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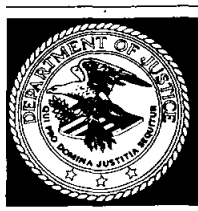

# National Institute of Justice

*Research Report*

# Questions and Answers in Lethal and Non-Lethal Violence

## Proceedings of the Second Annual Workshop of the Homicide Research Working Group

FBI Academy, Quantico, Virginia
June 13–17, 1993

NCJ 147480

# About the National Institute of Justice

The National Institute of Justice, a component of the Office of Justice Programs, is the research and development agency of the U.S. Department of Justice. NIJ was established to prevent and reduce crime and to improve the criminal justice system. Specific mandates established by Congress in the Omnibus Crime Control and Safe Streets Act of 1968, as amended, and the Anti-Drug Abuse Act of 1988 direct the National Institute of Justice to:

- *Sponsor special projects and research and development programs* that will improve and strengthen the criminal justice system and reduce or prevent crime.
- *Conduct national demonstration projects* that employ innovative or promising approaches for improving criminal justice
- *Develop new technologies* to fight crime and improve criminal justice.
- *Evaluate the effectiveness of criminal justice programs* and identify programs that promise to be successful if continued or repeated.
- *Recommend actions* that can be taken by Federal, State, and local governments as well as private organizations to improve criminal justice.
- *Carry out research on criminal behavior.*
- *Develop new methods of crime prevention* and reduction of crime and delinquency.

The National Institute of Justice has a long history of accomplishments, including the following:

- Basic research on career criminals that led to development of special police and prosecutor units to deal with repeat offenders.
- Research that confirmed the link between drugs and crime.
- The research and development program that resulted in the creation of police body armor that has meant the difference between life and death to hundreds of police officers.
- Pioneering scientific advances such as the research and development of DNA analysis to positively identify suspects and eliminate the innocent from suspicion.
- The evaluation of innovative justice programs to determine what works, including drug enforcement, community policing, community anti-drug initiatives, prosecution of complex drug cases, drug testing throughout the criminal justice system, and user accountability programs.
- Creation of a corrections information-sharing system that enables State and local officials to exchange more efficient and cost-effective concepts and techniques for planning, financing, and construction new prisons and jails.
- Operation of the world's largest criminal justice information clearinghouse, a resource used by State and local officials across the Nation and by criminal justice agencies in foreign countries.

The Institute Director, who is appointed by the President and confirmed by the Senate, establishes the Institute's objectives, guided by the priorities of the Office of Justice Programs, the Department of Justice and the needs of the criminal justice field. The Institute actively solicits the views of criminal justice professionals to identify their most critical problems. Dedicated to the priorities of Federal, State, and local criminal justice agencies, research and development at the National Institute of Justice continues to search for answers to what works and why in the Nation's war on drugs and crime.

# QUESTIONS AND ANSWERS IN LETHAL AND NON-LETHAL VIOLENCE 1993

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## FBI Academy, Quantico, Virginia

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# QUESTIONS AND ANSWERS IN LETHAL AND NONLETHAL VIOLENCE: 1993

## PROCEEDINGS OF THE SECOND ANNUAL WORKSHOP OF THE HOMICIDE RESEARCH WORKING GROUP FBI ACADEMY, QUANTICO, VIRGINIA

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**SPATIAL ANALYSIS - THEORY, METHOD AND PRACTICE**

Rose

# OVERVIEW AND ACKNOWLEDGEMENTS

The second intensive Workshop of the Homicide Research Working Group found 51 homicide researchers and policy experts gathered at the FBI Academy in Quantico, Virginia, from June 13 to 17, 1993, to confront the theme *Public Health and Public Safety -- Linking Data, Coordinating Resources, and Learning from Differing Approaches*. This volume is a record of the proceedings of that workshop.

The Homicide Research Working group is an interdisciplinary and international coalition of over 250 practical and academic homicide experts, formed in 1991 to work toward the following goals:

- Forge links between research, epidemiology, and practical programs to reduce levels of mortality from violence,
- Encourage more efficient sharing of techniques for measuring and analyzing homicide,
- Promote improved data quality and the linking of diverse homicide data sources,
- Foster collaborative, interdisciplinary research on lethal and non-lethal violence,
- Create and maintain a communication network among those collecting, maintaining and analyzing homicide datasets, and
- Generate a strong working relationship among homicide researchers.

Working Group members from a variety of disciplines -- public health, criminology, geography, nursing, pediatrics, public policy, sociology, criminal justice and others -- attended the Quantico Workshop. They debated and brainstormed questions such as the life chances of homicide, how to reconcile public health and criminal justice approaches to violence, and the definition and measurement of victim precipitation; they discussed methods of spatial analysis, managing large databases, and data linking; they shared the latest information about homicide databases and intervention programs; and they rolled up their sleeves at tutorials on serial murder investigation, forensics, and firearms.

The success of the Quantico Workshop was due in great part to the FBI Academy, which not only provided a setting conducive to hard work, but also organized stimulating and very informative Workshop sessions. Roland Reboussin, a Working Group member and a researcher in the Academy's Behavioral Science Services Unit, was the principal person in charge of organizing and planning for the Workshop, from registration, room arrangements and food to the Academy tutorials. He not only handled the almost daily crisis with aplomb, but actively participated in the Workshop itself, presenting a review of his research on spatial analysis.

Other Program Committee members working with Roland were Chris Rasche, who put her considerable organizational skills to work to create an hospitable and functional agenda for the Quantico meetings, Becky Block, who assembled the participants and the program, Paul Goldstein, who suggested and carried out the idea of evening "Wrap-up" sessions to increase participation and brainstorming, and Derral Cheatwood, Paul Goldstein, Jim Mercy, and Rick Rosenfeld, who organized and chaired sessions. Ron Moser not only took charge of registration at Quantico, but provided name tags for each participant, courtesy of the Peoria Police Depart-

ment. Working Group treasurer Cheryl Maxson and membership coordinator Dick Block worked with Roland and Ron to make sure that the members and the money were all accounted for. Brian Mattson kept a watchful eye on the tape recorder to ensure that we had a record of the Workshop.

In addition to Roland Reboussin, many others at the FBI Academy contributed to the success of the Quantico Workshop. We are grateful to John Campbell, who originally invited the Working Group to Quantico, Tony Rider, who was a gracious host, Steve Allen and Allen Giusti, who provided a fascinating tour of the Forensic Science Unit, Wade Plucker, who gave us an excellent overview of firearms, Eric Witzig, who introduced us to VICAP, Greg McCrary, who told the group about profiling, Steven Lambrecht and Ken Bishop, who went to unusual lengths to procure and set up computer support, Sharon Cook and Janet McKelvey, who were amazingly flexible in assigning rooms, Jennifer Rowley, who displayed great patience in setting up the food orders, and Dawn DeCourcey of Marriott, who was efficient, flexible and helpful in arranging food delivery and billing. The members of the Homicide Research Working Group, and indeed, all of the people who will benefit from the knowledge that those Working Group members gained during the Quantico Workshop, owe a debt of gratitude to the FBI Academy for making the Workshop possible.

The most essential contribution to these proceedings was provided, of course, by the Quantico Workshop participants. The essays in this volume are the most visible product of the Workshop, and Working Group members are grateful to the authors who provided them, to Karen Martin, who assembled them into a coherent whole, to the National Institute of Justice, which supported and published not only this volume but the Proceedings of the first annual Workshop of the Homicide Research Working Group (*Questions and Answers in Lethal and Non-Lethal Violence, 1992*), and to Pam Lattimore, who was one of those who saw the potential of the Working Group at its inception in 1991 and has been a constant source of advice and support.

As this is being written, the Working Group has over 250 international members, a newsletter edited by Kim Vogt, a telecommunications network coordinated by Dick Block, and several study groups and subcommittees. It holds Workshop sessions at professional meetings, such as the American Society of Criminology, and it is planning its third intensive Workshop in June 1994 in Atlanta, sponsored by the Centers for Disease Control and Emory University. Thus, the most valuable and enduring product of the Quantico Workshop is the continuing progress of Homicide Research Working Group members in developing penetrating questions in lethal and non-lethal violence, finding the best way to answer those questions, and linking the answers to practical strategies for intervention.

# APPLYING THE PUBLIC HEALTH PERSPECTIVE TO VIOLENCE PREVENTION: A CONSIDERATION BASED ON THE HISTORICAL ROOTS OF PUBLIC HEALTH

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Research Triangle Institute

I appreciate the opportunity to be part of the panel this evening on reconciling public health and criminal justice approaches for understanding and preventing violence. To at least some degree, I have been exposed to, or worked within, both perspectives. My primary objective tonight is to discuss some of the historical and philosophical roots of what we call "the public health" perspective. In doing so, I hope to present a more expansive view of public health than you may be familiar with. I will also be suggesting that no single discipline or agency, including public health or criminal justice, is likely to make substantial progress in reducing violence on its own. Rather, we must adopt more of an interdisciplinary approach to the problem. This approach needs to include efforts to influence broader public policies and environmental change that go beyond the specifically mandated purviews of our public health and criminal justice systems.

First, let me begin by pointing out that beyond certain fundamental principles and objectives, there is no single mode of operation or conceptual model that underlies public health. The same can be said for criminal justice, which encompasses a variety of organizations, perspectives, activities, and approaches to preventing or responding to violence and crime. Within the past decade, the Centers for Disease Control and Prevention (CDC) have assumed a leadership role in defining and implementing the role of public health in preventing and reducing violence. In doing so, CDC has articulated many of the underlying principles of public health practice. These include a focus on primary prevention, the recognition of multiple determinants of disease and disability (i.e., the agent-host-environment framework), and the deployment of epidemiologic research methods and surveillance systems for helping to define problems and target preventive efforts. Both currently and historically, however, there have been different views within the public health field as to how best to apply these principles to specific public health problems.

Public health, in one form or another, has existed since earliest civilizations as the conscious effort to apply social, scientific and medical knowledge to the protection of the health of the community. Historically, changes in the physical and social environment have provided the key to protecting and enhancing the public's health. As late as the 19th and early 20th centuries, infectious diseases were the leading cause of mortality and presented the most insidious threat to public health. Despite the development and use of vaccines and antibiotic drugs to control infectious diseases, there is substantial evidence to suggest that most infectious diseases (e.g., tuberculosis, scarlet fever, pneumonia) were well on the decline long before effective drugs were available to combat them. Instead, the reason for the declining rates of mortality from infectious diseases appears to be attributable to environmental changes. Specifically, improved sanitation, safer water and food supplies, and better nutrition all played key roles. Linked with these improvements were better and less crowded housing, safer working conditions, and overall increases in the standard of living. More generally, the environmental conditions associated with

poverty came to be recognized by some as perhaps the most crucial determinants of health and illness in the 19th century. For these researchers and practitioners, health was a largely a function of the various social, economic, and political forces that shaped people's environments and dictated their standard of living.

With the advent of the "germ theory" of disease, and subsequent development and refinement of our understanding of microbiological causes and cures, recognition of the social origins of illness became largely overshadowed by an ideological reliance on medical care and technology. These developments have been collectively referred to as the "first public health revolution." In the latter half of this century, with infectious diseases on the decline in most developed countries, chronic diseases such as heart disease, hypertension and cancer became the most prevalent causes of mortality. With this change came an increasing understanding of the behavioral risk factors for these conditions, and an increasing emphasis on the individual's responsibility for adopting healthier lifestyles. The emergence of the recognized importance of individual responsibility for minimizing behavioral risk factors such as smoking, high fat diet and inactivity has been termed the "second public health revolution." Although this development may have "de-medicalized" to some extent the public's perceptions regarding who is responsible for maintaining good health, it essentially shifted the locus of responsibility for health and illness even further from societal factors and public policy and on to the individual.

The movement toward greater emphasis on individual responsibility, and the accompanying proliferation of targeted educational campaigns designed to teach, cajole, persuade, or convince people to adopt healthier lifestyles, have not been without critics. The argument is made that the individual responsibility perspective, when applied too broadly or to the exclusion of other approaches, takes us further away from the roots of public health. These roots include a fundamentally ecologic perspective that emphasizes the critical role of the physical and social environments in influencing health and health-related behaviors. Placing undue or unrealistic responsibility on individuals for maintaining their own health leads to a victim-blaming mentality and serves to relinquish societal responsibility for maintaining and enhancing environments conducive to optimal health. One of the key considerations in this argument is the disparity in health status and health-related behaviors across levels of socioeconomic status (SES). Lower SES groups tend to smoke more, have poorer diets, use alcohol to excess, and be less physically fit than others. For various reasons, these differences may be due in large part to social and economic circumstances that make healthier behaviors less attainable or less of a priority for lower SES individuals.

Smoking provides a particularly poignant example. Although we have witnessed substantial declines overall in the prevalence of smoking in this country, the declines among the poorest and least educated have been minimal. The desire or perceived need to smoke may be linked in part to efforts to ameliorate the stressful aspects of poverty, unemployment, and substandard living and working conditions, and exacerbated by a different set of expectations and priorities for health maintenance. Although the massive anti-smoking campaign of the last quarter century has certainly contributed to a remarkable and positive overall decline in smoking, it has so far been only a partial success.

I mention the smoking example, because I think it bears a certain resemblance to the violence problem. Of all the major causes of death, and all the various identifiable behavioral risk factors for injury or death, violence shows by far the largest gradients across socioeconomic

status. In other words, it is strongly linked, in ways that are not fully understood, to conditions of resource deprivation, poverty, lack of opportunity, and discrimination. To what extent can we expect a public health approach to reduce violence? This may depend more on our capacity and our willingness to help address and ultimately improve these underlying conditions than on any other approach that might be taken. Violence is an incredibly complex problem that is intricately connected to, and influenced by, a host of social, economic, environmental and personal factors to a far greater degree than most threats to our health. Modern public health approaches have been able to successfully combat many specific agents of disease through targeted interventions and regulatory policies. Prevention of injuries due to violence may pose a much more difficult challenge. Although we may learn a great deal about the distribution and even the causes of violence through careful epidemiologic study, the development and application of effective prevention strategies is a task that public health, or any discipline for that matter, may find impossible to do by itself.

Both from within and from outside the public health community, a broader view of understanding and preventing violence is being voiced. This view re-emphasizes the crucial role of social environmental characteristics in fueling violent behavior and the necessity of addressing the underlying structural conditions that give rise to violence and other social pathologies. Several passages (from various published sources) reflecting this perspective are provided below:

> In developing programs to prevent injuries and deaths due to violence in high risk communities, we must recognize that major reductions in the level of violence are not likely to occur without addressing the problems of poverty, undereducation, chronic employment, unintended pregnancies, lack of personal options for change, poor physical and mental health, and lack of adequate social services (U.S. DHHS, 1991:176).

> A more reasonable explanation may be that the disproportionately high rate of homicide among blacks is not based on racial or ethnic factors, but on situational sociological factors that relate to poverty (Griffith & Bell, 1989:2268).

> Homicide rates in the United States are several times higher than those in other developed countries . . . . In seeking explanations for population differences, individually oriented conceptualizations are less compelling that those emphasizing broad environmental variables (Jeffery, 1989:1196).

This broader public health perspective's recognition of the importance of the social environment in influencing health and behavior shares certain similarities with the view of many sociologists and criminologists. Indeed, sociology has a long history and well-defined conceptual and empirical framework for examining macrolevel influences on aggregate behavior. With respect to violence, many of the same concerns regarding the need to address underlying structural conditions are shared by both the public health community and criminal justice-related disciplines such as criminology and sociology. However, the applied or programmatic aspects of both public health and criminal justice are in many ways constrained as to what can be done in addressing these concerns. The criminal justice system's response to violence is largely through traditional law enforcement activities. The public health approach, in addition to helping define the problem and drawing greater attention to it, has been primarily one of identifying and targeting high risk groups for intervention.

The strategy of applying programmatic interventions for high risk groups, if conducted within a larger agenda for promoting social change, may not be unreasonable. After all, despite our best efforts, it is probably unrealistic to believe that we will see rapid improvements in the broad and underlying social conditions that contribute to the violence problem. The question remains, however, as to what types of interventions will be used and be effective? Unlike some health problems with simpler etiologies and modes of transmission, it is not clear exactly what to do to prevent violence. This is where I believe it is critical that an interdisciplinary approach be adopted. Certainly there are clues -- theories, models, and empirical knowledge, developed in other disciplines that can help inform the design of potentially effective violence prevention programs. These disciplines include, but are not limited to, psychology, sociology, social work and criminology. Obviously, there will be numerous and conflicting perspectives from within these disciplines, but careful reviews of the literature should help to clarify which of them have strong empirical support and are pertinent to the specific problem being addressed. There are also numerous potential points of intersection between the efforts of the public health and criminal justice systems. We need to better identify these opportunities (for example, in emergency rooms, detention centers, shelters, drug treatment centers, and so on) and build collaborative approaches designed to effectively link prevention, treatment and other types of social services.

The mainstay of violence prevention programming currently appears to be conflict resolution training and social skills development among adolescents. In many respects, this approach is consistent with the recent emphasis on the use of focused educational strategies to induce behavioral change among targeted individuals. Yet there is no overwhelming or even relatively convincing evidence or theoretical justification to support putting so many of our eggs in one basket. Will these violence prevention education programs be any more effective in preventing violence with disadvantaged populations than the antismoking campaign was for reducing smoking in these groups? And if not, can we afford to wait over 25 years to see only marginal improvements among those who are most at risk for the problem?

Prevention efforts on the part of both criminal justice and public health need to make better use of the knowledge that has been developed in the traditional social science disciplines. An example of one apparently successful application by criminal justice is the development of community policing practices, which builds on theories of community psychology and neighborhood development. Similarly, although public health has a long history of implementing programs in the community, and an infrastructure for doing so, violence prevention efforts clearly need to be informed by relevant theory and knowledge regarding the causes of violence and how to best intervene. As I mentioned earlier, public health in the broadest sense is eclectic, encompassing a wide range of approaches and disciplinary perspectives in addressing health problems. It is important that this flexible and holistic approach, both in research and practice, not be constrained by agency boundaries and narrowly defined missions or objectives.

I am not optimistic about the potential effects of targeted educational programs, such as teaching conflict resolution skills, for reducing the prevalence of violence on a societal basis. Violence prevention programs will need to go beyond a focus on violent behaviors and attempt instead to provide youth and young adults with the apparatus to more successfully cope with, or buffer themselves from, the various deleterious effects of the negative family and socioeconomic environments that put them at risk. Regulatory policies, used so effectively in reducing injury deaths due to motor vehicle crashes, could also prove to be effective in reducing rates of lethal violence. Examples include policy efforts to reduce the availability of firearms to those who

perpetrate violence, to reduce children's exposure to violence in the media, and to help ensure the safety of victims of domestic violence. Indeed, the implementation of multiple prevention-oriented programs and policies generates a synergistic potential that could substantially exceed the sum of individual efforts.

Ultimately, the most effective violence prevention strategies, and also the most complex and difficult to implement, will be those that affect the underlying societal determinants of violent behavior. Neither criminal justice nor public health has the capability, by itself, to produce such large-scale changes in our social fabric. Nevertheless, it is important that programmatic efforts to reduce violence continually seek to expand their domain and to gradually include among their objectives social and environmental changes as well as individual change. In like manner, both criminal justice and public health organizations can be stronger advocates for the sorts of public policies that will eventually lead to reductions in poverty, unemployment, relative deprivation, and other aspects of our social and economic structure that are linked to the commission of violence.

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# THE IMPACT OF HOMICIDE ON LIFE CHANGES: INTERNATIONAL, INTRANATIONAL AND DEMOGRAPHIC COMPARISONS

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Homicide statistics from the Centers for Disease Control's National Center for Health Statistics are derived from information collected on all death certificates filed in the 50 States and the District of Columbia. These data are coded and tabulated annually and made available to the user in several different formats, including published reports and volumes, as well as on public use data tapes. 1991 is the most recent year of national data available.

## SOURCE OF U.S. NATIONAL MORTALITY DATA

Mortality data are based on information from all death certificates filed in the 50 States and the District of Columbia. Mortality statistics are based on information coded by the National Center for Health Statistics (NCHS) from copies of the original certificates received from the State registration offices and on State-coded data provided to NCHS through the Vital Statistics Cooperative Program (VSCP). Data for the United States refer to events occurring within the United States.

The mortality statistics are compiled in accordance with the World Health Organization regulations, which specify that member nations classify causes of death by the current Manual of the International Statistical Classification of Diseases, Injuries, and Causes of Death. Causes of death for 1990 were classified according to the Ninth Revision of the ICD (ICD-9).

Homicides are classified according to ICD-9 Nos. E960-E969 (Homicide and injury purposely inflicted by other persons) and Nos. E970-E978 (Legal intervention). Homicides caused by firearm are classified under ICD-9, Nos. E965.0-E965.4, assault by firearms, and E970, legal intervention by firearm.

## ACCESSIBILITY OF DATA

Public use data tapes are available annually, free of charge to schools of public health, and for a fee to others. Beginning with 1989 data files, public use data tapes are available in two formats from the National Technical Information Service (NTIS). The first tape is for a single calendar year and includes data for cities, counties, and metropolitan areas with a population of 100,000 or more. The date of death and date of birth of the decedent are excluded from the file.

The second format is for the most recent three-year period and includes data for all counties, metropolitan areas and cities with populations of 50,000 or more. The tape excludes day and year of death and date of birth of decedent.

Users purchasing either tape format from NTIS have to sign a purchase and use agreement that includes the previous restrictions on data tape use plus an additional stipulation

that the user make no attempt to link the data set with individually identifiable records from any other data set.

Users with more detailed data needs should write a letter describing those needs to the Director of the Division of Vital Statistics, and requesting the specific files that are needed and how the tapes would be used.

Data users are also encouraged to make themselves familiar with the annual volumes, Vital Statistics of the United States, Mortality, Parts A and B. Finally, mortality data are also available on the CDC-Wonder Network.

## EXAMPLES OF U.S. NATIONAL MORTALITY ANALYSIS

### I. Cross-National

All cross-national comparisons in Figures 1-7 are for 1989-90 (except Canada, which is for 1989 only).

The homicide rate for the U.S. population in 1989-90 was 9.6 per 100,000 population, which is three to 20 times the rates in selected other developed countries (Figure 1). The homicide rate for the U.S. black population was seven times the rate for the white population (38.0 compared with 5.6 per 100,000).

The homicide rate for males in the U.S., 15.4 per 100,000, was four to 22 times the rates in the comparative countries (Figure 2). There is considerably less country-to-country variation in homicide rates after the U.S. is omitted from the comparisons. The rate for black males in the U.S., 65.6 per 100,000, was nearly eight times the rate for white males. The rate for white males, 8.6 per 100,000, was more than twice the level of the countries with the next highest rates.

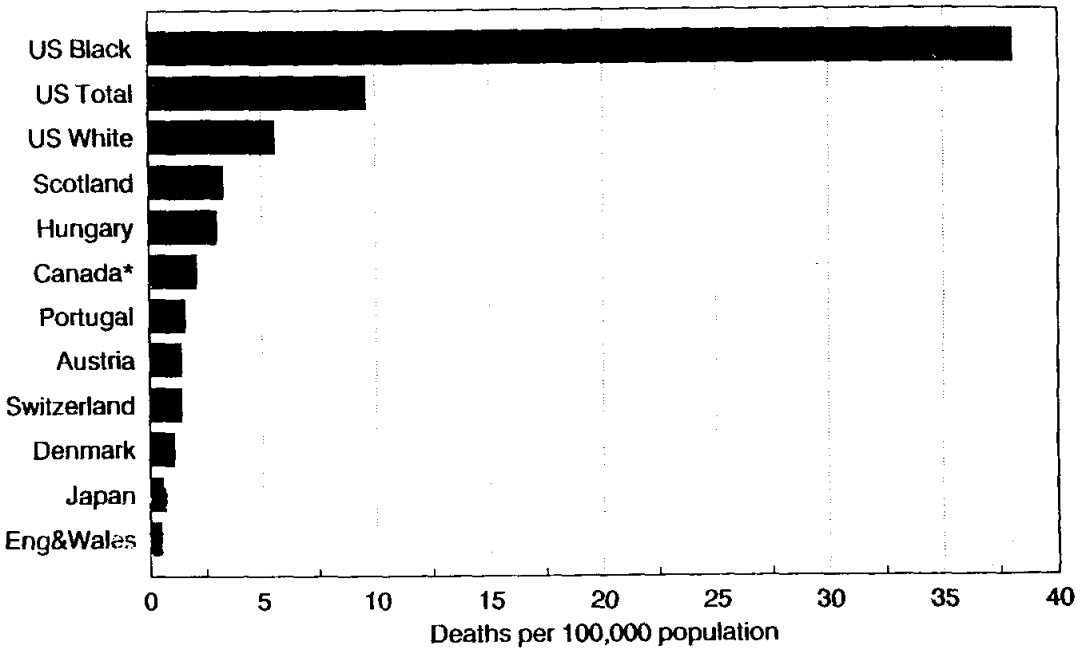
Among females, there was considerably less cross-national variation in homicide rates than was observed among males (Figure 3). The U.S. rate was 4.1 per 100,000, less than twice the rates in the countries with the next highest rates and *only* 10 times the rates in the countries with the lowest rates. Nonetheless, the rate for U.S. black females, 13.2 per 100,000 population, was still five times the rate for U.S. white females.

The homicide rate for children under one year of age in the U.S., 8.5 per 100,000 population, was not significantly different from the rates in Hungary or Austria (Figure 4). The rate for U.S. black infants, 22.1 per 100,000, however, was about three times the rates in Austria and Hungary. The "rank order" of countries with respect to total homicide compared with homicide for children under one year of age is very different. For both males and females, Japan ranked among the countries with the lowest total (crude) rates; for children under one year, however, the homicide rate in Japan was higher than in several other countries.

At ages 15 through 24, the homicide rate in the U.S., 18.2 per 100,000 population, was 2.8 times the rate in Scotland, 6.3 per 100,000 (Figure 5). (The rate for white persons aged 15 to 24 years, 9.1 per 100,000, was significantly higher than the rate in Scotland.)

Figure 1

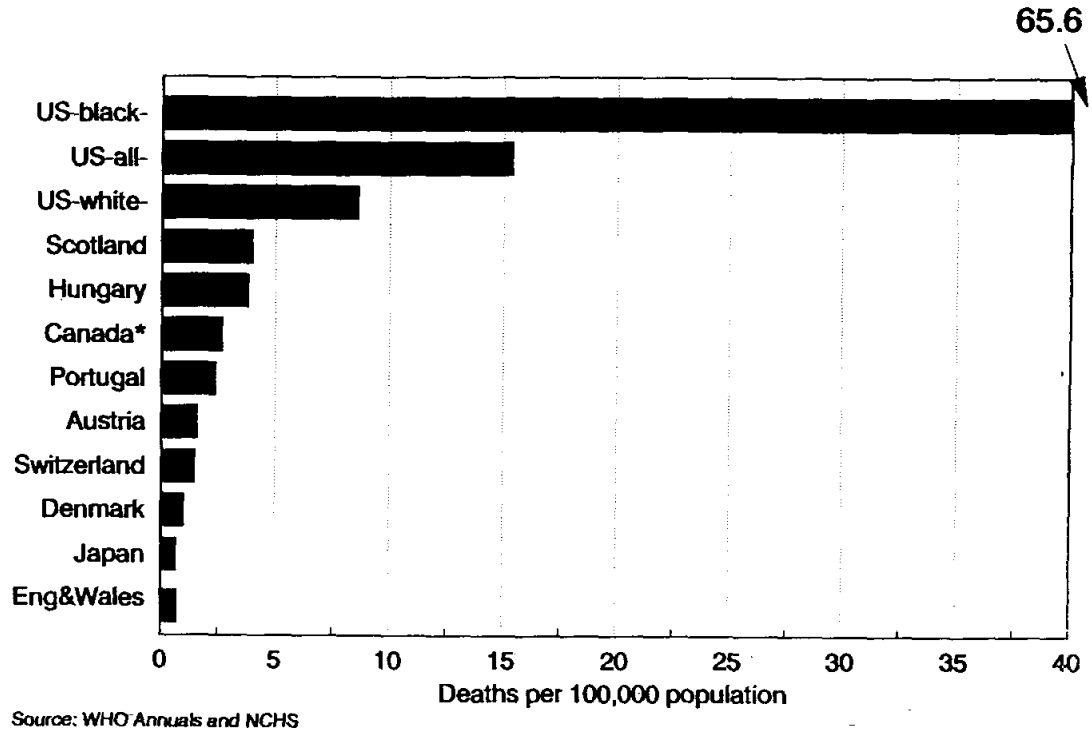
Homicide Rates in the U.S. and Selected Nations: 1989-1990




Source: WHO Annuals and NCHS
* 1989 only

Figure 2

Male Homicide Rates in the U.S. and Selected Nations: 1989-1990




Source: WHO Annuals and NCHS
* 1989 only

Figure 3

Female Homicide Rates in the U.S. and Selected Nations: 1989-1990

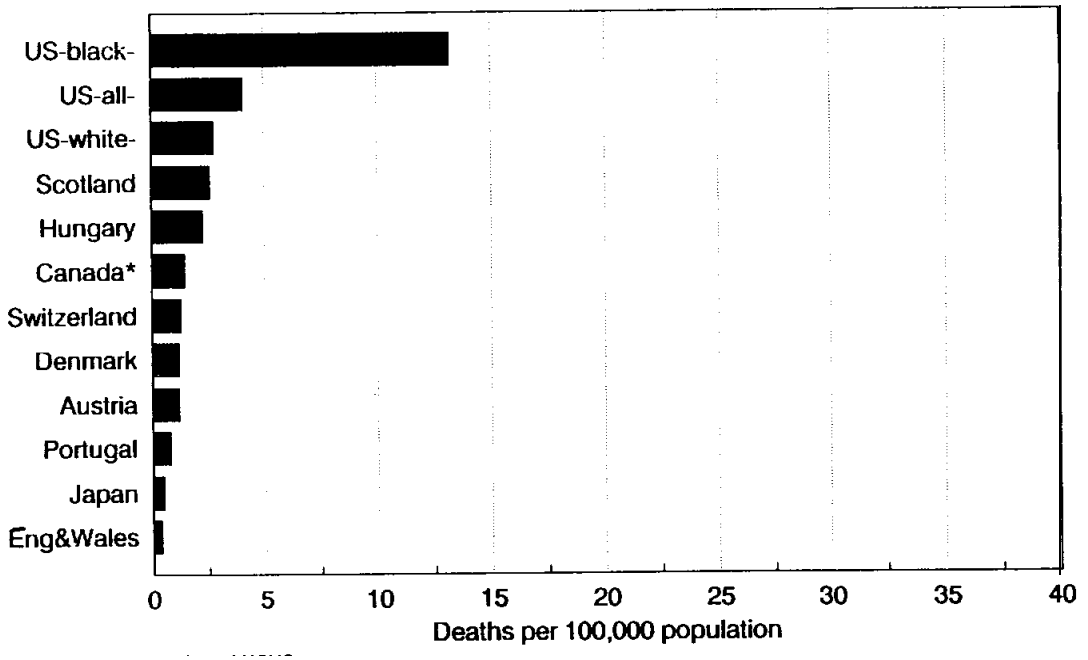
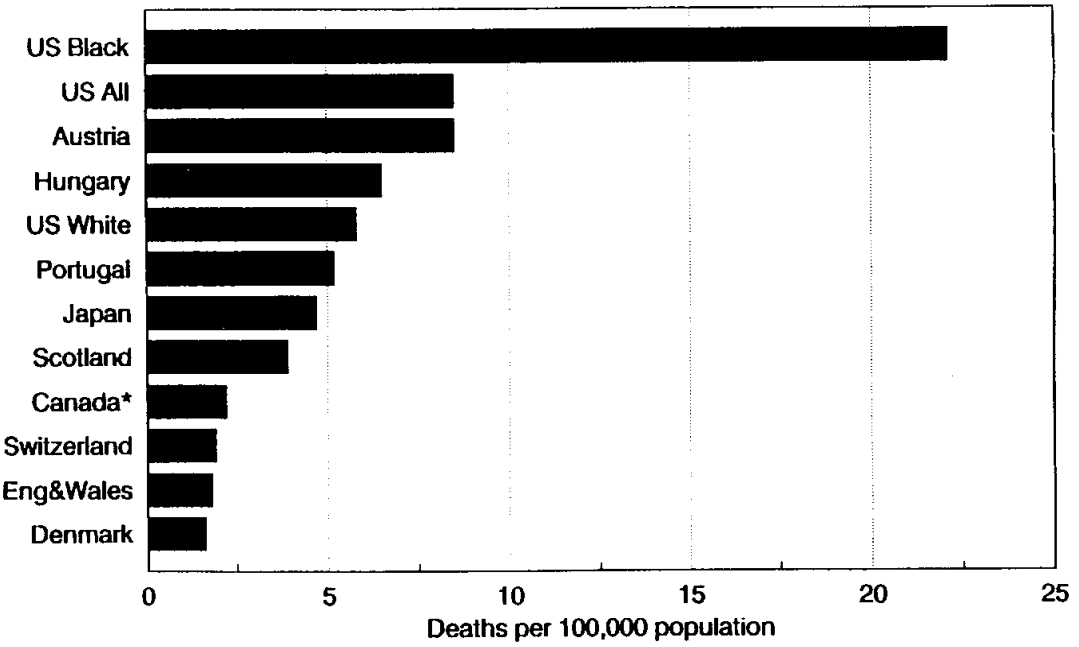



Figure 4

Infant Homicide Rates in the U.S. and Selected Nations: 1989-1990



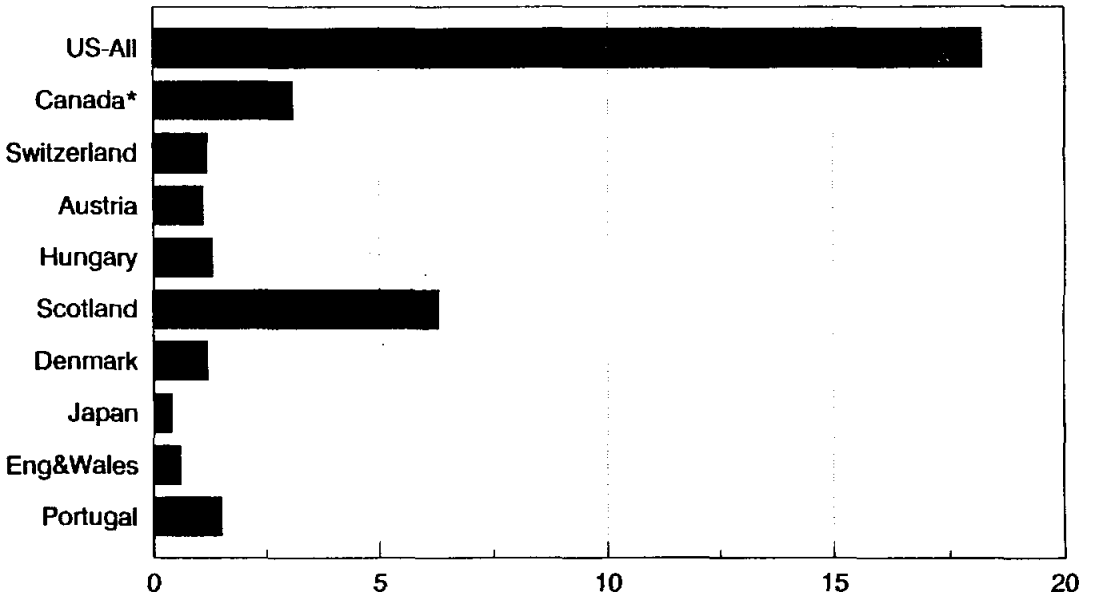

Source: WHO Annuals and NCHS

* 1989 only

Deaths under 1 year of age.

Figure 5

Homicide Rates Among Persons 15-24 Years of Age, Selected Countries, 1989-1990




Among males aged 15 to 24 years, the homicide rate in the U.S. (29.9 per 100,000) was five to 50 times the rates in other countries (Figure 6). Cross-country variation in the suicide rate was considerably smaller, and the rate in the U.S. among males (21.8 per 100,000) was lower than in several countries.

Among females aged 15 to 24 years, homicide rates in most of the countries compared were similar to rates among males (Figure 7). In Canada, however, the rate for males was twice that for females (far lower than the 5:1 ratio in the U.S.). It is noteworthy that the relatively high homicide rate in Scotland is similar for males and for females.

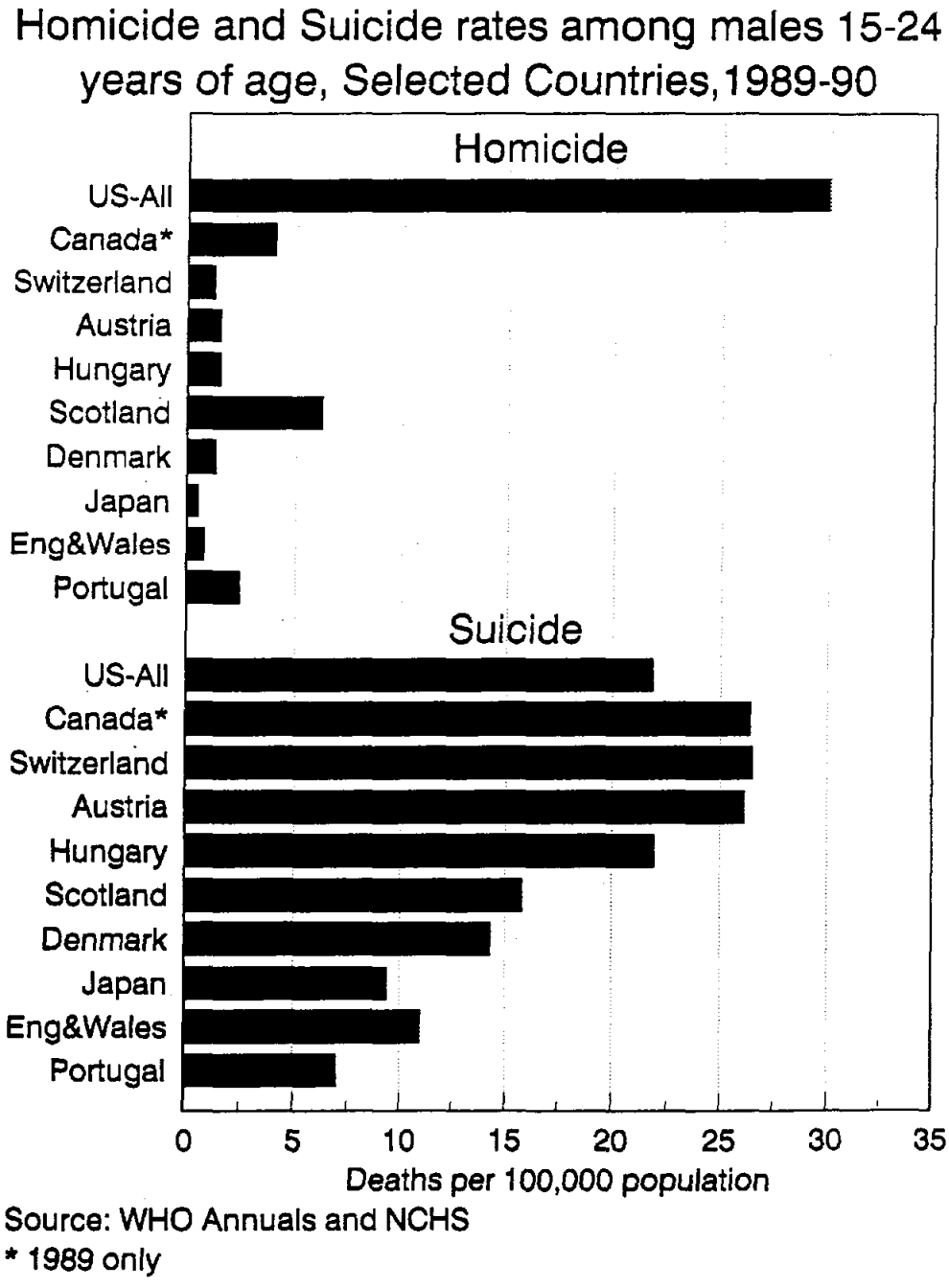
Suicide rates among females were lower than the rates for males in all of the countries compared. The suicide rates for females in the U.S. were similar to or lower than the rates in several of the countries.

II. United States Only

The age-adjusted homicide rate in the U.S. in 1990 was 10.2 per 100,000 population (Figure 8). The rate for black males, 68.7 per 100,000, was nearly eight times the rate for white males, 8.9 per 100,000, and the rate for black females was close to five times that for white females, 13.0 compared with 2.8 per 100,000.

Figure 6

Young Male Homicide and Suicide Rates




Source: WHO Annuals and NCHS

* 1989 only

Figure 7

Young Female Homicide and Suicide Rates

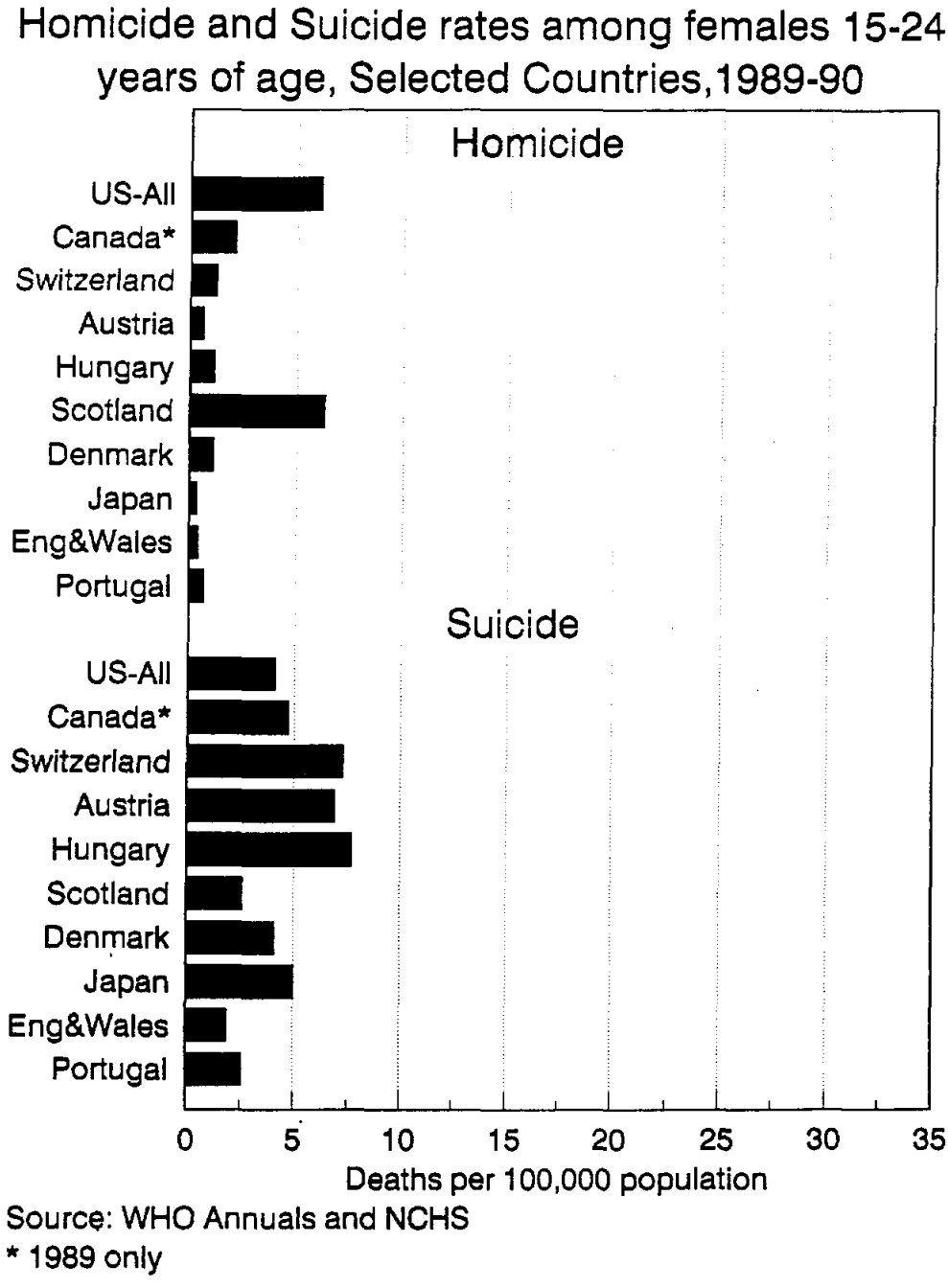
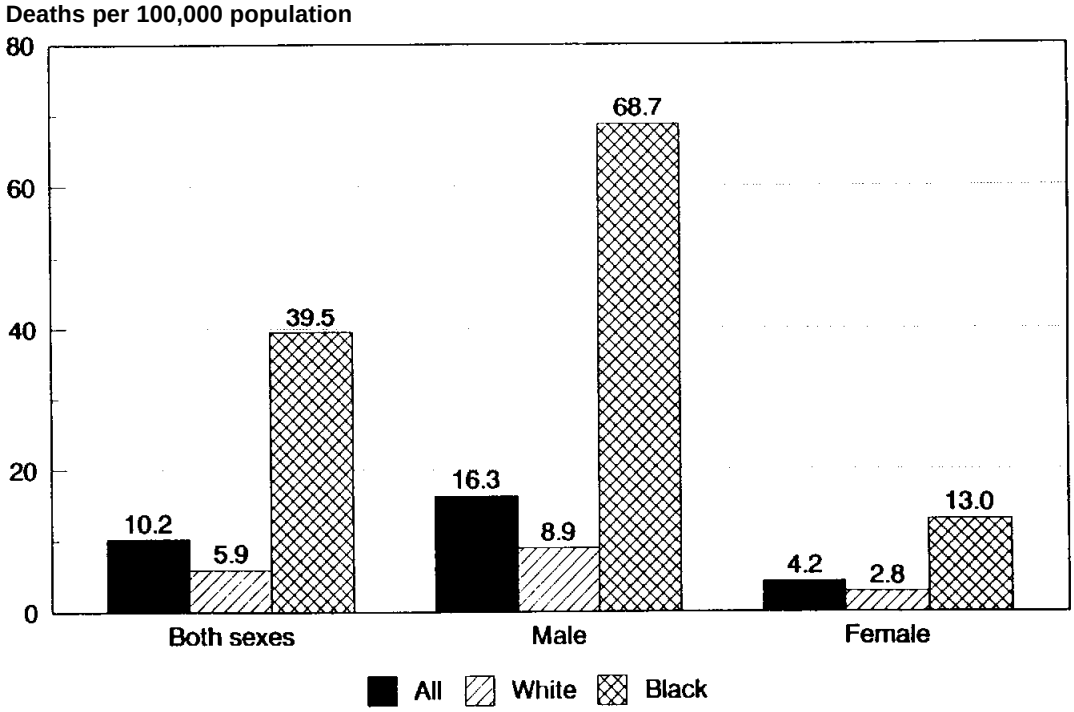


Figure 8

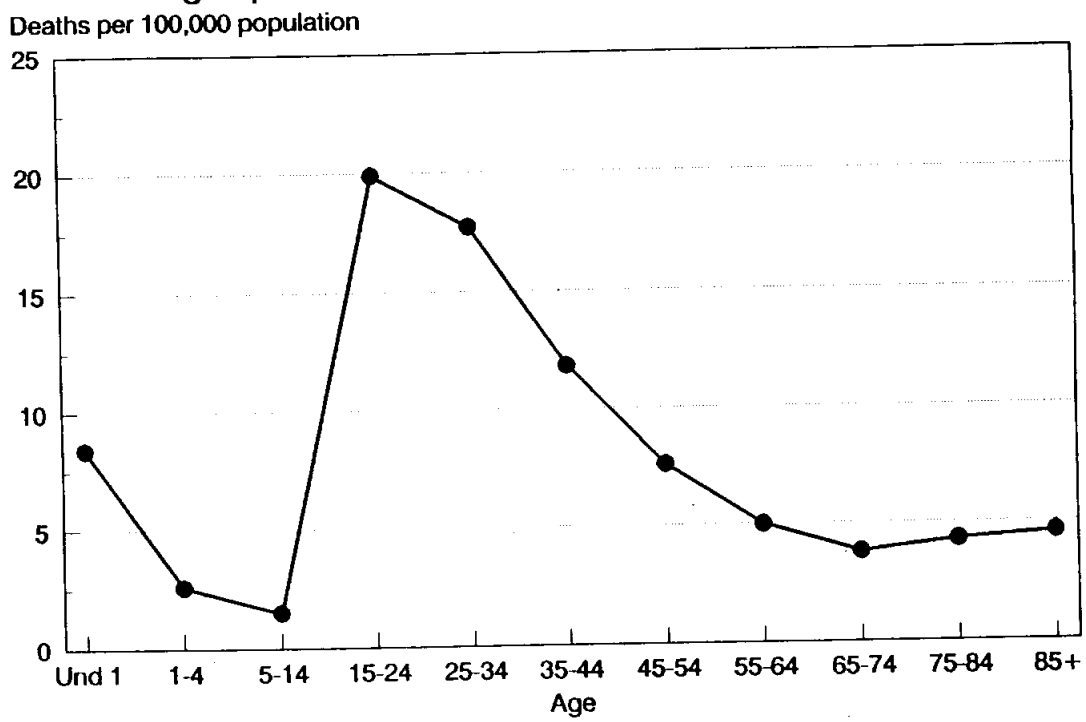
## Age adjusted homicide rates, United States, 1990




Source:NCHS

Figure 9

## Age specific homicide rates, United States,1990




Source: NCHS

The age-specific homicide curve peaks at 15 to 24 years, and falls off precipitously with age to about 65 to 74 years before levelling off (Figure 9). The rate for children under one year is much higher than for older children.

Except for children under age one, age-specific motor vehicle crash death rates are higher than homicide rates (Figure 10). Suicide rates are higher than homicide rates after ages 25 to 34 years.

Homicide by Firearm Status, Race and Sex

White Males

Firearm homicide exceeds nonfirearm homicide for white males aged from 10 to 14 through 55 to 64 years (Figure 11). Apart from children under one year, the largest relative difference by firearm status is at ages 15 to 19 years, 3.3:1.

Black Males

As with white males, for black males firearm homicide exceeds nonfirearm homicide for children aged 10 to 14 through adults aged 55 to 64 (Figure 12). Firearm homicide rates peak at ages 20 to 24 (140.7 per 100,000), while nonfirearm homicide rates are similarly high at 25 to 44 years of age (about 30 per 100,000).

White Females

Among white females, firearm and nonfirearm homicide rates are relatively similar across the age distribution, except for children under five. The nonfirearm homicide rate for children under one is the highest rate in the age distribution.

Black Females

The age distribution of homicide for black females is very different from that for white females (Figure 14). For children under one year of age, the nonfirearm homicide rate is 21.2 per 100,000, higher than at any other age. There is a second peak among elderly black females. For those aged 10 to 14 through 25 to 29, firearm homicide rates are higher than nonfirearm homicide rates, while for black females aged 30 to 54 years, the relative difference between the rates is smaller.

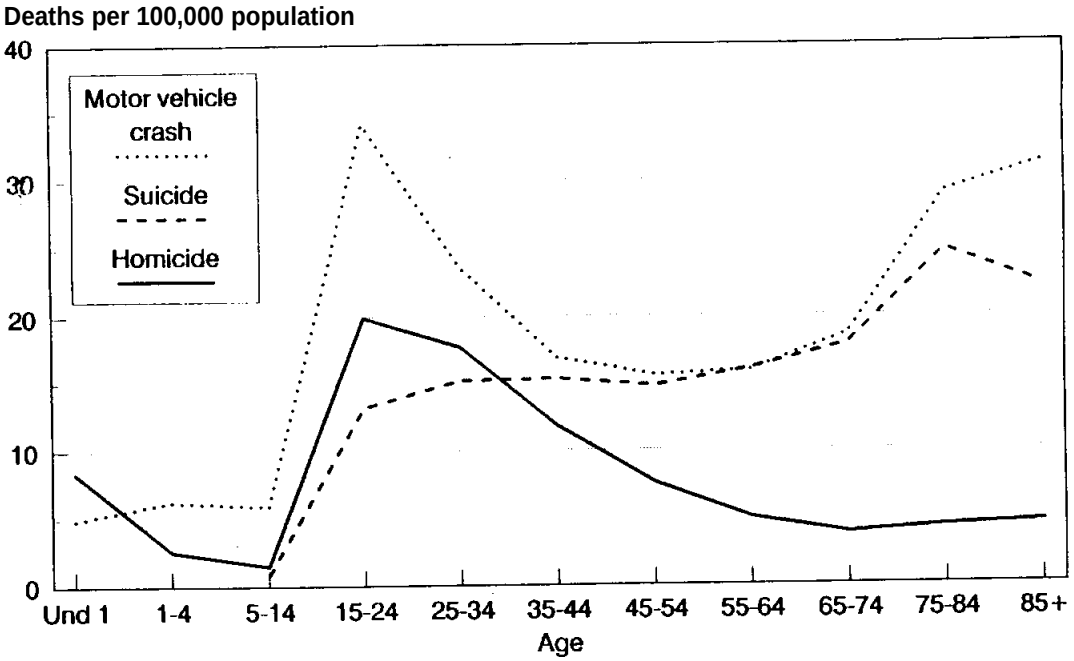
Homicide by Firearm Status in Metropolitan Counties

Core Counties

Homicide rates in core counties (those metropolitan counties containing the primary central city of an MSA (Metropolitan Stasticial Area) with a population of at least 1 million) are dominated by firearm homicide among persons 15 to 34 years of age (Figure 15). The shapes of the age curves for firearm and non-firearm homicide rates in core metropolitan counties are very similar to those for black males.

