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Epidemiologic study of domestic homicides involving firearms in Ohio

Holtzhauer, Francis John, Ph.D.
The Ohio State University, 1989

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EPIDEMIOLOGIC STUDY OF DOMESTIC HOMICIDES INVOLVING FIREARMS IN OHIO

DISSERTATION

Presented in Partial Fulfillment of the Requirements for the Degree Doctor of Philosophy in the Graduate School of The Ohio State University

By

Francis John Holtzhauer, B.S., M.S.

*****

The Ohio State University
1989

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[Signature]
TO MY FAMILY
ACKNOWLEDGEMENTS

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CHAPTER I
INTRODUCTION

Nature of the Problem

Throughout history, the two leading causes of premature death have been infectious disease and injury. Violence, or intentional injuries, make up a significant proportion of all injuries. We have been successful in decreasing the incidence of infectious disease. The abatement of violence, however, has defied some of our most assiduous efforts. Recently, preventing violence, specifically homicide, has emerged as one of the most challenging public health problems in the United States.

Violence, or intentional injuries, comprise a continuum of behaviors and outcomes that range from mild physical and emotional abuse to murder. Each year, about 20,000 homicides occur in the United States. The majority happen between spouses, relatives or friends. This type of homicide is referred to here as domestic homicide. On the average, about 60 percent of these homicides are committed with firearms.
Homicide ranks twelfth as a cause of death in this country, but is a leading cause of death in some segments of the population. Following all unintentional injuries, malignant neoplasms, diseases of the heart, and suicide, homicide is ranked fifth when computing years of potential life lost. The groups most affected are the young, males and racial minorities, particularly blacks. Homicide is a major cause of severe social, economic, emotional, and physical disruption in our society.

The economic impact of homicide is staggering. In 1970, the National Center for Health Statistics estimated the cost per homicide to be $100,000, or almost 17 billion dollars in that year. (1) More recently, it has been estimated that interpersonal violence results in 350,000 hospitalizations per year in the US and 1.5 million hospital days. (2) A recent study in San Francisco found that 85.6 percent of hospital costs secondary to firearms injuries were paid with public dollars. (3)

The United States has the most heavily armed civilian population in the world, with more than 200 million firearms in circulation. There is a firearm in every other home in this country and about seven percent of the population admits to at least occasionally carrying a concealed firearm. With this in mind, few are surprised that the
homicide rate in the United States is about ten times that of other economically advanced countries.

The most prestigious law enforcement agency in the country, the FBI, feels that the prevention of violence is a national social problem beyond the capacity of the police. (4) However, most members of society feel that the prevention of violence is a law enforcement problem.

Our priorities as a society and a nation appear to be reversed. At the expense of measures aimed at preventing homicide and other violent behavior, we concentrate our resources and efforts in enforcement, long court trials, prisons, and rehabilitation.

Rationale for the Research

With a few exceptions such as gender, age and race, there is little in the literature that gives firm data about the predictors and risk factors for homicide. There are complex social, cultural, situational and demographic factors at work in the matrix of interactions that precede a homicide.

Many homicides and serious assaults result from simple arguments that should have ended in bruised egos or, at
worst, a few physical bruises and cuts. The involvement of firearms in violent behavior might seem like a simple matter to remedy. However, the nature and history of firearms in our culture make change in this area very difficult. The possession of firearms is a very emotional topic in our society. Therefore, facts are needed to guide decision makers and to remove as much of the emotion from the issue as possible.

The problem(s), well stated with logical alternatives, may lead to changes that can be tried and evaluated. An understanding is required of the real world constraints that policy makers must deal with. Options for change need to be proposed to the public officials with responsibility in this matter, backed by solid data and analyses.

Violence, homicide, and firearms are, and will continue to be, a part of our society. We must determine what factors can be modified or eliminated to reduce the number and severity of intentional injuries.

Domestic homicides committed with firearms were chosen for study because of the following: 1) Domestic homicides are among the more common types of homicide. If behavioral factors or environmental conditions can be identified for change, these homicides may be more amenable to prevention
efforts than other types of homicide that are often secondary to other crimes. 2) There is a high degree of involvement of firearms in domestic homicides. Risk factors for their use need to be identified. 3) The epidemiologic method has not been well demonstrated as a useful tool for the study of intentional injuries and the study of domestic homicide may provide an opportunity for such demonstration.

Methods of Investigation

Even though homicide is a serious public health problem in this country, its occurrence is still a relatively rare event. The homicide rate for 1986 was 8.6/100,000 in the United States according to the Federal Bureau of Investigation's Uniform Crime Reports. To study a large group of individuals prospectively would be very difficult without a huge expenditure of resources and time. A retrospective or case-control study design would be best suited to study domestic homicide involving firearms. The present study was designed to compare cases (offenders) with controls (neighbors) matched for age, gender and presence of firearms.
CHAPTER II
LITERATURE REVIEW

Aggression

It is appropriate to begin the literature review of domestic homicide by summarizing some of the important points made by Konrad Lorenz in his book titled On Aggression. Lorenz describes aggression as the "fighting instinct in beast and man which is directed against members of the same species." Lorenz indicates that the instinctive and culturally acquired patterns of behavior which make up the social life of man are among the most complicated on earth. According to Lorenz, the most important function of intra-species aggression is the even distribution of the animals of a particular species over an inhabitable area. This may be thought of as crowding in the context of this paper.

Lorenz feels the aggression of so many animals toward members of their own species is in no way detrimental to the species, but on the contrary, is essential for its preservation. "However this must not raise false hopes for the present situation of mankind." Innate behavioral
mechanisms can be thrown completely out of balance by small, apparently insignificant changes of environmental conditions. Inability to adapt quickly to such changes may bring about the destruction of the species. Firearms are an environmental condition to which we as a species have not been able to readily adapt.

It almost seems that Lorenz had domestic homicide in mind when he wrote the following over 25 years ago. "Knowledge of the fact that the aggression drive is a true, primarily species-preserving instinct enables us to recognize its full danger; it is the spontaneity of the instinct that makes it so dangerous." He describes a paradox when he states "in the most intimate bonds between living creatures, there is a certain amount of aggression." (5)

Even in the highest state of aggression, Lorenz does not feel that the usual desired endpoint is the killing of the other person. He states "the satisfying experience consists, in such cases, in administering a good beating, but certainly not in shooting or disemboweling; and a desired objective is not that my opponent should lie dead, but that he should be soundly thrashed and humbly accept my physical... and mental superiority... However, it must be admitted that a slight deviation from nature, a coincidence that put a knife into one's hand at the critical moment,
might turn an intended thrashing into manslaughter." (5)

Intra-species aggression is causing severe problems for modern man. We have advanced so far so fast that we have introduced many hostile powers, such as firearms, into our environment. In human evolution, no inhibiting mechanisms for the prevention of sudden manslaughter were necessary, because quick killing was very difficult. The potential victim had plenty of opportunity to elicit the pity of the aggressor by submission or appeasing attitudes. Lorenz states "no selection pressure arose in the prehistory of mankind to breed inhibitory mechanisms preventing the killing of conspecifics until, all of a sudden, the invention of artificial weapons upset the equilibrium of killing potential and social inhibitions." (5)

Violence In America: The Big Picture

A brief review of the final report of the National Commission on the Causes and Prevention of Violence titled To Establish Justice, To Insure Domestic Tranquility will provide a historical perspective of violence in America. (6) The report concludes that America has always been a relatively violent nation.

Rapid social change in America has produced violence in varying patterns of motivation, aggression, and victimiza-
tion. It has gone up and down with the social tides. First, this nation was one of immigrants, with the Anglo-Saxons effectively controlling the crucial factors of economic and political power in government, commerce and the professions. This group has inhibited with some success the upward strivings of other ethnic groups.

Secondly, of note, is the long historical experience that America had with the frontier. This process strengthened the self-sufficiency of the American character, but it also witnessed the brutalization of the Indians and the Mexicans. Due to the lack of law enforcement agencies, vigilante justice was common and accepted.

Third, the Commission states "the revolutionary doctrine that our Declaration of Independence proudly proclaims is mistakenly cited as a model for legitimate violence by contemporary groups such as militant Negroes and radical students who confront a system of both public and private government that they regard as contemptuous of their consent." (6)

The fourth historic legacy is cited as our consensual political philosophy of "Lockean-Jeffersonian liberalism." This philosophy is based upon the premise of pervasive fear of governmental power and has reinforced the tendency to
define freedom negatively as freedom from. As a consequence, conservatives have been able to paradoxically invoke the doctrines of Jefferson in resistance to legislative reforms.

The Industrial Revolution resulted in a massive internal migration from rural areas to the city. This process occurred very rapidly, leading to a system of inadequate police control relative to the rapid influx of urban dwellers. The police forces that we know today are a relatively recent phenomenon of this century.

Another distinctive characteristic of our nation's history of violence has been our unmatched prosperity. The quest for property has generated an insistence on equality of opportunity to possess more and more of everything. In our society of individuals with unequal talents and groups with unequal advantages, this has resulted in an unequal distribution of desired possessions.

The Committee concluded

"Violence has usually been the lava flowing from the top of the volcano fed by deeper fires of social dislocation and injustice; it has not been stopped solely by capping the top, but has usually subsided when our political and social institutions have managed to make the adjustments necessary to cool the fires below. If the future
is to be more just, less violent, less crime-ridden, and free of fear, we obviously must do much better than we are now doing to speed social reform and simultaneously improve the effectiveness of the entire law enforcement system of the nation. Only in an orderly society can we achieve the advances which militants and moderates alike know are required." (6)

In addition to the historical perspective of violence outlined above we must review the ideas of a few other authors to appreciate the overall problems we face in dealing with the prevention of violent behavior.

Shaw feels that violence encompasses an entire spectrum of behavior from verstummung, the German term for ill-humored mood state, to shooting the Pope or President. (7) Brown feels that violence frequently emerges out of a personal sense of weakness and that people in violent relationships often have a very low sense of self esteem. (8) Many experts agree that people resort to violence because it offers them some effective control of the situation in the short term. However, violence does not emerge out of a void. It is usually considered a learned behavior.

Megargee feels that a person who has been reinforced for engaging in moderately aggressive behavior would be more likely to commit a violent act than someone who had not
experienced such reinforcement. (9) The Christian ethic that most of us are familiar with is to "turn the other cheek." However, most parents want their children to be able to "handle themselves." Therefore, most parents would rather have a son who is a little rough at times than one who is a "wimp." Megargee feels that in the poverty culture of this country, children learn that it is better to "grab while the grabbing is good." They also learn that reason has never won a street fight, or enabled them to get a bigger share of the food, nor served to keep their parents from beating them when the parents are drunk.

Wolfgang states "When war is glorified in a nation's history and included as part of a child's education, a moral judgment about the legitimacy of violence is made. When front line instruments of war become part of the physical features of a child's life space, when cannons, rifles, and grenades are moved from the real battlefield to the mind of a child and the plastic world of his playroom . . . then some set of values associated with the legitimacy and recognition of the superiority of violence is transmitted." (10)

What we know about America is that there is much violence all around us, on the streets and in our homes. For every one of the 834,322 assaults that were reported to the
FBI in 1986, (4) there were an estimated 60-100 that were not reported. (11,12)

**Violence In The Home**

Violence in the home is usually referred to as domestic violence. As used in this paper, domestic violence refers to violent acts committed between spouses, relatives and friends, but not mere acquaintances.

According to Hotaling and Strauss, families are sometimes analogous to hospital "nosocomial infections." Families are supposed to be built on concern, integration and harmony but may resort to conflict and violence. The very features of family life that contribute to intimacy also facilitate high degrees of violence among family members. (13) Strauss states "Except in times of war the American home is the most violent institution." (14)

There are also different rules that apply to family life in our society. You are prohibited from hitting a person at work or in a store no matter what they do to you; however, it is different in the family setting. If someone does something wrong and will not listen to reason, violence is permissible and sometimes considered necessary for the
situation. (15) Domestic disturbances are part of daily living that most people take for granted. (16)

The true incidence and prevalence of domestic violence are hard to come by. Much of the violence that occurs in the home is not reported. While there are 50 states that require the reporting of violence to children, there were only 12 states that required such reporting for adults, as of a few years ago. (17) Police spend a considerable amount of time responding to domestic violence calls. Most police departments continue to report these incidents as domestic disturbances rather than the assaults that they are. Except for domestic homicide, violence between family members is rarely viewed as criminal. (18)

Estimates of the number of households where domestic violence occurs in the United States range from a low of 50 to a high of 70 percent. (19,20,21) In a survey of patients at a large city hospital, 22 percent reported that they were in the emergency room because of a domestic violence incident. (22)

Several national surveys indicate there is a general acceptance of violent behavior in the American home. One survey found that four out of five men felt that it was appropriate to slap your spouse in certain circumstances.
(23) In another more recent survey 25 percent of married couples said that it was sometimes acceptable to hit your spouse. (15) In a national survey of 2,143 families, respondants in one out of six households said that one spouse struck the other within the past year. Within the same year 60 percent of the parents had hit their children and 60 percent reported sibling violence. Over 50 percent of the households in America are witness to some form of assault in any given year. (14)

From police records in Columbus, Ohio, we learn there were 39,730 police requests to intervene in domestic violence situations in 1985. (24) Kates notes that in 85 percent of domestic murders, police were called to the same residence at least once in the past to halt an altercation. (25) Most domestic homicides occur in the home of either the victim or the offender and not in a bar or out on the street. (26)

As Strauss et al. have noted "the marriage license is a hitting license for much of the population." (14) Much, if not all violent behavior is learned behavior. Most of this occurs during childhood. Children of non-violent parents also tend to be non-violent in sibling interactions and later in life with their spouses and children. "Non-violence like violence begins at home." (14)
Homicide: Information Available

There are several definitions of homicide, but the preferred one is as follows: causing the death of another person without justification or excuse. (4, 27) This is the definition used by the Federal Bureau of Investigation and the US Bureau of Justice Statistics to collect, tabulate and report all homicides in the United States. In Ohio, and for this study, homicide encompasses the following common subcategories defined by the noted sections of the Ohio Revised Code (ORC).

- Aggravated murder (ORC 2903.01 A) No person shall purposely, and with prior calculation and design, cause the death of another.

- Murder (ORC 2903.02 A) No person shall purposely cause the death of another.

- Voluntary manslaughter (ORC 2903.03 A) No person, while under extreme emotional stress brought on by serious provocation reasonably sufficient to incite him into using deadly force, shall knowingly cause the death of another.

- Involuntary manslaughter (ORC 2903.04 A) No person shall cause the death of another as a proximate result of the offender's committing or attempting to commit a felony.

- Negligent homicide (ORC 2903.05 A) No person shall negligently cause the death of another by means of a deadly weapon or dangerous ordinance as defined in section 2923.11
of the Revised Code.

There is also an array of vehicular homicide categories. However, only homicides caused by firearms were included in this study.

Involuntary manslaughter (noted above) has been noted in the literature as a secondary homicide (28), that is, homicide committed secondary to another crime. Only primary homicides, those listed above, except involuntary manslaughter, were used in this study.

For this paper a domestic homicide is defined as the killing of another person that is one's spouse, relative or friend either in or around the victim's or offender's residence. In or around the residence was defined as the yard, adjoining parking lots, alleys or streets.

International Comparisons

The United States has had the unenviable reputation of having the highest homicide rates of the major industrialized nations of the world. The following data are the homicide rates per 100,000 population for the year 1970.
AUSTRALIA 1.5  
CANADA 2.0  
DENMARK 0.7  
ENGLAND 0.7  
FRANCE 0.7  
WEST GERMANY 1.4  
ISRAEL 0.6  
SWITZERLAND 0.7  
UNITED STATES 8.3  

The above data were supplied by Allen. (1)

One must use some caution in making international comparisons of homicide data. One should consider the collection of the data, cultural differences and crime factors among others before inferring that such things as gun control account for the observed differences. (25,29,30-33).

Homicide Trend Data

The homicide rates in the United States have varied considerably over the past fifty years. The average rates per 100,000 population for the United States are shown below. (25)

Approximate Average U.S. Homicide Rates per 100,000

<table>
<thead>
<tr>
<th>Decade</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1930's</td>
<td>10</td>
</tr>
<tr>
<td>1940's</td>
<td>6</td>
</tr>
<tr>
<td>1953-63</td>
<td>5</td>
</tr>
<tr>
<td>1965-75</td>
<td>10</td>
</tr>
<tr>
<td>1980's</td>
<td>9.5</td>
</tr>
</tbody>
</table>
The most recent data available in the US are for 1986 when a rate of 8.6 was reported by the FBI, or roughly one homicide every 25 minutes in that year. The data for Ohio closely parallel the national data. Homicide data is considered to be the best reported and tabulated of all crime data in this country. (34) That is why one can state with reasonable certainty there have been over 800,000 firearms related homicides in this century alone. (35)

Demographic and Years of Potential Life Lost Data

Data collected on homicide is the most complete crime data available. Therefore, much can be said about the demographic attributes of the victim and to a lesser extent the offender. There are differences between the two data sets and one should always be certain whether they are reviewing victim or offender data. (36) The following data will be for victims unless stated otherwise.

Victim Age

Age-specific rates peak during the years between 25 and 34. Constantino found that the ages of both victims and offenders closely paralleled each other in most studies. (37) Rates in the highest risk groups are sometimes more than double the entire group average. The data are even more interesting when stratified on race and sex. The impact of age and race can be seen in Tables 35 and 36.
located in the Appendix C.

Victim Race

In most homicides (greater than 90 percent) the victim and the offender are of the same race. As would be expected, this is especially true of domestic homicides. (37) When adjusting for age, it is apparent that blacks are much more likely to end up as victims of a homicide. As seen in Table 36 in Appendix C, homicide is the leading cause of death in young blacks. (38,39) Adjusting for age, blacks are 5.6 times as likely to be homicide victims than are whites.

Wolfgang noted in 1958 "Whatever the causal explanation may be - social, psychological, biological - it is an incontrovertible fact that Negroes contribute disproportionately to criminal homicides." (36) He later wrote with Ferracuti in 1982 "that whenever a culture is racially heterogeneous, with a minority that is subservient, suppressed etc., the minority is likely to be viewed as socially inferior and to have a high proportion of its members in the lowest socioeconomic class." (40) Rose noted there is no other cause of death in the US that differs so intensely, on the basis of race, as does homicide. His data indicate that, in 1979, that blacks were 8.9 times more likely to die an early death than whites. This was
far higher than the disparity for hypertension, infant mortality and nutritional deficiencies. (41) Blacks are also more likely to be killed by a family member than whites. (42)

Victim Sex

As victims and offenders tend to be the same by race and by age so to are they similar by sex. Males tend to kill males and females kill females. (37) Age-adjusted death rates indicate that males are 3.6 times as likely to be the homicide victims. (39) Wolfgang and Ferracuti state "In general a review of the literature from many societies indicates that youthful males exhibit the highest association with violent crime and that physically aggressive behavior for their group converges with notions about the masculine ideal." (40) Daniel and Holcomb found that when comparing domestic and non-domestic homicide victims, the domestic homicide had 70 percent females as victims while the non-domestic homicides had 70 percent males as victims. (26)

Data collected by the National Institute of Justice (Table 37, Appendix C) indicates that males are more likely to be victims in domestic homicide. The differences between national data and the data collected by Daniel and Holcomb may be due in part to the fact that they used data
on child victims, while the national data are for adults only. Also Daniel and Holcomb gathered their data only from the medical forensic prison population of the state of Missouri.

Table 37 in Appendix C gives information on the sex of the victim as collected by the National Institute of Justice. Table 38 in Appendix C presents data on age, sex, race and ethnic origin of victims of homicide for 1986.

Offender Age
As noted previously, the age of offenders closely parallels that of the victims. The most recent data available is provided by the National Institute of Justice (see Table 39 in Appendix C).

Offender Race
Blacks make up a disproportionate percentage of homicide offenders. However, the data provided by the National Institute of Justice indicate that the percentage of blacks among all homicide offenders may be decreasing (Table 40 in Appendix C).

Several researchers have investigated the issue of socioeconomic status as a strong confounder for racial differences. When controlling for socioeconomic status
they have partially or totally eliminated differences that were previously often associated with race and homicide. (33,59,61)

**Offender Sex**

Males make up at least 83 percent of homicide offenders nationwide (Table 41 in Appendix C). Males are most likely to be the offenders in both stranger and domestic homicides (Table 42 in Appendix C).

**Years of Potential Life Lost**

Years of Potential Life Lost (YPLL) is a relatively recent measure of the impact of mortality. It is used to measure the impact of an early death on society from a particular disease or condition. For this paper, YPLL is defined as the number of years of potential life lost by each death occurring before an endpoint of 65 years of age.

Homicide is the twelfth leading cause of death in the United States in absolute numbers but is fifth when measured in YPLL, preceded only by accidents, cancer, heart disease and suicide. Homicide victims are disproportionately represented by young people, males and racial minorities.
The average age at death from homicide has decreased from 34 years in 1968 to 32 years in 1985. This has increased the YPLL due to homicide. Since 1978, the homicide rate for young, black, males has actually decreased by 13 percent. However, the rate of YPLL lost among the black population is still more than six times greater than for whites (Table 43 in Appendix C).

Selected Risk Factors Or Associations

Relationship: Victim / Offender

Data provided to the FBI for 1986 indicate that only 32.2 percent of all homicides occurred between strangers. (4) There is not much good information available on the relationships of the offender and the victim. Even as recently as 1982 Blackman wrote of the need for more situation specific information. (29) National data indicates that more than 50 percent of all homicides occur between family or friends. (4) However, such data are often faulty due to lack of proper recording and reporting, and unknown offenders.

Circumstances and Situations

Most homicides are not premeditated. According to the FBI most homicides result from arguments about money or romance. Cook feels most homicides result from alterca-
tions that rarely involve much thought. "The assailants mental state is characterized by an impulse to punish, avenge an insult, stop a verbal or physical attack." (43) Messner and Tardif state that sociodemographic characteristics, temporal factors and relationships can predict risk. They place an emphasis on routine activities and the importance to which these activities are concentrated around the house. Thus, the more time spent at home the more likely the chance of domestic homicide. (42)

Alcohol

There is a fair amount of information available on the involvement of alcohol in assaults and homicides. Many investigators have found a positive relationship between alcohol and violence. In studies where the involvement of alcohol was specifically looked for, it was found in from 32-62 percent of the victims. Most available data is for the victim, as the offender is many times not immediately available for testing. (7,21,26,34,37,44-55) Most do not feel that alcohol caused the incident as much as the influence of alcohol lowered the rational thought processes, or the inhibitions to violence. Shaw describes alcohol as the "lubricator of violence." (7)

Other Drugs

Less is known about the usage history and presence in
the body of drugs other than alcohol in homicide victims and offenders. It is apparent that homicides secondary to drug transactions are increasing. (52) However, drugs are not present in nearly the percent of victims as is alcohol. The level of drug ingestion by victims and offenders differs significantly by city. The National Institute of Justice found that drugs were present in the systems of victims at levels of 18.5 percent in Oakland to as low as 1.9 percent in Memphis. (54) The drug of choice of homicide victims is changing rapidly, at least in some parts of the country. Lowry found a rapid shift from injectable drugs to more crack and pills in homicide victims in New Orleans. He also noted that drug use in black victims was 22.5 percent compared to 6.3 percent in whites. (55)

Socioeconomic Status

Low socioeconomic status has been mentioned by some investigators as a potential risk factor or associated condition in homicide. Several ecologic studies have found an increased relationship between low socioeconomic status and homicide. (10,37,40,42,48,55-59) Goode feels that lower socioeconomic families have fewer alternative resources of any kind that will help them to redress the "balance of exchange" with family and friends. They have fewer alternative sources of pleasure and contentment. These families have less prestige, money and power and,
consequently, have greater frustration and bitterness. They also have less ability in talking out difficulties or problems. Goode goes on to note that the significant class and ethnic differences in society lead to a greater reliance on violence to solve problems. (60)

**Education**

The education level attained by a person is highly correlated with their socioeconomic status. Most studies have not been able to separate the independent effects of education and socioeconomic status. Rossi states "the less educated view violent crime against persons less seriously. Educational attainment fosters a more accurate cognition of the normative structure of society." (62) It is not clear whether Rossi was able to separate a person's socioeconomic status and other important components of self from his statements on education and violence.

**Biologic Causes**

Some differences of opinion exist about whether and to what extent biologic determinants affect the propensity to become involved in violent behavior. Some investigators cite evidence indicating that many sociopaths and persons with explosive personalities suffer from either physical or neuropsychiatric disorders. These disorders prevent them from giving appropriate responses to environmental stimuli.
or stress. (63) Shaw believes that personality is largely genetically determined. (7) Revitch and Schlesinger feel that head trauma, especially to the temporal lobe, may cause aggressive outbursts; however, these occurrences are rare. (44)

Mednick believes that male aggressiveness is present in children before social learning can explain it. It is likely that greater aggressiveness in males is related to increased levels of male sex hormone. (64) However, Toby feels that information from the fields of cultural anthropology indicate that the biologic differences between males and females are not likely to account for the increase in male violence. He cites a few cultures where females are more violent. (65) Wolfgang and Feracutti in their review of the literature find no biologic evidence for any spontaneous stimuli for fighting within the body of a normal organism. (40) There may not be any sound evidence that indicates a biologic cause for violence in the normal individual, but questions arise about the definition of normal.

Mednick cites three different studies that show that about 50 percent of convicted murderers have abnormal EEG readings after conviction. This is compared to findings of abnormal EEG readings between 5-20 percent in the normal
population. What caused the abnormal readings was not completely answered. (64) A review of the literature did not shed much light on the relationship between biologic causes and violent behavior.

Crowding

As noted above, Lorenz believes there may be some plausible correlation between crowding and violent behavior. He essentially said that reduced distances for flight result in an increase in probabilities for fighting. (5) Several investigators have found an association between household crowding and violent behavior. (48, 61, 66) These were all ecologic studies and more specific work needs to be done in this area.

Childhood Experiences

Some investigators have proposed that violent experiences of childhood have a negative effect on the person as an adult. Strauss et al. in their review of the literature found that most violent adults had experienced extreme violence between the ages of 1-10. (14) Not all investigators in this field believe that exposure to violence in childhood explains adult violence. They feel that behavioral problems in childhood may predispose to violence in adulthood. Daniel and Holcomb found that many domestic homicide offenders had a history of behavioral problems in
childhood. It is not clear whether the child was also exposed to severe violent experiences in addition to the behavioral problems, or whether one usually preceded the other. (26)

Much has been written recently about the exposure of children to violence in the media. There are many that are concerned about the possible adverse affects of what an over-exposure to violence might do to the developing child. Many in the media field are giving this consideration, but most feel that not enough has been done to reduce exposure to violence.

