on the sale and possession of handguns and semi-automatic weapons in Chicago, it appears that guns are prevalent in many areas of the city. Since the DUF Gun Addendum does not include a follow-up question as to the type of guns commonly available, we can not tell to what extent the results in Figure 4 are attributable to the perceived availability of such illegal weaponry.

Factors Related to Gun Ownership, Being Threatened by a Gun, and Reporting Having "Lots" of Guns in the Neighborhood. In their report on the pilot study using DUF Gun Addendum data, Decker et al. (1997) found that the likelihood of obtaining a gun was closely related to being a juvenile, being a member of a gang, and of selling drugs. We examined the Chicago data to see if these same relationships held, although we could not look at the relationship between being a juvenile and gun ownership as our sample included only adults. In addition to the variables mentioned by Decker et al., we included a number of demographic measures such as race/ethnicity, age group, and marital status, the category of arrest charge, and measures of drug use including self-reported drug use and urinalysis test results. Chi-square analyses were conducted to determine which of these measures were related to three measures of gun use and involvement: ever owning a gun, ever being threatened by a gun, and lots of guns in the neighborhood.

Similar to the findings of Decker et al. (1997), we found that for the Chicago subjects being in a gang and selling illegal drugs went along with an increased likelihood of ever having owned a gun and with being in an environment where guns are common. There were, however some differences of degree between these two overlapping but still

distinct groups. Table 6 shows that being in a gang was moderately related to ever owning or possessing a gun with gang members somewhat more likely to say they had ever owned a gun (24%) than non-gang members (16%). There was however a much stronger relationship between being in a gang and having ever been threatened by a gun (68% to 52% of non-gang members). There was no relationship between being in a gang and perceiving that there were lots of guns available in the neighborhood. These findings for current gang membership may be compared with those for selling illegal drugs. Among those who said they had sold any illegal drugs in the past year, 32% reported ever owning a gun compared with about only 15% who said they had not sold any illegal drugs. Those who sold illegal drugs in the past year were also more likely to report that they had ever been threatened by a gun and that there were lots of guns in their neighborhoods. Thus, while being in a gang had some bearing on gun ownership and living in an environment where guns are prevalent, selling drugs had an even stronger relationship.

Among the other variables shown in Table 6, there were additional significant relationships but the pattern of these relationships is not easy to characterize. For instance, those arrested for a violent offense were more likely than other subjects to report having ever owned a gun, but were not more likely to have ever been threatened by a gun or to say they lived in a neighborhood where guns are common. Conversely, subjects reporting crack-cocaine use in the past year were more likely to say they had been threatened by a gun but were not more likely to have ever owned a gun. In general, aside from this finding for crack-cocaine users, we found the relationships between drug *use*, whether measured by self-report or urinalysis, and gun ownership and being threatened by a gun to be very weak or non-existent. Those who reported using opiates were more likely to indicate being in neighborhoods where there were lots of guns. For the demographic variables, being African-American was associated with a higher chance of having ever been threatened by a gun while being Hispanic was associated with a relatively low chance of being threatened. Lower proportions of the younger subjects and single subjects, perhaps for the very reason they were also young, were lowest on all three measures. And finally, those arrested for a violent offense were much more likely to say they had have ever owned a gun (28%) compared to those arrested for a drug-related

Table 6. Factors Related to Gun Ownership, Being Threatened by a Gun, and Having "Lots" of Guns in the Neighborhood
(n = 630)

		Ever owned/ possessed a gun?	Ever been threatened by a gun?	Lots of Guns in neighborhood?
Race/Ethnicity				
	African-American	18.3 %	61.3 %***	72.6 %***
	White	19.7	55.6	55.6
	Hispanic	16.8	34.5	55.5
Age Group				
	17-20	14.1 ***	47.6	56.8 **
	21-25	14.1	66.7	74.1
	26-30	12.0	57.8	75.5
	31-35	23.0	60.9	72.4
	36+	30.1	48.9	64.7
Marital Status				
	Single	14.2 **	51.2 *	64.6
	Married	31.7	51.8	72.3
	Divorced	20.4	69.4	57.1
	Common-Law	19.7	63.2	74.3
Arrest Charge Category				
	Violent	28.2 ***	58.6	66.7
	Drug	9.9	54.0	65.8
	Income Generating	14.8	53.9	69.7
Urinalysis Results for Cocaine				
	Positive	18.7	57.9	68.0
	Negative	17.9	53.2	66.8
Used Cocaine in past 12 months				
	Yes	19.8	57.4	65.7
	No	18.0	55.2	67.8
Used Crack in past 12 months				
	Yes	23.0	64.9 **	73.4
	No	16.8	52.5	65.5
Urinalysis Results for Opiates				
	Positive	17.7	57.6	77.6 **
	Negative	21.0	55.0	64.9
Used Heroin in past 12 months				
	Yes	22.1	63.4	81.3 ***
	No	17.4	53.6	64.0
Urinalysis Results for Marijuana				
	Positive	14.2 **	59.6 *	66.1
	Negative	22.4	51.4	68.7
Used Marijuana past 12 months				
	Yes	19.0	61.1	71.0
	No	2.3	52.7	68.8
Urinalysis Results positive for any drug including Marijuana:				
	Positive for 2 or more drugs	18.9	59.4	69.7
	Positive for 1 drug	15.9	55.6	67.8
	Negative for all drugs	23.1	46.8	61.5
Urinalysis Results positive for any drug excluding Marijuana:				
	Positive for 2 or more drugs	21.4	57.6	77.1 *
	Positive for 1 drug	19.3	57.4	65.5
	Negative for all drugs	16.0	52.9	64.9
Currently a gang member?				
	Yes	24.6 *	68.5 ***	70.5
	No	16.7	52.0	66.5
Purchased any illegal drugs in past year?				
	Yes	19.2	60.6 ***	71.4 **
	No	16.6	44.9	59.0
Sold any illegal drugs in past year?				
	Yes	32.3 ***	68.5 ***	77.4 **
	No	14.9	52.3	64.9