Figure 10

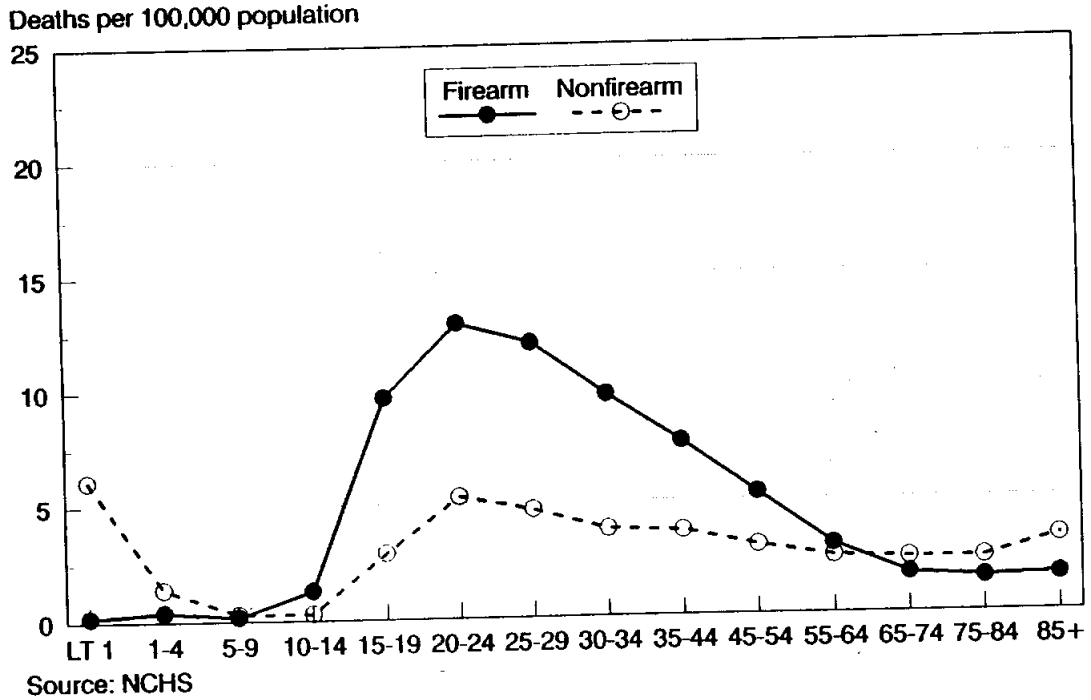
## Age specific homicide, suicide and motor vehicle death rates, United States, 1990




Source: NCHS

Figure 11

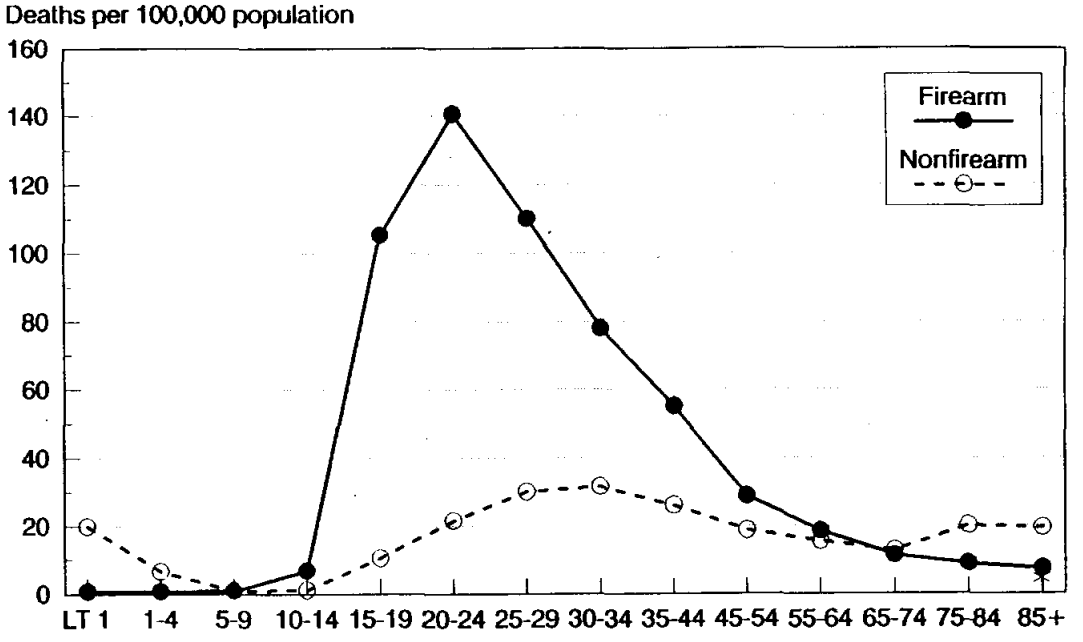
## Homicide by Firearm Status among White Males United States, 1990




Source: NCHS

Figure 12

## Homicide by Firearm Status among Black Males
## United States, 1990

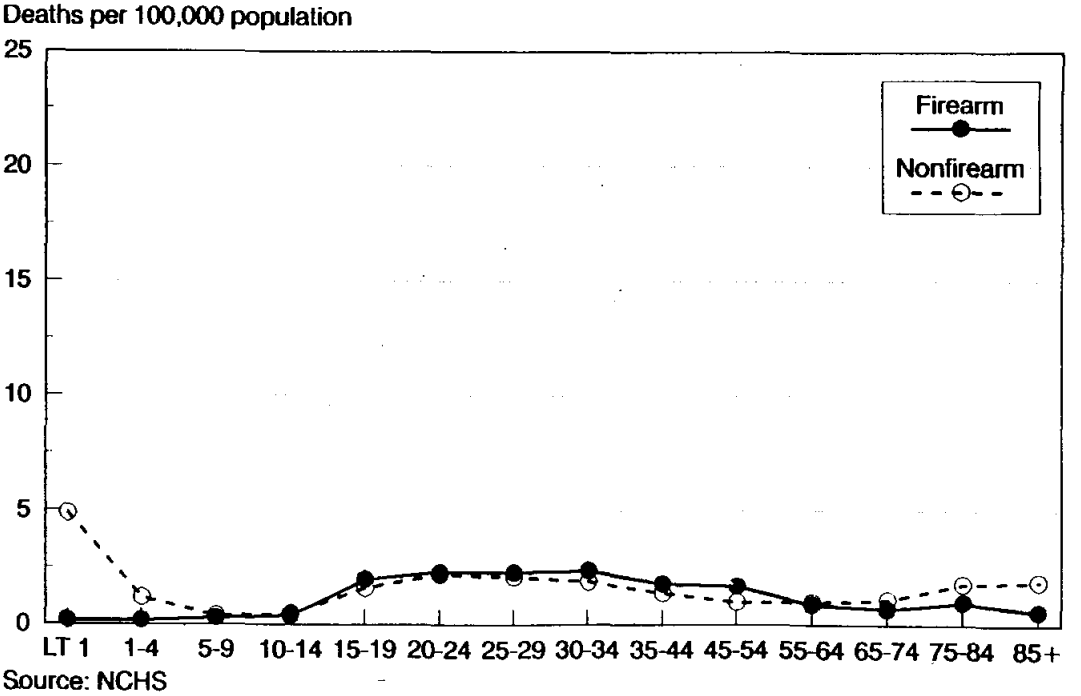



Source: NCHS

* Based on fewer than 20 deaths

Figure 13

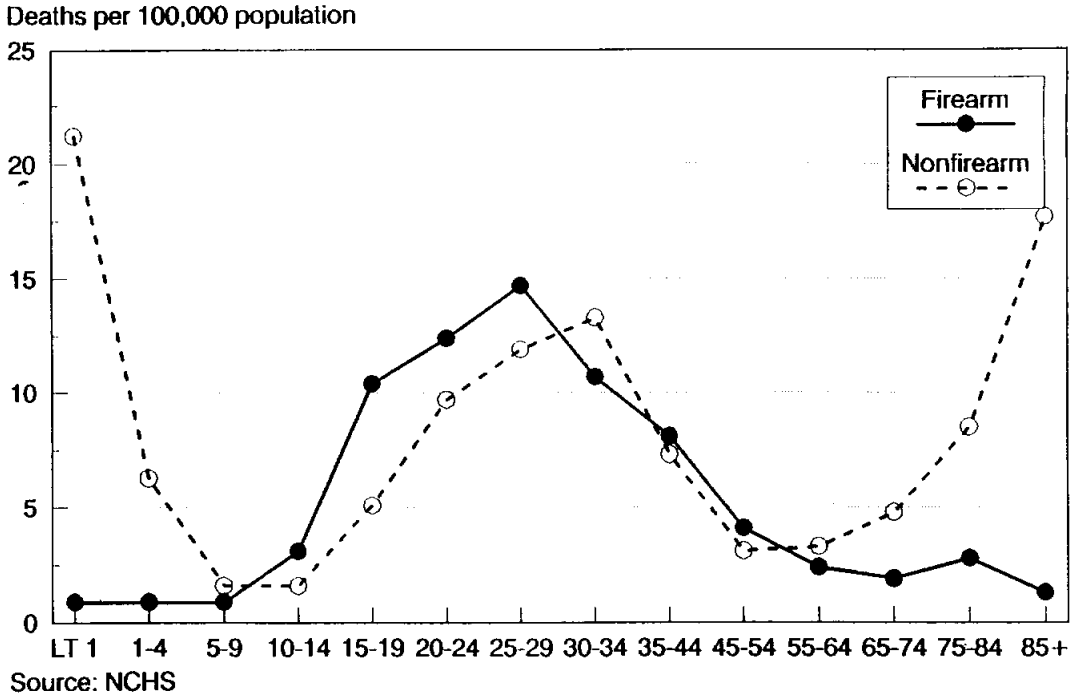
## Homicide by Firearm Status among White Females
## United States, 1990




Source: NCHS

Figure 14

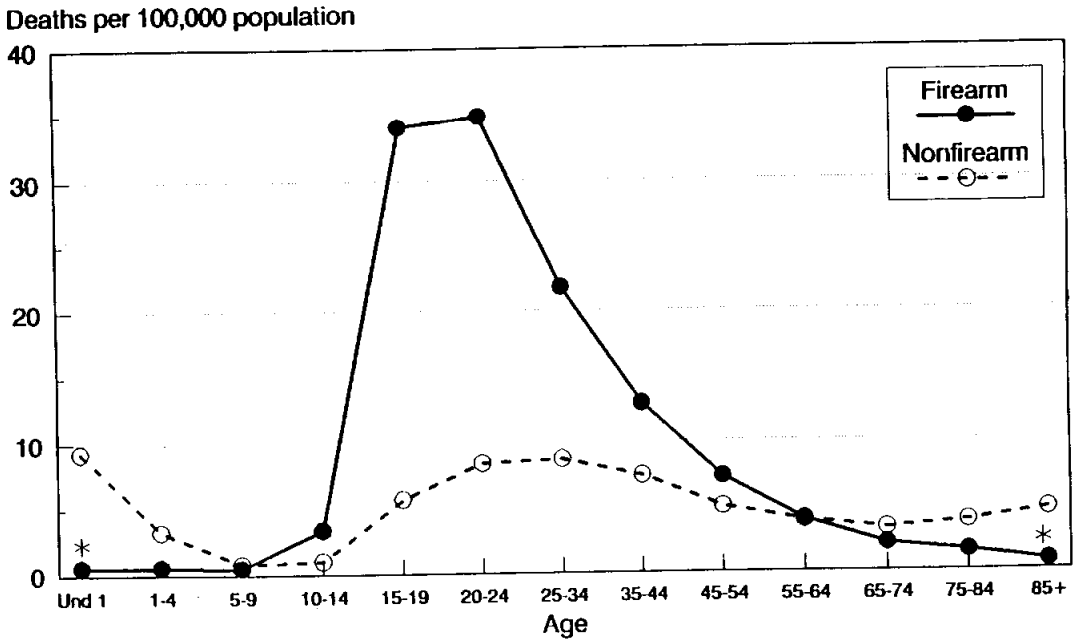
## Homicide by Firearm Status among Black Females United States, 1990




Source: NCHS

Figure 15

## Firearm and Nonfirearm Homicide in Core Metropolitan Counties: United States, 1990




Source: NCHS

* based on fewer than 20 deaths

Fringe Counties

Homicide rates in fringe (or suburban) counties (those metropolitan counties with a population of at least 1 million) are much lower than in the core counties (Figure 16). As in the core, however, firearm homicide rates among young persons aged 15 to 34 years are still the highest rates.

Medium Counties

Homicide rates in medium metropolitan counties (those metropolitan counties with a population of at least 250,000 but less than a million) are higher than the rates in the fringe counties, but the shapes of the curves are similar (Figure 17).

Small Counties

In the small metropolitan counties (those metropolitan counties with a population of less than 250,000), nonfirearm homicide rates among those under one year of age are about as high as firearm homicide for those 20 to 24 years of age.

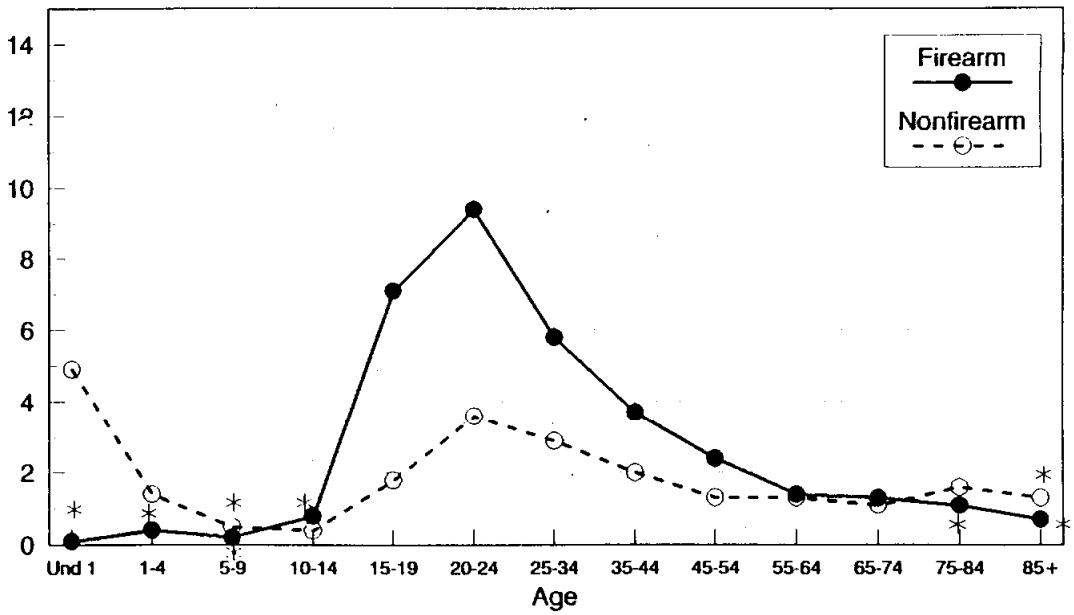
Hispanic data

Homicide rates for Hispanic persons are higher than for non-Hispanic persons at ages 10 to 14 through 65 to 74 years (Figure 19). Rates for Hispanic persons ages 15 to 54 years are close to two times the rates for non-Hispanic persons of the same ages.

Figure 16

## Firearm and Nonfirearm Homicide in Fringe Metropolitan Counties: United States, 1990

Deaths per 100,000 population



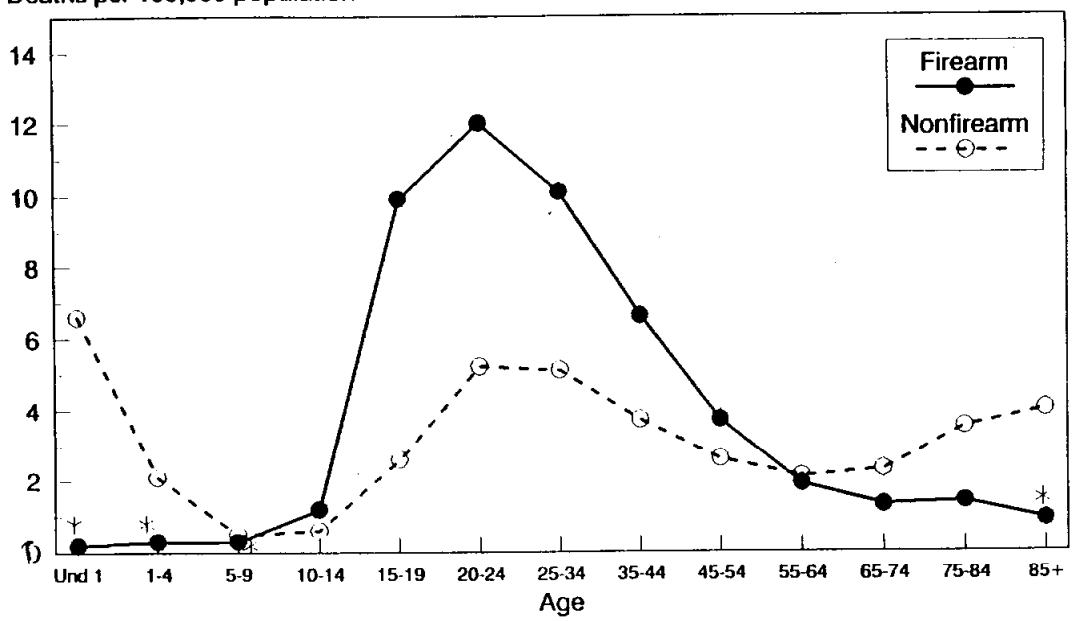

Source: NCHS

* based on fewer than 20 deaths

Figure 17

## Firearm and Nonfirearm Homicide in Medium Metropolitan Counties: United States, 1990

Deaths per 100,000 population





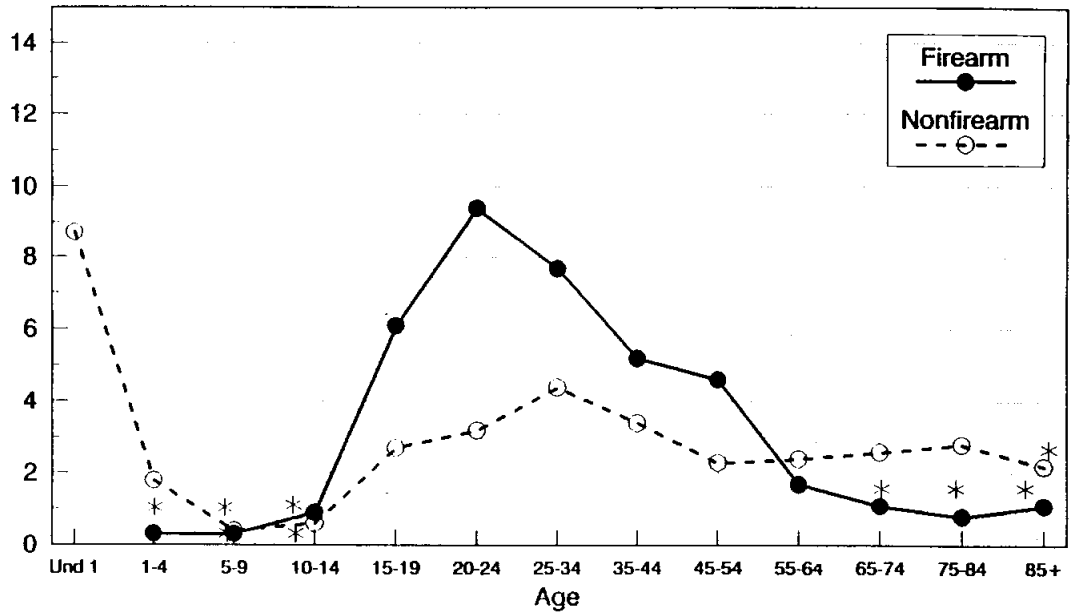

Source: NCHS

* based on fewer than 20 deaths

Figure 18

## Firearm and Nonfirearm Homicide in Small Metropolitan Counties: United States, 1990

Deaths per 100,000 population



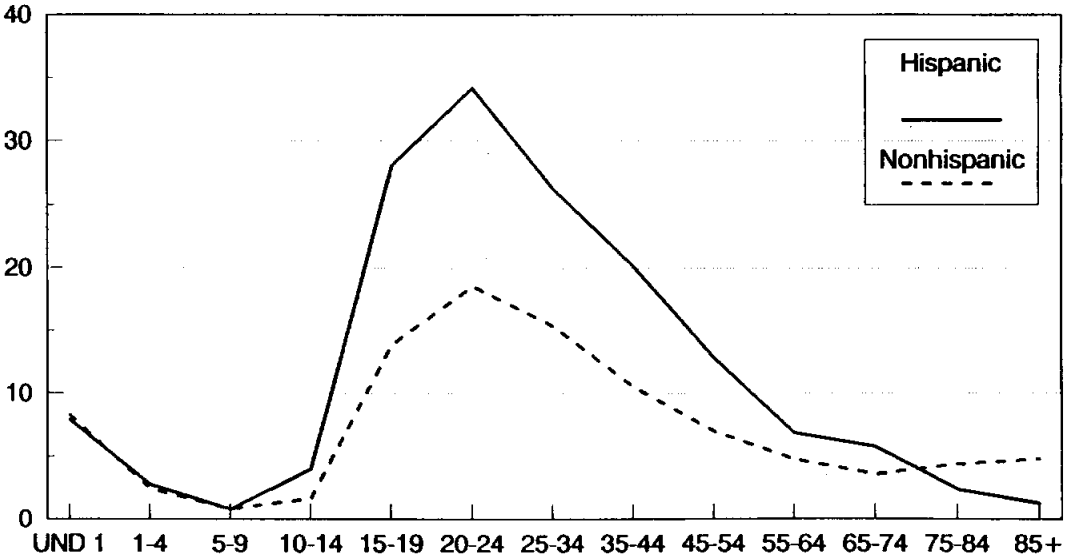

Source: NCHS

* based on fewer than 20 deaths

Figure 19

## Homicide Rates for Hispanic and Nonhispanic Persons in Reporting States, 1990

Deaths per 100,000 population




Source: NCHS

Hispanic includes 87% of the entire US Hispanic population.

# LIFE CHANCES OF BECOMING A VICTIM OF HOMICIDE

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Annual national homicide rate estimates serve a number of functions. They provide a portrait of the nation's homicide experience during a particular year. Used in conjunction with previous annual estimates, trend comparisons can be developed. In addition, people can use such estimates to evaluate their own risk of becoming a victim of this crime. Estimates of a lifetime chance of becoming a victim of homicide can provide an alternative to annual homicide rates in gauging risk.

There are both advantages and disadvantages to using lifetime chance estimates rather than annual rates to evaluate risk. One advantage is that lifetime chance estimates can place the risks in a more understandable framework for many people and allow them to compare risks of different types of events. Annual rates, especially for comparatively rare events such as crime, can be difficult for many people to interpret in the context of risk evaluation.

Life chance estimates speak more directly to people than do annual rate estimates. The message given by an annual estimate is, "In year a, x person in y (for crime, usually 1,000 or 100,000) experienced z." People trying to use such estimates to evaluate risk must transform the number into some other form to be able to make a meaningful evaluation. Life chance estimates, however, say (assuming that the person falls within the group being examined), "**My** chance of experiencing z during **my** life is x."

Annual crime rates, the usual perspective for crime estimates, are, in effect, recorded history. They are fixed in the past, reporting only what has already occurred. As such, they provide a collective history of the nation's crime experience. Because aggregate estimates combine high risk or incidence types of people together with low risk or incidence people, it is more likely that most people will use group specific crime rates rather than aggregate rates to assess risk of crime victimization. However, the predictive role of annual estimates is arguably not their primary function.

Life chance estimates, however, speak more directly to what might happen in the future. Because of this, aggregate life chance estimates must be examined with great care.

Table 1 provides estimates of annual rates of occurrence, as well as annual and lifetime chance estimates for homicide, other crimes and selected other lifetime events. (The lifetime chances were not calculated for those events for which age-specific rates were not available.) The data were drawn from a number of sources. Because the data were collected for purposes other than the production of lifetime chance estimates, some imprecision has been introduced into the annual chance and lifetime chance estimates. Inherent in the annual chance and lifetime chance estimates for all non-fatal events is the assumption that each occurrence happened to a different person. The annual rates were calculated using incident based, not person based, data, and therefore include cases for people who experienced the events more than one time during the year. The extent to which the annual rate estimates included people experiencing the event

more than one time during the year will cause the annual and lifetime chance estimates to be overestimates.

Table 1
**Annual and Lifetime Chances of Homicide and Other Life Events**

| Event | Annual Rate (per 100,000) | Annual Chance | Lifetime Chance |
|---|---|---|---|
| **Crime** | | | |
| Homicide[1] | 10 | 1 in 10,200 | 1 in 151 |
| Violent crime[2] | 3,128 | 1 in 32 | 1 in 1.2 |
| Rape (females only)[2] | 140 | 1 in 714 | 1 in 12.5 |
| Robbery[2] | 557 | 1 in 179 | 1 in 3.3 |
| Assault[2] | 2,486 | 1 in 40 | 1 in 1.4 |
| Personal theft[2] | 6,103 | 1 in 16 | 1 in 1 |
| | | | |
| **Other events** | | | |
| Accidental injury[3] | 23,800 | 1 in 4 | |
| Motor vehicle injury[4] | 682 | 1 in 147 | |
| Cancer- new case[5] | 436 | 1 in 229 | |
| Chronic heart condition[6] | 7,590 | 1 in 13 | |
| Death, any cause[7] | 862 | 1 in 116 | |
| Accidental death[7] | 37 | 1 in 2,681 | 1 in 38 |
| Fire death[8] | 2 | 1 in 52,632 | |
| Cancer death[8] | 200 | 1 in 500 | |
| Heart disease death[8] | 296 | 1 in 338 | 1 in 4 |

Notes:
[1]Data for 1991. source: FBI (1992)
[2]Annual rates and annual chances data for 1991. Source: BJS (1992)
Lifetime chances data for 1975-84. Source: Koppel (1987)
[3]Data for 1989. Source: NCHS Vital and Health Statistics; published in Census Bureau (1992) table 184.
[4]Data for 1990. Source: National Safety Council; published in Census Bureau (1992) table 989.
[5]Data for 1991. Source: American Cancer Society; published in Census Bureau (1992) table 200.
[6]Data for 1989. Source: NCHS Vital and Health Statistics; published in Census Bureau (1992) table 195.
[7]Data for 1990. Source: NCHS Vital and Health Statistics; published in Census Bureau (1992) table 114.
[8]Data for 1989. Source: NCHS Vital and Health Statistics; published in Census Bureau (1992) table 123.
[9]Data for 1989. Source: NCHS Vital and Health Statistics; published in Census Bureau (1992) table 116.

The data in table 1 clearly indicate that the lifetime chance is related to the annual rate of occurrence, so that the approximate magnitude of the lifetime chances for those events not calculated can be extrapolated.

The method used to calculate lifetime chances of becoming a victim of homicide replicates the methodology used by Langan and Innes (1985) and Koppel (1987). A person's lifetime chance of experiencing an event is simply the sum of the probabilities of that person's experiencing that event at each age of his or her life. The probability that a person will experience a particular event (in this case, homicide victimization) at any given age depends upon both the probability that the person will be alive at that age and the probability that the person will experience that event at that given age.

Table 2 illustrates the calculation of the lifetime chances of homicide victimization. For each age group, the number of homicide victims for 1991 was multiplied by the nation's 1991 population in the group to obtain an annual homicide rate. Life tables produced by the National Center for Health Statistics provided the number of people in each birth cohort of 100,000 alive at the upper limit of each age group. The number alive in each age group was then multiplied by the group's homicide rate to produce an estimate of the number at each age per 100,000 that were homicide victims. (The homicide data had been adjusted to proportionally allocate cases with unknown age.) Because age-grouped data were used, rather than single age data, the resultant number was multiplied by the number of years encompassed by the age group to produce an estimate of the number of persons per 100,000 in each age group victimized by homicide. The estimates for each age group were then summed to produce the number of persons per 100,000 who are expected to be the victim of homicide at some point in their life. Dividing 100,000 by this result produces a statistic in the familiar 1 in x chances format.

There are a number of assumptions inherent in estimates of life chances of any event, many of which are not always relayed to those using the estimates. Because the estimates are predicting the probability of future events based upon past occurrence, an underlying assumption is that the future will resemble the past. If the rate at which the event occurs changes, the estimated lifetime chance of experiencing the event will either be an under- or over-estimation of the actual chance.

Another assumption in the aggregate rate is that the chances of experiencing the event are evenly distributed across the population, so that every member of the population has a similar chance of experiencing it. With crime, we know that this assumption is false. Certain groups have a much greater vulnerability to crime than others.

While annual aggregate crime rates also group high incidence types of people with low incidence types, such annual rates primarily serve another purpose, that of portraying the overall experience of the entire population.

The utility of annual and lifetime chance estimates is that this format is one that is easily understood by most people. The difficulty with these estimates lies in the fact that most people do not understand their underpinning assumptions and how these relate to their actual personal risks. In fact, the actual risks are dependent upon a number of factors not necessarily incorporated in the statistics presented. Published life chance data, even if presented for population

subgroups, may still be too aggregated to reasonably reflect a person's real chances of experiencing the event.

Table 2
**Lifetime Risk of Homicide -- Total Population**

| Age | Population in 1,000's | Homicides | Adjusted Homicide Rate | Homicide Rate | Number Living | Estimated number/ year dying of homicide | Estimated number in group dying of homicide |
|---|---|---|---|---|---|---|---|
| 0-1 | 4,011 | 304 | 357 | 0.000089 | 100,000 | 9 | 9 |
| 1-4 | 15,211 | 371 | 436 | 0.000029 | 98,959 | 3 | 11 |
| 5-9 | 18,237 | 110 | 129 | 0.000007 | 98,817 | 1 | 4 |
| 10-14 | 17,671 | 290 | 341 | 0.000019 | 98,730 | 2 | 10 |
| 15-19 | 17,242 | 2,702 | 3,174 | 0.000184 | 98,421 | 18 | 91 |
| 20-24 | 19,372 | 3,948 | 4,637 | 0.000239 | 97,907 | 23 | 117 |
| 25-29 | 20,844 | 3,362 | 3,949 | 0.000189 | 97,332 | 18 | 92 |
| 30-34 | 22,242 | 2,898 | 3,404 | 0.000153 | 96,652 | 15 | 74 |
| 35-39 | 20,573 | 2,145 | 2,519 | 0.000122 | 95,787 | 12 | 59 |
| 40-44 | 18,779 | 1,496 | 1,757 | 0.000094 | 94,707 | 9 | 44 |
| 45-49 | 14,101 | 981 | 1,152 | 0.000082 | 93,211 | 8 | 38 |
| 50-54 | 11,646 | 658 | 773 | 0.000066 | 90,950 | 6 | 30 |
| 55-59 | 10,423 | 459 | 539 | 0.000052 | 87,482 | 5 | 23 |
| 60-64 | 10,582 | 421 | 494 | 0.000047 | 82,252 | 4 | 19 |
| 65-69 | 10,037 | 321 | 377 | 0.000038 | 74,975 | 3 | 14 |
| 70-74 | 8,242 | 241 | 283 | 0.000034 | 65,221 | 2 | 11 |
| 75-84 | 10,314 | 213 | 250 | 0.000024 | 60,557 | 1 | 15 |
| 85+ | 3,160 | 112 | 132 | 0.000042 | 31,892 | 1 | 1 |
| Unknown | | 3,671 | - | | | | |
| Total | 252,687 | 24,703 | 24,703 | 0.000098 | | 140 | 661 |

Rate per 100,000 - 0.006613
Lifetime chance- 1 in: 151.2177

For example, in 1981 the FBI reported, using data for 1978-80, that the overall chance of becoming a victim of homicide in the United States was 1 in 153. When race and sex are controlled for, a very different picture develops. White males had a 1 in 164 chance, black males a 1 in 28 chance, white females a 1 in 450 chance, and black females a 1 in 117 chance of becoming a homicide victim. These race and sex differences demonstrate that the overall lifetime chance statistic 1 in 153 is a reflection of no actual person's actual risk of homicide. However,

if it were possible to look beyond the age and race breakdown, it would be obvious that even age and race are not enough to provide a reasonable reflection of risk. A majority of homicide victims are between the ages of 15 and 35. People surviving to age 35 have a distinctly smaller chance of becoming a victim of homicide than do younger people. (On the other hand, events such as onset of cancer or a heart condition have a very different age structure than does violent crime. The annual risk of these events increases with age, so that the lifetime risk for older people may not be very much smaller than that of younger people.)

In the case of homicide there are many factors that contribute to a lifetime risk. Socio-economic status, place of residence, occupation, and lifestyle, to name a few, all play some role. Since it is impossible to create individual lifetime risk analyses, it is especially important when presenting estimates of lifetime chances to inform the audience of the limitations of the estimates, and that a person's individual risk may differ from the presented estimates because of factors not accounted for in the data.

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# A LIFESPAN PERSPECTIVE ON HOMICIDAL VIOLENCE: THE YOUNG MALE SYNDROME

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In 1983, two prominent American criminologists, Travis Hirschi and Michael Gottfredson (1983:554), provoked a flurry of controversy by asserting (among other things) that,

(1) "the age distribution of crime is invariant across social and cultural conditions," and
(2) "the age distribution of crime cannot be accounted for by any variable or combination of variables currently available to criminology."

The age distribution to which Hirschi and Gottfredson referred entails the onset of offending in adolescence, followed by a quick rise to maximal rates or probabilities in young adulthood and a more gradual decline. (For additional documentation, characterization and discussion of this ubiquitous age pattern, see Gardner [1993], Hirschi & Gottfredson [1986], Holinger [1987], Steffensmeier & Allan [1988], and Steffensmeier, Allan, Harer & Streifel [1989].)

Other criminologists soon disputed Hirschi and Gottfredson's claims, attacking proposition (1) mainly by documenting some variability in age distributions and proposition (2) by arguing for the explanatory adequacy of existing criminological theories. Steffensmeier, Allan, Harer and Streifel (1989), for example, objected to the overstatement in proposition (1)'s claim of "invariance," which they countered by showing that robbery and arson peak a little later than auto theft and burglary, and that white collar crimes peak much later still. In so doing, however, they conceded both a remarkable consistency of offense-specific age patterns and the universality of a unimodal age distribution of the general pattern claimed by Hirschi and Gottfredson.

Other critics have been more exercised by proposition (2). Tittle (1988), for example, insisted that traditional criminological theories of "labelling" and "social control" can account for the age effect perfectly well. To a skeptical reader, however, his account invoking these theories seems post hoc and arbitrary in its assumptions; "labelling" and "social control" seem not to be predictive theories at all, but terminologies that could have been invoked in a discussion of any age pattern that might have turned up. Indeed, Gove (1985) derived precisely the opposite expectation -- namely that criminal activity should continue to increase with age -- from the same "labelling theory" that Tittle used to "explain" the radically different age pattern that is actually observed.

Ironically, then, the attacks on Hirschi and Gottfredson's polemic seem only to have underscored its considerable element of truth. The "age distribution of crime" to which they drew attention is extremely robust, especially as regards crimes involving an element of confrontation and risk of injury. And the sociological theories favored by criminologists provide no more fundamental insight into this pervasive age-related patterning than they provide into the equally

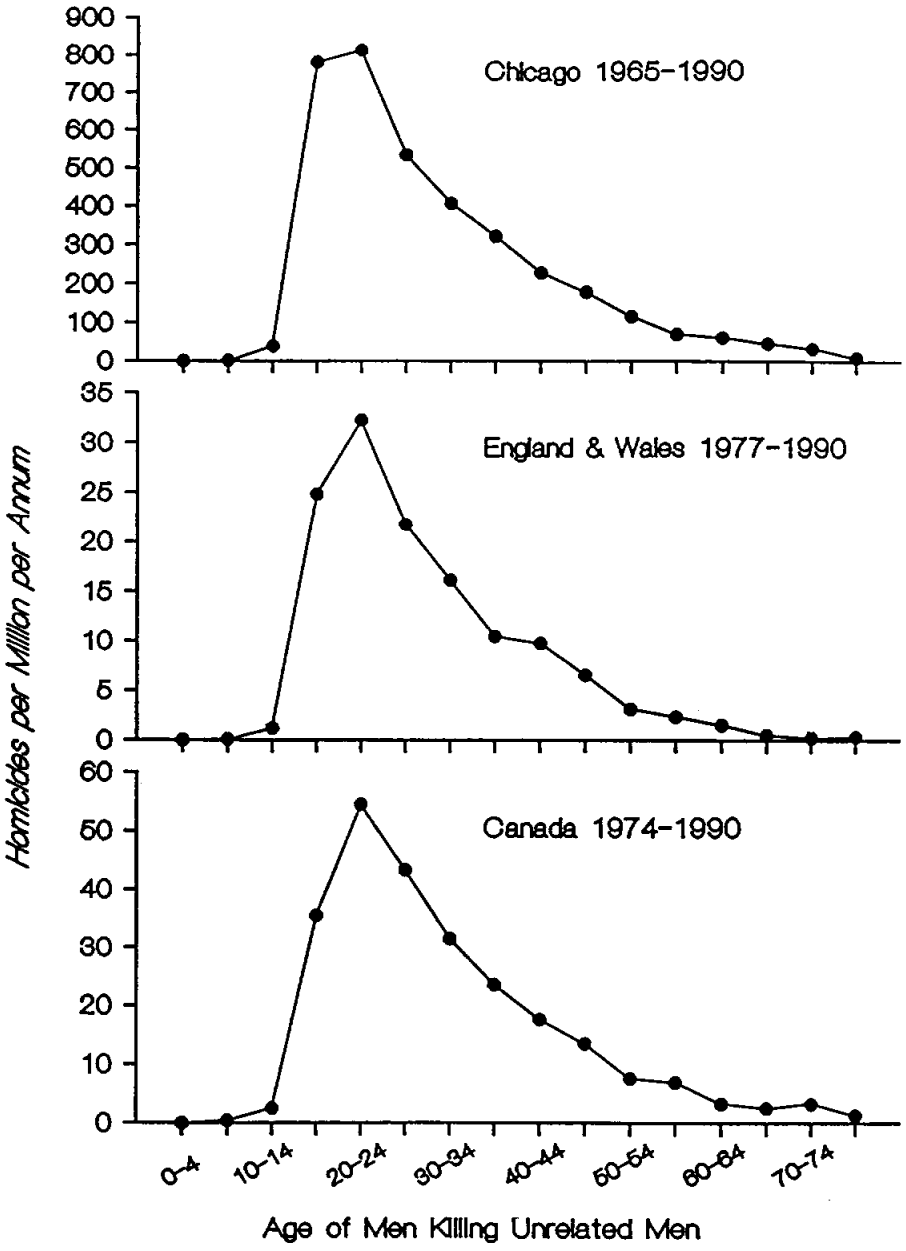
pervasive sex differences in offending. What is lacking from these theories is any conception of what gender-specific life-span developmental trajectories are all about.

## THE AGE PATTERN OF LETHAL MALE-MALE VIOLENCE

Figure 1 presents the age-specific rates at which men have killed unrelated men in Canada, Chicago and England and Wales. Although homicide rates are markedly different, with

Figure 1

**Age- and sex-specific rates at which males killed other males unrelated to themselves in Chicago, in England & Wales, and in Canada.**



the peak rate in Chicago exceeding that in England and Wales by 30-fold, the shapes of age distributions are remarkably similar. The median ages of the killers in Canada, Chicago and England/Wales, respectively, were 26, 24 and 25. (Moreover, in these and in all other homicide samples of which we are aware, men killed unrelated men vastly more often than women killed unrelated women; Daly & Wilson, 1990.) The pattern shown in Figure 1 is an instance of the "age-crime relationship" to which Hirschi and Gottfredson (1983) referred.

The data archives from which Figure 1 is derived are victim-based. If a man killed three unrelated men in a single incident, for example, he contributed three homicides to the numbers perpetrated by his age category. One might argue that an analysis such as this should count killers in a given age-class rather than victims of that age-class's killers; we would reply that the number of persons killed constitutes the more straightforward measure of the lethality perpetrated by a particular demographic class. A single killer was counted for each body, although multiple offender cases occurred in all three archives. An offender-based portrayal would scarcely affect the patterns in Figure 1, shifting them slightly towards youth, because a larger proportion of the cases perpetrated by young men involved multiple offenders than of those perpetrated by older men.

The individual "credited" with the killing was the first offender listed by the police. The first offender is likely to be the party most clearly culpable and charged with the most serious offence, if such variability among offenders exists. Although Block (1987:20) noted that there is a potential age bias in the Chicago file, in that "older offenders tend to be listed first" (p. 20), the impact of any such bias on the age patterns in Figure 1 cannot be large, since the tendency Block noted is slight, multiple-offender cases constitute a minority of the cases portrayed, and the offenders in such cases were almost always very close in age to one another.

## YOUNG MEN ARE "RISK-PRONE"

The category of homicides that most clearly manifests Hirschi and Gottfredson's age-crime curve is that in which killer and victim were unrelated men. Demographic variations in the likelihood of becoming involved in such a homicide appear to reflect variations in "risk acceptance." Many of these cases involve risky utilitarian criminal activity, especially robbery, and even more involve escalated disputes over status or "face," in which both parties must in effect accept the risk inherent in the confrontation if it is to proceed to lethality (Wilson & Daly, 1985).

There is considerable evidence that males more than females, and young adult males more than other age classes, possess evolved morphological and physiological specializations for "violent" action (review by Daly & Wilson, 1990). There is also reason to believe that young men are psychologically specialized to embrace danger and confrontational competition. For example, in various activities, young men have been found to be especially motivated by competition and especially undeterred by danger to self (reviews by Daly & Wilson, 1990; Gardner, 1993; Holinger, 1987; Jonah, 1986; Kandel, 1980; Lyng, 1993; Tonkin, 1987; Wilson & Daly, 1985, 1993).

These facts are predictable from sexual selection theory and from comparative considerations: In any animal species subject to a sexual selection regime like that of human prehistory, young adult males are the age-sex class who are most accepting of the risks inherent in confrontational competition (see, e.g., Rubin & Paul, 1979; Wilson & Daly, 1993).

According to Gove (1985:115): "Age is by far the most powerful predictor of the cessation of those forms of deviant behavior that involve substantial risk and/or physically demanding behavior." Gove reviews much intriguing but sketchy evidence of lifespan developmental changes in motives, tastes and attitudes in such spheres as competitiveness, self-absorption, moralizing, need for approval, emotionality and stimulation-seeking, all of which seem to reflect a declining appetite or aptitude for risk and competition over the course of adulthood, aptly concluding that his own discipline of sociology has no handle on age or sex differences in "deviance" and is in need of "a biopsychosocial perspective." Unfortunately, although Gove offered a rich characterization of these lifespan changes, he gratuitously implied that lifespan development consists of a progression toward superior attributes rather than a series of life-stage-appropriate phenotypes. (See Alexander [1987], for a critique and re-evaluation of similarly gerontocentric accounts of "moral development.")

## DOES THE DEMOGRAPHY OF HOMICIDE REFLECT A MORE GENERAL "TASTE FOR RISK"?

Age-specific sex differences in risk-taking similar to the homicide patterns in Figure 1 are manifested in other domains of activity. Men, particularly young men, incur many more accidents and fatalities in motor vehicles, for example, than do women. Since men drive more than women, however, such differences need not imply greater risk-taking once behind the wheel, so Wilson and Daly (1985) combined fatality data with estimates of the numbers of miles driven by drivers in different age-sex classes, to compute age-specific rates of driver fatalities for men and women. Figure 2 shows that age-specific rates of driver fatalities per mile driven are maximally sexually differentiated in the late teens and early twenties. Although men indeed drive more than women, a dramatic sex difference in driver mortality remains when the data are corrected for miles driven, and the sex difference as well as the gross risk is strongly age dependent. It appears that this is not a matter of lesser skill, but rather of greater acceptance of risks, such as speeding, tailgating, refusing to yield right of way, and running amber lights (reviewed in Wilson & Daly, 1985). Men also react more aggressively than women to inconsiderate behavior by other drivers.

## MIGHT "AGE EFFECTS" SIMPLY REFLECT CHANGING CIRCUMSTANCES?

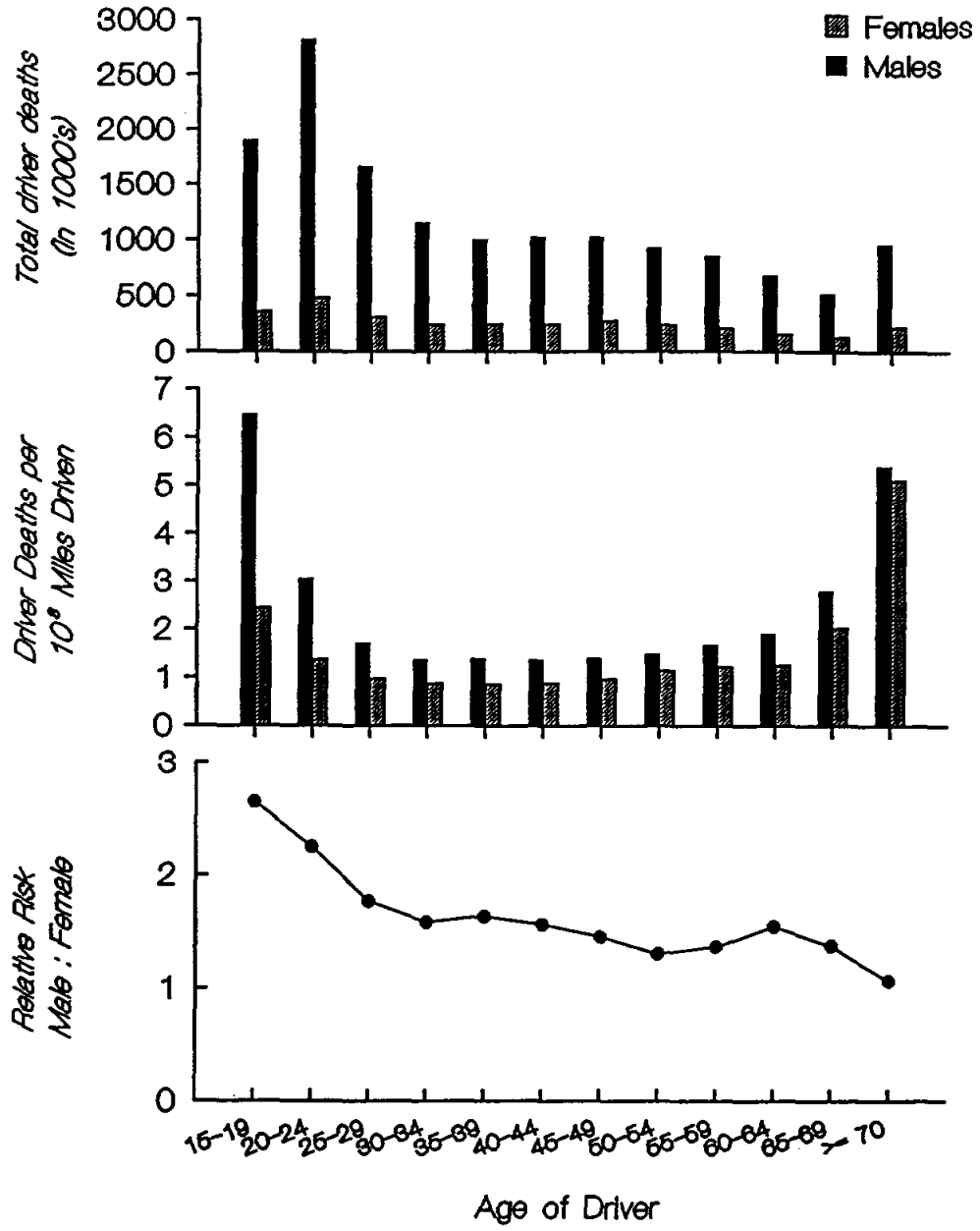
An alternative to the hypothesis that men possess an evolved lifespan developmental trajectory of risk-proneness is that age patterns such as those in Figures 1 and 2 are entirely due to changes in relevant circumstances that happen to be correlated with age.

Marriage, for example, might be expected to inspire a reduction in dangerous behavior, because access to women is a principal issue inspiring competition and married men have more to lose than their single counterparts. One might therefore hypothesize, for example, that the decline in violent offending over the course of adulthood is entirely accounted for by increases in the proportion married. This proves not to be the case. Figure 3 presents such a breakdown for two homicide data sets for which the requisite information on marital status was available. In both cases, marital status was indeed related to the probability of committing a same-sex, non-relative homicide, but age effects remain conspicuous when married and unmarried men are distinguished.

We must caution that Figure 3's evidence of an association between marital status and homicide warrants no conclusion about the direction of causality. It seems plausible that the state

Figure 2

**Driver deaths (excluding motorcycles) in the United States in 1970 by age and sex: (top) total driver deaths, (middle) driver deaths per million miles driven, (bottom) sex ratio of driver mortality rates per distance driven (from Wilson & Daly, 1985).**

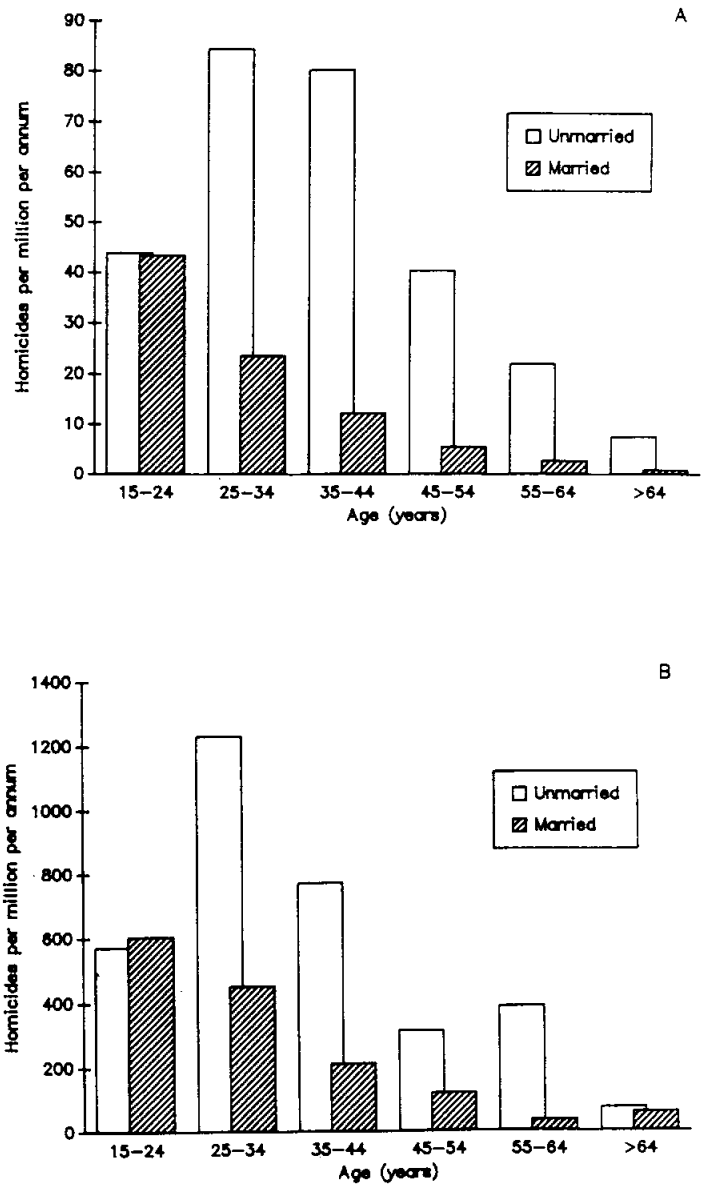



of marriage makes men more pacific and risk-averse; however, the data are equally consistent with the interpretation that marriage is a state that is relatively unlikely to be entered into by men who are relatively violent. Evidence against this latter possibility and in favor of the pacifying effect of marriage per se comes from a further breakdown of the “unmarried” category in the

Canadian data: Although numbers are small and rate estimates noisy, both divorced and widowed men exhibited homicide rates similar to those of single men and much higher than those of married men at all ages, suggesting that the violence and risk-proneness of single men are reinstated if marriage ends. An alternative interpretation is that those who divorce might constitute a violence-prone sample of ever-married men, but it seems less likely that the same would apply to those widowed.

Figure 3

**Age-specific rates of killing unrelated men by married versus unmarried men : (A) Canada 1974-1983; (B) Detroit 1972 (from Daly & Wilson, 1990).**

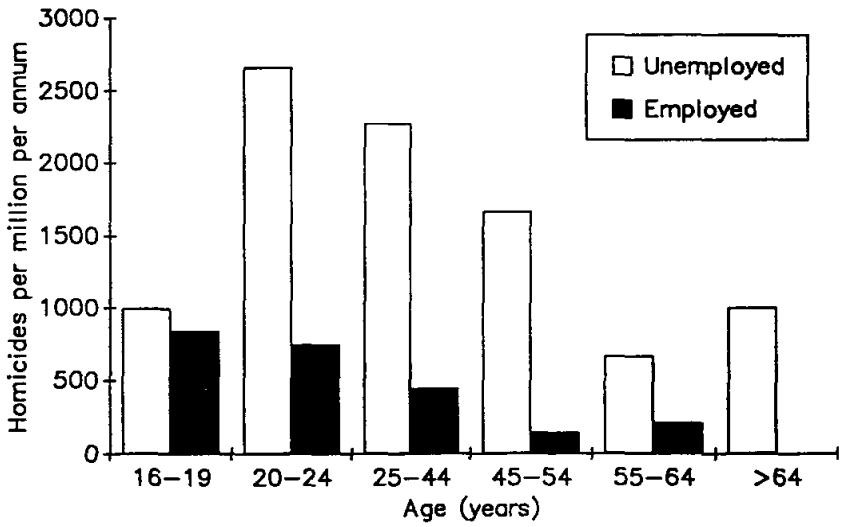


Other life events may account for additional age-associated variability. Restricted access to material resources, like restricted access to the opposite sex, can inspire a utilitarian escalation of dangerous competitive tactics and can be especially a problem in youth (Cohen & Machalek, 1988). Unemployed men behave more dangerously than those with jobs, and unemployment rates are maximal in young adulthood (Wilson & Daly, 1985, 1993). It also seems likely that becoming a father would be associated with reduced risk-proneness, but the requisite data to assess any such influence of fatherhood upon the patterns in Figures 1 and 2 are not available.

Hirschi and Gottfredson (1986:67) maintained that, “Change in crime with age apparently cannot be explained . . . by change in the social situation of people over the course of life.” However, the evidence they introduced in support of this claim was selected with respect to life stage and is of dubious probative value. They denied the relevance of increasing employment as a partial determinant of age-related declines in crime, for example, by citing some evidence that working teenagers are not less likely to be arrested than non-working teenagers. However, Wilson & Daly (1985) have shown that, whereas homicide perpetration in Detroit is indeed unrelated to employment status *among teenagers,* it is much more prevalent among the unemployed than the employed at all subsequent ages (Figure 4).

Figure 4

**Age-specific rates of killing unrelated men by employed versus unemployed men in Detroit: 1972 (from Daly & Wilson, 1990).**



Similarly, Hirschi and Gottfredson (1986) denied the relevance of acquiring a girlfriend, on the basis of evidence that delinquent boys are likelier to have girlfriends than their non-delinquent counterparts, but again, the validity of this point seems to be restricted to teenagers. Note, for example, that although homicide rates in Detroit were similar for married and single men when very young, they were very different beyond 25 years of age (Figure 3). Finally, Hirschi and Gottfredson (1986) maintained that becoming a father has no impact on age-related changes in offending, but on this issue they presented no evidence at all.

The data in Figures 3 and 4 indicate that a substantial proportion of the age-associated variability in violent offending may be attributable to age-associated change in social circumstances. But the age effects remain striking, and we doubt that they would disappear altogether in an analysis that simultaneously controlled for employment, marital status, fatherhood, and any other potentially relevant circumstantial correlates of age. However, no such analysis has yet been conducted, and the impediments to a conclusive treatment are formidable.

## THE NEED FOR PSYCHOLOGICAL STUDY OF RISK ASSESSMENT AND ACCEPTANCE

We have elsewhere argued more fully that the demographic risk patterns portrayed here are manifestations of an evolved psychology (Daly & Wilson, 1983, 1988, 1990; Wilson & Daly, 1985, 1993). But in suggesting that these age-, sex-, and circumstance-specific patterns of homicide and of driver mortality are intelligible -- even predictable -- from evolutionary models is by no means a claim that these phenomena are fully understood. Evolutionary psychological models assume that the behavioral control mechanisms that regulate decision processes and tastes for dangerous risk-taking instantiate a cost-benefit structure that incorporates age-, sex-, and circumstance-specific valuations of various material and social goods. Unfortunately, despite considerable research on risk perception, subjective probability, and the heuristics of decision-making, differences in response as a function of sex or age have hitherto largely been ignored.

In the case of driving, there is some understanding of the psychological mediation of sex- and age-related changes in dangerous risk-taking. Young male drivers have been shown both to underestimate objective driving risks and to overestimate their own skills, as compared to older male drivers, and as compared to women (Brown & Groeger, 1988; Finn & Bragg, 1986; Matthews & Moran, 1986). Other age-related changes in things like the effect associated with thrills and near misses and the strength of inclinations to impress others with skillful displays, are also of probable relevance to this change (Gove, 1985; Jonah, 1986; Jackson & Gray, 1976; Lyng, 1993; Rothe, 1987).

Analogous investigation of the psychological mediation of violent offending and dangerous confrontational risk-taking is needed. A first question is whether behavioral variation reflects variable risk assessment or variable risk acceptance: Dangerous risk-taking necessarily involves making inferences (at least implicit inferences) about the probabilities of uncertain events, but then there is also the question of whether one accepts the gamble given those perceived probabilities. Variable risk assessment might take the form of age and sex differences in the likelihood of underestimating objective dangers or in the likelihood of overestimating one's competence. Variable risk acceptance might be mediated by variable desire for the fruits of success, or by variable fear of the stigma of nonparticipation, or by a different balance of pleasure/aversion in the adrenaline "rush" afforded by danger itself. Any one of these sorts of psychological processes might mediate these demographic effects, or there might be some combination of them.

ACKNOWLEDGMENTS

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# SUPPORTING ADOLESCENTS WITH GUIDANCE AND EMPLOYMENT (SAGE): A VIOLENCE PREVENTION PROGRAM FOR YOUNG AFRICAN-AMERICAN MALES

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## OVERALL GOALS AND OBJECTIVES

Supporting Adolescents with Guidance and Employment (SAGE) is a multi-faceted, community-based intervention in Durham, North Carolina, designed to prevent and reduce the incidence of violence and other high risk behaviors among African-American male adolescents aged 14 to 16. The program is funded through a cooperative agreement with the Centers for Disease Control and Prevention. The intervention components include a Rites of Passage program specifically designed for the target population, an adult mentoring program, an entrepreneurial program, and a job training and placement program. The first three components are subsumed under the general category of "guidance," while the fourth reflects the "employment" aspect of the program. Eligible applicants are randomly assigned to one of three conditions: guidance and employment, employment only, or a control group. The control group will be eligible to participate in a delayed program after a one-year followup period.

The goals of the SAGE project are to prevent or reduce the incidence of violence and other high risk behaviors among program participants. These outcomes are expected as a result of programmatic effects on a number of psychosocial processes that are believed to increase the likelihood of violence and other risky behaviors. Although the program cannot address directly the many underlying and chronic structural causes of violence in the target population (such as poverty, lack of opportunity, discrimination), it is designed with an explicit consideration of these factors and how youth can be better prepared to deal with and overcome their influence.

Ultimately, we expect that the impact of the SAGE project will extend beyond the participants themselves and be visible in the larger community. Desired outcomes include heightened awareness and concern regarding the problem of youth violence in the community and a greater commitment on the part of both individuals and organizations to work together on creating positive approaches to reducing the problem. In particular, we will look for the continuation and expansion of SAGE, and programs like SAGE, in the Durham community beyond the life of the currently funded intervention. Furthermore, through the careful documentation of the SAGE intervention and its impacts, we expect that there could be substantial interest in applying the SAGE program in other communities throughout the country.

## THE SETTING

Durham is a small city of 120,000 people in central North Carolina. Although situated in the affluent Research Triangle area, the city suffers from disproportionately high rates of poverty, single-parent families, and high school drop-outs. Homicide rates in Durham, for both the total population and those aged 15 to 24, are almost twice the national average. Nevertheless,

numerous organizations and individuals in Durham are strongly committed to, and involved in, various continuing efforts to strengthen the community and reduce the extent of the violence and other social problems currently being experienced.

## THE INTERVENTION

SAGE is a collaborative, community-based effort being implemented through the cooperation of a number of organizations in Durham. The City of Durham's Employment and Training Office is administering the youth recruitment and employment phases of the program. The Durham Business and Professional Chain, a voluntary organization of African-American business men and women, is implementing the guidance components of SAGE. Various other organizations in Durham, including the County Health Department, the Durham County Minority Health Coalition and North Carolina Central University, are participating or assisting with numerous project-related activities. Overall project planning and coordination, as well as evaluation, is the responsibility of researchers at the Research Triangle Institute. Consultants from the University of North Carolina at Chapel Hill and North Carolina State University are contributing to various planning and evaluation activities.

Rites of Passage (ROP) is a six-month program consisting of biweekly seminars for groups of between eight and ten youth. The seminars are designed to provide knowledge and new perspectives on a variety of topics relevant to each participant's current situation and future aspirations. Each seminar is led by an expert in the content area of the lesson to be presented. Curricular topics include African-American history, male responsibility, social conflict and problem-solving skills, study and test-taking skills, political and civic responsibility, and consequences of risky behaviors (such as alcohol and other drug use, and unprotected sexual intercourse).

The information is presented in a variety of formats but with a special emphasis on interactive strategies as opposed to strictly didactic approaches. Within this overall plan, there is an opportunity for sharing of experiences and perspectives among the initiates and a supportive environment for working through some of the important emotional issues often encountered by the participants. The ROP program culminates in two major activities: a camping outing at which each initiate goes before a council of elders to defend his readiness to take on the roles and responsibilities of adulthood, and a closing ceremony at which he receives an award and recognition of his ascent to manhood.

Mentoring is viewed as an integral part of the ROP program, and is designed to help the participants work through and internalize the concepts introduced in the ROP seminars. Mentoring is especially important for this particular population because of the lack of accessible positive adult male role models for black adolescent males. Mentors and the youth with whom they are paired attend each ROP seminar together, with mentors providing transportation. Every other non-ROP week, the mentor spends a minimum of two hours with his initiate. Mentors assume a variety of roles, including friend, teacher, sounding board, coach and parental assistant.