Networks argue that television has sufficient power to alter viewer behavior to justify charging millions for brief commercial messages while maintaining that the dramatic content of the broadcasts have no effect on behavior. (9) The emphasis of television may not be focused as much on convincing a viewer to buy a type of product as much as it is to get the viewer to buy a particular brand, once the viewer decides that they need the product. Similarly, television may or may not influence a person to commit an assaultive act as much as television may have subconsciously encouraged the use of a gun or other weapon once an assault is underway. The use of guns on television is not realistically portrayed. The viewer can not experience the
real destructive power of a firearm from television.

Lefkowitz et al. state that influences of aggression include situations where status is gained by winning fights. Therefore, individuals that win fights are the prestigious role models. Symbolic modeling occurs largely through pictures and words provided by the mass media. Limitless opportunities exist for children and adults to view countless acts of violence and aggression. (67) Smith noted that by age 16 the average person in the US will have seen 18,000 murders on television. (68)

The Attorney General's Task Force on Family Violence concluded "The evidence is overwhelming that just as witnessing violence in the house may contribute to normal adults and children learning and acting out violent behavior, violence on television and in the movies may lead to the same result." (69)

Weapons

Much has been written about the weapons used to commit homicide and other violent acts. Firearms are by far the most used weapon in homicides in this country. The involvement of firearms in homicide is so significant and so controversial that a following sub-chapter is devoted to the topic. Other weapons and related topic areas are
important to the overall discussion and therefore will be addressed at this point.

The choice of weapons to commit homicide differs by age, race and sex. Tables 44 and 45 as well as Figure 1 (all in Appendix C) reveal some of these differences.

Several authors have written about the increase in serious injury and death when lethal weapons such as knives and firearms are used relative to fists and ball bats. They have also stated that most assaults would not end in death if lethal weapons were not available.

Zimring feels that most assaults are unplanned and are not intended to kill the victim. Zimring found only one wound in 62 percent of fatal attacks and 72 percent of non-fatal attacks. He noted that it was unusual for the offender to administer the coup de grace to a fallen victim. (70) Wolfgang noted "A planned murder will usually involve a weapon that performs the task quickly and efficiently. During drunken brawls and the white heat of passion, the offender uses whatever weapon is handy." (36)

It appears from the literature that many assaults are unplanned. They end in serious injury or death more often when lethal weapons are available. Allen was theoretically
correct when she noted "the most easily manipulated variable in the homicide process is the availability of the weapon." (1)

**Firearms: History and Contribution to Homicide**

Many investigators consider firearms to be the leading cause or risk factor in the high level of homicides in the United States. Without the ready access to firearms that Americans enjoy, many argue there possibly would be as many assaults but far fewer deaths.

There is little middle ground in the discussions of the contribution of firearms to the high rate of homicides in this country. The possession, control and distribution of guns in society is a very emotional issue. Generally the discussion involves polar extremes such as the National Rifle Association (NRA) and the Committee To Ban Handguns.

**History of Guns in American Society**

For many years the armed citizen was the first line of defense in this country. The American frontier experience lasted for many generations and the firearm was an important part of that era. Guns provided for the defense of the home and were needed to put food on the table. Newton and Zimring note that although these reasons are no longer
valid, we own firearms to a degree that puzzles many ob-
servers. Some of this is from the pleasure derived from
hunting, sport shooting, and gun collecting. We also own
guns out of fear of others with guns. (71) Some of the
continuing infatuation with firearms is fostered by the
glamorization of western gunmen, private detectives, mili-
tary heroes, and police shows. (72)

The Power Of Firearms

Even in the hands of a weak and unskilled person, a gun
can be used to kill. Cook notes "The killing can be accom-
plished from a distance without much risk of effective
counterattack by the victim, and the killing can be com-
pleted quickly, without sustained effort, and in a rela-
tively 'impersonal' fashion." (73) Pasternack adds "... no
body contact, little time to reconsider, no time for
tears and little time for mercy." (35)

Number of Guns Available in America

America is a country that counts and records just about
everything. However, we do not know how many firearms
there are in civilian possession. Several surveys indicate
there are approximately 180-200 million firearms in this
country with approximately 55-60 million of them being
handguns. It is also estimated there are between 50-60
million gun owners in the United States. This translates
to at least one gun in every other home in the country. It is estimated there are over 7.1 million guns owned by Ohioans, where there is a population of approximately 10.7 million. (31,32,34,74-77)

There are a few predictors of gun ownership that have been identified. Gun owners are more likely to be Southerners, to live in a rural area, to be white, Protestant, be in a higher income bracket and hold more prestigious jobs. (32,79) It has also been noted that socialization (i.e., behavior and experiences with friends and family) plays a key role in sporting gun use, but that being in the military does not. (80)

Sources of Firearms

Moore lists the four possible sources of supply for firearms as follows: 1) dealers, 2) private transfers, 3) thefts and 4) black market. (81) There is no federal law prohibiting the private transfer or sale of firearms. About half of all firearm transactions are private and, unfortunately, many firearms are acquired by theft. (73) In studies conducted in New York and Houston about 25 percent of all guns used in crimes were stolen. (82) Wright conducted a survey in 10 states of 1,800 felons and found that 83 percent acquired guns from other than licensed dealers. (83)
Reasons For Firearm Possession

There are four common reasons for legally possessing a firearm and they are: 1) protection, 2) hunting, 3) sport shooting and 4) collecting. Some individuals may possess firearms primarily for criminal purposes. Even though the sales of hunting licenses in the US have been on the decline, there is still a considerable market for long guns (rifles and shotguns). There is even a growing segment of hunters using handguns. (84)

Guns Used In Crimes

Most long guns and large handguns used for hunting and sport are not involved in crimes. Most crime guns are small, but not necessarily cheap handguns. Ironically most guns kept for protection are handguns that have less firepower and are less accurate than long guns. It is also these handguns, kept for protection, that are most often involved in homicides. (37,55,82,85,86)

Gun Control

There is no more emotional side to the issues of firearms and their relationship to assault and homicide than that of gun control. Gun control means many things to many people. To some it is no more than the licensing of firearms dealers by the federal government, to others it is an outright ban on the possession of firearms by civilians.
As noted above, most guns are obtained by criminals from places other than licensed dealers. There are others who deal with licensed dealers but simply do not tell the truth about their past criminal history or their consumption of drugs or current treatment for mental illness. There are some geographic areas that require a waiting period and background check by the police.

A few areas of the country have tried various types of gun control legislation. There are problems in evaluating the effectiveness of such measures. The control of the many variables associated with law enforcement and the occurrence of assaults and homicides, make it very difficult to determine the effects, if any, of gun control legislation. The literature contains a number of evaluations of the various gun control initiatives that have been tried in this country. However, as noted above, there are many limitations in the interpretation of these studies. (33,87-91)

The National Commission on the Causes and Prevention of Violence stated that most Americans do not misuse firearms. This Committee and many others feel that the root causes of American violence go much deeper than widespread ownership. "Firearms generally facilitate, rather than cause, violence. The challenge is to cope with illegitimate uses of
guns without placing undo restrictions on legitimate uses." (6)

Who Owns The Problem: The Responsible Agencies

For some years, the FBI has been telling the country in its annual statistical report on crime that the prevention of violence is not a problem that can be solved solely by the enforcement of our laws. (4) However, most of the people in this country feel that it is the law enforcement community that should bring about a reduction in violence in our society. No single professional group or agency has taken leadership in the struggle to prevent or reduce violence in our society. This is likely due to the fact that no specific group feels that they must accept responsibility for dealing with this problem and also that the problem is too complex for any one discipline.

The medical and public health communities, have only recently identified the prevention of violence as a matter for their concern. The first mention in the literature of public health involvement in the prevention of violence did not appear until the late 1970s. Browning was one of the first to state that violence, hand guns, and homicide are all areas that can be formulated as public health problems and as areas of preventive medicine. (92) Soon after,
Mahler and Fielding wrote "because of the serious consequences of the growing number of human injuries that involve firearms, gun control has become a concern of public health. The costs exacted in terms of morbidity and pure economics identify firearms as a serious public health problem." (93) Many others since then have reiterated the concern that public health and preventive medicine must become involved in the area of violence prevention. (12,26,28,37,94-102)

In 1987, a survey of State and Territorial Health Officers found that 36 of 49 respondents said that state health departments have a legitimate role in the prevention of violence, yet only two had existing programs. There is currently an acceptance that public health and preventive medicine have important roles to play in the prevention of violence. Only the future will tell if their resources will be targeted to this issue. (103)
CHAPTER III
METHODS

Introduction

The present study is concerned with homicides committed with firearms, specifically domestic homicides. The objective is to examine risk factors associated with the occurrence of such homicides. A retrospective study was carried out using a matched-pair, case-control method.

Cases were persons convicted of committing a domestic homicide with a firearm and controls were neighbors matched for age and gender. The cases, by definition, used a firearm in committing the homicide. However, they may not have owned the firearm, nor had the firearm necessarily been in their household prior to the event. The controls did not necessarily own a firearm, but resided in a household in which there was at least one firearm.
A questionnaire was used to obtain information on a large set of variables (see Appendix B). These variables are presented as descriptive data regarding cases (offenders and victims) and controls. Univariate comparisons were carried our for all of the variables, except those specific to the homicide. The Mantel-Haenszel method was used to obtain adjusted odds ratios for a selected set of risk factors. The cases and the controls were obtained from the six major metropolitan areas in Ohio, as described below.

**Case Definition**

Cases (offenders) were defined as persons convicted of committing a domestic homicide with a firearm between 1982 and 1985 in Cleveland, Columbus, Cincinnati, Dayton, Akron or Toledo, Ohio. A homicide is defined as "the causing of the death of another person without legal justification or excuse." (27) The following types of homicide identified in the Ohio Revised Code were included for study: aggravated murder, murder, voluntary manslaughter and negligent homicide. (See page 16 in the Literature Review for the legal definitions for these types of homicide)

For this study a domestic homicide was described as a homicide between a spouse, relative or friend. A friend was someone that the offender admitted to knowing well. The category of friend does not include persons known only
by name or address (acquaintance). These homicides were not secondary to another crime, and were committed in or around the immediate vicinity (e.g., street, alley, yard) of either the victim's or the offender's residence. Both the victim and the offender were at least 18 years of age.

**Case Ascertainment**

Cases were identified from the central intake records of the Ohio Department of Rehabilitation and Corrections. Records of police departments in Dayton, Columbus and Cleveland were also reviewed to identify cases. Such records were not available in Akron, Cincinnati or Toledo. Cases that were still active in the pre-appeal judicial process were not entered into the study.

There were total of 105 homicide offenders (potential cases) identified by the methods noted in the above paragraph. Most of the cases were interviewed in prison. Five cases were able to be interviewed in their homes. Three of the cases had died and three cases could not be entered into the study for other reasons. Because of computer access constraints, there were 37 cases that could not be located in the state prison system. A total of 50 offenders (cases) completed the interview and were entered into the study. Thus, of those offenders who could be located
and invited into the study (N=62), 50 (81 percent) were entered into the study.

**Case Interview Protocol**

All interviewing staff completed two or more training sessions before administering the questionnaire using a standardized protocol. (Questionnaires are given in Appendix B) Information was collected in face-to-face interviews with both cases and controls.

As cases were identified from the records, letters of introduction and intent were sent to the prospective interviewees by certified mail. The last known addresses from police reports or correctional facility records were used. Cases denying their guilt either before or after interview were not entered into the study as this is likely to bias their responses. As stated above, there were three such cases.

**Control Definition**

Controls were persons identified from households in the neighborhood of the case. They were matched by age, plus or minus 10 years, and by gender. Two sets of controls were obtained as part of a larger study. Both sets were the same with respect to the attributes noted above, but
differed with respect to presence of firearms in their household. One set of controls reported firearms in their household, and one set did not. The present study utilized only those controls reporting firearms in their household.

The questionnaire did not inquire regarding firearms until well into the interview. Consequently, we did not know this at the outset and, thus, collected considerable data on non-firearm households. Although not included in this study, these data are retained for other interests and future analyses. The use of firearm household respondents only, was in the interest of equalizing as much as possible, the availability of firearms in both cases and controls. In this way, differences identified could be attributed to other variables. Also, a preliminary comparison showed that controls with firearms in the household and those without firearms differed on a number of variables thought to be important to the analyses. This was the reason that these control groups were not combined to increase the statistical power of the study.

Control Ascertainment

Households to be visited to obtain controls were identified through the Polk or Haines City Directories. Using the address of the offender at the time of the homicide, ten house numbers above and below were selected to receive
a letter of introduction and intent to visit. These letters introduced the recipient to the study. The letter stated that a representative of the Ohio Department of Health may be visiting in the next few weeks to interview consenting controls.

Control Interview Protocol

As noted above, ten house numbers above and below the case's house were selected for sampling. On a typical street, control households were no more than five households away on either side of the street. Interviewers started with control residences closest to the case's residence and moved outward, across the street, and back again as needed to obtain a usable control. The decision to proceed to the higher or lower house numbers was taken on the basis of a coin toss. Interviews were conducted until at least one matched interviewee reported having a firearm in the household and this person was taken as a control.

To maximize the probability of finding controls at home, emphasis was given to interviewing in the evening, Monday through Friday, and during weekend daytime hours. Call-backs were not conducted because of limited resources. If a proper control was not available in the first sam-
pling, additional control addresses were selected by expand­ing the above process to the next 5-10 house numbers. This occurred very rarely.

The interviewers were instructed to follow the sampling design noted in the above paragraph. All interviewers kept a log indicating the reason why an interview was not conducted. Although not physically monitored in the field by a supervisor, all interviewers appeared to follow the designated procedures for obtaining control subjects.

Among the controls, 64 were considered appropriate for the analyses. However, with the matched-pair design, only 50 controls could be utilized. Most of the cases with extra controls were from Columbus. Several of these cases had as many as three controls. This disparity was due to the greater ease of sampling in Columbus, the home city of the research team. This appeared to be one of the instances where according to Kleinbaum et al "Statistical efficiency can be slightly improved by discarding referent subjects until each stratum contains a single pair . . ." (107) Consequently, a random number table was used to select controls in the few occasions where more than one control was available per case.
Human Subjects Experimentation

Institutional Review Boards of both the Ohio Department of Health and the Ohio Department of Rehabilitation and Corrections reviewed and approved this study as meeting the necessary Human Subjects Experimentation requirements. A copy of the Informed Consent appears in Appendix A.

Data Collection

The questionnaire that was developed for the cases had a potential 186 questions, depending in part on numbers and kinds of firearms, prior criminal history and other variables. The control's questionnaire had a potential 110 questions. Both of these questionnaires are presented in Appendix B. A SAS (Statistical Analysis System) computer database was modified and used for the storage and analyses of the data. One person coded and entered all the data. Random checks for accuracy were conducted and error rates were less than 0.5 percent. Categorical formats were used to describe all variables and to check for inconsistent data.

Power

The calculation of power was made by using Schlesselman's method for matched designs. (104) The calculation of power was based on 50 matched-pairs, at an alpha level of
0.05, with the odds ratio set at two. The exposure level in the population changed with each variable tested. The power ranged from 11 to 47 percent for all variables testing statistically significant.

Data Analysis

McNemar's chi-square analysis for matched sample data was employed for tests of significance between variables included for evaluation. Odds ratios and corresponding confidence intervals and p-values were computed using Epistat statistical software. Mantel-Haenszel matched-pair analyses were used to explore the effects of potential confounding variables and associations. (104) This method was used when sufficient sample size was available as determined by the process described by Mantel and Fleiss. (105) Test-based confidence intervals, as described by Miettinen, were used for the Mantel-Haenszel matched-pair analysis. (106) Statistical significance was taken as \( p \leq 0.05 \). Confidence intervals were set at 95 percent unless noted otherwise.
CHAPTER IV
RESULTS

Descriptive Data: Cases and Controls

Residence

The 50 cases and 64 controls were obtained in the six largest cities in Ohio. The distribution of the cases and controls is given in Table 1.

Table 1 CITY OF RESIDENCE FOR CASES AND CONTROLS

<table>
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<td>FREQUENCY</td>
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</tbody>
</table>

There were similar numbers of cases and controls in each city, except Columbus. Because of geographic proximity to the researchers, more controls were obtained in Columbus. Forty-five of the 50 cases were interviewed in prison. The other five cases were interviewed in their households. All controls were interviewed in their households.
Age and Race

The ages of the cases at the time of the homicide and the ages of the controls at the time of the interview are shown in Table 2. Matching was done, plus or minus 10 year intervals. The race of the cases was obtained from the police or corrections records. The race of the controls was not obtained because of an unplanned omission in the control questionnaire. Cases were 70 percent (35) black, 26 percent (13) white, and four percent (two) Hispanic.

Employment Status

Employment status, at the time of the homicide for cases, and at time of interview for controls, is presented in Table 3. Fewer cases than controls were employed full-time, and cases reported greater periods of unemployment.

Table 2  AGE OF CASE AT TIME OF HOMICIDE AND CONTROL AT TIME OF INTERVIEW

<table>
<thead>
<tr>
<th>AGE</th>
<th>CASE FREQUENCY</th>
<th>CASE PCT</th>
<th>CONTROL FREQUENCY</th>
<th>CONTROL PCT</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;20</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>20-24</td>
<td>6</td>
<td>12</td>
<td>7</td>
<td>11</td>
</tr>
<tr>
<td>25-29</td>
<td>7</td>
<td>14</td>
<td>7</td>
<td>11</td>
</tr>
<tr>
<td>30-34</td>
<td>11</td>
<td>22</td>
<td>10</td>
<td>15.7</td>
</tr>
<tr>
<td>35-39</td>
<td>2</td>
<td>4</td>
<td>12</td>
<td>18.8</td>
</tr>
<tr>
<td>40-44</td>
<td>7</td>
<td>14</td>
<td>6</td>
<td>9.4</td>
</tr>
<tr>
<td>45-49</td>
<td>4</td>
<td>8</td>
<td>4</td>
<td>6.3</td>
</tr>
<tr>
<td>50-54</td>
<td>2</td>
<td>4</td>
<td>9</td>
<td>14</td>
</tr>
<tr>
<td>55-59</td>
<td>4</td>
<td>8</td>
<td>3</td>
<td>4.7</td>
</tr>
<tr>
<td>&gt;60</td>
<td>6</td>
<td>12</td>
<td>6</td>
<td>9.4</td>
</tr>
</tbody>
</table>
Table 3  EMPLOYMENT STATUS OF CASE AT TIME OF HOMICIDE AND CONTROLS AT TIME OF INTERVIEW

<table>
<thead>
<tr>
<th>STATUS</th>
<th>CASE FREQUENCY</th>
<th>CASE PCT</th>
<th>CONTROL FREQUENCY</th>
<th>CONTROL PCT</th>
</tr>
</thead>
<tbody>
<tr>
<td>FULL TIME</td>
<td>24</td>
<td>48</td>
<td>37</td>
<td>57.8</td>
</tr>
<tr>
<td>PART TIME</td>
<td>6</td>
<td>12</td>
<td>8</td>
<td>12.5</td>
</tr>
<tr>
<td>UNEMP &lt; 1 YR</td>
<td>6</td>
<td>12</td>
<td>3</td>
<td>4.7</td>
</tr>
<tr>
<td>UNEMP &gt; 1 YR</td>
<td>9</td>
<td>18</td>
<td>6</td>
<td>9.4</td>
</tr>
<tr>
<td>HOMEMAKER</td>
<td>1</td>
<td>2</td>
<td>5</td>
<td>7.8</td>
</tr>
<tr>
<td>RETIRED</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>6.3</td>
</tr>
<tr>
<td>STUDENT</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>OTHER</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1.6</td>
</tr>
</tbody>
</table>

Marital Status

Fewer cases were married than were controls, 58 percent and 69 percent respectively (Table 46 in Appendix C). Cases and controls had similar mean average numbers of children, 2.5 and 2.3 respectively (Table 47, Appendix C).

Income

The cases generally had personal and household incomes lower than the controls. These are shown in Tables 4 and 5. As a point of reference, the Federal Poverty Levels as developed by the US Department of Health and Human Services for a family of four ranged from approximately $9,000 to about $10,000 per year during the study period.

The reader is reminded that the data for this study were collected as part of a matched-pair study design and unmatched analysis may be inappropriate.
Table 4  PERSONAL INCOME FOR CASES AT THE TIME OF THE HOMICIDE AND CONTROLS AT TIME OF INTERVIEW

<table>
<thead>
<tr>
<th>INCOME</th>
<th>CASES FREQUENCY</th>
<th>PCT</th>
<th>CONTROLS FREQUENCY</th>
<th>PCT</th>
</tr>
</thead>
<tbody>
<tr>
<td>0–10,000</td>
<td>25</td>
<td>50</td>
<td>22</td>
<td>34.5</td>
</tr>
<tr>
<td>10–15,000</td>
<td>9</td>
<td>18</td>
<td>13</td>
<td>20.3</td>
</tr>
<tr>
<td>15–20,000</td>
<td>9</td>
<td>18</td>
<td>7</td>
<td>10.9</td>
</tr>
<tr>
<td>20–25,000</td>
<td>0</td>
<td>0</td>
<td>7</td>
<td>10.9</td>
</tr>
<tr>
<td>25–30,000</td>
<td>4</td>
<td>8</td>
<td>7</td>
<td>10.9</td>
</tr>
<tr>
<td>30–50,000</td>
<td>2</td>
<td>4</td>
<td>5</td>
<td>7.8</td>
</tr>
<tr>
<td>50,000+</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>UNKNOWN</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4.7</td>
</tr>
</tbody>
</table>

Table 5  HOUSEHOLD INCOME FOR CASES AT THE TIME OF THE HOMICIDE AND CONTROLS AT TIME OF INTERVIEW

<table>
<thead>
<tr>
<th>INCOME</th>
<th>CASES FREQUENCY</th>
<th>PCT</th>
<th>CONTROLS FREQUENCY</th>
<th>PCT</th>
</tr>
</thead>
<tbody>
<tr>
<td>0–10,000</td>
<td>16</td>
<td>32</td>
<td>9</td>
<td>14.1</td>
</tr>
<tr>
<td>10–15,000</td>
<td>11</td>
<td>22</td>
<td>9</td>
<td>14.1</td>
</tr>
<tr>
<td>15–20,000</td>
<td>7</td>
<td>14</td>
<td>5</td>
<td>7.8</td>
</tr>
<tr>
<td>20–25,000</td>
<td>3</td>
<td>6</td>
<td>12</td>
<td>18.8</td>
</tr>
<tr>
<td>25–30,000</td>
<td>5</td>
<td>10</td>
<td>13</td>
<td>20.3</td>
</tr>
<tr>
<td>30–50,000</td>
<td>5</td>
<td>10</td>
<td>8</td>
<td>12.5</td>
</tr>
<tr>
<td>50,000+</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>4.7</td>
</tr>
<tr>
<td>UNKNOWN</td>
<td>3</td>
<td>6</td>
<td>5</td>
<td>7.8</td>
</tr>
</tbody>
</table>

The matched-pair analyses for cases and controls revealed the following values for household incomes at the three listed levels (Table 6). Table 6 contains information on the total number of cases and controls at the various income levels, as well as the number of discordant pairs used in the McNemar's matched-pair analyses.
Table 6  SUMMARY STATISTICS FOR MATCHED-PAIR ANALYSES FOR CASES AND CONTROLS FOR THE VARIABLE: HOUSEHOLD INCOME

<table>
<thead>
<tr>
<th></th>
<th>&lt;$10,000</th>
<th>&lt;$15,000</th>
<th>&lt;$20,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chi-square</td>
<td>3.10</td>
<td>3.76</td>
<td>10.56</td>
</tr>
<tr>
<td>OR</td>
<td>3.0</td>
<td>3.25</td>
<td>15.00</td>
</tr>
<tr>
<td>95 % CI</td>
<td>0.81-14.1</td>
<td>0.88-15.2</td>
<td>1.8-2.7x10^5</td>
</tr>
<tr>
<td># Cases</td>
<td>16</td>
<td>27</td>
<td>34</td>
</tr>
<tr>
<td># Controls</td>
<td>9</td>
<td>17</td>
<td>21</td>
</tr>
<tr>
<td>Discordant Pairs</td>
<td>12/4</td>
<td>13/4</td>
<td>15/1</td>
</tr>
</tbody>
</table>

Education

The controls generally achieved higher levels of education (Table 7). There were 33 (66 percent) cases that never finished high school as compared with 18 (28.2 percent) controls. Matched-pair statistical analysis yielded an odds ratio of 4.5 for the cases for the variable of not completing high school. The associated chi-square was 12.1 with p=0.0005 and a 95% confidence interval of 1.6 - 13.6.

Military Experience and City Size

Fourteen (28 percent) cases and 18 (28 percent) controls had military experience. Forty percent of the cases and 42 percent of the controls grew up in a large city.
Table 7  HIGHEST EDUCATIONAL LEVEL ACHIEVED - CASES AND CONTROLS

<table>
<thead>
<tr>
<th>LEVEL</th>
<th>CASES FREQUENCY</th>
<th>CASES PCT</th>
<th>CONTROLS FREQUENCY</th>
<th>CONTROLS PCT</th>
</tr>
</thead>
<tbody>
<tr>
<td>NONE</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>EIGHTH</td>
<td>10</td>
<td>20</td>
<td>6</td>
<td>9.4</td>
</tr>
<tr>
<td>SOME HS</td>
<td>22</td>
<td>44</td>
<td>12</td>
<td>18.8</td>
</tr>
<tr>
<td>HS GRAD/GED</td>
<td>9</td>
<td>18</td>
<td>28</td>
<td>43.8</td>
</tr>
<tr>
<td>SOME COLLEGE</td>
<td>7</td>
<td>14</td>
<td>14</td>
<td>24.9</td>
</tr>
<tr>
<td>TECH GRAD</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1.6</td>
</tr>
<tr>
<td>COLLEGE GRAD</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1.6</td>
</tr>
<tr>
<td>POST GRAD</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>3.1</td>
</tr>
</tbody>
</table>

Childhood Experiences

Among the cases 11 (22 percent) reported that they did not have a happy childhood as compared with five (7.8 percent) of the controls. Five (10 percent) cases compared to four (6.3 percent) controls said that "sometimes" their childhoods were unhappy. There were six (12 percent) cases as compared to three (4.7 percent) controls that were not raised by at least one parent.

Seven (14 percent) cases and 12 (18.6 percent) controls felt that they got into trouble "a lot" during childhood. Twenty-two (44 percent) cases compared with 12 (18.8 percent) controls reported that they were severely punished sometime during childhood. Examples used to describe severe punishment included phrases such as: beaten so as to be knocked down; got a bloody nose or black eye; whipped, or burned. The frequency for those receiving severe pun-
ishment is shown in Table 8. The matched-pair analyses for
the variable severely punished at least once per year as a
child produced an OR=4.3 with p=0.002 and 95% CI = 1.02 –
27.6.