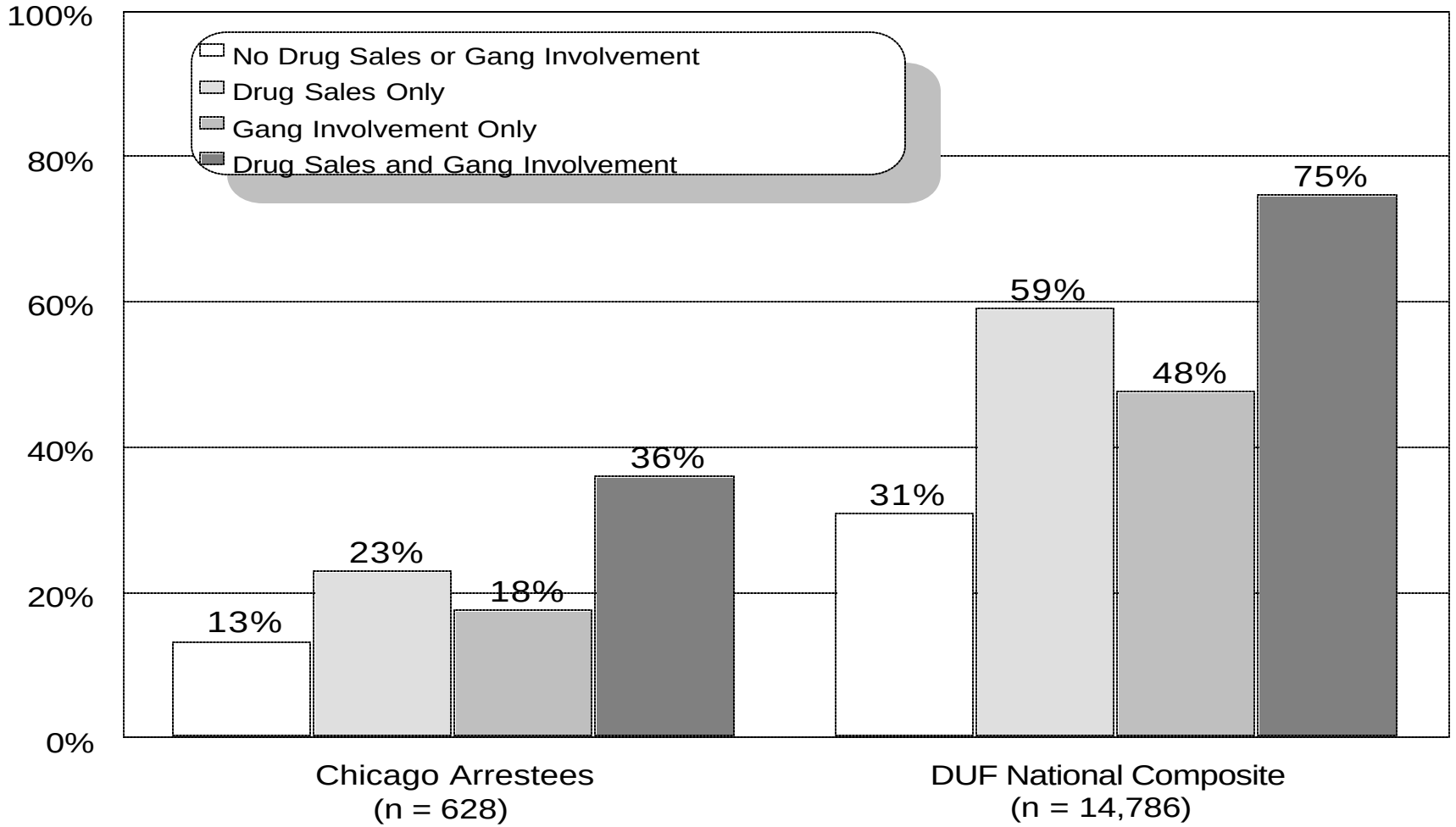
*** P<.05**
**** P<.01**
***** P<.001**

crime (9%) or for an income generating crime (14%). This result is not too surprising though, given that weapons offenses were included in the violent crimes category. The fact that the majority of the drug-related crimes were for possession of drugs and not for drug sales per se, may explain why these subjects were not nearly as involved in gun use as those subjects who said they had sold illegal drugs in the past year.