The ROP seminars are followed by an entrepreneurial experience for all graduating youth, consisting of the Junior Achievement (JA) program. As part of the program, youth form and operate their own small businesses with appropriate supervision. After forming a company, youth sell stock, typically to family and friends. JA publishes a catalog of approximately 40 products,

from which the youth select one or two, following a marketing analysis. These products, which come unassembled, are relatively easy to put together; they are then sold, again typically to family and friends. After repaying investors, the youth pay themselves a salary, the amount of which they determine themselves, and at the end of the project period distribute any profits back to their investors.

The SAGE employment phase is intended to provide participating youth with job skills and experience, and thus a sense of accomplishment and hope for future employment opportunities. It is also expected to provide a deterrent to the temptation of obtaining income illegally (through drug dealing, for example). The employment phase complements the Rights of Passage phase by promoting adult responsibilities, such as regular work attendance and satisfactory job performance. In addition, the employment phase may provide an informal training ground for social problem-solving and conflict resolution as the SAGE participants interact with and observe interactions among their colleagues in the workplace.

All youth participating in the jobs program meet on four consecutive Saturdays prior to beginning their job as part of a pre-placement phase titled "Human Resources Development." This series of seminars covers basic job skills, from writing a resume to proper dress and the importance of responsible behavior.

Numerous businesses, agencies and civic organizations in the Durham area were recruited to sponsor participating youth in the employment phase. Salaries are paid by SAGE. The employment phase consists of both a full-time job for six weeks during the summer and a part-time job for several months during the school year. Three full-time counselors are available both to the youth and to their supervisors on the job to handle any issues or problems that may arise during their employment, including issues pertaining to transportation. A chief function of the counselors is to ensure that impending problems are identified and resolved quickly, so that attrition can be held to an absolute minimum. Thus, part of the counselors' activities is to support SAGE participants and encourage them to stay in the program.

## EVALUATION

The evaluation design calls for random assignment of eligible participants to one of three conditions: (1) a group that receives the mentoring and Rites of Passage program plus the job skills and placement program, (2) a group that receives the job skills and placement program only, and (3) a control group that is eligible for a delayed program one year after the conclusion of the initial program. All African-American males aged 14 to 16 who live in Durham county are eligible for the program. The target number of participants is 80 youth for each of the three experimental conditions. The outcome evaluation design will utilize baseline surveys with multiple followups to assess program impacts on self-reported acts of violence as well as the intended intermediate outcomes of the program. The intermediate outcomes include constructs such as responsibility, attitudes toward education, hopelessness, attachment to role models, and ethnic/ cultural identity. A surveillance system also is being developed that will monitor injury-related emergency room visits, detentions and arrests, and aggressive or delinquent behavior in school.

The outcome evaluation will be complemented by various process evaluation activities. The process evaluation will address five primary types of issues: (1) the integrity of the interventions implementation; (2) measurement of the level of participation by each youth;

(3) circumstances that hindered or enhanced program implementation; (4) qualitative aspects of program impacts; and (5) the assessment of indirect, intermediate or secondary intervention impacts.

# DEADLY SINS: AN EXAMINATION OF THE PRODUCTION AND DIRECTION OF LETHAL VIOLENCE

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Since the late 1800s, European researchers have reported a relatively stable inverse relationship between homicide and suicide (Morselli, [1879] 1903). Durkheim also noted this pattern and asserted that,

> suicide sometimes coexists with homicide, sometimes they are mutually exclusive; sometimes they react under the same condition in the same way, sometimes in opposite ways, and the antagonistic cases are the most numerous ([1897] 1950:355).

In their classic study, Henry and Short (1954) explain this inverse relationship by claiming that frustration determines the total amount of lethal violence within a population, but that the expression of lethal violence as either homicide or suicide is a function of individuals' perceived levels of external and internal constraints. Those who are externally controlled are more likely to commit homicide, while internally constrained persons are at greater risk of committing suicide. The assumption that homicide and suicide are alternative responses to the same social forces is also found in Straus and Straus (1953) and Gold (1958). Though not completely consistent, empirical support for an inverse relationship between these two types of lethal violence is found in most studies (Henry and Short, 1954; Huff-Corzine, Corzine and Moore, 1991; Humphrey and Kupferer, 1977; Porterfield, 1949; Whitt, Gordon and Hofley, 1972).

In this presentation, we investigate explanations for both the production of total amounts of lethal violence and its expression as either homicide or suicide across 48 states in the U.S. Multivariate analyses of statewide lethal violence rates (LVRs) and suicide-homicide ratios (SHRs) for blacks and whites support the contention that, in varying degrees, structural influences (e.g., high levels of poverty), cultural distinctiveness, and employment patterns affect the pattern of lethal violence, in the United States. Prior to examining the data and analyses, we briefly review theoretical perspectives linking homicide and suicide and develop hypotheses predicting the relationships of structural, cultural and employment factors to the LVR and SHR for blacks and whites.

## HOMICIDE AND SUICIDE

Porterfield's (1949) classic study of lethal violence patterns finds that the ratio of homicides to suicides tends to be higher in the South than in the North. Hackney (1969) echoes Porterfield's results, asserting that the characteristic pattern of lethal violence in the South is one of high homicide rates and low suicide rates. He shows that, for whites, "Southernness" increases the volume of violent deaths and the homicide rate, but decreases the proportion of

lethal violence expressed as suicide, the SHR. The southern region is also positively related to the homicide rate and the LVR for blacks but has no significant effect on the direction that lethal violence takes (the SHR). In a recent article, Huff-Corzine, Corzine and Moore (1991) find both differences and similarities between their results and those of Hackney. For whites, percentage born in the South (their measure of "Southernness") was not significantly related to the LVR; however, it was inversely related to the SHR, in that lethal violence was more likely to be expressed as homicide in states with higher percents of native Southerners. Among blacks, "Southernness" did not significantly influence the LVR as Hackney reported but did significantly decrease the SHR. Because there was a thirty-year span between the data used by Hackney and Huff-Corzine, Corzine and Moore, the differences noted may be due to social change. In addition, as measurement procedures and statistical sophistication improve, results of macrolevel studies can be expected to provide a more accurate picture of the volume and direction of lethal violence.

Social-psychological research supports the relevance of the attribution of blame to understanding the distribution of suicide and homicide at the macrolevel. Individuals who assume that their situation is dependent on their own actions take personal responsibility for failure, whereas persons who perceive their personal condition as dependent on forces beyond their control attribute responsibility to an external source (Unnithan, Huff-Corzine, Corzine and Whitt, 1994). Failures attributed to internal causes produce guilt and lowered self-esteem, while those attributed to external forces lead to anger (Weiner, Russell and Lerman, 1979). Notably, locus of control influences behavior (Weiner, 1980), including interpersonal aggression (Shields and Hanneke, 1983), through emotional responses to negative affective states (for example, frustrations). Several researchers propose that differences in the level of external control influence the choice to commit homicide or suicide (e.g., Hackney, 1969; Henry and Short, 1954; Huff-Corzine, Corzine and Moore, 1991; Lane, 1979; Whitt, Gordon and Hofley, 1972). Focusing on regional differences in the expression of lethal violence, Hackney argues that the South's history, particularly its defeat in the War Between the States and subsequent economic dependency on the North, produced a conception of the external environment as hostile and threatening. Thus, Southerners tend to locate the causes of personal strife outside the self (see also Reed, 1972), which theoretically should increase anger and decrease personal guilt, resulting in high homicide rates and low suicide rates relative to other parts of the United States.

In his historical study of homicide, suicide and accidents in Philadelphia during the late 1800s, Lane suggests that racial/ethnic differences in the direction of lethal violence may be related to contrasting experiences during industrialization. Though the evidence is limited to a single city, Lane asserts that the low SHR for blacks prior to 1870 in the United States is similar to that for many white ethnic groups, such as the Irish. With industrialization, however, the SHRs for white groups uniformly increased, indicating a greater propensity for suicide rather than homicide, while that for the city's black population remained stable. Because blacks in Philadelphia were systematically denied factory jobs through the 1800s, the stability of the black SHR is consistent with Lane's thesis. Assuming this is an accurate explanation, the lower the socioeconomic status of a particular group, the lower their expected SHR.

Positive associations between poverty and violent crime are usually accounted for by a modified version of the frustration-aggression model.[1] Blau and Blau (1982) view aggression by

[1]The attributional perspective we suggest is similar to that of Henry and Short (1954). However, they view an actor's or group's objective position in the social structure as determining the level of external restraint and directing lethal violence toward homicide or suicide. Following Hackney (1969) and Whitt, Gordon and Hofley (1972), we stress the

the poor as "nonrealistic conflict" diverted from the actual reasons for their economic deprivation. However, some researchers argue that chronic poverty may lead to collective reactions that are not conducive to high rates of violence (e.g., Ball, 1968), while others show that severe poverty does not increase all types of homicide (Smith and Parker, 1980). And, as early as 1938, Prudhomme (1938:192) noted that because blacks have always experienced extremely high rates of poverty in the U.S., they are not

> . . . subject to the sting of the Western unstable economic system with its consequent influence in running up the suicide rate as in the white group. Poverty, then, is not an absolute want of riches but a comparative want.

Combining ideas drawn from attributional and frustration-aggression perspectives, we predict that high rates of severe poverty are positively related to the lethal violence rate for whites. But given the mixed findings of past studies, we hesitate to make a prediction about the effect of poverty on the LVR for blacks. Also, because past studies show no consistent relationship between social class and the attribution of blame, we have no prior hypotheses concerning the effect of severe poverty on the SHR for either race. If the assumption that the attribution of blame for personal difficulties is an important element mediating the effect of the Southern region on violence is correct, "Southernness" is not expected to have a significant influence on the LVR for whites or blacks. However, it should have an inverse impact on the SHR for both blacks and whites. Given the mixed results produced by economic variables such as unemployment on both homicide and suicide rates in previous investigations, we hesitate to make a prediction about the effect of percentage employed in manufacturing on the level of lethal violence at this time. However, following Lane's assertion, we expect that as the percentage of workers employed in manufacturing increases, the SHR will increase for whites and blacks.[2]

## DATA AND METHODS

To enhance comparability with past studies, individual U.S. states serve as the unit of analysis. Dependent variables are computed from suicide and homicide totals for blacks and whites reported by the National Center for Health Statistics (1974a, 1974b, 1974c).[3] Because there is random fluctuation in the annual levels of both types of lethal violence, a three-year average was calculated for the years 1969 to 1971. The lethal violence rate (LVR) is the average number of suicides (S) and homicides (H) per population of 100,000 (i.e., LVR = 100,000 [S+H] / population). The suicide-homicide ratio (SHR) is the number of suicides divided by the total number of homicides and suicides (i.e., SHR = S / [S+H]).[4]

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person's perceived source of control for failures (i.e., frustrations) as influencing the direction of aggressive acts. Thus, apart from one's structural position, socialization within a particular cultural context may affect attributional tendencies.

[2]Since there are no direct data on regional patterns of attribution of blame in the United States, it is treated as an unmeasured, intervening variable.

[3]There is general consensus that official statistics are valid indicators of the actual number of homicides (Hindelang, 1974), but the use of official suicide statistics has been widely criticized (Douglas, 1967). However, more recent work by Pescosolido and Mendolsohn (1986) shows that in spite of systematic misreporting of suicides in the United States, statistical attempts to investigate social causes of suicide rates are not biased.

[4]We recognize that the formula for the SHR is not a true ratio, but maintain the terminology for consistency with past research (e.g., Gold, 1958; Hackney, 1969).

The most complex independent variable is the Structural Poverty Index (SPI), introduced by Loftin and Hill (1974) and used in several later studies (e.g., Huff-Corzine, Corzine and Moore, 1986, 1991; Parker, 1989; Parker and Smith, 1979). Loftin and Hill derive SPI scores from the following six indicators of low economic status: (1) infant mortality rate, (2) percentage aged 25 and older with less than five years education, (3) percentage of illiterate, (4) percentage of families with less than $1,000 annual income, (5) percentage of Armed Forces Mental Test failures, and (6) percentage of under age 18 living with one parent. Using data from the 1970 census (U.S. Census Bureau, 1973), our calculation of SPI scores differs from that of Loftin and Hill in two ways. First, following Huff-Corzine, Corzine and Moore (1986, 1991), the percentage of children not living with both parents is substituted for the percentage of children living with one parent, to measure family instability. Second, because data for the percentages of illiterate and Armed Forces Mental Test failures are not available by racial group, our SPI scores comprise a four-item index.[5] Because this study examines the LVR and SHR for blacks and whites, separate SPI scores are computed for each of the four models in the following analyses.

Motivated by Lane's (1979) assertion that those who become a part of the industrialized workforce are more likely to channel aggression toward the self, leading to higher proportions of lethal violence expressed as suicide, we utilize the percentage of the workforce employed in manufacturing to examine this hypothesis. In addition, we follow Blau and Blau (1986) and Huff-Corzine, Corzine and Moore (1986, 1991) by using the percentage of the population born in the census South to measure regional variation. Data for both measures are from the U.S. Census (1973).

Four control variables applied in several past studies (e.g., Huff-Corzine, Corzine and Moore, 1986, 1991; Loftin and Hill, 1974; Parker, 1989) are included in the regression models. These are the percentage rural, the percentage aged 20 to 34, number of hospital beds per 100,000 population, and the Gini index of family income inequality. Data for the first three variables are taken from the U.S. Census (1973); scores for the Gini index are from Grasso and Sharkansky (1980).[6]

The suicide and homicide data used to calculate the dependent variables, the LVR and SHR, are for nonwhites rather than blacks. Therefore, the percentage of each state's nonwhite population that is not black is entered as an additional control variable in models of the black LVR and SHR.

A major problem plaguing research on lethal violence is multicollinearity (Huff-Corzine, Corzine and Moore, 1991), which occurs when a high percentage of the variance in one or more independent variables is explained by other predictors in the model. As a diagnostic procedure, we preformed auxiliary regressions, in which each predictor is regressed on the other independent variables, with $1 - R^2$ representing the amount of individual variance explained by each factor. The results (not shown) indicate serious multicollinearity problems for each model. In the presence of multicollinearity, regression coefficients are unbiased, but the parameter estimates

[5]Faced with the same problem, Huff-Corzine, Corzine and Moore (1986) report little difference between the amount of variation in state homicide rates explained by SPI scores computed from the six non-race-specific variables used by Loftin and Hill (1974) and their four race-specific variables.

[6]We wish to thank Patrick G. Grasso for providing the Gini coefficients used in the analyses.

are not efficient, as their standard errors vary directly with the degree of multicollinearity present (Kmenta, 1971). Fisher and Mason (1981) describe a number of possible approaches for obtaining more efficient estimates in the presence of multicollinearity. We adopt ridge regression as a technique for reducing the influence of multicollinearity and follow Fisher and Mason's advice by choosing the lowest value of k (the bias term) that reduces all variance inflation factors below the criterion value of 4.00. Although ridge regression involves the purposeful introduction of bias into the regression model, unbiased estimates with low efficiency are less desirable than estimates that have a small amount of bias if their efficiency is high (Feig, 1978; Hoerl and Kennard, 1970).

Results of regressions based on small samples (such as the 48 states in the present analysis) can be dominated by particularly influential cases (Cook and Weisberg, 1982). Thus, the deletion of a single influential case can substantially alter the significance levels of predictors included in the equations. Following the guidance of Cook (1977) and Cook and Weisberg (1982), we therefore tested for this possibility by examining Cook's D, a statistic that estimates the overall influence of each case (state) on the model parameters. If the value of Cook's D for a particular state is large, that state may have a substantial impact on the OLS regression results. "Large" has not been clearly defined for Cook's D, but Cook and Weisberg (1982) suggest that any value over 1.00 certainly qualifies.

Our analyses produced one Cook's D value exceeding 1.00. In the OLS equation predicting the black SHR, the maximum Cook's D was 1.626 for Vermont. In addition, all of the equations included cases for which the maximum Cook's D value for a state was much larger, usually several times larger, than that of the second largest value. We approached this problem by excluding the state with the maximum Cook's D in progressive OLS regression models. If deletion of the state with the maximum Cook's D value resulted in a five percent or larger increase in the $R^2$, the case was judged to be unduly influencing the results and was omitted from the final equation. Based on this rationale, one or more states are deleted from each OLS and regression equation. Maximum Cook's D values and states deleted as a result of these analyses are reported in Tables 2 through 5 (below).

## RESULTS

Bivariate correlations, means and standard deviations for variables in the regression analyses are reported in Table 1. Several zero-order correlations between independent variables have magnitudes of .60 or higher, which is one indicator of the multicollinearity problem noted above.[7]

[7]Researchers have often relied too heavily on correlation matrices to diagnose multicollinearity. If three or more independent variables are collinear, it is possible that the resultant correlations will not be high, even though OLS regression coefficients will be unstable (Fisher and Mason, 1981).

Table 1

**Bivariate Correlations, Means, and Standard Deviations for White (Upper Triangle) and Nonwhite (Lower Triangle) Lethal Violence Rates and Suicide Homicide Ratios, 48 States**

| Variable | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | MEAN | S.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 LVR | | -.42 | .68 | -.31 | .52 | -.27 | .56 | -.10 | -.53 | .22 | | 16.87 | 4.33 |
| 2 SHR | -.18 | | -.34 | .75 | -.69 | -.25 | -.42 | .11 | .26 | -.54 | | .76 | .09 |
| 3 SPI-LVR | .29 | -.60 | | -.46 | .48 | -.05 | .42 | -.05 | -.34 | .21 | | 20.81 | 2.94 |
| 4 SPI-SHR | -.28 | .63 | -.96 | | -.74 | -.25 | -.40 | -.08 | .16 | -.59 | | -.24 | .07 |
| 5 % SOUTH[a] | -.00 | -.64 | .63 | -.63 | | .04 | .54 | .16 | -.33 | .73 | | 2.45 | 1.52 |
| 6 % MANU | -.15 | -.33 | .18 | -.28 | .32 | | .14 | .01 | .24 | -.23 | | 22.00 | 8.94 |
| 7 % 20-34 | -.19 | .68 | -.86 | .83 | -.75 | -.21 | | -.17 | -.33 | .17 | | 20.21 | 1.43 |
| 8 % RURAL | -.24 | .04 | .17 | -.14 | .44 | .18 | -.24 | | .16 | .27 | | .35 | .14 |
| 9 HBEDS | -.27 | .09 | -.14 | .12 | -.15 | .21 | .27 | .02 | | -.20 | | 7.81 | 1.57 |
| 10 GINI | .11 | -.19 | .39 | -.24 | .53 | -.26 | -.46 | .53 | -.20 | | | .38 | .02 |
| 11 % NONBLK | -.15 | .78 | -.63 | .70 | -.75 | -.53 | .70 | -.22 | -.16 | -.25 | | | |
| MEAN | 38.42 | .22 | 16.24 | -.49 | 3.51 | 20.10 | 21.96 | .17 | 7.81 | .38 | 27.96 | | |
| S.D. | 11.65 | .19 | 3.35 | .12 | .86 | 8.22 | 5.11 | .17 | 1.57 | .02 | 30.10 | | |

[a]Natural log transformation

From Table 1, it is clear that both the amount and direction, or type, of lethal violence differ by race. The LVR for blacks is more than double that for whites (38.4 vs. 16.9), and the corresponding SHR values of .22 and .76 indicate that suicide is proportionately much higher among whites than blacks.

Table 2 presents findings from both ordinary least squares (OLS) and ridge regressions (NRR) of state LVRs for whites. Similar to Huff-Corzine, Corzine and Moore (1991), who find the white SPI to be the strongest predictor of state-level LVRs, severe poverty significantly increases the total volume of lethal violence among whites.

Going beyond Huff-Corzine, Corzine and Moore (1991), we include percent of the workforce employed in manufacturing in the models used to explain lethal violence rates. In comparison to their findings, including the percentage of employed whites working in manufacturing reduces the effect of hospital beds to non-significance. However, the significant positive effect of age structure on the white LVR they report is maintained in the current study. Further, the percentage of the white population born in the South is not significantly related to the LVR for whites.

Table 2

**OLS and Ridge Regression Analyses of White Lethal Violence Rates, 1969-1971, 48 States[a]**

| | OLS | | NRR | |
|---|---|---|---|---|
| Variable | b | beta | b | beta |
| White structural poverty index | .632*** | .438 | .627*** | .434 |
| % Born in South[b] | .790 | .285 | .731 | .263 |
| % Manufacturing | -.174*** | -.362 | .168*** | -.349 |
| % 20-34 | .822** | .279 | .823** | .279 |
| % Rural | .480 | .016 | .401 | .013 |
| Hospital beds | -.403 | -.150 | -.412 | -.153 |
| Gini index | -31.924 | -.183 | -28.040 | -.161 |
| Intercept | 3.896 | | 2.622 | |
| $R^2$ | | .779 | | |
| Estimated ridge k | | | .02 | |

[a]Maximum Cook's D = .158; Michigan excluded
[b]Natural log transformation
**p < .01
***p < .001

Table 3 shows the results obtained from the model examining the LVR for blacks. When these findings are compared to those for whites (Table 2), it appears that blacks and whites inhabit two very different worlds of lethal violence. None of the variables that are important in explaining lethal violence among whites attains significance in the models for blacks.

Table 3 shows that the percent of the black population born in the South has a significant negative effect on the total volume of black lethal violence. In addition, the number of hospital beds per 100,000 population -- a measure of available health-care resources -- significantly decreases the black LVR, suggesting that access to medical treatment decreases the chances that a life-threatening injury from an interpersonal assault or suicide attempt will prove fatal. Finally, given the high rates of homicide among blacks in the United States, it is not surprising that higher percentages of nonblacks are negatively associated with rates of lethal violence.

Table 3

**OLS and Ridge Regression Analyses of Black Lethal Violence Rates, 1969-1971, 48 States[a]**

| | OLS | | NRR | |
|---|---|---|---|---|
| Variable | b | beta | b | beta |
| Black structural poverty index | 1.509 | .446 | 1.094 | .324 |
| % Born in South[b] | -7.896* | -.595 | -5.467* | -.412 |
| % Manufacturing | -.287 | -.205 | -.241 | -.172 |
| % 20-34 | .613 | .277 | .192 | .087 |
| % Rural | -11.726 | -.177 | -13.259 | -.200 |
| Hospital beds | -3.726** | -.494 | -2.904** | -.385 |
| Gini index | 55.626 | .119 | 37.438 | .080 |
| % Nonblack | -.239* | -.619 | -.148* | -.382 |
| Intercept | 51.189 | | 55.889 | |
| $R^2$ | .443 | | | |
| Estimated ridge k | | | .08 | |

[a]Maximum Cook's D = .215; Utah excluded
[b]Natural log transformation
*p < .05
**p < .01

Table 4 contains results of OLS and ridge regressions analyzing white SHRs. As defined earlier, the SHR represents the proportion of lethal violence in a population that is expressed as suicide. Thus, positive coefficients show that an independent variable increases the relative likelihood of suicide, while negative signs are related to higher proportions of homicide.

The SPI for whites is highly significant and positively influences the white SHR, indicating that severe poverty increases the probability that lethal violence among whites will occur as suicide. The significant negative influence of the Gini index on the white SHR, which appears in the ridge regression analysis, implies that the lower the income inequality the higher the proportion of lethal violence expressed as suicide. The percentage born in the South, however, has a significant negative relationship with the SHR for whites, suggesting that white Southerners are more likely than their Northern counterparts to express lethal violence in the form of homicide. Thus, our findings lend support to both structural and cultural explanations of lethal violence.

Table 4

**OLS and Ridge Regression Analyses of White Suicide-Homicide Ratios, 1969-1971, 48 States[a]**

| | OLS | | NRR | |
|---|---|---|---|---|
| Variable | b | beta | b | beta |
| White structural poverty index | .460*** | .381 | .451*** | .373 |
| % Born in South[b] | -.020** | -.274 | -.019*** | -.352 |
| % Manufacturing | -.001 | -.141 | -.001* | -.137 |
| % 20-34 | -.001 | -.013 | -.002 | -.029 |
| % Rural | .105* | .178 | .098** | .167 |
| Hospital beds | .006 | .104 | .006 | .103 |
| Gini index | -.743 | -.220 | -.761* | -.225 |
| Intercept | 1.168 | | 1.190 | |
| $R^2$ | | .866 | | |
| Estimated ridge k | | | .04 | |

[a]Maximum Cook's D for all states = .260; Michigan excluded
Maximum Cook's D after MI excluded = .429; New York excluded
[b]Natural log transformation
*p < .05
**p < .01
***p < .001

Percent of employed whites working in manufacturing has a significant negative influence on their SHR in the ridge regression model. For whites, therefore, Lane's (1979) view that employment in the industrial sector increases suicide in relation to homicide is contradicted.

Finally, the significant positive relationship between the SHR and percent rural shows that lethal violence among rural whites is more likely to be expressed as suicide than homicide. We suggest that this may reflect nonregional cultural differences that favor the attribution of blame to the self among rural populations.

Table 5 presents results of the analyses of the SHR for blacks. As was found for whites, the black SPI is significantly related to the SHR, supporting the hypothesis that severe poverty increases the proportion of lethal violence expressed as suicide. But this is where the similarities end. No other variable that serves as an important predictor of the white SHR is significantly

Table 5

**OLS and Ridge Regressions Analyses of Black Suicide-Homicide Ratios, 1969-1971, 48 States[a]**

| | OLS | | NRR | |
|---|---|---|---|---|
| Variable | b | beta | b | beta |
| Black structural poverty index | .221 | .169 | .231** | .177 |
| % Born in South[b] | -.006 | -.037 | -.015 | -.087 |
| % Manufacturing | -.001 | -.039 | -.001 | -.071 |
| % 20-34 | .001 | .040 | .002 | .076 |
| % Rural | .102 | .114 | .100 | .113 |
| Hospital beds | .010 | .102 | .006 | .064 |
| Gini index | -.168 | -.028 | -.145 | -.024 |
| % Nonblack | .004*** | .781 | .003*** | .653 |
| Intercept | .203 | | .261 | |
| $R^2$ | .911 | | | |
| Estimated ridge k | | | .05 | |

[a]Maximum Cook's D with all states = 1.626; Vermont excluded
Maximum Cook's D after VT excluded = .775; New Hampshire excluded
[b]Natural log transformation
**p < .01
***p < .001

related to the black SHR. Specifically, in addition to the black SPI, only the percentage of nonblack is significantly related to the SHR for blacks. The positive coefficient associated with the percentage of nonblack simply substantiates that homicide is proportionately more common than suicide among blacks than other nonwhite groups in the United States.

Theoretically, the most important difference between the outcomes for blacks and whites is the lack of significance for the percentage born in the South for blacks. We suggest caution in reading too much into these results, however. Contrary to the current study, state-level analyses conducted by Huff-Corzine, Corzine and Moore (1991) found no significant relationship between the SPI and SHR for blacks, but did obtain a significant negative coefficient for the effect of the percentage who are Southern born on the black SHR. We know that the introduction of percentage employed in manufacturing into the model produced this change, but at this time we cannot explain why it had such an effect.

One likely scenario is that the percentage of employed blacks working in manufacturing interacts with other measured variables (for example, the black SPI, or the percentage of blacks born in the South) or with unmeasured variables (for example, the percentage of blacks unemployed), thus producing paradoxical effects. Another plausible reason for the conflicting results is that Huff-Corzine, Corzine and Moore did not analyze individual effects of the states using Cook's D values, as has been done in this study. Thus, the exclusion of Michigan and New York for whites and New Hampshire and Vermont for blacks because of their high Cook's D values may have caused the variance in results. To investigate this possibility, results of regressions with and without these states were analyzed; however, no important difference was found.

## DISCUSSION AND IMPLICATIONS

This research investigates the LVR and SHR in states, using OLS and ridge regression techniques. Results presented separately for whites and blacks offer varying degrees of support for structural factors, cultural differences and employment measures as explanations for lethal violence patterns.

Because past research offers inconsistent findings about the effect of severe poverty on the amount or direction of lethal violence, the only hypothesis proposed was that as poverty increases, the LVR would increase among whites. The findings support this prediction. For blacks, however, no significant relationship exists between severe poverty and the LVR. Thus, Prudhomme (1938) appears correct in his assertion that financial status is less important as a cause of lethal violence among blacks than whites. However, the direction of lethal violence among both blacks and whites was positively and significantly affected by severe poverty.

We predicted that "Southernness," as measured by the percentage born in the South, would not significantly influence the LVR for blacks or whites. For whites, this prediction was supported, but for blacks Southern birth had a significant negative effect on the total volume of lethal violence.

Consistent with research on attribution theory and previous studies of regional violence, "Southernness" was expected to channel violence toward other persons rather than the self, thereby decreasing the SHR for both blacks and whites. In short, where people perceive violence as an acceptable response to personal failure (i.e., frustration), external attributions are expected to increase anger and the odds that aggression will be directed outwardly as homicide. Consistent with Hackney's (1969) findings but contradictory to Huff-Corzine, Corzine and Moore (1991), "Southernness" decreased the SHR for whites only, having no significant effect on the black SHR. We can offer no theoretical explanation for these conflicting results. From the units of analysis to measurement of key variables, this work is consistent with Huff-Corzine, Corzine and Moore. The only major difference is that the percentage of employed in manufacturing was introduced into the regression models.

Motivated by Lane, we introduced the percentage of the workforce employed in manufacturing as a predictor of the volume and direction taken by lethal violence. Lane's work suggests that we should find a positive relationship between the percentages of employed whites and blacks working in manufacturing and the SHR. In direct contradiction to Lane's assertion,

we found a significant negative effect of the percentages of the white workforce employed in manufacturing on the SHR.

The failure to confirm Lane's hypothesis may reflect substantial changes in the U.S. labor market that occurred in the century between the late 1800s and the present study. In the late 1800s, Philadelphia was entering the early stages of the industrial era and factory jobs offered an avenue of economic advancement to recent immigrants from Europe and migrants from farms. In the late 20th century, the industrial era is waning, and employment in manufacturing no longer offers substantial opportunities for advancement. During the time period we examined, the road to success was associated with higher-level occupational careers in the professions and business both for whites and minorities. In future work, we will measure the impact of other types of employment, as well as the level of unemployment, on patterns of lethal violence in the contemporary U.S.

Overall, our findings show that specific causes of lethal violence are better understood for whites than blacks. Of the variables used to explain the amount of lethal violence among whites, poverty and Southernness were consistent with our predictions. Effects of particular types of employment have rarely been examined, so few precise predictions were offered.

The most important guidance we feel this study offers to future research is the need for further clarification of lethal violence models. Current theoretical perspectives do not offer an adequate foundation for predicting or explaining black or white experiences with lethal violence. The differing experiences noted in this work, as well as that of other researchers, must be understood if we are to offer reliable social policy implications based on our research.

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# ASSESSING THE RELATIONSHIP BETWEEN DRUGS AND VIOLENCE AN AGGREGATE-LEVEL ANALYSIS

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Homicide rates among youth and young adults have risen steeply in recent years. The problem has assumed a high profile in the news media and is increasingly viewed as a significant threat to communities and schools throughout the country. Many explanations have been offered for the alarming levels of lethal violence we are currently experiencing. One of the more familiar of these implicates the role of illicit drug trafficking and use. Indeed, there is an apparently wide-spread public perception that a strong and inexorable link exists between drugs and violence.

Empirical research examining the relationship between drugs and violence is sparse. It was not until 1985 that Paul Goldstein (1985) introduced a simple but useful framework for understanding how drugs and violence are related. Basically, the "tripartite" model postulates that illicit drugs are etiologically associated with violence through the following mechanisms:

1) psychopharmacological effects of drugs,
2) economic compulsive needs of addicts to maintain their supply, or
3) systemic factors associated with drug trafficking.

Several studies that have attempted to classify homicide events according to drug related-ness have generated a range of estimates. However, this research has consistently suggested that only a very small percentage of homicides are causally associated with illicit drug use, either through psychopharmacological effects or economic compulsiveness. These findings clash with public perceptions and also from the results of studies that show a high incidence of illicit drug use among violent criminals.

Studies that have reviewed and classified homicide events have been limited to single cities that may not be representative of the nation as a whole. Furthermore, for many incidents it may be difficult to determine with certainty whether illicit drug use contributed causally to the homicide. In this study an aggregate-level analysis approach was used in which we examined the relationships between homicide rates and proxy indicators of illicit drug use prevalence across large metropolitan statistical areas (MSAs) of the United States. Substantial differences in homi-cide rates exist across geographic units, including MSAs. If illicit drug use plays an important role in the etiology of lethal violence in this country, then we might expect to see an empirical relationship between drug use prevalence and the overall homicide rate. In the analyses, we control for certain macrolevel demographic characteristics that have been shown in previous research to be predictive of homicide rates.

## METHODS

### Sample and Data Sources

The geographic areas included in this study were the 21 MSAs that currently participate in the Drug Abuse Warning Network (DAWN) sponsored by the National Institute on Drug Abuse (NIDA, 1991). This group of MSAs is a purposeful, non-random sample that includes most of the largest metropolitan areas in the United States. The sample was designed to provide unbiased estimates of the number of drug-related emergency room (ER) episodes in non-Federal, short-term hospitals with ER facilities. Estimates are also provided for the number of mentions of specific drugs that are related to the episodes. Alcohol use, by itself, is not sufficient for classification of an episode as drug-related. However, episodes involving alcohol abuse in combination with other drugs are included in the data base. The majority (60%) of episodes reported to DAWN involve drug overdose, with the other primary reasons for ER contact being unexpected chronic effects, unexpected reactions, and individuals seeking detoxification.

Homicide data for each of the MSAs in the DAWN sample were obtained from the FBI's Supplementary Homicide Report (SHR). Population estimates and demographic data from the 1990 Census were obtained from various U.S. Census Bureau publications and cd-rom files. All findings reported in this study were based on DAWN and SHR data from 1990. SHR data were not available for two of the 21 DAWN MSAs, thus reducing the total N to 19.

### Measures

Drug abuse indicators. Rates for drug-related ER visits, both overall and for specific drugs, were computed by dividing the number of episodes by the population aged 6 to 64. Rates are expressed in number of visits per 1,000 population. The age restriction was imposed because the number of episodes involving patients outside this range was negligible. Thus, the measures implicitly control for differences in the age structure (with respect to the size of the "least at risk" population) across MSAs. Rates of drug-related episodes for specific drugs were calculated for the three most prevalent drug categories: alcohol-in-combination (31 percent of all drug-related episodes in 1990), cocaine (22 percent), and heroin/morphine (9 percent).

Homicide rates. The total homicide rate for each MSA was calculated as the number of homicide events per 100,000 population. Justifiable homicides and homicides due to negligence were excluded from all rates. Rates were also calculated for homicides that were classified as felony-related (i.e., homicides that were judged to have occurred during the commission of a felony, such as armed robbery).

Demographic characteristics. The construction of three demographic control variables followed closely the procedures used by Land, McCall and Cohen (1990). Specifically, an index of absolute/relative deprivation was constructed by summing the standardized scores of these five variables: the percentage of families below the poverty level, median family income, inequality in the distribution of family income as measured by the Gini index, the percentage of the total population that is black, and the percentage of family households without a married couple. An indicator of population structure was constructed by summing the standardized scores for population size and population density (both in natural log form). An indicator of social

disintegration is provided by the percentage of adults aged 18 and older who are divorced or separated.

Analytic strategy

The purpose of the analysis reported here was twofold. The first was simply to assess the bivariate associations between indicators of drug abuse prevalence and homicide rates and to compare these correlations across specific indicators. Pearson product-moment correlations were used to assess these relationships. The second purpose was to simultaneously analyze the correlations among drug abuse indicators, demographic characteristics, and homicide rates for the sample of MSAs. Multivariate regression models were used to determine the effect of drug-related ER visit rates on homicide, controlling for the three structural components previously identified. The results of these analyses were used to determine whether the incidence of serious illicit drug use, as measured by DAWN, was independently predictive of homicide rates in the 19 studied MSAs.

RESULTS

Scattergrams depicting the relationships between the total homicide rate and each of four ER visit rates are provided in Figures 1 through 4. The correlation between each pair of measures is reported at the top of each figure, and the least squares regression line that describes the relationship has been superimposed onto each plot. As these figures indicate, there was substantial variability in both the homicide rates and the ER visit rates. However, the correlation between the total homicide rate and ER visit rates for all drug-related emergencies was only 0.114. Relationships for alcohol-in-combination-related emergencies and heroin-related emergencies were also very small. A moderate correlation was observed between the total homicide rate and the cocaine-related ER visit rate (0.476).

Results of regression analyses predicting the total homicide with the total ER visit rate are presented in Table 1. Results from both the simple bivariate models and the multivariate models are provided. When adjusted for sociodemographic measures, the effect of the ER visit rate on the homicide rate remained statistically nonsignificant. Consistent with previous research, the effect of economic deprivation on the homicide rate was positive and highly significant, and the percent divorced was also a significant predictor at the $p < .10$ level.

Essentially similar results were obtained for the effect of alcohol-related ER visits and heroin-related ER visits (not shown in tables). Table 2 presents the regression results for the effect of the cocaine-related ER visit rate, which did exhibit a statistically significant bivariate correlation with the homicide rate. Adjusted for the sociodemographic measures, the effect of the cocaine-related ER visit rate became slightly negative and nonsignificant. As observed in Table 1, economic deprivation maintained a strong and statistically significant relationship with the total homicide rate.

If illicit drug use is related to violence primarily through the economic compulsive mechanism, as opposed to psychopharmacological effects, then we might expect to see stronger relationships between drug use and felony-related homicides. Results of a regression analysis examining the effect of the cocaine-related ER visit rate on the felony homicide rate are presented

Figure 1. Total Homicide Rate by Drug Abuse Related ER Visit Rate in 1990
(r = 0.114)

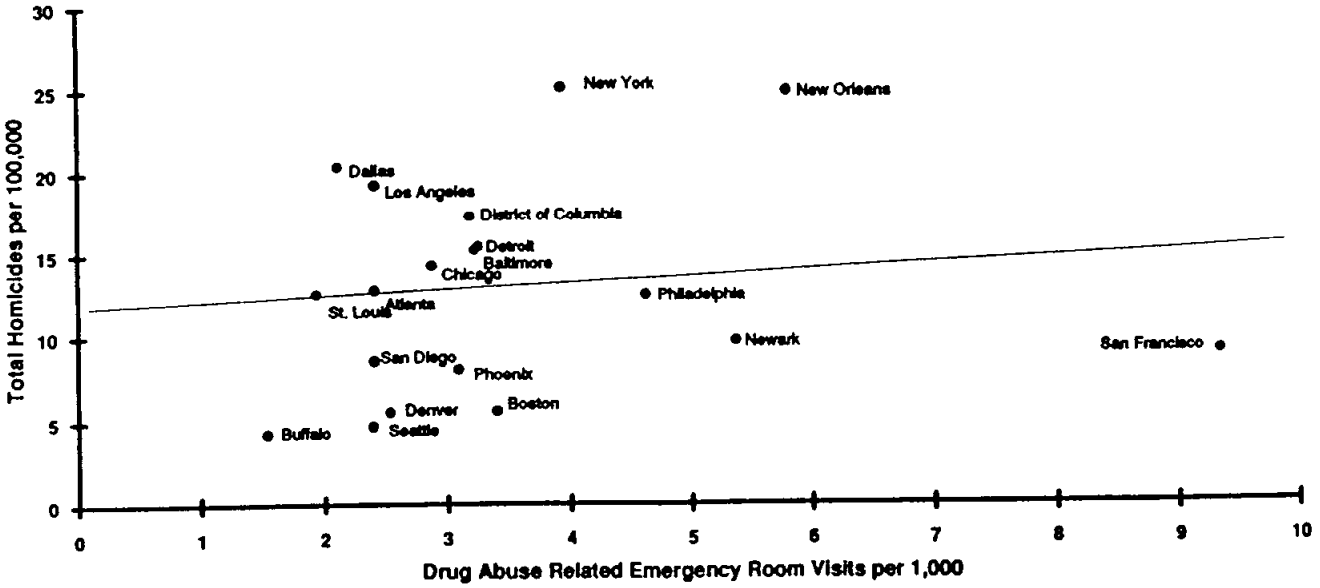


Figure 2. Total Homicide Rate by Alcohol-Related Emergency Room Visit Rate in 1990
(r = 0.169)

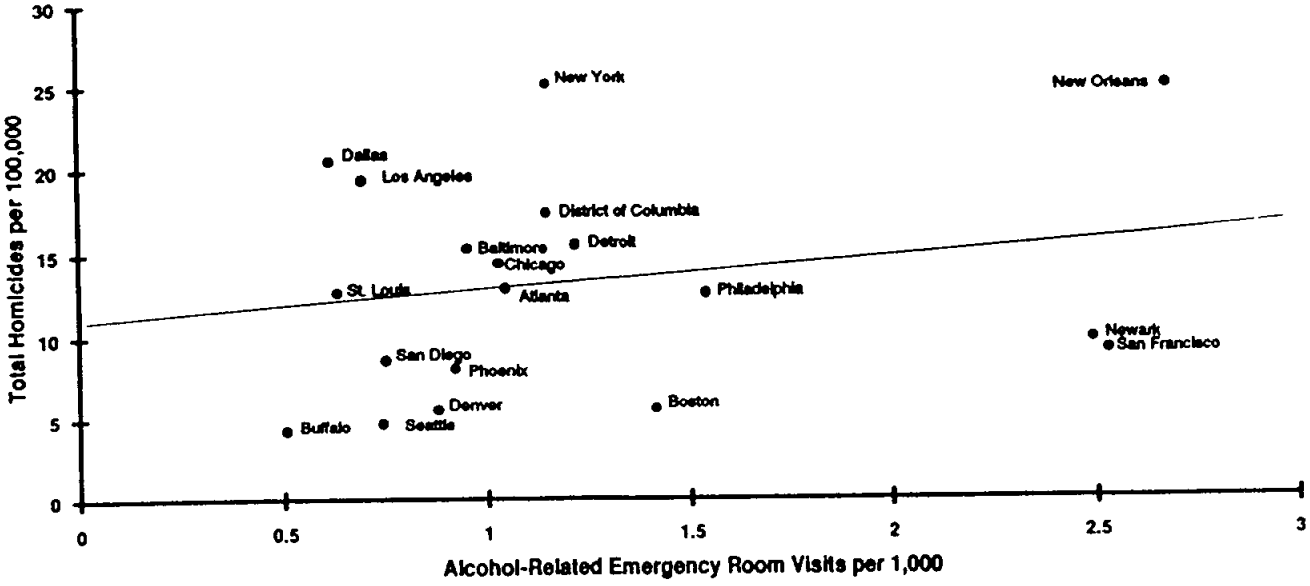

Figure 3. Total Homicide Rate by Cocaine-Related Emergency Room Visit Rate in 1990
(r = 0.476)

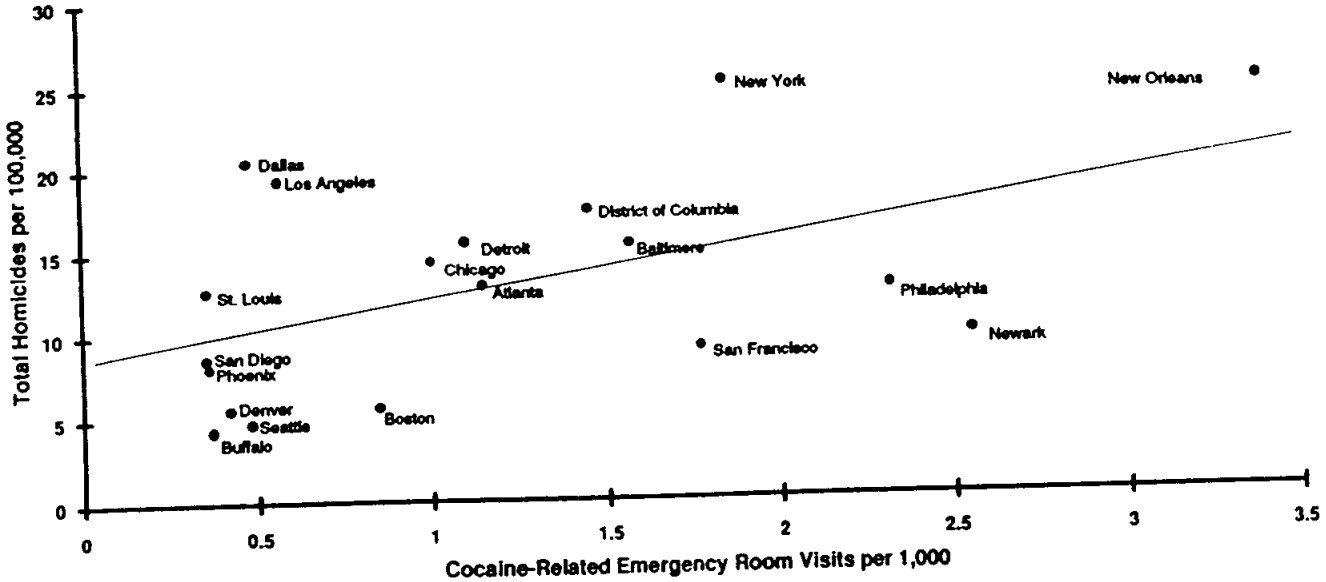


Figure 4. Total Homicide Rate by Heroin-Related Emergency Room Visit Rate in 1990
(r = -0.111)

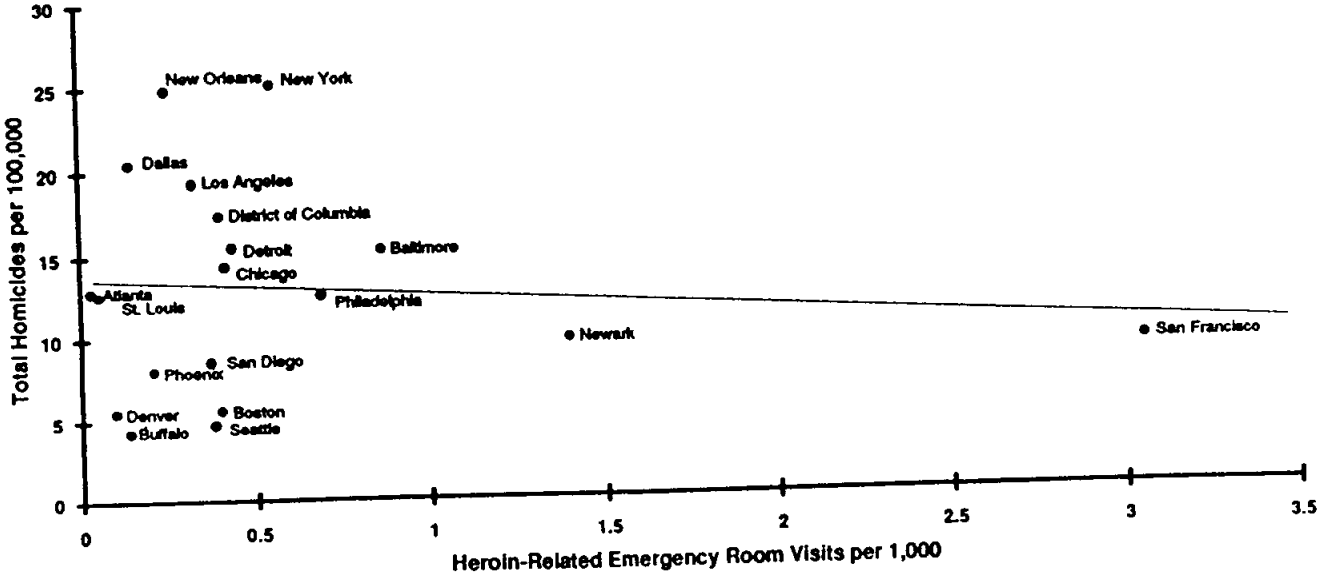

Table 1.
Regression Analysis Predicting the Total Homicide Rate with the Total Drug-Related ER Visit Rate: 1990

| | Standardized Regression Coefficients | |
|---|---|---|
| Predictor Variables | Simple Model | Adjusted Model |
| Drug-Related ER Visit Rate | .114 | -.102 |
| Economic Deprivation | | .829*** |
| Population Structure | | .180 |
| Percent Divorced | | .263+ |
| (R-squared) | .013 | .793 |

Table 2.
Regression Analysis Predicting the Total Homicide Rate with the Cocaine-Related ER Visit Rate: 1990

| | Standardized Regression Coefficients | |
|---|---|---|
| Predictor Variables | Simple Model | Adjusted Model |
| Drug-Related ER Visit Rate | .476* | -.100 |
| Economic Deprivation | | .877*** |
| Population Structure | | .163 |
| Percent Divorced | | .249+ |
| (R-squared) | .227 | .788 |

Table 3.
Regression Analysis Predicting the Felony Homicide Rate with the Cocaine-Related ER Visit Rate: 1990

| | Standardized Regression Coefficients | |
|---|---|---|
| Predictor Variables | Simple Model | Adjusted Model |
| Cocaine-Related ER Visit Rate | .635** | .233 |
| Economic Deprivation | | .546* |
| Population Structure | | -.188 |
| Percent Divorced | | .215 |
| (R-squared) | .403 | .660 |

*** p<.001 ** p<.01 * p<.05 + p<.10

in Table 3. The ER visit rate did attain a higher correlation with the felony homicide rate than the overall rate. This was also true when adjusted for the sociodemographic measures, although it was still small (0.233) and statistically nonsignificant.

DISCUSSION

Several methodological limitations of this study preclude arriving at any definitive interpretations or conclusions. The sample size was extremely small, thus limiting the precision of parameter estimates, especially those obtained through multivariate analysis. A replication of these analyses using 1989 data did, however, yield similar results. Second, the validity of the DAWN data as an accurate proxy measure for the prevalence of serious illicit drug use has not been empirically established (although DAWN estimates do apparently correlate fairly well from those provided by NIJ's Drug Use Forecasting [DUF] system). Third, aggregate-level analyses often do not include all the variables required to make confident generalizations to the individual level. Finally, it must be remembered that indicators of illicit drug use do not necessarily reflect the nature and degree of drug trafficking activity. Thus, the analyses reported here do not address the systemic influence that illicit drugs may have on homicide rates.

With these limitations in mind, several tentative interpretations of the data are offered. At the population (i.e. MSA) level, the incidence of serious illicit drug use does not appear to be highly related to the overall rate of homicide. Basic sociodemographic characteristics, especially economic deprivation, are much stronger and more consistent predictors of the homicide rate than is the incidence of illicit drug use. Even the cocaine-related ER visit rate, which exhibited a moderate bivariate correlation with the homicide rate, had no significant effect when adjusted for basic sociodemographic characteristics.

The results are consistent with those of other studies that suggest psychopharmacological and economic-compulsive motivations of drug users account for only a small fraction of all homicides. Thus, it appears that the high levels of lethal violence currently experienced in this country cannot be attributed to "the drug problem" (or at least to drug use *per se*). To some extent, illicit drug use and violence may coexist. However, they are perhaps most accurately viewed as both symptoms of more fundamental social and economic forces, rather than as independent causes or consequences.

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# THE YOUTH RISK BEHAVIOR SURVEILLANCE SYSTEM

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The Youth Risk Behavior Surveillance System (YRBSS) is an epidemiologic surveillance system that was recently established by the U.S. Centers for Disease Control (CDC) to monitor the prevalence of youth behaviors that most influence health.

## REASONS FOR ESTABLISHING A SYSTEM TO MONITOR HEALTH BEHAVIORS OF YOUTH

A review of the leading causes of death among youths aged 1 to 24 in the United States reveals that nearly 70 percent of all deaths in this age group are due to four causes: motor vehicle crashes (33%), other unintentional injuries (15%), homicides (10%) and suicides (10%) (PHS, 1991). Considerable acute and chronic morbidity also results from these causes. In addition, alcohol and drug abuse is associated with much mortality and morbidity from these four causes and with many social problems that are not reflected in health statistics (PHS, 1991).

Risk behaviors -- and to some extent, the health problems associated with them -- are largely preventable. Public and private agencies might become more effective and efficient in preventing these health problems by implementing two related actions. First, responsible agencies might focus their efforts on modifying those specific behaviors established during youth that result in the most mortality, morbidity, and social problems. These agencies might then periodically monitor the prevalence of those behaviors over time to assess whether the behaviors consequently are increasing, decreasing, or remaining the same (Kolbe, 1989a, 1989).

## MEANS USED TO DELINEATE BEHAVIORS THAT SHOULD BE MONITORED

In the winter of 1988, CDC initiated a process to identify and periodically monitor important health behaviors among youth. Staff in the Division of Adolescent and School Health (DASH) analyzed the leading causes of mortality, morbidity, and social problems. They deduced that behaviors that contribute most to adverse health and social outcomes could be included within six categories: 1) behaviors that result in unintentional and intentional injuries; 2) alcohol and other drug use; 3) sexual behaviors that result in HIV infection, other sexually transmitted diseases, and unintended pregnancy; 4) tobacco use; 5) dietary behaviors and 6) physical activity.

[1]This overview of the YRBSS, presented at the Quantico meeting by James Mercy, was extracted from a MMWR report and an article by Lloyd J. Kolbe of the Centers for Disease Control. The article appeared in *Health Education* 1990:21(6):44-48, and was originally presented as the Association for the Advancement of Health Education Scholar Address at the 1990 American Alliance for Health, Physical Education, Recreation, and Dance National Convention on March 30, in New Orleans, LA. James Mercy relied heavily on the information in the synopsis as a basis for remarks at the workshop. For more detailed information, see the references at the end of this overview, and the symposium of papers on YRBSS in *Public Health Reports*, USPS 324-990, pages 1 to 67.

In the spring and summer of 1989, DASH invited representatives of several federal agencies to serve on a steering committee. The purposes of the committee were to 1) facilitate the delineation of behaviors established during youth that most influence health and 2) consequently coordinate the development of one instrument that could be administered principally within schools to assess the comparative prevalence of the behaviors delineated.

A draft YRBSS instrument was produced and presented in October 1989 at a working conference for representatives of every state department of education and for representatives of 16 of the nation's largest local education agencies. These representatives reviewed the instrument and suggested modifications. The modifications, and others suggested by survey methodologists, were made. In November 1989, the revised survey instrument was forwarded to the state and local education agencies that participated in the October working conference. This version was then laboratory- and field-tested by questionnaire design experts at the National Center for Health Statistics. During the spring of 1990, about 40 state and local education agencies used the survey instrument to assess the prevalence of risk behaviors among representative samples of high school students in their respective states or cities. Simultaneously, CDC used this survey instrument to assess the prevalence of risk behaviors among a nationally representative sample of high school students.

## MECHANISMS THAT PERIODICALLY WILL BE EMPLOYED TO GENERATE NATIONAL, STATE, AND LOCAL DATA

The YRBSS is thus designed to 1) help focus the efforts of relevant public and private agencies on those behaviors established during youth that most influence health; 2) assess whether those behaviors consequently increase, decrease, or remain the same; 3) provide comparable data across six categories of behavior; 4) provide comparable national, state, and local data; and 5) provide means to monitor relevant national health objectives for the year 2000. CDC has received approval from the U.S. Office of Management and Budget to repeat this national school-based survey every other spring to assess whether these behaviors change during the decade. CDC has a contract with Macro Associates, through 1995, to conduct this periodic survey.

Relatedly, CDC and the National Center for Health Statistics are using the YRBSS instrument as part of a National Center for Health Interview Survey Youth Risk Supplement. This year-long household survey, which began in March 1992, will provide data about the prevalence of risk behaviors among young people aged 12 through 21, including those who attend school or college and those who do not.

CDC will also provide fiscal and technical support for every interested state education agency and for 16 of the nation's largest local education agencies to use the YRBSS to assess periodically the prevalence of important health risk behaviors among state or local youth. Technical assistance is provided to state and local education agencies by DASH staff and through a contract with Westat, Inc.

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# HOMICIDE RESEARCH AND THE NATIONAL INCIDENT-BASED REPORTING SYSTEM

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The Uniform Crime Reports (UCR) compiled by the Federal Bureau of Investigation reflect the number of Index crimes that are reported to law enforcement. The traditional UCR tabulations include the offenses of murder, forcible rape, robbery, aggravated assault, burglary, larceny, motor vehicle theft and arson. These data, in conjunction with other criminal justice data, often provide the basis for many substantive studies of crime and criminal justice. Beginning in 1982, the FBI initiated an effort to revise and update the Uniform Crime Reporting System. Since that time, the design, technical specifications, and implementation of a new system for reporting uniform crime data have evolved. This system is known as the National Incident-Based Reporting System (NIBRS). This essay will focus on an overview of the efforts of the FBI to collect and disseminate data from the NIBRS. In this discussion, particular attention will be given to the data elements commonly associated with violent behavior. A proposal for the development of a research committee to explore these data, to consider prospective research agendas and to suggest links to other data sets will also be discussed.

The primary goal of NIBRS is to provide more information on a wider variety of criminal behaviors. NIBRS, like the traditional UCR summary data, will continue to be a measure of the criminal behavior that becomes known to law enforcement. The focus of this effort, however, will no longer be on only the number of offenses and arrests that become known, as was the case in the former summary system. NIBRS includes information relative to the victims of crime, property loss and recovery associated with crime, characteristics of the offender, the multiplicity of crimes within incidents, and a fuller description of the criminal offense. A complete enumeration of the information that NIBRS entails can be found in the *National Incident-Based Reporting System: Volume 1 - Data Collection Guidelines*.

Like the former UCR summary system, NIBRS continues to be a voluntary program. The implementation of NIBRS, however, will be at a pace commensurate with the resources, abilities, and limitations of the contributing law enforcement agencies. Guidelines for the implementation of NIBRS are found in subsequently published volumes available from the FBI (Volumes 2, 3, and 4). These publications describe the technical aspects of the NIBRS Program. In addition, a new NIBRS edition of the UCR Handbook provides information relative to the operational definitions, scoring methods, policies and other procedures of NIBRS.

In terms of progress to date, the FBI was able to accept NIBRS data as of January 1989, and six states (Alabama, Idaho, North Dakota, Iowa, Colorado and South Carolina) are now supplying data in the NIBRS format. An additional 15 state agencies, as well as two local law enforcement agencies in non-program states and one Federal agency (the FBI), have submitted test tapes or disks containing the expanded data. Nineteen other state UCR programs and agencies are in various stages of planning and development, with eight of those expected to submit test tapes during 1993 (*Crime in the United States*, 1992:3).