Table 8  HISTORY OF BEING SEVERELY PUNISHED AS A
CHILD FOR CASES AND CONTROLS

<table>
<thead>
<tr>
<th>CASES</th>
<th>CONTROLS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FREQUENCY</td>
</tr>
<tr>
<td>NEVER</td>
<td>27</td>
</tr>
<tr>
<td>1 OR 2 TIMES</td>
<td>6</td>
</tr>
<tr>
<td>1 PER 4 YEARS</td>
<td>0</td>
</tr>
<tr>
<td>1 PER YEAR</td>
<td>4</td>
</tr>
<tr>
<td>1 PER 6 MONTHS</td>
<td>2</td>
</tr>
<tr>
<td>1 PER MONTH</td>
<td>2</td>
</tr>
<tr>
<td>1 PER 2 WEEKS</td>
<td>8</td>
</tr>
<tr>
<td>UNKNOWN</td>
<td>1</td>
</tr>
</tbody>
</table>

The age at which the cases and the controls received
most of their punishment is shown in Table 48 in Appendix
C.

When describing their family living status while growing
up, 25 (50 percent) cases and 21 (32.8 percent) controls
said they were less than middle class. There were 21 (42
percent) cases and 38 (59.4 percent) controls that said
they came from a middle class home. Four (eight percent)
cases and four (6.3 percent) controls were from an upper
middle class family. There were no cases and only one
control that came from an upper class background.
Fewer cases reported that they came from a home where their parents owned guns. There were 25 (50 percent) cases and 47 (73.4 percent) controls that said that one or both of their parents or guardians owned at least one firearm. The matched-pair analyses for the variable "parents owned guns during subject's childhood" produced an OR=0.25 with p=0.01 and 95 % CI=0.05 - 0.88.

Of the 25 cases that responded "yes" to parental ownership of firearms, 19 reported that parents owned long guns (i.e., rifles and shotguns), 13 owned handguns and seven owned both. Most (16) of the long gun owners had the firearms for hunting, according to the cases. Seven of those owning handguns were said to have them for protection. Of the 47 controls who reported parents owning firearms, 40 owned long guns, 24 handguns and 17 both. Most (28) of the long gun owners had the firearms primarily for hunting. Sixteen of those owning handguns had them for protection.

Firearms and Other Weapons

Of the cases, 22 (44 percent) had fired a gun before they were 18 years old as compared to 34 (53 percent) controls. Of those who fired guns under age 18, among the cases 15 (68.2 percent) and of the controls 15 (44.1 percent) fired them for hunting; two (9.1 percent) cases and
16 (47.1 percent) controls fired them primarily for target shooting. Two of the 22 cases firing a gun before 18 years of age reported shooting at another person, compared with four of the 34 controls. One of the case and one of the control shootings resulted in a homicide.

Of the cases 16 percent and of the controls 12.5 percent stated that they had intentionally injured someone with a weapon other than a firearm before they were 18 years old. However, with regard to such action after 18 years of age, 28 percent of the cases, as compared with 3.2 percent of the controls answered "yes." Twenty-two percent of the cases as compared with 17.2 percent of the controls said that they "beat up someone really badly" with fists or feet before they were 18 years old. Cases reported 28 percent and controls 14.1 percent for such actions after 18.

Criminal Arrest History

Nearly three times as many cases (52 percent) as compared with controls (18.8 percent) reported having been arrested for a criminal act preceding the homicide (or the time of interview for the controls). Seven of the cases had been arrested five times or more and seven had been convicted for hurting another person. One of the prior convictions was for a homicide. Only two of the controls had been arrested five times or more, and only one had been
convicted for hurting someone.

The matched-pair analysis for the variable: "ever been arrested for any criminal act" showed an odds ratio of 3.5 with a p value of 0.007 and 95% confidence interval of 1.2 - 11.2. Seven cases and one control had been in prison before the homicide or the interview.

Intentional Injury History

About equal percentages of cases and controls had members of their immediate family shot before the homicide or the interview; for cases 14 (28 percent) and for controls 15 (23.4 percent). Of the 14 family members of the cases that were shot, eight died and seven of the 15 control's family members that were shot died.

More of the cases had experienced being shot. Before the homicide, and excluding military experience, 10 (20 percent) cases and seven (10.9 percent) controls had been shot. Cases were about three and one-half times as likely as controls to have given a history of ever being purposefully severely injured by a weapon other than a firearm; seventeen (34 percent) cases and 12 (18.8 percent) controls. The matched-pair statistical analysis for this variable gave an OR=3.5, with p=0.03 and 95 percent CI of 1.0 - 16.1. Nine of the cases as compared to two of the
controls gave a history of multiple severe injury episodes.

More cases than controls gave a history of being beaten "badly" by fists or feet by a person other than a parent or guardian. Twenty-three (46 percent) cases and 12 (18.8 percent) controls gave a history of severe beatings. The matched-pair statistical analysis for this variable gave an OR=2.1 that was near statistical significance at p=0.08. The frequency distributions for these data are shown in Table 9.

Alcohol and Drugs

The data in Table 10 indicate that a greater percentage of cases consumed alcohol. Of those that consumed alcohol, the amounts consumed were greater than the controls. Cases were many more times likely to give a history of consuming large amounts of alcohol. Thirty percent of cases compared

<table>
<thead>
<tr>
<th>Table 9</th>
<th>NUMBER OF TIMES CASES AND CONTROLS WERE BEATEN UP BADLY IN A FIST FIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>CASES</td>
<td>FREQUENCY</td>
</tr>
<tr>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>2-3</td>
<td>5</td>
</tr>
<tr>
<td>4-7</td>
<td>4</td>
</tr>
<tr>
<td>8+</td>
<td>8</td>
</tr>
<tr>
<td>NA</td>
<td>27</td>
</tr>
</tbody>
</table>
to 11 percent of controls gave a history of drinking more than 60 ounces of alcohol per month. The matched-pair statistical analysis showed an odds ratio of 2.8 for consuming more than 60 ounces of alcohol per month. The associated p value was 0.04 with a 95 percent confidence interval of 1.0 - 9.4.

Table 10 WEEKLY ALCOHOL CONSUMPTION OF CASES AND CONTROLS

<table>
<thead>
<tr>
<th>OUNCES</th>
<th>CASES FREQUENCY</th>
<th>CASES PCT</th>
<th>CONTROLS FREQUENCY</th>
<th>CONTROLS PCT</th>
</tr>
</thead>
<tbody>
<tr>
<td>MISSING</td>
<td>13</td>
<td>26</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>0</td>
<td>13</td>
<td>26</td>
<td>24</td>
<td>38.1</td>
</tr>
<tr>
<td>1-9</td>
<td>13</td>
<td>26</td>
<td>27</td>
<td>42.2</td>
</tr>
<tr>
<td>10-19</td>
<td>6</td>
<td>12</td>
<td>6</td>
<td>9.5</td>
</tr>
<tr>
<td>20-29</td>
<td>4</td>
<td>8</td>
<td>4</td>
<td>6.3</td>
</tr>
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<td>30-39</td>
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<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>40-49</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>50-59</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>60+</td>
<td>10</td>
<td>20</td>
<td>2</td>
<td>3.2</td>
</tr>
<tr>
<td>UNK</td>
<td>3</td>
<td>6</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Prior Assaults - Victim and Offender

Forty-six of the 50 cases reported that they had not attacked the victim within two years prior to the homicide. However, 22 (44 percent) of the cases stated that in the prior two years the victim had physically attacked them. In eight of these 22 times the case needed medical care; in five, the care was provided at a hospital.
As there was no homicide victims to refer to for the controls, potential victims were considered as other adult household members. One control admitted to physically attacking a household member within two years before the interview. The person attacked did not need nor did they receive medical care as a result of the attack. Two controls admitted to having been physically attacked by a household member within the two years before the interview. One of these felt they needed medical care.

The percentage of cases who gave a history of attacking the homicide victim prior to the killing exceeded the percentage of controls who reported attacking another household family member in the two years prior to the homicide or the interview date. However, cases were many more times likely to give a history of being attacked by the homicide victim, compared to the control being attacked by another member of their household. The matched-pair statistical analysis for the case or control being physically attacked by the victim or a member of the control's household, in the prior two years, gives an odds ratio of 10.5 with p=0.0001 and confidence intervals of 2.1 - 128.6.

More cases gave a history of being involved in domestic fights. In the two years before the homicide, 11 (22 percent) of the cases were involved in a fight in a resi-
ence, leading to police intervention, as opposed to five (7.8 percent) of the controls. Six of the 11 cases involved in such police interventions had multiple police involvement domestic fights, as compared with two of the five controls.

Professional Counseling

Six (12 percent) cases and one (1.6 percent) control had received some professional counseling for violent behavior in the two years before the homicide or the interview. Three of these six cases and the one control felt that the counseling helped them.

Of the cases and controls not receiving counseling in the prior two years, fewer cases knew that professional counseling existed. Of the 44 cases that had not had professional counseling within two years before the homicide, 26 (59 percent) were aware that professional counseling existed. Of the 63 controls not receiving counseling for violent behavior in the prior two years, 44 (69.8 percent) knew that such counseling existed.

Cases indicated that they would be less likely than the controls to use professional counseling. Of the 44 non-counseled cases, 32 (73 percent) responded that they would have used professional counseling if they thought that it
would have helped. Fifty-four of the 63 (86 percent) non-counseled controls said that they would have used professional counseling if they thought that it might help them. The summary statistics were OR=0.11 with p=0.03 and the CI=0.0 - 1.04, indicating a significantly lesser reliance on counseling among the cases.

Firearms

Twenty-two (44 percent) of the cases owned the firearm used in the homicide (Table 11).

Table 11  OWNER OF THE HOMICIDE FIREARM

<table>
<thead>
<tr>
<th></th>
<th>FREQUENCY</th>
<th>PERCENT</th>
<th>CUMULATIVE FREQUENCY</th>
<th>CUMULATIVE PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>OFFENDER</td>
<td>22</td>
<td>44.0</td>
<td>22</td>
<td>44.0</td>
</tr>
<tr>
<td>SPOUSE/LOVER</td>
<td>9</td>
<td>18.0</td>
<td>31</td>
<td>62.0</td>
</tr>
<tr>
<td>PARENT</td>
<td>3</td>
<td>6.0</td>
<td>34</td>
<td>68.0</td>
</tr>
<tr>
<td>FRIEND</td>
<td>8</td>
<td>16.0</td>
<td>42</td>
<td>84.0</td>
</tr>
<tr>
<td>RELATIVE</td>
<td>4</td>
<td>8.0</td>
<td>46</td>
<td>92.0</td>
</tr>
<tr>
<td>UNKNOWN</td>
<td>4</td>
<td>8.0</td>
<td>50</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Twenty-six (52 percent) cases personally owned at least one firearm at the time of the homicide. From the data obtained it can not be accurately determined if other firearms were in the case's household, but were not considered as being owned by the case. By definition all controls had at least one firearm in their household. Nineteen controls had more than one firearm in their household. However, it can not be determined from the data collected
if the controls considered themselves the owner of some or all of these firearms.

More cases had handguns and fewer cases had long guns than the controls. Twenty-two of the 26 cases (85 percent) owning a gun owned a handgun. This is compared to 61 percent of the controls reporting at least one handgun in their home. Four of 26 (15 percent) cases owning guns owned at least one rifle. This compares to 24 (37.5 percent) of controls having a rifle in their household. Seven of 26 (27 percent) cases owning guns owned at least one shotgun. Twenty-eight (45.9 percent) of the controls had at least one shotgun in their household.

Fewer cases practiced shooting firearms than controls. When asked about their non-military shooting of firearms, 35 (70 percent) cases and 29 (55 percent) controls said that they had never practiced shooting a gun of any type. Five (10 percent) cases and 15 (23.4 percent) controls had practiced shooting, but only once or twice in their lifetimes. Five (10 percent) of the cases and six (9.4 percent) of the controls had regularly practiced shooting, but not recently. Two (4 percent) of the cases and five (7.8 percent) of the controls had practiced regularly and recently. Three cases and three controls did not respond to this question.
The firearms used in the homicide and the firearms available in the control households were compared. Because of the differences between the firearms used/available to cases and controls, statistical analyses were not appropriate for these comparisons. They are provided as general reference comparisons only.

As noted above, handguns were the most common firearm owned by the cases. Handguns were also the most common type of firearm used in the homicides (Table 49, Appendix C). Thirty-eight (76 percent) of the cases used handguns in the homicide. As noted above, 39 (61 percent) of the controls had at least one handgun in their household. The .38 caliber (or the equivalently sized 9mm) was the most popular handgun caliber in the homicide weapons, with 18 (47 percent) of the homicide handguns being of this caliber (Table 50, Appendix C). Twenty (51 percent) of the controls owning handguns, owned .38 caliber handguns.

The handguns used by the cases generally had short barrel lengths. Seventeen (45 percent) of cases using handguns in the homicide used guns with barrel lengths of three inches or less (Table 51, Appendix C). This compares to 10 (25.6 percent) controls having at least one handgun with a barrel three inches or shorter. The most common bullet used in the homicide handguns was the solid lead
bullet. Twenty-two (58 percent) of the homicide handguns used solid lead bullets (Table 52, Appendix C). Similar information was not available for the controls with handguns. Twenty-four (63 percent) of the 38 cases using handguns in the homicide, needed to see a photograph to identify the type of bullets used in the homicide handgun.

About equal numbers of cases and controls felt that their handguns could be traced by the police. Twenty-eight (74 percent) of the cases using handguns for the homicide compared to 28 (72 percent) of the controls with handguns in their household, felt that their handguns could be traced by the police.

More firearms in the control households were obtained from licensed dealers, as compared with the firearms used by the cases in the homicides. Thirteen (26 percent) of the homicide firearms were purchased from a licensed firearms dealer. The remainder were obtained from a variety of legal and illegal sources (Table 53, Appendix C). Fifty-one (39 percent) of the firearms in households of controls were purchases from licensed firearms dealers (Table 54, Appendix C).

More of the firearms used in the homicides were said to have been originally obtained for protection than were the
firearms in the households of the controls. More of the firearms in the control households were purchased for hunting, target shooting and collecting. Twenty-eight (56 percent) of the homicide firearms were obtained for protection compared with 45 (33 percent) of the firearms in the households of controls. (Tables 55 and 56, Appendix C).

The prices paid for the homicide firearms are listed in Table 57, Appendix C. Since many of the offenders did not own the homicide firearm, there were 17 that did not know the purchase price of the firearm used in the homicide. Of the 33 that did know the price paid, only three paid more than $150. This is not surprising since most of these weapons were not purchased at retail price, as most were not purchased from licensed firearm dealers. This does not mean that the firearms used in the homicides were cheaply made weapons; in fact, most of those for which information could be obtained were brand-name firearms from well known manufacturers. The prices paid by the controls for their firearms were similar to those paid for the homicide firearms in all categories except the highest priced group. Controls were more likely to have purchased more higher priced firearms (Table 58, Appendix C).

Thirty-two (64 percent) of the homicide firearms were usually kept loaded, compared with 34 (25 percent) of the
The matched-pair statistical analyses yielded \( OR=24, \ p=0.00001 \) and 95% CI = 3.0 - 5.4x10^5.

### Table 12 HOMICIDE FIREARMS AND AT LEAST ONE OF THE CONTROL HOUSEHOLD'S FIREARMS USUALLY KEPT LOADED

<table>
<thead>
<tr>
<th></th>
<th>HOMICIDE FIREARM</th>
<th></th>
<th>CONTROL'S FIREARMS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FREQUENCY</td>
<td>PCT</td>
<td>FREQUENCY</td>
<td>PCT</td>
</tr>
<tr>
<td>NO</td>
<td>10</td>
<td>20</td>
<td>98</td>
<td>73</td>
</tr>
<tr>
<td>YES</td>
<td>32</td>
<td>64</td>
<td>34</td>
<td>25</td>
</tr>
<tr>
<td>SOMETIME</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>UNKNOWN</td>
<td>6</td>
<td>12</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

Twelve (24 percent) of the homicide firearms were usually kept locked up. This compares with 35 (27 percent) of the firearms in the control households. (Table 13).

### Table 13 HOMICIDE FIREARMS AND CONTROL HOUSEHOLD'S FIREARMS USUALLY KEPT LOCKED UP

<table>
<thead>
<tr>
<th></th>
<th>HOMICIDE FIREARM</th>
<th></th>
<th>CONTROL'S FIREARMS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FREQUENCY</td>
<td>PCT</td>
<td>FREQUENCY</td>
<td>PCT</td>
</tr>
<tr>
<td>NO</td>
<td>32</td>
<td>64</td>
<td>93</td>
<td>72</td>
</tr>
<tr>
<td>YES</td>
<td>12</td>
<td>24</td>
<td>35</td>
<td>27</td>
</tr>
<tr>
<td>SOMETIME</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>UNKNOWN</td>
<td>5</td>
<td>10</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

Cases as well as controls preferred to keep their firearms in their bedrooms. The distribution of firearms by room for cases and controls was similar as shown in Table 14.
Table 14  ROOMS WHERE HOMICIDE FIREARMS AND CONTROL HOUSEHOLD'S FIREARMS USUALLY KEPT

<table>
<thead>
<tr>
<th>ROOM</th>
<th>HOMICIDE FIREARM FREQUENCY</th>
<th>HOMICIDE FIREARM PCT</th>
<th>CONROLS'S FIREARMS FREQUENCY</th>
<th>CONROLS'S FIREARMS PCT</th>
</tr>
</thead>
<tbody>
<tr>
<td>BEDROOM</td>
<td>28</td>
<td>56</td>
<td>73</td>
<td>59</td>
</tr>
<tr>
<td>FAMILY/LIVING</td>
<td>3</td>
<td>6</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>KITCHEN</td>
<td>4</td>
<td>6</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>ANOTHER ROOM</td>
<td>9</td>
<td>18</td>
<td>35</td>
<td>29</td>
</tr>
<tr>
<td>OUTSIDE</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>UNKNOWN</td>
<td>5</td>
<td>10</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>

Television Viewing

More cases than controls reported watching 0 - 10 hours of television per week. There did not appear to be much difference between cases and controls on the other television viewing times per week (Table 15).

Table 15  AVERAGE NUMBER OF HOURS OF TELEVISION WATCHED PER WEEK BY CASES AND CONTROLS

<table>
<thead>
<tr>
<th>CASES FREQUENCY</th>
<th>CASES PCT</th>
<th>CONTROLS FREQUENCY</th>
<th>CONTROLS PCT</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-10</td>
<td>24</td>
<td>48</td>
<td>18</td>
</tr>
<tr>
<td>11-20</td>
<td>9</td>
<td>18</td>
<td>16</td>
</tr>
<tr>
<td>21-30</td>
<td>6</td>
<td>12</td>
<td>15</td>
</tr>
<tr>
<td>31-40</td>
<td>2</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>41-50</td>
<td>4</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>50 +</td>
<td>3</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>UNKNOWN</td>
<td>2</td>
<td>4</td>
<td>3</td>
</tr>
</tbody>
</table>

Social Support

The cases appeared to have fewer friends and relatives on whom they could count for help (Table 16). The matched-pair analysis yielded an odds ratio of 0/6 with
p=0.02 by the exact method. Because of the zero in the numerator of the odds ratio, the 95 percent confidence intervals could not be calculated.

Table 16 NUMBER OF FRIENDS AND RELATIVES THE CASES AND CONTROLS COULD COUNT ON FOR HELP

<table>
<thead>
<tr>
<th>CASES FREQUENCY</th>
<th>PCT</th>
<th>CONTROLS FREQUENCY</th>
<th>PCT</th>
</tr>
</thead>
<tbody>
<tr>
<td>NONE</td>
<td>6</td>
<td>12</td>
<td>0</td>
</tr>
<tr>
<td>1 - 3</td>
<td>8</td>
<td>16</td>
<td>10</td>
</tr>
<tr>
<td>3 +</td>
<td>36</td>
<td>64</td>
<td>51</td>
</tr>
<tr>
<td>UNKNOWN</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
</tbody>
</table>

Table 59 in Appendix C presents a summary of many of the previously presented comparisons on cases and controls with number and percent listed for each. These data were collected using a matched-pair design and the comparisons listed in Table 48 do not reflect this pair matching.

**Descriptive Data: Homicide Victims**

A small portion of the data collected on the victims was obtained from available police records. In some cases information was available from the records of the Department of Rehabilitation and Corrections in the offender intake files. The majority of the information about the victims was only available from the homicide offender, and therefore is dependent on their knowledge of the victim.
Gender, Race and Age

There were nearly an equal number of male and female victims (Table 17). There were many more black than white victims (Table 18). The ages of the victims were similar to the cases as can be seen in Table 60 in Appendix C.

Table 17 GENDER OF THE HOMICIDE VICTIM

<table>
<thead>
<tr>
<th></th>
<th>FREQUENCY</th>
<th>PERCENT</th>
<th>CUMULATIVE FREQUENCY</th>
<th>CUMULATIVE PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>MALE</td>
<td>27</td>
<td>54.0</td>
<td>27</td>
<td>54.0</td>
</tr>
<tr>
<td>FEMALE</td>
<td>23</td>
<td>46.0</td>
<td>50</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 18 RACE OF HOMICIDE VICTIM

<table>
<thead>
<tr>
<th></th>
<th>FREQUENCY</th>
<th>PERCENT</th>
<th>CUMULATIVE FREQUENCY</th>
<th>CUMULATIVE PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>WHITE</td>
<td>11</td>
<td>22.0</td>
<td>11</td>
<td>22.0</td>
</tr>
<tr>
<td>BLACK</td>
<td>28</td>
<td>56.0</td>
<td>39</td>
<td>78.0</td>
</tr>
<tr>
<td>INDIAN</td>
<td>1</td>
<td>2.0</td>
<td>40</td>
<td>80.0</td>
</tr>
<tr>
<td>OTHER</td>
<td>1</td>
<td>2.0</td>
<td>41</td>
<td>82.0</td>
</tr>
<tr>
<td>UNKNOWN</td>
<td>9</td>
<td>18.0</td>
<td>50</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Miscellaneous Demographics

Nineteen (38 percent) of the victims were employed either full-time or part-time outside the home (Table 61, Appendix C). Nearly one-half of the victims were married. The marital status of the victim and the number of children of the victim are presented in Tables 62 and 63 in Appendix C.
Two-thirds of the victims had individual incomes that were less than $15,000 per year. The personal and household incomes of the victim are presented in Tables 64 and 65 in Appendix C. One-half of the victims finished high school. Information on the highest grade completed for the victim is shown in Table 66 in Appendix C.

Information on the Wound

Most victims received only one gun-shot wound. Two-thirds of the victims being shot only one time were shot in the head or the chest. The frequency distribution of the first wound to the victim is shown in Table 67 in Appendix C. Second and third wounds as stated by the offender, where they occurred, are shown in Tables 68 and 69 in Appendix C.

Sixty percent of the victims were transported to the hospital (Table 70, Appendix C). Most of the victims were transported by the local emergency medical service (Table 71, Appendix C).

Descriptive Data: Case and Victim

At the time of the homicide, 31 (62 percent) of the cases lived with the victim. The cases and the victims knew each other for times varying from less than a year to more than 72 years (Table 72 Appendix C). There were a
wide variety of living relationships between the cases and the victims (Table 73, Appendix C).

Alcohol and Drugs

On the day of the homicide, 31 (62 percent) of the cases admitted to consuming alcohol before the homicide. Cases reported that on the day of, and before the homicide, 23 (46 percent) of the victims were seen drinking alcohol. Additionally, six (12 percent) other victims were suspected of having consumed alcohol. Thirty percent of the cases admitted to some level of inebriation. The frequency distribution of the case’s level of inebriation, as perceived by the case, is presented in Table 19. The cases reported that 40 percent of the victims were under the influence of alcohol on the day of the homicide (Table 20).

Table 19  CASE'S PERCEPTION OF ALCOHOLS INFLUENCE ON THEMSELVES AT THE TIME OF THE HOMICIDE

<table>
<thead>
<tr>
<th></th>
<th>FREQUENCY</th>
<th>PERCENT</th>
<th>CUMULATIVE FREQUENCY</th>
<th>CUMULATIVE PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO EFFECT</td>
<td>15</td>
<td>30.0</td>
<td>15</td>
<td>30.0</td>
</tr>
<tr>
<td>INFLUENCED</td>
<td>8</td>
<td>16.0</td>
<td>23</td>
<td>46.0</td>
</tr>
<tr>
<td>DRUNK</td>
<td>3</td>
<td>6.0</td>
<td>26</td>
<td>52.0</td>
</tr>
<tr>
<td>ALMOST OUT</td>
<td>4</td>
<td>8.0</td>
<td>30</td>
<td>60.0</td>
</tr>
<tr>
<td>NA</td>
<td>19</td>
<td>38.0</td>
<td>49</td>
<td>98.0</td>
</tr>
<tr>
<td>UNKNOWN</td>
<td>1</td>
<td>2.0</td>
<td>50</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Table 20  CASE'S PERCEPTION OF VICTIM'S
LEVEL OF INEBRIATION - DAY OF HOMICIDE

<table>
<thead>
<tr>
<th></th>
<th>FREQUENCY</th>
<th>PERCENT</th>
<th>CUMULATIVE FREQUENCY</th>
<th>CUMULATIVE PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO EFFECT</td>
<td>3</td>
<td>6.0</td>
<td>3</td>
<td>6.0</td>
</tr>
<tr>
<td>INFLUENCED</td>
<td>7</td>
<td>14.0</td>
<td>10</td>
<td>20.0</td>
</tr>
<tr>
<td>DRUNK</td>
<td>11</td>
<td>22.0</td>
<td>21</td>
<td>42.0</td>
</tr>
<tr>
<td>ALMOST OUT</td>
<td>2</td>
<td>4.0</td>
<td>23</td>
<td>46.0</td>
</tr>
<tr>
<td>NA</td>
<td>12</td>
<td>24.0</td>
<td>35</td>
<td>70.0</td>
</tr>
<tr>
<td>UNKNOWN</td>
<td>15</td>
<td>30.0</td>
<td>50</td>
<td>100.0</td>
</tr>
</tbody>
</table>

The case's average weekly consumption of alcohol is shown above in Table 10. The case's perception of the weekly consumption of alcohol by the victim is shown below in Table 21.