To further explore the relationship between the likelihood of owning a gun, selling illegal drugs, and being a gang member, we categorized subjects in the Chicago sample and the adult subjects in the national sample (less the Chicago subjects) into one of four groups: 1) no involvement in drug sales or gangs; 2) drug sales only; 3) gang involvement only; 4) involvement in both selling drugs and in gangs. Figure 4 presents these results. Although the proportion of subjects reporting they had ever owned a gun is much higher in the national sample than in the Chicago sample, the basic pattern of the relationship is the same for both groups. Subjects involved in *both* selling illegal drugs and being in a gang were much more likely than other subjects to have ever owned a gun. Next most likely were those involved in selling illegal drugs, followed by those in gangs and last by those involved in neither activity. These results add support to the prior finding based on the Chicago data that drug sales is a more important determinant of gun ownership than gang membership. But they also qualify this finding in that joint involvement in gangs and in selling illegal drugs increases the likelihood a subject will have owned a gun even further. Clearly, our findings and those of Decker et al. (1997) underline the fact, not surprisingly, that gangs and illegal drug sales provide much of the context for possessing guns and consequently, one must conclude, for using guns as well.

Finally, we wanted to determined the relative magnitude of the factors influencing the likelihood of gun ownership in a multivariate statistical model. We selected those variables that were statistically significant or close to significant in the bivariate analyses: age at arrest, marital status, arrest charge category (i.e., violent, drug, or income generating), and urinalysis results for marijuana use. Although not significant in the bivariate analyses, because of their policy relevance we also included in the multivariate model the urinalysis results for cocaine and opiate use.

Figure 4. Percentages of DUF Adult Male Arrestees Reporting Ever Owning a Gun by Involvement in Drug Sales and Gangs



There were three additional variables included in the logistic regression model that were not in the bivariate analyses. These were: a four category variable representing the combined frequencies for involvement in gangs and drug sales presented in Figure 4; a trichotomous variable representing number of arrests in the community as being high (greater than 20), moderate (11 to 20), or low (10 or fewer); and whether or not the person said that they had ever been threatened with a gun. The relationship between gang membership and selling drugs on the one hand and gun ownership on the other has already been discussed. The number of arrests within community was included as a proxy for criminal activity in or near where the subject spends time. We reasoned that areas of more criminal activity (as indicated by greater numbers of arrests) would foster gun ownership either because individuals in these areas would own a gun for protection or that these same individuals may be arrested in these areas precisely because they are involved in more serious or dangerous crimes that often include the use of guns such as robberies or drug sales.[10] And finally, because many of those owning guns said they did so for self-protection, we included a measure indicating whether the subject reported having ever been threatened with a gun.

The results of the logistic regression analysis are shown in Table 7. The model was statistically significant ($X^2_{(15, N = 536)} = 86.52$, $p < .001$) accounting for between 15% to 24% of the variation in gun ownership. Inspection of the model indicates that the only variables not significantly related to the odds of owning a gun were community of arrest, opiate use and cocaine use. The one measure of drug use that was related to gun ownership was marijuana use, which actually decreased the chances of having a gun by half. Thus, our data are in agreement with prior studies which have found no or only a

[10] We used arrest address rather than residential address because there were fewer missing cases and because we felt that arrest address was more valid. Residential addresses are obtained via subject self-report whereas the arrest addresses are obtained from the arrest reports. Casual inspection of the data shows that in many cases, the subject was apprehended near their residential address. Thus, it is likely that in a majority of cases, assignment of a subject to a particular community would have been the same regardless of which address was used. We will have to do a more formal comparison of the actual distance between arrest and residence to determine the validity of this assumption.

Table 7. Logistic Regression Model Parameters of the Factors Influencing the Likelihood of Ever Owning a Gun

Model Statistics	**Chi – Square**	**86.52****					
Variable	**B**	**S.E**	**Sign**	**R**	**Odds Ratio**	**95% Confidence Lower**	**Interval Upper**
Age	0.041	0.015	0.008	0.10	1.04	1.01	1.07
Marital Status							
(compared to single)							
Married	0.750	0.400	0.061	0.06	2.11	0.97	4.64
Divorced	-0.448	0.557	0.421	0.00	0.64	0.21	1.90
Common-Law	0.608	0.302	0.044	0.06	1.84	1.02	3.32
Arrest Charge Category							
(compared to Violent Charge)							
Drug-Related	-1.494	0.366	0.000	-0.17	0.22	0.11	0.46
Income-Generating	-1.044	0.287	0.000	-0.15	0.34	0.20	0.62
Ever Been Threatened by a Gun							
(compared to never been threatened)	0.839	0.286	0.003	0.12	2.31	1.32	4.05
Number of Arrests in Community							
(compared to 1-10 arrests)							
11-20 Arrests	-0.331	0.306	0.280	0.00	0.72	0.39	1.31
21 or more Arrests	-0.205	0.321	0.524	0.00	0.82	0.43	1.53
Gang and Drug Sales Involvement							
(compared to non-gang non drug seller)							
Drug Seller	1.141	0.561	0.042	0.07	3.13	1.04	9.40
Gang Member	0.808	0.324	0.013	0.09	2.24	1.19	4.22
Gang Member and Drug Seller	1.949	0.379	0.000	0.22	7.03	3.34	14.78
Opiate Urinalysis Results							
(compared to negative results)	-0.581	0.363	0.109	-0.03	0.56	0.27	1.14
Cocaine Urinalysis Results							
(compared to negative results)	0.017	0.279	0.952	0.00	1.02	0.59	1.76
Marijuana Urinalysis Results							
(compared to negative results)	-0.644	0.277	0.025	-0.08	0.53	0.30	0.92