NIBRS clearly has relevance for researchers who study homicide as well as other crimes. When fully implemented, NIBRS is intended to replace most or all of the current UCR system, including the Supplemental Homicide Reports. All of the summary data currently available through UCR should be reproducible in the NIBRS data, in addition to a variety of data elements related to crime incidents that are not contained in current UCR data. (For further delineation of data elements, see *Questions and Answers in Lethal and Non-Lethal Violence, NIJ,1993*.)

NIBRS is still in its early stages of implementation. Therefore, homicide researchers may find it fruitful to review the current design of NIBRS and become active in making suggestions for future revisions to NIBRS. These suggestions may promote avenues of research that will assist in our understanding of violent criminal behavior. Additionally, some researchers may find opportunities to design studies that could draw upon the NIBRS data to produce comparative studies.

The interest in using NIBRS data for criminal justice research, however, is not limited to improving, complementing or extending research on homicide and violent crime. The exploration of applications of NIBRS data to other current theoretical, quantitative and qualitative studies in criminal justice are clear. Among some of the research interests that have been spawned from the availability of these data include more detailed studies of drug-related criminal behavior, weapons involvement in violent crime, child abuse, and the role of bias motivations in specific criminal incidents. The various applications of criminal incident-based reporting in assisting in the apprehension of criminals and prevention of criminal behavior are also continuing to evolve. Some demonstration projects such as the integration of incident-based data with expert systems technology to develop investigative tools and a recent Bureau of Justice Statistics (Reaves, 1993) draft report focusing on robbery and rape statistics are but two of these efforts.

Since the release of the data requirements of NIBRS in July 1988, many practitioners have become inspired to investigate the use of NIBRS in criminal justice research. The Office of National Drug Control Policy, the National Center for Juvenile Justice, the Center for Disease Control, BJS, and many other research groups have investigated the applications of NIBRS data. This relatively new data collection effort involving incident-based reporting combined with information from other justice system components will likely assist in answering a variety of research and policy questions for criminal justice in the next several years.

However, given the limited number of states that have implemented incident-based reporting systems and the continuing effort to field the program, little resources, to date, have been allocated to considering specifications and recommendations for analyzing the relational data that NIBRS contains. In this light, the first suggestions of analyses were derived from the volume *National Incident-Based Reporting System: Select Statistical Information Capabilities*, published by the FBI in August 1991. Subsequent to this publication, the FBI prepared selections of tables to demonstrate the scope of analyses that will become available in future FBI publications. Further, the University of Delaware, with support from the Bureau of Justice Assistance, has developed a user's guide for NIBRS that outlines an approach to data analyses using the Statistical Package for Social Sciences (SPSSX). The general approach to NIBRS data and the use of SPSSX in the analysis of these data has been adapted for some internal uses by the FBI. Similar routines for the analysis of NIBRS data have also been developed by the National Center for Juvenile Justice.

Analysis of NIBRS data, however, poses several unique challenges. Attention must now be paid to the analysis of the attributes of criminal incidents, rather than to simply enumerating offenses and arrests. The hierarchy rule for determining the seriousness of offenses within an incident is no longer applicable under NIBRS. NIBRS requires the enumeration of up to 10 offenses that may be involved in an incident. To this end, the crime rate may be subject to change depending upon the operationalization of the term "crime rate." As noted earlier, the enumeration of victim characteristics for all victims involved in the incident is also a mandatory requirement within NIBRS. The distinction between offense types and the number of offenses may appear to be subtle, yet the empirical enumeration of these variables is likely to be considerably different. Complicating these challenges are the reliability and validity issues that are yet to be measured by the NIBRS Program. Given that NIBRS is a new data collection effort, limited external checks are currently available for establishing the validity of the data reported.

This area of validation is the primary consideration that is currently being undertaken at the FBI. The FBI has developed rudimentary conversion algorithms to transform NIBRS data into the usual UCR summary system counts. However, these conversion programs are still under development and refinement. Other validity and reliability issues under investigation include assessments of adherence to FBI reporting standards, error correction resubmittals, appropriate coding of multiple aspects of given incidents (offenses, victims, relationships, and so on), consistent date information relative to property loss and recovery, and a general review of any possible data inconsistencies. When the UCR Program determines that many of these potential threats to the internal and external validity of NIBRS data are sufficiently limited, the public release of NIBRS data will occur.

In an effort to provide the criminal justice community with an opportunity to begin analyzing some of the unique information that NIBRS may afford, a demonstration data set is currently being developed for distribution. This data set will contain a sample of about 2,500 incidents of NIBRS data that may be used for the development of analytical models and demonstrations of the types of information that incident-based data may provide. Agency identifiers, of course, would be encrypted on this file. It is anticipated that this demonstration data set will be available by the end of 1993.

With the availability of this demonstration NIBRS data, it may be fruitful for the Homicide Research Working Group to consider the formation of a subcommittee for the purposes of developing and executing some research in the areas of violence and violence prevention that might be relevant to investigate with this data set. This may prove only to be a pilot for a larger study to be conducted when more data become available. Yet, the investment of resources into investigating this demonstration dataset seems to be merited. Additionally, it may become apparent that comparisons and contrasts of research findings from such an effort might also substantiate or contribute to other research conducted using different data and different methods. For example, some of the information regarding victimization within NIBRS may be compared and contrasted to information from the National Crime Survey. While there are a number of methodological issues that need to be considered in such a comparison of crime surveys, the results may be quite interesting. Finally, the exploration of a NIBRS demonstration data set may provide opportunities and suggestions for linking information from NIBRS with other criminal justice data sources to support criminological studies.

Overall, the incident-based approach to the collection of crime data clearly expands the kinds of information available for studying the causes and correlates of criminal behavior. This additional information provided by incident-based data systems similar to NIBRS will inevitably contribute to new avenues of research in criminal justice. However, the applications, research findings, and policies that may result from the analysis of NIBRS data are still evolving. It is anticipated that as NIBRS is more fully implemented, as researchers analyze various aspects of NIBRS data, and as the validity, reliability and availability of such data are further established, the real advantages and hardships incurred with analyzing incident-based crime data will become better known. NIBRS is an evolving national crime data system that may provide opportunities for a variety of criminological studies.

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# THE CANADIAN HOMICIDE DATABASE

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I will briefly describe the history of the Canadian Homicide Database for those participants who are new to this workshop.

## PROJECT DESCRIPTION

The Homicide Project, a micro-data survey, has been the primary mechanism for the collection of national statistics on homicide offences in Canada since 1961. Information on the types and circumstances of homicide offences, as well as the characteristics of victims and accused involved, is provided on a form completed manually by all police forces in whose jurisdiction a homicide occurs.

Information related to homicide is available by respondent, by province or territory, and for Canada as a whole. Beginning in 1981, information is available on the number of homicides in each Census Metropolitain Area (CMA), in order to improve comparability at the municipal level.

This information is used to examine trends in homicides as well as characteristics of homicide incidents, such as accused-victim relationships, types of weapons, "gang" killings, and drug involvement.

## BACKGROUND

From 1961 to 1990, the homicide survey and processing system remained virtually unchanged. In 1991, after consultations with the Canadian Chiefs of Police (CACP), federal and provincial agencies, researchers and academics, the survey form was revised to incorporate some additional variables that were felt to be essential and to correct shortfalls of the previous instrument. As well, an outdated mainframe-based central processing system was replaced by a microcomputer-based system.

## NEW DATA ITEMS

The new and revised data elements are being collected from 1991, and for the first time, information will be available on the incidence of drug-related and gang-related homicides, as well as expanded information related to accused-victim relationships in domestic homicides. The new data items include the following:

- Time of incident,
- Precipitating crime,
- Homicide incident relative to other factors, such as drug trafficking, gangs, terrorism,
- Type of drug involved,
- Employment status of victim and accused,

- History of domestic violence,
- Criminal status of the accused,
- Criminal records of victim and accused,
- Alcohol/drug use by victim and accused,
- Blood-alcohol levels of the victim and accused,
- Type of drug consumed by the accused, and
- New surveys on Police Officers and Correctional Workers Killed.

## HOMICIDE COUNT VERIFICATION

Data on homicide counts are collected through the Homicide Survey, and also through the Uniform Crime Reporting (UCR) Survey. At the end of each calendar year, the homicide counts are reconciled with the information collected through the UCR Survey. Until now, this has been largely a manual process of verifying incident information on both surveys. This year, a computer program is being used to produce both a matched list and an unmatched list of homicide incidents from the two surveys. Theoretically, we would only need to check the unmatched counts, thereby reducing the time involved reconciling the homicide counts (e.g., 100 vs. 650 incidents). However, we have uncovered some "glitches" in the program and are presently trying to correct them for next year's balancing exercise.

## ISSUES

The reliability of the data collected in the Criminal Record and Criminal Status fields is being examined. The collection of criminal record information on the victim is a sensitive issue with "victim groups," and its inclusion in the survey is in question. Also, the accuracy of the information supplied by the police for both fields is being verified by Canadian Centre for Justice Statistics (CCJS) with the help of the federal Solicitor General's department and Correctional Services Canada. Until this verification is complete and the reliability of the data confirmed, information on these two fields will not be released.

To facilitate verification in the future, police will be asked to indicate the source of their information, which will eliminate anecdotal evidence or suspicions about the accused's criminal status and criminal history.

## UPCOMING PRODUCTS

- *1992 Homicide Data Availability Announcement*. August 30, 1993
- *Juristat Service Bulletin - Homicide in Canada*, 1992. October 29, 1993

## DATA LINKING

Justice research often requires information that is collected from police, courts, and corrections systems about the same individual. Successful record links can allow for more accurate analysis of research issues, such as, the disproportionate number of Natives in the Canadian criminal justice system, victim services, and sentencing effectiveness.

In addition, information available through these links can be used to build criminal history profiles, which are critical to research on sentencing patterns, recidivism, and release decisions.

Such profiles also aid in the development and monitoring of sentencing guidelines and contribute to the development of risk assessment procedures.

Individuals cannot be linked within a single system or across more than one system unless the same identifiers are used to describe the individual within and across each operational database. Since databases at the CCJS do not have common unique identifiers, the linking process is much more complex and involves comparisons of several personal identifiers (for example, name, sex, date of birth) and other fields (such as date of incident, encatchment areas) to establish a "true" link.

Preliminary assessment of record linkage initiatives at CCJS indicate that use of different names by offenders (as a result of legitimate name changes, aliases or marriage) constitute the largest source of error. Future studies will be necessary to determine the frequency of the use of different names, the accuracy of the methods used to record changes, and whether additional and more discriminating personal information identifiers are required for linking records.

SELECTED RESEARCH PAPERS USING THE CCJS HOMICIDE DATASET

- Forde, David R. (1992). *Murder in Canadian Cities: Age and Sex Standardized Rates*. University of Manitoba. Paper presented at the annual meeting of the American Society of Criminology, November 1992.

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# THE SUPPLEMENTAL HOMICIDE REPORT: A NEGLECTED BUT VALUABLE SOURCE FOR HOMICIDE RESEARCH

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## INTRODUCTION

Brearley's *Homicide in the United States* (1969 [1932]) can be considered the first comprehensive academic research on homicides in the United States. This is a 200 book dedicated to the subject. What strikes us is that the arguments seem to be fresh and relevant still.[1] Reading this richly detailed book leaves the impression that what is lacking in homicide research is not important new ideas, but simply reliable data (Tennenbaum, 1992:62).

Unfortunately, while we know much more today on homicides than Brearley knew, our data are still weak and deficient. Surprisingly, even available datasets are not used as they should be. The Supplemental Homicide Report (SHR) is an example of such an unused dataset. The aim of this article is to describe this dataset and explain for what purposes it can be used by homicide researchers. It is my opinion that currently it is the best comprehensive national data base available. While it is far from being perfect, not to take advantage of the SHR is a serious mistake.

The first part of this article describes shortly the history of the SHR, the second describes the content of the SHR and the variables available, and the third discusses the validity of the SHR. A short summary follows.

### The History of the SHR

The SHR is part of the Uniform Crime Report (UCR) system. Therefore, it will be helpful to discuss the UCR briefly before discussing the SHR. During the 1920's, the International Association of Chiefs of Police (a non-profit organization of police chiefs) formed a committee in an effort to promote and provide national crime statistics.[2] After evaluation of the practices in police agencies, the committee (in 1929) developed the primary program that is the basis for today's UCR. They chose seven crimes to serve as an index of crime in the U.S.A. These offenses include murder and non-negligent manslaughter, forcible rape, robbery, aggravated assault, larceny-theft, burglary, and motor vehicle theft (by congressional mandate, arson was added in 1979, as the eighth crime). These historical roots are responsible for the fact that the UCR program does not collect statistics on white-collar crimes, federal crimes, or even drug

[1]As an example of the relevance of the book for today, we can look at his discussion of handguns. Brearley (1969 [1932]:68-77) compared the percentage and number of homicides in the U.S.A. to England, Australia and Japan (which already had the lowest murder rate in 1923). From 1920 to 1926, 71.46 percent of homicides were committed with firearms, and he quoted some scholars who warned that "the proportion of slaying in which firearms are used is apparently increasing."

[2]For more details about the Uniform Crime Report, see Akiyama and Rosenthal (1990) and Schneider and Wiersema (1990).

offenses. To avoid classification problems, the participating agencies are directed to use the FBI's definitions of crime when completing reports and submitting data, rather than classifications defined by local laws or custom.

The program began in 1930 with 400 participating law enforcement agencies, and today over 16,000 agencies participate. The UCR collects data on the following general reporting forms: [3]

A. Offenses known to police (also known as "return A form"),
B. Property stolen and recovered,
C. Supplemental homicide report,
D. Age, sex, race, and ethnic origin of persons arrested, and
E. Police employees.

Since 1958, the UCR has been published annually as *Crime in the United States*. Since the late sixties, the FBI has recorded the information on tapes. The data can be obtained directly from the FBI through the user/system services section in the Criminal Justice Information Services Division of the FBI (Tel: 202-234-5015). Since 1981, the Inter-University Consortium for Political and Social Research (ICPSR) has processed the information and made it available to the public in the National Archive of Criminal Justice Data.

Today, data from four of the five main reports are available through the ICPSR (at least from 1976), and this will continue to be true in the future. The fifth (age, sex, race, and ethnic origin of persons arrested) is not available now because of its size. Recently, a new system, National Incident-Based Reporting System (NIBRS), was developed. If NIBRS is implemented successfully, all reports will be available in machine format.[4]

Law enforcement agencies that report criminal homicides on the basic Uniform Crime Report forms are requested to submit a Supplemental Homicide Report (SHR) for each month (*Uniform Crime Report Hand Book*, 1984:63). The SHR's are not submitted by agencies for months in which no homicides were reported to police.

The form is incidents-oriented. For example, if more than one murder occurred during the same incident, only one form will be filled out. Every record includes one event with details on the victims and offenders (if known) including age, race, gender, weapon, circumstances and relationship. The SHR system has been revised more than once over the years, so not every statistic appears in all yearly reports. Until 1976, data were collected on victims only, but in 1976 the system was revised and data on offenders started to be collected (Riedel, 1990:178). In the near future, NIBRS should influence the data collection method and add some important items (such as the day of the week and the time of day), but it would not change the general structure of the SHR.

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[3]The UCR system collects data on other subjects, including law enforcement officers killed and assaulted, terrorist activities, and more. However, the five forms mentioned are the core of the program.

[4]Right now (June 1993), some police agencies are trying out the NIBRS. The goal is to implement it in all police agencies in the United State in the next few years. For more information on NIBRS, see Jarvis (1993 and elsewhere in this volume), and Uniform Crime Reporting Section (1988,1992).

## The Content of the SHR

In general, the data available in the SHR can be divided into four types -- agency data, incident data, victim data, and offender data. The agency data include data on the police agency that reported on the homicide. Among other variables, it includes the agency name, state, county, and SMSA. Two useful variables are group and population. The population variable includes the number of people living within the police agency's jurisdiction. The information is taken from the Census Bureau and updated each year. The group variable has information on the type of the agency's jurisdiction.

The incident data include variables such as month, year, number of victims, and number of offenders involved. Other administrative variables are also included.

The victim data include the age, race, and gender of each victim. The offender data also include age, race, and gender. In addition, they include relationship, circumstances, and weapon. "Relationship" is the relationship of the victim to the offender; "circumstances" is related to the framework in which the homicide happened (during robbery, argument, and so on); "weapon" indicates the type of weapon the offender used. Of course, data on the offender are available only when the offender (or better, "suspect offender") is known. This applies except for the variable "weapon," which usually can be determined without knowing the offender.

From this description alone it can be seen that the SHR has a lot of advantages. It allows calculation of the rate of homicides, comparison between states and regions, investigation of homicides patterns, and more, all this without using any additional sources. To show this richness, Exhibit 1 includes all the possible values for the variables "group," "relationship," "weapon," and "circumstances." The fact that data are available in a computerized format makes it easy to use and manipulate.[5]

## The Validity of the SHR

To test the validity of the SHR data, it would be helpful to break down the flow of the data from the occurrence of the murder itself until it "registers" in the SHR and to make conjectures about what might be wrong. This process can generally be divided into three parts concerning the general validity of the SHR data.

1. Some homicides are not reported to the police at all.
2. It is possible that some data do not actually reach the FBI. Either the police agency did not report them, or they disappeared somewhere between the local agency and the FBI headquarters.
3. Homicides are reported to the police, but the details about the homicide are incorrect. This can happen because of a simple mistake, or because not enough evidence was available to the police at the time of the investigation.

[5]It would be an important project to improve the accessibility of the SHR to research by taking the data from the FBI and transforming them into a more user friendly data set.

Exhibit 1

**Codes for the variables "group," "relationship," "circumstances" and "weapon" in the SHR.**

**Group**

| Code | Description |
|---|---|
| 11 | All Cities 1,000,000 or over |
| 12 | Cities between 500,000 and 999,999 |
| 13 | Cities between 250,000 and 499,999 |
| 20 | Cities between 100,000 and 249,999 |
| 30 | Cities between 50,000 and 99,999 |
| 40 | Cities between 25,000 and 49,000 |
| 50 | Cities between 10,000 and 24,999 |
| 60 | Cities between 2,500 and 9,999 |
| 70 | Cities under 2,500 |
| 81 | Non-MSA counties 100,000 or over |
| 82 | Non-MSA counties between 25,000 and 99,999 |
| 83 | Non-MSA counties between 10,000 and 24,999 |
| 84 | Non-MSA counties under 10,000 |
| 85 | State police |
| 91 | MSA counties 100,000 or over |
| 92 | MSA counties between 25,000 and 99,999 |
| 93 | MSA counties between 10,000 and 24,999 |
| 94 | MSA counties under 10,000 |
| 95 | State police |

**Relationship**

| Code | Relationship |
|---|---|
| 01 | Husband |
| 02 | Wife |
| 03 | Common-law husband |
| 04 | Common-law wife |
| 05 | Mother |
| 06 | Father |
| 07 | Son |
| 08 | Daughter |
| 09 | Brother |
| 10 | Sister |
| 11 | In-law |
| 12 | Stepfather |
| 13 | Stepmother |
| 14 | Stepson |
| 15 | Stepdaughter |
| 16 | Other family |
| 17 | Neighbor |
| 18 | Acquaintance |
| 19 | Boyfriend |
| 20 | Girlfriend |
| 21 | Ex-husband |
| 22 | Ex-wife |
| 23 | Employee |
| 24 | Employer |
| 25 | Friend |
| 26 | Homosexual relationship |
| 27 | Other - known to victim |
| 28 | Stranger |
| 99 | Cannot be determined |

Exhibit 1 (continued)

**Circumstances**

| Code | Circumstances | Total description |
|---|---|---|
| 02 | Rape | |
| 03 | Robbery | |
| 05 | Burglary | |
| 06 | Larceny | |
| 07 | Motor-vehicle theft | |
| 09 | Arson | |
| 10 | Prostitution | Prostitution and commercialized vice |
| 17 | Other-sex offense | |
| 18 | Narcotic drug laws | |
| 19 | Gambling | |
| 26 | Other-felony type | Other felony type - not specified |
| 32 | Abortion | |
| 40 | Love triangle | |
| 41 | Child-killed-by-babysitter | |
| 42 | Brawl-alcohol | Brawl due to the influence of alcohol |
| 43 | Brawl-narcotics | Brawl due to the influence of narcotics |
| 44 | Argument-money | Argument over money or property |
| 45 | Other arguments | |
| 46 | Gangland killings | |
| 47 | Juvenile-gang killings | |
| 48 | Institutional killings | |
| 49 | Sniper attack | |
| 50 | Hunting accident | Victim shot in hunting accident |
| 51 | Gun cleaning | Gun-cleaning death - other than self-inflicted |
| 52 | Children playing with gun | |
| 53 | Other-gun-negligent | Other negligent handling of gun which results in death of another |
| 59 | Other manslaughter | All other manslaughter by negligence except traffic deaths |
| 60 | Non-felony type | Other non-felony type homicide |
| 70 | Suspected felony | All suspected felony type |
| 80 | Justifiable-civilian | Felon killed by private citizen |
| 81 | Justifiable-police | Felon killed by police |
| 98 | Inappropriate | (In the new classification, not really a type) |
| 99 | Unknown | All instances where facts provided do not permit determination of circumstances |

Exhibit 1 (continued)

**Weapon**

| Code | Weapon | Weapon: Full Definition |
|---|---|---|
| 11 | Firearm | Firearm, type not stated. (Does not include mechanic's grease gun or caulking gun.) |
| 12 | Handgun | Handgun - pistol, revolver, etc. |
| 13 | Rifle | Rifle |
| 14 | Shotgun | Shotgun |
| 15 | Other-gun | Other gun |
| 20 | Knife | Knife or cutting instrument - includes ice pick, screwdriver, ax, etc. |
| 30 | Blunt object | Blunt object - hammer, club, etc. Not hands and/or feet |
| 40 | Personal weapon | Personal weapon - include beating by hands, feet, and/or other body members or use of teeth. |
| 50 | Poison | Does not include gas |
| 55 | Pushed | Pushed or thrown out window |
| 60 | Explosive | Explosive |
| 65 | Fire | Fire |
| 70 | Narcotics | Narcotics and drugs - includes sleeping pills. |
| 75 | Drowning | Drowning |
| 80 | Strangulation | Strangulation - hanging |
| 85 | Asphyxiation | Include asphyxiation or death by gas |
| 90 | Other | Type of weapon not designated or type unknown |

Are Some Homicides Not Reported?

There have been, and always will be, criminals who successfully mask criminal homicides as accidents or hide bodies forever. There is general agreement, however, that most homicides find their way into a reporting system (Riedel, 1990:175; Blackman & Gardiner, 1986:1). As a result, it seems that we can fairly conclude that this problem is insignificant.

Can Police Data Disappear Before Reaching the FBI?

Here there are two choices: First, some police agencies do not report to the SHR at all. Second, some data can disappear between the police department and the FBI headquarters.

Three studies examine the agreement between the SHR and city police information with respect to frequency and variable completeness (Zahn & Riedel, 1983; Riedel, Zahn & Mock, 1985; Riedel, 1987). Riedel (1990:181) summarizes the agreement between records from seven large cities and the SHR for the year 1978. The ratio between the total number of murder cases as reported by police departments and the SHR was between 0.97 and 1.07. Riedel concluded that in general the agreement is high, at least in the big cities.

The agreement is even higher if we take into account that the changes happened in two directions. That is, in three cases the city police records show fewer murders than the SHR, and in four cases the SHR records show more murders than the city police. It is reasonable to assume that these mistakes compensate for one another and the total number will be very close. If we combine the records for all the cities (a calculation that was not made by Riedel), we find that the SHR reported 1,202 cases while the city records reported 1,208. The total ratio is therefore 99.5% (1202/1208), which makes the SHR an accurate measurement of total homicides (at least in the big cities).

Riedel (1990: 205) compared numbers from four sources of homicide data, collected over 11 years (1968-1978): the Return A form, the SHR, FBI estimates,[6] and the National Center for Health Statistics Data (NCHS).[7] Summarizing the results, he said that the ratio of the SHR to the Return A form counts is very high (approximately 0.99), as is the ratio of the NCHS counts to the FBI estimate (0.97). There is, however, a gap between the groups; the ratio between the SHR and the FBI estimate is 0.89, with a range of 0.83-0.97. Riedel's data also show that the correlation between the sources increased over time.

Overall, the problem stems from various sources. For example, in the year 1985 there was a dispute between the FBI and the Chicago Police Department over the quality of the data for the years 1984-1985 (Carolyn Block, personal communication, June 1993). As a result, the FBI did not accept Chicago data and used their own estimates. In the SHR, however, we have no data for Chicago for these years at all.[8] Technical problems like this are not rare, so the estimation that the SHR includes around 90 percent of the total homicides reported to the police seems to be reasonable.

## Can Homicides Be Reported Incorrectly in the SHR?

In addition to the occurrence of the murder itself, there is a question as to the reliability of other data, including race, gender, weapon, and so on. In general, the rule of thumb that is reasonable and supported in research is that the more basic and clear the item, the more reliable it is. Gender statistics are more accurate than race statistics, for example, and both are more accurate than age statistics. When we come to relationship and circumstances, the reliability goes down dramatically (Riedel, 1990:1987).

## SUMMARY

The sympathetic review of the SHR done in the previous sections is in no way intended to say that the SHR is the ideal data set for homicide research. There are known problems in the SHR and actually in every data set dealing with homicides. For example, Rand (1992) tried

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[6]Using a variety of statistical methods (See Schneider & Wiersema, 1990:44), the FBI imputes each year the homicide number for law agencies that did not report, and calculates an estimate of the total number of homicides.

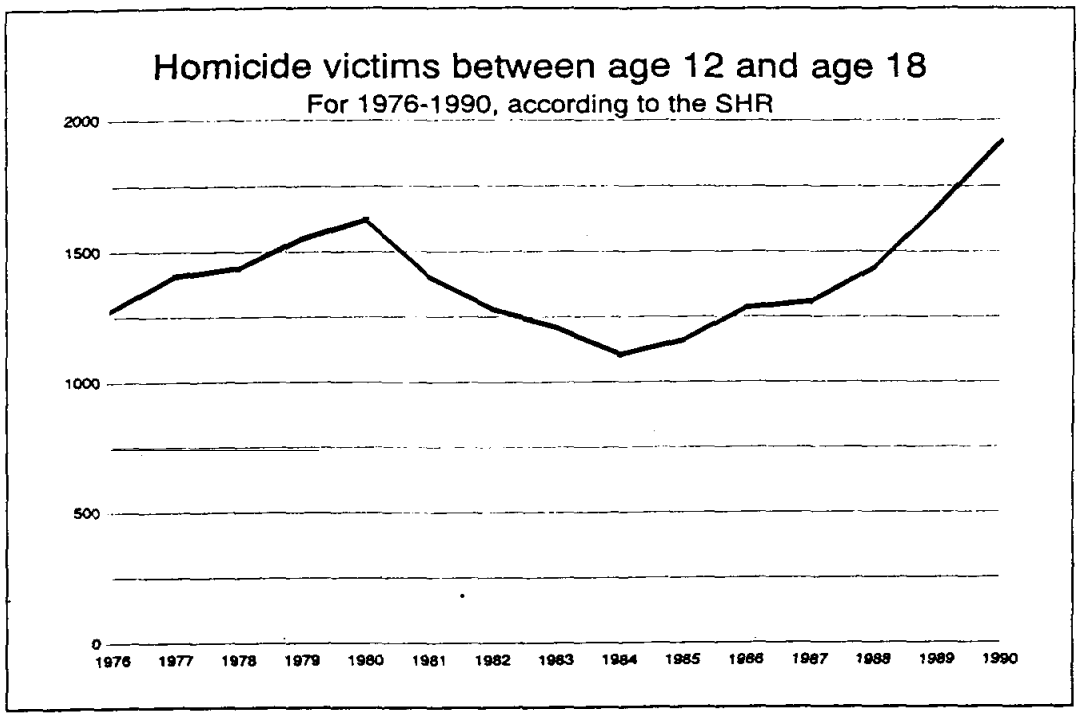
[7]The Vital Statistics Division of the NCHS is part of a nationwide collection of mortality data (see for details Riedel, 1990). The death registration system is operated according to the International Classification of Diseases (ICD), a publication of the World Health Organization. Its main aim is to increase medical knowledge, and it is changed approximately each ten years (the last change was in 1979).

[8]Editor's note: Chicago SHR data for 1984 and 1985 were collected and are maintained by the Illinois State Police, with SHR data from all other collected years (1974 to the present).

to match all the cases from the SHR to death certificates in the United States for one month, July 1986 (Rand, 1992, and elsewhere in this volume). While the agreement of the total number (1,783 and 1,855) was good (96%), only around 67 percent matched in the basic details (age, race, gender, weapon, relationship).[9] Rand could find no clear explanation for this huge discrepancy.

The SHR is especially useful when we are looking for general trends in the data or trying to answer other questions related to the general pattern of homicides. Figure 1 can be used as an example. It describes the total number of homicide victims between the ages 12 and 18 in the years 1976 to 1990. As can be seen, after 1984 we see a rise in this number. This kind of investigation is simply unavailable without a national data set that includes the victim's age. If the aim is to investigate the homicide in a specific city, or specific type, the SHR by itself is not the best solution, but it can always be used in addition to other sources.

Figure 1




Overall, it is fair to say that the SHR is the richest national data set available today on homicides. For many purposes, it is the only one (Tennenbaum, 1993:94). Awareness of the limitations and advantages of it, combined with careful use, can result in important and insightful new knowledge.

[9]This disagreement between police records and death certificates is not unique to the United States. This discrepancy appears also in Canada (around 15 percent difference!!), even though the total number of homicides in Canada is around 600-700 a year (Hung, 1987). In all of Australia, there were only 306 incidents of homicide (830 victims) for the two years 1989-1990 (Strang, 1991:6). In only 33 cases had no offender been identified (at the time of data collection). Despite this small number, even in Australia there is a large difference between these two sources. In one jurisdiction, police even maintain two different recording systems, as operational police officers are so dissatisfied with the reliability of the official system (Strang, 1992).

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# ISSUES IN THE USE OF SUPPLEMENTAL HOMICIDE REPORTS

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I'm going to discuss with you for a few minutes a very basic application of the use of Supplemental Homicide Report (SHR) data. This will highlight one potential problem with the data and how to overcome it.

As has been recommended by Margaret Zahn, a number of researchers in recent years have begun to analyze macro-level theories of overall homicide against disaggregated rates. Dwayne Smith at Tulane, for example, has looked at racially disaggregated rates. Lin and Jay Corzine have also done some work in this area. Along the same lines, Jamie Fox has analyzed correlates of homicide against race, sex and age simultaneously.

There is clearly evidence that when looking at specific population subgroups, aggregate level explanations do not hold up as well. The study I'm discussing with you today takes this same line of inquiry by looking at social disorganization theory, and the factors implied in that theory, and how well these hold up when looking at homicide victimization rates disaggregated by gender. This is a piece of research I've had an opportunity to complete with Professor Smith. To take a closer look at what we did, and for more discussion of using SHR data, please see the complete study, which is scheduled to appear in the upcoming edition of Violence and Victims.

As I indicated, we chose to analyze social disorganization theory by gender. We chose central cities as our units of analysis, in that they seem most conceptually suitable for this type of violent crime. Keith Harries, in his 1990 book Serious Violence, discusses the benefits of using this unit of analysis in crime research.

Our dependent variables included the overall homicide rates for these central cities, taken from the initial UCR reports. We collected rates for 1979, 1980 and 1981, and used the three-year mean of these rates for each city. This serves to compensate for year-to-year fluctuations in homicide rates. The three years selected matched the available 1980 U.S. Census data, from which our independent variables were drawn. We then followed up with SHR data to obtain sex-specific homicide rates for each city, for these same years.

This brings us to one example of difficulty in using SHR data. These follow-up reports to the FBI are frequently unreported or underreported by the respective jurisdictions. A procedure that can be utilized to compensate for this problem was developed by Kirk Williams and Bob Flewelling. Though their focus was largely upon calculations to address SHR deficiencies in the victim/offender relationship variable, they also dealt with the general issue that SHR figures are lower than UCR figures.

To adjust for the discrepancy in the two rates, you perform a calculation wherein the numerator is the UCR rate and the denominator is the SHR rate, to obtain a weight factor. The adjusted homicide counts are then derived by multiplying the unadjusted SHR counts by the weight factor.

Since the focus of this panel is on the specifics of using SHR data, I won't go into details about our findings, except to say that the same community-level factors serve to predict the variation in both male and female rates of homicide victimization. However, the amount of explained variance for males is much higher than for females. We've now gone on to test a different theory of homicide against female rates, and will soon be doing an analysis wherein sex, race and age are combined.

What I've discussed in the last few minutes is an issue that arises in simple analysis of the demographic SHR data. What Margo Wilson will now do is talk about some of the potential problems when you get into specific victim/offender relationship data.

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# DATASETS FOR THE STUDY OF LYNCHING

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A lynching may be defined as the extralegal killing of one or more persons by a group acting with substantial community approval. Although this definition is workable for most purposes, it raises two questions that, unfortunately, do not have firm answers. First how large does the group have to be for it to constitute a "lynching group"? Historically, deaths classified as lynchings involved groups ranging in size from a half dozen to several hundred. Any number chosen is somewhat arbitrary, but we believe that three or more persons is sufficient to constitute a lynching group.[1] Second, what is meant by the phrase "substantial community approval"? The answer to this question is more important than the first, because it is primarily community approval that identifies lynching as a category of homicide. It is difficult to provide a numerical definition for substantial community approval (e.g., 51 percent) but the implication is that the prevailing community definition of the lynching is favorable. There may be individuals or segments of the local community that disagree with the lynching or even abhor its occurrence, but persons on the other side of the issue are able to validate their perspective as the dominant one, either through force of argument or suppression of dissident voices.

After a hiatus of approximately 50 years, an interest in lynching among academic researchers reappeared in the early 1980s and shows no signs of abating in the near future (Beck & Tolnay, 1990; Corzine, Creech and Huff-Corzine, 1983; Corzine, Huff-Corzine and Creech, 1988; Massey & Myers, 1989; Olzak, 1990; Phillips, 1987; Soule, 1992; Tolnay & Beck, 1994; Tolnay, Beck & Massey, 1989). While lynchings are homicides by definition, they have been studied as a type of collective rather than interpersonal violence. Furthermore, lynchings are viewed as a product of race relations within local, usually southern, communities in the late 1800s and early 1900s (Corzine, Creech & Huff-Corzine, 1983; Beck & Tolnay, 1990). Between 1880 and 1930, the decades for which systematic data on lynchings are available, 85 percent of the victims were African-American and 88 percent of the lynching incidents occurred in the census South. And, although lynchings still occur occasionally, in Skidmore, Missouri in 1981 for example, they became increasingly rare events after the early 1930s.

To date, there has been little overlap between homicide research and lynching research, but this situation shows some sign of changing. Since 1991, the authors have received four papers on lynching to review for criminology and criminal justice journals. Each of these studies was grounded in a theoretical perspective drawn from the homicide literature and included

[1]We prefer the term "lynching group" rather than the more common designations, "lynch mob" and "lynching party." The term "lynch mob" implies a collection of relatively unorganized individuals who, overcome by the excitement of the situation, lose their capacity for rational thought and act in a frenzied state. In fact, most lynchings were completed by groups who were well organized, often with clear lines of authority, and performed their chosen task deliberately and efficiently. On the other hand, "lynching party" adds an element of frivolity to what was almost always considered a serious affair by community members, whether or not they were direct participants.

analyses that were intended to increase understanding of homicide rather than collective violence or racial antagonism. As a group, unfortunately, the papers reflected two serious problems that we believe were important factors leading to their rejection by journal editors. First, the investigators used data sets on lynchings that were not the best available. Second, they made assumptions about lynching that cannot be justified by the historical record. In this brief paper, we hope to improve the quality of future research in this area by providing information about available data sets on lynching and offering some caveats about using lynching data to address some of the issues of interest to homicide researchers.

## MULTI-STATE DATA SETS ON LYNCHING

To our knowledge there are three national inventories of lynchings in the United States compiled, respectively, by the *Chicago Tribune*, the National Association for the Advancement of Colored People (NAACP), and Tuskegee University. Characteristics of these data sets, along with those of a fourth inventory that covers several states in the southern region, are detailed in Table 1. With the exception of the years covered, the types of information available from the national inventories (such as names of victims, dates and locations of lynchings, sex and race of victims, and the reasons for lynchings) are identical, reflecting the fact that the data sets were not produced independently. Persons responsible for compiling the NAACP and Tuskegee University inventories relied heavily on the annual listing of lynchings printed at the end of the calendar year by the *Chicago Tribune* from 1882 to 1918, although these records were supplemented by information from other sources. The *New York Times* published annual summaries of lynchings for a few years, and state inventories compiled independently of the national sources exist for Georgia, Kentucky, North Carolina, and perhaps other states. However, researchers interested in analyzing lynchings over several decades or across regional lines are limited to the three national lynching data sets described in Table 1. Because each provides the same information, the choice between them can be made on the basis of years of coverage and availability, with the NAACP and Tuskegee University files being more accessible.

A problem with the national data sets is that each contains numerous errors; some lynchings are omitted, lynchings are sometimes assigned to the wrong county (or state), and so on. In the early 1980s, three researchers at the University of Georgia, Stewart Tolnay, E.M. Beck and James Massey, obtained a National Science Foundation grant to construct a "master list" of lynchings based on the three national inventories. Beginning with lynchings that appeared in a any of these sources, they attempted to confirm the occurrence and details of each case through an archival search of southern regional newspapers. Their efforts produced a lynching inventory that is undoubtedly more accurate than earlier listings, but has its own limitations. First, its scope is limited to the former Confederate states minus Texas. Second, researchers should not assume that this revised listing is 100 percent accurate, a goal that is not obtainable. Some lynchings undoubtedly occurred, especially in rural areas, that were never reported in the southern press, and these events are not retrievable for researchers' use. With these caveats in mind, however, the Tolnay-Beck-Massey lynching inventory is clearly the most accurate available and should be used by researchers whenever its limited regional scope is not a consideration. The data set may be published as an appendix in a forthcoming monograph by Tolnay and Beck (1994), but it is currently available from E. M. Beck at the University of Georgia (Beck, 1993).

Table 1
**Multi-State Data Sets on Lynchings**

| | **Chicago Tribune** | **NAACP** | **Tuskegee University** | **University of Georgia** |
|---|---|---|---|---|
| Case: | Victim/ Incident | Victim/ Incident | Victim/ Incident | Victim/ Incident |
| Years: | 1882-1918 | 1889-1931 | 1882-1960s | 1882-1930 |
| Coverage: | National | National | National | South |
| Variables: | Date<br>Name (s)<br>County<br>State<br>Race<br>Sex<br>Reason | Date<br>Name (s)<br>County<br>State<br>Race<br>Sex<br>Reason | Date<br>Name (s)<br>County<br>State<br>Race<br>Sex<br>Reason | Date<br>Name (s)<br>County<br>State<br>Race<br>Sex<br>Reason |
| Data Source: | Newspapers | Newspapers | Newspapers | Newspapers |

Availability:

| | |
|---|---|
| *Chicago Tribune* | Newspaper's archives; data on lynchings appeared annually in a year-end summary |
| NAACP | National Association of the Advancement of Colored People. 1919. *Thirty Years of Lynching in the United States, 1889-1918*. New York: NAACP. Annual supplements were published through 1931. |
| Tuskegee University | Williams, Daniel T. Unpublished. *Amid the Gathering Multitude: The Story of Lynching in America*. Tuskegee University. |
| University of Georgia | E. M. Beck, Department of Sociology, University of Georgia. |

## THE USES OF LYNCHING DATA

There are characteristics of lynching data, some inherent in the nature of lynching and others arising from data shortcomings, that limit their usefulness for addressing the types of questions typically asked by homicide researchers. Systematic data on homicides and other crimes are unavailable in the United States before the early 1930s, and it would be advantageous if lynchings could be used as reliable indicators of murder and other criminal offenses. (We have seen researchers adopt this procedure in recent papers.) The alleged reason for the lynching is given in all of the inventories and, in fact, the one that occurs most frequently is murder. However, problems arise. While lynchings were a regular feature of southern life for over a half

century, they did not inevitably result when a killing occurred in a community. It is unlikely that there is any southern county without a murder between 1880 and 1930, yet many counties with several lynchings during this period are located adjacent to others where no lynching is recorded. These differences may reflect variations in crime levels, local confidence in the criminal justice authorities, and recording practices, but it is likely that once lynching became a part of local tradition in a county, its residents were more likely to revive its use at a future date than were their neighbors.

A second problem with using lynchings as indirect indicators of crime rates reflects the importance of race in these events. Intraracial lynchings occurred among both black and white southerners, but most killings involved lynching groups composed mostly or entirely of whites and one or more black victims. From the historical record, it is clear that a black killing a white was more likely to trigger a lynching (or at least an attempt at one) than any other possible racial combination of offender and victim. Any attempt to measure crime rates by lynching incidents would produce a substantial under-count of intraracial offenses and those committed by whites against blacks.

A final problem is the validity of the reasons, or causes, given for the lynchings. In most cases, these causes were provided to journalists by members of the lynching group or other members of the community where the killing occurred. The reasons provided by the historical record are probably accurate in a majority of cases, but there are others where the public and private, or real, reasons for the lynching are different. Although members of lynching groups had little to fear from legal authorities, lynchings were considered "serious business" and there was little community support for killings that fell outside local white norms. As a result, an unknown percentage of lynchings that supposedly occurred after a murder or other crime actually reflected attempts to settle a grudge, resolve a boundary dispute, and so on.

In summary, lynchings as episodes of collective violence sometimes occurred as responses to the actual or perceived behaviors, including crimes, of the victims, but they also reflected the state of race relations in local areas, the perceived effectiveness of the criminal justice system, and several other factors. Any correspondence between lynchings and crime rates was loose, and researchers should not in our opinion attempt to indirectly measure murder or other offenses by using lynching counts.

In our view, lynching research will be more useful when it focuses on social responses to normative violations, including homicide. Donald Black (1983) has argued that much crime, including murder, is a form of "self-help," or informal justice, that operates parallel to that encoded in law and enforced by criminal justice agencies. In this respect, southern lynchings may be especially informative because, unlike many vigilante lynchings in the West, they mostly occurred in communities with an established police force and judiciary. There are close parallels with some types of contemporary killings, those between warring street gangs for example, in that traditional modes of social control are chosen over the formal justice system in attempts to redress grievances. Comparative research may be useful in identifying characteristics of social groups and communities that affect preferences for particular modes of social control as responses to homicide.

Increased attention to lynching may also contribute to arguments about the deterrence value of capital punishment, as well as the respective influence of formal and informal sanctions

on crime. Although there were few lynchings after the 1930s, a potential avenue of research would be to merge 1940s data on capital punishment with data on lynchings, where the reported reason was murder, to determine if the total number of legal and extralegal executions had any deterrent impact on the murder rate. The recent availability of a reasonably complete inventory of legal executions, Watt Espy's Capital Punishment Research Project (obtainable from the National Archive of Criminal Justice Data, maintained by the Inter-University Consortium for Political and Social Research), makes a joint investigation of lynchings and executions an easy undertaking.

SUMMARY AND CONCLUSION

In this brief paper, we have reviewed the multi-state data sets on lynching that are currently available and made suggestions concerning which ones may be most appropriate for a particular researcher's needs. Unfortunately, there are several important items of information, including the racial composition of the lynching group -- and whether the lynching victim was a resident of the county where the lynching occurred -- that are not included in any of the existing inventories. In these cases, researchers will be forced to supplement available data with their own archival research.

Furthermore, the characteristics of lynching in the United States, as well as data limitations, restricts its scope of interest to homicide researchers. We suggest that investigations focusing on lynching as a traditional mode of social control may be more fruitful than those attempting to use lynching as an indirect indicator of crime rates.

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# MURDER IN LARGE URBAN COUNTIES, 1988

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## DESCRIPTION OF DATAFILE

- Probability sample of 33 out of the 75 largest prosecutors' offices (counties) in the nation.
- All murder cases disposed of during 1988 in each location (or random sample if more than 200 total).
- Data extracted from prosecutors' case files (hardcopy) on all defendants and victims in each sample case.
- Coding included relationships and circumstances (SHR-based coding scheme) on each victim/defendant pair within each case.
- Victim/defendant coding allowed multiple relationships and multiple circumstances (a maximum of 3).
- Data obtained on 2,547 incidents, 2,666 victims, 3,143 defendants, and 3,309 victim/defendant pairs.
- Data collection supervised by Barbara Boland of Abt Associates as part of the "Prosecution of Felony Arrest, 1988" project.

## AVAILABILITY OF THE DATA

The dataset will be available at the University of Michigan, archived as "Murder in Large Urban Counties, 1988."

The anticipated availability date is September 1, 1993, possibly sooner. Call the Archive at 1-800-999-0960.

The dataset consists of four ASCII files: defendant data, victim data, incident data, and victim/defendant relationship and circumstance data. Each file contains all records collected in the 33-county sample.

The National Archive of Criminal Justice Data is currently creating a codebook containing the following:

- --- Description of sampling plan,
- --- Copy of data collection form,
- --- Codes used for each categorical variable,
- --- List of analysis weights by county,
- --- Itemization of problems found in dataset.

BJS REPORT USING DATASET:

*Murder in Large Urban Counties, 1988*. John Dawson and Barbara Boland (May 1993, NCJ-140614).

Topics:
- Victim and defendant demographics
- Relationships and circumstances
- Characteristics of victims/defendants within case
- Weapons used
- Crime funnel
- Sentencing & effects of criminal history
- Outcomes of capital cases

**Data elements for each person (victim or defendant):**

- Personal details (age, race, sex, hispanicity, occupation, and place of residence)
- Reason why on the scene at time of crime
- History of prior: arrest, arrest for violent crime, drug arrest, incarceration, probation
- History of: drug abuse, mental illness
- Whether alcohol in the person at time of offense
- Whether drugs in/on the person at time of offense and what type of drug

**Additional defendant data elements:**

- Date and time of offense, and dates of arrest, screening, indictment, 1st court appearance, disposition, and sentencing
- Crimes charged (maximum of 5), and stages to which each survived (arrest, indictment, conviction)
- Reason for case rejection, if applicable
- Case outcome (crime funnel), including basis of adjudication (trial vs. plea)
- Sentence received

**Additional victim data elements:**

- Weapon used
- Victim provocation
- Where the crime occurred

**Data elements on victim/defendant pairs:**

- Whether victim knew defendant
- Victim's relationship to defendant (maximum of three)
- Circumstances of the homicide (maximum of three)

**Incident file data elements:**

- Coder identification
- Number of victims in file
- Number of defendants in file

**For information or assistance in using the dataset, contact:**

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# NIOSH OCCUPATIONAL HOMICIDE DATA

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The National Institute for Occupational Safety and Health (NIOSH), an institute within the Centers for Disease Control and Prevention, was created to fulfill the research mandate of the 1970 Occupational Safety and Health Act. The vision of NIOSH is to promote "Safety and Health for All People ... Through Prevention."

The National Traumatic Occupational Fatalities (NTOF) surveillance system was developed to identify the magnitude of occupational injury deaths, and the distribution of these deaths by cause and worker groups. Death certificates are compiled from the 50 states and the District of Columbia, which meet the following criteria: the decedent was at least 16 years of age, cause of death was attributed to an injury or poisoning, and the certifier marked that the injury occurred at work. The NTOF surveillance system currently contains data for 1980 through 1989.

Analysis of NTOF data has identified homicide as the third leading cause of occupational injury death, exceeded only by motor vehicle deaths and machine-related incidents. The distribution of work-related homicides by demographic variables, time of day, region of the country, and manner of death have been reported. Rates per 100,000 workers have been calculated by demographic variables, industry, and occupation (Jenkins, Layne & Kisner, 1992; Castillo, 1993). Highlights from these analyses include the following:

- An average of 760 workers die as a result of an occupational homicide each year (Jenkins, Layne & Kisner, 1992; Castillo, 1993);
- Homicide is the leading cause of workplace death for females;
- Workers aged 65 years and older had the highest homicide rate, at 2.0 per 100,000 workers (Table 1) (Jenkins, Layne & Kisner, 1992; Castillo, 1993);
- The rate of occupational homicide among black workers and workers of other races was more than twice the rate for white workers (Castillo, 1993);
- Seventy-five percent of occupational homicides were committed with firearms, while cutting and piercing instruments accounted for another 14 percent (Jenkins, Layne & Kisner, 1992; Castillo, 1993);
- Taxicab establishments were the highest risk workplaces, with a rate of 26.9 homicides per 100,000 workers (see Table 2), while retail trades had the highest number of homicides (2,787) of any industry category over the 10-year period (Castillo, 1993);

Table 1
**Occupational Homicides, U.S. 1980-1988:**
**Rate per 100,000 workers by Age and Gender**

| | Gender | |
|---|---|---|
| Age Group (years) | Males | Females |
| 16-19 | .56 | .23 |
| 20-24 | .92 | .34 |
| 25-34 | .91 | .37 |
| 35-44 | 1.03 | .29 |
| 35-54 | 1.09 | .30 |
| 55-64 | 1.29 | .35 |
| 65+ | 2.79 | .88 |

Source: Jenkins, Layne & Kisner, 1992.

Table 2
**Workplaces With the Highest Rates of Occupational Homicide, 1980-1989**

| Workplaces | Number of Homicides | Rate per 100,000 |
|---|---|---|
| Taxicab Establishments | 287 | 26.9 |
| Liquor Stores | 115 | 8.0 |
| Gas Stations | 304 | 5.6 |
| Detective/Protective Services | 152 | 5.0 |
| Justice/Public Order | 640 | 3.4 |
| Grocery Stores | 806 | 3.2 |
| Jewelry Stores | 56 | 3.2 |
| Hotels/Motels | 153 | 1.5 |
| Eating/Drinking Places | 734 | 1.5 |

Source: Castillo, 1993.

- Taxicab drivers/chauffeurs were the occupational group with the highest rate of homicide (15.1 per 100,000), while store owners/managers had the highest number of homicides (1,065); see Table 3 (Castillo, 1993);

Table 3
**Occupations with the Highest Rates of Occupational Homicide, 1980-1989**

| Occupations | Number of Homicides | Rate per 100,000 |
|---|---|---|
| Taxicab Drivers/Chauffeurs | 289 | 15.1 |
| Law Enforcement Officers | 520 | 9.3 |
| Hotel Clerks | 40 | 5.1 |
| Gas Station Workers | 164 | 4.5 |
| Security Guards | 253 | 3.6 |
| Stock Handlers/Baggers | 260 | 3.1 |
| Store Owners/Managers | 1,065 | 2.8 |
| Bartenders | 84 | 2.1 |

Source: Castillo, 1993.

Information on death certificates does not allow identification of the circumstances of homicide in the workplace. However, the types of workplaces and occupations at high risk suggest that robbery is the predominant motive.

A number of factors have been suggested to increase the risk for workplace homicide (Castillo, 1993; Kraus, 1987; Davis, 1987). These include the following: (1) exchange of money with the public, (2) working alone or in small numbers, (3) working late night or early morning hours, (4) working in high-crime areas, (5) guarding valuable property or possessions, and (6) working in community settings.

Because the workplaces at highest risk for workplace homicide are so varied, no single prevention strategy will be most appropriate for all situations. NIOSH encourages employees and employers to evaluate the factors in their workplace that might increase the risk for homicide and to carefully consider interventions that may minimize this risk.

In 1990, NIOSH convened a panel of experts to review data from NTOF and to provide guidance as to future research needs and prevention efforts in this area. A number of recommendations came out of this workshop (NIOSH, 1992) and NIOSH is continuing efforts to improve the quality of the data available on workplace homicide, to promote prevention activities, and to develop the capacity to serve as the liaison with the many different groups involved in occupational homicide research and prevention.

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# THE STUDY OF HOMICIDE CASEFLOW: CREATING A COMPREHENSIVE HOMICIDE DATASET[1]

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## INTRODUCTION

Historically, studies that have explored the characteristics and causes of homicide have treated it as a homogeneous type of crime. Williams and Flewelling, in their 1988 review of comparative homicide studies, found that research that examined disaggregated homicide rates was the rare exception, rather than the rule. They criticized earlier research that failed to disaggregate homicide estimates, arguing that such an approach "can mask or imprecisely reveal empirical relationships indicative of a differential causal process operating in the social production of criminal homicide" (1988:422).

In recent years, researchers have advocated treating homicide as a collection of very different types of events linked only by a common outcome. Williams and Flewelling advocated disaggregating homicides according to the theoretical focus of the research problem. Block's (1985) homicide syndrome taxonomy recognized a range of homicide types based upon the offender's intent at the time of the murder. Maxfield (1989) stressed the importance of examining homicide types separately in testing theoretical propositions.

Researchers attempting to understand homicide have increasingly focused on differences among types of homicide and the need to address the different types in different ways. Because national homicide data have been criticized as being inadequate to differentiate among the various types of homicides, most of the research that examines different types of homicides separately has been conducted using local area data.

The purpose of this paper is to outline problems that existing homicide data present to researchers exploring the causes and correlates of homicide and to present a case study of current research that attempts to ameliorate some of these problems.

## NATIONAL ESTIMATES OF HOMICIDE IN THE UNITED STATES

Homicide is the killing of one human being by another. The legal system recognizes different categories of homicide. Some, such as murder and non-negligent manslaughter, are considered criminal homicide. Others, such as legal intervention and self defense, are considered non-criminal homicide.

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[1]This paper is an updated version of a paper that was presented at the 1992 meeting of the American Society of Criminology in New Orleans, Louisiana. Views expressed are those of the author and do not necessarily reflect those of the Bureau of Justice Statistics, or the U.S. Department of Justice.

National estimates of the number of homicides in the United States are derived primarily from the Uniform Crime Reports (UCR), published by the Federal Bureau of Investigation (FBI), and the Mortality System administered by the National Center for Health Statistics (NCHS). The UCR program includes an additional aspect, the Supplemental Homicide Report (SHR), that provides additional information about murders.

Of the two programs, the Mortality System is more inclusive. The UCR includes murder and non-negligent manslaughter but excludes such deaths as law enforcement killings of offenders during crimes, and negligent manslaughter. The Mortality System data include these deaths as well as executions. While published NCHS estimates generally include non-criminal homicides and negligent manslaughter, it is possible to produce estimates definitionally similar to those of the UCR (Cantor and Cohen, 1980).

In addition to these two programs, the Bureau of Justice Statistics (BJS) maintains a number of court and correctional data series that include data on murder cases and persons accused or convicted of murder.

## PROBLEMS IDENTIFIED IN EXISTING HOMICIDE ESTIMATES

Many researchers have evaluated and compared the UCR and Mortality System homicide estimation programs. Most studies have concluded that both programs present reliable estimates of homicide in the United States despite problems that hinder the completeness or accuracy of their estimates to some degree. Hindelang (1974) determined that historically the two systems tracked well, thereby validating both systems as reasonable estimators of the offense. Cantor and Cohen (1980) found the two series to be highly correlated from 1936 to 1973, but recom-mended use of the NCHS data as being more accurate. Rokaw, et al. (1990:451) ascertained that the Mortality System annual homicide estimates were, on average, about 9 percent higher than SHR homicide estimates and attributed the differences to four factors: differences in coverage of the U.S. population, differences in the practices or rules governing the reporting of homicide deaths to the NCHS and the FBI, differences in the criteria used in defining a case as a homicide, and differences in the categories used and the rules employed to classify people among demographic subgroups.

Subnational datasets exist that underscore the differences between different data systems measuring homicide. Keppel developed a Homicide Information and Tracking System (HITS) and obtained information from a number of sources on all Washington state homicide cases he could find, including law enforcement agencies, coroners, vital statistics, and UCR systems (Keppel, et al., 1990). Keppel found that there were discrepancies in the number of homicide victims in Washington state between 1981 and 1986 as reported by the various systems. Table 1 displays the differing counts and sources of the estimates.

The police and sheriff's departments had records for virtually every homicide that occurred (1,302 of 1,309), but published estimates derived from Vital Statistics (based on death certificates) and the UCR fell well below the actual number of homicides that occurred in Washington state during the period. The HITS project attributed the discrepancies to a number of factors, including difficulty in identifying the correct victim name, failure to update death classifications on records, incorrect coding of death cause, failure to keep systematic records, and underreporting in multiple victim homicides.

Table 1
**Washington State Homicide Statistics, 1981-1986**

| Source | Victims | Percent difference from actual |
|---|---|---|
| Total actual victims* | 1,309 | - |
| Vital Statistics | 1,099 | -16.0% |
| UCR | 1,247 | - 4.7% |
| ME/Coroner | 1,030 | -21.3% |
| Police/Sheriff | 1,302 | - 0.5% |

*The total actual victims estimate was arrived at after studying all the cases from each of the homicide data sources.

Source: Keppel, et al.(1990:7)

It is possible that some or all of the difference between the UCR count of homicides and Keppel's count of all homicide victims can be attributed to the exclusion in the UCR counts of deaths due to police intervention and negligent manslaughter. Hindelang (1974) calculated that deaths caused by police intervention represented up to five percent of all homicides nationally. The difference between the UCR counts and the total actual victims warrants further examination, because if the differences are not definitional, it could be an indication that published UCR estimates are significantly undercounting murders.

Potential undercounts and missing data are only two of the problems confronting homicide researchers attempting to work with national homicide data. The two national homicide datasets contain few explanatory variables to enable data users and researchers to adequately differentiate among the various types of events that have occurred. The Mortality System data contain no information on circumstances and no information about offenders. The SHR has both victim and offender data, but has a great deal of missing data and very few explanatory variables. Maxfield (1989:691) concluded that "variation in coding and completeness by state and city potentially undermines attempts to test theoretical explanations of murder using SHR data." Moreover, the data either focus on victims or on offenders, not both. Offender based datasets, such as the National Correctional Reporting Program, have no victim information.

A further issue concerning both the Mortality System and the UCR is their place in, and relationship with, the criminal justice system. Both programs determine cause of death independently (at least in theory) from other agencies or decisions. NCHS Mortality System data are based upon the findings of coroners and medical examiners. In the UCR, "the classification of this offense [murder], as for all other Crime Index offenses, is based solely on police investigation as opposed to the determination of a court, medical examiner, coroner, jury, or other judicial body" (FBI, 1992:13).