Table 21  HOMICIDE CASE'S PERCEPTION OF VICTIM'S
WEEKLY ALCOHOL INTAKE IN OUNCES

<table>
<thead>
<tr>
<th>OUNCES</th>
<th>FREQUENCY</th>
<th>PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>6</td>
<td>12.0</td>
</tr>
<tr>
<td>1-9</td>
<td>8</td>
<td>16.0</td>
</tr>
<tr>
<td>10-19</td>
<td>3</td>
<td>6.0</td>
</tr>
<tr>
<td>20-29</td>
<td>2</td>
<td>4.0</td>
</tr>
<tr>
<td>30-39</td>
<td>1</td>
<td>2.0</td>
</tr>
<tr>
<td>40-49</td>
<td>2</td>
<td>4.0</td>
</tr>
<tr>
<td>50-59</td>
<td>1</td>
<td>2.0</td>
</tr>
<tr>
<td>60 +</td>
<td>10</td>
<td>20.0</td>
</tr>
<tr>
<td>UNK</td>
<td>17</td>
<td>34.0</td>
</tr>
</tbody>
</table>

Eleven (22 percent) of the cases reported that they had ingested illegal drugs on the day of the homicide, and ten (20 percent) reported ingesting prescribed drugs on the day
of the homicide. The cases were not asked about the types and amounts of prescribed drugs. Eleven victims were reported by the offenders to have taken illegal drugs on the day of the homicide. Ten of the victims took prescription medications.

Discharge of the Firearm

The time from taking up the firearm to firing it at the victim can usually be measured in seconds. Nineteen (38 percent) of the cases reported firing at the victim within five seconds after putting their hands on the weapon (Table 22).

Table 22 WAITING TIME IN SECONDS FROM GETTING HOMICIDE FIREARM TO FIRING IT

<table>
<thead>
<tr>
<th>Seconds</th>
<th>FREQUENCY</th>
<th>PERCENT</th>
<th>CUMULATIVE FREQUENCY</th>
<th>CUMULATIVE PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-5</td>
<td>19</td>
<td>38.0</td>
<td>19</td>
<td>38.0</td>
</tr>
<tr>
<td>6-15</td>
<td>5</td>
<td>10.0</td>
<td>24</td>
<td>48.0</td>
</tr>
<tr>
<td>16-30</td>
<td>2</td>
<td>4.0</td>
<td>26</td>
<td>52.0</td>
</tr>
<tr>
<td>31-60</td>
<td>4</td>
<td>8.0</td>
<td>30</td>
<td>60.0</td>
</tr>
<tr>
<td>60+</td>
<td>6</td>
<td>12.0</td>
<td>36</td>
<td>72.0</td>
</tr>
<tr>
<td>NA</td>
<td>3</td>
<td>6.0</td>
<td>39</td>
<td>78.0</td>
</tr>
<tr>
<td>UNK</td>
<td>11</td>
<td>22.0</td>
<td>50</td>
<td>100.0</td>
</tr>
</tbody>
</table>

As noted above, generally only one shot or few shots were fired at the victim. Twenty two (44 percent) of the cases fired only one shot (Table 74, Appendix C). In slightly more than one-half of the homicides (54 percent)
the offender was the first to draw a weapon of any kind (Table 75, Appendix C).

Eleven (22 percent) of the cases reported that the victim dared them to attack. Twenty (40 percent) of the cases stated that the victim was approaching them when they grabbed the gun (Table 23).

Table 23 VICTIM'S MOVEMENT WHEN CASE PRODUCED FIREARM

<table>
<thead>
<tr>
<th></th>
<th>FREQUENCY</th>
<th>PERCENT</th>
<th>CUMULATIVE FREQUENCY</th>
<th>CUMULATIVE PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>APPROACHING</td>
<td>20</td>
<td>40.0</td>
<td>20</td>
<td>40.0</td>
</tr>
<tr>
<td>STILL</td>
<td>10</td>
<td>20.0</td>
<td>30</td>
<td>60.0</td>
</tr>
<tr>
<td>SITTING/LYING</td>
<td>9</td>
<td>18.0</td>
<td>39</td>
<td>78.0</td>
</tr>
<tr>
<td>BACKING AWAY</td>
<td>1</td>
<td>2.0</td>
<td>40</td>
<td>80.0</td>
</tr>
<tr>
<td>IN LINE OF FIRE</td>
<td>1</td>
<td>2.0</td>
<td>41</td>
<td>82.0</td>
</tr>
<tr>
<td>NA</td>
<td>1</td>
<td>2.0</td>
<td>42</td>
<td>84.0</td>
</tr>
<tr>
<td>UNKNOWN</td>
<td>8</td>
<td>16.0</td>
<td>50</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Twenty-four (48 percent) of the cases said that they did not intend to shoot the victim when they first grabbed the gun. Eighteen (36 percent) said they did intend to shoot and the remaining eight could not be sure. Forty (80 percent) of the cases did not intend to kill the victim; three did, and the remaining seven could not clearly remember. The most important reasons that a gun was used by the offenders are listed in Table 24.
Table 24  MOST IMPORTANT REASON A GUN WAS USED

<table>
<thead>
<tr>
<th></th>
<th>FREQUENCY</th>
<th>PERCENT</th>
<th>CUMULATIVE FREQUENCY</th>
<th>CUMULATIVE PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO TIME OTHER WEAPON</td>
<td>1</td>
<td>2.0</td>
<td>1</td>
<td>2.0</td>
</tr>
<tr>
<td>NEEDED GUN</td>
<td>8</td>
<td>16.0</td>
<td>9</td>
<td>18.0</td>
</tr>
<tr>
<td>IMMEDIACY</td>
<td>8</td>
<td>16.0</td>
<td>17</td>
<td>34.0</td>
</tr>
<tr>
<td>INTENT TO INJURE</td>
<td>1</td>
<td>2.0</td>
<td>18</td>
<td>36.0</td>
</tr>
<tr>
<td>OTHER TO DROP WEAPON</td>
<td>5</td>
<td>10.0</td>
<td>23</td>
<td>46.0</td>
</tr>
<tr>
<td>STOP ARGUMENT</td>
<td>7</td>
<td>14.0</td>
<td>30</td>
<td>60.0</td>
</tr>
<tr>
<td>OTHER</td>
<td>11</td>
<td>22.0</td>
<td>41</td>
<td>82.0</td>
</tr>
<tr>
<td>NA</td>
<td>4</td>
<td>8.0</td>
<td>45</td>
<td>90.0</td>
</tr>
<tr>
<td>UNKNOWN</td>
<td>5</td>
<td>10.0</td>
<td>50</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Descriptive Data: Case Or Homicide Event

The living room, bedroom and the kitchen were the rooms where most of the homicides occurred (Table 25).

Table 25  PLACE WHERE THE HOMICIDE OCCURRED

<table>
<thead>
<tr>
<th></th>
<th>FREQUENCY</th>
<th>PERCENT</th>
<th>CUMULATIVE FREQUENCY</th>
<th>CUMULATIVE PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>BEDROOM</td>
<td>8</td>
<td>16.0</td>
<td>8</td>
<td>16.0</td>
</tr>
<tr>
<td>KITCHEN</td>
<td>8</td>
<td>16.0</td>
<td>16</td>
<td>32.0</td>
</tr>
<tr>
<td>HALLWAY</td>
<td>6</td>
<td>12.0</td>
<td>22</td>
<td>44.0</td>
</tr>
<tr>
<td>LIVING</td>
<td>13</td>
<td>26.0</td>
<td>35</td>
<td>70.0</td>
</tr>
<tr>
<td>OTHER</td>
<td>7</td>
<td>14.0</td>
<td>42</td>
<td>84.0</td>
</tr>
<tr>
<td>OUTSIDE</td>
<td>7</td>
<td>14.0</td>
<td>49</td>
<td>98.0</td>
</tr>
<tr>
<td>UNKNOWN</td>
<td>1</td>
<td>2.0</td>
<td>50</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Thirty-four (68 percent) of the households where the homicide occurred had a telephone.

According to the cases, the most common reason that the homicide occurred was a perception of being in danger. A variety of other reasons were given as shown in Table 26.
Table 26 MAIN REASON HOMICIDE OCCURRED - PER CASE

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative Frequency</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>JEALOUSY</td>
<td>2</td>
<td>2</td>
<td>4.0</td>
</tr>
<tr>
<td>ACCIDENT</td>
<td>6</td>
<td>8</td>
<td>12.0</td>
</tr>
<tr>
<td>ABUSE</td>
<td>5</td>
<td>13</td>
<td>10.0</td>
</tr>
<tr>
<td>DANGER</td>
<td>15</td>
<td>28</td>
<td>30.0</td>
</tr>
<tr>
<td>ETOH OR DRUGS</td>
<td>5</td>
<td>33</td>
<td>10.0</td>
</tr>
<tr>
<td>MONEY</td>
<td>1</td>
<td>34</td>
<td>2.0</td>
</tr>
<tr>
<td>GENERAL</td>
<td>2</td>
<td>36</td>
<td>4.0</td>
</tr>
<tr>
<td>OTHER</td>
<td>8</td>
<td>44</td>
<td>16.0</td>
</tr>
<tr>
<td>DENIED</td>
<td>1</td>
<td>45</td>
<td>2.0</td>
</tr>
<tr>
<td>UNKNOWN</td>
<td>5</td>
<td>50</td>
<td>10.0</td>
</tr>
</tbody>
</table>

Fifteen (30 percent) of the cases were carrying the firearm on their person just before the murder. Ten (20 percent) of the cases reported that they routinely carried a firearm with them. Generally, the case did not have to go far to obtain the firearm. The distances to the firearm are shown in Table 76, Appendix C.

It is not known how many of the homicide firearms had working safeties. Fifteen cases could remember that the firearm used had no safety and nine did not know. Of the 26 firearms that reportedly had safeties, seven had to be operated by the offender before firing the weapon.

In reflecting on the homicide incident, 23 (46 percent) felt now that they could have gotten out of the situation without the use of a gun. Nineteen (38 percent) felt they needed the gun and eight were still not sure. Before the
homicide, 74 percent of the cases did not think about the fact that they could go to prison for the use of a gun. Eight had thought about it and two could not recall.

The majority of the homicides (60 percent) occurred with at least one witness present. Table 77 in Appendix C shows the number of witnesses present at the homicide.

**Matched Case-Control Analyses**

A number of matched-pair analyses were conducted. The variables tested and the resulting odds ratios, 95 percent confidence intervals and associated p values are presented by five category groupings in Tables 27 through 31. The summary statistics are based on cases and controls coded as a one (positive) if the exposure to the variable of interest was present, and a zero (negative) if the exposure to the variable was absent.

Table 27 presents the summary data for the demographic variables. The cases had lower household incomes than their matched controls for all income levels tested.
### Table 27 ODDS RATIOS OF COMMITTING DOMESTIC HOMICIDE WITH A FIREARM IN A HOUSEHOLD CONTAINING AT LEAST ONE FIREARM, BY DEMOGRAPHIC VARIABLES WITH MATCHED-PAIR ANALYSES

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>OR</th>
<th>95% CI</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal Income $10,000 per year or less</td>
<td>1.9</td>
<td>0.7 - 5.4</td>
<td>0.2</td>
</tr>
<tr>
<td>Personal Income $15,000 per year or less</td>
<td>1.6</td>
<td>0.5 - 5.1</td>
<td>0.48</td>
</tr>
<tr>
<td>Household Income $10,000 or less per year</td>
<td>3.0</td>
<td>0.88-15.2</td>
<td>0.05</td>
</tr>
<tr>
<td>Household Income $15,000 or less per year</td>
<td>3.3</td>
<td>0.88-15.2</td>
<td>0.05</td>
</tr>
<tr>
<td>Household Income $20,000 or less per year</td>
<td>15.0</td>
<td>1.8 -2.8x10^5</td>
<td>0.01</td>
</tr>
<tr>
<td>Not finish high school</td>
<td>4.5</td>
<td>1.6 -14.0</td>
<td>0.0005</td>
</tr>
<tr>
<td>Employed Fulltime</td>
<td>1.3</td>
<td>0.5 - 3.8</td>
<td>0.66</td>
</tr>
<tr>
<td>Marital status - married vs. all other</td>
<td>0.7</td>
<td>0.3 - 1.9</td>
<td>0.52</td>
</tr>
<tr>
<td>Have any children - fathered or borne</td>
<td>2.2</td>
<td>0.6 - 8.8</td>
<td>0.21</td>
</tr>
</tbody>
</table>
The variable of household income less than $20,000 proved to be the strongest predictor with an OR=15. Not finishing high school was also a predictor of being a case in this study sample with the OR=4.5.

Table 28 presents the summary data for the childhood variables. A history of being severely punished as a child at least once per year was predictive for the cases as compared with the matched controls, with an OR=4.3. Growing up in a low income household was close to being a statistically significant risk factor.

Table 29 presents the summary data for the firearms related variables. Exposure to a loaded firearm was strongly predictive of being a case, with an OR=24. Having parents that did not own firearms also appeared to predominate among cases.

Table 30 shows the summary data for adult experience variables. Having ever been arrested for any prior criminal act was predictive of being a case, with an OR=3.5.
### Table 28  ODDS RATIOS OF COMMITTING DOMESTIC HOMICIDE WITH A FIREARM IN A HOUSEHOLD CONTAINING AT LEAST ONE FIREARM, BY CHILDHOOD ORIENTED VARIABLES WITH MATCHED-PAIR ANALYSIS

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>OR</th>
<th>95% CI</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived living status as a child (low income versus all other)</td>
<td>2.4</td>
<td>0.9 - 7.3</td>
<td>0.06</td>
</tr>
<tr>
<td>Severely punished as a child, one or more times a year</td>
<td>4.3</td>
<td>1.02-27.6</td>
<td>0.002</td>
</tr>
<tr>
<td>Considered themselves a problem child</td>
<td>0.7</td>
<td>0.2 - 2.3</td>
<td>0.6</td>
</tr>
<tr>
<td>Childhood environment - large city vs. other</td>
<td>0.7</td>
<td>0.2 - 2.3</td>
<td>0.6</td>
</tr>
<tr>
<td>Juvenile detention - ever in</td>
<td>1.4</td>
<td>0.3 - 6.2</td>
<td>0.77</td>
</tr>
<tr>
<td>Ever runaway as a child</td>
<td>2.3</td>
<td>0.6 -11.2</td>
<td>0.26</td>
</tr>
<tr>
<td>Ever beaten badly with fists or feet before 18, not by parents</td>
<td>1.3</td>
<td>0.4 - 4.4</td>
<td>0.8</td>
</tr>
<tr>
<td>Ever intentionally injured someone before 18</td>
<td>1.0</td>
<td>0.3 - 3.7</td>
<td>0.79</td>
</tr>
</tbody>
</table>
Table 29  ODDS RATIOS OF COMMITTING DOMESTIC HOMICIDE WITH A FIREARM IN A HOUSEHOLD CONTAINING AT LEAST ONE FIREARM, BY FIREARMS RELATED VARIABLES, WITH MATCHED-PAIR ANALYSIS

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>OR</th>
<th>95%-CI</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure to firearm(s) usually kept loaded</td>
<td>24.0</td>
<td>3.0 - 5.4x10^5</td>
<td>0.00001</td>
</tr>
<tr>
<td>Never practiced with firearms</td>
<td>1.9</td>
<td>0.7 - 5.1</td>
<td>0.17</td>
</tr>
<tr>
<td>Kept firearm for self-protection vs. other reasons</td>
<td>1.5</td>
<td>0.6 - 3.8</td>
<td>0.4</td>
</tr>
<tr>
<td>Parents did not own a firearm during subject's childhood</td>
<td>4.0</td>
<td>1.1 - 18.1</td>
<td>0.01</td>
</tr>
<tr>
<td>Other family member ever shot</td>
<td>1.2</td>
<td>0.4 - 3.6</td>
<td>0.8</td>
</tr>
<tr>
<td>Discharged firearm before 18 years old</td>
<td>0.5</td>
<td>0.1 - 1.6</td>
<td>0.2</td>
</tr>
</tbody>
</table>

Also predictive of being a case was reluctance to use counseling to resolve problems. Being a chronic drinker of alcohol was also predictive of being a case, with an OR=2.8. Having fewer friends and relatives to count on for help was predictive of being a case as compared with the matched control group.
Table 30 ODDS RATIOS OF COMMITTING DOMESTIC HOMICIDE WITH A FIREARM IN A HOUSEHOLD CONTAINING AT LEAST ONE FIREARM BY ADULT EXPERIENCE VARIABLES, WITH MATCHED PAIR ANALYSIS

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>OR</th>
<th>95% CI</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chronic drinker, at least 60 alcoholic drinks / month</td>
<td>2.8</td>
<td>1.0 - 9.4</td>
<td>0.04</td>
</tr>
<tr>
<td>Arrested for any prior criminal act</td>
<td>3.5</td>
<td>1.2 - 11.2</td>
<td>0.007</td>
</tr>
<tr>
<td>Religious activity - attends church regularly</td>
<td>1.6</td>
<td>0.6 - 4.8</td>
<td>0.38</td>
</tr>
<tr>
<td>Television viewing, at least 35 hours per week</td>
<td>1.3</td>
<td>0.4 - 5.1</td>
<td>0.79</td>
</tr>
<tr>
<td>Would use counseling to resolve problems</td>
<td>0.11</td>
<td>0.0 - 1.04</td>
<td>0.03</td>
</tr>
<tr>
<td>Attended counseling for violent behavior, in prior two years</td>
<td>1.4</td>
<td>0.5 - 4.7</td>
<td>0.63</td>
</tr>
<tr>
<td>Did use counseling for domestic violence problems in prior two years</td>
<td>0.7</td>
<td>0.2 - 2.3</td>
<td>0.65</td>
</tr>
<tr>
<td>Had friends or relatives they could count on for help</td>
<td>0/6</td>
<td>- - -</td>
<td>0.02</td>
</tr>
<tr>
<td>Ever been in prison</td>
<td>1.5</td>
<td>0.6 - 3.8</td>
<td>0.34</td>
</tr>
</tbody>
</table>
Table 31 gives the summary data for adult violence related variables. Having been attacked by the victim within the past two years was predictive of being a case, with an OR=10.5. Ever being injured by a weapon other than a firearm was also predictive of being a case, with an OR=3.5. Similarly, ever been beaten up badly by fists or feet was close to being statistically significant.

Table 31 ODDS RATIOS OF COMMITTING DOMESTIC HOMICIDE WITH A FIREARM IN A HOUSEHOLD CONTAINING AT LEAST ONE FIREARM, BY ADULT VIOLENCE VARIABLES WITH MATCHED PAIR ANALYSIS

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>OR</th>
<th>95%-CI</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Police responded to house for domestic fight in prior two years</td>
<td>2.5</td>
<td>0.6 -12.2</td>
<td>0.18</td>
</tr>
<tr>
<td>Attacked by victim or household member in prior two years</td>
<td>10.5</td>
<td>2.1-128.6</td>
<td>0.0001</td>
</tr>
<tr>
<td>Ever injured by a weapon other than a firearm</td>
<td>3.5</td>
<td>1.0 -16.1</td>
<td>0.03</td>
</tr>
<tr>
<td>Ever been beaten up badly by fists or feet anytime, not by parents</td>
<td>2.1</td>
<td>0.8 - 5.6</td>
<td>0.08</td>
</tr>
<tr>
<td>Ever intentionally injure someone else with fist or feet as an adult</td>
<td>2.8</td>
<td>0.7 -13.2</td>
<td>0.12</td>
</tr>
<tr>
<td>Ever injure someone with a weapon as an adult</td>
<td>3.0</td>
<td>0.4 -43.6</td>
<td>0.45</td>
</tr>
</tbody>
</table>
Attempts were made to carry out analyses for potential confounding. Generally, the sample size was insufficient to conduct the appropriate analyses. However, there were three variables of interest that had sufficient matched sets so that such analyses could be conducted.

Table 32 provides a listing of a number of potentially confounding variables compared one at a time to the variable of interest: firearms usually kept loaded. All of the individual adjusted odds ratios are in the same direction and most are of about the same magnitude. The unadjusted odds ratio generally overestimates the adjusted odds ratios about two fold.

The potential confounders presented in Table 32, 33 and 34 were selected because of their potential for confounding and, secondly, because they possessed a sufficient number of discordant pairs for the necessary statistical calculations. There were other variables that were judged as potential confounders, but were not included due to limited numbers of discordant pairs. (105)

Table 33 provides a listing of a number of potentially confounding variables compared one at a time to the variable of interest: attacked by victim (case) or household
Table 32 SUMMARY* LISTING OF POTENTIAL CONFOUNDERS TO THE VARIABLE OF INTEREST: FIREARMS USUALLY KEPT LOADED

<table>
<thead>
<tr>
<th>VARIABLE OF INTEREST</th>
<th>UNADJ OR</th>
<th>X²</th>
<th>95 % CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Firearms usually kept loaded</td>
<td>24</td>
<td>19.4</td>
<td>3-5.4x10⁵</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>POTENTIAL CONFOUNDERS</th>
<th>ADJ OR</th>
<th>X²</th>
<th>95 % CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attacked by victim in the past two years</td>
<td>11</td>
<td>12.0</td>
<td>2.8 - 37.0</td>
</tr>
<tr>
<td>Parent's did not own a firearm during subject's childhood</td>
<td>14</td>
<td>12.1</td>
<td>3.5 - 55.8</td>
</tr>
<tr>
<td>Arrested for any prior criminal act</td>
<td>11</td>
<td>9.1</td>
<td>2.3 - 52.2</td>
</tr>
<tr>
<td>Discharged firearm before 18 years old</td>
<td>16</td>
<td>12.3</td>
<td>3.4 - 75.6</td>
</tr>
<tr>
<td>Never practiced with firearms</td>
<td>11</td>
<td>7.4</td>
<td>2.0 - 62.1</td>
</tr>
<tr>
<td>Other family member ever shot</td>
<td>7/0</td>
<td>12.1</td>
<td>- - -</td>
</tr>
<tr>
<td>Marital status - married vs all other</td>
<td>7/0</td>
<td>12.1</td>
<td>- - -</td>
</tr>
</tbody>
</table>

* ADJUSTED ODDS RATIOS, CHI SQUARE AND CONFIDENCE INTERVALS ARE FOR EACH POTENTIAL CONFOUNDER INDIVIDUALLY
member (controls) in the prior two years. The unadjusted or crude odds ratio overestimates four of the adjusted odds ratios by about 50 percent. The unadjusted odds ratio is about equal to the adjusted odds ratio for household income less than $20,000, and underestimates the adjusted odds ratio for the variable of fulltime employment status by 30 percent.

Table 34 provides a listing of a number of potentially confounding variables compared one at a time to the variable of interest: arrested for any prior criminal act. The unadjusted odds ratio of 3.5 underestimates the adjusted odds ratios in seven of the eight individual comparisons. The range of underestimation is from 12.5 to 75 percent.
<table>
<thead>
<tr>
<th>VARIABLE OF INTEREST</th>
<th>UNADJ OR</th>
<th>X²</th>
<th>95 % CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attacked by victim or household member in prior two years</td>
<td>10.5</td>
<td>14.9</td>
<td>2.1 - 128.6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>POTENTIAL CONFOUNDERS</th>
<th>ADJ OR</th>
<th>X²</th>
<th>95 % CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Household income $20,000 or less per year</td>
<td>11.0</td>
<td>9.1</td>
<td>2.3 - 52.3</td>
</tr>
<tr>
<td>Chronic drinker - at least 60 alcoholic drinks / month</td>
<td>7/0</td>
<td>12.1</td>
<td>- - -</td>
</tr>
<tr>
<td>Would use counseling to resolve problems</td>
<td>6.5/0</td>
<td>11.1</td>
<td>- - -</td>
</tr>
<tr>
<td>Have any children - fathered or borne</td>
<td>7.5</td>
<td>13.1</td>
<td>2.5 - 22.4</td>
</tr>
<tr>
<td>Employed fulltime</td>
<td>15.0</td>
<td>7.7</td>
<td>2.2 - 102.0</td>
</tr>
<tr>
<td>Marital status - married vs all other</td>
<td>7/0</td>
<td>12.1</td>
<td>- - -</td>
</tr>
</tbody>
</table>

* ADJUSTED ODDS RATIOS, CHI SQUARE AND CONFIDENCE INTERVALS ARE FOR EACH POTENTIAL CONFOUNDER INDIVIDUALLY
### Table 34 SUMMARY LISTING OF POTENTIAL CONFOUNDERS TO THE VARIABLE OF INTEREST: ARRESTED FOR ANY PRIOR CRIMINAL ACT

<table>
<thead>
<tr>
<th>VARIABLE OF INTEREST</th>
<th>UNADJ OR</th>
<th>X²</th>
<th>95 % CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arrested for any prior criminal act</td>
<td>3.5</td>
<td>7.3</td>
<td>1.2 - 11.2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>POTENTIAL CONFOUNDERS</th>
<th>ADJ OR</th>
<th>X²</th>
<th>95 % CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Severely punished as a child, one or more x/yr</td>
<td>5.3</td>
<td>14.1</td>
<td>2.0 - 12.7</td>
</tr>
<tr>
<td>Household income $10,000 or less per year</td>
<td>4.0</td>
<td>4.1</td>
<td>1.04 - 15.5</td>
</tr>
<tr>
<td>Household income $20,000 or less per year</td>
<td>14.0</td>
<td>12.1</td>
<td>3.2 - 62.0</td>
</tr>
<tr>
<td>Chronic drinker - at least 60 or more alcoholic drinks per month</td>
<td>4.0</td>
<td>10.1</td>
<td>1.7 - 9.5</td>
</tr>
<tr>
<td>Juvenile detention- ever in</td>
<td>4.3</td>
<td>11.1</td>
<td>1.8 - 10.2</td>
</tr>
<tr>
<td>Considered themselves a problem child</td>
<td>7.0</td>
<td>12.1</td>
<td>2.3 - 20.8</td>
</tr>
<tr>
<td>Perceived living status as child, low income vs others</td>
<td>2.5</td>
<td>8.1</td>
<td>1.3 - 4.7</td>
</tr>
<tr>
<td>Employed fulltime</td>
<td>4.7</td>
<td>12.1</td>
<td>2.0 - 11.3</td>
</tr>
</tbody>
</table>

* ADJUSTED ODDS RATIOS, CHI SQUARE AND CONFIDENCE INTERVALS ARE FOR EACH POTENTIAL CONFOUNDER INDIVIDUALLY
CHAPTER V
DISCUSSION

Methodological Concerns

In part, because of the complexity of the study, a number of methodological issues were identified during the design, data collection and data analysis phases of this study. These issues are addressed below.

Potential Biases

A bias in epidemiologic research terms is defined as a systematic distortion present when estimating the association of interest. (107) Sackett listed and explained many of them. (108) There are a specific few that merit a brief review at this point due to their potential relevance to this study.

a. Recall Bias

In some studies there is concern about the ability of a person to recall past life events that are of interest to
the researcher. Some people may have forgotten much of the past. Others may have had experiences that would cause them to remember or recall events more clearly. My personal experiences as a disease investigator support this observation.

The ability of people to recall past events varies with the severity or intensity of the past event. In foodborne disease outbreaks, persons not becoming ill generally have a difficult time remembering what foods they consumed just one to three days prior. Conversely, parents of children who have been hospitalized or died secondary to Reye's Syndrome have generally displayed strong recall of events surrounding the antecedent illness to the Reye's Syndrome, even though this illness may have occurred days to weeks prior to the interview.