****p<.001**

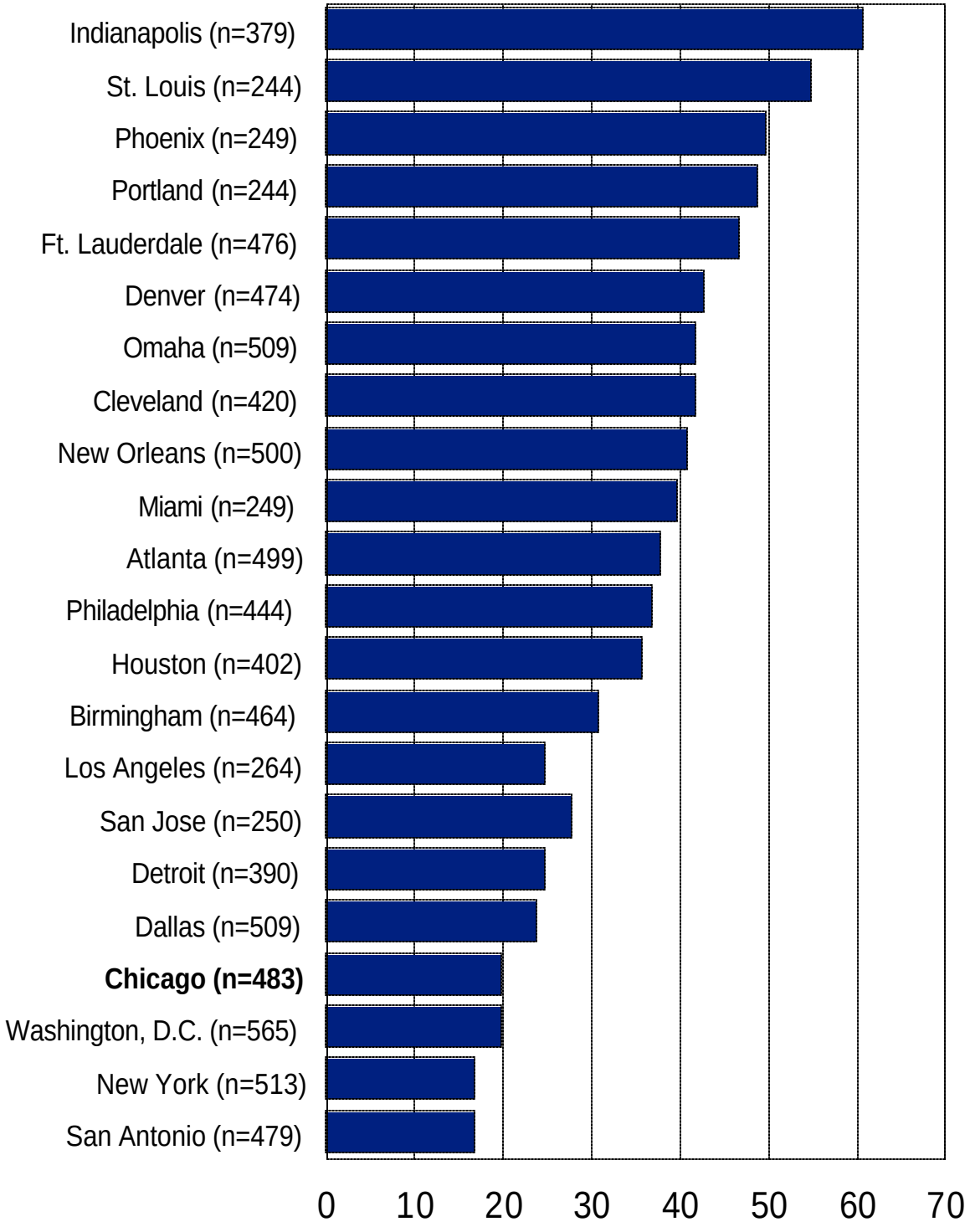
weak relationship between drug use and gun ownership. Examination of the odds ratios for age reveals a slight increase in the odds of owning a gun (4%) for each additional year older. Additionally, the following factors increased the chances of owning a gun: being married or living in a common-law relationship (twice as likely to own a gun); being arrested for a violent charge compared to a drug offense (five times as likely, or compared to an income generating offense three times as likely); and having ever been threatened with a gun (twice as likely). The model also provides support for a strong relationship between owning a gun and being a drug-selling gang member. Subjects in this classification category were 7 times as likely to own a gun, controlling for all other factors in the model, relative to subjects who said they had never been in a gang or sold drugs. Thus, regardless of age or a history of being threatened with a gun, those subjects who sold drugs in gangs were the most likely to report having owned a gun.