Judicial proceedings in murder cases, perhaps more so than for other types of crime, often focus not only on the culpability of persons accused of the crime, but on the nature of the death itself. Grand juries and court trials commonly rule upon whether deaths were accidental, the result of negligence, justifiable, or criminal. Court outcome and incarceration statistics, therefore, reflect not only the degree to which law enforcement was able to arrest offenders, but also the degree to which the criminal justice system alters the original determination of the event.

Table 2

**Murder and non-negligent homicide in the United States, 1986**

| | |
|---|---|
| Reported to police[1.] | 20,610 |
| Cleared by arrest[1.] | 14,468 |
| Persons arrested[1.] | 19,910 |
| Convicted of murder/ non-neg homicide[2.] | 9,854 |
| Sentence:[2.] | |
| incarceration | 9,384 |
| prison | 9,118 |
| prison/jail term | 6,807 |
| life | 2,280 |
| death[3.] | 297 |

Sources: [1.] Crime in the United States, 1986. FBI, 1987
[2.] Profile of Felons Convicted in State Courts, 1986. BJS, 1990
[3.] Felony Sentences in State Courts, 1986. BJS, 1989

The extent to which persons accused of murder are convicted of that crime are reflected in the summary statistics presented in table 2. In 1986, 75 percent of the murders were cleared by arrest. The number of persons arrested was only slightly smaller than the number of murders, so that there were 1.4 persons arrested for every murder cleared by arrest. (These statistics ignore the time lag between murders, arrests and convictions, which causes arrests and convictions for some fraction of murders to occur in subsequent years. To the extent that murder rates and clearance rates remain stable, over the long term the effect of this time lag will even out.) About half of all persons arrested for murder were convicted of murder.

It is difficult to draw too many conclusions from the above statistics, because the murder counts are derived from a system based on victim data, and the arrest, conviction and sentencing data are derived from offender-based data systems. Furthermore, researchers attempting to explore characteristics of specific cases that led to particular outcomes cannot use either Mortality System or UCR data, because these programs lack sufficient information and are not linked to court or corrections data. Therefore, for example, it is not possible to determine the number of deaths for which persons convicted of murder were responsible. Nor are there any data in the offender based data system about murder circumstances.

Presumably, a substantial percentage of those not convicted of murder were convicted of a lesser crime. While such data are not available for 1986, data for 1988 indicate that murder convictions represent about three-fourths of the convictions of persons arrested for murder (BJS, 1990:13). We do not know, however, how many UCR murders were found to be justified, accidental, or negligent by the judicial system, nor do we have information about cases not resulting in conviction.

Additionally, national homicide data cannot be used to address such questions as the following: How many cases were dropped because grand juries or prosecutors judged the deaths

to be justified, accidental, or negligent rather than murder? How do the cases of those convicted of homicide differ from those convicted of lesser crimes? Do persons who kill relatives receive lighter sentences than those who kill strangers? What proportion of all death-eligible cases are represented by the 297 death sentences, and how do those cases that resulted in death sentences differ from those that were eligible but did not lead to death sentences? How do murders resulting in arrest differ from those in which no arrest was made? Do any factors associated with conviction for murder operate differently for victims or accused killers with different socioeconomic or other characteristics?

In order to answer questions such as those posed above for the Nation as a whole, it is necessary to construct a national dataset that 1) contains detailed information about homicide victims, perpetrators and the circumstances surrounding the death and 2) follows homicide cases as they progress through the criminal justice system. While such datasets exist at the local level, (e.g. the Chicago Homicide Project conducted by the Illinois Criminal Justice Information Authority and the St. Louis Homicide Project conducted by the University of Missouri at St. Louis), at the national level no dataset exists that links information on a specific victim with information about the offender(s) in the crime.[2]

Certainly the importance of local area studies should not be minimized. Much important research is conducted using sub-national data. Inevitably, however, questions arise as to whether the results of such studies are generalizable to the entire nation. At some stage, national studies are important, if only to replicate the results of local studies at the national level.

## THE STUDY OF HOMICIDE CASEFLOW

The Bureau of Justice Statistics is in the process of creating a comprehensive national homicide database that incorporates information on homicide victims, information derived from police investigations, and information following a sample of homicide cases through the criminal justice system. The project is called "The Study of Homicide Caseflow."

When completed, the study will be useful in exploring aspects of homicide that cannot be addressed using data restricted to only victims or only offenders, will demonstrate the utility of such tracking datasets for improving estimates of murders, and will possibly be a precursor for improvements to national homicide data. Because data collection is not yet completed, the remainder of the paper will be devoted to a discussion of the inception and implementation of the project.

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[2]Information about these projects may be obtained from the respective principal investigators:

Chicago Homocide Project
Carolyn Rebecca Block
Statistical Analysis Center
Illinois Criminal Justice Information Authority
120 South Riverside Plaza
Chicago, Illinois 60606

St. Louis Homicide Project
Scott Decker or Richard Rosenfeld
Criminology and Criminal Justice
University of Missouri 63121
8001 Natural Bridge Road
St. Louis, Missouri 63121

Study Description

The study as originally conceived has the following steps:

1. Selecting a sample of homicide victims.
2. Matching the sample of victims with appropriate Supplemental Homicide Reports cases.
3. Obtaining information from law enforcement agencies for these cases.
4. Obtaining information from prosecutors on trial results.
5. Obtaining corrections information on convicted murderers.

Because no component of the criminal justice system contains all the information required for this project (victim data, law enforcement data, court and corrections data), a major aspect of the project is obtaining the pertinent information from whatever source possible, victim data from death certificates, investigation data from law enforcement agencies, and so forth. The data obtained from all the sources will be combined into a comprehensive dataset to explore how the characteristics of victims, offenders and criminal events affect the outcomes of police investigations and judicial proceedings.

One of the difficulties in constructing a dataset that includes victim and offender information to the extent necessary for the study is that there is no link in criminal justice system data between victims and offenders. While police data are filed by victim name, from the judicial stage onward, cases can be identified only by arrestee or offender name, not by victim name. To determine the final disposition of homicide cases, it is therefore necessary to identify both victims and offenders.

For this study then, it was necessary to locate a source of homicide victim information that included the victim's name. The only national source of data on homicide victims for which names are available is the file of death certificates maintained by the National Center for Health Statistics.

Because the personnel and monetary resources available for the project were limited, it was necessary to select a sub-year sample of homicides. To simplify both sample selection and data collection, a fraction of the year rather than a fraction of the murders was sampled. Selecting such a sample using a start with/take every approach would have been extremely inefficient and would have required state health and police departments to access records across an entire year. Therefore, a one month period was chosen as the sample period, because it was estimated that one month would provide a manageable sample with sufficient cases for analysis.

At the time the study was originally proposed in 1988 the most recent Uniform Crime Report SHR data available were for 1986. July 1986, midway through the year, was arbitrarily selected as the sample month. UCR data indicated that about 1,940 homicide cases could be expected for that month.

Obtaining Death Certificates

The next step was to obtain the death certificates for all homicide deaths occurring during July 1986. Rather than obtaining certificates from each state separately, the certificates were

obtained through a National Center for Health Statistics program designed to assist researchers who require death certificates for their research projects. This process involves submitting supporting project documentation to NCHS, which then transmits it to the appropriate office in each state for review. If approved by the state, NCHS delivers to the researcher a list of death certificate identification numbers. The researcher then must contact the state office and purchase or obtain the certificates through them.

In June 1988, a request was submitted to NCHS for all certificates for persons who died during July 1986, whose cause of death was listed as homicide (E codes E960-E978). In February 1989, a printout was received from NCHS that included death certificate identifying numbers for all July 1986, homicides in every state save New Jersey, Maryland, Virginia and upstate New York. (New York City maintains a separate record system.)

Letters were then sent to the appropriate offices in each state, requesting that death certificates be transmitted to BJS for the project. In response to the letter, most states submitted bills for the certificates ranging from $.60 to $8.00 per certificate. A few states provided the certificates without cost.

The process of actually obtaining the certificates from all the approving states consumed 10 months, the certificates from the last state being received in November 1989. Certificates from most states were received during June and July 1989. As the certificates were received, data were keyed on a flow basis. The file of homicides based on death certificates in July 1986, had 1,855 cases from all states and the District of Columbia, except Maryland, New Jersey, Virginia and upstate New York. The information extracted from the certificates is shown in Figure 1.

Figure 1

**Data elements collected from death certificates**

Victim name
Victim age, race, sex, marital status, ethnicity
City, county of attack
City, county of death
Place of attack
Place of death
Injury date
Death date
Whether date of death was definite or estimated
Time of attack
Cause of death
Weapon used to commit homicide
Motive

Textual summary of death certificate information

## MATCHING DEATH CERTIFICATES TO SHR CASES

After certificates were received, an attempt was made to match each death certificate case to its equivalent case on the SHR file. To permit this match, the SHR had to be reconfigured from a case-based dataset to a victim-based dataset. Each record in the SHR file allows coding of up to 10 victims and 11 offenders. The records for the 1,876 homicide cases, including negligent manslaughter and justifiable homicide victims, for July 1986, were extracted and converted to a victim-based format, creating a separate record for each victim in multiple victim homicides. Case identifiers were created to allow linkage of multiple victims. While the SHR file allows for up to 10 victims, the most in any July 1986, case was five. Thus, a file of 1,938 homicide victims was created. Of these, 1,907 were victims of murder or nonnegligent manslaughter, and 31 were victims of negligent manslaughter. (The negligent manslaughter victims were kept in the file because, while not the crime of interest, such cases could have been coded as homicides on death certificates.) Figure 2 displays the pertinent information provided for each case by the SHR.

Figure 2

**Data elements collected from the Supplemental Homicide Reports**

City and county
Victim age, race, sex, and ethnicity
Offender age, race, sex, and ethnicity
Victim/Offender relationship
Circumstance
Subcircumstance
Weapon

One of the SHR's major weaknesses is that it does not contain data for all homicides. In 1986, the SHR included data on 19,257 of the 20,613 homicides (about 93%) estimated by the FBI to have been committed. However, even the 20,613 homicides reported by the UCR is not an absolute count of the crimes reported to police throughout the nation. Not every jurisdiction submitted complete crime data for the entire year. Some jurisdictions provided incomplete data, and there were jurisdictions that did not submit data to the FBI, or for which the data were not at an acceptable level of quality to be used for estimation. The FBI routinely adjusts its estimates for jurisdictions submitting incomplete or missing data, based on past reports from those jurisdictions. Therefore, if the under-representation in the SHR was evenly distributed across the year, the 1,938 murder, non-negligent manslaughter and negligent manslaughter victims in the SHR should have represented somewhat less than the actual number of victims of such crimes that occurred during July 1986.

Table 3 displays by state the numbers of homicide victims within each file. Of particular note are the 16 UCR-SHR homicide cases for Pennsylvania, compared to 66 death certificates for the state. The SHR file count was so low because no homicide committed in July in Philadelphia was present in the SHR file.

Table 3

**Homicides during July, 1986 by data source**

| | Death Certificates | UCR SHR | | Death Certificates | UCR SHR |
|---|---|---|---|---|---|
| Alabama | 53 | 48 | Missouri | 52 | 46 |
| Alaska | 3 | 5 | Montana | 3 | 1 |
| Arizona | 25 | 24 | Nebraska | 5 | 4 |
| Arkansas | 22 | 21 | Nevada | 9 | 7 |
| California | 275 | 292 | New Hampshire | 1 | 3 |
| Colorado | 24 | 29 | New Mexico | 26 | 20 |
| Connecticut | 13 | 15 | New York City | 149 | 151 |
| Delaware | 4 | 3 | North Carolina | 45 | 46 |
| Washington, DC | 15 | 13 | North Dakota | 1 | 0 |
| Florida | 120 | 134 | Ohio | 47 | 54 |
| Georgia | 63 | 50 | Oklahoma | 35 | 35 |
| Hawaii | 3 | 2 | Oregon | 19 | 23 |
| Idaho | 3 | 4 | Pennsylvania | 66 | 16 |
| Illinois | 127 | 122 | Rhode Island | 2 | 3 |
| Indiana | 33 | 30 | South Carolina | 27 | 27 |
| Iowa | 5 | 5 | South Dakota | 2 | 1 |
| Kansas | 11 | 14 | Tennessee | 49 | 42 |
| Kentucky | 15 | 26 | Texas | 222 | 220 |
| Louisiana | 60 | 46 | Utah | 8 | 7 |
| Maine | 1 | 2 | Vermont | 0 | 1 |
| Massachusetts | 20 | 17 | Washington | 19 | 21 |
| Michigan | 105 | 109 | West Virginia | 8 | 5 |
| Minnesota | 14 | 14 | Wisconsin | 13 | 11 |
| Mississippi | 29 | 12 | Wyoming | 4 | 2 |
| | | | | 1,855 | 1,783 |

The death certificate cases were matched with SHR cases using victim's age, race, sex and ethnicity, weapon used or means of death, as well as victim-offender relationship, if available on both the death certificate and SHR file. In a few cases, certificates of victims in multiple homicides could be matched based on date, time and place of injury. Table 4 displays the results of this first-step match. Figure 3 displays a matched certificate/SHR case, with the victim's name and case identifiers deleted.

There are a number of reasons why a large number of certificates and SHR cases might not match. First, there were some coding errors in the certificate and SHR files. Six certificates indicated that the deaths were in fact suicides, despite having been assigned homicide E codes. Two certificates listed dates of death prior to July 1, 1986, although the file from which they had been drawn had listed them as occurring in July. Records of three SHR victims were determined to duplicate those of three other SHR victim records. One set of duplicates was apparently the result of two jurisdictions submitting data to the FBI for the same case. The other sets of duplicates resulted from submission of multiple victim records for each victim in a two victim homicide.

Table 4

**Results of initial match of death certificate and SHR July 1986 homicides**

| | |
|---|---|
| Total Death certificate cases | 1,855 |
| Total SHR cases | 1,783 |
| Matched cases | 1,191 |
| Unmatched death certificates | 664 |
| Unmatched SHR cases | 572 |

Another problem encountered in the matching process was that, in large cities, there were often a number of victims in the SHR file with identical age, race, sex, and method of death entries. Without more information from police departments, insufficient information was available to differentiate among the cases and assign them to the appropriate death certificate.

In addition, on some cases that otherwise matched, one or more variables had different values on the death certificate and SHR file. This was especially true for a victim's age. Most often the age discrepancy was only one or two years, but as table 5 shows, there were some cases for which the age discrepancy was greater. The greatest age discrepancy for a matched case in which both systems had an entry for age was 15 years. This case was considered a match despite the age discrepancy, because the victim was listed on both systems as a white female who was beaten to death, and because the city had only three homicides during the month.

Another source of difference between the two systems relates to date of death. The certificate file consisted of homicide victims who died during July, but some victims were actually attacked prior to July 1. While the longest time period between attack and death was 10 years, most such prior attacks took place in May and June 1986. It is unclear how such cases were handled in the SHR.

Moreover, homicides that occurred late in July possibly were not entered into the SHR system until the following month. It is possible that these cases may have been coded as having occurred in the month they were entered into the system. If so, and there is evidence to support this hypothesis, this could account for a significant proportion of the non-matching cases. In the long run, such temporal shifting towards future months would have small net effect, so that homicides shifted from 1985 to 1986 would be offset by those shifted from 1986 to 1987. However, because the study concentrated on a one-month period, and because it attempted to match records based on the actual dates of death, for this study the net result would be unmatched certificates for those SHR cases shifted into a future month, and unmatched SHR cases for those shifted into July from an earlier month.

In addition, some homicide victims were transported from the jurisdiction in which they were attacked to a hospital in another jurisdiction. Five homicide victims crossed state lines before they died. Thus, the death certificate came from the jurisdiction of death, while the SHR case came from the jurisdiction of attack. All five of these cases were matched.

Finally, and importantly, differences between the cases in the files are to a great degree the result of differences in the two programs' purposes and procedures. Basically, the UCR measures crimes, of which death is one outcome. The Mortality System measures deaths, of which crime is one cause.

Figure 3

**Example of a Matched Death Certificate/SHR Case**

**********

Match Status: Matched  Cert # xxxxx  UCR ID # XXX

Death Certificate:

| | | |
|---|---|---|
| Alabama | State Record | 46 Certificate # xxxxx |
| Place: Mobile | Injury place: Restaurant, bar | Male |
| County: Mobile | Death place: Crime scene | Age 28 |
| Place type: 4 | Death cause: Shot | Black |
| Injury date: 07/16/86 | Guntype: Handgun | Never married |
| Death date: 07/16/86 | Motive: Not given | NonHispanic |
| Date certain | Time of injury: 02:00 | |

gsw chest; shot w/ handgun

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UCR SHR information:
Alabama  Identification number: XXXX

MOBILE  Homicide type: Murder, NonNeg MS

Victim: Age 28 Male Black NonHispanic

Place types I & II: City 100,000-249,000 / City 100,000-249,000

Number of victims: 1  Number of offenders: 1

1st offender: Age 28 Male Black NonHispanic

| | |
|---|---|
| Weapon: | Handgun |
| Vict 1/Off 1 Rel: | Stranger |
| Circumstance: | Other arguments |
| Subcircumstance: | Not justifiable homicide |

**********

The UCR is a voluntary program in which law enforcement agencies throughout the United States submit, on a regular basis, counts of specific crimes that are reported or come to police attention in their jurisdictions. While the FBI makes some attempt to monitor and edit submissions from the jurisdictions, it cannot enforce participation or quality control measures to guarantee that the information submitted is complete and accurate.

Participation in the UCR program has increased over the years, so that in 1990, law enforcement agencies representing 96 percent of the nation's population were active in the UCR program. Not every agency submitting crime information submitted complete data for the entire year, however, so the actual crime coverage was somewhat lower.

The NCHS Mortality System compiles mortality data derived from death certificates submitted by the States. The cause of all deaths are coded according to the International Classification of Diseases (ICD). Homicides, defined in the ICD as "injuries inflicted by another person with intent to injure or kill by any means" are among the cause of death codes available in the system. (In addition, the ICD recognizes death by legal intervention, roughly equivalent to justifiable homicide.) It should be noted that, typically, physicians or coroners are using their professional judgement to certify homicide as the cause of death, rather than making a legal decision. NCHS data include information about the deceased and specific cause of death, but do not include any information about the offender or circumstances.

Table 5

**Death certificates and SHR matched cases; victim age compared**

| | | |
|---|---|---|
| Total matching cases | 1,191 | 100.0% |
| Certificates/SHR agree | 935 | 78.5% |
| Certificates/SHR differ | 256 | 21.5 |
| 1 year difference | 184 | 15.4 |
| 2 years difference | 29 | 2.4 |
| 3 year difference | 13 | 1.1 |
| 4 or 5 year difference | 10 | 0.8 |
| 6 or more year difference | 10 | 0.8 |
| Certificate or SHR victim age NA | 10 | 0.8 |

Cases in which the cause of death could not be determined or was under investigation are classified as pending or undetermined. These cases are reclassified if and when the cause of death is finally determined. In other words, some cases existed in only one of the two files, because either the death was not classified as a homicide by the time the case was transmitted to NCHS, or for some reason the case was never transmitted to the FBI.

## CURRENT STATUS OF THE STUDY

Currently, data are being collected from police departments about the results of their investigations of the death-certificate identified homicides. Figure 4 displays information being requested for each case from police departments. In order to minimize the burden on the agencies, a minimum of information is being requested about each case.

Unfortunately, this process has been much more labor intensive and time consuming than originally anticipated. At present, police investigation information has been obtained for about 350 cases, with information pending for an additional 150 cases. As police data are received, previously matched murders are reviewed to ensure that the correct cases have been matched. In addition, the police investigation information about the case often enables matching previously unmatched cases.

Data for Chicago, the largest city for which investigation data have been obtained to date, provide an example of the effect that having additional information about each homicide has on the matching of homicide cases. These data were provided by the Illinois Criminal Justice Information Authority from their Chicago Homicide Project (CHP). The CHP is a compilation of police data for all Chicago homicides from 1965 through the present. Chicago data provide a good example of the matching process and the differences between each data system.

Figure 4

**Data elements collected from police departments**

Homicide date
Cause of death
Number arrested
Offender name*
Offender demographics*
Relationship to victim*
Arrest date*
Arrest charge*
Weapon used*
Convicted?*
Offender drug/alcohol use*

Circumstance(s)/Motive(s)
Victim drug/alcohol use
If no arrest: status of case

Textual description of incident and investigation status

*collected for each person arrested

Table 6 displays the number of cases from each system, and the results of the matching operation. There were 99 homicide death certificates for Chicago for July 1986, and 99 cases on the SHR for Chicago. That the number of cases in each system was identical is purely coincidental. The homicide project had 93 cases for that month. Prior to receiving the homicide project police investigation data, 57 certificate and SHR cases had been matched. With the homicide project data, an additional 21 cases were matched, so that 78 death certificates matched SHR cases. Seventy-four cases matched across all three systems. However, there remained seven unmatched certificates, 19 SHR cases and three homicide project cases that did not match. There were a few two-way matches -- four certificate/SHR, 14 certificate/homicide project and two SHR/homicide project cases. Discussions will be held with the Illinois Criminal Justice Information Authority to determine, to the extent possible, the reasons for differences among the systems.

## CONCLUSIONS

An expanding body of criminological literature recognizes the diverse nature of events culminating in what is commonly known as homicide. Because homicide is increasingly understood to encompass a wide variety of acts united primarily by outcome, creating effective programs to prevent homicide requires an understanding of the various underlying homicide

syndromes. This understanding can only be achieved if the information acquired about homicide is sufficient to categorize the events completely and accurately.

The UCR's Supplemental Homicide Reports and the NCHS's Mortality System were not designed to enable and support detailed investigations into the causes and correlates of homicide. Homicide researchers wishing to utilize these programs are often hampered by problems associated with missing data and a lack of explanatory variables.

The Study of Homicide Caseflow is an initial attempt to do on the national level what a number of researchers have accomplished on a local level -- create a comprehensive homicide dataset that enables exploration of the characteristics and correlates of the crime. It is clear that national homicide data must be improved in order to provide researchers with information adequate to deal with one of the terribly serious and complex crime problems that confront our society.

Table 6

**Chicago homicide cases, July 1986;**
**Results of matches across data systems**

1. Initial match between death certificates and SHR

| | |
|---|---|
| Certificates | 99 |
| UCR-SHR | 99 |
| Matching | 57 |
| Non-matching | 42 |

2. Match after reviewing Chicago Homicide Project (CHP) data

| | |
|---|---|
| CHP cases | 93 |
| 3 way match | 74 |
| Cert/SHR match | 4 |
| Cert/CHP match | 14 |
| SHR/CHP match | 2 |
| unmatched certs | 7 |
| unmatched SHR | 19 |
| unmatched CHP | 3 |

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# ELEVATED HOMICIDE RISK ENVIRONMENTS IN A SINGLE AFRICAN-AMERICAN COMMUNITY: THE CASE OF MILWAUKEE

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## INTRODUCTION

The micro-environments in which homicides occur, and the values that support the use of violence to achieve some valued goal, have received only limited attention from homicide researchers. By micro-environments, we have reference to sub-city areas that generally conform in population size and scale to what might be perceived as a neighborhood (see Messner and Tardiff, 1986). Researchers have employed a variety of spatial configurations to serve as surrogates for neighborhoods. In this instance, census tracts have been chosen as neighborhood surrogates. While census tracts may fail to accord with individual residents' perceptions of their neighborhood, they more often than not conform in size to spatial units that are often identified as neighborhood scale units. Needless to say, census tracts vary rather substantially in both population and scale, and therefore are not without their shortcomings for the purpose in which we intend to use them.

Seldom is homicide risk formally assessed at ecological scales that are smaller than cities. But both researchers and media persons are quick to point out that the risk of becoming a victim of lethal violence is not randomly distributed across the cityscape. For instance, when Wilson (1987) identified those behaviors and zones of residence that he associated with the growth of an urban underclass, he identified attenuated homicide risk as a correlate of this emerging phenomenon. He associated the highest homicide risk with those Chicago Community Areas in which concentrated poverty was said to exist. Both researchers and media persons alike, in broaching the topic of urban violence, are quick to announce that these are behaviors that are most commonplace within that amorphous zone often labelled the inner city. Seldom, however, are such zones precisely located, although the public often perceives these messages as pointing to normative conduct taking place in minority communities. This no doubt has led researchers to refrain from investigating the role of sub-city characteristics on risk of victimization. The end result of this reticence is that the influence of place on risk has been accorded a somewhat ambiguous position within the context of most major homicide research paradigms.

## GROWING INTEREST IN THE ROLE OF VIOLENT ENVIRONMENTS

The contention here is that the environment should be accorded a greater role than that which currently exists, if our efforts to lower homicide risk are to meet with a greater modicum of success. Profiles of homicide offenders abound, but we are uncertain how persons with similar individual traits behave over a range of dissimilar environments. Thus, it is apparent that the inattention to homicide environments and their apparent correlates has slowed our efforts to lower homicide risk. The homicide research community itself must work to more effectively demonstrate the connection between high risk environments and behavioral propensities if we are to gain a firmer grasp of the environment victimization nexus.

Much current ecological homicide research is by nature heuristic and produces conflicting statistical evidence on the association between environmental correlates and risk, and on possible explanatory links. There are a number of explanations for such outcomes, but those that come first to mind are the spatial scale at which the analysis is conducted and the limited attention devoted to place in the analysis, beyond their role as units of statistical analysis.

There is growing evidence that selected researchers are beginning to recognize the role of the environment as the context for escalating violence (Gabarino and Others, 1992; Osofsky and Others, 1993). On the national level, only limited alterations in aggregate homicide risk have occurred during the previous ten years (Jencks, 1991). But among individual urban places, risk levels have fluctuated greatly. Yet media attention is generally focused on those microenvironments in which risk is concentrated, and unfortunately those are the environments that we are least well prepared, even in an ecological sense, to address. In terms of explaining both the heightened incidence of occurrence or variations among neighborhoods that conform to some subjective notion of what constitutes either the inner city or inner city neighborhoods, we still have a long way to go.

As a researcher who has devoted a great deal of time and effort attempting to understand the role of the environment on homicide risk in selected large African-American communities, I must admit that progress toward that end has been slow. But what is clear is that systematic variations do occur, but that they are not always easily explained by variables employed at other scales of analysis. For instance, how important is poverty in explaining variations in risk at the neighborhood scale? Or is the growth of underclass neighborhoods generally responsible for the recent upturn in risk in black neighborhoods in selected cities? In my opinion, until such time as we become more proficient in evaluating neighborhood influence on risk we may not be able to provide answers to the kind of heuristic questions raised above and certainly not to the more important practical questions that are crying out for answers.

One of our weaknesses is that we don't fully understand neighborhoods as places, and this is no easy task given the multiplicity of neighborhood types that exist in large American cities and metropolitan areas. Yet it is clear that some neighborhoods, by their very character, are supportive of some behaviors and non-supportive of others. Likewise, neighborhoods pass through developmental stages (Choldin and Hanson, 1982) much like human beings and are thus more vulnerable to heightened risk in one stage in their career than another. The dynamic quality of neighborhoods makes it even more difficult to assess their vulnerability to heightened risk than might otherwise be the case.

On practical grounds it may become necessary to observe neighborhood clusters in our attempt to assess variations in risk over time. Since homicide constitutes a rare event, even among high risk neighborhoods, variation in risk is likely to fluctuate substantially over a short period of time within individual neighborhoods. On the other hand, clusters of neighborhoods possessing similar socio-cultural or structural characteristics may prove to represent a more reasoned approach to the study of neighborhood variations in risk (see Simcha-Fagan and Schwartz, 1986). But at the same time one is able to focus attention on each unit in the cluster as a means of identifying compelling factors that generate short term variations in risk among individual elements in the cluster.

If a critical incidence is employed to define substantial risk, it then becomes possible to identify units in which substantial risk is both persistent and elevated. In this way, we can begin to search for neighborhood-scale clues that contribute to observed year-to-year variations. At the same time, we must be continuously sensitive to the external shocks that contribute to the increased incidence of homicide in the aggregation of neighborhoods that constitute the African-American community.

## ENVIRONMENTAL MEASURES OF HOMICIDE RISK

Before proceeding further with this argument, it would no doubt be appropriate to define risk as it is being employed here. After some deliberation it was decided that a dichotomous definition of risk would be employed. One element of risk might conceptually be described as "apparent risk," while the other might be viewed as "absolute risk." The former represents an effort to capture the community's response to the frequency of occurrence of victimizations within some perceived neighborhood configuration. It is this concept that motivates media analysts, and some scholars as well, to describe selected sub-city areas a "murder zones" or "war zones" or "free fire zones" in a growing number of major American cities (Lorion and Saltzman, 1993). The perceived seriousness of the problem, from a public policy perspective, is based on the body count, not on measures of absolute risk.

### Measures of Absolute Risk

Measures of absolute risk are defined as rates employing the standard demographic technique for defining the homicide rate, i.e., HR = V/P x 100,000. In this instance a measure of the base population is required in order to derive annual homicide rates at the neighborhood level. Since the actual population data necessary for this purpose is only available during census years, in all other years population estimates are necessary to derive measures of annual absolute risk. The dynamics of population change in African-American communities over short time periods points up the weakness of utilizing absolute measures of risk over an extended period. Yet measures of absolute risk are essential in attempting to establish base rates and establishing longitudinal measures of change.

### The Potential of Lifetime Homicide Risk Measures

Absolute measures of risk lend themselves to deriving indexes of variations in lifetime homicide risk in individual neighborhoods, assuming that individuals lived their entire lifetimes in these neighborhoods under current conditions of demographic risk. Arnold Barnett and colleagues (Barnett, Kleitman & Larson, 1975; Barnett, Essenfeld & Kleitman, 1980; Barnett & Schwartz, 1989) have developed such indicators for the nation's 50 largest cities and for individual subgroups residing in those cities. No attempt, to my knowledge, has been made to evaluate individual life chances of becoming a homicide victim if one resides in neighborhood X in city Y. While these would represent synthetic measures that are akin to the total fertility rate, they would highlight long-term temporal risk based on currently prevailing conditions.

For instance, one could project the risk of black males who were aged 15 to 24 in 1990 and residing in some specified neighborhood, during the next ten years becoming a homicide victim. This could be done by employing a modification of the Barnett formula. Let us assume that the neighborhood referred to above was characterized by an unusually high absolute

homicide level during the base year, for example 150 per 100,000. In this case, one would expect the number of male victims in this age group to be 1 in 7, or 14 percent.

Knowledge of variations in absolute risk provides a sense of seriousness of behaviors that lead to such outcomes. At the same time, it permits the establishment of absolute risk levels beyond which local communities will no longer tolerate. Not only that, it allows neighborhood risk levels to be disaggregated by cause-specific acts, such as drug related killings. Thus, public policy decisions are likely to be derived from the availability of neighborhood absolute risk data.

A Surrogate Measure of Risk: Variations in Levels of Apparent Risk

On the other hand, generation of interest in problem resolution by community organizations is more likely to rely on apparent risk data. Since these data are available on a continuing basis, they are much more likely to be utilized in identifying high risk or dangerous environments.

It should be noted that we believe dangerous environments should embrace areas that extend beyond the limits of the site of victimization, as it appears those who are engaged in "hot spot" research are not inclined to do (see Sherman, Gartin, and Buerger, 1989). While site of victimization data are highly valuable in providing insight into the circumstances of death, they do not allow us to address structural and cultural issues that undergird activity leading up to death. Hot spots are simply sites of convenience that foster the likelihood of the commission of acts of lethal violence.

## HOMICIDE IN MILWAUKEE'S AFRICAN-AMERICAN COMMUNITY

Homicide as a cause of death in the African-American community in the city of Milwaukee has traditionally ranked much lower than that prevailing in many other large American cities. Since 1989, however, homicide risk levels in that community have begun to resemble those that have prevailed in other large urban centers over the previous two decades. Since Milwaukee has seldom been the target of homicide research, I have chosen to review variations in risk in that city's African-American community during its initial stages of risk elevation (Map 1). Both indicators of absolute and apparent risk will be employed to enable us to identify that community's most dangerous environments.

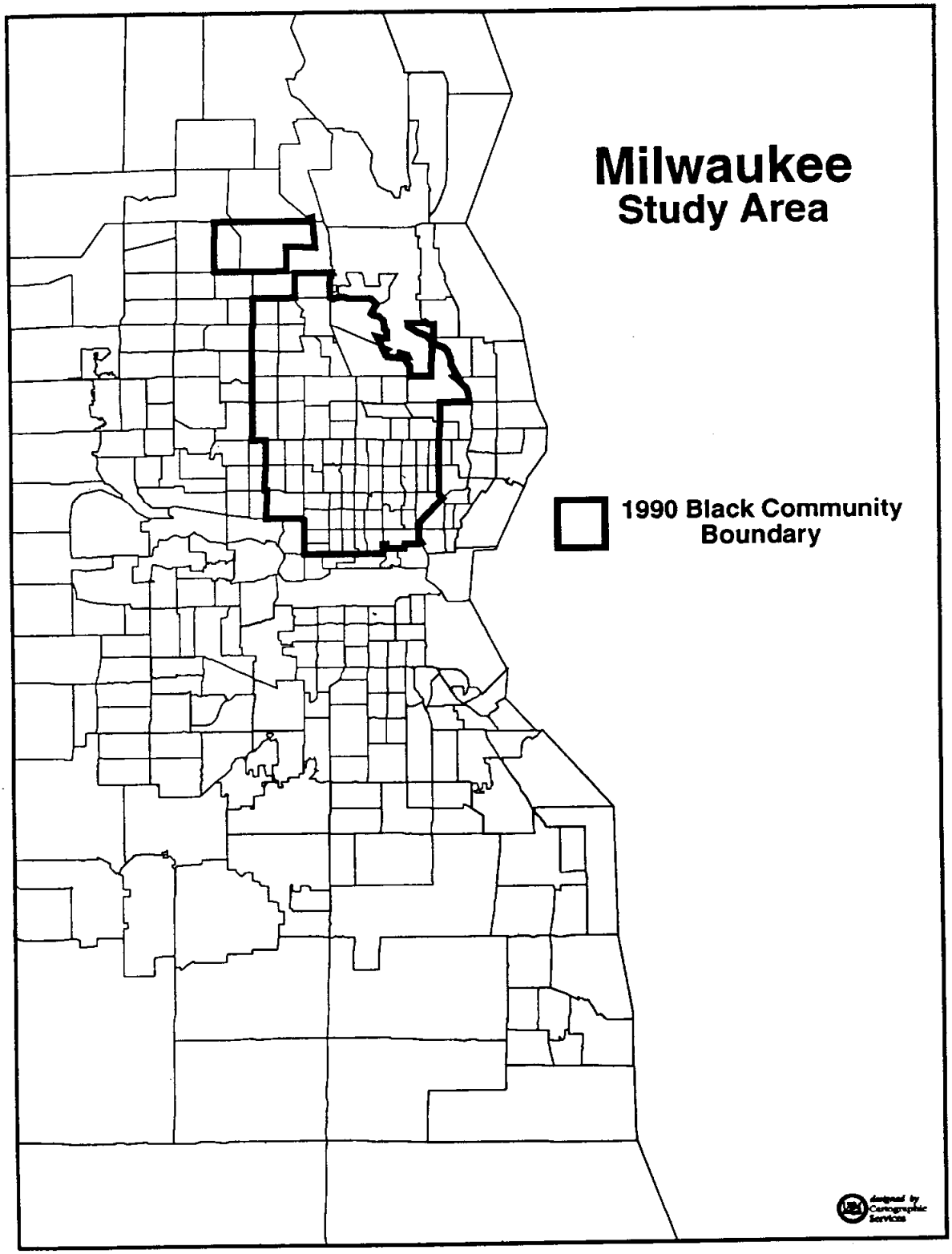
Structural Characteristics of Milwaukee's African-American Community

Milwaukee's African-American community, like those in other large urban centers, is segmented in terms of economic resource availability. Yet almost half (46.6%) of the neighborhoods in this ethnic based community are characterized by a scarcity of resources. The remaining neighborhoods are equally divided among those that might be described as having adequate resources (26.6%) and those whose resources are more than adequate (26.6%).

In those neighborhoods in which resources are described as more than adequate, a buffer against lethal violence appears to be at work. Few neighborhoods in this group show up as dangerous on either the apparent risk indicator or the absolute risk indicator. Thus, dangerous neighborhoods are largely confined to resource-scarce and marginally-adequate-resource neigh-

## MAP 1

## AFRICAN-AMERICAN COMMUNITIES IN MILWAUKEE



borhoods. Among the 70 neighborhoods in which blacks constituted the majority population in 1990, 23 percent could be described as at least marginally dangerous. A smaller subset within this group can be viewed as seriously dangerous.

Variations in Risk in the City's African-American Neighborhoods

In defining risk we have chosen the neighborhood of victimization as the unit of observation. Neighborhood risk categories were established utilizing both apparent and absolute risk statistics. Because annual homicide frequency fluctuates substantially among micro-spatial units, a three-year period (1989-1991) was used to compute absolute risk, whereas a four-year period (1989-1992) was used to establish levels of apparent risk. The risk levels employed to designate level of danger are shown in Table 1.

Table 1
**The Prevalence of Dangerous Neighborhoods in Milwaukee's African-American Community**

| | Absolute Risk Level (rate per 100,000) | Neighborhood Prevalence | Apparent Risk Level (cumulative frequency) | Neighborhood Prevalence |
|---|---|---|---|---|
| Extremely Dangerous | $\geq$ 150 | 3 | $\geq$ 14 | 4 |
| Seriously Dangerous | $\geq$ 100 < 150 | 6 | $\geq$ 12 <14 | 5 |
| Dangerous | $\geq$ 75 < 100 | 11 | $\geq$ 10 < 12 | 7 |

Apparent risk as it is defined above allows us to identify environments that might likewise be labeled environments of persistent or chronic violence. As can be observed from Table 1, they constitute fewer neighborhoods than those in which measures of absolute risk are employed to define dangerousness. This is in part a reflection of the smaller populations residing in some older neighborhoods. Where this is not the case, there is a high degree of overlap between neighborhoods on these two measures. Nevertheless, it is quite obvious that apparent risk measures can lead to inflated impressions of the seriousness of risk based on the observed threshold levels.

DANGEROUS NEIGHBORHOODS AND THE STRUCTURE OF THE AFRICAN-AMERICAN COMMUNITY

Just where within the structure of Milwaukee's African-American community are these dangerous neighborhoods found? Most dangerous neighborhoods tend to be concentrated in areas where resources are scarce, but certainly not entirely so. It should be noted that only one half of the neighborhoods that fit Wilson's (1987) definition of underclass neighborhoods, (i.e., concentrated poverty neighborhoods) could be described as dangerous neighborhoods. Thus the character of dangerous neighborhoods transcends such traits as the prevalence of poverty.

Neighborhood Clusters and Chronic Violence

Five clusters of dangerous neighborhoods were identified in the African-American community (Map 2). But not all neighborhoods in the clusters were chronically at risk of being labeled dangerous. Likewise, each neighborhood cluster varied in terms of resource adequacy. Yet the highest level of apparent risk was found among neighborhoods in cluster IV. This represents the neighborhood cluster where resource adequacy reaches its lowest level. Each neighborhood in this cluster could be described as satisfying some level of dangerousness, with two neighborhoods in the cluster identified as extremely dangerous. At the opposite end of the spectrum stands cluster I where the intensity of danger is less, and with no neighborhood labeled extremely dangerous. The two additional neighborhood clusters fell somewhere between clusters I and IV, but with each possessing one extremely dangerous neighborhood.

The persistence or chronicity of high apparent risk (Map 3) appears to vary as a function of neighborhood resource adequacy. Cluster IV, with the fewest resources, embraces neighborhoods in which there is a high level of persistent risk as well as a greater intensity of danger. On the other hand, persistent risk in cluster I is less pervasive. Thus, it appears that the chronicity of apparent risk, at levels that are utilized here to identify dangerous neighborhoods, varies as a function of resource availability. In this instance, resources are defined not simply as inadequate income, but include a range of contingent attributes associated with the availability of economic resources.

While apparent risk stirs the imagination and permits us to address such issues as the indirect effect of violence on children's mental health, as well as the fears harbored by adults (Osofsky and Others, 1993; Bell and Jenkins, 1993), the most serious risk of victimization occurs in resource-poor neighborhood clusters. Thus, measures of absolute risk are the more serious indicators of actual risk of victimization. Under conditions of absolute risk, cluster IV neighborhoods are much more dangerous places than cluster I neighborhoods. As a matter of fact, cluster I neighborhoods seldom satisfy the threshold limits of risk to allow us to label them dangerous in an absolute sense. Although when employing the apparent risk indicator, which might be termed an index of relative risk, most of these neighborhoods would be defined as dangerous. Most cluster IV neighborhoods, however, either satisfy the definition of seriously or extremely dangerous neighborhoods. The data reveal that cluster IV neighborhoods are net importers of victims, whereas imported victims constitute a minority of victims in cluster I.

Neighborhood Clusters and Young Adult Black Male Risk

Since young adult black males (age group 15 to 24) constitute an increasing share of all male victims, the decision was made to look at previously identified high risk clusters with the victimization levels of that group in mind (Map 4). What we found was a variation in prevalence of dangerous neighborhoods in each cluster, and differences in intensity of risk as well. Only one of the four neighborhoods in cluster I exhibited a critical level of absolute risk. Yet three in five of the neighborhoods in cluster II; five of seven in cluster III; and six of seven in cluster IV met or surpassed the critical risk level. In clusters III and IV, not only are dangerous neighborhoods prevalent but the intensity of danger is often more than twice the mean level for this group in the city. What shows up even more clearly here, is the association between elevated risk and neigh-

MAP 2

# Absolute Homicide Risk Variations in Milwaukee's African American Community


1990 Black Community Boundary

Homicide Risk Cluster Boundary

Absolute Risk Levels in Dangerous Neighborhoods (victims per 100,000 residents)

- ≥ 150
- ≥ 100 <150
- ≥ 75 < 100

Cartographic Services

MAP 3

# High Apparent Homicide Risk Clusters
# Milwaukee


1990 Black Community Boundary

Homicide Risk Cluster Boundary

Neighborhood Danger
4 year cumulative frequency counts
1989-1992

≥ 14

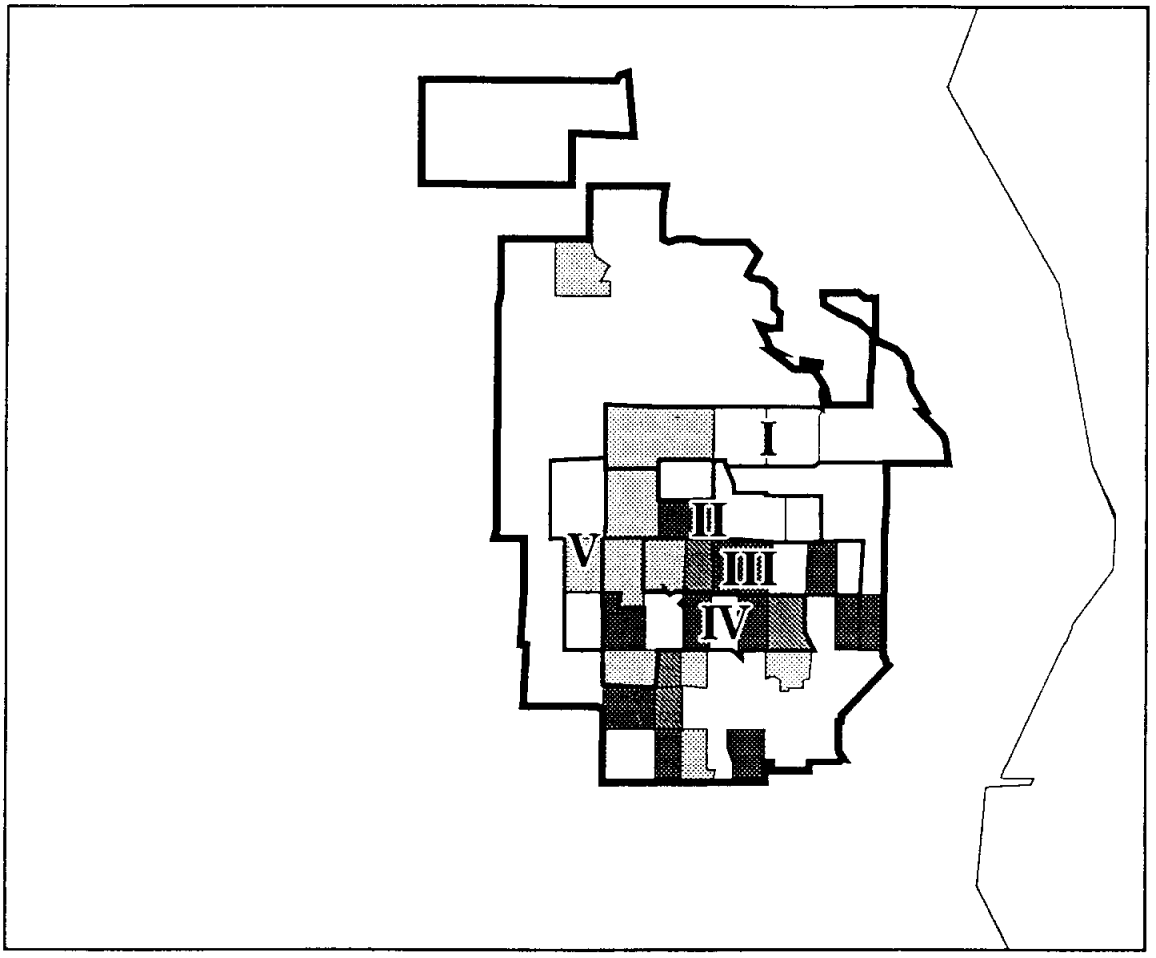
≥ 12 <14

≥ 10 < 12

designed by Cartographic Services

MAP 4

# Absolute Homicide Risk Patterns Among Young Adult (15-24) African American Males Milwaukee




1990 Black Community Boundary

Homicide Risk Cluster Boundary

Rate per 100,000

| | | |
|---|---|---|
| | ≥550 | Extremely Dangerous |
| | ≥ 450 < 549 | Severely Dangerous |
| | ≥ 350 < 449 | Dangerous |

designed by Cartographic Services

borhoods where economic resources are scarce. Given these conditions, the logical next step would be to uncover the circumstances that lead to such victimizations in resource-poor neighborhoods.

It should be further noted that an additional neighborhood cluster, not previously identified, emerges for younger victims. This cluster is largely comprised of low income neighborhoods that have only recently gone through the process of racial neighborhood change. It is not known at this point if these two attributes are associated.

Homicide risk environments expand and contract as a function of the fluctuating levels of homicide events from year to year. The population dynamics taking place within the larger black community often lead to rapid alterations in the character of the residential environment at the neighborhood level. These changes are known to affect micro-environmental levels of risk. What we know least about are the life cycle changes in neighborhood development and subsequently, the altered status of risk associated with these changes. Likewise, we know little about neighborhood risk stability, such that we are able to project the identification of neighborhoods of persistent elevated risk for any extended period of time. If we could improve our ability to better project the chronicity of risk within the context of a set of identifiable neighborhood clusters, we should somehow be able to reduce a neighborhood's level of vulnerability and subsequently its intensity of risk elevation.

## A REVIEW OF OUR ASSUMPTIONS

In this exploratory essay, we have not described the neighborhoods under review with precision in terms of the internal traits that make them vulnerable. We have said, however, that the availability of economic resources and the various social and cultural configurations that emerge in the absence of resources appear to be central in understanding persistent absolute risk. It might be that critical levels of apparent risk have more to do with physical aspects of the environment, or with the siting of activity centers that bring potential victim and offender together at a common site.

"Hot spots" may then represent important diagnostics providing clues to a better understanding of the role of the site on the likelihood of victimization. But clearly, however important these facilitating indicators may happen to be, they are secondary to the social and cultural attributes of neighborhood groupings and their subsequent relationship to macro-economic forces that originate from afar.

Our knowledge of homicide risk environments is in its infancy. This no doubt stems from the reality that white victimizations constitute rare events and are highly dispersed across the landscape. There are no doubt exceptions to this generalization among resource-poor white neighborhoods, which include a full range of age groups, in selected southern urban places. But since blacks continue to be spatially concentrated in all major U.S. cities (Massey and Denton, 1993), micro-environments of risk are commonplace. The question becomes: Would a keener understanding of environments at elevated risk place us in a better position to reduce the prevalence of deviant risk environments?

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# PLACE-SPECIFIC AND PLACE-BASED HOMICIDE RISK ANALYSIS

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## INTRODUCTION

Among the members of the Homicide Workshop, Harold Rose and I are neither fish nor fowl -- being neither criminologists nor public health specialists. We are, respectively, an urban geographer and an urban political scientist. Thus, we bring a very different perspective to our study of homicide that is influenced by our disciplinary backgrounds, a perspective that may differ from that of others in the group. Consequently, our particular analysis of urban black homicide differs from some of the more standard analyses in the extant homicide research.

An American Vice President once commented that if you have seen one ghetto, you have seen them all. The underlying premise of this statement is that a ghetto is a ghetto is a ghetto. Urban environments are all the same and do not differ. Therefore, if you visit one urban city, it is sufficient to inform you of what occurs in other urban cities.

As a political scientist whose primary interest is in urban politics, I know that political environments and political cultures differ from region to region and city to city; thus, the factors that influence political behavior and attitudes in one region may have a different set of influences and effects on behaviors and attitudes in another region. States differ in their assumptions about the institutions of government, and those differing assumptions affect the way the electorate views the machinery of government and its purposes.

## SPATIAL ANALYSIS AND HOMICIDE RESEARCH

Spatial analysis (Harries, 1980) allows one to identify and understand place to place variations in the degrees of influence certain factors and different environments play in explaining urban black homicide. While cross-sectional, aggregate analyses have identified certain variables (for example, percent of the population that is black, poverty levels, single-family households) as significant contributors to urban homicide, the questions arise -- what is the significance of those indicators or what do they mean within certain regional and urban contexts? Moreover, what do these factors, in and of themselves, tell us about urban homicide across black communities nationally or within black communities in a specific urban area? These questions are important ones, yet national macro-level aggregate data analysis has the effect of masking real differences that are present at the city-level and neighborhood environmental level.

In order to address these types of questions, one must utilize a research strategy that allows for the identification of the nuances and differences within urban environments. Therefore, spatial analysis has been one of the main tools of our (Harold Rose and my) research, individually as well as collectively, on urban black homicide (Rose and McClain, 1990).

We start from the premise that urban black communities do not exist in a vacuum, but are affected by factors and events not only occurring inside the communities but outside the

boundaries of these communities as well. Second, urban environments differ on a number of dimensions -- black settlement history, black growth characteristics, industrial base, migration patterns, spatial distribution and density of the black community, and a host of other factors. Finally, urban black communities are not static entities. Values, cultures, mores and traditions are not fixed, nor are they passed unchanged from one generation to the next. Additionally, values, cultures, mores, and traditions differ from region to region. Furthermore, the behavior and influence of these factors may differ from one environment to the next, particularly where urban black homicide is concerned. Therefore, in order to more fully understand the etiologies and consequences of urban black homicide, the environment, variously defined, in which these homicides occurred needed to be taken into account.

Spatially, we studied black homicide in several urban environments -- Atlanta, St. Louis, Houston, Pittsburgh, Detroit, and Los Angeles. The time period for the study was from 1960 to 1985. We utilized the concept of environment at several levels -- macro-, meso-, and micro-environmental -- and utilized an ecological approach. Essentially, the study was a black victimization study placed within a territorial context. By using neighborhood scale data, we were able to identify and explain variations in risk that occur within urban black communities. We utilized multiple data sources -- FBI Supplemental Homicide Reports, state, county, and city health department records, census tract data, police department records, clerks of the court records, state departments of corrections data, work record data on victims, black newspapers, and school records of victims in one jurisdiction (St. Louis). In addition, survey data were collected from a small sample of next-of-kin of the victims and a sample of offenders whose victims were in our sample (St. Louis, Detroit and Atlanta).

One thing is clear from the multicity approach to the study of black homicide: homicide is a complex phenomenon; cities differ in their black inhabitants' risk of victimization (likelihood of death) and the structure of victimization (relationship of victim to offender and whether single or multiple offenders and victims). The six cities studied were found to occupy different points on a continuum between traditional violence (motivated by anger) and nontraditional violence (motivated by gain). At the beginning of the time period (1960), Atlanta, Houston, and Los Angeles anchored the traditional-violence end of the continuum, while Detroit, Pittsburgh, and St. Louis were on the nontraditional violence end. By the end of the period (1985), Los Angeles had changed categories and joined Detroit, Pittsburgh, and St. Louis as centers where acts of nontraditional violence predominated.

Risk of victimization and structure of victimization differed spatially between cities and within cities between black neighborhoods. For each city, we constructed risk levels consisting of five categories of risk ranging from low risk to epidemic risk neighborhoods. We then examined differences on a number of dimensions within these neighborhoods and between neighborhoods. Spatial analysis also allowed us to identify clusters of high risk neighborhoods and how they were spatially disbursed geographically throughout the cities.

For example, in the interval between 1970 and 1980, the St. Louis black community underwent major change, especially demographic change, which aggravated risk conditions. Among the more notable changes were the following: abandonment of the city by large numbers of blacks and the economic plight of those left behind; rising unemployment levels and declining labor force participation rates; and intensification of poverty and high vacancy rates. All left their marks on an increasing number of neighborhoods. These shifts altered the location of substantial

risk clusters. The eastern cluster disappeared, the central cluster became elongated and segmented, and the western cluster expanded slightly. By 1975, St. Louis's south central cluster emerged as the city's most dangerous.

As mentioned earlier, previous research using national aggregate level data identifies certain factors that contribute to homicide in the aggregate. One of those factors consistently identified is percent of the population that is black. Yet those factors may have varying degrees of influence depending on the environment in which they exist. It is not sufficient to assume that the mere identification of percent black of the population explains the varying levels of homicide risk that occur within individual black communities. It is also unacceptable to assume that all black communities experience the same levels of homicide or that individual cities with sizable black populations experience similar levels of homicide. Yet aggregate data analysis cannot answer the question of variance within and between black populations within those urban environments. The variance and differences within and between black populations, we believe, are critically important to understanding black-on-black urban violence. By using spatial analysis on each of our cities, we were able to determine that homicide risk varies greatly within individual black communities, as well as between them.

## POLICY IMPLICATIONS OF SPATIAL ANALYSIS

Policy analysts continually argue that one crucial aspect of policy formation is problem structuring and problem identification. If one conceptualizes the problem incorrectly, then one falls into the error (which Raiffa [1968] refers to as a Type III error) of constructing a solution for the wrong problem. Consequently, the solution fails to address the problem, because it has been incorrectly structured and identified. Spatial analysis is one method of avoiding a Type III error, and thus should be considered as a policy analytic tool for the development of public policies aimed a reducing and interdicting increased levels of homicide risk. It is clear that homicide is not monolithic, and thus must be viewed as not only national in impact, but local in character. Moreover, within the same urban environment, the character of homicides may vary from location to location. An understanding of these spatial differences would avoid the development of generic homicide reduction and prevention policies that do not take into account the differences in the character of homicide between urban environments and within urban environments.

What this means, from a practical standpoint, is that local government authorities, including law enforcement, would be able to identify the differences in homicides committed throughout the city and tailor policies and programs for specific areas. For example, if one cluster of high risk neighborhoods includes primarily instrumental homicide zones, then adjustments in law enforcement resources may be necessary. However, if another cluster of high risk neighborhoods includes predominately expressive or domestic homicides, then adjustments in social service agencies' resources may be the proper approach. Spatial analysis not only allows for a theoretical understanding of homicide, but has practical applicability for public policy formulation as well.

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# HOT SPOT AREAS OF STREET GANG MOTIVATED CRIME: CHICAGO 1987-1990

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THE PURPOSE OF THIS PRESENTATION IS THREE FOLD:

- To present the development of a statistical methodology to look at Hot Spot Areas of crime,

- To examine the spatial distribution of specific syndromes of lethal and non-lethal gang motivated crime on Chicago's West Side from 1987 to 1990, and

- To demonstrate a technique to look at underlying characteristics of Hot Spot Areas and compare them to areas of lower crime density.

WHAT ARE HOT SPOT AREAS?

What statistics are appropriate for finding and defining the densest area of crime incidents on a map -- Hot Spot Areas? Statistical methods for the interpretation and analysis of relative crime density within arbitrary areal units, such as police districts, census tracts or community areas, have been available in automated systems for some years. However, spatial analysis systems suffer from serious problems in interpretation for crime analysis. Geographic information typically has been examined using regression or factor analysis to demarcate areas of high or low incidents. The areas were predesignated (for example, census tracts, community areas, arbitrary square miles, towns, police districts, counties and so on).[1] In addition to being subject to the ecological fallacy (area correlations being interpreted as individual correlations) and other aggregation biases, they cannot deal with a reality in which dense areas cross boundary lines or occur along a boundary line.

While researchers, especially Chicago School sociologists (Shaw and McKay, 1942), occasionally mapped their results, the statistically summarized results of this analysis were often divorced from the spatial base. So it remains today (Sampson, 1993); perhaps because of the time and expense involved, maps of the actual distribution of crime were and are rare. In contrast, regression or factor analysis of relatively large, arbitrarily drawn, areas is rarely useful in police work. Pin maps of individual incidents, however, are. While pin map data (locations of

[1]In the nomenclature of cartography, maps based on areal units are referred to as "choropleth" maps. Here, we substitute the less technical term, "areal." We also use "pin map" as a synonym for address-based information, because many of the events that must be mapped in a law enforcement application do not occur at addresses. For example, the body of a homicide victim may be found in a river, underneath a viaduct, along railroad tracks, or in the middle of a large park or parking lot.

individual events such as offenses or traffic accidents) can provide a wealth of information, pin maps alone cannot define a particularly dense area.

Criminal justice, like other users of spatial information, has seen a recent technological revolution. Early geographic analysis systems were difficult to learn, expensive to acquire, and required at least a mini-computer. The rapid evolution of data base management systems and the development of geographic information systems for personal computers have resulted in the accumulation of very large geographically located crime data bases, and in much greater accessibility of these data for analysis by both academics and the police.