In this study, the cases (homicide offenders) were interviewed from 2-4 years after committing the homicide. Possibly because of the traumatic nature of the event and the reliving of the event with the police, courts and themselves, they appeared to have excellent recall. Spot comparisons were made of the case's answers and the police and corrections data that were available to the interviewers. There was a high level of agreement. These spot comparisons routinely produced reliability of between 95 -
100 percent. These findings correlate well with findings of a large study of imprisoned felons conducted by Marquis for the Rand Corporation. (109) For questions such as prior convictions, etc., they had approximately 94 percent agreement.

Events that occurred many years earlier (e.g., child punishment) were not able to be validated with the data available. It is possible that cases could have developed a different story of past life events to assist with rationalizing the homicide.

Controls on the other hand were less likely to have a need to rationalize past actions. They were being interviewed simply as persons living in the neighborhood of a past homicide offender. Controls were also questioned about more recent events. Because of the time lag in identifying controls after the homicide, they were asked to go back two years from the interview time and to answer most questions as if they were current experiences. The need for these time differences is further explained in the following section: a. Time Differences. There was no way to validate the responses of the controls. Although subjective, most interviewers felt that they were able to gain trust with the respondents in both groups.
Available data indicate that cases were relating reliable information. However, if the controls were systematically less reliable in their responses, biased comparisons would have occurred. Depending on the variable, differences between the cases and the controls may have been increased or decreased.

b. Misclassification Bias

This is an important potential source of bias in any study. According to Schlesselman, most misclassification occurs in the determination of an individual's exposure to the variables of interest. (104) It is also possible to misclassify an individual as to their status as a case or a control. It is very unlikely that individuals were misclassified as to their status as a case or a control. Homicide offenders entered into this study all admitted the domestic homicide. All controls denied ever committing a homicide as an adult, although one control as well as one case admitted to a homicide before they were 18. Since greater than 90 percent of domestic homicides are solved and effectively prosecuted, (4) it is unlikely that any control had committed a domestic homicide, not been caught, prosecuted and imprisoned and, thus, be around to consent to the interview only to deny the question.
Firearms were a primary variable under investigation. By virtue of committing the homicide with a firearm, the cases were not misclassified. The controls all admitted to having a firearm in their residence at the time of the interview, although this was not verified by the interviewers. It is unlikely that the controls would have a reason to admit to a firearm in the home if there was no firearm present. However, some of the persons interviewed may have denied a firearm, even though one was present, and thus did not become a control.

Only Dayton and Cleveland among the study sites have mandatory handgun licensing. According to their police departments, only some of the handguns are actually licensed. (110) Even if these registries would be useful in validating the ownership of a handgun by a potential control, it could not be known whether others in the household might or might not be licensed. Also, the licensing in these two cities does not cover rifles or shotguns.

Therefore, there is no reasonable way to validate the presence of a firearm in the household of a control. It is difficult to think of a reason why a person would admit to having a gun in the home if none were present, given the circumstances of already participating in the interview process before the firearms questions were asked. It is
more likely, yet impossible to calculate, that a control would deny the presence of a firearm in the house. This could potentially occur for any number of reasons. For example, the persons may have a firearm that was stolen, they could be criminals of some sort, they just do not know etc. If there were systematic denials for a particular reason(s) the statistical comparisons to the case could be affected either positively or negatively.

c. Selection Bias

The selection of cases varied among the six cities. There was over representation of cases from Cleveland, based on its percentage of all homicides in the six largest cities in Ohio. There were 28 (56 percent) of the study homicides from Cleveland. The expected number should have been approximately 18, based on an equal distribution of homicides in the six cities. The likely reason for this is that there was good access to police homicide data from the Cleveland Police Department. This allowed better identification and location of offenders compared with the police records in Dayton and Columbus and the intake records of the Ohio Department of Rehabilitation and Corrections.

There were no significant differences noted between the cases from Cleveland compared with the other five cities on a number of variables tested. There is no evidence in the
literature that domestic homicide offenders should vary appreciably in their characteristics and risk factors from one major metropolitan area to another, especially within the same state. Therefore, the excess cases identified and selected from Cleveland do not pose a significant bias. The issue of generalizability will be discussed later.

As noted above, three of the cases agreeing to an interview denied their guilt either during or after the interview. They were not included in the study because the evidence against them was sufficient to cause a jury of their peers to find them guilty and there were serious doubts about the veracity of their answers. This possibility was anticipated and the study protocol called for their removal from the study. If they truly were not guilty and were included as cases, they may have diluted the differences between cases and controls. If they were guilty and were included as cases, it is not clear how their answers might have systematically affected the results.

d. Interviewer Bias

Interviewer bias is always a potential source of difficulty in personal interviews. Interviewers can readily affect the responses of the respondents. Ideally interviewers should be ignorant of both the hypotheses of the study and the classification of the respondent as case or
control.

Efforts were made to limit the amount of potential interviewer bias by training all five interviewers in appropriate interviewing techniques and by developing a structured questionnaire to which they all adhered. It was stressed that there were no right or wrong answers. It was not possible to keep the interviewers totally in the dark regarding case or control status of the interviewee. Some of the questions dealt with the actual homicide event. Also, most of the cases were interviewed in prison.

According to Schlesselman "Use of a standardized interview form combined with interviewer training are both feasible and effective ways to minimize biased patient recall and interviewer bias." (104) The present study emphasized both of the above.

e. Prevarication Bias

Study subjects may have motives that lead them to answer in a way that does not truly reflect the variables under study. This is particularly a concern when conducting interviews in the prison setting. Prisoners may expect favored status or treatment if they cooperate in the study and offer answers that they feel may help them. This potential problem was dealt with at the very first contact
with the prisoners. The introductory letter and the detailed informed consent made it clear there would be no way that the prisoner could gain or lose from participation in the study. The study was presented to the offenders as something that may help others to keep from committing a violent assault or homicide.

During the development of this study it was felt that prisoners, convicted of homicide and thereby serving long prison sentences, might be inclined to color the circumstances surrounding the homicide event so as to potentially increase their chances for earlier parole etc. Specifically there was concern that cases would overstate the involvement of the victim (e.g., need for self protection, level of intoxication etc.). Since most of the homicides had witnesses, the police records were used to validate the responses of the cases, where possible. Although a correlation index was not developed between police records and the case's statements in these areas, a review of the records gave a strong indication of agreement between case's answers and police records.

The controls likewise had nothing to gain from their participation in the study. The potentially sensitive questions about firearms ownership were not asked until well into the interview. Questions that may have been
considered criminally incriminating were not asked of the controls due to concerns about the validity of the answers. There was also a concern that the control would end the interview if questions became too sensitive.

f. Response Bias

Who responds or agrees to be in a study and who does not are clearly sources of bias. In the present study, there was relatively little reluctance to participate among the offenders. Of those whom we were able to contact, 81 percent agreed to participate. There were problems in locating some of the offenders, in the prison system, due to logistical and resource constraints. Prisoners are likely to make several moves during their first year or two in the corrections system. They are sent to different prisons based upon needs for behavior analysis, assessment of risk of escape, harm to other prisoners, disruptive tendencies, available space etc. There was access only to prisoner intake files, listing the first prison assignment. There was no access to the most up-to-date computerized listing of prisoner addresses. Therefore, 35 prisoners in the system could not be located and there was no way of knowing why prisoners were moved. Therefore, the biases that this engendered can not be addressed in the present study. If there were certain types of prisoners who could not be located and interviewed (e.g., the most violent)
some bias may be introduced. However, from information obtained from an employee working in the records area of the Department of Rehabilitation and Corrections, the early movement of prisoners appeared to be quite random and did not likely add to significant biased results in this study. However, this can not be quantitated or verified.

Attempts were made to contact control subjects when they would most likely be at home. Emphasis was given to weekday evenings and daytime on the weekends. Interviewers were instructed to rotate their attempts in a particular neighborhood. Letters of intent and information were mailed to each home in the targeted area of the selected neighborhoods before the interviewers arrived. The response rate for those controls that fit the matching criteria and that were available for interview ranged from 100 percent in Cincinnati to 94 percent in Columbus. Information was unavailable regarding the gender and ages of all persons living in the contacted control households. Therefore, it is not known whether the person that happened to answer the door gave accurate information regarding the occupants that would fit the matching criteria.

Because of resource limitations, call-backs were not made to a residence. Interviewers went directly to the next residence seeking a control. This process may have
missed some persons, such as those working second or third shifts, or those not at home for other reasons. However, the potential biases introduced by moving to the next house may have been minimal. According to Kish in Dillman, "The fact that housing within neighborhoods tends to be somewhat homogeneous means that the substituted household is likely to contain people with similar characteristics (e.g., education, occupation, income, and perhaps stage in family life cycle)." (112) Because of this expected homogeneity of neighborhoods and the high response rate for controls, the response rate bias is expected to be minimal, albeit unquantifiable.

Miscellaneous Methodological Issues

There are a number of other methodological issues in addition to the potential biases noted above.

a. Time Differences

The nature of this matched-pair design called for cases to be identified before controls were selected. Cases could not be entered into the study until they were first identified, found to be clear of their pre-appeal judicial process, located, invited into the study and finally interviewed. Cases were identified starting in 1986 from the population of homicide offenders between 1982 and 1985.
Due to the delay in the judicial process and the other necessary processes noted above, controls were not entered into the study until 1986 and 1987.

This may have contributed to a concern about recall differences noted in the above section. There is also the possibility that events occurring during the passage of time could somehow have altered the nature of the neighborhood controls and their responses from what they would have been if interviewed earlier. Intervening local and national events might have contributed to differences between cases and controls. However, no specific changes could be shown to be related to potential response bias.

b. Generalizability

This study dealt with only a relatively small but important sub-component of all homicides. Caution should be used when interpreting the results of this study beyond the specific parameters set forth in the case definition. Specifically, this research identified homicides that were not secondary to other crimes; were committed between adults that were either friends, relatives or spouses; were committed with a firearm; and were committed in or near a residential environment in one of the six largest cities in Ohio.
Internal validity allows conclusions about whether or not a particular exposure differed significantly between cases and controls. (113) Emphasis was first placed as much as possible on internal validity in this study. According to Campbell and Stanley "external validity, like the question of inductive inference, is never completely answerable." (114) Since attempts were made to identify all domestic homicides committed with firearms, there should be some reasonable extrapolation of the results for this study sample at least to other urban areas in Ohio and the United States. The reader is reminded that potential differences between the male and female cases were not explored. Therefore, caution is advised regarding generalizing this data to specific groups of male of female homicide offenders.

c. Sample Size

This study had 50 matched-pairs for evaluation. Actually, this sample is one of the largest, if not the largest of its type studied in this manner. The cost and difficulty of conducting such a study also affected the sample size. Of concern in determining sample size is the power of the study to identify differences if they exist. If the relative risk to be identified is two, the overall statistical power of this study is quite low (11-47 percent). This may have resulted in missing certain real differences
between cases and controls. However, even with this range of power several important differences were identified.

The larger the sample size, the more detailed the analyses that can be performed. In this regard this study was lacking. The matched-pair design with only 50 pairs made extensive analyses of confounding and other intervening variables difficult to perform in most instances. Therefore, emphasis was placed on the univariate comparisons and two-strata Mantel-Haenszel comparisons.

d. Missed Opportunities

Unfortunately, responses regarding persons per room of a dwelling, or household crowding, were not obtained in a manner that allowed comparisons between cases and controls. A minor language change was made from the case to the control questionnaire that caused this difficulty. This difference was not noted until the analysis phase.

e. Matched Pair Design

In certain circumstances a matched analysis can be of great benefit to a research design. At other times it can lead to a loss in efficiency. It is appropriate and useful to match cases to controls when there are certain risk factors that may confound the estimation of the effect of the exposure on the outcome under investigation. Matching
is particularly useful when the sample size may be small, often precluding stratification after the data has been collected.

According to Schlesselman "The extent that cases and controls are similar on matching variables, their difference with respect to disease may be attributed to some other factor." (104) In this study, matching was appropriate because there were some variables that were known to correlate with homicide (e.g., sex, age and socioeconomic status). The sample size of available cases was also anticipated to be relatively small. Limited resources were also a factor in selecting a matched design and analysis. The matched-pair design was selected primarily because of its economic efficiency considering what was known about potential confounding factors.

Miettinen's test based method of determining confidence intervals for the adjusted odds ratios was used. (106) This test provides an approximation of the confidence interval by using the Mantel-Haenszel generated odds ratio and chi-square statistic. There is some controversy regarding the use of test based procedures, because the farther the odds ratio gets from one and the smaller the sample size, the less accurate are the confidence intervals. (115)
f. Confounding and Interaction

According to Schlesselman, "a confounder (confounding variable) is an extraneous variable that satisfies both of two conditions: (1) it is a risk factor for the study disease; and (2) it is associated with the study exposure but is not a consequence of exposure." (104) Kleinbaum et al. describe a confounder "to be a 'risk factor' for the disease under study whose 'control' in some appropriate way (either singly or in conjunction with other variables) will reduce or completely correct a bias when estimating the (true) exposure-disease relationship". (107)

As noted above, one of the reasons for conducting a matched analysis was to control for some anticipated confounders in the design rather than in the analysis phase of the study. Attempts were also made to adjust for some potential confounding in the analyses and efforts were made to look at many potentially confounded estimates of risk. This was done with the Mantel-Haenszel tests for adjusted odds ratios.

There were concerns about small numbers in the Mantel-Haenszel analyses. This lead to the use of a test developed by Mantel and Fleiss (105) to determine whether the sample size for the Mantel-Haenszel adjusted odds ratios
wa sufficient for valid results. The use of this procedure indicated that most of the adjusted odds ratios developed may not have been valid. Many of the tests were close to being valid and, therefore, the trends in the data were noted.

Statistical interaction is determined by comparing different strata adjusted odds ratios. The nature of the matched-pair design is such that each matched-pair is one individual stratum. This fact does not allow exploration of interactions, except when large numbers of cases and controls are available for use in multiple logistic analysis. Because of limited sample size, exploration of interactions in this study was not conducted.

g. Hypotheses Generating Study

In most areas of medical or public health research there is a specific question or set of questions that the investigator wants to test. That is to say, a hypothesis has already been developed and a study is designed to gather data to test the hypothesis. In this study there were many issues to be explored but very few preconceived hypotheses to be tested. This is primarily because there is a large amount of knowledge yet to be gained about risk factors for homicide in general and specifically domestic homicides. Therefore, this study was designed in part to gather data
for analysis that would give indications of risk factors for further detailed analysis. This does not preclude one from developing and evaluating intervention strategies in advance of more rigorous specific hypotheses.

h. Limitations On Some Comparisons

There were several important differences noted between cases and controls. Cases had committed homicides and the controls presumably had not. Many of the cases did not actually own the homicide firearm or any firearm. However, they shot someone with a firearm in a residential environment, not necessarily their own household. By definition, all of the controls admitted to firearms in their residence, even if they were not the actual owner of the firearm. Therefore, it is possible that neither the case nor the control personally owned a firearm, but both had access to firearms in a residential setting. The control's access to firearms was limited to their own household, whereas the case's access was in their own household or the household where the homicide occurred, which was sometimes not the case's household. This difference is subtle but may have affected the estimated relative risk of some firearms related questions.

Another area of concern is the fact that there were no homicide victims to refer to with the controls, only poten-
tial victims. Potential victims were defined as other household members. Both cases and controls may have had recent violent confrontations with friends, relatives or spouses that were not current household members. These interactions would not have been identified in this study, unless the confrontation resulted in a homicide. In these instances, cases would have had a small potential to have an expanded pool of victims relative to controls.

Sixty-two percent of the cases and victims lived together at the time of the homicide. Therefore, 38 percent of the victims were non-household members of the case at the time of the homicide. These persons were more likely to be friends and relatives rather than spouses. It is assumed then that these non-household victims were less likely than household members, such as, spouses, adult children or parents to have had past violent interactions with the case (i.e., they did not spend as much time with the case). With the controls, information was obtained only on household members as potential victims. Therefore, differences found between cases and controls on variables such as prior assaults by victim and prior domestic fights are potential biases towards the null and the differences found may actually be of greater magnitude.
Another issue worth noting is the difference identified between cases and controls on the variable of household income less than $20,000. As noted above, the cases had to be enrolled into the study and interviewed before the control selection and interview process could begin. The information from the cases related to the time preceding the homicides, which occurred during 1982 to 1985. Information on control subjects concerned the time before the interview, from 1986 and 1987. Therefore, for most case-control pairs, questions such as household income related to time periods that were on the average about three years apart. The differences noted may have been affected by inflation, changes in employment opportunities, and increasing numbers of two person income families over several years of time.

Discussion Of Descriptive Results

Of the information collected in the present study, not all was amenable to analytic comparison. Considerable descriptive data are presented on the homicide offenders and to a lesser extent on the victims. Because of the large amount of data presented in the results chapter, a summary is given here in the form of generalized profiles of the firearms, offenders, the homicide events etc.
The typical firearm was a .38 caliber revolver with a short barrel. The gun was not necessarily cheap in quality or in price and was obtained by its owner for protection and concealability reasons. The gun was owned for a relatively short time and not usually obtained from a licensed firearms dealer. The offender did not own the weapon used in the majority of cases. Most offenders could not identify the type of ammunition used until shown a picture by the interviewer. The firearms were readily accessible and loaded. Because most were revolvers, few had safeties that had to be manipulated to fire the weapon. Many of the murder weapons were being carried concealed by the offender at the time of the homicide.

A generalized profile of the homicide event would be as follows. Most of the homicides occurred during an argument. Often the offender fired within seconds after putting hands on the gun. Almost half of the offenders fired only one shot at the victim. Many of the victims dared the offender to shoot. More homicides occurred in the living room of the dwelling followed closely by the bedroom and kitchen. Many of the residences where the homicides took place did not have a telephone.

A majority of the offenders had consumed alcohol, drugs or both on the day of and preceding the homicide. Most did
not intend to shoot the gun and did not wish to kill the victim. Three quarters of the offenders did not consider that they might go to prison for shooting at the victim. In retrospect, about half of the offenders felt they could have gotten out of the situation without firing the gun.

There are many implications for the prevention of domestic homicide and firearms assault in the above paragraphs. The potential applications of the knowledge gained will be discussed in more detail later in this chapter.

a. Descriptive Results Relative to Offender

Controls were not directly matched to cases on the variable of race. Differences associated with race may actually be due to cultural and socioeconomic factors that are correlated with race. (33, 59, 61) To adjust for socioeconomic factors, controls were matched on neighborhood of residence. Although our society may be more integrated today compared to a generation ago, neighborhoods still tend to be homogeneous. (116)

In numerous studies blacks and other racial and ethnic minorities are over represented in the ranks of homicide offenders and victims. (117-121) This study found that 35 (70 percent) of the offenders were black, a higher rate than the black proportion of the population in any of the
six cities in the study. It is also much higher than the National Institute of Justice data for 1985, which states that nationally 44.2 percent of all homicide offenders killing family members were black. Nationally, 39 percent of offenders in all types of homicides were black. (54)

The relatively high rate of black offenders in this study could be due to several causes. First, the data may be a true reflection of a large over representation of blacks as homicide offenders fitting the case definition for this study. Secondly, the comparison to national rates may not be a true "apples to apples" comparison since this study concentrated on large cities in Ohio. These cities have a larger concentration of black residents than the national population. Finally, many of the cases for this study were identified from the state's prison records. It is quite likely that blacks are over represented in the prison population.

Males are also over represented (70 percent) as homicide offenders. However, the percent of males is similar to the data of the National Institute of Justice. This national clearing house for crime information states that nationally 65.4 percent of family homicide offenders are male and 66.8 percent of all homicide offenders are male. Wolfgang and Ferracuti, in a review of the literature from many socie-
ties, indicate that youthful males exhibit the highest association with violent crime. They also feel that physically aggressive behavior for this group converges with notions about the masculine ideal. (40)

The median age for offenders in this study was 34, closely parallel with the national median age of 32 for family homicides. The median age for all homicide offenders nationally is 28.

Information from the National Institute of Justice states that 43 percent of family homicide victims are female. This study found that 46 percent of the victims were female. The total national percentage for female victims for all homicides is about 24 percent. It appears that the sex distribution of victims is about what might have been expected on the basis of national data.

National figures also indicate that about 44 percent of family homicides and total homicide victims are black. In this study 56 percent of the victims were black. Homicide and particularly domestic homicide is primarily an intra-racial event. Therefore, since most (70 percent) of the offenders were black, more black victims were to be expected.
The median age for family homicide victims at the national level is 33 years; the median age of the victims in this study is also 33 years. Like the offenders, the victims paralleled the national data in age and sex but not in race.

Only about 25 percent of the victims were employed full time and 10 percent part time outside the home. This means that for most of the day there were many potential victims in the home and close to the potential offenders. Because it takes two to have a homicide, being together much of the time needs to be considered as a potential risk factor.

The actions of the victim before and during the event could have contributed to the homicide. Many of the victims dared the offender to shoot. Forty percent of the victims were approaching the offender at the time they were shot. In 22 percent of the homicides, it was the victim who first drew a weapon of some type. At least one-half of the victims were said to have consumed alcohol, drugs or both on the day of and preceding the homicide.

Dietz, writing in 1955, stated "In a scuffle it is often impossible to determine the sequence of provocation and the vicissitudes of the 'unfortunate blow' which makes one of the combatants a murderer and the other a victim."
Others after Dietz have written on what has become known as victim precipitation. Allen feels that in many cases the persons precipitating the homicide may want to destroy themselves and directly or indirectly force the hand of some other destructive person. During the review of completed interview forms in the present study, it was often difficult to differentiate the offender from the victim if one did not know the outcome of the homicide.

Matched Pair, Case-Control

The discussion of the case-control analyses is presented using groupings of variables.

a. Demographic Variables

The cases and the controls were similar on the variables of personal income, employment status, marital status and having children. This is not surprising, because the controls were matched to the cases by age, gender and neighborhood of residence. Neighborhood generally means similar types and prices of houses, which translates to similar socioeconomic status. Except for neighborhoods in transition, most can be classified by terms such as white, black, young, old, middle class etc.
There were two interesting differences noted between the cases and the controls. The cases were more likely to have lower household incomes than the controls. Cases had near statistically significant lower household incomes compared with controls at cut off points of < $10,000, and < $15,000 and statistically significant differences at < $20,000. The less than $20,000 category was the strongest predictor.

Cases were also much less likely to have finished high school than their matched controls. An individual's level of education is generally considered to be related to personal income and to some extent with household income, since household members are usually of the same socioeconomic level and similar with regard to educational levels.

The significant differences found in household income and levels of education between cases and controls indicate that matching on neighborhood may not be close enough to control for these differences between domestic homicide offenders and their neighbors. It may also mean that in the poorer inner-city areas that there is a spectrum of low income households ranging from very poor to poor and slightly above poor. Also, the time span between the homicides and the control interviews may have introduced change.
Poorly educated persons may lack the cognitive skills to deal with the complex world in which they live. Rossi et al feel that the less educated may view violent crime against persons less seriously, and that "educational attainment fosters a more accurate cognition of the normative structure of society." (62)

b. Childhood Oriented Variables

In comparing cases with matched controls on variables related to childhood experiences, few differences were noted. There were no statistical differences noted in the following: consideration of themselves as a problem child; size or type of place lived in when growing up; sent to a juvenile detention center; running away from home; being beaten up by fist or feet (not by parents); ever intentionally injuring someone; and perceived living status as a child. Perceived living status while growing up was close to statistical significance with an estimated relative risk of 2.4 and 95 percent confidence levels of 0.9 to 7.3.

Cases gave a history of being routinely severely punished as a child significantly more than controls. Social learning theory would predict that a child that is beaten learns that violence is an acceptable way of dealing with interpersonal problems.
c. Firearms Related Variables

Cases were similar to the matched controls on the following variables: never practicing with a firearm; keeping firearms for self-protection; having another family member shot; and shooting a gun before they were 18 years old. Cases reported less frequently that a parent owned a firearm when the case was a child.

Lizotte and Bordura have reported that having a parent that owned a firearm for sport is predictive for owning a firearm. By definition and design, all control households in this study contained at least one firearm. As the interest in the present study was access to, versus ownership of firearms, it is not known whether the control subjects considered themselves the owner of the firearm(s) in their households. In the case households, 62 percent contained at least one firearm, and 52 percent of the cases personally owned a firearm at the time of the homicide. Therefore, differences in actual ownership of firearms between cases and controls cannot be assessed. If in fact a significant number of controls owned the firearm(s) in their households, the differences found on parental ownership would have been expected.

Cases were many times more likely to be around loaded firearms than were the controls. This finding and the
above information on parental ownership of firearms may indicate that the cases could have been less knowledgeable of or careful with firearms than were the controls.

d. Adult Experience Variables

Cases were similar to controls on the following variables: religious activity, television viewing time; past counseling for violent behavior; counseling for domestic violence problems in the prior two years; and ever been in prison.

Cases were significantly more likely to have been arrested for a criminal act. This seems to confirm that a history of social deviance is a strong predictor of future crime.

In response to questions of whether they would use counseling services for violent behavior, cases were significantly less amenable to such suggestions than their matched controls. This may indicate a serious obstacle in the non-violent resolution of conflict that leads to homicide. Even if counseling were available, cases indicated that many would not seek this as a potential solution to their problems.
The Centers for Disease Control define a chronic drinker as a person that consumes more than 60 alcoholic drinks per month. Cases were significantly more likely to be chronic drinkers as their matched controls.

Cases were much less likely to be able to identify friends or relatives on whom they could rely for support if they needed help. This equates to some increased level of social isolation that decreases a person's opportunities for non-violent conflict resolution. This information may be used proactively by counselors, police officers, medical personnel, and others.

e. Adult Violence Related Variables

Cases were similar to controls on the following variables: Police response to the household for a domestic fight in the prior two years; intentionally injuring someone else with fist or feet as an adult; ever injuring someone with a weapon as an adult; and ever been beaten up badly by fist or feet anytime (not by parents).

Collected data indicate that a certain level of violence had been occurring between the case and the victim for at least two years before the homicide. This information can be used to help those persons with a history of victimization or prior assaultive behavior. These data would indi-
cate that many offenders had been victims prior to the occasion of the homicide and during this incident decided to fight back.