Comparisons of Chicago and National Gun Addendum Data

In the final set of analyses, we compared the data collected from Chicago arrestees with the data collected from adult male arrestees at 21 other DUF sites during 1996. We examined the relative national ranking of Chicago arrestees on four factors related to gun prevalence and use: gun ownership, the perceived prevalence of guns in the neighborhoods, the perceived ease of gun procurement, and the percentages of arrestees who said they were armed when arrested. For the purposes of these analyses, we used the 484 Chicago cases included in the national data set. Thus, there are small but not significant discrepancies between the figures reported for Chicago arrestees in this section and some of the figures reported in the previous sections.

Reported Gun Ownership. On the average, 38 percent of the DUF respondents across the twenty-two sites reported lifetime gun ownership or possession (i.e., pistol, rifle or shotgun). Figure 5 shows that the highest percentages of respondents reporting ever owning or possessing a gun were in Indianapolis (58 percent), St. Louis (45 percent), and Portland (48 percent). At 20 percent, Chicago and Washington D.C. were among the three lowest cities in terms of respondents' reported gun ownership and possession.

Figure 5. Percentages of DUF Adult Male Arrestees Reporting Ever Owning a Gun by City



Perceived Prevalence of Guns. A much higher percentage (58%) of DUF respondents overall agreed that "in [their] neighborhood[s], there are lots of guns on the street[s]." In nearly half of the DUF sites, 60 percent or more of the participants agreed with that statement. At 68 percent, Chicago ranked sixth behind New Orleans, Philadelphia, Indianapolis, and Cleveland. Hence, whereas a relatively low percentage of Chicago DUF participants report ever owning a gun, a relatively high percentage of them report that guns are prevalent in their neighborhoods (see Figure 6). This may be an indication that the strict gun laws in Chicago suppress people from admitting that they have a gun while not suppressing actual gun ownership. Or, it could indicate that the perception of gun ownership by others is very distorted in Chicago and that far fewer individuals own guns than it seems.

Perceived Ease of Gun Procurement. Across the twenty-two DUF sites, more than 58 percent of the respondents agreed that "it is easy for people in [their] neighborhood[s] to get a gun illegally." Figure 7 indicates that the cities in which gun procurement was deemed "easy" by the highest percentages of arrestees (60 percent or higher) included Cleveland, New Orleans, Indianapolis, Philadelphia, Phoenix, and Atlanta. Along with Washington, D.C., Houston, Portland, San Antonio, and San Jose, Chicago was among the bottom third of the cities with regard to perceived ease of gun procurement. Therefore, although a relatively high percentage of Chicago DUF respondents believe that there are a lot of guns in their neighborhoods, far fewer of them think that guns are easy to obtain and even fewer say that they themselves have ever owned a gun. Nevertheless, despite Chicago's relatively low ranking on this measure, it is important to keep in mind that close to half did say that it would be easy to get a gun illegally *within their own neighborhood.*

Proportions Armed When Arrested. In general, an average of only 3 percent of the DUF participants reported that they were armed with a gun when they were arrested (see Figure 8). By far, the highest percentage (13%) of participants reporting that they were armed during their current arrest was found in Houston. In contrast, only two percent of the participants in Chicago stated that they had been armed at arrest, which was the modal response across the DUF sites.

Figure 6. Percentages of DUF Adult Male Arrestees Reporting There are "Lots of Guns" In Their Neighborhood by City