Spatially-based statistical tools have not evolved nearly as quickly as geographic data bases. No single statistical package contains a tool box of appropriate analytic tools for spatial research. As a result, each crime analyst must assemble a collection of tools. Moreover, the tools available are often not appropriate for large-jurisdiction crime analysis, because they cannot be used with large databases or repeated analysis.

Analysts often need to identify high-density areas without regard to artificial boundaries, areas that reflect the pattern of actual events even if the events cross police district or census tract boundaries or extend along a boundary (a street, for example). Predefined, arbitrary boundaries are an obstacle to the identification of such real high-density areas. Spatial auto-correlation, the tendency for similar events to cluster geographically, was a well-recognized problem in early research (Odland, 1988), but, from a police perspective, it is precisely the tendency of crimes to cluster in particular areas that is most important for effective crime prevention and allocation of resources.

A single address with more crimes than any other address is sometimes called a "hot spot" (Sherman, et al., 1989), but such hot spot addresses may, or may not, be located within the highest-density crime area on the map. Moreover, the unit of analysis in a hot address is so detailed that "area" takes on a qualitatively different meaning, density could reflect some unique characteristic of the particular location, and irrelevant variables (such as the presence of a pay phone from which calls for service are made) can easily obscure the measurement of density.

The Hot Spot Area capability of the STAC (Spatial and Temporal Analysis of Crime) package, developed by the Illinois Criminal Justice Information Authority (see Block, 1990), delineates, regardless of artificial boundaries, the areas of the map that contain the densest clusters of events.[2] It can examine more than 10,000 events simultaneously. To find the densest areas, STAC begins with an iterative search routine that identifies clusters of events on the map, ranks them by relative density, and calculates and maps the standard deviational ellipse that fits each cluster. It is thus a technique for building non-arbitrary summary areas from the actual scatter of events on the map -- a database-driven, objective statistical tool that calculates a summary bounded area from individual pin map data.

[2]The STAC package contains a number of statistical tools for analyzing the distribution of events on a map, including Nearest Neighbor Analysis (a test of significance for clustering), Mean Center, and radial searches for events occurring around an address or other location. The two STAC capabilities relevant to finding a Hot Spot Area are the Hot Spot Ellipse and the Isocrime. Only the Hot Spot Ellipse is used in this report.

In this presentation, we use Hot Spot Area analysis to examine street-gang-motivated criminal incidents on Chicago's West Side from 1987 to 1990. Our analysis includes three types of street-gang-motivated crimes -- drug related crimes, non-lethal personal violence, and lethal violence. The consideration of only these crimes is based upon a theoretical orientation that assumes homicide is the sibling of similar non-lethal crimes (see Block & Block, 1992). Whether or not someone dies in a violent attack generally depends on situational factors, such as the lethality of the weapon and the availability of medical care, rather than the offender's intent.

The analysis is limited to Chicago Police Area Four (as it was designated from 1987 to 1990) and the surrounding West Side Community Areas.[3] The West Side originally contained many ethnic and port-of-entry neighborhoods. The area was mostly lower and middle income, and heavily industrialized. In the past quarter-century, most of the industry has left these communities. A corridor running from the southeast to southwest has become predominately Mexican. The northwest area remains partially Polish, but there are also Puerto Ricans and many other ethnic groups. Much of the central West Side, which is mostly black, was destroyed in the unrest following Martin Luther King Jr.'s death and was never rebuilt. Unlike some predominately poor communities, the West Side is well served with medical facilities. Distance to an emergency room is probably not a determinant of lethality of violence in this area.

Police Area Four includes most of the central West Side. In the period under study, the area had many drug related crimes and high levels of both lethal and non-lethal violence. In some years, one percent of the world's registered homicides have occurred in the area. The area included the turfs of many street gangs. The central and northwest sections were mostly controlled by the Vice Lords. The largest of many Latino gangs, the Latin Kings, struggled with several other Latino and multi-ethnic gangs to control the north and southwest sections of the area. Today, the eastern sections of the near West Side are rapidly gentrifying. Cabrini Green and ABLA public housing complexes are islands of poverty in more wealthy neighborhoods.

This area was chosen for analysis because of its ethnic diversity and its high levels of street gang activity. This area is also the site of the Early Warning System for street gang violence, and the Street Gang Violence Reduction program for gang intervention, a joint project of the Illinois Criminal Justice Information Authority, the Chicago Police Department, and the University of Chicago School of Social Service Administration.

## THE DATA

### Chicago Homicide Dataset

One of the largest and most detailed datasets on violence ever collected in the United States, the Chicago Homicide Dataset contains information on every homicide in police records from 1965 to 1990 -- over 200 variables and 19,323 homicides. It has been collected with the close cooperation of the Chicago Police Department by Carolyn Rebecca Block and Richard

[3]Since the 1930's, when they were first identified by Chicago School sociologists, a plethora of data have been collected and analyzed by Community Area, aggregations of Census tracts, usually including several neighborhoods but sometimes only one, identified by an official name and number (see Map 1). In this analysis, Community Area data were obtained from the *Local Community Area Factbook*, 1960 and 1970-1980 (Chicago Factbook Consortium,1980), and from the lead author's aggregation of 1990 Census tract data into Community Areas.

Block, beginning with the outbreak of street gang violence between the Woodlawn Disciples and the Blackstone Rangers in the late 1960s.[4] The ultimate source of all information for all years is the Murder Analysis Report (MAR), a one-page (front and back) summary of each homicide, maintained since 1965 by the Crime Analysis Unit of the Chicago Police Department. In addition, the complete investigation file is available in the Crime Analysis Unit for current years, and is consulted when necessary to clarify details.

Unburdened by many of the limitations inherent in the national Supplementary Homicide Reports (see Maxfield,1989; Perales,1989; Rokaw, et al.,1987; Cantor & Cohen,1980), the Chicago dataset includes all homicides known to the police (except justifiable homicides and homicides committed by on-duty police officers), and is organized so that victim-level, offender-level, and incident-level questions can be answered (or a combination of these). Since its inception in 1965, the MAR has consistently flagged cases in which there was positive evidence that the homicide was motivated by street gang activity (Bobrowski, 1988:3). Over the 26-year period, 1,311 homicides were determined by police investigation to be street gang-motivated. Between 1987 and 1990 there were 288 street gang motivated homicides in Chicago. Of these 81 occurred in Area Four.

Street Gang-Motivated Offenses

This dataset includes information on all of the 17,048 criminal offenses known to the police from 1987 to 1990 that were classified by police investigation as street gang-related (gang motivated). Except for murder, this information is available only from 1987.[5] Offenses range across the Criminal Code from murder to vandalism, and include over 100 specific crimes. Though a single incident may have multiple offenders or multiple victims, the analysis presented here is incident-level.[6] If more than one offense occurred in an incident, the incident is classified according to the most serious violation under the Illinois Criminal Code. (Incidents that are not violations of the Illinois Criminal Code are not included.)

For this analysis, we define street gang-motivated drug offenses as criminal law violations related to the possession or sale of hard or soft drugs, and nonlethal personal violence offenses as aggravated and simple assault and battery.[7] Other offenses include mob action, intimidation, theft, weapons law violations, and liquor law violations. There were 5,888 street gang-motivated

[4]The Chicago Homicide Dataset is maintained by the Illinois Criminal Justice Information Authority. Data from 1965 through 1981 are currently available in the National Archive of Criminal Justice Data of the Inter-university Consortium for Political and Social Research, and a completely updated dataset from 1965 through 1990 is being prepared for the archive.

[5]The Detective Division's Crime Analysis Unit has used the same designation of street gang-related motive for murder analysis since the early sixties. However, it was not consistently recorded for other incidents until mid-1986 (Bobrowski, 1988:3).

[6]To create the street gang incident dataset, we merged two non-overlapping CPD files, a "vice" file containing drug and vice offenses and a "general" file containing all other offenses under the Criminal Code. Almost all of the street gang-related vice incidents are drug offenses. Separate, individual-level victim and offender files were related to the incident file.

[7]In Illinois, an assault is a threat, while a battery is an actual attack. Generally, an assault or battery becomes "aggravated" when a weapon is used.

drug offenses, 8,828 nonlethal violent offenses, 288 homicides, and 2,081 other offenses in Chicago from 1987 to 1990. Of these, 1,760 drug offenses and 1,790 non-lethal violent offenses occurred in Area Four.

Street Gang Territory Boundaries

In Spring 1991, when the commander of the Police Department's Gang Crime Section asked street gang officers in each of the city's 26 districts to color a map of their district according to current street gang territories. Officers identified the territories of 45 street gangs, some of them minor, and also noted areas that were in dispute between one or more street gangs. We used these district maps as a basis for our analysis.

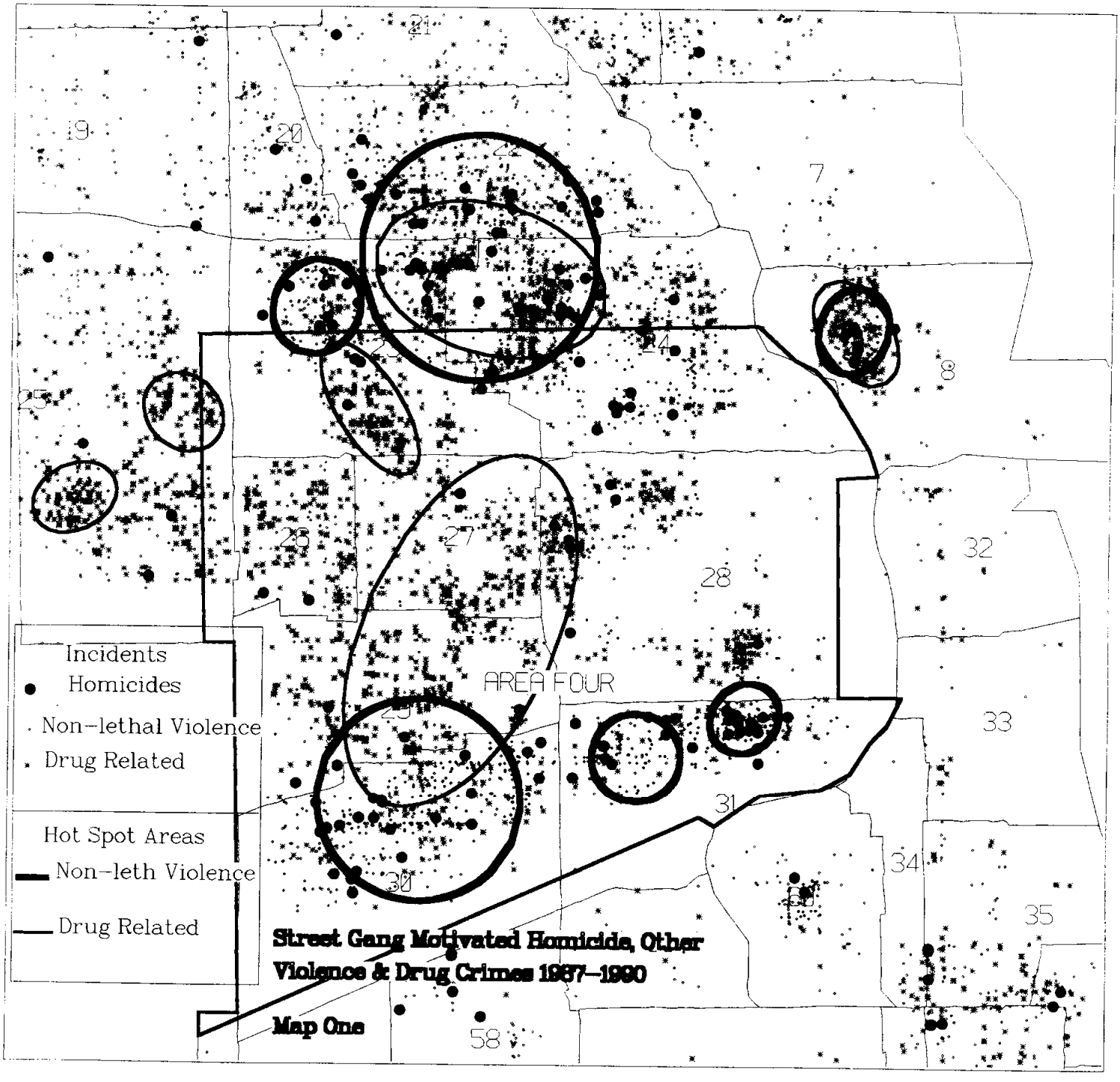
Because a street gang may disappear, merge, or change names over time, it would have been preferable to have a turf map that was contemporaneous with the street gang incident data. However, the turfs are probably a fairly accurate representation of the later part of the study period. It is also quite possible that territories defined by Gang Crime Section officers would differ from territories as defined by the street gang members themselves, by agency workers, by community members, or even by police officers assigned to another division (narcotics, for example). Although such multiple-perspective maps are not currently available, they are being developed by the Early Warning System for Street Gang Violence project, a joint project of the CPD and the Illinois Criminal Justice Information Authority.

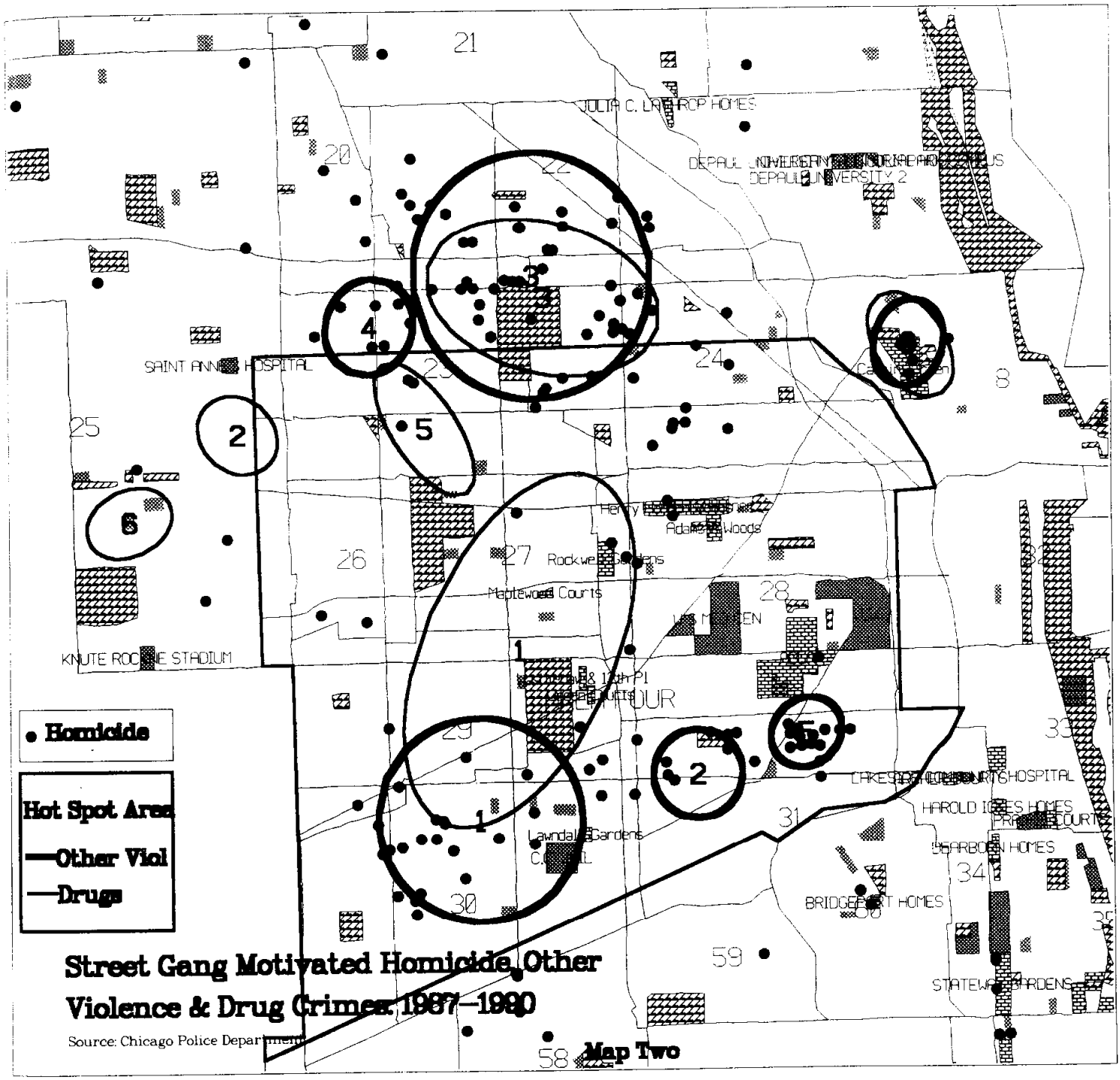
## HOT SPOT AREAS OF NON-LETHAL VIOLENCE AND DRUG CRIMES

Map 1 shows the location of Hot Spot Areas of non-lethal street gang motivated crimes on the West Side from 1987 to 1990, and their relationship to lethal violence incidents. This map includes 3,491 street-gang-motivated drug crimes (*) and 4,248 incidents of gang-motivated non-lethal violence (♦), far too many to analyze without using some sort of clustering routine. Hot Spot Areas were calculated separately for non-lethal violence and drug crimes. The 169 gang-motivated homicides (●) were not included in the Hot Spot Area calculations, but are shown on the map for comparison.

This map, however, is unproductive without knowing the underlying structure of the area. In Map 2, some of these structures are depicted, including public housing, major parks, and landmarks such as universities. Hot Spot Areas, ranked by number of incidents in each, have been retained in Map 2, but the individual incidents upon which the Hot Spot Areas are based are not shown. Hot Spot Areas of violent incidents (not including homicide) are shown as heavy-line ellipses; Hot Spot Areas of drug incidents are shown as narrow-line ellipses. The only incidents shown in Map 2 are homicides.

Visual inspection of Maps 1 and 2 shows several things. First, STAC's Hot Spot Area routine differentiates hotter and cooler areas for gang crimes, areas that do not follow arbitrary boundaries. For example, several of the hottest violent and drug Hot Spot Areas straddle the north boundary of Area Four, around Humboldt Park. Second, Hot Spot Areas of non-lethal personal violence and drug-related crimes do not always coincide. Third, lethal violence occurs


Incidents
Homicides
Non-lethal Violence
Drug Related
Hot Spot Areas
Non-leth Violence
Drug Related
AREA FOUR
Street Gang Motivated Homicide, Other Violence & Drug Crimes 1987–1990
Map One




**Street Gang Motivated Homicide, Other Violence & Drug Crimes: 1987–1990**

Source: Chicago Police Department

**Map Two**

more frequently in Hot Spot Areas of non-lethal personal violence than in Hot Spots of drug related crimes. Large numbers of street-gang-motivated homicides occur in Hot Spot Areas of drug crimes only if the area coincides with a Hot Spot Area of non-lethal personal violence.

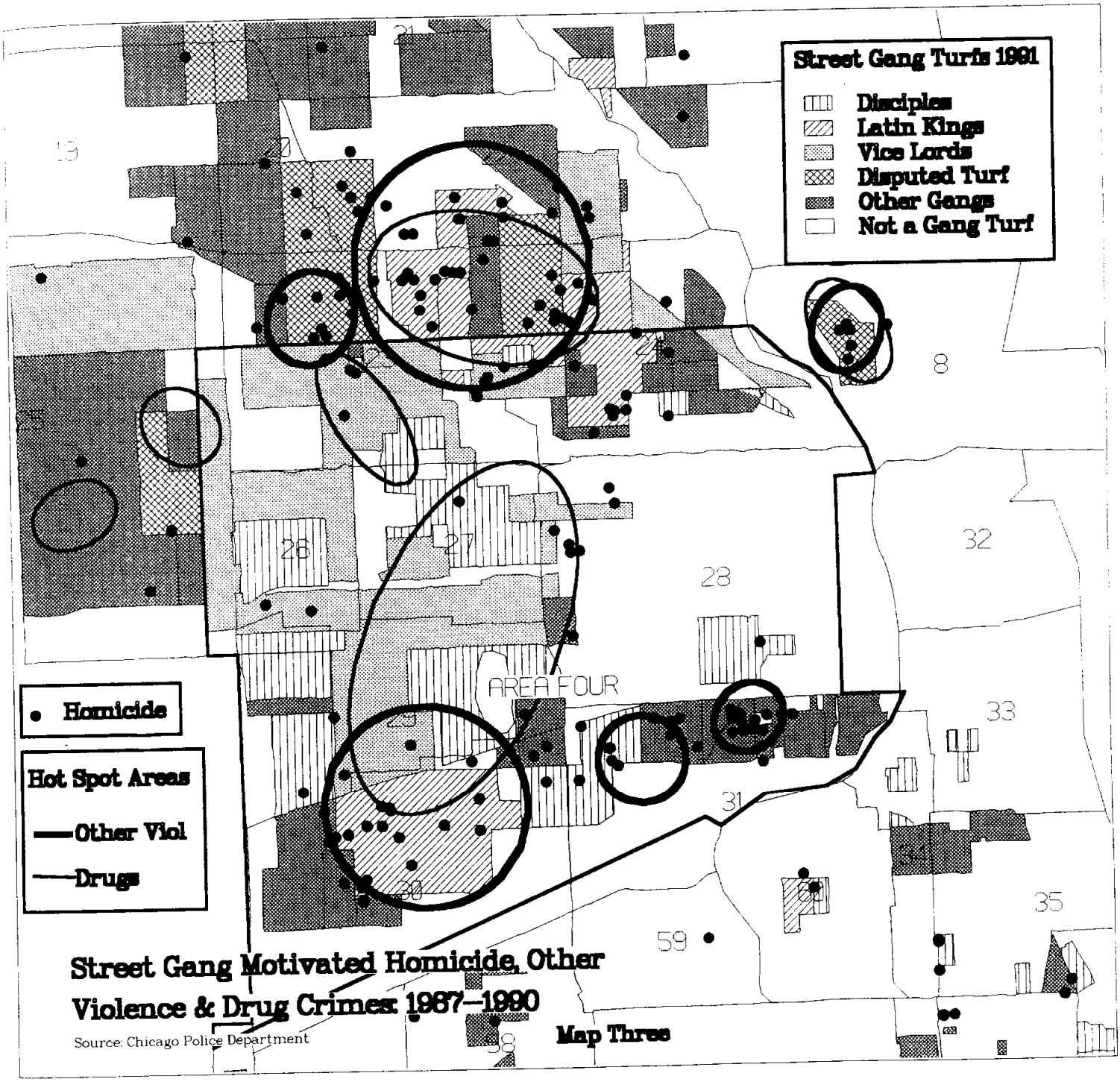
The northeast Hot Spot Areas coincide with Cabrini-Green, a notoriously violent public housing complex. The large north-central Hot Spots (drug Hot Spots 3 and non-lethal violence Hot Spot 3) surround Humboldt Park, a residential area with many ethnic groups. These Hot Spot Areas not only cross the northern boundary of Area Four, but cross several Community Areas. The east-central area of the map is given over to public institutions (the University of Illinois and the West Side Medical Center), where there are few gang crimes. Thus, the location of some Hot Spot Areas and the lack of incidents in other areas can be explained by knowledge of community institutions. However, most of the Hot Spot Areas seem unrelated to any of these institutions.

In contrast, the location of specific gang turfs (Map 3) is more closely related to the distribution of Hot Spot Areas, differentiation into drug related and non-lethal violent street-gang-motivated incidents, and the location of homicides. Street gang-motivated homicides are concentrated in disputed turf in Humboldt Park (Community Area 23) and West Town (Community Area 24) on the north, and in the Lower West Side/Pilsen (Community Area 31) and South Lawndale/ Little Village (Community Area 30) along the southwest corridor. Community Areas 31 and 30 are ports of entry for Latinos and other ethnic groups, and include some of the few Chicago neighborhoods that are expanding in population. Many street gangs claim turf in the neighborhoods east and west of Humboldt Park, where there are Hot Spot Areas of both street gang-motivated drug crimes and non-lethal personal violence.

Thirty-three street gang-motivated homicides occurred in the three "turf battle" Hot Spot Areas extending along the south border of Map 3, twelve in the small but concentrated Hot Spot Area in Lower West Side/Pilsen (Community Area 31), five in another Pilsen Hot Spot Area slightly to the west, and 16 in the larger South Lawndale/ Little Village (Community Area 30) Hot Spot Area. These neighborhoods include turfs of many small street gangs whose members are in continual conflict. Several areas now controlled by the Latin Kings were formerly the turfs of other street gangs, such as the still-powerful Two Sixers in Little Village (Community Area 30).

In general, the highest concentrations of street-gang-motivated homicide from 1987 through 1990 occur in Hot Spot Areas of non-lethal street-gang-motivated personal violence. These neighborhoods were expanding in population and were often the home of many competing street gangs. In contrast, declining communities with long-established street gangs tended to have Hot Spot Areas of street-gang-motivated drug crimes, but fewer street-gang-motivated homicides.

The Vice Lords' West Side turf is remarkably free of graffiti. They are so much in command that they do not need many physical markers to identify their turf. In contrast, the constricted turfs of the smaller street gangs are well marked with graffiti and other identifiers. Someone driving south on Pulaski Road from Vice Lords turf in North Lawndale (Community Area 29) toward Two Sixers, Deuces and Latin Kings territories in Little Village (Community Area 30), can see that the neighborhood undergoes a remarkable transformation. In North Lawndale, there are many empty lots and abandoned factories and apartments, but relatively little graffiti. In


Street Gang Turfs 1991
Disciples
Latin Kings
Vice Lords
Disputed Turf
Other Gangs
Not a Gang Turf
Homicide
Hot Spot Areas
Other Viol
Drugs
AREA FOUR
Street Gang Motivated Homicide, Other Violence & Drug Crimes: 1987–1990
Source: Chicago Police Department
Map Three

thriving South Lawndale (Little Village), the buildings are covered with multiple layers of insignia. The street gangs in Little Village, competing for scarce territory, must identify and violently defend their domains.

Both graffiti and violent turf defense incidents may be related to competition. In some street gangs, fights over colors or signs (representations) occur often, while such symbolic "face maintenance" is relatively rare in street gangs less threatened by other gangs competing for limited territory. West Side residents know the neighborhoods that the Vice Lords control, and challenges to that control are relatively infrequent. As a result, the gang does not need to defend its turf very often. In contrast, battles between rival street gangs are a regular occurrence in the expanding Mexican neighborhoods along the corridor from the southeast to southwest. Thus, symbolic face maintenance, graffiti contests, and violent territorial defense actions are relatively frequent in street gangs that are more threatened by competition.

## WHAT'S IN A HOT SPOT AREA?

An obvious criticism of Hot Spot Area analysis results from a strength. Hot Spot Area boundaries are non-arbitrary and based on the actual location of incidents. In contrast, the Census and many other data bases collect information by area such as census tracts, community areas, wards, and so on. In Chicago, these areas rarely coincide with each other or with the standard deviational ellipses of Hot Spot Area analysis. The problem is -- how can standard area-based information be related to Hot Spot Areas built from actual incidents?

While Hot Spot Area analysis does differentiate those areas with the greatest concentration of incidents from other parts of the map, we cannot assume that all of these Hot Spot Areas are equally dense. For example, "Violent Hot Spot Area 1" in Map 2 is much larger than "Volent Hot Spot Area 5." Does this mean that the risk of non-lethal violence is much higher in Area 1 than Area 5? We can easily calculate the area within an ellipse, and rank ellipses by density per square mile.[8] However, Hot Spot Area analysis must advance from the calculation of crimes per square mile to the development of techniques to look at other characteristics of these areas that might generate or attract criminal activity. Examples of these attractors include taverns and liquor stores, abandoned buildings, public transportation hubs, and of course, population.

The analytic technique we are developing estimates population counts within Hot Spot Area non-arbitrary boundaries. Using Census block level or block group statistics, we can estimate the population within a Hot Spot Area, as well as many social class, housing, employment, family, and ethnicity characteristics. We can also use data gathered from other agencies to investigate dependency loads, liquor licenses, housing quality, and so on. Virtually any data source that characterizes areas or points by location can become a tool to compare Hot Spot Areas to their less dense surroundings.

Because each census record contains the longitude and latitude of its mean geographic center, the population within a Hot Spot ellipse is easily estimated. Thus, the State of Illinois record contains its geographic center's coordinates, so too do county, city, tract, and block records.

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[8]MapInfo (the geographic information system used in this analysis) and most other computer mapping packages automatically calculate the area within a boundary.

The availability of a geographic locator in each Census record allows for estimation of the population of a Hot Spot Area or any other real boundary. The sum of the populations of those Census blocks having centers that fall within a hot spot ellipse or any other boundary become an estimate of the area's population.[9]

The ellipse population estimate is the sum of the population of all Census blocks in which the center falls within the boundaries of the ellipse. This excludes some people who live within the Hot Spot Area boundary and includes some who do not, but if the Hot Spot Area is large relative to the census blocks, we assume that these inclusions and exclusions are random.

Tables 1 and 2 look at the density of lethal and non-lethal street-gang-motivated crimes in the twelve Hot Spot Areas, and compare density in these Hot Spot Areas to density in the surrounding community (for ellipse numbers, see Map 2). Density per square mile and incident rates per 100,000 population are calculated. These rates and densities are four-year totals, not a yearly average.

The density of street gang crimes is much higher inside the Hot Spot ellipses than outside, whether density is measured by square miles or population. Since the Hot Spot Area routine of STAC is based on spatial clustering, it is not surprising that the spatial density of Hot Spots Areas (in square miles) should be high. It may be surprising, however, that non-lethal violent incidents are less concentrated in space than drug incidents. The spatial density of non-lethal violent incidents was 5.7 times higher within Hot Spot Areas (256 versus 45 incidents per square mile), while the spatial density of drug incidents was 7.5 times higher (238 versus 32).

Street-gang-motivated drug crimes are more densely concentrated within Hot Spot Area populations than are street-gang-motivated non-lethal violent crimes. The rate per 100,000 population of street-gang-motivated drug crimes was 5.5 times higher within Hot Spot Areas than outside them. In contrast, the rate of non-lethal personal violence was only 2.8 times higher in the Hot Spot Areas as outside them. On the other hand, density across the six drug Hot Spot Areas was more uniform than density across the six violence Hot Spot Areas. The hottest drug hot spot was twice as hot as the coolest (903 versus 1,832 incidents per 100,000 population), but the hottest violent hot spot was about four times as hot as the coolest (576 versus 2,444).

The two smallest Hot Spot Areas of non-lethal violence (five and six, both smaller than a square mile) had the highest concentration of incidents of non-lethal gang-related violence (Table 1), whether density is measured by incidents per square mile or incidents per 100,000 population. Hot Spot Area Six (Cabrini-Green), had 635 non-lethal incidents per square mile and 2,444 per 100,000 population. Hot Spot Area Five (Pilsen) had 536 non-lethal incidents per square mile and 1,361 per 100,000 population. The drug Hot Spot Area encompassing Cabrini-Green (drug Area four) had the highest per capita rate of drug incidents of any of the drug Hot Spot Areas (1,832 per 100,000). In contrast, the violent Hot Spot Area in Pilsen was located outside of, and distant from, any of the drug Hot Spot Areas.

[9]In a rectangular grid city such as Chicago, a Census block usually has four sides encompassing one side of two north-south and two east-west streets. It does not correspond to the common conception of a block that includes both sides of a street between two intersections.

Table 1

**West Side Street-Gang-Motivated Incidents 1987-1990: Non-lethal Personal Violence & Homicide***

Hot Spot Area of Non-Lethal Violence

| | One | Two | Three | Four | Five | Six | Inside all Hot Areas | Outside any Hot Area |
|---|---|---|---|---|---|---|---|---|
| Square Miles | 2.15 | 0.41 | 3.04 | 0.43 | 0.25 | 0.31 | 6.59 | 57.41 |
| Population | 65,072 | 14,492 | 78,033 | 13,746 | 9,845 | 8,059 | 184,927 | 814,927 |
| Incidents | 375 | 98 | 750 | 131 | 134 | 197 | 1,685 | 2,563 |
| Homicides | 16 | 5 | 39 | 7 | 12 | 5 | 84 | 85 |
| Per Square Mile | | | | | | | | |
| Incidents | 174.42 | 239.02 | 246.71 | 304.65 | 536.00 | 635.48 | 255.69 | 44.64 |
| Homicides | 7.44 | 12.20 | 12.83 | 16.28 | 48.00 | 16.13 | 12.75 | 1.48 |
| Per 100,000 Pop. | | | | | | | | |
| Incidents | 576.28 | 676.24 | 961.13 | 953.00 | 1,361.10 | 2,444.47 | 890.37 | 314.51 |
| Homicides | 24.59 | 34.50 | 49.98 | 50.92 | 121.89 | 62.04 | 44.39 | 10.43 |

Sources: Chicago Police Department; U.S. Census 1990 (STF1B)

Table 2

**West Side Street-Gang-Motivated Incidents 1987-1990: Drug-Related Incidents & Homicide***

Hot Spot Area of Non-Lethal Drug Incidents

| | One | Two | Three | Four | Five | Six | Inside all Hot Areas | Outside any Hot Area |
|---|---|---|---|---|---|---|---|---|
| Square Miles | 3.74 | 0.32 | 1.83 | 0.42 | 0.51 | 0.30 | 7.12 | 56.88 |
| Population | 66,000 | 7,088 | 44,468 | 8,950 | 12,492 | 7,956 | 146,954 | 857,720 |
| Incidents | 596 | 88 | 507 | 164 | 207 | 132 | 1,694 | 1,797 |
| Homicides | 9 | 0 | 30 | 5 | 3 | 0 | 47 | 122 |
| Per Square Mile | | | | | | | | |
| Incidents | 159.36 | 275.00 | 277.05 | 390.48 | 405.88 | 440.00 | 237.92 | 31.59 |
| Homicides | 2.41 | 0.00 | 16.39 | 11.90 | 5.88 | 0 | 6.60 | 2.14 |
| Per 100,000 Pop. | | | | | | | | |
| Incidents | 903.30 | 1,241.53 | 1,140.15 | 1,832.40 | 1,657.06 | 1,659.13 | 1,152.74 | 209.63 |
| Homicides | 13.64 | 0.00 | 67.46 | 55.87 | 24.02 | 0 | 31.98 | 14.23 |

Sources: Chicago Police Department; U.S. Census 1990 (STF1B)

*Homicides in both tables are total street-gang-related homicides (drug-related and all other) occurring within the indicated Hot Spot Area(s).

Street-gang-motivated homicides are more densely concentrated in Hot Spot Areas of non-lethal violence than outside these areas. Non-lethal Violence Hot Spot Area Six had 62 and Area Five had 122 gang-motivated homicides per 100,000 population. In contrast, as we have already noted, there is no relationship between drug Hot Spot Areas and gang-motivated homicide. Two drug Hot Spot Areas, including Area six, which had the second highest level of gang-motivated drug crime, had no gang-motivated homicide. Though the per capita rate of street gang homicide in the drug ellipses over all was 2.25 times as high as in the remainder of the map, the rate of gang-motivated homicide over all the non-lethal violence ellipses was 4.26 times as high as in the remainder of the map.

Thus, Hot Spot Areas of drug crimes tend to be denser, relative to the surrounding area, than Hot Spot Areas of non-lethal violence. The density of street gang drug incidents per 100,000 population was 1,153 within the drug hot spots versus 210 outside of the drug hot spots (Table 2), a ratio of 5.49:1. In contrast, the density of street gang non-lethal violent incidents per 100,000 population was 890 within the violence hot spots versus 315 outside of the violence hot spots (Table 2), a ratio of 2.83:1. However, street-gang-motivated homicides are much more strongly related to Hot Spot Areas of non-lethal violence than to Hot Spot Areas of drugs.

## CONCLUSIONS

A new technique, Hot Spot Area analysis, non-arbitrarily differentiates areas of high risk of crime from those with relatively low risk. This presentation demonstrated how these areas coincide with specific community structures and gang turfs, and how density per square mile is related to population density.

Because lethal violence tends to occur in the same neighborhoods as nonlethal violence, intervention programs that reduce nonlethal street-gang violence will probably also reduce lethal violence. However, neither an accurate assessment of street gang-motivated criminal activity nor the development of effective intervention strategies is possible without the recognition of differences among neighborhoods and among different street gangs. Descriptions, explanations, and intervention strategies that are successful with street-gang-motivated turf violence may not succeed with street gang entrepreneurial activity.

It is easy to see why people living in different communities, agencies working in those communities, or scholars conducting research there, might see the street gang situation as being completely different. It is. Their perspectives differ because the problem is actually different in their neighborhood. Intervention and prevention strategies that might work in a community with a drug Hot Spot Area may be ineffectual in a community with a turf Hot Spot Area. Still other strategies may be necessary in a community with both. To successfully explain or intervene in street gang-motivated violence, we must first accurately describe it. An accurate description is not generic. It is grounded in specific types of street gang activity, occurring in specific neighborhoods.

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# MAPLESS MAPPING AND THE WINDSHIELD WIPER EFFECT IN THE SPATIAL DISTRIBUTION OF SERIAL RAPES[1]

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Since the 1800's, criminologists have sought to describe the spatial patterning of crime. As noted by Brantingham and Brantingham (1981), while observations of these patterns have been diverse, explanations of the patternings have been "simplistic" and based primarily on area correlations between crime patterns and other social phenomena.

In an attempt to broaden this theoretical model, Brantingham and Brantingham integrate concepts of mobility and perception into nine geographical search patterns that potentially characterize the offending behavior, or cognitive "template" of criminals. Positing that "criminals engage in search behavior that may vary in intensity" and that "criminals use previous knowledge to evaluate and select targets," they hypothesize that these patterns can be deduced based upon varying spatial distributions of victims or targets within hypothetical urban forms and that most offenders commit their crimes close to home. They hypothesize that the most simple search pattern would be characterized by a uniform circle with the offender's residence at the center and the probability of any potential target becoming an actual target decreasing as the distance from the offender's home increases. Finally, Brantingham and Brantingham (1981:50) conclude,

> criminals are not random in their behavior and . . . by exploring urban structures and how people interact with urban spatial structure, it should be possible to predict the spatial distribution of crime and explain some of the variation in volume of crime between urban areas and between cities.

In a report submitted to the U. S. Department of Justice, Rengert and Wasilchick (1990) apply principles of cognitive mapping deriving in part from the work of Coucelis, Golledge, Gale and Tobler (1987) and Huff (1984). Rengert and Wasilchick comment upon the ubiquitousness of criminal opportunities, a "distance bias" that motivates a burglar to stay close to important "anchor points," and a "directional preference" wherein a burglar tends to operate in "more familiar rather than less familiar areas" (p. 50). They propose a series of six models for the patterning of burglaries describing the distribution of crimes around the home and a second "focus."

Recently, Canter and Larkin (1993), studying the spatial patterns of 45 serial rapists, have discussed models of the relationships that exist between an individual's range of criminal activity

[1]This research is being conducted under Interagency Reimbursable Agreement No. 91-IJ-R-027, awarded to the authors by the National Institute of Justice. The authors would like to express their appreciation for the invaluable work of Susan Trumbetta and Natalie Gibbs in coding and analysis of the data.

and the location of their home base. Hypothesizing the existence of a "marauder" and a "commuter" model, they found evidence primarily of the former, in which the offender moved out from his home base in order to commit his crimes. Canter and Larkin further found that offenders tended to offend in a distinct offense region and that the distance they traveled to offend correlated highly with the distances between their offenses. Based upon these findings, the authors conclude that the principle of "domocentricity" is relevant to the patterning of sexual crime and that this determination may prove useful in solving these crimes.

The present study falls within this same tradition and, as such, examines the spatial distribution of crime not only in its geographical context, but also as an expression of human cognition and perception.

The data for this project were derived from two sets of serial rape cases. The data discussed in this paper are from a set of 112 of these cases, which collectively total 898 rapes and other incidents. The cases, which all involve apprehended offenders, were collected from police departments across the country. They were acquired through the course "Violence in America," taught here at the Academy. As part of their participation in the course, students were given the option of either writing a term paper or submitting a complete solved serial rape case from the files of their own department or another department. The case was to include detailed victim statements, police reports, and a map showing the location of each rape, as well as the location of the home and place of employment of the offender.

This research is in progress. At this point the victim statements for every rape have been coded, using a 28-page protocol that summarizes the nature of the relationship between the offender and the victim, the nature of the approach used by the rapist in procuring a victim, the site of the contact, the victim's characteristics, characteristics of the release site, and the factual components of the rape itself (e.g., sexual acts committed, use of weapon) as well as 56 scales that quantify the behavioral, verbal, and sexual interactions of the rapist with the victim. Each of the case maps has now been geocoded with latitude and longitude shown to six decimal places.[2] This level of measurement is accurate to a few inches.

Before continuing with the geographic part of this study though, its three theoretical components should be mentioned.

A significant theoretical thrust of the study has to do with the quantitative analysis of rape. Warren, Reboussin, Hazelwood and Wright (1991) originally developed a set of 33 five-point scales, which were used in discriminant analyses of an earlier set of rapes. For the present study, we developed a new and seemingly improved set of scales in which many of the previous scales were revised or expanded. In the 1991 study, we were able to "predict" which rapists would eventually become more violent, based on their first rapes. At the moment, we are able to replicate this finding in the present study, but only using the old scales. In the 1991 study, we also tried to discriminate rapist types based on the scales; and while the results looked promising, the discriminant functions were not significant. In the present study, we do get significant results with both old and new scales. This has interesting implications; not only does it facilitate the

[2]The extensive geocoding work was done for us by Ruben Rodriquez of the National Center for Missing and Exploited Children (NCMEC). We are very grateful for the time and effort he put into this project for us.

derivation of replicable rape type based upon crime information only, but also raises the possibility of conceptualizing rapist types not as categories *per se* but as points in a multivariate space.

A second analytical focus involves the empirical derivation of factors that describe the use of force by the rapist, resistance by the victim, rapist sensitivity to the victim, rapist self-involvement, rapist hostility, the use of bindings by the rapist, and duration of the rape.

I think it is fair to say that this is the first time anyone has looked at a large sample of serial rapes in this quantitative way. We see these scales as tools for the quantitative analysis of rapes, which will open all kinds of new doors. For example, they should make it possible to sort out objectively, as opposed to clinically, the rapes of an individual rapist from among a larger set of rapes, using cluster analysis. This would also facilitate the "profiling" of offenders by investigators who are not highly trained criminal investigative analysts.

Very briefly, the third component of the study involves the question of taxonomy of serial rape. The Behavioral Science Unit presently uses a four part taxonomy developed by Groth (Groth, Burgess and Holstrom, 1977) and modified by Hazelwood and Burgess to classify rapes. However, we are interested in seeing whether the more differentiated and sophisticated taxonomy being developed by Prentky and his colleagues (Prentky, Knight, and Rosenberg, 1988) can be transposed into a crime scene framework and hence made more useful to law enforcement officers.

Despite these theoretical interests, there is no doubt that the nature of the rape, as it pertains to the pattern of offending manifest by the rapist, lies at the core of our inquiry. It is our hope that the behavior of the rapist demonstrated during the rape will relate to the pattern of offenses and through the pattern of offending to the rapist's residential and employment fields of activity. It is this analysis that we are currently embarking upon.

In particular, our data have been processed using MapInfo. We are, however, using MapInfo in ways that are generally not traditional in mapping. We are not intensively studying one city, as the Blocks are doing with Chicago, as Harries is doing with Baltimore, and as Rengert is doing with Philadelphia, but rather we are creating geographical patterns that are without reference to the surface features of the geographical area being analyzed. We have begun to call this process "mapless mapping." In approaching geographical patterns from this cognitive perspective, we are able to analyze cases from all over the country without the accompanying street maps for each area. Rather we work with the pattern, displaying latitudes and longitudes, accurate to within inches, for every rape and every rapist residence and workplace.

The data analysis began with a D:Base file listing every rape in the data set, along with other information as well. In creating the data set it became apparent that our real unit of analysis was not the individual rape, but rather the pattern of rapes manifest in each case. In realizing this, we began to work with Keith Harries, who helped us determine how to create the rape patterns. This was done by editing the MIF file of the original table of individual rapes so that it would create the patterns or "objects" as they are called, and a MID file that associated other data with these graphic objects.

From these efforts, we have created a matrix that allows for the calculation and display, for each pattern, of the distance of any given rape from the centroid of the pattern, from the first

rape, and from the rapist's residence. This matrix is a "mapless map": The map it represents exists on a grid of latitude and longitude, but in a space that is otherwise completely blank, with no representation of the earth's surface. The characteristics of the map, including the area and shape of the object and the distances involved, have been transferred to SPSS, and will be used in the analyses that link the patterns to the data that describe the offenders' behavior during the rape.

A number of interesting questions present themselves that pertain solely to the geographical data, without regard to the issue of how it may relate to the taxonomic data or to the scales. First is the question that started the whole thing, directionality. As stated earlier, a number of persons have discussed (LeBeau, 1993) or proposed models for the spatial distribution patterns of the crimes of individual criminals, among them the Brantinghams (1981, 1984), Rengert and Wasilchick (1985, 1990), and, most recently, Canter and Larkin (1993). The most basic of these is what Rengert refers to as the "uniform model" -- Canter calls rapists who behave as per this model "marauders" -- in which crimes are more or less uniformly distributed in a circle around the criminal's base of operations. This model is, in fact, used here at the National Center for the Analysis of Violent Crime in the investigation of arson cases.

However, when the maps of serial rapes were examined, it became apparent that they were also characterized by distinct sense of directionality. Over and over, a distinct pattern emerged that might be described as a "windshield wiper" or "pie slice" pattern. It appeared to represent a pattern of interest both practically, because of the implications it has for locating the rapist's residence given a group of rapes, and also theoretically because of the implications for cognitive mapping. Based upon these observations, MapInfo was used to ascertain for each case whether or not the residence lay inside the pattern of offenses. Interestingly, it appears that in over 75 percent of cases, the residence is not inside the pattern, and this is true whether just rapes, or all known offender crimes, are considered. While this represents a crude measure of directionality, efforts are under way to develop more expressive measures. However, it is clear that this finding rejects the uniform model, at least for this set of offenses. It probably represents a pattern very different from Canter and Larkin's finding that 87 percent of their offenders operated in accordance with the circle hypothesis, but we cannot be sure until we apply the same measures used by Canter and Larkin to our data.

Another finding reported by Canter and Larkin suggests that the distance between offenses is correlated with distance from the rapist's home -- the farther he goes from home, the further it is between offenses. This possibility is currently being investigated using our sample of 898 offenses and 112 rapists.

Based upon these preliminary observations, a number of other interesting possibilities present themselves. For instance, we can use the geodata to examine the distance from the residence to the closest rape and see if the Brantinghams' idea of a "safety zone" is confirmed for sexual assault, and if so, how big the zone is. We also will be exploring whether other characteristics of rapes or rapists might be found to correlate with directionality differences. What if the rapists that do follow the uniform model were of a type different from other rapists? And so on. In addition to rejecting the uniform model, it will also be necessary to try to determine what model we <u>are</u> encountering. This is tricky, because there are essentially no reference points in our maps, but Rengert has suggested a method of testing to see whether these patterns would better fit the "teardrop" pattern than the uniform pattern, using only distances.

As we undertake these different types of analyses, we are also trying to determine the potential relevance of our "mapless map" approach. Clearly, "mapless mapping" produces generalities that are true across geographical locations, and hence are not tied to the topography of any particular location. This is both the central strength and weakness of the approach. It is our perception, at this point anyway, that this approach creates generalizations about how people tend to move about in space and how their cognitive maps of the space around them influence their patterns of movement. As such, it appears that we are then addressing the principles of cognitive mapping reflected in the tradition of Coucelis, Golledge, and Rengert, not to mention E. C. Tolman. Perhaps Rengert's work on the spatial movements of burglars in Philadelphia has influenced us the most. Rengert holds that individuals, including criminals, probably tend to follow familiar routes, to move about in areas where they feel comfortable, and to move about in relation to "anchor points" or "foci," such as residence, work place, or criminal markets, that are important to them.

Despite this apparent usefulness, it is also clear to us that "mapless mapping" can only take one so far. The cognitive schema is obviously influenced by local terrain. Once our results have been more developed, our plan, therefore, is to apply them to a single geographical area. We are currently in the process of acquiring the Baltimore base map, a very complete and accurate digitized map of Baltimore and surrounding counties. We will then apply our results to patterns of serial rape in this area. Hopefully, this will allow us to relate our very abstract generalities to the local topography of this one particular area, and assess the significance of these two geographical components in the decision-making of the serial rapist.

In closing, we should like to point out some of the other analyses we will be doing during the summer. Still within the geographical data, there is the question of temporal sequencing, looking for regularities in the ways rapists space their rapes out over time. Obviously, all types of rapists may not do this in the same way. This analysis of autocorrelated data is being conducted by Dick McCleary, at the University of California at Irvine. Aside from predicting when and where the rapist might strike next, every policeman's dream, we would obviously also like to be able to say something about the probable location of the rapist's base of operations.

Finally, there will be the analyses of the other parts of our data and their relationship to the geographic variables. Will we be able to relate our taxonomy of rapist motivation (type) to differences in geographical pattern? Will the taxonomy developed by Prentky, Knight and their colleagues prove to be workable based only on victim statements? Even if it is workable, will it be more effective than our current system in relating to the geographic variables? Will discriminant analyses using our scales be able to sort out these geographical patterns into meaningful groups based on rapist type? Will empirical groupings of rapes created by cluster analysis look anything like the groupings based on existing taxonomies? For the answers to these and many other interesting questions, such as the question whether it is even meaningful to consider rapist type as a trait given the variability in types of rapes and the contextual nature of behavior, you will simply have to stay tuned.

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# MAPPING CRIME: AN INESCAPABLE BUT VALUABLE TASK FOR INTRACOMMUNITY ANALYSIS[1]

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Understanding crime requires understanding where it happens as well as to whom and by whom. Attempting to answer the latter two questions while ignoring the first will produce inadequate explanations that can result in wasting crime prevention efforts. The bulk of crime occurs in the context of a community, such as a city, a suburb, and so on, within which it is spatially concentrated. This concentration requires dealing with spatial relationships and patterns that cannot be adequately understood or easily communicated without maps. Thus, even the non-cartographer becomes involved in mapping, so that the measures needed for theoretically-relevant and valid analyses can be computed. My purpose is to re-argue the case for the importance of mapping for improving the quality of research on crime and for enhancing the translation of research to nonacademic audiences, especially policymakers, to help reach one of the sometimes unspoken goals of criminologists -- decreasing crime.

My intellectual heritage is in the human ecological tradition of urban sociology and the routine activity theoretical perspective of criminology (Cohen and Felson, 1979; Felson, 1987). Both these influences combine to lead to the following standpoint, which I now somewhat overstate for emphasis, that adequately understanding crime and carrying out effective crime prevention will be impossible without understanding the "where" of crime, that is, its spatial patterning. This requires using maps.

To be overly blunt, just knowing who becomes arrestees or who becomes victims isn't really enough, in my view, to do much about crime or understand much about how it happens. A further extension of the "hard-line" argument proceeds along two paths. First, even if efforts are to be directed at the "who" of crime (offenders or victims), the "who" must be found or located so that efforts are not wasted on the "whos" that do not have problems with either committing crimes or becoming victims, and this requires maps. Second, the hard-line position also argues that "who" a person is in terms of demographic characteristics can often matter less than the "wheres" in which people spend their time. For example, move a family from a comfortable and advantaged environment to a poor and disadvantaged one and, not very long after the move, their involvement with either end of the crime picture will change, and the same will occur for the reverse type of change.

Now, urban sociologists and criminologists have long since come to realize that changing the housing of the poor will not, in and of itself, stop daddy from leaving, mommy from having babies, and the kids from being truant or taking drugs. On the other hand, we must not lose sight

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of the large impact that the environment beyond the physical dwelling in which a household lives can have on the risks of involvement in crime. Almost needless to say, this was lost sight of in the creation of many public housing projects (Rainwater, 1970; Newman, 1972; Roncek, et al., 1981; Roncek, et al., 1991; Roncek, 1992).

When considering the overall picture of traditional "street crime," there can be little doubt that it is in the major metropolitan areas of the U.S. that this problem is most severe (Flanagan and Maguire, 1992). While I do not deny the importance of social structural influences such as poverty, minority status, and the desperate need for more social services, I have placed my focus elsewhere, because the efforts required to ameliorate the structural influences on crime, while important, will unfortunately be long-run. In drawing upon routine activity theory, my emphasis is on the importance of the setting in which victim and offender are co-present. In looking at the spatial pattern of crime, I search for distinct features of the environments that have become crime sites, because by definition some aspect of them or their surroundings must be either facilitative or at least "noninhibitive" of crime. My motivation in emphasizing the features of places and their surroundings is that changing places through planning, zoning, or licensing decisions can be accomplished in the relatively short-run. My focus on "where" leads directly to mapping as a vital tool in research on crime.

Indeed, the very process of asking the most elemental aspect of the "where" question cannot begin unless one has a guide to locate in which areas the addresses of incidents occurred. In its simplest fashion, this guide expressed in pictorial format is a map. Without an accurate map, this first step cannot be completed correctly, and any following analysis, by definition, cannot be correct (Block and Roncek, 1991). When dealing with crime within a bounded community, such as a city, maps become critical in many ways (Roncek, 1991). Pointing out that street crime is a problem of the youthful is of only modest value even when specified by categories of youth such as by ethnic status or socioeconomic status, because not all or, in many cases, even a majority of any subcategory will be involved in serious crime. More powerful is the demonstration that crime by type or by aggregated category (e.g., violent crime) or for specific types of persons is concentrated in some places rather than others.

This very simple demonstration of where crime problems are most severe is accomplished by using maps and leads to, as a practical consequence, the ability to focus efforts on specific places rather than dispersing them generally. Such focus cannot but help to conserve resources overall, and concentrate them more heavily where they are most needed and therefore produce more effective utilization.

Mapping crime makes the interconnectedness of places, people, and events involved in crime clear to audiences ranging from the general public, through practitioners who must deal with it on a daily basis, to statistical analysts. Mapping can be particularly critical for the latter. Outside of the field of geography, social scientists, such as those in sociology or political science, may have little preparation for dealing with the interconnectedness of spatially-distributed phenomena within the urban realm. The traditions of survey research, based on using probability samples of individuals whose responses are not likely to be affected by those of the next respondent interviewed, do not prepare analysts with these backgrounds for the very different issues in analyzing crime patterns.

A simple glance at a crime map such as one of those that I and others presented at the second annual meeting of the Homicide Research Working Group at the FBI Academy in Quantico, Virginia (Map 1), however, is sufficient to make almost anyone sensitive to the lack of independence but enormous interconnectedness of places with severe crime problems. Such a simple exercise can have a dramatic influence on any well-trained analyst who has learned to be sensitive to whatever data are to be examined and who has learned to question constantly whether the assumptions of a particular statistical technique to be used are met for such data. Crime maps make the spatial clustering of crime obvious and alert a careful researcher of the need to take this clustering into account in any analysis through such strategies as testing for spatial autocorrelation and measuring diffusion effects. Although media attention will at times focus on how crime is everywhere and how gangs will fly from one city to another to commit crimes, the harsh reality of crime within almost any community continues to be its geographical or ecological concentration (Roncek, 1981; Spring and Block, 1988; Sherman, et al., 1989) and nothing demonstrates this more dramatically than a crime map.

Maps not only sensitize analysts to the special problems of examining crime patterns, but also provide the necessary information for properly resolving these problems. The issues of spatial autocorrelation (Roncek and Montgomery, 1986; Land and Deane, 1992) and diffusion effects can only be dealt with through the use of maps from which measures of distance, diffusion, and adjacency can be calculated and included in subsequent analyses. Measuring how close or far areas with crime are from each other requires a correct map. Investigating the usefulness of the ideas of theorists, such as Jane Jacobs (1961), on the crime-facilitating effects of large, subsequently anonymous, blocks, requires a correct map to be measured. Testing ideas from routine activity theory (Felson, 1987) about whether areas that are proximate to places that routinely attract potential offenders or victims have more crime than would be expected from their own features, requires using maps.

Maps also provide insights to researchers and point to new avenues of study. Simply viewing a choropleth map of crime can make an analyst raise important questions about any statistical model being used. The most obvious question is "What is in the places that show on the map as high crime areas or 'hot spots'?" By identifying these areas from a map, the researcher can now focus efforts on these specific areas to identify their unique features, such as the presence of housing projects (Roncek, et al., 1981, Roncek, 1992), bars (Roncek and Bell, 1981; Roncek and Maier, 1991) high schools (Roncek and Lobosco, 1983; Roncek and Faggiani, 1985). With these leads, additional data can now be collected to test the importance of these features. The advantage of using maps for these tasks is that they greatly shorten the process of wondering what to do next. More sophisticated maps, for example, those of the residuals of statistical models, such as the one reproduced here for the standardized residuals of a fourteen independent variable regression on the average amount of violent crime on Cleveland's residential city blocks from 1979 to 1981, are even more useful for focusing additional research efforts because they indicate the areas where original models based on theory alone are not being effective.