Physicians and emergency room personnel can be a valuable screening point for the identification of domestic violence. However, there is a certain amount of reluctance on the part of most medical professionals to get involved in screening for domestic violence. Patients are very reluctant to tell the care giver about the incident unless specifically asked about it. Dobash and Dobash found that only three percent of women that were beaten and went for medical help told the physician of the reason for the injuries. They feel there is a conspiracy of silence between the doctor and the patient. "The physician administers bandaids to wounds of unknown source and gives drugs to allow the woman to cope with a problem known both by the doctor and patient, but mentioned by neither." (126)

Cases were also significantly more likely to have ever been injured by a weapon other than a firearm, another indication that the offenders have been involved in more violent activity in the past than their matched controls. The fact that the offenders had been injured in the past by a weapon other than a firearm may have made them more likely to carry, possess, or seek a firearm to avoid injury


in the future. Thirty percent of the offenders were carrying the firearm on their person just prior to the homicide. This is three times the percentage of persons in the United States who admit to occasionally carrying a concealed firearm. (127)

The data collected indicate that the offenders did not give much consideration to the probability of going to prison for shooting the victim. In the heat of the moment, this may not or could not have been a well thought out possibility. However, it is possible that if the expected penalty were severe enough, fewer persons would be carrying firearms with them. A relatively small decline in the availability of firearms when people are angry and not thinking rationally could reduce the incidence of such homicide.

f. Potential Confounders For Variable Of Interest:

**Firearms Usually Kept Loaded**

Attempts were made to explore this and other variables of interest for potential confounding, in instances in which the sample size was sufficient. Schlesselman reminds us that we should not think of confounding "as an all-or-nothing property of any particular variable. It is a characteristic that occurs at varying degrees." (104) The
variables used for adjustment calculations were selected because it was felt that they may have confounded (i.e., introduced some potential bias) the magnitude of the estimated association between the exposure variables and the cases.

Table 32 lists a summary of the potential confounders for the variable: firearms usually kept loaded. The seven adjusted odds ratios were all in the same direction of reducing the unadjusted odds ratio. Depending on the potential confounding variable, the unadjusted odds ratio overestimates the adjusted odds ratio by 1.5 to 3.4 times. Limited sample size precluded adjusting by more than one variable at a time. Even when adjusting the estimated risk for each confounding variable, exposure to loaded firearms is still a very strong risk factor for committing a domestic homicide.

g. Potential Confounders For Variable Of Interest:
   Attacked By Victim Or Household Member

Table 33 lists the potential confounders for the variable: attacked by victim or household member in the prior two years. The unadjusted odds ratio is higher than the adjusted odds ratios in four of the six comparisons. In these cases the unadjusted odds ratio overestimated the adjusted by 1.4 to 1.75 times. However, 75 percent of
these lower adjusted odds ratios had zero in the denominator due to a lack of any discordant pairs where the case was negative and the control was positive for the exposure in question. It is not clear what effect, if any, this had on the adjustment.

The adjusted odds ratio for the variable of full-time employment was larger than the unadjusted odds ratio. In this case the unadjusted odds ratio is 30 percent lower than the adjusted value. It was expected that being employed full-time would have decreased the adjusted odds ratio and that working full-time as compared to part-time would mean that the victim and the offender or potential offender had less free time to spend together, thereby reducing the time available for violent confrontations. Wide confidence intervals in this adjusted estimate could have accounted for this result.

h. Potential Confounders For Variable Of Interest:

Arrested For Any Prior Criminal Act

Table 34 lists the potential confounders for the variable: arrested for any prior criminal act. The crude odds ratio is 3.5 and the adjusted odds ratios are all higher except one. The unadjusted underestimates the adjusted odds ratio by 12.5 to 75 percent.
The one confounding variable that provided a lower adjusted estimate of the relative risk was the variable of perceived living status as a child. This provided an adjusted estimate that was only slightly lower than the crude with overlapping confidence intervals. As with the above two tables, there was insufficient sample size to control for more than one variable at a time.

Future Actions

Most studies are designed to either test or generate hypotheses. In the early investigation of a new area, such as the epidemiology of domestic homicide with firearms, a great many ideas are generated for further work. The following are some potential avenues for further study and possible indications for social action to reduce the incidence of domestic homicide.

a. Education: Breaking the Cycle of Violence

The present study indicates that the cases compared to their matched controls were significantly more likely to have been severely punished as children. The literature indicates as well that children who have been abused, are more likely to grow up to use violence against others. (9,14,26) It can not be expected that adults who handle
problems with violence would be able to teach their children to prefer non-violent solutions to problems and conflicts. It would therefore, behoove our society to assist children in understanding that there are peaceful ways to handle conflict and that these are to be much preferred.

Schools can be key to such endeavors. For example, banning paddling by school systems may be a step in the right direction. It sends the message there are other, non-violent ways of dealing with unacceptable behavior. Another option is a new initiative that has been tried in Boston. Funded by the US Public Health Service, the Massachusetts Department of Health is working with the Boston Health Department in an initiative called the Violence Intervention Project. (129) This project has four components and is based on the principles used in the cardiovascular disease risk factor reduction studies in Sweden and the US (Stanford). The four components are: 1) a school curriculum designed to stress "empowerment" or a sense of self worth and control; 2) community based interventions to get the message of non-violent solutions across; 3) news media campaigns; and 4) treatment programs. The public school system in Miami has initiated a program in all elementary and high school curricula to make children aware of the danger of firearms. (130) The Cleveland Coalition Against Crime (128) and the Metropolitan Detroit Coalition
On Interpersonal Violence (131) have approached such problems on a city-wide basis. These groups are generally teaching conflict resolution as well as practical ways to avoid becoming a victim of violent crime. One potential method of funding such initiatives is through an increased federal excise tax on ammunition and firearms.

b. Reduced Lethality Of Firearms and Other Mechanical Modifications

It is assumed there will continue to be many firearms in private possession in this country, at least in the short run. Therefore, one option that may reduce the mortality, but not necessarily the morbidity from firearms, would be changing the types of ammunition that are available in order to reduce the amount of energy transferred to the target.

In the present study the round nose, solid lead bullet was the most common type used. Also, handguns were the most frequently used murder weapons, and the .38 was the most popular caliber. Three-quarters of the victims received only one wound. This supports the statements from most offenders that they did not intend to kill the victim; they just needed to get out of the situation.
The saboting of all handgun ammunition for firearms chambered for the rounds of .38 caliber or 9mm and smaller to the size of .22 caliber would reduce lethality. A sabot is a bushing that allows the firing of a smaller caliber round in a larger caliber gun. The bushing is usually made of plastic and breaks away harmlessly after the bullet leaves the barrel of the gun. Saboted ammunition has been available in rifle calibers for many years. (132) Reducing the size of the bullet will reduce the energy imparted to the victim and lead to fewer deaths. It would allow the very popular .22 caliber round to remain unchanged, and would not affect the larger calibers used for handgun hunting and target shooting. The retail cost of saboted rifle ammunition is less than ten percent higher than standard ammunition, even with very low volumes produced. (133)

This proposal would not adversely affect the current owners of firearms in the class of firearms proposed for this ammunition change. They would still have an effective weapon for small game hunting, target shooting and for protection. Special distribution systems may be expanded to provide un-saboted ammunition to the police and military as needed.
Gun owners or future owners who move up to higher caliber weapons would be losing the concealability factor that was declared so important by the respondents in this study. The larger caliber handguns are not only larger but also heavier and, thus, present a more powerful recoil. As a general rule, the larger caliber weapons are also more costly. With the proficiency testing that is proposed in a following section, the move to larger caliber weapons could be controlled.

An adjunct to the saboting of ammunition would be the substitution of plastic or rubber bullets. These are currently used effectively in crowd control. They are far less lethal than even the small caliber metal bullets. There may be a market for rubber or plastic bullets for those who want a gun for protection, but that also realize that killing an assailant is not usually necessary.

The data suggest that few of the homicide firearms had safeties and those that did have this feature did not often require disengagement in order to fire the weapon. It is suggested that firearms manufacturers be required to develop firearms that require the actual sequenced movement of several safety mechanisms in order to fire the weapon. This will make it more difficult for the untrained person to fire the gun during a violent rage or a drunken stupor.
c. Proficiency Licensing To Purchase and Possess Firearms

An important finding of this study is that in many cases the first time the offender fired a gun was to kill another human being. As noted, most of the offenders did not intend to kill the victim. This may indicate a lack of knowledge and respect for what a bullet could do to a person. One way to deal with this problem is to implement a firearm owners licensing process. This would license a person to obtain and possess firearms only after they have demonstrated knowledge of and proficiency with firearms. This would be a renewable and revokable license. The process of obtaining a license would also allow for periodic criminal and mental health record checks. This process would also relieve licensed firearms dealers of the responsibility for determining the suitability of a potential firearm purchaser.

Many states now require hunters to attend hunter safety courses as all states require that drivers of automobiles demonstrate their proficiency before being licensed to drive a "guided missile." It makes sense to require the purchaser of a gun demonstrate to a qualified expert that he or she can use it properly.
Licensed firearms dealers are crucial elements in the process in making the gun-owning public more knowledgeable about the "killing machines" that they possess. This study showed that few offenders or controls obtained their firearms through a licensed firearms dealer. In addition to the proficiency licensing process outlined above, it is proposed that all firearms transactions must occur through licensed dealers. Firearms instruction and demonstrated proficiency could be obtained from a number of certified agencies and instructors. This may have the attraction of bringing groups like the NRA into the process.

d. Loaded And Unlocked Firearms

This study demonstrated a high risk of domestic homicide with firearms when these were kept loaded and readily accessible (not locked up). It is of importance to convince the owners of these types of guns that they too have a significant chance of being injured or killed by their own weapons, and that they also could be contributing to the accidental wounding or killing of another person because they or someone else "didn't know the gun was loaded." The key seems to be more and better education and awareness building of the problems associated with access to firearms.
e. Training And Awareness Of Medical Professionals

Data from this study show that in the two years before the homicide, 44 percent of the cases were physically attacked by the victim. Eight of these persons needed medical care. Such medical interactions would be an opportunity for medical and social service personnel to inquire about the wounds and circumstances and then refer the patients for appropriate follow up by social agencies. Available information indicates that most medical professionals are not adequately trained, and, therefore do not solicit information on the causes of certain injuries and ailments secondary to domestic violence. (126) Medical professionals need to have, as part of their training and routine protocols, a protocol for eliciting information about domestic violence.

f. Miscellaneous Measures

There are a number of other measures or initiatives that merit further consideration. With the high level of alcohol and drugs used by the offenders in this study, it appears necessary to focus more attention on these risk factors. Also, a number of the offenders had prior criminal arrest histories and involvement in domestic assaults where police were called to intervene. Such data suggest
that police need to have a mechanism for follow up of domestic violence incidents and perhaps initiate mandatory arrest of at least one of the participants in domestic violence as a "cooling off" measure. The data also indicate that emphasis should also be given to the problem of persons carrying concealed weapons, perhaps by increasing penalties. More resources made available for domestic violence shelters and counseling agencies could reduce the cycle of violence that often ends in homicide.

g. National Non-Violence Movement

Perhaps at the root of our endemic problems of violence is the general acceptance of violence as an element in our lives in this country. William Foege said that it is the responsibility of those in public health to define the unacceptable. (133) As it is now becoming socially unacceptable to smoke, we should be working hard to make personal violence unacceptable, unglamorous and seriously punishable.

As more persons in public health and other disciplines accept the prevention of violence as a professional responsibility, the progress towards a more non-violent society can be accelerated. The process may take generations, but it cannot be put off. If we can work towards a smoke-free
society by the year 2,000, perhaps we can work toward a violence-free society by 2,050. Such efforts must be undertaken at local and state levels as well as at the national level. Leadership from the US Public Health Service, such as has been given to tobacco and AIDS control is needed to make reduction of violence a high priority.

h. Further Study

The present study was limited by the difficulties in obtaining large samples. The limited resources available for the study, and a number of self-reported variables that could not be validated in these highly emotionally charged events. However, the study did demonstrate that with considerable effort, information can be obtained through police and correctional records, that persons convicted of homicide will agree to rather lengthy and complex interviews, and that a matched sampling scheme can be implemented to obtain controls for comparison. It is feasible, building on the experience obtained in the present study, to verify the significant findings and to investigate other relationships, using samples sufficient to increase the power to detect associations that may not have been detected in the present study. Certainly, the subject warrants serious investment in further studies and the application of findings in social policy and social action.
LIST OF REFERENCES


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111. Personal communication with Mark Nacci, Central records program, Ohio Department of Rehabilitation and Corrections. 1986


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APPENDIX A

INFORMED CONSENT FORM FOR HEALTH DEPARTMENT RESEARCH

This form describes the Ohio Department of Health research efforts in the area of violent behavior. It is also the form that is used to show that you agree to be in the study.

I understand that the Ohio Department of Health is the official health agency in the state of Ohio. This group conducts research on health issues. I understand further that the purpose of this study is to collect data from persons who have been involved in homicides and/or assaults where the police were called. I understand that I will be asked questions about my actions in these events. I will be asked about my thoughts on these events. I will also be asked about my past.

I understand that there will not be any physical risk to me if I enter this study. I may become upset during the interview by talking about the past events of my life. I understand that I will not directly benefit from being in this study. However, by learning more about violent behavior, the researchers may be able to help others in the future.

I will be asked these questions in person by a representative of the Ohio Department of Health. A secret code number will be given to my name and be put on my answer sheet. My name and my secret code number will be kept in separate locked files. I also understand that the Ohio Department of Health will be getting data on me from my police records. All of the data obtained by the Ohio Department of Health will be for research only. The information that I give will be treated as confidential. This means that my rights to privacy will be protected to the best ability of the researchers. My name or any other identifying information will not be released without my written consent, unless ordered by a court of law. The researchers may disclose some of the information that I provide, but only in statistical, summary or other forms which do not reveal my identity.

My participation in this study is completely voluntary. I do not have to participate in this study. I can refuse to answer the questions either now or anytime during the interview. I am not going to receive any money or special treatment by any jail or prison in which I live because I have been in this study. I will also not be hurt in any way if I do not want to be in this study.

I am free to ask additional questions about this study at any time. During work hours I can call Frank Holtzhauer or Joshua Muscat at the Ohio Department of Health. The phone call is free. 1-800-282-0546. After work hours you may call Frank Holtzhauer collect at 614-459-2731.

I may request that my name be deleted from the records as soon as the data is collected and stored. I can do this by checking the box at the bottom of this form. This means that the researchers will eliminate my name from any records that they have related to this study as soon as they process all of the data that they collect.

If you agree to be in the study, please print your name at the bottom of this form where it says PLEASE PRINT YOUR NAME HERE. On the next line please sign your name and put today’s date.

PLEASE PRINT YOUR NAME HERE ________________________________

PLEASE SIGN YOUR NAME HERE ________________________________ Date

Coded Identification Number ________________________________

I wish to have my name deleted from all records. 1 0

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APPENDIX B

DOMESTIC VIOLENCE STUDY QUESTIONNAIRE

Interviewer name

Name of interviewee

Location of interview

Date

Starting time

Ending time

(identification number)
Please follow these directions:

- - State your name and that you're a researcher with the Ohio Department of Health.

- - Tell them the Health Department is conducting a study on violent behavior in homes or apartments where people live. The purpose of the study is to find out what things these people have in common. "The answers you give will be important in helping clergy, counsellors, social workers, doctors, and law enforcement officers in helping prevent other families and friends from hurting each other."

- - State that their name has been identified from public records from a police department and that you wish to ask them questions concerning the event in question.

- - Tell them you will be asking them about the incident with ________________ on _______ 198.

- - Tell them that it is important that they give honest answers. "This questionnaire is not being used to judge innocence or guilt, but strictly for scientific research."

- - Ask if they have read and understood the consent form that was mailed to them. Review the consent form with them again and have them sign it, and give them a copy.

- - Re-emphasize the confidentiality of the information which they will provide, and that their names will be removed from the questionnaire. "This means that no-one will be able to know that the answers on this questionnaire are yours."

- - Tell the interviewee that some of the questions have a list of responses and that s/he should wait until all the responses are read.

- - Thank them for agreeing to participate in the study and proceed with the questions.
INSTRUCTIONS:

Please read the questions below to the interviewee. Emphasize the underlined words. Most of the questions have a list of at least 2 possible responses. Take your time when reading the question and do not rush the interviewee for a response. Do not read the numbers corresponding to the list of answers, rather just the answers themselves. Do not read the "other" or "unknown" response category. Only fill in "unknown" if the interviewee does not have a response, doesn't remember or simply does not know. If necessary, repeat the question. Do not interpret the question in different words unless you have already repeated the question and the interviewee still does not understand the question. Read all the responses that are bracketed. Other questions may be left open-ended. If an answer is given and you cannot find an appropriate response category which corresponds to the answer given, or if you still do not understand the answer after interacting with the interviewee, write down the answer in the margin of the questionnaire.
"THE FIRST SET OF QUESTIONS CONCERNING BASIC INFORMATION ABOUT YOURSELF, YOUR BACKGROUND AND THE BACKGROUND OF OTHERS. PLEASE THINK ABOUT EACH QUESTION CAREFULLY AND GIVE THE MOST ACCURATE ANSWER YOU CAN."

1. How old are you?
2. How old were you at the time of the incident?
3. What best describes your employment status at that time?
   - working full time, 35 hours a week or more
   - working part-time, less than 35 hours a week
   - out of work for less than 1 year
   - out of work for greater than 1 year
   - homemaker
   - student
   - retired
   - other (specify)
   - unknown
4. What was your job title at the time of the incident or right before the incident, and describe the job?
   (to be completed later)

Title

Job Description
5. At the time of the incident, what best describes employment status? 

[ ] working full time 35 hours a week or more  
[ ] working part time, less than 35 hours a week  
[ ] out of work for less than 1 year  
[ ] out of work for greater than 1 year  
[ ] homemaker  
[ ] student  
[ ] retired  
[ ] other ______________________________ (specify)  
[ ] unknown  

6. What was job title at the time of the incident or right before the incident, and describe the job? 

Title ________________________________________________________________________  
Job Description __________________________________________________________________
7. Thinking back to the time of the incident, what was your marital status at that time?

0 = married or common law
1 = divorced
2 = separated
3 = widowed
4 = single
5 = living with someone but not married.
7 = other ____________________________ (specify)
9 = unknown

8. What was _______________________ marital status at that time?

0 = married or common law
1 = divorced
2 = separated
3 = widowed
4 = single
5 = living with someone but not married
7 = other ____________________________ (specify)
9 = unknown

9. How many children did you have at the time of the incident?

10. How many children did _______________________ have?
11. At the time of the incident, what was your yearly income?

0 = less than $10,000
1 = $10,000-15,000
2 = $15,000-20,000
3 = $20,000-25,000
4 = $25,000-30,000
5 = $30,000-50,000
6 = over $50,000
9 = unknown

12. What was your household yearly income? i.e. your income and the income of the other members of your family that you were living with?

0 = less than $10,000
1 = $10,000-15,000
2 = $15,000-20,000
3 = $20,000-25,000
4 = $25,000-30,000
5 = $30,000-50,000
6 = over $50,000
9 = unknown

13. What was __________________ yearly income at the time of the incident?

(see the response categories from question 12 again)
14. What was ________________ yearly household income?

0 = Less than $10,000
1 = $10,000-15,000
2 = $15,000-20,000
3 = $20,000-25,000
4 = $25,000-30,000
5 = $30,000-50,000
6 = over $50,000
9 = unknown

15. What was the highest grade at school you had completed at the time of the incident?

0 = no schooling
1 = 8th grade or less
2 = some high school
3 = high school graduate or GED Certificate
4 = some college or some technical school
5 = technical school graduate
6 = college graduate
7 = post graduate training
9 = unknown
16. What was the highest grade of school _________ had completed at the time of the incident?

0 = no schooling
1 = 8th grade or less
2 = some high school
3 = high school graduate or GED Certificate
4 = some college or some technical school
5 = technical school graduate
6 = college graduate
7 = post graduate training
9 = unknown

17. Did you ever spend time in the military service?

0 = no (continue with statement before question 21)
1 = yes
9 = unknown (continue with statement before question 21)

18. For how many years?

19. Did you receive any additional firearm training beyond basic training?

0 = no
1 = yes
9 = unknown

20. Were you ever involved in combat, that is, actual fighting while in the military?

0 = no
1 = yes
9 = unknown
21. When you were growing up, what best describes the place that you lived in the most?

0 = a large city
1 = a medium size city
2 = a small town
3 = a suburb of a city
4 = the countryside, rural area
5 = you moved many times and lived in different types of places
7 = other __________________________
9 = unknown

22. If you lived outside of Ohio when you were growing up, what state did you live in the most?

______________________________

23. Until you were 18, would you say you had a happy childhood?

0 = no
1 = yes
2 = only sometimes
7 = other __________________________
9 = unknown

24. Were you raised by either of your natural parents?

0 = no
1 = yes
9 = unknown
25. Do you feel you were a problem child, that is, did you seem to be in trouble a lot?

- no
- yes
- sometimes
- unknown

26. How often did your parents (or guardian) severely physically punish you as a child, i.e. how often were you severely beaten where you were knocked down, bruised, got a black eye, bloody nose, whipped with a belt, brush or stick, or burned?

- never
- only once or twice
- at least once every 4 years
- at least once a year
- at least once every 6 months
- at least once a month
- at least once every 2 weeks
- unknown

27. When you were severely hurt during punishment, was it mostly

- before you were 13 years old?
- after 13 years?
- about the same before and after you were 13?
- unknown
28. Who severely punished you the most?

0 = your father
1 = your mother
2 = about the same for both parents
3 = your guardian
4 = other
5 = specify

7 = other
8 = unknown

29. During your childhood, how many times did you stay with a friend or other relative, besides your parents (or guardian), due to problems at home?

0 = never
1 = once
2 = two to three times
3 = four to ten times
4 = eleven or more times
9 = unknown

30. How would you describe your family's living status when you grew up?

0 = less than middle class
1 = middle class
2 = upper middle class
3 = upper class
9 = unknown

31. When you were a child, did your mother or father (or guardian) own a firearm, i.e. handgun, rifle or shotgun?

0 = no (continue with statement before question 38)
1 = yes
9 = unknown (continue with statement before question 38)
32. How many rifles and shotguns did they own?  
   - none (continue with question 35)  
   1 = one  
   2 = two or three  
   3 = four or more  
   9 = unknown  

33. In general, what was the most common reason these guns were kept?  
   $ = hunting  
   1 = target shooting  
   2 = collecting  
   3 = self-protection  
   4 = just liked to have one  
   7 = other ____________________________  
   9 = unknown (continue with question 35)  

34. What was the second most common reason these were kept?  
   0 = hunting  
   1 = target shooting  
   2 = collecting  
   3 = self-protection  
   4 = just liked to have one  
   7 = other ____________________________  
   9 = unknown (continue with question 35)
35. How many handguns, that is, revolvers or pistols did your parents (or guardian) own?

0 = none (continue with statement before question 38)
1 = one
2 = two or three
3 = four or more
9 = unknown

36. In general, what was the most common reason these were kept?

0 = hunting
1 = target shooting
2 = collecting
3 = self-protection
4 = just like to have one
5 = for their job _____________________________ (specify)
7 = other _________________________________ (specify)
9 = unknown (continue with statement before question 38)

37. What was the second most common reason these were kept?

0 = hunting
1 = target shooting
2 = collecting
3 = self-protection
4 = just like to have one
5 = for their job _____________________________ (specify)
7 = other _________________________________ (specify)
8 = there was no other reason
9 = unknown
The next set of questions concern your exposure to guns or other weapons during your childhood, that is, before you were eighteen years old.

38. Before you were 18 years old, did you ever shoot a firearm? 
   0 = no (continue with question 44) 
   1 = yes 
   9 = unknown (continue with question 44) 

39. What was the most common reason you used a gun before you were 18? 
   0 = hunting 
   1 = target shooting 
   2 = self-protection 
   7 = other (specify) 
   9 = unknown (continue with question 41) 

40. What was the second most common reason? 
   (read the above response categories) 
   (If there was no second reason, fill in the above box with an 8) 

41. Did you ever purposely shoot at anyone with a firearm, that is, a handgun, rifle or shotgun before you were 18 years old? 
   0 = no (continue with question 44) 
   1 = yes 
   9 = unknown (continue with question 44) 

42. On how many different occasions? 

43. Did any of the people you hurt with a gun before you were 18 die from gunshot wounds? 
   0 = no 
   1 = yes 
   9 = unknown
44. Had you ever intentionally injured someone with a weapon besides a firearm, such as a knife, pipe, baseball bat etc. before you were 18 years old?

- no (continue with question 46)
- yes
- unknown (continue with question 46)

45. On how many different occasions?

- ____________

46. Had you ever intentionally injured someone with a weapon besides a firearm such as a knife, pipe, baseball bat etc. after you turned 18 years old? (this does not include the incident with ________________________) [NOT INCLUDING MILITARY]

- no (continue with question 48)
- yes
- unknown (continue with question 48)

47. On how many different occasions?

- ____________

48. Have you ever beaten someone up really badly with your fists or feet before you were 18 years old?

- no (continue with question 50)
- yes
- unknown (continue with question 50)

49. On how many different occasions?

- once
- two to three times
- four to seven times
- eight times or greater
- unknown
50. Had you ever beaten anyone up really badly with your fists or feet, after you were 18 years. Again, this does not include the incident with ________________________.

0 = no (continue with question 52)
1 = yes
9 = unknown (continue with question 52)

51. On how many different occasions?

0 = once
1 = two to three times
2 = four to seven times
3 = eight times or greater
9 = unknown

52. Had you ever been arrested, for any criminal act, before this incident I am interviewing you for?

0 = no (continue with question 51)
1 = yes
9 = unknown (continue with question 51)

53. How many times had you been arrested?

54. Had you ever been convicted of a criminal act, such as theft or robbery where no one was hurt, before the incident with ________________________?

0 = no (continue with question 53)
1 = yes
9 = unknown (continue with question 53)

55. How many times?
56. Had you ever been convicted of a criminal act, such as assault where someone was hurt, before the incident with ____________________________?  
   0 = no (continue with question 61)  
   1 = yes  
   9 = unknown (continue with question 61)

57. How many times?  
   ______

58. Did any of these people you hurt from using a knife, pipe or other type of weapon, or by beating them up, die from their injuries?  
   0 = no  
   1 = yes  
   9 = unknown

59. Had you ever been imprisoned for a criminal act, before the incident with ____________________________?  
   0 = no (continue with question 61)  
   1 = yes  
   9 = unknown (continue with question 61)

60. How many times?  
   ______
61. Had you ever spent time in a juvenile detention center?
   0 = no
   1 = yes
   9 = unknown

62. Had anyone in your immediate family ever been shot with a gun before this incident, i.e. a brother, sister, parents or child?
   0 = no (continue with question 64)
   1 = yes
   9 = unknown (continue with question 64)

63. Had anyone in your immediate family ever been killed by a gunshot before this incident, i.e. a brother, sister, parents or child?
   0 = no
   1 = yes
   9 = unknown

64. Had you ever been shot with a gun, not including any military experience you may have had, before the time of this incident?
   0 = no
   1 = yes
   9 = unknown

65. Had you ever purposefully been severely injured by a weapon other than a firearm such as a knife, pipe, baseball bat or other weapon before the time of this incident?
   0 = no (continue with question 67)
   1 = yes
   9 = unknown (continue with question 67)
66. On how many different occasions had you been severely injured?