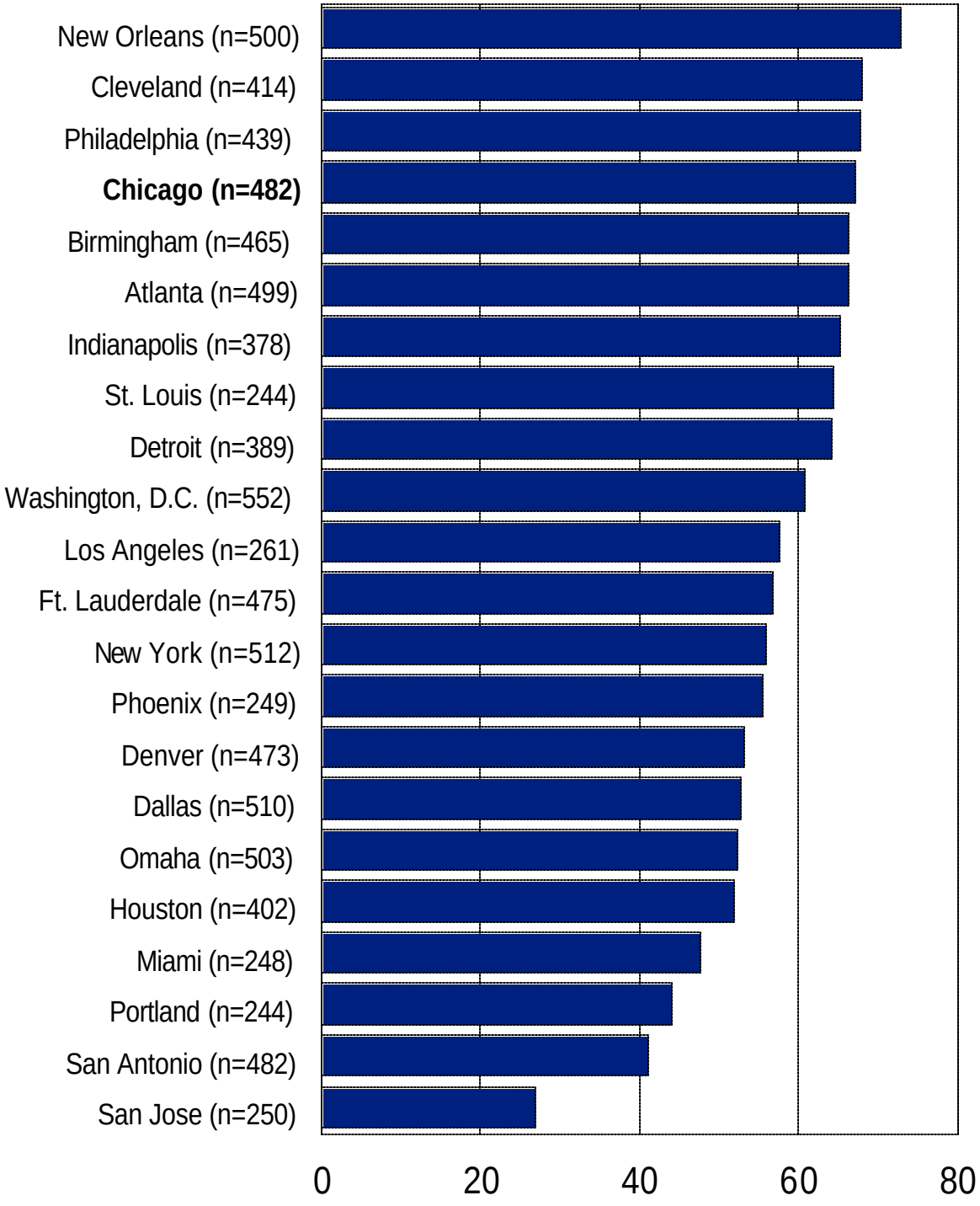
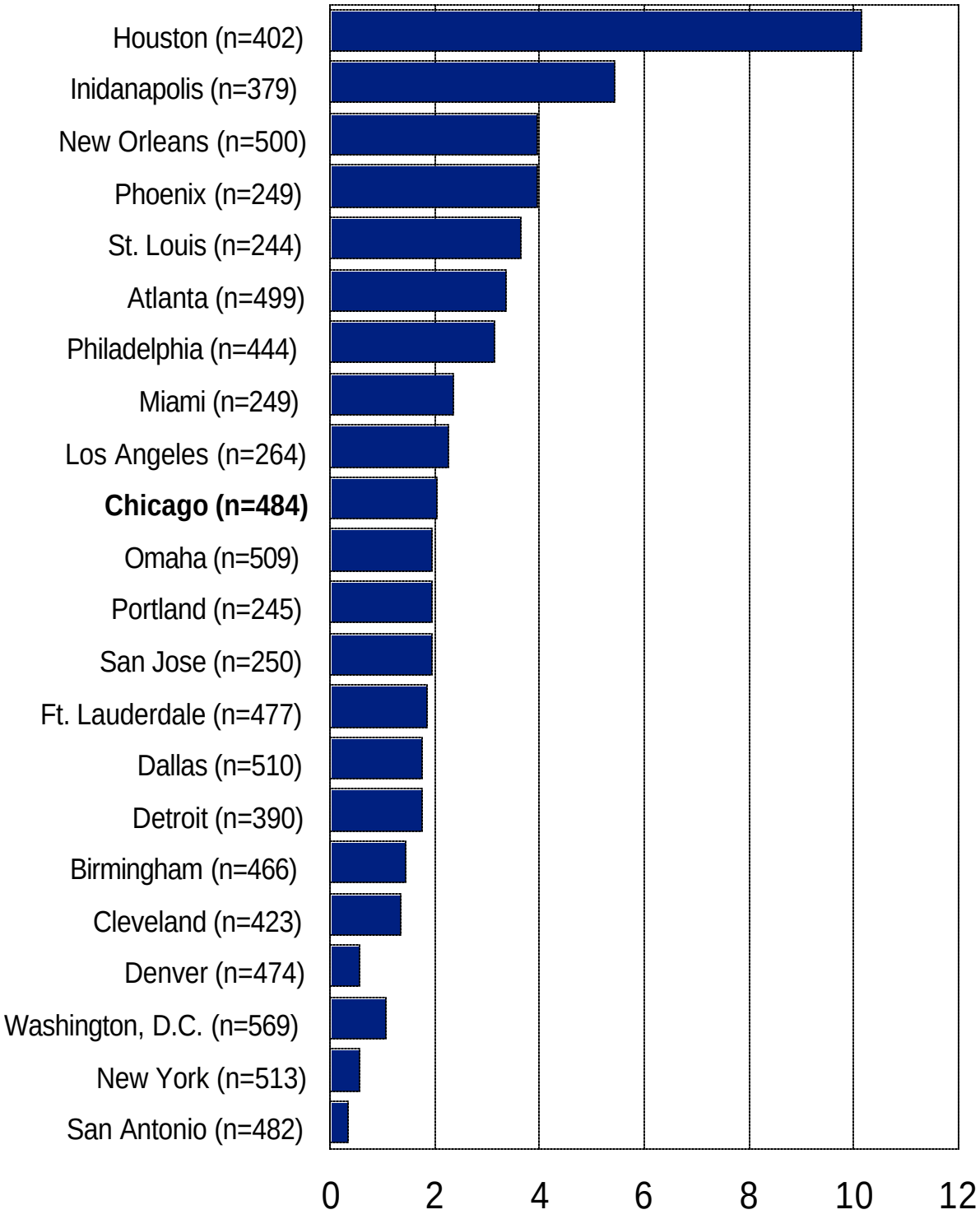