Finally, it is worth reiterating that one of the most important benefits of mapping is that it allows easily presenting many of the most important results that a researcher's wishes to communicate to audiences, regardless of whether they share the researchers background in statistical analysis or not. Even the newest undergraduate can begin to understand a relatively

Map 1

# CLEVELAND: **STD RESIDUALS AVERAGE VIOLENT CRIMES 1979–81** ON RESIDENTIAL BLOCKS

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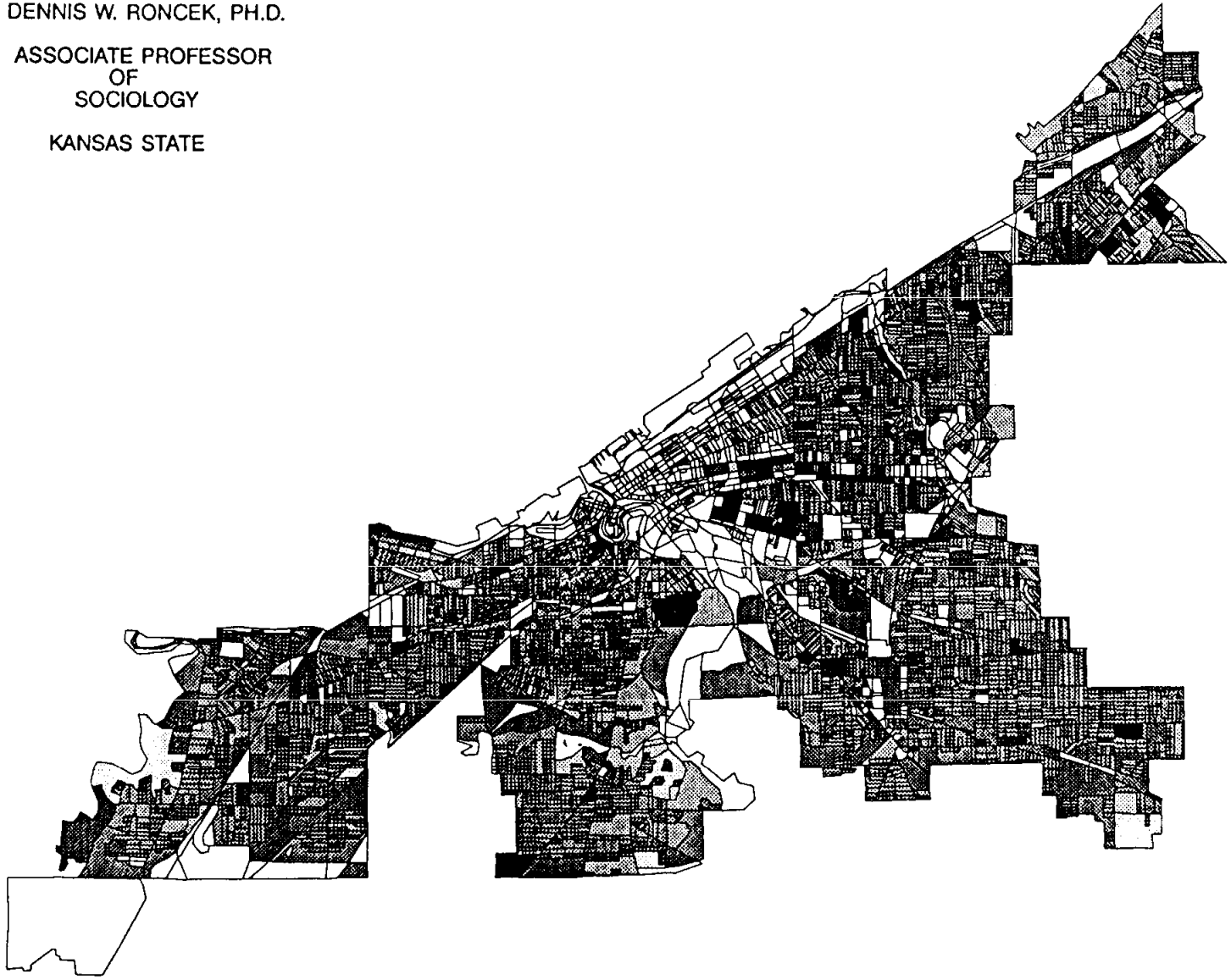

sophisticated map such as the one for the residuals of crime when told that darkest areas are where the statistical predictions are worst. This is not to be taken to mean that mapping is simple. Until the emergence of recent mapping programs, trying to map crime down to the level of the city block, as I have, has been the most tedious time-consuming and costly process that I have undertaken. Furthermore, there are many issues such as how to create the categories to be mapped that require much thought if a created map is to be clear to others, especially those who do not share a researcher's background. Finally, mapping can be resource demanding. My own maps are limited not only by the size of the plotter but by the color selection and media for presentation that are available to me. Others, even including practitioners, often face similar obstacles to utilizing the full potential of maps.

In this brief presentation, I have highlighted only some of the benefits of relatively simplistic choropleth maps, and this but scratches the surface of the potential of mapping. The utility of "pin-mapping" to exact addresses, floors, rooms of buildings, or precise outdoor locations such as nearest lightpost or tenth-of-a-mile markers on interstates, or creating crime flow maps or victim-offender triangles would require substantially more space to discuss and detract from the emphasis that I wish to place on the importance of mapping. Also, there are others who are more experienced in using these other types of maps than I am and the discussion of such maps is best left to these individuals. As a non-cartographer, however, I have found maps indispensable, to almost every aspect of my research into crime. I cannot help but wonder how so much research that is based on spatial units of analysis, such as much of that under the rubric of the "Southern Subculture of Violence" that almost never examines where high-crime spatial clusterings are, could proceed meaningfully without mapping or how other research can ignore the immediate context in which individuals carry out their routine activities.

In summary, I have found that using maps is critical for the following seven purposes: (1) Identifying where incidents, offenders, and victims are located; (2) Efficiently directing efforts at change to the places and people most in need of assistance; (3) Sensitizing the empirical researcher to the importance of using appropriate statistical techniques to take into account the interconnectedness of spatially-distributed phenomenon; (4) Providing the necessary data to create the measures required to incorporate interconnectedness into analyses; (5) Testing hypotheses from theories for which the interdependency of phenomena (e.g., crime), is a central feature; (6) Providing new insights into criminal activity that can efficiently channel research in new directions; and (7) Facilitating the communication of even complex findings to diverse audiences in a clear and easily understood manner.

Perhaps, with the new technologies available, more criminologists will come to make mapping an integral part of their research. Doing so can not only enhance the quality of work from an academic standpoint but also improve the communication between academic researchers and the important audiences of policymakers and the general public. I know of no criminologists who do not want their work to have an impact outside academic circles and who do not want to have an impact on ameliorating the harm that crime does. Mapping can help bridge the gaps that have separated academic criminology from its broader publics and provide an avenue for achieving these goals.

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# PEORIA CRITICAL INCIDENT ZONES PROJECT
## Designated Patrols to Reduce Lethal Street Violence

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PROBLEM STATEMENT

A research study of murder in Peoria revealed that the vast majority of these cases involved circumstances of lethal street violence (see Peoria Police Department, 1992, for details). These murders frequently were associated with drugs, gangs, and to a lesser extent, robbery. Only one of the 12 cases was related to a domestic dispute. Firearms were the killing weapon used in 10 (83%) of the murders. The homicides were not dispersed throughout the city, but occurred primarily in the same geographic area.

DATA ANALYSIS

Information derived from the 1993 Peoria Homicide Study showed that murder was associated with lethal street violence and was geographically confined. Therefore, further research was developed to determine specifically where certain lethal incidents occur.

The smallest geographic areas available for study were found to be 495 zones that divide the city. Data were obtained weekly for each zone regarding the following lethal incidents:

I. Police Dispatch Calls For Service

- Person with a gun
- Shots fired
- Unlawful use of weapon

II. Actual Police Reports

- Murder
- All robberies and armed robberies
- All aggravated batteries with firearm
- All aggravated assaults with firearm

The analysis of the above data for the first four months of 1993 revealed the following:

- 613 lethal incidents occurred during this time period. 308 zones (62%) had no incident.

- Six zones recorded 10 or more incidents. (These zones are labeled Critical Incident Zones.)

- The total number of incidents that occurred in the six Critical Incident Zones was 145 (24%); however, the six zones comprise only one percent of the geographic area of the city.

- Twenty-five zones were found to have from five to nine incidents. (These zones are labeled Medium Incident Zones.)

- The total number of incidents that occurred in these 25 Medium Incident Zones was 166 (27%); however, the 25 zones comprise only five percent of the geographic area of the city.

- In total, the 31 zones that recorded at least five incidents account for 311 incidents (51 percent of all city incidents); however, these 31 zones comprise only six percent of the geographic area of the city.

In addition to the data from the 1992 Homicide Study, the 6 murders that have occurred in Peoria in 1993 have been examined as to location. From the 18 total murders for 1992 and 1993 to date, the following information was determined:

- Seven of the 18 murders were committed in Critical Incident Zones (39%).

- Four of the 18 murders occurred in Medium Incident Zones (27%).

- Eleven (61%) of all 18 homicides occurred in a Critical or Medium Incident Zone.

- Six of the remaining seven homicides occurred within 1,500 feet of a Critical or Medium Incident Zone.

- Four murders were committed in Harrison Homes (a critical Incident Zone where 31 total incidents occurred), all within 1,500 feet of each other.

- Three murders were committed in Warner Homes (a Critical Incident Zone where 34 total incidents occurred), all within 1,000 feet of each other.

## PROGRAM GOAL AND HYPOTHESIS

The program goal is to reduce lethal street violence and homicide.

Hypothesis: Increased police presence in areas of lethal street violence is associated with a decrease in lethal street violence.

## ACTION PLAN

Designated Patrols in the Critical Incident Zones will be conducted by uniformed police officers. Officers will be encouraged to spend discretionary time in these zones. The Mobile

Command Post (a large camper/recreational vehicle with police markings) will be assigned to stationary deployment in the Critical Incident Zones.

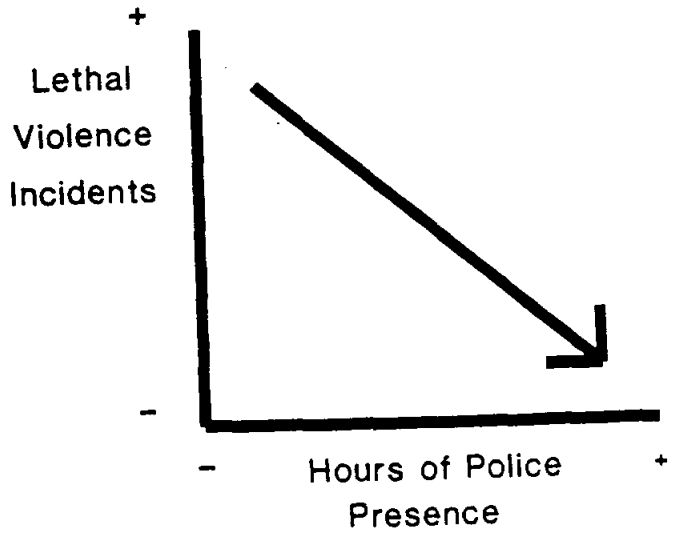
The Strategic Planning Office will receive weekly reports on hours of designated patrol and hours of command post deployment per Critical Incident Zone. Associations will be computed and geographic shifts in lethal violence will be tracked.

Information will be relayed to Operation Bureau Command for monthly re-deployment of patrol personnel and Mobile Command Post.

TRADITIONAL PATROL MODEL VS. REVISED MODEL

The traditional model of preventive patrol involves cruising while waiting for calls for service. Directed patrol, however, allocates patrol service in a directed manner based on crime analysis (Thibault, Lynch and McBride, 1990:198-206). The usefulness of traditional preventive patrol was refuted by the 1970 Kansas City Study (Wilson, 1975:89-91).

In three cases of directed patrol projects, problems emerged due to the methodology of implementation. In New Haven, Connecticut, officers were assigned deterrent runs. These “D-runs” lasted 45 minutes to an hour with directions on how to patrol a specific area. Officers felt it was a waste of time and that they were turned into robots. A “split force” concept was used in Wilmington, Delaware. Some officers were assigned to fixed posts in high crime areas as a deterrent. A rebellion occurred over movement restrictions, In Kansas City, the patrol supervisor would split a squad into normal or directed patrol based on crime analysis. Complaints of boredom were frequent. (See Thibault, Lynch and McBride, 1990:207-208 for details of each study.)



CONCLUSION

This plan attempts to reduce lethal street violence through directed patrol. The pitfalls of previous directed patrol operations are avoided. Officers are not assigned boring detailed plans to follow, but are encouraged to use directed patrol as a tool to reduce violence.

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# VICTIM PRECIPITATION IN VICTIMOLOGY AND IN LAW[1]

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## INTRODUCTION

The term "victim precipitation," so far as I know, does not exist in judicial decisions or in statutory law. But the underlying concept of the victim's causing or contributing to a crime by intentionally or unintentionally provoking the offender has long been recognized in case law. The term "provocation" is legally accepted. The main arguments have centered on such issues as "adequate" provocation that should be legally recognized and on how the decision should be made to accept provocation in the judicial process. Other legal concepts, such as "the heat of passion," "reasonable man," and "cooling-off period," have been related historically to the principle of provocation and will be explored further in this paper.

As a prefatory note, I should like to point out how little dialogue exists between legal scholarship and behavioral science scholarship on this topic of victim precipitation or provocation. Perhaps the same observation may be made about criminal law and criminology or law and victimology. Lawyers in the United States generally get no social science training beyond a few introductory undergraduate courses; and few criminologists study criminal law and procedures. There is a large body of analytic appellant judicial decisions, rich in reasoning, insight, careful linguistic probing, and deconstruction of the meaning of words, terms, and concepts that generally lie untapped by behavioral scientists. Similarly, operational definitions, tested hypotheses, research findings on prevalence and incidence, quantitative empirical analyses, and theory in the behavioral sciences are commonly ignored or, if heeded, are distorted in litigation, in judicial decisions, and in legal scholarship.

This situation is especially the case with what at first may seem to be the rather delimited and narrow topic of victim precipitation. There are no systematically analyzed court cases that ferret out the role and elements of victim provocation relative to reduction of charges or to mitigation in sentencing dispositions. Were such studies conducted, they could in turn be fed into trials, appeals, and major judicial decisions. The extent to which a more active interface could benefit both disciplines is not entirely clear; its near absence, however, produces an inchoate body of knowledge (Hentig, 1948; O'Brien, 1985; MacNamara and Karmen, 1983).

But let us return to our main focus.

## DEFINITIONAL VARIATIONS

From what I find in the literature, I am told that I was the first to use the term "victim precipitation" (Gobert, 1977:514). I am not sure it was of great service, but having inflicted the

[1]An earlier version of this paper was presented at the Fifth International Congress of Victimology, Zagreb, Yugoslavia, August 18-23, 1985.

term on the criminological community over a quarter of a century ago, I suppose we must live with it, for the term has appeared in much of the victimology literature since its inception. Research use and refined definitions have been made, beginning with some of my former students: Menachem Amir (1967, 1971), Andre Normandeau (1968), Robert Silverman (1971, 1974), Henry Sand (1970), Lynn A. Curtis (1974). Victim precipitation was employed in research conducted by the National Commission on the Causes and Prevention of Violence (Mulvihill, Tumin, and Curtis 1969) and further explored conceptually by such authors as LeRoy Lamborn (1968), Clyde W. and Alice P. Franklin (1976), and James J. Gobert (1977), to mention only a few seminal contributions. I have selected some definitional variations to show the scope and potential utility for research and theory in science as well as in legal applications.

My original definition has been called neutral and objective (Curtis, 1974). I wrote in *Patterns in Criminal Homicide* ([1958] 1975:252) as follows:

> The term *victim-precipitated* is applied to those criminal homicides in which the victim is a direct, positive precipitator in the crime. The role of the victim is characterized by his having been the first in the homicide drama to use physical force directed against the subsequent slayer. The victim-precipitated cases are those in which the victim was the first to show and use a deadly weapon, to strike a blow in an altercation -- in short, the first to commence the interplay of resort to physical violence. (emphasis in original)

Amir (1967, 1971) modified the definition to apply to rape, and Normandeau (1968) did so for robbery, but in both cases they stretched the meaning to much more subjective and amorphous boundaries. Silverman (1974:107) sought to provide a more general definition that could presumably be applied to a variety of crimes:

> Victim precipitation occurs when the offender's action in committing or beginning to commit a crime is initiated after and directly related to an action (be it physical or verbal, conscious or unconscious) on the part of the victim. The offender perceives the victim's behavior as a facilitating action (including temptation, invitation) to the commission of the crime. The action of the victim might be said to have triggered the offender's behavior.

This definition clearly places the main burden of determining whether a crime is victim-precipitated on the perception of the offender, as is proper. (We shall explore this issue in legal scholarship supra.) Curtis (1974) finds merit in Silverman's definition, but suggests a 3 x 3 matrix that includes offender intent: "deliberate premeditation," "some intent," and "little or no intent." Also included is victim involvement: "clear provocation," "some involvement," and "little or no involvement." Although this conceptual scheme has the benefit of suggesting degrees of victim precipitation (which, indeed, must surely exist), the nominal categories provide little assistance for promoting high degrees of research reliability because of the uniqueness of such terms as "some" and "little." (I would have difficulty baking a cake if the recipe called for "some sugar" and a "little" flour.) Perhaps Curtis is right when he says, "there is no 'correct' definition of precipitation. Each version has advantages and disadvantages" (96-97). He does, however, draw a conclusion: "This course of proposed research embraces the writer's preference for a relatively more neutral, Wolfgang-type approach to precipitation based on offender-victim specifics, rather than one blocked out of certain contexts defined as precipitative per se" (97).

In a very insightful but little cited article on victim precipitation in the *Columbia Law Review*, James J. Gobert (1977:514) offers one of the most succinct definitions:

> As used in this Article, a victim-precipitated crime is an offense that would not have occurred except for the precipitative actions of the victim. Victim precipitation refers to some overt, identifiable conduct or omission on the part of the victim which provokes an individual to commit a crime.

There is some similarity in this concise definition to the ingredients that Curtis includes in his matrix, for as Gobert indicates, his definition includes provocative acts that were the sole cause of the offender's behavior as well as provocative acts that constitute "a significant contributing cause" of the conduct and provocative acts that were only a "minor, albeit triggering cause of the offender's conduct." Once again an important issue is the effect of the victim's behavior on the offender. And, once again, an operational definition of a victim-precipitated crime for behavioral science research purposes does not indicate when, or at what dimension, the criminal justice system should entertain an obligation to give legal effect to the precipitator's conduct. As Gobert (1977:515) says, "the nature of the victim's conduct, and the offender's motivations are all relevant in determining the appropriate legal response to the victim-precipitated defendant and the precipitator."

One of the appealing aspects of Gobert's definition is the exclusivity element, namely, that the crime would not have occurred <u>except</u> for the precipitative actions of the victim. This is a theoretically intriguing and useful addendum to the meaning of the term for research and practical legal considerations. However, the "except for" phrase allows for retrospective interpretation that may invoke the usual problems of reliability or inconsistency. There may be unknown or unrecorded behaviors that preceded the victim's provocation, such that even without the victim's engaging in the immediate situational provocation, the offender was motivated and had intent to commit the crime. The distance between claiming that a crime would not have occurred <u>except</u> for the precipitation, on the one hand, and allowing for the precipitation to be a "minor, albeit triggering cause of the offender's conduct" places a heavy strain on the rigor of the definition. Moreover, consider a situation in which A wants to kill B. A provokes B in order to cause B in turn to provoke A so that A would have a perceived justification for killing B. A's provocation was intentionally trivial but sufficient to produce an escalated provocative response from B. Is this a truly victim-precipitated crime? Would the homicide have occurred without the victim's provocation?

*Webster's New International Dictionary* (unabridged, 2d ed. (1959) -- better, I think, than the 3d edition) includes the following definitions:

Precipitation: "The causing to happen hastily, suddenly, or unexpectedly."

The verb has elements that come closer to our usage in victimology: "To cause to move, act, proceed, etc. very rapidly; to urge or press on with eager haste or violence; . . . to cause to happen, or to come to a crisis . . . ; to hasten the occurrence of; as, to *precipitate* . . . a conflict" (emphasis added).

Provocation is "an act, or a cause of provoking, especially of summoning, challenging, stirring up, or exasperating."

To provoke carries heavier meanings: "To excite (one), as to doing or feeling; to goad. . . . To incite to anger; to incense; to irritate; to offend; to vex."

The term "victim precipitation" is now deeply ingrained in the scientific literature, so I am content to retain it, partly because precipitation contains the notion of causing another person to act. Provocation is also useful because of the definitional reference to incite and to anger. I am willing to use both terms as nouns and as verbs. The former -- victimization -- is most common in scientific literature; the latter -- provocation -- is used only in judicial decision and legal literature.

Can we add to, or otherwise improve, existing definitions? The *Columbia Law Review* definition by Gobert (1977) seems to be a good start. There are two modified versions I have considered:

1) A victim-precipitated offense is a crime, as defined by law, that would not have occurred without an overt act of severe provocation initiated by the victim upon the offender. Both the victim's and the offender's perception of what is severe provocative conduct should be taken into account by a judge, by a jury and by scientific research.

2) A victim-precipitated offense is a crime, as defined by law, that occurs because the victim so severely provoked the offender that the latter perceived his response to be a minimally rational rebuttal, although such rebuttal lies beyond legally justifiable limits that would exonerate the behavior.

Some of the elements of these two versions will be examined in the next section that draws upon judicial decisions and legal commentary about the significance of provocation.

## PROVOCATION AND THE LAW[2]

It is in the context of distinguishing murder from manslaughter that the principle of provocation arose. In seventeenth and early eighteenth century England, as Ashworth (1976) points out,

> Killings were presumed to proceed from malice aforethought: if there was no evidence of express malice, then the law would imply malice. Evidence of provocation came to be accepted in rebuttal of this implication of malice, the theory being that such evidence showed that the cause of the killing lay not in some secret hatred or design on the breast of the slayer but rather in provocation given by the deceased which influenced the slayer's passion" (cited in Low, Jeffries, and Bonnie [1982:819]).

[2]In this section I am drawing heavily upon discussions and cases dealing with "The Provocation Formula" in three leading textbooks: (1) Peter W. Low, John Calvin Jeffries, Jr., and Richard J. Bonnie, Criminal Law: Cases and Materials (Mineola, N.Y.: Foundation Press, 1982), 819-33; (2) Sanford H. Kadish, Stephen J. Schulhofer, and Monrad G. Paulsen, Criminal Law and Its Processes: Cases and Materials, 4th ed. (Boston: Little, Brown, 1983), 416-41; and (3) Lloyd L. Weinreb, Criminal Law: Cases, Comments, Questions (Mineola, N.Y.: Foundation Press, 1975), 60-87.

There are many cases in English and American jurisprudence that elaborately discuss issues of provocation in homicide. A frequently cited case is Maher v. People, Supreme Court of Michigan, 10 Mich. 212, 81 Am. Dec. 781 (1862). As Kadish, Schulhofer, and Paulsen (1983) say, the Maher case was ahead of its time. Because of its historical importance and insightful examination of extending an objective formula of provocation, and particularly for the benefit of scholars unfamiliar with this literature, major excepts taken from Kadish, Schulhofer, and Paulsen (1983, 426-30) are presented here:

MAHER v. PEOPLE
Supreme Court of Michigan
10 Mich. 212, 81 Am. Dec. 781 (1862)

CHRISTIANCY, J. The prisoner was charged with an assault with intent to kill and murder one Patrick Hunt. The evidence on the part of the prosecution was, that the prisoner entered the saloon of one Michael Foley, in the village of Houghton, where said Hunt was standing with several other persons; that prisoner entered through a back door and by a back way leading to it, in his shirt sleeves, in a state of great perspiration, and appearing to be excited; and on being asked if he had been at work, said he had been across the lake; that on entering the saloon, he immediately passed nearly through it to where said Hunt was standing, and, on his way towards Hunt, said something, but it did not appear what, or to whom; that as soon as the prisoner came up to where Hunt was standing, he fired a pistol at Hunt, the charge of which took effect upon the head of Hunt, in and through the left ear, causing a severe wound thereon; by reason of which Hunt in a few moments fell to the floor, was partially deprived of his sense of hearing in that ear, and received a severe shock to his system which caused him to be confined to his bed for about a week, under the care of a physician; that immediately after the firing of the pistol prisoner left the saloon, nothing being said by Hunt or the prisoner. It did not appear how, or with what, the pistol was loaded. The prisoner offered evidence tending to show an adulterous intercourse between his wife and Hunt on the morning of the assault, and within less than half an hour previous; that the prisoner saw them going into the woods together about half an hour before the assault; that on their way out of the woods the prisoner followed them immediately (evidence having already been given that the prisoner had followed them to the woods); that, on their coming out of the woods, the prisoner followed them and went after said Hunt into the saloon, where, on his arrival, the assault was committed; that the prisoner on his way to the saloon, a few minutes before entering it, was met by a friend who informed him that Hunt and the prisoner's wife had had sexual intercourse the day before in the woods. This evidence was rejected by the court, and the prisoner excepted. Was the evidence properly rejected? This is the main question in the case, and its decision must depend upon the question whether the proposed evidence would have tended to reduce the killing -- had death ensued -- from murder to manslaughter, or rather, to have given it the character of manslaughter instead of murder? If the homicide--in case death had ensued -- would have been but manslaughter, then defendant could not be guilty of the assault *with intent to murder*, but only of a simple assault and battery. The question therefore involves essentially the same principles as

where evidence is offered for a similar purpose in a prosecution for murder; except that, in some cases of murder, an actual intention to kill need not exist; but in a prosecution for an assault *with intent* to murder, the actual intention to kill must be found, and that under circumstances which would make the killing murder. . . .

"To give the homicide the legal character of murder, all the authorities agree that it must have been perpetrated with malice prepense or aforethought. . . . It is not necessary here to enumerate all the elements which enter into the legal definition of malice aforethought. It is sufficient to say that, within the principle of all the recognized definitions, the homicide must, in all ordinary cases, have been committed with some degree of coolness and deliberation, or, at least. under circumstances in which ordinary men, or the average of men recognized as peaceable citizens, would not be liable to have their reason clouded or obscured by passion; and the act must be prompted by, or the circumstances indicate that it sprung from, a wicked, depraved or malignant mind -- a mind which, even in its habitual condition, and when excited by no provocation which would be liable to give undue control to passion in ordinary men, is cruel, wanton or malignant, reckless of human life, or regardless of social duty.

"But if the act of killing, though intentional, be committed under the influence of passion or in heat of blood, produced by an adequate or reasonable provocation, and before a reasonable time has elapsed for the blood to cool and reason to resume its habitual control, and is the result of the temporary excitement, by which the control of reason was disturbed, rather than of any wickedness of heart or cruelty or recklessness of disposition: then the law, out of indulgence to the frailty of human nature, or rather, in recognition of the laws upon which human nature is constituted, very properly regards the offense as of a less heinous character than murder, and gives it the designation of manslaughter.

"To what extent the passions must be aroused and the dominion of reason disturbed to reduce the offense from murder to manslaughter, the cases are by no means agreed. . . .

"The principle involved in the question, and which I think clearly deducible from the majority of well considered cases, would seem to suggest as the true general rule, that reason should, at the time of the act, be disturbed or obscured by passion to an extent which *might render* ordinary men, of fair average disposition, *liable* to act rashly or without due deliberation or reflection, and from passion, rather than judgment.

"To the question, what shall be considered in law a reasonable or adequate provocation for such state of mind, so as to give to a homicide, committed under its influence, the character of manslaughter? on principle, the answer, as a general rule, must be, anything the natural tendency of which would be to produce such a state of mind in ordinary men, and which the jury are satisfied did produce it in the case before them -- not such a provocation as must, by the laws of the human mind, produce such an effect with the *certainty that physical effects follow from physical causes*; for then the individual could hardly be held morally accountable.

Nor, on the other hand, must the provocation, in every case, be held sufficient or reasonable, because such a state of excitement has followed from it; for then, by habitual and long continued indulgence of evil passions, a bad man might acquire a claim to mitigation which would not be available to better men, and on account of that very wickedness of heart which, in itself, constitutes an aggravation both in morals and in law.

"In determining whether the provocation is sufficient or reasonable, *ordinary human nature*, or the average of men recognized as men of fair average mind and disposition, should be taken as the standard -- unless, indeed, the person whose guilt is in question be shown to have some peculiar weakness of mind or infirmity of temper, not arising from wickedness of heart or cruelty of disposition.

"It is doubtless, in one sense, the province of the court to define what, in law, will constitute a reasonable or adequate provocation, but not, I think, in ordinary cases, to determine whether the provocation proved in the particular case is sufficient or reasonable. This is essentially a question of fact, and to be decided with reference to the peculiar facts of each particular case. As a general rule, the court, after informing the jury to what extent the passions must be aroused and reason obscured to render the homicide manslaughter, should inform them that the provocation must be one, the tendency of which would be to produce such a degree of excitement and disturbance in the minds of ordinary men; and if they should find that it did produce that effect in the particular instance, and that the homicide was the result of such provocation, it would give it the character of manslaughter. Besides the consideration that the question is essentially one of fact, jurors from the mode of their selection, coming from the various classes and occupations of society, and conversant with the practical affairs of life, are, in my opinion, much better qualified to judge of the sufficiency and tendency of a given provocation and much more likely to fix, with some degree of accuracy, the standard of what constitutes the average of ordinary human nature, than the judge whose habits and course of life give him much less experience of the workings of passion in the actual conflicts of life.

"The judge, it is true, must, to some extent, assume to decide upon the sufficiency of the alleged provocation, when the question arises upon the admission of testimony, and when it is so clear as to admit of no reasonable doubt upon any theory, that the alleged provocation could not have had any tendency to produce such state of mind, in ordinary men, he may properly exclude the evidence; but, if the alleged provocation be such as to admit of any reasonable doubt, whether it might not have had such tendency, it is much safer, I think, and more in accordance with principle, to let the evidence go to the jury under the proper instructions. As already intimated, the question of the reasonableness or adequacy of the provocation must depend upon the facts of each particular case. That can, with no propriety, be called a rule (or a question) of law which must vary with, and depend upon the almost infinite variety of facts presented by the various cases as they arise. The law can not with justice assume by the light of past decision, to catalogue all the various facts and combinations of facts which shall be held to constitute reasonable or adequate provocation. Scarcely two past cases

can be found which are identical in all their circumstances; and there is no reason to hope for greater uniformity in future. Provocations will be given without reference to any previous model, and the passions they excite will not consult the precedents.

"The same principles which govern, as to the extent to which the passions must be excited and reason disturbed, apply with equal force to the time during which its continuance may be recognized as a ground for mitigating the homicide to the degree of manslaughter, or, in other words, to the question of cooling time. This, like the provocation itself, must depend upon the nature of man and the laws of the human mind, as well as upon the nature and circumstances of the provocation, the extent to which the passions have been aroused, and the fact, whether the injury inflicted by the provocation is more or less permanent or irreparable. The passion excited by a blow received in a sudden quarrel, though perhaps equally violent for the moment, would be likely much sooner to subside than if aroused by rape committed upon a sister or a daughter, or the discovery of an adulterous intercourse with a wife; and no two cases of the latter kind would be likely to be identical in their circumstances of provocation. . . . I am aware there are many cases in which it has been held a question of law, but I can see no principle on which such a rule can rest. The court should, I think, define to the jury the principles upon which the question is to be decided, and leave them to determine whether the time was reasonable under all the circumstances of the particular case. I do not mean to say that the time may not be so great as to enable the court to determine that it is sufficient for the passion to have cooled, or so to instruct the jury, without error; but the case should be very clear. And in cases of applications for a new trial, depending upon the discretion of the court, the question may very properly be considered by the court.

"It remains only to apply these principles to the present case. The proposed evidence, in connection with what had already been given, would have tended strongly to show the commission of adultery by Hunt with the prisoner's wife, within half an hour before the assault; that the prisoner saw them going to the woods together, under circumstances calculated strongly to impress upon his mind the belief of the adulterous purpose; that he followed after them to the woods; that Hunt and the prisoner's wife were, not long after, seen coming from the woods, and that the prisoner followed them, and went in hot pursuit after Hunt to the saloon, and was informed by a friend on the way that they had committed adultery the day before in the woods. I can not resist the conviction that this would have been sufficient evidence of provocation to go to the jury, and from which, when taken in connection with the excitement and "great perspiration" exhibited on entering the saloon, the hasty manner in which he approached and fired the pistol at Hunt, it would have been competent for the jury to find that the act was committed in consequence of the passion excited by the provocation, and in a state of mind which, within the principle already explained, would have given to the homicide had death ensued, the character of manslaughter only. In holding otherwise the court below was doubtless guided by those cases in which courts have arbitrarily assumed to take the question from the jury, and to decide upon the

facts or some particular fact of the case, whether a sufficient provocation had been shown, and what was a reasonable time for cooling. . . .

"The judgment should be reversed and a new trial granted.

"MANNING, J. I differ from my brethren in this case. I think the evidence was properly excluded. To make that manslaughter which would otherwise be murder, the provocation -- I am not speaking of its sufficiency, but of the provocation itself -- must be given in the presence of the person committing the homicide. The cause of the provocation must occur in his presence. . . . Any other rule in an offense so grave as taking the life of a fellow-being, in the heat of passion, I fear would be more humane to the perpetrator than wise in its effects on society. More especially since the abolition of the death penalty for murder, and the division of the crime into murder in the first and second degree there is not now the same reason, namely, the severity of the punishment, for relaxing the rules of law in favor of a party committing homicide as before. It would, it seems to me, be extremely mischievous to let passion engendered by suspicion, or by something one has heard, enter into and determine the nature of a crime committed while under its influence. The innocent as well as the guilty, or those who had not as well as those who had given provocation, might be the sufferers. If it be said that in such cases the giving of the provocation must be proved or it would go for nothing; the answer is, that the law will not, and should not permit the lives of the innocent to be exposed with the guilty in this way, as it would do did it not require the cause of the provocation to occur in the presence of the person committing the homicide.

The traditional common law principle for a "legally adequate" or a "legally sufficient" provocation was narrowly defined, and embraced only a physical battery (exception: witnessing a wife in adultery). Words alone were insufficient. But various states in the United States have revised codes to include such phrases as "extreme emotional stress brought on by serious provocation reasonably sufficient to incite him into using deadly force"; "sudden passion arising from an adequate cause" or "that which would commonly produce a degree of anger, rage, resentment, or terrors in a person of ordinary temper, sufficient to render the mind incapable of cool reflection"; "heat of passion provoked by such words or acts of another as would provoke a person of ordinary self-control under like circumstances"; "conduct sufficient to excite an intense passion in a reasonable person." (See Kadish, Schulhofer, and Paulsen [1983:431]; see also, for various rules that courts have used to determine sufficiency of provocation, "Note: Manslaughter and the Adequacy of Provocation" [1958].)

Moreover, with the 1957 Homicide Act, Section 3, England placed the determination of provocation in the hands of the jury and thereby relinquished the need for "legally sufficient" provocation:

Where on a charge of murder there is evidence on which the jury can find that the person charged was provoked (whether by things done or by things said or by both together) to lose his self control, the question whether the provocation was enough to make a reasonable man do as he did shall be left to be determined by the jury; and in determining that question the jury shall take into account

everything both done and said according to the effect which, in their opinion, it would have on a reasonable man.

An interesting addendum of age was made to the notion of "reasonable man" in the Camplin case in England (cited in part in Kadish, Schulhofer, and Paulsen 1983, 432-33):

DIRECTOR OF PUBLIC PROSECUTIONS v. CAMPLIN
House of Lords
[1978] 2 All E.R. 168

LORD DIPLOCK. My Lords, for the purpose of answering the question of law on which this appeal will turn only a brief account is needed of the facts that have given rise to it. The respondent, Camplin, who was 15 years of age, killed a middle-aged Pakistani, Mohammed Lal Khan, by splitting his skull with a chapati pan, a heavy kitchen utensil like a rimless frying pan. At the time the two of them were alone together in Khan's flat. At Camplin's trial for murder before Boreham, J., his only defence was that of provocation so as to reduce the offence to manslaughter. According to the story that he told in the witness box but which differed materially from that which he had told to the police, Khan had buggered him in spite of his resistance and had then laughed at him, whereupon Camplin had lost his self-control and attacked Khan fatally with the chapati pan.

"In his address to the jury on the defence of provocation, counsel for Camplin had suggested to them that when they addressed their minds to the question whether the provocation relied on was enough to make a reasonable man do as Camplin had done, what they ought to consider was not the reaction of a reasonable adult but the reaction of a reasonable boy of Camplin's age. The judge thought that this was wrong in law. So in this summing-up he took pains to instruct the jury that they must consider whether --

> the provocation was sufficient to make a reasonable man in like circumstances act as the defendant did. Not a reasonable boy, as [counsel for Camplin] would have it, or a reasonable lad; it is an objective test -- a reasonable man.

"The jury found Camplin guilty of murder. On appeal the Court of Appeal, Criminal Division, allowed the appeal and substituted a conviction for manslaughter on the ground that the passage I have cited from the summing-up was a misdirection. The court held that --

> the proper direction to the jury is to invite the jury to consider whether the provocation was enough to have made a reasonable person of the same age as the appellant in the same circumstances do as he did.

"The point of law of general public importance involved in the case has been certified as being:

> Whether, on the prosecution for murder of a boy of 15, where the issue of provocation arises, the jury should be directed to consider the question, under S. 3 of the Homicide Act 1957, whether the provocation was enough to make a reasonable man do as he did by reference to a "reasonable adult" or by reference to a "reasonable boy of 15."

In "Provocation and the Reasonable Man," Glanville Williams (1954) raises a serious question about victim provocation that is determined by the response of the defendant (cited in Kadish, Schulhofer, and Paulsen, 1983:438):

> "Surely the true view of provocation is that it is a concession to 'the frailty of human nature' in those exceptional cases where the legal prohibition fails of effect. It is a compromise, neither conceding the propriety of the act nor exacting the full penalty for it. This being so, how can it be admitted that that paragon of virtue, the reasonable man, gives way to provocation?
>
> "A curious error of reasoning seems to have been committed by some judges in supporting the reasonable-man test. In *Lesbini* [1914] 3 K.B.1116, Avory, J. in support of the rule that mental unbalance was irrelevant, said that if the law were otherwise a bad-tempered man would be entitled to a verdict of manslaughter where a good-tempered one would be liable to be convicted of murder. Other judges supported the reasonable-man test before the Royal Commission on Capital Punishment for the same reason, and with some good hesitation the Commission accepted the argument (Cmd. 8932, paras. 139-45).[a] However, reflection will perhaps show that the argument is mistaken. Even under the law as it stands, a bad-tempered man may be entitled to be acquitted of murder where a good-tempered one may be liable to be convicted. . . . Ever since the time of East the legal requirement has been that the accused should have acted in the heat of passion or in blind rage; and the question whether he acted in this way or with cool calculation is one of fact. This rule, which has never been questioned, does, therefore, discriminate between good-tempered and bad-tempered men, to the advantage of the latter. The only way of removing from the law the privilege given by bad temper would be by abolishing the law of provocation; for good-tempered men are never provoked to kill. The good-tempered man may, of course, kill from a motive of gain or other profit, but by definition he does not kill from bad temper, which is the only sort of killing with which provocation deals.

Long before Williams, in an 1862 Pennsylvania case, Keenan v. Commonwealth, 44 Pa. 55, 58-59, 84 Am. Dec. 414, 416-18 (1862), the issue of "the State and habit of the mind" that receives a provocation from the victim was clearly faced (cited in Weinreb, 1975:77):

> "Stated in its most general form. . . . [the defendant's argument] amounts to this: that because the mind usually receives provocation with an intensity proportioned to its own excitement or excitability, therefore the act of provocation must be measured not by its own character and its ordinary effect, but by the state and habit of the mind that receives it. Then, measured by this rule, the crimes of a proud, or captious, or selfish, or habitually ill-natured man, or of one who eats

> or fasts too much, or of one who is habitually quarrelsome, covetous, dishonest, or thievish, or who, by any sort of indulgence, fault, or vice, renders himself very easily excitable, or very subject to temptation, are much less criminal than those of a moderate, well-tempered, and orderly citizen, because to the former a very small provocation or temptation becomes adequate to excuse or palliate any crime. If such were the rule, a defendant would be much more likely to injure than to benefit his case by showing a good character, and the law would present no inducement to men to try to rise to the standard of even ordinary social morality.
>
> "Of course, it is impossible that such a principle can be a rule of law. If it were admitted, it could not be administered, for no judicial tribunal can have time or competence for such a thorough investigation of the special character or state of each individual mind as the rule requires, and therefore it would necessarily jump to a conclusion, such as the caprice, or prejudice, or other influence of the moment would dictate.
>
> "Indeed, if we admit the principle, and carry it out logically, we shall abolish law entirely as a compulsory rule of civil conduct; for we shall measure all crime and all duty by the conscience of the individual, and not by the social conscience, and no contract could be binding, no debt collected, no duty enforced, and no crime punished, unless when the defendant's conscience feels that it ought to be, and thus courts would be useless, and social organization impossible.

The Model Penal Code of the American Law Institute (1962), Section 210.3, virtually abandons the concept of "legally adequate" provocation and provides for the offender's perception of provocation: Thus, a criminal homicide is a manslaughter rather than a murder when,

> a homicide which would otherwise be murder is committed under the influence of extreme mental or emotional disturbance for which there is a reasonable explanation or excuse. The reasonableness of such explanation or excuse shall be determined from the viewpoint of a person in the actor's situation under the circumstances as he believes them to be.

Relative to "the actor's situation," Low, Jeffries, and Bonnie (1982:827-28) cite the famous case of Beddor v. Director of Public Prosecutions (1954, 2 All E.R. 801), in England, which involved a sexually impotent eighteen-year-old male who was emotionally distressed by his condition. He approached a prostitute on the street; she led him to a nearby court where he tried unsuccessfully to have intercourse. She jeered at him and tried to leave. He tried to hold her; she slapped him in the face and punched him in the stomach. He grabbed her shoulders and pushed her back. She in turn kicked him in the groin. He then pulled a knife and stabbed her twice. She fell and later died. The trial judge instructed the jury in part as follows (Low, Jeffries, and Bonnie, 1982:828):

> The reasonable person, the ordinary person, is the person you must consider when you are considering the effect which any acts, any conduct, any words, might have to justify the steps which were taken in response thereto, so that an unusually excitable or pugnacious individual, or drunken one or a man who is

> sexually impotent is not entitled to rely on provocation which would not have led an ordinary person to have acted in the way which was in fact carried out.

Defendant argued on appeal that this instruction was wrong, but his conviction was affirmed. Lord Simonds reasoned in part that:

> It would be plainly illogical not to recognize an unusually excitable or pugnacious temperament in the accused as a matter to be taken into account [as a prior case had established] but yet to recognize for that purpose some unusual physical characteristic, be it impotence or another. Moreover, the proposed distinction appears to me to ignore the fundamental fact that the temper of a man which leads him to react in such and such a way to provocation, is, or may be, itself conditioned by some physical defect. It is too subtle a refinement for my mind or, I think, for that of a jury to grasp that the temper may be ignored but the physical defect taken into account.

Finally, in this section, I would be remiss if I failed to include the classic remarks of Michael and Wechsler (1937) that provide their close reasoning on this matter (cited in Low, Jeffries, and Bonnie, 1982:822-23):

> Provocation may be greater or less, but it cannot be measured by the intensity of the passions aroused in the actor by the provocative circumstances. It must be estimated by the probability that such circumstances would affect most men in like fashion; although the passions stirred up in the actor were violent, the provocation can be said to be great only if the provocative circumstances would have aroused in most men similar desires of comparable intensity. Other things being equal, the greater the provocation, measured in that way, the more ground there is for attributing the intensity of the actor's passions and his lack of self-control on the homicidal occasion to the extraordinary character of the situation in which he was placed rather than to any extraordinary deficiency in his own character. While it is true it is also beside the point, that most men do not kill on even the gravest provocation; the point is that the more strongly they would be moved to kill by circumstances of the sort which provoked the actor to the homicidal act, and the more difficulty they would experience in resisting the impulse to which he yielded, the less does his succumbing serve to differentiate his character from theirs. But the slighter the provocation, the more basis there is for ascribing the actor's act to an extraordinary susceptibility to intense passion, to an unusual deficiency in those other desires which counteract in most men the desires which impel them to homicidal acts, or to an extraordinary weakness of reason and consequent inability to bring such desires into play. Moreover, since the homicidal act does not always follow closely upon the provocative circumstances and since the passions which they arouse may in the meantime gain or lose in intensity, provocation must be estimated as of the time of the homicidal act and in the light of those additional circumstances which may have intensified or diminished the actor's passions. For example, if a substantial interval of time or an apology intervened between insult and retaliation therefore, these would have to be considered in determining the extent of the provocation. So, too, the immediate provocative power of a sudden

and severe blow differs from that of such a blow after the actor's shock and pain have abated, and he has only his recollection of the injury to spur him on.

The few cases referred to in this section have all dealt with criminal homicide, historically the offense for which victim provocation has been used as a basis for charge reduction from murder to manslaughter. I have not sought solutions for the dilemmas; I have only meant to present the sociolegal issues that confront our concern with victim precipitation.

In nonhomicide cases, provocation has been used mostly by the defense to mitigate the penalty. (Mitigation of penalty occurs, of course, in charge reduction but is implied in homicide, while it is explicit in nonhomicides.) Victim-precipitated offenses of attempt to kill, rape, involuntary sexual conduct, aggravated assault, for example, could contain mixtures of reduced charges and mitigated sentences for the defendants. Judicial decisions in bench trials and in jury trials, the judges' instructions to juries, and jury deliberations could, indeed, more fully than at present take into account the variety of factors elucidated in homicide cases and extend them to nonhomicide ones. The defendant in victim-precipitated crime should probably be viewed as less morally blameworthy, less culpable than his premeditating or unprovoked counterpart. The offender of an offense that would not have occurred without victim precipitation is probably less dangerous than the unprovoked offender; he responds to limited kinds of circumstances and may be deserving of some societal sympathy. What is unclear at present is the rate of victim-precipitated crime, whether there are more or fewer victim-precipitated crimes and offenders than unprovoked ones.

Finally, there is the issue of whether and to what extent the victim as precipitator should be held liable or in any way accountable. Gobert (1977:546-52) covers this topic in limited ways and dichotomizes precipitations into intentional and unintentional ones. The precipitation may be an accomplice, a conspirator in nonhomicide cases particularly, or only a negligent or reckless but unintentional contributor (see Sebba, 1978). The motive and intent of the precipitation to incite the offender to commit a criminal act thus becomes critically important in determining any degree of liability of the ultimate victim. "It is in society's interest to deter precipitative conduct," says Gobert (1977:546). Holding precipitators criminally liable is in general an unlikely solution, but Gobert goes on to say that, "Society's primary focus in dealing with precipitators should be on rehabilitation. Precipitators should learn why they acted as they did and be taught alternative ways of conducting their affairs so that they will not precipitate crimes in the future." He further suggests use of the noncriminal sanction of a compulsory rehabilitation program and that failure to attend court-ordered sessions could be punished as contempt. This is strong medicine but not unworthy of consideration, for some liability for precipitations "would constitute legal recognition of the moral obligation of every person not to encourage crime needlessly" (553).

## CONCLUSION

Victim precipitation is a term used in behavioral science research and theory. Provocation by a victim is recognized in legal codes and judicial decisions, first and primarily in consideration of reducing murder to manslaughter. We have suggested that more interrelationship between behavioral science and the law could be enriching for both disciplines and at the level of both theory construction and criminal justice response. We have explored -- not exhaustively -- some of the major efforts to define victim precipitation; we have offered minor revisions of existing

definitions; and we have examined some case law to display careful legal reasoning in the matter of provocation.

Future research should seek to examine systematically court cases and appellate reviews that contain elements of victim precipitation in order to further unravel reasoning, provide typologies, offer new evidence about prevalence and incidence, and expand our knowledge of victim-offender situational interactions. Scientific research should give recognition to the legal limits and test those limits. At the same time, recognition should be given to scientific units of analysis that, on the one hand, function *within* legal limits and, on the other, lie *outside* the scope of legal effect. (See Sellin, 1938.) If researchers wish to create their own operational definitions of victim precipitation in general or for specific offenses and then to quantify their data, they should also show frequency and other quantitative distributions according to definitions used in previous empirical research in order to maintain some comparability while providing for creative replication.

There are many other issues and exciting topics that lie ahead in victim precipitation research. We have attempted here simply to add some scrutiny to the attention that victim precipitation deserves.

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# THE MEANING AND MEASUREMENT OF VICTIM PRECIPITATION[1]

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Victim precipitation, an attempt to codify the empirical observation that violent acts attract violence, suffers from the accusation that it blames the homicide victim for being killed. Despite its unpopularity, however, the phenomena that led Marvin Wolfgang to develop the concept refuse to disappear. Patterns of violence that Wolfgang described in Philadelphia have been described in scores of other places and times. How can we avoid the trap of blaming the victim, yet still respond to the empirical evidence that was summarized in the organizing concepts of victim precipitation?

## THE MEASUREMENT OF VICTIM PRECIPITATION

Victim precipitation is not easy to define, either conceptually or operationally. Marvin Wolfgang's original definition (1958:252) seems clear:

> The term **victim-precipitated** is applied to those criminal homicides in which the victim is a direct, positive precipitator in the crime. The role of the victim is characterized by his having been the first in the homicide drama to use physical force directed against his subsequent slayer. The victim-precipitated cases are those in which the victim was the first to show and use a deadly weapon, to strike a blow in an altercation -- in short, the first to commence the interplay of resort to physical violence.

Although this concept seems clear, it is difficult to apply in practice. Victim precipitation as Marvin Wolfgang defined it was an integral part of the Chicago Homicide Project from its inception, the collection of data for 1965 to 1967 (see Block, 1987), but inter-coder reliability on that variable was very low. For many years and several phases of data collection through the seventies, project staff continued to make an earnest effort to determine whether or not each incident was victim precipitated according to the above definition. However, the difficulty in identifying, reliably and objectively, who struck the first blow or who was the first to show and use a deadly weapon was not resolved.

There were several reasons for this. First, in most cases, only one of the key participants is alive to testify about "who started it." This is the offender, whose account of events may be biased. The other key participant is dead, and there are often no other witnesses or available evidence. Second, even when witnesses and other evidence are available, it may be difficult or impossible to determine the exact temporal sequence of events in a confrontational situation in which many things are happening simultaneously or in quick progression. Finally, as victimization

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[1]An earlier version of this paper was presented at the 1991 annual meeting of the American Society of Criminology, and published in The Journal of Criminal Justice (Block & Block, 1992).

survey methodologists have discovered, it is often difficult to distinguish between successive incidents, which must be done to differentiate between precipitation of the specific incident in question, and retaliation or revenge for some earlier incident.

When, despite persistent efforts, coder reliability on victim precipitation did not improve, we finally decided to drop the collection of victim precipitation as Marvin Wolfgang originally defined it. This decision was made during the data collection of 1979 to 1981 homicides, and victim precipitation was dropped as a separate variable from the 1982 to 1989 codebook (Block, et al.,1989).

However, the current codebook retains items that capture related information, including whether or not the victim *participated* in the crime (whether the victim was committing a predatory or a "victimless" crime in the incident), whether the victim was killed in revenge for an earlier predatory crime, and whether the victim was killed in retaliation for an earlier confrontation. In addition, information is collected on the past arrest record of the victim, liquor or drug use in the incident, and other variables that might shed light on the participatory role of the victim.

Based on the 18,482 homicides that occurred in Chicago in the 25 years from 1965 to 1989, it is possible to distinguish several distinct scenarios in which the victim participated in some way. These situations (which are not necessarily mutually exclusive) are the following:

- the victim was a police officer or security guard killed in the line of duty;
- the victim was not a police officer, but intervened in a crime as a "Good Samaritan" and was killed;
- the victim was killed in revenge for committing an earlier predatory crime;
- the victim was committing a predatory crime in the incident, such as robbery or burglary;
- the victim was committing a "victimless" crime in the incident, such as gambling, visiting a prostitute, or using illegal drugs;
- the victim was involved in a drug transaction in the incident, or was killed as an occupational hazard of running a drug business.

Of the 18,482 homicides occurring in Chicago from 1965 to 1989, 206 victims were killed while intervening in another crime; 39 of these were police officers or security guards and 167 were Good Samaritans assisting another person who was being robbed or attacked. Typical of the latter were a victim who was struck in the head with a brick after attempting to aid a person being robbed, and a victim coming to the aid of his girlfriend who was being sexually assaulted.

Over the 25 years, 97 victims were killed while committing a predatory crime. For example, one victim had been taking money from a cash register when he was shot; another committed a robbery with a partner and was killed in an altercation over the proceeds; a number of victims were shot while burglarizing a residence; some were killed accidently by their partner or in the crossfire; and in a few of these cases the police suspected that the robber was actually killed in an intentional gangland shooting.

Some of the circumstances of these cases give rather ambiguous evidence of the predatory crime. For example, one victim was a customer at a liquor store who had disagreed with the clerk as to whether he had put enough money on the counter, reached for his pocket,

and was killed by the clerk. It is situations such as this, in which the only witness is the offender, that may not have been coded victim-precipitated had the victim been alive to testify.

The 225 victims killed as vengeance or in revenge for an earlier predatory crime include 43 street gang-motivated incidents (four in which the victim was a narcotics dealer), and 100 incidents in which the victim had committed (or was thought to have committed) an earlier predatory crime. The earlier crime varied greatly in seriousness from case to case. For example, one victim was killed in retaliation for a gang-rape of the offender's wife, another was killed in revenge for committing a homicide (for which he was being prosecuted), and a third was shot by the brother of a man he had just killed. On the other hand, a few victims were killed in retaliation for traffic accidents or neighborhood altercations.

Of the 188 victims who were killed in an incident in which they were committing a "victimless" crime, 100 were murdered in an altercation over gambling, 20 in an altercation over drugs (for example, friends fighting about how best to use drugs that they had bought jointly), and the rest in other situations. In addition, 136 victims were killed during a drug transaction.

However, none of these scenarios describes the sort of situation more typically thought of as "victim precipitated," in which the victim was the first to use force in the fight, brawl or altercation that resulted in the victim's death. The above examples include mostly instrumental, not expressive confrontations, and the question of "who started it" or who was the initial aggressor in an expressive altercation is often extremely difficult to resolve. However, it is interesting that 29 percent of the 18,482 murder victims in Chicago from 1965 to 1989 had been previously arrested for a violent crime, 34 percent of male victims and 10 percent of female victims. (Another 21 percent of male and 11 percent of female victims had been previously arrested for a non-violent crime.)

The percentage of victims with prior violent-crime arrests ranges from only 8 percent of the victims of a rape-murder, to 21 percent of the victims of an instrumental murder, to 36 percent of the victims of a street gang-motivated murder. In homicides that began as expressive confrontations, 20 percent of the victims of spousal homicide had prior arrest records for violence, compared to 24 percent of the victims of expressive assault by another family member, 36 percent of the victims of assault by friends, acquaintances or other people known to them, and 31 percent of the victims of expressive assault by a stranger.[2] This differs, however, by the victim's gender. Of male victims of spousal homicide, 32.2 percent had a prior arrest record for a violent crime, compared to 8.6 percent of female victims.

In summary, we question whether the concept of victim precipitation is measurable or even definable. However, though it is difficult to apply Marvin Wolfgang's original concept of victim precipitation to actual law enforcement, medical examiner, court, or correctional records, in the Chicago Homicide Project we have developed a collection of variables that measure aspects of *victim participation* (whether the victim was committing either a predatory or a "victimless" crime in the incident), *vengeance* (whether the victim was killed in revenge for an earlier predatory crime), and *retaliation* (whether the victim was killed in reaction to an earlier confrontation). In addition, information on the past arrest record of the victim and liquor or drug use in the incident

[2]Spousal homicides include spouses, ex-spouses, boyfriends and girlfriends, ex-boyfriends and ex-girlfriends, and common law spouses. For detailed definitions of these "Homicide Syndrome" categories, see Block and Block (1992).

also shed light on the degree to which the victim might have participated in the incident. Nevertheless, though we have found it possible to capture indicators of victim participation, we still have not found it possible to capture the victim's precipitation of the incident with any reliability.

## THE MEANING OF VICTIM PRECIPITATION

Perhaps as a result of the difficulty of finding an objective and reliable way to measure victim precipitation, its conceptual definition has become rather vague. Although Wolfgang (1958:252) carefully notes that "mutual quarrels and wordy altercations" are not included in his definition of precipitation, and emphasizes that the victim's *behavior* is the important factor (1958:264), popular usage has expanded the concept to include not only vile language, but also to include events occurring at an earlier time as well as general tendencies toward violent behavior or risk-taking behavior on the part of the victim. Colin Loftin's concept of "reciprocal" assaultive violence (1986:551), for example, includes not only incidents in which the victim is the first to strike a blow, but also incidents in which the victim has a history of violence.

Similarly, David Luckenbill's (1977) concept of "situated transactions" leading to homicide relies only on the offender's **perception** of being threatened or challenged by the victim, not on any evidence as to the victim's behavior. Taken to the extreme, situated transactions based on the assailant's point of view include many situations in which the victim's actual behavior, measured by an unbiased observer, was neither threatening nor violent, for example, the baby who cries, the girlfriend who appears to contradict her boyfriend in public, or the member of a hated group who crosses an invisible barrier.

To apply "victim precipitation" to such situations goes far beyond Wolfgang's original concept, enlarging it until it becomes meaningless and impossible to measure. It is empirically inaccurate, and has serious and negative public policy consequences. At the same time, however, ignoring Wolfgang's original, carefully bounded, concept of victim precipitation ignores a body of undisputed empirical evidence that must not be ignored if we are to develop successful general explanatory models and prevention strategies for serious violence.

### Two Traps: Blaming the Victim Versus the Wicked Offender

The expansion of victim precipitation to include psychological threat as well as physical threat produces a concept that is even more difficult to measure objectively than Wolfgang's original idea, making it correspondingly easier to fall into the trap of blaming the victim. Going too far in the other direction, however, leads to an equally dangerous trap in which the theoretical explanation and prevention of violence become nothing more than the identification and deterrence or incapacitation of potential offenders. The conceptual and methodological hazard of blaming the victim is replaced by another hazard: blaming only the "wicked offender."

The "wicked offender" trap has the same two serious problems as the "blame the victim" trap. First, it is empirically inaccurate -- true in some cases, but not true in general. Conventional wisdom regarding violence focuses on the unusual case -- attacks committed by a stranger to gain drugs or money, for example. This distorts the reality of violence, ignoring the majority of homicides and serious violent attacks, that are expressive violent confrontations beginning as an argument in which both parties, and often bystanders as well, participate. Often, similar incidents

have occurred between the same participants numerous times in the past, and the history of these events is a silent partner in the current incident.

Second, belief in the wicked offender theory of violence, like blaming the victim, can have serious public policy consequences. In the rush to treat potential offenders or render them harmless, we may ignore other social, situational, or "target hardening" strategies that would in the end save more lives.[3] Further, a society concentrating only on the wicked offender may define violence as an attack "perpetrated" by strangers on innocent people, not the sort of thing that good people like us, our family, or our neighbors could conceivably do. This sort of thinking sets up barriers to the admission that the most common sorts of lethal and nonlethal violence, such as that occurring in the home, exist. Such public denial undermines support for strategies or interventions to reduce violence.