67. Were you ever beaten up real badly in a fist fight, at any time, by someone other than your parents?

- no (continue with statement before question 69)
- yes
- unknown (continue with statement before question 69)

68. How many times?

- once
- two to three times
- four to seven times
- eight times or greater
- unknown
- unknown
MANY ASSAULTS OCCUR BETWEEN PEOPLE WHO KNOW EACH OTHER AND OFTEN INVOLVE A GUN. IT IS IMPORTANT FOR US TO UNDERSTAND WHAT WAS GOING ON AT THE TIME. I'M NOW GOING TO ASK YOU QUESTIONS ABOUT THE SPECIFIC INCIDENT THAT OCCURRED ON __________ , 198 __, WITH _________________. PLEASE TRY AND REMEMBER THE SITUATION AS BEST YOU CAN.

69. Where did the incident with __________________ take place?  
   0 = a bedroom  
   1 = the kitchen  
   2 = the hallway  
   3 = the living or family room  
   7 = another room (specify)  
   8 = outside of a house or apartment  
   9 = unknown

70. Did the residence where the incident took place have a telephone?  
   0 = no  
   1 = yes  
   9 = unknown

71. At the time of the incident, did you live in the same house or apartment as __________________?  
   0 = no  
   1 = yes  
   9 = unknown

72. How many persons were living in your residence at that time including yourself?  

73. How many rooms did your residence have, not including bathrooms?  

(if question 71 was answered "1", continue with question 76)
74. How many persons lived in the residence of _________ at the time of the incident? (if unknown, put in 99)

75. How many rooms did _________ residence have, not including bathrooms? (if unknown, put in 99)

76. How many years had you known _________ before the incident?

77. Concerning the incident with _________ that we have been talking about, did you drink any beer, wine or liquor that day of the incident?
   0 - no (continue with question 79)
   1 - yes
   9 - unknown (continue with question 79)

78. How would you describe the way you felt at the time of the incident?
   0 - you did not feel any effects of alcohol
   1 - you were somewhat under the influence of alcohol, i.e. slower reflexes and poorer judgement
   2 - you felt pretty drunk, i.e. your speech was slurred and you had a hard time walking
   3 - you were on the verge of passing out
   9 - unknown

79. In general, before the incident, how many alcoholic beverages such as glasses of wine, 12 ounce beers and shots of liquor would you have in a week?
80. Was ________________ drinking any beer, wine or liquor the day of this incident?

<p>| | |</p>
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>0</td>
<td>no (continue with question 62)</td>
</tr>
<tr>
<td>1</td>
<td>yes OR</td>
</tr>
<tr>
<td>2</td>
<td>yes, but you did not actually see her/him drinking</td>
</tr>
<tr>
<td>9</td>
<td>unknown (continue with question 62)</td>
</tr>
</tbody>
</table>

81. If yes, how would you describe his/her behavior at the time of the incident?

<p>| | |</p>
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>0</td>
<td>(s)he did not appear to feel any effects of alcohol</td>
</tr>
<tr>
<td>1</td>
<td>(s)he was somewhat under the influence of alcohol i.e. slower reflexes and poorer judgement</td>
</tr>
<tr>
<td>2</td>
<td>(s)he looked pretty drunk, i.e. her/his speech was slurred and (s)he had a hard time walking</td>
</tr>
<tr>
<td>3</td>
<td>(s)he was on the verge of passing out</td>
</tr>
<tr>
<td>9</td>
<td>unknown</td>
</tr>
</tbody>
</table>

82. In general, before the incident, how many alcoholic beverages, such as glasses of wine, 12 ounce beers and shots of liquor would ________________ have in a week?

(If unknown, write in 99)

83. Had you taken any drugs prescribed for you by a doctor on the day of the incident, or other drugs such as marijuana, cocaine or other stimulants or depressants?

<p>| | |</p>
<table>
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<tbody>
<tr>
<td>0</td>
<td>no</td>
</tr>
<tr>
<td>1</td>
<td>yes OR</td>
</tr>
<tr>
<td>2</td>
<td>yes, but only drugs prescribed by a doctor</td>
</tr>
<tr>
<td>9</td>
<td>unknown</td>
</tr>
</tbody>
</table>
84. Had ________________ taken any drugs prescribed for him/her by a doctor on the day of the incident, or other drugs such as marijuana, cocaine or other stimulants or depressants?

0 = no
1 = yes OR
2 = yes, but only drugs prescribed by a doctor
9 = unknown

85. In your mind, what was the main reason this incident happened?  

______________________________________________________________
______________________________________________________________
______________________________________________________________
______________________________________________________________
______________________________________________________________

86. What was another important reason this incident happened?  

______________________________________________________________
______________________________________________________________
______________________________________________________________
______________________________________________________________
______________________________________________________________

(leave blank)
87. Who owned the gun you used against ____________________________?  
   0 = yourself  
   1 = your spouse or girl/boyfriend  
   2 = your parents or guardian  
   3 = a friend  
   7 = another relative __________________________________?  
      (specify relationship)  
   9 = unknown  

88. What type of gun did you use against him/her?  
   0 = handgun ___________________________________________  
      (specify make and model)  
   1 = rifle (continue with question 100)  
   2 = shotgun (continue with question 105)  
   9 = unknown (continue with question 105)  

89. Could you please tell me the caliber of the handgun.  
   0 = .22  
   1 = .25, 6.35mm, 7.65mm, .32  
   2 = .38, 9mm  
   3 = 357, 41, 44, 45  
   7 = other ___________________________________________  
      (specify)  
   9 = unknown (continue with question 94)  

(Specify the caliber)  

(If caliber is 9mm, .38, .32, 7.65, 6.35, 25, 22, or less, continue with 90)  

(If caliber is 357, 41, 44, 45 or greater, continue with question 92)
96. Many people would consider that type of gun small to medium in size. What was the most important reason this gun was acquired instead of a higher caliber weapon?

<table>
<thead>
<tr>
<th>Reason</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>lower firepower</td>
</tr>
<tr>
<td>1</td>
<td>it was the only gun available</td>
</tr>
<tr>
<td>2</td>
<td>it was cheaper</td>
</tr>
<tr>
<td>3</td>
<td>you liked the way it looked</td>
</tr>
<tr>
<td>4</td>
<td>it was more easily concealable</td>
</tr>
<tr>
<td>5</td>
<td>the recoil is too great with a larger caliber gun</td>
</tr>
<tr>
<td>6</td>
<td>the ammunition is cheaper or more common</td>
</tr>
<tr>
<td>7</td>
<td>other ________________ (specify)</td>
</tr>
<tr>
<td>8</td>
<td>the gun did not belong to you and you don't know why this type of gun was acquired (continue with question 94)</td>
</tr>
<tr>
<td>9</td>
<td>unknown (continue with question 94)</td>
</tr>
<tr>
<td>10</td>
<td>you're more familiar with this type of gun</td>
</tr>
</tbody>
</table>

97. What are two other reasons this type of gun was acquired?

<table>
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<tbody>
<tr>
<td>0</td>
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<td>1</td>
<td>it was the only gun available</td>
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<tr>
<td>2</td>
<td>it was cheaper</td>
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<tr>
<td>3</td>
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<td>4</td>
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</tr>
<tr>
<td>6</td>
<td>the ammunition is cheaper or more common</td>
</tr>
<tr>
<td>7</td>
<td>other ________________ (specify)</td>
</tr>
<tr>
<td>8</td>
<td>there were no other reasons</td>
</tr>
<tr>
<td>9</td>
<td>unknown (continue with question 94)</td>
</tr>
<tr>
<td>10</td>
<td>you're more familiar with this type of gun</td>
</tr>
</tbody>
</table>

(continue with question 94)
92. Many people would consider this type of gun relatively large in size. What was the most important reason this gun was acquired instead of a lower caliber weapon?

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>= higher firepower</td>
<td>it was the only gun available.</td>
<td>you liked the way it looked</td>
<td>better accuracy</td>
<td>higher quality</td>
<td>you're more familiar with this type of gun</td>
<td>the ammunition is more common</td>
<td>other (specify)</td>
<td>the gun did not belong to you and you don't know why this type of gun was acquired (continue with question 94)</td>
<td>unknown (continue with question 94)</td>
</tr>
</tbody>
</table>

93. What are two other reasons this type of gun was acquired?

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>= higher firepower</td>
<td>it was the only gun available.</td>
<td>you liked the way it looked</td>
<td>better accuracy</td>
<td>higher quality</td>
<td>you're more familiar with this type of gun</td>
<td>the ammunition is more common</td>
<td>other (specify)</td>
<td>no other reason</td>
<td>unknown</td>
</tr>
</tbody>
</table>
94. What was the length of the gun barrel in inches?

0 = less than 3 inches
1 = 3 to 6 inches
2 = greater than 6 inches
9 = unknown

95. Do you feel the gun you used could have been traced by the police?

0 = no
1 = yes
9 = unknown

96. What was the type of bullet used?

(Only show the photos if the interviewer doesn't know bullet type)

0 = full metal jacket
1 = hollow-point
2 = jacketed soft-point
3 = wadcutter
4 = solid lead
5 = jacketed hollow point
7 = other (specify)
9 = unknown

97. Was the ammunition of magnum type?

0 = no
1 = yes
9 = unknown
98. What was the main reason this type of ammunition was acquired?

- lower cost
- stopping power
- velocity
- recommended by store owner, friend or relative
- brand name
- someone gave it to you (continue with question 105)
- other ____________________________ (specify)
- unknown

99. Was the ammunition bought at a store?

- no
- yes
- unknown

(continue with question 105)

100. Could you please tell me the caliber of the rifle.

- .22 Rimfire (short, long, or long rifle)
- less than or equal to .22 caliber centerfire (these include .17 Remington, 22 Hornet, 222 Remington, 223 Remington, 222 Remington Magnum, 225 Winchester, 22-250, and 220 Swift)
- greater than .22 caliber (these include 243 Winchester, 250 Savage and 257 Roberts, .308, .30 out-6 and other 300 and 400 designations. Millimeter designations include 6mm, 6.5mm and 7mm or greater)
- unknown

(Specify the caliber of the rifle)
101. What was the length of the barrel?

0 = less than 18 inches (i.e. sawed-off)
1 = greater than 18 inches
9 = unknown

102. What was the type of bullet used?

(ONLY SHOW THE PHOTOS IF THE INTERVIEWEE DOESN'T KNOW THE BULLET TYPE)

[Mark an X if photos were shown]

0 = full metal jacket
1 = hollow-point
2 = jacketed soft-point
7 = other (specify)
9 = unknown

(continue with question 103)

103. Could you please tell me the gauge of the shotgun?

6 = 16 gauge
1 = 12 gauge
2 = 16 gauge
3 = 20 gauge
4 = 410 gauge
7 = other (specify)
9 = unknown

104. What was the length of the barrel?

0 = less than 18 inches (i.e. sawed-off)
1 = greater than 18 inches
9 = unknown
105. Were you carrying the gun on you before the incident happened?  
0 = no  
1 = yes (continue with question 107)  
9 = unknown

106. If no, how far were you from the gun you used when you decided to get it?  
0 = standing or sitting right next to it  
1 = in the same room but you had to walk to get to it  
2 = you had to leave the room to get it  
3 = you had to go to another building or automobile to get it  
4 = you wrestled it away from the person you were fighting with  
5 = it was handed to you by another person  
7 = other (specify)  
9 = unknown

107. If the gun was usually kept in the house, what room was it usually kept in?  
0 = a bedroom  
1 = the living or family room  
2 = the kitchen  
7 = another room (specify)  
8 = outside the house  
9 = unknown
168. Where did the gun come from?

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>It was bought legally from a licensed dealer, i.e. a gunshop or a retail store</td>
</tr>
<tr>
<td>1</td>
<td>It was bought from a licensed dealer, but not legally</td>
</tr>
<tr>
<td>2</td>
<td>It was a gift</td>
</tr>
<tr>
<td>3</td>
<td>It was stolen</td>
</tr>
<tr>
<td>4</td>
<td>It was purchased from a person you did not know</td>
</tr>
<tr>
<td>5</td>
<td>It was purchased at a gun show</td>
</tr>
<tr>
<td>6</td>
<td>It was purchased from a friend or relative</td>
</tr>
<tr>
<td>7</td>
<td>Other</td>
</tr>
<tr>
<td>8</td>
<td>Unknown</td>
</tr>
</tbody>
</table>

169. How much did you, or whoever owned the gun, pay for it?

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Nothing</td>
</tr>
<tr>
<td>1</td>
<td>Less than 50 dollars</td>
</tr>
<tr>
<td>2</td>
<td>Fifty to 99 dollars</td>
</tr>
<tr>
<td>3</td>
<td>100 to 150 dollars</td>
</tr>
<tr>
<td>4</td>
<td>Over 150 dollars</td>
</tr>
<tr>
<td>5</td>
<td>Unknown</td>
</tr>
</tbody>
</table>

170. How many years did you, or the owner, have the gun before the incident with ______________?  

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Less than 1 year</td>
</tr>
<tr>
<td>1</td>
<td>1 to 5 years</td>
</tr>
<tr>
<td>2</td>
<td>Greater than 5 years</td>
</tr>
<tr>
<td>3</td>
<td>Unknown</td>
</tr>
</tbody>
</table>
111. What was the main reason this gun was obtained?

0 = self-protection
1 = hunting
2 = target-shooting
3 = collecting
4 = to purposely shoot someone
7 = other ________________________________
    (specify)
8 = it was not your gun and you don't know why it was obtained
9 = unknown

112. Was the gun that you used registered or licensed?

0 = no
1 = yes ________________________________
    (specify with whom registered or licensed)
9 = unknown

113. Was the gun that you used usually kept loaded?

0 = no
1 = yes
2 = sometimes
9 = unknown
114. Was the gun that you used normally kept locked up? 
  e.g. in a locked drawer
  
  # = no
  1 = yes
  2 = sometimes
  9 = unknown

115. Did you have to move the safety to the off position before you used the gun?

  # = no
  1 = yes
  8 = the gun did not have a safety
  9 = unknown

116. After you pulled out or grabbed the gun, how long did you wait until you fired it?

  # = between # and 5 seconds
  1 = between 6 and 15 seconds
  2 = between 16 and 3# seconds
  3 = between 31 seconds and 1 minute
  4 = over 1 minute
  9 = unknown

117. How many times did you shoot at ____________________?
118. Who first drew a firearm, knife or other dangerous weapon?

6 = ______________________
1 = yourself
7 = someone else
9 = unknown

119. Did ______________________ dare you to attack him or her?

6 = no
1 = yes
9 = unknown

120. When you fired your weapon, was ______________________

6 = approaching you
1 = standing still
2 = sitting or lying down OR
3 = backing away from you
9 = unknown

121. When you pulled out or grabbed the gun, did you intend to shoot it?

6 = no
1 = yes
9 = unknown

122. Was your intention to kill ______________________?

6 = no
1 = yes
9 = unknown
123. What was the most important reason you used a gun?

0 = there wasn't enough time to get a knife, or other non-firearm weapons, the moment when you or another person needed protection
1 = you weren't sure you could have stopped _______ without this weapon
2 = the weapon was right there and you just grabbed it
3 = you only intended to injure __________________
4 = you only wanted _______ to drop the weapon (s)he had
5 = you only wanted to stop the argument
6 = you were afraid of using another type of weapon such as a knife, pipe, baseball bat, or your hands or feet
7 = other ___________________
(specify)
8 = unknown

124. What was another important reason you used this weapon?

0 = there wasn't enough time to get a knife or other non-firearm weapons, the moment when you or another person needed protection
1 = you weren't sure you could have stopped _______ without this weapon
2 = the weapon was right there and you just grabbed it
3 = you only intended to injure __________________
4 = you only wanted _______ to drop the weapon (s)he had
5 = you only wanted to stop the argument
6 = you were afraid of using another type of weapon such as a knife, pipe, baseball bat, or your hands or feet
7 = other ___________________
(specify)
8 = there was no other reason
9 = unknown
125. Who called the police?

0  - you did
1  - ____________________________
2  - someone else in the house/apartment
3  - someone outside the house/apartment
9  - unknown

126. Do you feel NOW, in looking back at the incident, that you could have gotten out of the situation without the use of a gun?

0  - no (continue with question 152)
1  - yes
9  - unknown (continue with question 152)

127. What would you have done instead?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

(continue with question 152)
128. Who was the first person to take action in the incident, i.e. throw a punch or pull out a weapon?

0 = 
1 = yourself
9 = unknown

129. Did _________________________ dare you to attack him or her?

0 = no
1 = yes
9 = unknown

130. When you first hit __________________ or first used a weapon, was __________________

0 = approaching you
1 = standing still
2 = sitting or lying down OR
3 = backing away from you
9 = unknown
131. What was the most important reason you used this weapon or your fists?

<table>
<thead>
<tr>
<th></th>
<th>Reason</th>
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</thead>
<tbody>
<tr>
<td>0</td>
<td>there wasn't enough time to get a gun or other firearm the moment when you or another person needed protection</td>
</tr>
<tr>
<td>1</td>
<td>you weren't sure you could have stopped ________ without this weapon or your fists</td>
</tr>
<tr>
<td>2</td>
<td>the weapon was right there and you just grabbed it</td>
</tr>
<tr>
<td>3</td>
<td>you only intended to injure ______________________</td>
</tr>
<tr>
<td>4</td>
<td>you only wanted ________ to drop the weapon (s)he had</td>
</tr>
<tr>
<td>5</td>
<td>you only wanted to stop the argument</td>
</tr>
<tr>
<td>6</td>
<td>you were afraid of using another type of weapon such as a gun</td>
</tr>
<tr>
<td>7</td>
<td>other ____________________________________________________________________</td>
</tr>
<tr>
<td>8</td>
<td>there was no other reason</td>
</tr>
<tr>
<td>9</td>
<td>unknown</td>
</tr>
</tbody>
</table>

132. What was another important reason you used this weapon or your fists?

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<td>0</td>
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</tr>
<tr>
<td>1</td>
<td>you weren't sure you could have stopped ________ without this weapon or your fists</td>
</tr>
<tr>
<td>2</td>
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<tr>
<td>3</td>
<td>you only intended to injure ______________________</td>
</tr>
<tr>
<td>4</td>
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<td>6</td>
<td>you were afraid of using another type of weapon such as a gun</td>
</tr>
<tr>
<td>7</td>
<td>other ____________________________________________________________________</td>
</tr>
<tr>
<td>8</td>
<td>there was no other reason</td>
</tr>
<tr>
<td>9</td>
<td>unknown</td>
</tr>
</tbody>
</table>
The next set of questions are about the gun or guns that was in the home where the incident took place. Millions of American homes have guns, and they are kept for different reasons. I'm now going to ask you some questions about the gun or guns in the home on the day the incident with ______________ took place.

135. Were you carrying a gun on you before the incident happened?  
   0 = no (continue with question 135)  
   1 = yes  
   9 = unknown

134. When you were not carrying your gun, what room did you usually keep it in?  
   0 = a bedroom  
   1 = the living or family room  
   2 = the kitchen  
   3 = an automobile or truck  
   7 = another room ___________________________ (specify)  
   9 = unknown

***(continue with question 137)***

135. For the gun that was in the home where the incident took place, what room was that gun kept in?  
   0 = a bedroom (continue with question 137)  
   1 = the living or family room (continue with question 137)  
   2 = the kitchen (continue with question 137)  
   3 = there were 2 or more guns in the residence (continue with 136)  
   7 = other ___________________________ (continue with 137)  
   (specify)  
   9 = unknown (continue with question 137)
136. Of the guns that were available, if you felt that you had to use one of them in the incident with ________________, which room would you have gone to get the gun?

<p>| | |</p>
<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>a bedroom</td>
</tr>
<tr>
<td>1</td>
<td>the living or family room</td>
</tr>
<tr>
<td>2</td>
<td>the kitchen or</td>
</tr>
<tr>
<td>7</td>
<td>another room (specify room)</td>
</tr>
<tr>
<td>9</td>
<td>unknown</td>
</tr>
</tbody>
</table>

137. What was the make and model of that gun?

138. What was the type of the gun you would have used?

<p>| | |</p>
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>0</td>
<td>handgun (continue with question 139)</td>
</tr>
<tr>
<td>1</td>
<td>rifle (continue with question 141)</td>
</tr>
<tr>
<td>2</td>
<td>shotgun (continue with question 143)</td>
</tr>
<tr>
<td>9</td>
<td>unknown (continue with question 145)</td>
</tr>
</tbody>
</table>

139. What was the caliber of the handgun?

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>.22</td>
</tr>
<tr>
<td>1</td>
<td>.25, 6.35mm, 7.65mm, .32</td>
</tr>
<tr>
<td>2</td>
<td>.38, 9mm</td>
</tr>
<tr>
<td>3</td>
<td>357, 41, 44, 45</td>
</tr>
<tr>
<td>7</td>
<td>other (specify)</td>
</tr>
<tr>
<td>9</td>
<td>unknown</td>
</tr>
</tbody>
</table>

(Specify the caliber of the handgun)
140. What was the length of the gun barrel in inches?

0 = less than 3 inches
1 = 3 to 6 inches
2 = greater than 6 inches
9 = unknown

(continue with question 145)

141. What was the caliber of the rifle?

0 = .22 Rimfire (short, long, or long rifle)
1 = less than or equal to .22 caliber centerfire
   (these include .17 Remington, 22 Hornet, 222 Remington
   223 Remington, 222 Remington Magnum, 225 Winchester
   22-250, and 220 Swift)
2 = greater than .22 caliber
   (these include 243 Winchester, 250 Savage and 257 Roberts,
   .308, 30 out-6 and other 300 and 400 designations. Millimeter
   designations include 6mm, 6.5mm and 7mm or greater)
9 = unknown

(Specify the caliber of the rifle)

142. What was the length of the rifle barrel in inches?

0 = less than 18 inches (i.e. sawed-off)
1 = greater than 18 inches
9 = unknown

(continue with question 145)
143. Could you please tell me the gauge of the shotgun?

1 = 10 gauge
2 = 12 gauge
3 = 16 gauge
4 = 20 gauge
5 = 410 gauge
6 = other
7 = unknown

(specify)

144. What was the length of the barrel in inches?

1 = less than 18 inches (i.e. sawed-off)
2 = greater than 18 inches
3 = unknown

145. What was the most important reason this type of gun was acquired?

1 = firepower
2 = it was the only gun available
3 = cost
4 = concealability
5 = accuracy
6 = quality
7 = other
8 = the gun in the house did not belong to you and you don’t know why this gun was acquired
9 = unknown
### Question 146
Do you feel this gun could have been traced by the police?

- **8 = no**
- **1 = yes**
- **9 = unknown**

### Question 147
When this gun was acquired, what was the main reason it was to be used for?

- **0 = self-protection**
- **1 = hunting**
- **2 = target-shooting**
- **3 = collecting**
- **4 = to purposely shoot someone**
- **7 = other (specify)**
- **8 = it was not your gun and you don't know why it was acquired**

(If question 147 was answered "8", continue with question 149)

- **9 = unknown**

### Question 148
What was another important reason this gun was to be used for?

- **0 = self-protection**
- **1 = hunting**
- **2 = target-shooting**
- **3 = collecting**
- **4 = to purposely shoot someone**
- **7 = other (specify)**
- **8 = there was no other reason**
- **9 = unknown**
149. Where did the gun come from?

- 0 = it was bought legally from a licensed dealer
- 1 = it was bought illegally from a licensed dealer
- 2 = it was a gift
- 3 = it was stolen
- 4 = it was purchased from a person you did not know
- 5 = it was purchased at a gun show
- 6 = it was purchased from a friend or relative
- 7 = other ___________________________ (specify)
- 9 = unknown

150. What did you, or whoever owned the gun, pay for it?

- 0 = nothing
- 1 = less than 50 dollars
- 2 = fifty to 99 dollars
- 3 = 100 to 150 dollars
- 4 = over 150 dollars
- 9 = unknown

151. How many years did you, or the owner, have the gun before the incident with _______________________?

- 0 = less than 1 year
- 1 = 1 to 5 years
- 2 = greater than 5 years
- 9 = unknown
152. Just prior to, or during the incident with ____________, did you think about the fact that you could go to prison for using a gun?

0 = no
1 = yes
9 = unknown

153. How many people, other than _______________ actually saw you fight with ________________?

154. In the 2 years before the incident occurred, had you ever physically attacked ________________?

0 = no (continue with question 159)
1 = yes
9 = unknown (continue with question 159)

155. If yes, had you ever injured ________________ where (s)he needed or received medical treatment?

0 = no (continue with question 159)
1 = yes
9 = unknown (continue with question 159)

156. Did (s)he actually get such treatment?

0 = no (continue with question 159)
1 = yes
9 = unknown (continue with question 159)
157. On how many occasions did __________ get medical treatment?

0 = once
1 = two or three times
2 = four to seven times
3 = greater than eight
9 = unknown

158. Where did ________________ most often get treated?

0 = a hospital
1 = a clinic
2 = a doctors office
7 = other ______________________________
9 = unknown

159. In the 2 years before the incident occurred, did __________ ever physically attack you?

0 = no (continue with question 164)
1 = yes
9 = unknown (continue with question 164)

160. Did you ever need or receive medical treatment because of this attack?

0 = no (continue with question 164)
1 = yes
9 = unknown (continue with question 164)

161. Did you actually get such treatment?

0 = no (continue with question 164)
1 = yes
9 = unknown (continue with question 164)
162. On how many occasions did you get medical treatment?

0 = once
1 = two or three times
2 = four to seven times
3 = greater than eight
9 = unknown

163. Where did you most often get treated?

0 = a hospital
1 = a clinic
2 = a doctors office
7 = other ____________________________ (specify)
9 = unknown

164. Within 2 years before this incident had the police ever come to your home or the home of another person to stop a fight you were involved with?

0 = no (continue with question 166)
1 = yes
9 = unknown (continue with question 166)

165. How many times within 2 years before the incident?
166. Had you ever received counselling for violent behavior, prior to this incident with _________, by social workers, police teams, doctors or other government or private services?

- 0 = no (continue with question 169)
- 1 = yes
- 9 = unknown (continue with question 169)

167. How many times had you been visited or had you visited these counsellors within the 2 years prior to the incident?

- 0 = once
- 1 = two to three times
- 2 = three to ten times
- 3 = more than 10 times
- 9 = unknown

168. Do you feel these counselling sessions were helpful in solving any problems?

- 0 = no
- 1 = yes
- 9 = unknown

(if question 168 was answered, continue with the statement before question 171)

169. If you did not attend any counselling sessions within the 2 years before the incident with _________ were you aware that such services existed?

- 0 = no
- 1 = yes
- 9 = unknown
176. Would you have used such counseling if you thought it might solve any problems that you had?