Figure 7. Percentages of DUF Adult Male Arrestees Reporting Getting a Gun is "Easy" in Their Neighborhood by City

Figure 8. Percentages of DUF Adult Male Arrestees Reporting They Were Armed When Arrested by City



Discussion

The Chicago DUF Gun Addendum data suggest that guns are not as prevalent here compared to other DUF cities, at least according to arrestees' self-reports of gun ownership. Only 18% of our sample said that they had ever owned a gun. While it could be the case that the stringent restrictions on gun ownership in Chicago suppress the number of guns available, this is hard to reconcile with the fact that in half of Chicago communities, guns are perceived as being prevalent. Therefore, a more likely explanation for the low prevalence of self-reported gun ownership is simply that these subjects are underreporting their ownership and use of guns. Aside from the legal setting and lack of privacy in the interview area (see study limitations below), there may be an additional impetus in Chicago to deny owning a gun given the restrictive city ordinances prohibiting the ownership of handguns, automatic, and semi-automatic weapons. (Ironically, among those arrestees who *did* say they owned a gun, the majority said they owned a handgun.) Additionally, in some of the other cities included in the DUF sample where gun ownership was much more commonly reported, cities such as San Antonio and Portland, many of the arrestees indicated they owned guns for the purpose of hunting. In Chicago, where hunting is not as common a hobby, fewer subjects would have the need to own a gun for this purpose. Only 12% of the Chicago sample said they owned a gun for hunting purposes compared to 57% in San Antonio and 40% in Portland, for example.

We also found that while guns are seen as being prevalent in many parts of the city, the near west side, an area adjacent to and just north of the near west side, and a few communities south on Chicago's lake front are perceived as having particularly high concentrations of guns. Prior unpublished analyses of the geographical pattern of urinalysis results have shown that the near west side communities where guns were perceived as prevalent also tend to have very high rates of drug use, especially heroin and cocaine use. This suggests that drug trafficking is also common in these areas and may, along with a slew of related social factors such as poverty, recent loss of an economic base, etc. account for why there tends to be relatively high numbers of arrests and guns in these particular locales. It appears that guns are more prevalent and are likely used more in areas of the city where there are many related social problems. Policy-wise, it makes

sense to view issues such as poverty, economic decline, guns, gangs, and illegal drugs as being inter-related and to not treat them as separate phenomena. Programs that attempt to address one factor will miss all the other related factors and likely be less efficacious in the long run.

As reported by Decker et al. (1997), we also found the reason most arrestees indicated they owned a gun was for self-protection. Relatively few Chicago gun owners said they owned a gun to impress people or "to get someone." This finding could be partially the result of subjects responding in a socially appropriate fashion. But it could also indicate that the stereotypical image of gun-users as posturing macho bullies may be overstated and that an ecology that fosters fear and mistrust escalates the chances of violent acts in a self-perpetuating manner.

Our subjects were also conservative in their attitudes with respect to when it was appropriate to use a gun. These subjects did not appear to take using a gun as a casual act. Only 20% endorsed using a gun even when they had been hurt by another person. Negligible numbers of subjects felt it was OK to shoot someone because they had been disrespected or to "get something done." Consistent with these findings was the fact that having ever been threatened with a gun increased the chances a subject would report having ever owned a gun. It appears that there is a mutually reinforcing circularity to gun ownership (and probably use). People in environments where there are many guns or where they have been threatened by a gun are themselves more likely to own a gun leading others to own guns and so on. Clearly, interventions and prevention programs designed to reduce gun ownership and availability must address the vulnerabilities and the sense of security, albeit false, that many individuals feel owning a gun brings them. The one finding that tempers this conclusion somewhat is that subjects charged with committing a violent offense were, not surprisingly, more likely to report owning a gun.