In reality, most violence ending in a homicide involves a confrontation in which either person could become the victim or the offender. In fact, at the outset of the confrontation, it may be difficult to distinguish between the person who will later become the victim, and the person who will become the offender. As Zimring (1972), Allen (1986), Barlow (1984) and Woolhandler, et al. (1985) argue, the same act of violence may be fatal in one circumstance but not in another. Routine activities can bring participants together in situations in which the identity of the victim is determined more by chance or happenstance (presence of a weapon, deflection of a blow, availability of medical treatment, presence of others capable of defusing the situation) than by a wicked offender's design.

A society that hides from this reality in a single-minded search for the wicked offender will be handicapped in its ability to explain or prevent serious violence. Further, if a tendency to define offenders and potential offenders as "other" is a cause of increasing crime in a highly individualistic society (Braithwaite,1991), then an increased emphasis on weeding out the wicked offenders may have a spiraling, reciprocal effect on violent crime rates.

Thus, victim precipitation and the wicked offender both contain traps for the unwary. Wolfgang's victim precipitation keeps us from falling into the trap of defining violence as "them versus us." However, we then are in danger of blaming the victim. On the other hand, though an emphasis on weeding out the wicked offender prevents us from blaming the victim, it subjects us to a myopic view of violence. Both approaches are wrong, because both are incomplete. Yet each provides the more accurate characterization of certain given situations. How can we dredge the benefits from each, while avoiding the pitfalls? To do this, we need a more general approach to victim-offender interaction in violent crime, an approach that will account for all of the observed phenomena.

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[3]Target hardening is usually applied to the avoidance of property crime, but it can be similarly applied to include strategies to make potential victims of violence less of a target. Such strategies include, for example, the "McGruff" and "Officer Friendly" educational campaigns, the use of the Campbell Danger Assessment (Campbell,1986), or the "safe home" strategies in use by domestic violence support organizations.

Requirements of a General Concept of Victim-Offender Interaction in Violence

A general approach to victim-offender interaction in violence must avoid both blaming the victim and the countervailing wicked offender trap, by taking into account the total situation from both perspectives. Homicide, like every other offense, is subjective. Reality may be defined differently from the victim's perspective and from the offender's perspective. Although the definition of the situation from a murder victim's perspective is difficult to determine retrospectively, it should not be ignored. Further, from the point of view of prevention, a general approach would build a theoretical foundation not only for strategies to prevent people from becoming a victim, but also for strategies to prevent people (perhaps the same person) from becoming an offender. What empirical findings must be accounted for by such a general approach to victim-offender interaction in violent situations?

First, from the point of view of epidemiological risk, such a general construct would apply the recognition that the risk of becoming a victim and the risk of becoming an offender are not necessarily the same for a given individual. (For a discussion of this issue, see Carolyn R. Block, elsewhere in this volume.)

Secondly, following the truism that the best predictor of the future is the past, much homicide data gathering and theory building seeks to describe risk patterns based on the offender's past behavior (prior arrests, excessive drinking or drug use, threats of suicide, and so on). For example, beginning with Wolfgang (1958:269-283) and continuing to the present (Daly & Wilson, 1988), suicidal behavior has been described in homicide offenders. In fact, a man's threat of suicide has been found to be a useful predictor of the risk of the wife and children being murdered (see Campbell,1986,1989; Stuart & Campbell,1989). Moreover, there is evidence that people who are suicidal may be victimized more frequently by accidents and acts of violence (see for example, Greenberg,et al.,1987). Building on Wolfgang (1958:168-184,262-265), others (Singer, 1981; Loftin, 1986) have found that homicide victims often have a violent arrest history. There is further evidence of a link between victimization and offending over the lifespan (Hough & Mayhew, 1983; Lauritsen, Sampson & Laub,1991), and a very high mortality rate for homicide offenders.[4] Thus, neither the victim nor the offender should be ignored. A general approach to victim-offender interaction would take into account both the victim's and the offender's risk-taking and suicidal behavior, and the relationship between the two.

Violence is contagious (see Loftin,1986). It is clustered in space; it escalates over time; it spreads from one person to another. The evidence for this is consistent, persuasive, and vast. Whether because of retaliation or resistance, as Wolfgang (1958:245-265) emphasized, or due to other mechanisms such as behavioral learning or psychological trauma, there is ample evidence in Wolfgang, the Chicago Homicide Data and other studies (McCord,1991; Cappell & Heiner, 1990; Breslin, et al., 1990; Widom, 1989a, 1989b; Feld & Straus, 1989; Baird &

[4]Preliminary analysis of the Chicago Homicide Dataset for 1982 to 1989 found that the annual death rate of homicide offenders from all causes (suicide, being killed at the scene, or dying later either violently or naturally) during the year of the homicide was much higher than national mortality rates for the same age, gender and racial/ethnic group. For example, the annual death rate for nonLatino white male offenders aged 35 to 44 was 1,470 per 100,000, compared to a national death rate in 1985 of 247 per 100,000.

Neuenfeldt, 1988; Straus, 1983) that violence may spread from one person to another (husband to wife, parent to child, family to friend). People who have been treated violently are more likely to treat others (including the person who victimized them) violently. Therefore, a general approach to victim-offender relationship should also take into account the spread of violence from person to person.

Finally, a general approach to explaining the interactive victim and offender risk in homicide should take into account change over time in the situational interaction between them. Wolfgang's finding that homicide is only the "last in a series of violent events" is often quoted, but analysis of the "life cycle" of a relationship is rare. Patterns of violence over time within a relationship are complex -- they include desistance as well as escalation, alternating patterns of nonviolent and violent behavior, and change in frequency as well as change in the degree of violence and variations in severity.

The degree of violence, though stressed by Wolfgang in his analysis of "violent" homicide, has been neglected in more recent research, and deserves more attention. All homicides are not equally violent; all assaults are not equally violent. Wolfgang, as well as Frank Zimring (1972) and others, have developed measures of homicide severity, such as the number of wounds. Assault severity can be measured not only by the specific details of the attack, but also by Injury Severity scales (Berk,et al.,1983; Greenspan,et al.,1985). With these technologies, it should be possible to measure variations in severity of violent incidents, as well as variations in frequency and pattern, over the lifespan of an interaction.

## SUMMARY

Victim precipitation, an attempt to codify the empirical observation that violence attracts violence, proves difficult to measure objectively, although indicators of victim *participation* can be measured. Further, the concept of victim precipitation can lead to the trap of blaming the victim. However, in avoiding the blame-the-victim trap, we may fall into another trap, that of blaming only the wicked offender. Either approach is myopic and has serious public policy consequences. To avoid these hazards, we need a more general approach to the study of violence.

A general approach to explaining the interaction of victim and offender in violence must take into account not only victim and offender perspectives, but also the interaction of the two, the history of those interactions, and the conditions present in each incident. It must account for the entire spectrum of epidemiological risk (risk of becoming an offender, risk of becoming a victim, and risk of a particular type of victim being killed by a particular type of offender). It must provide a framework that fits known facts about victim-offender interaction, including the effects of risk taking and suicidal behavior on the part of the victim and the offender, the contagion of violence (spread from person to person), and the process of change over the entire lifespan or career of the relationship. In short, the participation of victim and offender cannot be understood independently of each other, but must be seen in light of the total situation.

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# VICTIM-PRECIPITATED KILLINGS AND "HOMICIDE CONTESTS"

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In our continuing investigation of homicide we have focussed our attention, in part, on felonious homicides that arise because the victim originally engages in some significant behavior that will result in the death of the actor. More precisely, we define a "victim-precipitated" homicide as one in which "the-person-to-be-killed" initiates or precipitates in some serious manner a sequence of events by giving serious offense to some major party on the scene or the ultimate offender, who will, in short order, respond to the offense by murdering the conflict-originator (the victim).

Our concern has not been with simply noting the numbers or percentages of such killings within a universe of homicide cases, nor with how these numbers or rates vary diachronically or syncronically. An ancillary area of concern has been what transpires between the "opening" of the interactional sequences (the victim gives offense) and the final, lethal conclusion.

The offensive behavior may take the form of responding inappropriately to a civil request (by someone on the scene) by making an uncivil request, by making verbal insults or threats or call to combat, by stealing something from one of the parties on the scene or these parties' families or friends, or by striking some party on the scene or producing some weapon, be it knife, gun or some other device.

We propose to examine the presence or absence of what we choose to call a "homicide contest" as this may relate to victim-precipitation.

[1] The (ultimate) victim opens the interchange by giving offense to the final offender (the killer) or to some significant party on the scene. This can take the form of any of the offensive behaviors listed above.

[2] The action taken (or the failure to act appropriately by the victim) is defined or recognized or acknowledged to be a very negative act or a direct insult by the offender or a significant third party.

[3] The parties now enter into a "common game" in which all important parties, more or less, understand and abide by informal (but known) rules that control this (deadly) game.

[4] There exists some technique or means or action whereby one or the other or both parties **could** end or stop the increasingly emotional interaction before it becomes lethal, such as one party simply departs from the scene, or one party apologizes to the other, or one party could debase himself or herself before the other to prevent the dangerous setting from becoming lethal. In effect, at this stage, neither party reduces or dampens the emotionally-escalating hostile interaction.

This failure to defuse a palpably dangerous setting may be due to a wide range of factors including the following: pride, what is perceived to be a serious loss of "face," simple stubbornness, "firmness of character," or simply the belief that in this particular argument or conflict, the knowledge that "one is right" in the stance that he or she has taken.

[5] Some potentially dangerous weapon is already available to one or more of the parties on the scene or such a weapon will be easily and quickly obtained, so that the rising animosities move into a potentially very dangerous phase.

[6] The victim, who may or may not have taken the first serious physical or weapon response, is, in a very short time, attacked and killed.

We have secured rather full official (police) records for 381 criminal homicides known to the police in the city of Philadelphia. All cases were very closely read by two independent coders or raters to determine the presence of a "homicide contest" and whether or not the killing was victim-precipitated. Each coder, independently, also ascertained if the particular homicide file contained sufficient information as to the issues of victim-precipitation and the existence of "homicide contest" to permit a reasonable assessment of their presence or absence.

To our surprise, an extremely close inspection of all police records revealed that there was insufficient detail in the files of 196 cases (51.4% of all homicides) to permit the coders to make a reasonable estimation of whether or not a "homicide contest" had been embedded in the killing **and** a reasonable judgement as to whether the victim precipitated the final, lethal exchange. These unusable cases, therefore, either failed to give needed information on who precipitated the killing, or failed to be sufficiently complete regarding the issue of a "homicide contest," or were deficient on both issues.

We were, therefore, left with only 185 homicides (48.6%) for which reasonable judgements could be made as to victim precipitation **and** the presence of a "homicide contest." There arose a number of discrepancies between the two coders as to their judgements, but after some intensive discussions and the mutual re-reading of the variant cases, all discrepancies were reconciled.

Of all 185 judgeable cases, 87 (47.0%) were found to be victim precipitated (as this has been defined, above). Of the same number of ratable cases 115 (62.2%) were found to contain a "homicide contest."

Examining both variables, victim precipitation and homicide contest, table 1 shows that if the killing was precipitated by the victim, in over 85 percent of all cases the murder also contained a "homicide contest." Conversely, if the killing contained a "homicide contest," then over 64 percent were also victim precipitated. If the killing was devoid of a "homicide contest," then less then 19 percent were precipitated by the victim. It can be seen that the relationship of victim precipitation to murder contests is significant at the .0000 level. The variance explained comes to 20 percent.

Table 1

**Relationship Between Victim Precipitation and a Precipitating "Homicide Contest" in Judgeable Cases**

| | | VICTIM PRECIPITATED | | |
|---|---|---|---|---|
| | | NO | YES | TOTAL |
| HOMICIDE CONTEST | NO | 57 (81.4%)<br>(58.2%) | 13 (18.6%)<br>(14.9%) | 70<br>(37.8%) |
| | YES | 41 (35.7%)<br>(41.8%) | 74 (64.3%)<br>(85.1%) | 115<br>(62.2%) |
| | TOTAL | 98<br>(53.0%) | 87<br>(47.0%) | 185<br>(100%) |

# VICTIM PRECIPITATION AND SOCIAL POLICY: CLEMENCY FOR BATTERED WOMEN WHO KILL

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## INTRODUCTION

An apparent advantage of being a public health researcher, versus being a social science researcher, is that public health researchers seem more likely to see the results of their research translated into real and sometimes immediate social action. Unlike our public health colleagues, sociologists and criminologists sometimes feel as though we toil in the research fields without being able to see any tangible results of our efforts. Particularly as homicide researchers, it seems that the worlds of theory and practice do not often touch, much less overlap. Social science researchers frequently articulate the implications of their research findings, only to watch such statements glean the barest official attention. At the very least, it seems that the lag time between research with compelling social implications and its implementation into real social policy is achingly lengthy, if it happens at all.

Sometimes, however, we are permitted to watch -- and are even drawn into -- the enactment of social policy that is derived directly or indirectly from the theories we study and debate. Such has been the case within the past few years in the state of Florida, where a new social policy and governmental entity was created that owes its very existence to the theory of victim precipitation in homicide research. I am referring to the development in Florida of a special clemency review process for convicted and imprisoned women murderers who claim their actions were in response to abusive behavior on the part of the victim. This paper will briefly discuss this social policy development and its linkages to the theoretical grounding upon which it is built.

## VICTIM PRECIPITATION AS A CONCEPT IN HOMICIDE RESEARCH

The concept of victim precipitation is generally credited to Hans Von Hentig, who suggested it in an article about the victim-offender relationship in 1941 (Von Hentig, 1941; Karmen, 1984) and later used it in his text on *The Criminal and His Victim, Studies in the Sociobiology of Crime*, published in 1948 (cited in Schafer, 1977). The idea was given real research life, however, by Marvin Wolfgang, whose 1958 study of *Patterns in Criminal Homicide* utilized the concept of victim precipitation as a way of trying to explain some fatal interaction outcomes. In particular, in his article on "Husband Wife Homicide" (1956), which was part of the Philadelphia study but published separately, Wolfgang used the concept of victim precipitation as a means of explaining male and female differentials in conviction and sentencing. Wolfgang's work established a model for homicide research, and also served to begin the operationalization of the concept of victim precipitation and of its legitimation as a force within lethal events worthy of study in itself.

Despite considerable problems in recent years in further operationalizing the concept (as articulated elsewhere in this volume by Carolyn Rebecca Block), victim precipitation has remained a vital theoretical concept in the field of homicide research. A number of researchers have attempted over the years to design typologies of victims -- or criminal responsibilities -- in order to explicate what can be a highly complex relationship between offender and victim (see Sellin & Wolfgang, 1964; Fattah, 1967; Schafer, 1968). And most homicide researchers since 1958

have followed Wolfgang's lead, utilizing various definitions of victim-offender relationships or measures of victim culpability to establish offense or victimization patterns.

Meanwhile, a vigorous victims' rights movement has developed over the last several decades, directing more attention to the plight of victims of crime than ever before in this country. The movement has simultaneously made us even more aware of the differences between so-called "innocent" victims and those who have somehow contributed to their own injury. Most victim compensation programs in the U.S. today provide for discretionary denials of claims by "initiators or escalators of lawless acts" (Karmen, 1984:215) and for blanket exclusions of family members. Such family exclusion clauses are generally intended to prevent a brutal individual from benefitting from compensation paid to another family member, or to prevent fraud by means of collusion between family members. But such exclusions clearly also discriminate against victims of domestic violence. Ironically, it is when domestic violence becomes fatal that one of the most interesting developments regarding the practical use of the concept of victim precipitation has arisen.

## VICTIM PRECIPITATION AND THE CONCERN FOR BATTERED WOMEN WHO KILL

The growth of the battered women's movement in the 1970s and 1980s certainly was one impetus for the growth of interest in the concept of victim precipitation during that period. Among the concerns of advocates for battered women was the problem that arose in the legal system when battered women struck back at their abusers but not while being actively attacked by them. Fatal counterattacks upon abusers who had often terrorized and assaulted family members for years -- but who were at the time of the counterattack either sound asleep, intoxicated or otherwise incapacitated -- seemed simultaneously righteous and yet unfair.

Seldom have such lethal attacks been viewed by the legal system as fitting the requirements of pleas of self-defense, despite the offender's best efforts to paint a history of repeated violence and abuse. As numerous researchers (Walker, 1984; Ewing, 1987; Gillespie, 1989) have quite adequately pointed out, the traditional criteria of the law of self-defense, especially when applied to a homicide, has included requirements such as the reasonable belief that one is in imminent lethal danger and the use of "like force" in repelling such an attack, both of which seem lacking in preemptive counterattacks launched against incapacitated abusers. Thus, in most of these cases battered women have been convicted of murder or manslaughter and sent to prison. Nonetheless, it has seemed somehow quite unjust for women who suffered from years of abuse to be imprisoned for finally striking back, albeit fatally, at their tormentors.

In many areas of the country, concerns about the plight of imprisoned battered women reached crescendo proportions in the late 1980s and early 1990s. Arguments were pressed for changing the criteria of self-defense (Walker, 1984) or for creating new components of it, such as "psychological self-defense" (Ewing, 1987), which would be more applicable to such cases. Indeed, changes in the case law, particularly in regard to the interpretation of the self-defense criteria and the admissability of expert testimony, have occurred in many states. In some cases, battered women who killed their incapacitated abusers have actually been acquitted, as in the famous "burning bed" case. It would not be an exaggeration to say that there has been a small revolution in case law in this area over the past decade, though acquittals still remain rare.

At about this same time, advocacy groups began forming in many states to try to persuade authorities to re-examine the failed cases for possible consideration for early parole or clemency (National Clearinghouse, 1992). The gist of the argument for such special consideration has always been pretty much the same: the "victims" of such lethal domestic events had acted to bring their demise upon themselves, if not in the usual sense of self-defense then at least in the sense that the victim-abusers' deaths would not have occurred without their own precipitating violence toward the battered killers. Unlike the changes occurring in the case law, however, few of the parole and clemency efforts seemed to be having much effect up to the end of the 1980s.

Then several events occurred in quick succession in late 1990 and early 1991, which breathed new life into the parole/clemency movement for imprisoned battered women. The first of these was the sudden and surprising clemencies granted by Ohio Governor Richard Celeste in December 1990, to 25 battered women who had killed or assaulted their abusers. This was followed within just a few months by 13 clemencies for imprisoned battered women granted by Governor Schaefer of Maryland. In both cases, the governors articulated their concerns that such women had not benefitted from the protections of the legal system and deserved some "act of grace" in reducing or commuting their sentences. Before the year was out, the governors of Texas and Massachusetts had instituted steps to review such cases (Krause, 1992).

The Ohio and Maryland clemency events were national newsmakers at the time and generated considerable controversy (Krause, 1992; Kobil, 1991b). Advocates for battered women were jubilant; now there were precedents for using clemency as a vehicle for righting perceived wrongs against victims of domestic violence. Other observers, however, were horrified by the prospect of freeing murderers and voiced concerns that such acts would lead to an "open season on men" by angry housewives. These same concerns had been aired a decade before when the first battered women who successfully challenged the self-defense criteria were able to secure acquittals in their murder trials. Both Governors Celeste and Schaefer suffered serious political attacks because of their clemency actions (Krause, 1992). It is probable that Governor Celeste anticipated these negative reactions, since he waited until just a few days before the end of his second term in office to act. It is also probable that governors in other states, pressured by newly-invigorated clemency advocates, eyed the political fallout suffered by Celeste and Schafer with concern.

## THE DEVELOPMENT OF A UNIQUE CLEMENCY PROCESS IN FLORIDA

The movement for clemency for battered women murderers in Florida did not get under way until 1990, and understanding the exact details of the process by which this change in social policy developed depends to some degree on whose version of the story one accepts. According to the Office of the Governor, the Governor and key members of his Cabinet and staff were already aware of and sensitive towards the plight of battered women in prison by the time clemency advocates got organized and began pressing for change. This version of the story asserts that some clemency recognition of battered women in prison in Florida would have developed eventually in any case. The clemency advocates are credited with helping the Governor and Cabinet in their efforts to craft a new process for clemency consideration of such cases, but the receptiveness of state officials to the clemency advocates reflected an already existing concern about the problem at the highest levels of state government.

By comparison, in the version according to the Florida clemency advocates, nothing would ever have happened to existing social policy without their relentless educational efforts and pressure for change. These advocates, who call themselves the Women in Prison Project (an offshoot of the Florida Coalition Against Domestic Violence), assert that the specific stimulus for change was a woman who was imprisoned for killing her abusive husband and who wrote to battered women's advocates soliciting help in pressing her request for clemency. The advocacy group originally formed solely for the purposes of championing this woman's cause and began efforts to publicize her case to both politicians and the media. No effort was expended on behalf of any other similarly imprisoned battered women.

Governor Celeste's clemencies in late 1990 changed all that, however, in that it caused advocacy group leaders to broaden their goal to incorporate all such women in Florida's prisons. Over a period of about a year, according to the advocates, they worked on both the politicians and the media, emphasizing the lack of service and protection for battered women and arguing the essential unfairness of the self-defense law as it presently stood. Though the clemency advocates do not explicitly articulate it, beneath their arguments lay the theory of victim precipitation and the idea that women who killed their abusers were simply responding in some way to the violence initiated and escalated by another.

By mid-1991, the Governor's Office and members of the Cabinet had been sufficiently persuaded, according to the advocates, that something needed to be done. However, in Florida, as in fifteen other states (Kobil, 1991a), the Governor does not have the power to grant clemencies alone but only with the cooperation of at least two Cabinet officers. The Governor and Cabinet sit as the Clemency Board on a quarterly basis, and ordinarily receive applications and recommendations that have been processed by the Parole Commission, which is charged under state law with investigating and handling such applications. The advocates argued that regular parole officers, who routinely investigate clemency applications, were generally ill-equipped to understand the peculiar problems inherent in most domestic violence cases and were in most cases clearly persuaded by lingering myths about battered women. The advocates wanted battered women's cases removed entirely from the jurisdiction of the Parole Commission and handled separately by the Governor's Office. The advocates also wanted outside experts who were knowledgeable about domestic violence to be involved in the review of these cases instead.

Whichever of these versions of the story you credit, the outcome was a compromise based on a proposal that the advocates developed. The compromise consisted of constructing a special review process for these cases -- and these cases alone -- that came to be referred to as the "Waiver Process for Battered Woman Syndrome Cases" (Governor's Office, 1991). This special review process, which was enacted by Executive Mandate on December 18, 1991, made it possible for imprisoned women murderers who killed their alleged abusers to apply for clemency review much earlier than would otherwise be possible, and for their cases to be reviewed prior to Clemency Board consideration by specially appointed volunteer citizen reviewers selected for their expertise in domestic violence. While the Parole Commission still processes the cases and makes recommendations, now outside experts are also involved in reviewing the cases.

This creation of a special clemency process involving a Review Panel of citizen experts to screen clemency applications by battered women murderers is, to date, absolutely unique in the United States. While there have been a variety of special advisors to Governors or clemency

boards in other states in the past for other special purposes, this is the first time that an official additional step involving outside expertise has been added to the normal clemency review process. Its very existence is premised on the idea that battered women who murder their alleged abusers are worthy of some kind of special consideration for possible clemency to which other murderers are not due.

Over the almost two years since its creation, the process has evolved and become clearer and more sophisticated. In this time, sixteen applications have been received (as of October 1993), of which only four have reach their final disposition. Of these, two applications for clemency were approved and two others denied. Two additional cases are now pending at the final stages.

The nine citizen experts who were appointed to review cases have learned much about clemency, one of the most obscure components of the criminal justice system. They have also learned much about the problems of trying to decide culpability after the fact, when one party to a fatal encounter is no longer available to give his side of the story. State officials, for their part, have learned a great deal about domestic violence, about which they admittedly knew little prior to this shift in social policy. In particular, the realities of how abused individuals may strike back at their abusers even when it is not legally appropriate to do so has been revelatory to both Governor's Office staff and Parole Commissioners. It is homicidal victim precipitation in the real world, rarely as clear cut as the criteria of legal self-defense would have it be, but very real in the minds of the imprisoned battered women.

## CONCLUSION

For this writer, the relationship between research on mate homicides, the relatively abstract concept of victim precipitation in domestic homicide, and the highly concrete cases of battered women in prison for killing their alleged abusers have come together sharply in the special clemency review process adopted in Florida for such cases. Appointed by the Governor in 1992 as one of the nine citizen expert reviewers involved in this process, I have found the work of evaluating these cases unlike anything else I have ever done. Interviewing the prisoner applicants for clemency purposes is unlike any other prison interviews I have ever conducted. Assessing the elements of their cases is unlike any other homicide research I have ever undertaken.

This sharp contrast is due, of course, to the fact that these cases are being reviewed and the individuals interviewed for possible commutation of their sentences. Each of these battered women killed another human being and yet she is being considered for possible release from prison far in advance of any other hope she might have. The only reason for this consideration, as a social policy, is that the state of Florida has come to officially recognize that there may be some situations in which an abusive mate contributes to his own ultimate demise in such a way that extra-legal recognition of this fact is warranted even after all regular legal avenues have been exhausted. Homicide research on victim precipitation has served as the basis for a real change in social policy.

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# USING SPSS TO FLATTEN THE HIERARCHICAL DATAFILE IN MURDER IN LARGE URBAN COUNTIES, 1988

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| | |
|---|---|
| **PROBLEM:** | **MURDER CASE DATA ARE SPREAD OVER VARYING NUMBERS OF VICTIM/OFFENDER, VICTIM, AND DEFENDANT RECORDS** |
| **OBJECTIVE:** | **COMBINE ALL RECORDS TO OBTAIN A DEFENDANT RECORD THAT INCLUDES CASE-LEVEL VARIABLES** |
| **APPROACH:** | **USE SPSS SORT, AGGREGATE AND MATCH FILE PROCEDURES** |

**STEP 1. INPUT VICTIM/OFFENDER FILE RECORDS**

```
FILE HANDLE f1/NAME='/data2/murder/aggoffn.0513'
GET FILE=f1
```

**STEP 2. COMPUTE VICTIM/OFFENDER RELATIONSHIP & CIRCUMSTANCE VARIABLES**

```
IF VICSTAT1 EQ "a01" VS1=1  /* Family - Spouse */
...
RECODE VS1 (1 THRU 15=2) INTO FAMILY
RECODE VS2 (1 THRU 15=2) INTO FAMILY
...
RECODE VS1 (64 THRU 74=2) INTO STRANG
RECODE PRIREL (1=1) (2=2) INTO STRANG
```

**STEP 3. SORT DATA (INCLUDING COMPUTED VARIABLES) BY DEFENDANT SEQUENCE NUMBER (DID)**

```
SORT CASES BY STRATA CID AAI DID
```

**STEP 4. SAVE SORTED VICTIM/OFFENDER RECORDS**

```
FILE HANDLE f2/NAME='/data2/murder/oldoffn2'
SAVE OUTFILE=f2
  /KEEP=AAI,
  CID,
  FAMILY,...
```

**STEP 5. "FLATTEN" THE FILE: THAT IS, SUMMARIZE VICTIM/OFFENDER DATA ACROSS ALL VICTIMS WITHIN EACH DEFENDANT'S CASE**

```
GET FILE=f2
AGGREGATE OUTFILE =*
```

```
 /PRESORTED
 /BREAK = STRATA CID AAI DID
...
 /x26=MAX(FAMILY) ...
```

**STEP 6. SAVE SUMMARIZED VICTIM/OFFENDER DATA FOR EACH CASE**

```
FILE HANDLE f3/NAME='/data2/murder/oldoffn3'
SAVE OUTFILE=f3
 /RENAME=(x13 = ANWGT)...(x15 = GEO)(x17 = NSUBH)...(x26=FAMILY)...
```

**STEP 7. INPUT DEFENDANT RECORDS**

```
FILE HANDLE f4/NAME='/data2/murder/aggdefn.101'
GET FILE=f4
```

**STEP 8. COMPUTE DEFENDANT VARIABLES**

```
RECODE DSCENE (1 thru 18=1) (19 thru 41=2) (else=sysmis) into LEGIT
```

**STEP 9. SORT DEFENDANT RECORDS (INCLUDING COMPUTED VARIABLES) BY DEFENDANT SEQUENCE NUMBER**

```
SORT CASES BY STRATA CID AAI DID
```

**STEP 10. SAVE SORTED DEFENDANT DATA**

```
FILE HANDLE f5/NAME='/data2/murder/olddefn2'
SELECT IF (CHARGE LE 3)
SAVE OUTFILE=f5
        /KEEP=AAI,
        AGE,
        ALCOIN, ...
```

**STEP 11. COMPUTE NUMBER OF DEFENDANTS IN DEFENDANT'S CASE (NUMDEF)**

```
GET FILE=f5
FILE HANDLE f6/NAME='/data2/murder/dagdata'
AGGREGATE OUTFILE = f6
 /BREAK = STRATA CID AAI
 /NUMDEF = N
```

**STEP 12. ADD NUMBER OF DEFENDANTS TO EACH DEFENDANT'S RECORD**

```
MATCH FILES TABLE=f6/file=f5 /BY=STRATA CID AAI
```

**STEP 13. SAVE DEFENDANT RECORDS WITH NUMBER OF DEFENDANTS INCLUDED**

```
FILE HANDLE f7/name='/data2/murder/olddefn3'
SAVE OUTFILE=f7
```

**STEP 14. REPEAT STEPS 6-12 ABOVE FOR EACH VICTIM. CREATE OLDVICT3 (f8) CONTAINING CASE-SUMMARY VICTIM VARIABLES AND NUMBER OF VICTIMS**

**STEP 15. ADD SUMMARIZED CASE-LEVEL VICTIM/OFFENDER DATA TO DEFENDANT'S RECORD**

```
GET FILE=f3
GET FILE=f7
MATCH FILES TABLE=f3/file=f7 /BY=STRATA CID AAI DID
```

**STEP 16. SAVE DEFENDANT DATA COMBINED WITH VICTIM/OFFENDER CASE SUMMARIES**

```
FILE HANDLE f9/NAME='/data2/murder/hopout1'
SAVE OUTFILE=f9
```

**STEP 17. ADD CASE-LEVEL VICTIM SUMMARY DATA TO DEFENDANT RECORD THAT ALREADY CONTAINS VICTIM/OFFENDER SUMMARY DATA AND DEFENDANT'S DATA**

```
GET FILE=f8
GET FILE=f9
MATCH FILES TABLE=f8/file=f9 /BY=STRATA CID AAI
```

**STEP 18. SAVE FINAL PRODUCT VARIABLES COMPUTED FOR DEFENDANT PLUS CASE-LEVEL SUMMARY VICTIM & VICTIM/OFFENDER VARIABLES**

```
FILE HANDLE f10/NAME='/data2/murder/defn.sys'
save outfile=f10
      /KEEP=AAI,
      AGE,
      ALCOIN, ...
```

## <u>FINAL PRODUCT</u>: A FILE OF DEFENDANT RECORDS WITH:

### (1) INDIVIDUAL DEFENDANT DATA,
### (2) CASE-SUMMARY VICTIM/OFFENDER DATA, AND
### (3) CASE-SUMMARY VICTIM DATA.

# ORGANIZING A DATASET TO SUPPORT ANALYSIS OF MULTIPLE UNITS: VICTIM, INCIDENT AND OFFENDER RISK

CAROLYN REBECCA BLOCK
Illinois Criminal Justice Information Authority

To understand the process of violence and to develop successful strategies for intervention, we must first describe risk patterns. This is not necessarily a simple task. There is more than one type of risk to consider, and the appropriate measurement differs for each. In this presentation, I will review various kinds of risk and the data necessary to measure them. Drawing on examples of the Chicago Homicide Dataset and the Early Warning System "GeoArchive" Dataset, I then outline ways in which large datasets may be organized to support efficient, timely, and accurate analysis of all types of risk.

Risks pertaining to homicide include the following: the risk of becoming a victim, the risk of becoming an offender, the risk of a given type of victim being killed by a given type of offender, and the risk of an incident occurring in a given place or situation. Each type of risk provides different information and answers different questions. For example, in some population groups, the risk of becoming a victim and the risk of becoming an offender of a specific kind of homicide (Homicide Syndrome) may be the same; for other populations and other Homicide Syndromes, the risk of becoming a victim may differ from the risk of becoming an offender.[1] Women and girls, for example, are at a higher risk of becoming a victim than of becoming an offender, but men and boys are at a higher risk of becoming an offender than a victim. Clearly, the appropriate measure of risk depends upon whether victimization or offending is at issue. Similarly, victim/offender interaction risks and incident-level risks provide information that cannot be retrieved from either victim-level or offender-level risk metrics.

The risk of becoming a victim is measured by **victimization rates**, with a count of victims in the numerator and a count of potential victims in the denominator. Because it is important to be able to aggregate and disaggregate the victim data to correspond to the population that is of interest, dataset users must be able to extract a variety of detailed victim-level information (such as specific age or address of residence), as well as incident and offender information.

A second type of risk, **offender participation**, is measured by relating offenders in the numerator to potential offenders in the denominator. Analogous to the calculation of victimization rates, the calculation of offender participation risk requires detailed information for each offender in the dataset, so that the numerator will correspond to any given offender-risk population, and in addition, detailed information on the victim and incident. A further consideration in calculating the risk of offender participation is that all offenders in multiple-offender homicides must be counted, and double-counting of offenders in multiple-victim homicides must be avoided. A

[1]For a definition of Homicide Syndrome, see C. R. Block and R. Block (1993).

victim-based dataset, therefore, is not the most efficient database for the calculation of offender rates.

A third type of homicide risk (**who is killing whom**) is even more complex, including within itself three differently defined and differently measured categories. Two of these involve the same subgroups of victims and offenders, and differ only in the denominator. One rate (**victim/ offender risk**) measures the likelihood that a given offender group is responsible for murders of a given victim group, and the second (**victim/offender choice**) measures the likelihood that a given group of offenders will choose a given type of victim. For example, we can ask, "What proportion of the murders of females are accounted for by male offenders?" (measured by dividing the number of females murdered by males by the total number of females murdered) or "What proportion of the victims of male offenders are female?" (measured by dividing the females murdered by males by the number of male offenders). In the first case, the risk is seen from the victim's perspective; such a rate will tell us something about risk patterns for female victims. In the second case, the risk is see from the offender's perspective; such a rate will tell us something about the way in which male offenders choose their victims. For a complete picture of victim/offender interaction in homicide, we really need to answer both sorts of question.

Another sub-category of victim/offender interaction rates, the **offender damage rate**, is measured by dividing the number of victims murdered by a particular population group (young males, for example) by the size of the population group. It is similar to the "victim/offender choice" risk discussed above, but differs in that the numerator includes all victims instead of only a specific sub-group of victims. The offender damage rate is thus an indicator of the overall societal risk attributed to a particular population group. In addition, offender damage rates (offender-group-specific murder rates) provide an alternative perspective to offender participation rates (the risk of becoming an offender). The two are not the same, because some offenders murder multiple victims and some victims are murdered by multiple offenders. In a population that tends to commit offenses in groups (for example, Latino young men, and young men in general) participation rates tend to be higher than damage rates. For example, reporters and policy makers often want to know whether juvenile violence is increasing. Here, it is important to determine what the reporter or legislator really wants to know. If the question is whether the risk of a child becoming an offender has increased in a given community, then trends in the participation rate will provide the appropriate answer. However, if the question is whether the number of people victimized by juveniles has increased, then trends in the juvenile offender damage rate (compared to damage rate trends of other ages) will provide the appropriate answer.

A forth type of homicide risk is incident-based. To support **incident-level rates**, a dataset must exclude double-counts in multiple-victim homicides, as well as in multiple-offender homicides. Though incidents such as these may not be frequent, they do not occur randomly, and their presence in a database will bias both victim-level and offender-level rates. We cannot assume, therefore, that conclusions drawn from analysis of victim-level or offender-level data will apply to incident-level situations. In the Chicago Homicide Dataset, we have found multiple-victim homicide incidents to be a particular consideration with arson homicides and mass murders. One of the youngest offenders, a nine-year-old, killed four people, and a middle-aged practical nurse killed 15 people in an arson homicide in the nursing home where she worked. Despite the

common stereotype of the random mass murder, more common in Chicago are homicides in which a parent, almost always the father, murders the mother and all the children, or homicides in which a number of people, including someone such as a wife or mother who is the original target, are killed in a shooting spree on the street or at the victim's job. There have also been occasional multiple murders associated with gambling, drug dealing or other illegal business activity. In all these cases, it is important to concentrate on the incident as the appropriate unit of analysis.

However, to provide an accurate foundation for intervention strategies built around aspects of the situation (such as weapon availability, the availability of domestic violence support services, or violence reduction in taverns), we must be able to calculate more complex rates of incident-level risk, **situational death rates** in specific types of violent or threatening situations. Situational death rates relate counts of lethal violence in the numerator to counts of comparable nonlethal violence in the denominator, information that may be difficult or impossible to obtain. Specifically, we must divide a count of lethal outcomes by a count of total (lethal plus nonlethal) situations. For example, to determine the effect of victim resistance on the risk of death in robbery, we need to compare death rates in robberies and attempted robberies with and without resistance. If we want to know whether the addition of a domestic violence support agency in a neighborhood is likely to lower the risk of intimate homicide, we need (at least) information on the risk of lethal escalation in intimate violence interactions with and without support services available. However, the major difficulty with such calculations is obtaining information on the denominator.

For all of these rates, whether victims, offenders, victim-offender pairs or incidents, it is important to be able to categorize the data by attributes of the incident as well as attributes of the participants. In addition to weapon, location, and other incident characteristics, we have found that the Homicide Syndrome, whether the offender's immediate and primary goal was more expressive or instrumental, is especially important in defining and interpreting rates. In many kinds of expressive violence, for example, the people who are at highest risk of becoming a victim and the people who are at the highest risk of becoming an offender may be the same people. In instrumental violence, because the target tends to be rationally chosen by criteria such as vulnerability or potential gain, those who are at risk of becoming a victim and those who are at risk of becoming a victim may be different groups. As a result, the question of who is killing whom may be immaterial for expressive violence but vital for understanding instrumental violence.

In general, a high priority in the design of a dataset that will support strategic analysis of the causes and prevention of lethal violence, is that the data must be organized so that each separate type of risk can be separately and accurately measured. This may seem to be a simplistic problem, but it is not. In many datasets it may be **possible** to calculate most or all of the rates outlined above. If each victim, offender, and incident has an identification code, and if all of the identification codes in each case are linked, almost any kind of rate analysis is theoretically possible. However, just because it is theoretically possible does not mean that it can actually be done in a practical research situation. A dataset organized for the most efficient analysis of one sort of rate may make it cumbersome or even impossible to calculate another sort.

Data organized in a "hierarchical" structure makes it possible to retrieve victim, offender, or incident-level data. However, such datasets may require a tremendous amount of space, and make it awkward to answer simple questions. Therefore, in the Chicago Homicide Dataset, the Illinois Victim-Level Murder File, and the Early Warning System GeoArchive, we have created separate files in which the data are organized according to victim or offender or incident. Information on the other two perspectives is not lost; for example, summary information and identification numbers on offenders is included in the victim files and the incident files.

The archived 1965-to-1981 Chicago Homicide Dataset is victim level. It includes demographic data on up to four offenders, and victim-offender relationship data on the first offender. The current version (1965-to-1990) is also victim level, but includes demographic variables and relationship for up to five offenders on each victim record, and information on additional offenders in the "Remarks." Thus, we can link multiple victims and multiple offenders by incident. This allows us to calculate all of the types of risk outlined above (for examples, see Block, 1993), except the situational death rates. However, it is still cumbersome to calculate offender-based rates or to conduct incident-based analysis with a victim level file. Therefore, we plan to construct a separate offender level file, which includes one record per offender, deleting the duplicate records stemming from multiple-victim incidents, and including most of the victim and incident variables as well as offender information.

## REFERENCES


Block, Carolyn Rebecca (1993). Lethal violence in the Chicago Latino community: 1965-1989. Pp. 267-343 in *Homicide: The Victim-Offender Connection*. Anna Victoria Wilson (ed.), Anderson Publishing Co.

Block, Carolyn Rebecca and Block, Richard L. (1993). Overview of the Chicago homicide project. Pp. 97-122 in Block and Block (eds.), *Questions and Answers in Lethal and Non-Lethal Violence: Proceedings of the First Annual Workshop of the Homicide Research Working Group*. Washington, D.C., National Institute of Justice.

# HOW TO MANAGE LARGE HIERARCHICAL DATABASES FOR EASY AND EFFICIENT ACCESS TO INCIDENT, VICTIM AND OFFENDER INFORMATION

OREST FEDOROWYCZ
Canadian Centre for Justice Statistics

Before commenting on this topic, I will give you an idea how "large" the Canadian Homicide Database is. Between 1961 and 1992, there have been 17,163 homicides in Canada. Over the past 10 years, the number of homicides has averaged about 638 per year.

There were 24,703 homicides in the USA in 1991 alone, which is 44 percent more than the number of homicides recorded on the entire Canadian Homicide Database. The city of Los Angeles in one year reports about as many homicides as are reported in the whole of Canada for one year. Needless to say, homicide is not a "large" problem in Canada at this time, and we hope it never is.

## SYSTEM INFORMATION

The Homicide Database is a relational database, consisting of Incident, Accused and Victim records linked to each other by a system-generated incident identifier. Also, each record is linked by an internal provincial code, a CMA (Census Metropolitan Area) indicator, and a police-reported file number used for follow-ups as well as linking with the UCR records.

From 1961 to 1990, the Homicide Survey used a mainframe-based central processing system for storing and processing data. In 1991, when the Homicide Survey form was revised to incorporate additional variables, the outdated processing system was replaced by a microcomputer-based system.

The new Homicide Survey System is SAS-based and consists of a series of menus that cover a variety of subjects from information on the system itself to how to browse the incident, accused and victim files; how to produce tables and listings of records; and how to query specific characteristics of the database.

## PROBLEMS AND SOLUTIONS

Although we do experience the same problems associated with any database, because of the relatively "small" volume of records involved, we are able to find and implement solutions much more quickly. Any problems that do arise in our system related to data quality can easily be rectified by examining the individual homicide forms (about 750 annually) and, if necessary, following-up with the reporting police forces.

The new microcomputer-based system has experienced some problems (such as insufficient memory) related to the processing of several large datasets, and therefore, in the fall, the system will be switching from a SAS for DOS environment to SAS for Windows. This is expected to solve the memory problems. As with any change, it will inevitably create new problems, but we hope they will be ones that are easily and quickly solved.

# APPENDIX I

# HOMICIDE RESEARCH WORKING GROUP
# 1993 CONFERENCE SCHEDULE

**June 13 -17, 1993**
**FBI Training Academy**
**Quantico, Virginia**

## SUNDAY EVENING, JUNE 13

**6:00-8:00** **Registration**

**7:00-7:45** **Social Gathering**

**7:45-8:00** **Informal Welcome and Initial Orientation**
Roland Reboussin, FBI Academy
Chris Rasche, HRWG Program Committee

**8:00-9:30** **Keynote Panel: Reconciling Public Health and Criminal Justice Ap--proaches to the Measurement, Analysis and Prevention of Violence**
Rick Rosenfield, Chair.
Presenters: Jim Mercy, Bob Flewelling, Paul Goldstein.
Public health and criminal justice researchers have traditionally tended to work and theorize separately. This session explores ways in which the communications gap between public health and criminal justice researchers can be closed and cross-fertilization of ideas on violence measurement, analysis and prevention can be enhanced.

**9:30-10:00** **Social Gathering**

**********

## MONDAY, JUNE 14

**6:30-7:45** **Breakfast in the FBI Dining Hall**

**8:00-8:20** **Official Welcome**
Tony Rider, Unit Chief, FBI Behavioral Science Unit
Dick Block and Becky Block, HRWG Ad Hoc Chairpersons

**8:20-8:30** **Announcements** - Roland Reboussin, Chris Rasche

**8:30-10:30** **Data Sources and Data Linking: Part I**
Cheryl Maxson, Chair.
Roundtable on data sources for studying homicide, including updates on two major datasets discussed at last year's meeting, and basic information on two others.
- National Incident-Based Reporting System (NIBRS) - John Jarvis.
- Statistics Canada Homicide Data - Orest Fedorowycz.

- Vital Statistics Mortality Data - Lois Fingerhut.
- Datasets for the Study of Lynching - Lin Huff-Corzine and Jay Corzine.

**10:30-10:45** **Break**

**10:45-11:45** **HOMICIDE RESEARCH WORKING GROUP BUSINESS MEETING: Part I**
Dick Block and Becky Block, Presiding.

**11:45-1:00** **Lunch**

**1:00-2:30** **Data Sources and Data Linking: Part II**
Margaret Zahn, Chair.
This session continues the roundtable discussion of data sources for studying homicide, involving brief overviews on specific available datasets, with hand-outs of basic information and accessing directions.
- The Drug Abuse Warning Network (DAWN) - Bob Flewelling.
- Youth Risk Behavior - Jim Mercy.
- National Electronic Injury Surveillance System - Mike Rand.
- Murder Victims and Offenders in Large Urban Counties - John Dawson.
- Medical Examiner's Office Datasets - John Jarvis.

**2:30-2:45** **Break; Group #1 Move to Firing Range**

**2:45-3:45** **Subcommittee Meeting Time**

**3:00-4:00** **FBI Firearms Demonstration for Group #1** - The Firearms Team will present a number of the common weapons used in homicides today and demonstrate the effects of different kinds of bullets on targets, including human-like targets.

**3:34-4:00** **Break; Group #2 Move to Firing Range**

**4:00-5:00** **Subcommittee Meeting Time**

**4:00-5:00** **FBI Firearms Demonstration for Group #2** - Same as above

**5:00-7:00** **Dinner**

**7:00-8:00** **Roundtable: "The World Conference on Injury Control: A Report."**
Becky Block, Moderator.
Discussants: David Cowan, Lynn Jenkins, Jim Mercy, Dawn Castillo, Bob Flewelling, Margo Wilson.
A discussion and report by participants who attended the World Conference on Injury Control, May 20-23, 1993. A sharing of the topics covered and findings presented relevant to homicide research.

**8:00-9:00** **Open Forum: Daily Wrap-Up Session**
Paul Goldstein, Moderator
A chance to come together and discuss the material presented during the day, compare notes or discuss discrepancies, and to ask questions such as "What is the utility of what we have heard today?" and "What are the policy implications of these findings?"

## TUESDAY, JUNE 15

**6:30-7:45 Breakfast**

**7:30-9:00 Registration**

**8:00-10:00 Life Chances of Lethal Events**

Derral Cheatwood, Chair.
Presenters: Lynn Jenkins, Jim Mercy, Lois Fingerhut, Mike Rand, Harold Rose, Margo Wilson.

Despite the fact that homicide is a relatively rare event in the population in general, it is a strikingly common event among select groups. This panel will address a variety of empirical and theoretical issues on the topic of an individual's lifetime chance of becoming a homicide victim or offender, such as:

- Cheatwood: How might the concept of life chances serve as a bridge between aggregate correlations and individual theories of choice?
- Mercy and Fingerhut: Using CDC data, how do we figure life chances for homicide? What data are needed to more accurately compute these chances for specific groups? Which groups are important? And what formula, adjustments, etc., do we need to consider to find more accurate estimates?
- Rand: Annual victimization data provide a means to gauge short term risks of becoming a crime victim. Calculation of lifetime chances of victimization provides another view of victim risk.
- Wilson: Age patterns in homicide perpetration and victimization are highly variable between victim-killer relationship categories and between conflict typologies or motive categories. This point is illustrated with the following: (1) Age curves in same-sex homicides in which killer and victim are unrelated; (2) Uxoricide rates in registered marriages versus de facto marriages; (3) Other femicides; and (4) Filicide victimization rates.
- Jenkins: How do homicide chances vary by occupation? How has this changed over time? How does this compare, or what is its importance, when related to chances for other groupings?
- Rose: What is the distribution of chances (or risk) across place for racial groups? How has this changed over time, and what is the impact of unequal chances for any of a variety of life events on the African-American population?

**10:00-10:15 Break**

**10:15-11:45 Spatial Analysis of Serious Violence and Homicide**

Keith Harries, Chair.
Presenters: Paula McClain, Richard Block, Roland Reboussin, Dennis Roncek.

This session will review the spatial analysis components of several research projects and will include discussion of the role of geographic information systems (GIS) technology in the analysis of violence.

**11:45-12:50 Lunch**

**12:50-1:00** **Announcements** - Roland Reboussin

**1:00-3:00** **"Victim Precipitation in Lethal Events: Theoretical Issues and Social Policy Implications"**

Chris Rasche, Chair.
Presenters: Marvin Wolfgang, Leonard Savitz, Korni Kumar, and Becky Block

- Wolfgang: How is the behavioral science concept of victim precipitation related to the legal concept of provocation? What do we know about the time intervals between an individual being victimized and subsequently causing a crime? How do these findings relate to the legal requirements and case law governing self defense and other defenses?
- Block: How do researchers operationalize concepts such as "victim precipitation"? A brief review of the difficulties in empirically defining and measuring this concept is given.
-Savitz and Kumar: What is the nature of a "homicide contest," which takes place after an "offense" by an actor who subsequently ends up as the victim? A five-stage sequence of events and actions is proposed and tested using Philadelphia police homicide data.
-Rasche: How do findings regarding victim precipitation affect social policy, for example the handling of battered women who kill their abusers? Florida recently implemented a special review process for clemency applications from women in prison for killing alleged abusers, and a brief overview of this social policy and its underlying theory of victim precipitation are presented.

**3:00-3:30** **Break; Participants Move to FBI Forensics Laboratory**

**3:30-4:45** **FBI Forensics Laboratory Tours** - (2 groups of 25 simultaneously)

**4:45-7:00** **Dinner**

**7:00-8:00** **Resource Tutorial: NIJ Data Resources Program and the National Archive of Criminal Justice Data**

Pam Lattimore, Presenting

This tutorial will include descriptions of NIJ program activities, including the grant program to fund secondary analysis, and a review of the benefits of archiving your research data and how to deposit data with a public data archive (it's easier than you think!).

**8:00-9:00** **Open Forum: Daily Wrap-Up Session**

Paul Goldstein, Moderator

Another end-of-the-day chance to come together and openly discuss the material presented, compare notes or debate discrepancies, and ask about the utility or policy implications of what we've learned.

## WEDNESDAY, JUNE 16

**6:30-7:45** **Breakfast**

**8:00-9:30** **Data for What?**

Becky Block, Chair.

Presenters: Robert L. Flewelling, Chris L. Ringwalt, Lin Huff-Corzine, Jay Corzine, Ron Moser.

Session on data-based violence intervention projects, including:

- Flewelling: "Supporting Adolescents with Guidance and Employment (SAGE): Theory, Programmatic Approach and Evaluation Design."
  SAGE is a multi-faceted and community-based youth violence prevention project being implemented in Durham, NC, and is one of three five-year programs funded nationally to target youth violence.
- Corzine and Corzine: "Lethal Violence: Current Datasets and Future Needs"
  Homicide and suicide may result from the same, or similar, social forces. Testing hypotheses derived from this theory requires combining data from the U.S. Bureau of the Census and the National Center for Health Statistics (NCHS).
- Moser: "Peoria Critical Incident Zones Project: Designated Patrols to Reduce Lethal Street Violence"
  The purpose of this project is to examine the geographical areas where lethal street violence occurs in Peoria, Illinois, and to take measures to reduce it.

**9:30-9:45** **Break**

**9:45-10:45** **The Violent Criminal Apprehension Program (VICAP)**

Presenter: Eric Witzig

The FBI developed VICAP to assist local law enforcement in the tracking and apprehension of violent criminal offenders. This presentation provides a detailed overview of the project and its benefits, and a discussion of the implementation obstacles.

**10:45-11:45** **Subcommittee Meeting Time**

**11:45-12:50** **Lunch**

**12:50-1:00** **Announcements** - Roland Reboussin

**1:00-2:00** **Discussion Session: Linking Public Health and Public Safety Data**

Mike Rand, Discussion Leader.

This open session will involve an inventory of studies linking public health and public safety data, such as Rand's Homicide Caseflow Study and others. Discussion will focus on identifying obstacles and benefits to such data linking, and how to overcome such obstacles and maximize the benefits.

**2:00-3:00** **Data Sources and Data Linking: Part III**

Abraham Tennenbaum, Chair.

- National Institute of Occupational Safety and Health
  Presenters: Lynn Jenkins and Dawn Castillo.

The National Traumatic Occupational Fatalities (NTOF) surveillance system was developed to identify the magnitude of occupational injury deaths, and the distribution of these deaths by cause and worker groups.

- Uniform Crime Reports Supplemental Homicide Reports
  Presenters: Abraham Tennenbaum, Vickie Brewer, Margo Wilson.
  Several researchers detail their experiences working with the FBI's UCR Supplemental Homicide Reports.

**3:00-3:15 Break**

**3:15-4:15 How to Manage Large Hierarchical Databases for Easy and Efficient Access to Incident, Victim and Offender Information.**
John Jarvis, Chair.
Presenters: John Dawson, Orest Fedorowycz, Becky Block.
These presentations will outline some of the difficulties and innovative solutions that apply to the collection, analysis and management of large criminal justice databases. Suggestions such as hierarchical files, relational databases, and structured query languages, and their integration into common statistical software packages, will also be discussed.

**4:15-5:30 HOMICIDE RESEARCH WORKING GROUP BUSINESS MEETING: Part II**
Richard Block and Becky Block, Presiding

**5:30-7:30 Picnic Dinner!**

**7:30-9:00 Final Forum: Daily Wrap-Up Session**
Chris Rasche, Moderator
Our last end-of-the-day chance to come together and discuss the material presented, compare notes or discuss discrepancies, and ask about the utility or policy implications of what we have heard.

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## THURSDAY MORNING, JUNE 17

**6:30-7:45 Breakfast**
**(Participants staying in the dorm must be checked out of their rooms by 8:00 am)**

**8:15-8:30 Announcements** - Roland Reboussin

**8:30-11:30 "Serial Murder: The FBI Profiling Program."**
Presenter: Greg McCrary
The FBI has developed several profiling projects to assist local law enforcement departments in detecting and apprehending offenders in specific criminal behaviors. Serial murder is one of these, and this session provides an detailed overview of the project and its results to date.

**12:00 Lunch and/or Departure**

# APPENDIX II

## PARTICIPANTS IN THE QUANTICO MEETING OF THE HOMICIDE RESEARCH WORKING GROUP, JUNE 1993

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# APPENDIX III

# SO WHAT DO HOMICIDE RESEARCHERS TALK ABOUT ANYWAY?: TOPICS OF DISCUSSION AT THE QUANTICO MEETING

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The presentations at the Quantico meeting sparked lively discussions on several issues central to the study of homicide and non-lethal violence. As in previous conferences, the strengths and weaknesses of the broad-based databases commonly used by violence researchers captured much of our attention. Considerable emphasis was placed upon the advantages and the difficulties of linking datasets from different components of the criminal justice system and, in particular, utilizing public health and public safety data to promote a better understanding of violence. Discussions revolved around the technical difficulties of forging such links, but concerns regarding the implications for confidentiality protection were expressed as well.

The keynote panel comparing public health and criminal justice approaches to violence research generated discussion throughout the course of the conference. Participants noted that the particular sensitivity of the public health approach to victimization and prevention issues has been a major contribution (to say nothing of those nifty blue presentation slides so adored by epidemiologists!), but others argued that the "victim versus offender" dichotomy is a "false trail," since in many violent interactions the two may be difficult to distinguish. They also noted the historical foundation of such concerns in criminology, and voiced skepticism about wheel reinvention. The notion that the involvement of public health experts could promote less political decision-making in policy development was intriguing, as was the prospect of new methodological strategies that might be applied to violence research. On the other hand, there was little optimism that epidemiology would advance the theoretical or conceptual underpinnings of violence studies.

Panel members suggested several areas in which collaborative approaches to violence might benefit both perspectives:

- Surveillance (routine collection of data to monitor violence problems)
- Evaluation research (particularly experimental methods)
- Developing and monitoring violence interventions at the community level
- Firearms research; developing more effective firearms policies and interventions

The lively discussion of "who is the victim and who is the offender" was continued in the panel on victim precipitation and over several meals, culminating in the formation of a Victim Precipitation Study Group. Participants agreed that justifiable homicide, as a legal construct, should be separated from the definition (and measurement) of victim-precipitated violence. A pervasive concept, victim precipitation has proved difficult to operationalize and to measure systematically. We lack consensus regarding the core elements of victim precipitation. Does it include high risk behavior on the part of a potential victim, for example? Participants agreed that at least two elements are important: provocation (severe or repetitive) and limited escape

options. The measurement difficulties have not prevented the use of victim precipitation in formulating social policy, as demonstrated by the clemency movement for imprisoned battered women who killed their abusers. The Study Group will continue to meet on an informal basis, and will discuss the possibility of a collaborative study of victim precipitation across a variety of datasets.

Risk of violent victimization represented the focus of the panel on Life Chances of Lethal Events. A recurrent theme throughout the meeting was the need to disaggregate data to uncover differential patterns of risk by age, ethnicity, gender, marital status and location. In particular, incident *location* as a factor in homicide was addressed in various contexts, including presentations of recent data on workplace homicide, analyses of homicide rates by Census tract and by city, and descriptions of the use of cartographic techniques to support decisions about patrol deployment and to predict rape reoffending. These presentations spurred discussion regarding high-risk areas and explanations for pattern shifts over time and place. Participants both challenged and defended the relevance of high-tech mapping equipment for addressing law enforcement objectives.

The effective communication of risk information to the public was recognized as critical to the development of more accurate public perceptions about violence. This could foster the development of better public policy as well as more informed individual decision-making to reduce high-risk behaviors. Several violence prevention strategies were identified as "promising." Targeting public perceptions of violence (for example, fear of crime precipitating gun ownership), promoting non-violent conflict resolution skills among offenders (for example, gang truces), and diminishing the rhetoric reflected in the public (particularly, the media) discourse on violence were offered as positive moves toward violence reduction.

# APPENDIX IV

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