The results of our study were also consistent with those of other studies that have failed to find a relationship between carrying or owning a gun and drug *use*. There was no relationship between ever owning a gun and testing positive for opiate and cocaine use and marijuana use had a negative association with gun ownership. Similarly, only 16% of the subjects said that people who use drugs are more likely to have guns. This is in

contrast to the 41% who said that anyone involved in drug sales will carry a gun. Because of the unreliability of the self-reported drug use data, we could not attempt to determine, as has been found in other studies, whether or not more intensive drug use was associated with owning a gun.

Although prior research has shown no or only a weak relationship at the intersection of homicides, gang involvement, and drug sales, our data and the national DUF data clearly show that being in a gang *and* selling drugs greatly increases the likelihood of owning a gun. Moreover, many of the Chicago subjects reported that drug dealers frequently carry guns, that drug dealers can supply guns, and that drug dealers are often trying to obtain more and more powerful weaponry. Though gun ownership can not be equated with homicide, it would seem reasonable to argue that the more available a gun is, the more likely that a gun will be used in the commission of a violent act and, because of their lethality, the more likely that a homicide will result from that violent act. Perhaps a part of the discrepancy here is that not all gangs are involved in drug sales and that many gang-related homicides originate over non-drug matters such as territorial disputes. Nevertheless, our data as well as the national DUF data clearly indicate that when gangs are involved in selling drugs, the likelihood of having guns available sharply increases.

Study Limitations. Though prior analysis has shown that the Chicago DUF study collects data from arrestees from all 25 police district offices in the city, the DUF sampling procedures are not random. As mentioned, a 20% ceiling is imposed on arrestees with drug-related offenses. Further, no formal study has been done to determine if those arrestees transported to the jail for a Night Bond Court hearing are representative of all adult male felony arrestees in the city. Thus the representatives of the sample with respect to all Chicago adult male felony arrestees can not be estimated. Further, because it is not a random sample, we can not determine confidence intervals or the prevalence estimates of gun ownership and use.

A more serious problem with the data concerns the tendency of DUF arrestees to underreport information, especially information about illegal activities. Prior analyses have shown that both adult and juvenile DUF arrestees underreport their current use (i.e.,

past 3 days) of illicit drugs by as much as 50% depending on the drug in question (National Consortium of TASC Programs, 1989). Since owning handguns is illegal in Chicago and since belonging to a gang is stigmatized by larger society, it is likely that the extent of these behaviors is significantly underreported in the data. In addition to the social pressures to underreport illegal activity, the context of collecting data in the jail's holding cells while Sheriff's deputies look on adds to the difficulty of trying to collect valid information on sensitive or illegal issues. For this reason, the estimate of the prevalence of gun ownership must be taken as a lower bound with the actual level of gun ownership likely to be much higher than the 18 percent figure found in this study. The low prevalence of self-reported gun ownership and use prevented us from doing more complex modeling of the data to examine detailed questions about specific ways and circumstances under which guns have been used to commit crimes. Also, because there were likely a number of gun owners and users not identified as such in the analyses, the comparisons between those who said they owned guns and those who said they did not must be regarded with caution.[11]

In conclusion, we feel that the most important finding of the study was the strong propensity of drug-selling gang members to report they owned a gun. Given that this finding is far from universally supported in the literature or even in Chicago crime statistics, we would propose that future work might examine the reasons for this discrepancy. There are many research questions to answer: What proportion of gangs are involved in selling drugs? Among gangs that sell drugs, what proportion of members are actually involved? Are only a few of those gang-members involved in selling illegal drugs designated as enforcers and are the ones who carry the guns? Is it that only those gangs involved in drug sales carry guns more often? Simply because such individuals

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[11] In an attempt to determine the extent to which the under-reporting of data might be influencing the direction of the results, we divided subjects into groups of "truth-tellers" and "non-truth-tellers" on the basis of whether they had accurately reported their current use of cocaine, marijuana, and opiates (against their urinalysis results). We then reran the bivariate analyses and looked for differences between these two groups. By and large, we obtained the same pattern of results for both groups. Thus, although the prevalences of some behaviors like gun use may be under-reported, the *relationships between certain behaviors* such as owning a gun and selling illegal drugs are more probably accurately represented.

carry guns more often, does it necessarily mean that they make use of them or is it that the implied threat of *potential* use is enough. If drug-selling gang members are much more likely to carry guns than other individuals and gang members, why do they not seem to affect aggregate crime data in the city? Is it owing to the way such crimes are classified as being "gang-related" or "drug-related"? Are the types of guns used by drug-selling gang members more powerful and hence more lethal than the types of guns used by other criminal offenders? And finally, it may be that in order to obtain a better estimate of the prevalence of gun use and ownership among Chicago arrestees, research will have to be carried out in a less threatening context than is the case with the DUF study.

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Appendix

Appendix