0 = no
1 = yes
2 = maybe
9 = unknown

THE NEXT FEW QUESTIONS ARE ABOUT GUNS IN GENERAL

171. How many guns did you personally own at the time of the incident, not including antique guns?

(if question 171 was answered 0 or is unknown, continue with question 178)

172. How many of these were rifles?

173. How many of these were shotguns?

174. How many of these were handguns?

175. Suppose at the time you decided to obtain a firearm, that you could not get a handgun for any number of reasons, would you have obtained a rifle or a shotgun instead?

0 = no
1 = yes
9 = unknown

176. What would you have used a rifle or shotgun for?

(leave blank)
177. Were the guns normally kept locked up in a drawer or other place where they were hard to get at?

- no
- yes
- unknown

178. How often had you practiced shooting firearms before the incident with __________________, not including any military experience you may have had?

- never (continue with question 169)
- once or twice
- regularly but not recently before the incident
- regularly and recently before the incident
- other

(specify)
- unknown

179. How many years before the incident was the last time you shot a firearm?

180. Did you often carry a gun with you before the incident?

- no
- yes
- unknown

The last few questions are general questions about your lifestyle.

181. In the year before the incident, how many hours of television would you say you watched in an average week?
182. Before the incident, how many friends and relatives could you rely on when you needed help?

- 0 = none
- 1 = one or two
- 2 = three or more
- 9 = unknown

183. The day of the incident, would you say you were depressed?

- 0 = no
- 1 = yes
- 2 = somewhat
- 9 = unknown

184. In the year before the incident, were you an active member of any religious denomination, i.e., did you belong and attend a church or other house of worship?

- 0 = no
- 1 = yes
- 9 = unknown

185. What do you feel could have been done, if anything, to have stopped this incident from occurring?
186. What types of things did __________________ do on that
day that made you angry and want to hurt him or her?


Closing statement: This is the end of the interview. I would
like to say again that this information is
strictly confidential and will be used for
research purposes only. Thank you for your
assistance. I appreciate your time and co-
operation.

Remarks:
DOMESTIC VIOLENCE STUDY QUESTIONNAIRE #2

Interviewer name __________________________________________

Name of interviewee ________________________________________

Location of interview _______________________________________

Date ___________________________________________________________________

Starting time ___________________________________________________________________

Ending time ___________________________________________________________________
(Identification number)

INTRODUCTION:

Please follow these directions:

- - -State your name and that you're a researcher with the Ohio Department of Health.

- - -Tell them the Health Department is conducting a study of violent behavior in their city, and that we wish to interview people who live in areas where a domestic homicide has occurred.

- - -State that their residence has been selected randomly and that you wish to ask them general questions about their past and lifestyle?

- - -Ask if they have read and understood the consent form that was mailed to them. Review the consent form with them again, and have them sign it, and give them a copy.

- - -Re-emphasize the confidentiality of the information which they will provide, and that their names will be removed from the questionnaire. "This means that no-one will be able to know that the answers on this questionnaire are yours."

- - -Tell the interviewee that some of the questions have a list of responses and that s/he should wait until all the responses are read.

- - -Thank them for agreeing to participate in the study and proceed with the questions.
INSTRUCTIONS:

Please read the questions below to the interviewee. Emphasize the underlined words. Most of the questions have a list of at least 2 possible responses. Take your time when reading the question and do not rush the interviewee for a response. Do not read the numbers corresponding to the list of answers, rather just the answers themselves. Do not read the "other" or "unknown" response category. Only fill in "unknown" if the interviewee does not have a response, doesn't remember or simply does not know. If necessary, repeat the question. Do not interpret the question in different words unless you have already repeated the question and the interviewee still does not understand the question. Read all the responses that are bracketed. Other questions may be left open-ended. If an answer is given and you cannot find an appropriate response category which corresponds to the answer given, or if you still do not understand the answer after interacting with the interviewee, write down the answer in the margin of the questionnaire.

For questions on firearms, fill in the number of each type of firearm in the box provided: i.e. if the household has 3 .22 caliber handguns, write in "3" in the corresponding box.
"THE FIRST SET OF QUESTIONS CONCERNS BASIC INFORMATION ABOUT YOURSELF, AND YOUR BACKGROUND. PLEASE THINK ABOUT EACH QUESTION CAREFULLY AND GIVE THE MOST ACCURATE ANSWER YOU CAN."

1. How old are you? ____________

2. What best describes your current employment status? ____________

   0 = working full time, 35 hours a week or more
   1 = working part-time, less than 35 hours a week
   2 = out of work for less than 1 year
   3 = out of work for greater than 1 year (continue with question 4)
   4 = homemaker (continue with question 4)
   5 = student (continue with question 4)
   6 = retired (continue with question 4)
   7 = other (specify)
   8 = unknown (continue with question 4)

3. What is your job title and could you briefly describe what you do or did? (to be completed later) ____________

   Title ____________________________________________

   Job Description ____________________________________

____________________________________________________
4. What is your current marital status?
   0 = married or common law
   1 = divorced
   2 = separated
   3 = widowed
   4 = single
   5 = living with someone but not married.
   7 = other ______________________ (specify)
   9 = unknown

5. How many children do you have?

6. What best describes your current yearly income?
   0 = less than $10,000
   1 = $10,000-15,000
   2 = $15,000-20,000
   3 = $20,000-25,000
   4 = $25,000-30,000
   5 = $30,000-50,000
   6 = over $50,000
   9 = unknown
7. What best describes your household yearly income?
   i.e. your income and the income of the other members of your household that you are living with?
   0 = less than $10,000
   1 = $10-15,000
   2 = $15,000-20,000
   3 = $20,000-25,000
   4 = $25,000-30,000
   5 = $30,000-50,000
   6 = over $50,000
   9 = unknown

8. How many rooms does your residence have, not including bathrooms?  

9. What is the highest grade of school you have completed?
   0 = no schooling
   1 = 8th grade or less
   2 = some high school
   3 = high school graduate or GED Certificate
   4 = some college or some technical school
   5 = technical school graduate
   6 = college graduate
   7 = post graduate training
   9 = unknown
10. Did you ever spend time in the military service?
   $ \cdot no \ (continue \ with \ statement \ before \ question \ 14) \n   1 \cdot yes \n   9 \cdot unknown \ (continue \ with \ statement \ before \ question \ 14)

11. For how many years?

12. Did you receive any additional firearm training beyond basic training?
   $ \cdot no \n   1 \cdot yes \n   9 \cdot unknown

13. Were you ever involved in combat, that is, actual fighting while in the military?
   $ \cdot no \n   1 \cdot yes \n   9 \cdot unknown
THE NEXT SET OF QUESTIONS CONCERNS EVENTS THAT HAPPENED IN YOUR CHILDHOOD. PLEASE TRY TO RECALL THEM AS BEST YOU CAN.

14. When you were growing up, what best describes the place that you lived in the most?
   0 = a large city
   1 = a medium size city
   2 = a small town
   3 = a suburb of a city
   4 = the countryside, rural area
   5 = you moved many times and lived in different types of places
   7 = other ____________________________ (specify)
   9 = unknown

15. If you lived outside of Ohio when you were growing up, what state did you live in the most?
   ____________________________ (leave blank)

16. Until you were 18, would you say you had a happy childhood?
   0 = no
   1 = yes
   2 = only sometimes
   7 = other ____________________________ (specify)
   9 = unknown

17. Were you raised by either of your natural parents?
   0 = no
   1 = yes
   9 = unknown
18. Do you feel you were a problem child, that is, did you seem to be in trouble a lot?
  0 = no
  1 = yes
  2 = sometimes
  9 = unknown

19. How often did your parents (or guardian) severely physically punish you as a child, i.e. how often were you severely beaten where you were knocked down, bruised, got a black eye, bloody nose, whipped with a belt, brush or stick, or burned?
  0 = never (continue with question 22)
  1 = only once or twice
  2 = at least once every 4 years
  3 = at least once a year
  4 = at least once every 6 months
  5 = at least once a month
  6 = at least once every 2 weeks
  9 = unknown (continue with question 22)

20. When you were severely hurt during punishment, was it mostly
  0 = before you were 13 years old?
  1 = after 13 years?
  2 = about the same before and after you were 13?
  9 = unknown
21. Who severely punished you the most?
   0 ■ your father
   1 ■ your mother
   2 ■ about the same for both parents
   3 ■ your guardian _________________________________ (specify sex)
   7 ■ other ___________________________ (specify)
   9 ■ unknown

22. During your childhood, how many times did you stay with a friend or other relative, besides your parents (or guardian), due to problems at home?
   0 ■ never
   1 ■ once
   2 ■ two to three times
   3 ■ four to ten times
   4 ■ eleven or more times
   9 ■ unknown

23. How would you describe your family's living status when you grew up?
   0 ■ less than middle class
   1 ■ middle class
   2 ■ upper middle class
   3 ■ upper class
   9 ■ unknown

24. When you were a child, did your mother or father (or guardian) own a firearm, i.e. handgun, rifle or shotgun?
   0 ■ no (continue with statement before question 31)
   1 ■ yes
   9 ■ unknown (continue with statement before question 31)
25. How many rifles and shotguns did they own?

0 = none (continue with question 26)
1 = one
2 = two or three
3 = four or more
9 = unknown (continue with question 28)

26. In general, what was the most common reason these guns were kept?

0 = hunting
1 = target shooting
2 = collecting
3 = self-protection
4 = just liked to have one
7 = other ______________________ (specify)
9 = unknown (continue with question 28)

27. What was the second most common reason these were kept?

0 = hunting
1 = target shooting
2 = collecting
3 = self-protection
4 = just liked to have one
7 = other ______________________ (specify)
8 = there was no other reason
9 = unknown
28. How many handguns, that is, revolvers or pistols did your parents (or guardian) own?

0 = none (continue with statement before question 31)
1 = one
2 = two or three
3 = four or more
9 = unknown (continue with question 31)

29. In general, what was the most common reason these were kept?

0 = hunting
1 = target shooting
2 = collecting
3 = self-protection
4 = just like to have one
5 = for their job
6 = for their job (specify)
7 = other
7 = other (specify)
9 = unknown (continue with statement before question 31)

30. What was the second most common reason these were kept?

0 = hunting
1 = target shooting
2 = collecting
3 = self-protection
4 = just like to have one
5 = for their job
6 = for their job (specify)
7 = other
7 = other (specify)
8 = there was no other reason
9 = unknown
THE NEXT SET OF QUESTIONS CONCERN YOUR EXPOSURE TO GUNS OR OTHER WEAPONS DURING YOUR CHILDHOOD, THAT IS, BEFORE YOU WERE EIGHTEEN YEARS OLD.

31. Before you were 18 years old, did you ever shoot a firearm?  
   0 = no (continue with question 37)  
   1 = yes  
   9 = unknown (continue with question 37)  

32. What was the most common reason you used a gun before you were 18?  
   0 = hunting  
   1 = target shooting  
   2 = self-protection  
   7 = other (specify)  
   9 = unknown (continue with question 34)  

33. What was the second most common reason?  
   (read the above response categories)  
   (if there was no second reason, fill in the above box with an 8)  

34. Did you ever purposely shoot at anyone with a firearm, that is, a handgun, rifle or shotgun before you were 18 years old?  
   0 = no (continue with question 37)  
   1 = yes  
   9 = unknown (continue with question 37)  

35. On how many different occasions?  

36. Did any of the people you hurt with a gun before you were 18, die from gunshot wounds?  
   0 = no  
   1 = yes  
   9 = unknown
37. Have you ever intentionally injured someone with a weapon besides a firearm, such as a knife, pipe, baseball bat etc. before you were 18 years old?
   0 = no (continue with question 39)
   1 = yes
   9 = unknown (continue with question 39)

38. On how many different occasions?

39. Have you ever intentionally injured someone with a weapon besides a firearm such as a knife, pipe, baseball bat etc. after you turned 18 years old? [NOT INCLUDING MILITARY EXPERIENCE]
   0 = no (continue with question 41)
   1 = yes
   9 = unknown (continue with question 41)

40. On how many different occasions?

41. Have you ever beaten someone up really badly with your fists or feet before you were 18 years old?
   0 = no (continue with question 43)
   1 = yes
   9 = unknown (continue with question 43)

42. On how many different occasions?
   0 = once
   1 = two to three times
   2 = four to seven times
   3 = eight times or greater
   9 = unknown
43. Have you ever beaten anyone up really badly with your fists or feet after you were 18 years.

0 = no (continue with question 45)
1 = yes
9 = unknown (continue with question 45)

44. On how many different occasions?

0 = once
1 = two to three times
2 = four to seven times
3 = eight times or greater
9 = unknown

45. Have you ever been arrested for any criminal act?

0 = no (continue with question 54)
1 = yes
9 = unknown (continue with question 54)

46. How many times have you been arrested?

47. Have you ever been convicted of a criminal act, such as theft or robbery where no one was hurt?

0 = no (continue with question 49)
1 = yes
9 = unknown (continue with question 49)

48. How many times?
49. Have you ever been convicted of a criminal act, such as assault where someone was hurt?
   0 = no (continue with question 52)
   1 = yes
   9 = unknown (continue with question 52)

50. How many times?

51. Did any of these people you hurt from using a knife, pipe, or other type of weapon, or by beating them up, die from their injuries?
   0 = no
   1 = yes
   9 = unknown

52. Have you ever been imprisoned for a criminal act?
   0 = no (continue with question 54)
   1 = yes
   9 = unknown (continue with question 54)

53. How many times?
54. Have you ever spent time in a juvenile detention center?
   - 0 = no
   - 1 = yes
   - 9 = unknown

55. Has anyone in your immediate family ever been shot with a gun
   i.e. a brother, sister, parents or child?
   - 0 = no (continue with question 57)
   - 1 = yes
   - 9 = unknown (continue with question 57)

56. Has anyone in your immediate family ever been killed by a gunshot
   i.e. a brother, sister, parents or child?
   - 0 = no
   - 1 = yes
   - 9 = unknown

57. Have you ever been shot with a gun, not including any military
   experience you may have had?
   - 0 = no
   - 1 = yes
   - 9 = unknown

58. Have you ever purposefully been severely injured by a weapon
   other than a firearm such as a knife, pipe, baseball bat
   or other weapon?
   - 0 = no (continue with question 60)
   - 1 = yes
   - 9 = unknown (continue with question 60)
59. On how many different occasions have you been severely injured?  

60. Were you ever beaten up really badly in a fist fight, at any time, by someone other than your parents?  

- 0 = no (continue with statement before question 62)  
- 1 = yes  
- 9 = unknown (continue with statement before question 62)  

61. How many times?  

- 0 = once  
- 1 = two to three times  
- 2 = four to seven times  
- 3 = eight times or greater  
- 9 = unknown  
- 9 = unknown
WE KNOW THAT MANY IF NOT MOST AMERICANS HAVE AT LEAST ONE GUN THAT IS KEPT IN THEIR HOME. THIS CAN BE A HANDGUN, REVOLVER, PISTOL, SHOTGUN OR RIFLE. THESE GUNS ARE KEPT FOR A VARIETY OF REASONS. THE NEXT SET OF QUESTIONS CONCERNS FIREARMS THAT ARE KEPT IN THE HOME. PLEASE REMEMBER THAT THIS IS FOR HEALTH RESEARCH AND WILL REMAIN CONFIDENTIAL. PLEASE TAKE A MOMENT TO THINK ABOUT THE NUMBER AND TYPES OF GUNS THAT ARE IN YOUR HOME.

62. How many firearms, not including antiques, are kept at the place that you live now?

(IF NONE, CONTINUE WITH QUESTION 98)

63. How many of these firearms are handguns?

(IF NONE, CONTINUE WITH QUESTION 79)

64. Could you please tell me the caliber of the handgun(s). (LIST NUMBER)

<table>
<thead>
<tr>
<th>Caliber</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 = .22</td>
<td></td>
</tr>
<tr>
<td>1 = .25</td>
<td></td>
</tr>
<tr>
<td>2 = .38</td>
<td></td>
</tr>
<tr>
<td>3 = 357</td>
<td></td>
</tr>
<tr>
<td>4 = 41</td>
<td></td>
</tr>
<tr>
<td>5 = 44</td>
<td></td>
</tr>
<tr>
<td>6 = 45</td>
<td></td>
</tr>
<tr>
<td>7 = other</td>
<td>(specify)</td>
</tr>
<tr>
<td>8 = unknown</td>
<td>(continue with question 69)</td>
</tr>
</tbody>
</table>

(If caliber is 9mm, 38, 32, 7.65, 6.35, 25, 22, or less, continue with 65)

(If caliber is 357, 41, 44, 45 or greater, continue with question 67)

NOTE: (IF BOTH OF THE ABOVE CALIBER GROUPS ARE NOTED, DO ALL RELATED SUBSEQUENT QUESTIONS (I.E., 65, 66, 67, 68, ETC.))
65. Many people would consider that type of gun small to medium in size. What was the most important reason this (these) gun(s) was acquired instead of a higher caliber weapon?

1. lower firepower
2. it was the only gun available
3. it was cheaper
4. you liked the way it looked
5. it was more easily concealable
6. the recoil is too great with a larger caliber gun
7. the ammunition is cheaper or more common
8. other __________________________
   (specify)
9. the gun does not belong to you and you don't know why this type of gun was acquired (continue with question 67 or 69)
10. unknown (continue with question 67, or 69 if no higher cal. gun)
11. you're more familiar with this type of gun

66. What are two other reasons this (these) type(s) of gun(s) was acquired?

1. lower firepower
2. it was the only gun available
3. it was cheaper
4. you liked the way it looked
5. it was more easily concealable
6. the recoil is too great with a larger caliber gun
7. the ammunition is cheaper or more common
8. other __________________________
   (specify)
9. there were no other reasons
10. unknown (continue with question 67, or 69 if no higher cal. gun)
11. you're more familiar with this type of gun

(IF NO OTHER HIGHER CALIBER GUN AVAILABLE, CONTINUE WITH QUESTION 69)
67. Many people would consider this type of gun relatively large in size. What was the most important reason this (these) gun(s) was acquired instead of a lower caliber weapon?

0 = higher firepower
1 = it was the only gun available.
2 = you liked the way it looked
3 = better accuracy
4 = higher quality
5 = you're more familiar with this type of gun
6 = the ammunition is more common
7 = other (specify)
8 = the gun does not belong to you and you don't know why this type of gun was acquired (continue with question 68)
9 = unknown (continue with question 68)

68. What are two other reasons this (these) type(s) of gun(s) was acquired?

0 = higher firepower
1 = it was the only gun available.
2 = you liked the way it looked
3 = better accuracy
4 = higher quality
5 = you're more familiar with this type of gun
6 = the ammunition is more common
7 = other (specify)
8 = no other reason
9 = unknown
69. You mentioned that you had ___ handguns. How many of these had barrels

- 0 = less than 3 inches  
- 1 = 3 to 6 inches  
- 2 = greater than 6 inches  
- 9 = unknown  

70. Do you feel this gun (these guns) could be traced by the police?

- 0 = no  
- 1 = yes  
- 2 = only some (if more than one gun)  
- 9 = unknown

71. What types of bullets are kept for this gun (these guns)?

(ONLY SHOW THE PHOTOS IF THE INTERVIEWEE DOESN'T KNOW BULLET TYPE) place an "x"

- 0 = full metal jacket  
- 1 = hollow-point  
- 2 = jacketed soft-point  
- 3 = wadcutter  
- 4 = solid lead  
- 5 = jacketed hollow point  
- 7 = other (specify)  
- 9 = unknown

72. Is the ammunition of magnum type?

- 0 = no  
- 1 = yes  
- 2 = some (if more than one type)  
- 9 = unknown
73. What was (were) the main reason(s) this (these) type(s) of ammunition was acquired?

- lower cost
- stopping power
- velocity
- recommended by store owner, friend or relative
- brand name
- someone gave it to you (continue with question 75)
- other
- unknown

(Continued)

74. Was most of the ammunition bought at a store?

- no
- yes
- unknown

75. Does your residence have any rifles?

- no (continue with question 79)
- yes

76. Could you please tell me the caliber of the rifles. (LIST NUMBER)

- .22 Rimfire (short, long, or long rifle)
- less than or equal to .22 caliber centerfire
- greater than .22 caliber
- unknown
77. Do any of these rifles have barrels that are less than 16 inches long (i.e., sawed off)?

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>no</td>
</tr>
<tr>
<td>1</td>
<td>yes</td>
</tr>
<tr>
<td>9</td>
<td>unknown</td>
</tr>
</tbody>
</table>

78. What types of bullets are owned for these rifles?

(OONLY SHOW THE PHOTOS IF THE INTERVIEWEE DOESN'T KNOW THE BULLET TYPE)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>0</td>
<td>full metal jacket</td>
</tr>
<tr>
<td>1</td>
<td>hollow-point</td>
</tr>
<tr>
<td>2</td>
<td>jacketed soft-point</td>
</tr>
<tr>
<td>7</td>
<td>other (specify)</td>
</tr>
<tr>
<td>9</td>
<td>unknown</td>
</tr>
</tbody>
</table>

79. Does your residence have any shotguns?

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>no (continue with question 82)</td>
</tr>
<tr>
<td>1</td>
<td>yes</td>
</tr>
<tr>
<td>9</td>
<td>unknown (continue with question 82)</td>
</tr>
</tbody>
</table>

80. Could you tell me the gauge of the shotgun(s)?

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>16 gauge</td>
</tr>
<tr>
<td>1</td>
<td>12 gauge</td>
</tr>
<tr>
<td>2</td>
<td>16 gauge</td>
</tr>
<tr>
<td>3</td>
<td>20 gauge</td>
</tr>
<tr>
<td>4</td>
<td>410 gauge</td>
</tr>
<tr>
<td>7</td>
<td>other (specify)</td>
</tr>
<tr>
<td>9</td>
<td>unknown</td>
</tr>
</tbody>
</table>
81. Do any of the shotguns have barrels less than 18 inches long, i.e. sawed off?

<p>| | | | |</p>
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<thead>
<tr>
<th></th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>0</td>
<td>no</td>
<td></td>
<td></td>
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<tr>
<td>1</td>
<td>yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>unknown</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

82. Of the handguns, rifles, and shotguns that we just talked about, how many are kept in the following rooms of your residence? (LIST NUMBER)

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>any bedroom</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>the living or family room</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>the kitchen</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>more than 1 room</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>another room (specify)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>outside the house or on person</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>unknown</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

83. You have mentioned that you have ___ handguns, ___ rifles, and ___ shotguns. Where were (were) the gun(s) acquired?

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>it was bought legally from a licensed dealer, i.e. a gunshop or a retail store</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>it was bought from a licensed dealer, but not legally</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>it was a gift</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>it was stolen</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>it was purchased from a person you did not know</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>it was purchased at a gun show</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>it was purchased from a friend or relative</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>other (specify)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>unknown (specify)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
84. How much did you, or the owner of the gun, pay for it (them)?

<table>
<thead>
<tr>
<th>LIST NUMBER</th>
<th>HANDGUN RIFLE SHOTGUN</th>
</tr>
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<tr>
<td>0</td>
<td>nothing</td>
</tr>
<tr>
<td>1</td>
<td>less than 50 dollars</td>
</tr>
<tr>
<td>2</td>
<td>fifty to 99 dollars</td>
</tr>
<tr>
<td>3</td>
<td>100 to 150 dollars</td>
</tr>
<tr>
<td>4</td>
<td>over 150 dollars</td>
</tr>
<tr>
<td>9</td>
<td>unknown</td>
</tr>
</tbody>
</table>

85. How many years have (has) the gun(s) been owned?

| | less than 1 year | [ ] [ ] [ ] |
| 1 | 1 to 5 years | [ ] [ ] [ ] |
| 2 | greater than 5 years | [ ] [ ] [ ] |
| 9 | unknown | [ ] [ ] [ ] |

86. What was the main reason this (these) gun(s) was obtained?

| | self-protection | [ ] [ ] [ ] |
| 1 | hunting | [ ] [ ] [ ] |
| 2 | target-shooting | [ ] [ ] [ ] |
| 3 | collecting | [ ] [ ] [ ] |
| 4 | to purposely shoot someone | [ ] [ ] [ ] |
| 7 | other | [ ] [ ] [ ] |

(specify)

| | it is not your gun and you don't know why it was obtained | [ ] [ ] [ ] |
| | unknown | [ ] [ ] [ ] |
87. Is (are) the handgun(s) registered or licensed?
   0 = no
   1 = yes
   (specify-when registered or licensed)
   2 = only some
   9 = unknown

88. Is (are) the gun(s) usually kept loaded?
   0 = no
   1 = yes
   2 = sometimes
   9 = unknown

89. Is (are) the gun(s) normally kept locked up?
   e.g. in a locked drawer
   0 = no
   1 = yes
   2 = sometimes
   9 = unknown

THAT CONCLUDES THE RATHER LENGTHY SECTION ON FIREARMS. THERE ARE ONLY A FEW MORE
QUESTIONS TO GO THAT WILL ALLOW US TO BE DONE IN JUST A FEW MINUTES. I WOULD
LIKE TO REMIND YOU THAT ALL OF THIS INFORMATION WILL BE CONFIDENTIAL. TO
CONCLUDE:

90. In the past 2 years have you ever physically attacked any
    member of your household?
   0 = no (continue with question 94)
   1 = yes
   9 = unknown (continue with question 94)
91. If yes, was this person ever injured where (s)he needed medical treatment?
   0 = no (continue with question 94)
   1 = yes
   9 = unknown (continue with question 94)

92. Did (s)he actually get such treatment?
   0 = no (continue with question 94)
   1 = yes
   9 = unknown (continue with question 94)

93. Where did (s)he most often get treated?
   0 = a hospital
   1 = a clinic
   2 = a doctors office
   7 = other ______________________________ (specify)
   9 = unknown

94. In the past 2 years, has any member of your household ever physically attacked you?
   0 = no (continue with question 95)
   1 = yes
   9 = unknown (continue with question 95)

95. Did you ever need medical treatment because of this attack?
   0 = no (continue with question 96)
   1 = yes
   9 = unknown (continue with question 96)
96. Did you actually get such treatment?
   0 = no (continue with question 98)
   1 = yes
   9 = unknown (continue with question 98)

97. Where did you most often get treated?
   0 = a hospital
   1 = a clinic
   2 = a doctors office
   7 = other ______________________________ (specify)
   9 = unknown

98. In the past 2 years, have the police ever come to your home or the home of another person to stop a fight you were involved with?
   0 = no (continue with question 100)
   1 = yes
   9 = unknown (continue with question 100)

99. How many times within the last 2 years?
100. Had you ever received counselling for violent behavior by social workers, police teams, doctors or other government or private services?

0 = no (continue with question 103)
1 = yes
9 = unknown (continue with question 103)

101. How many times have you been visited by or had you visited these counsellors within the past 2 years?

0 = once
1 = two to three times
2 = three to ten times
3 = more than 10 times
9 = unknown

102. Do you feel that these counselling sessions were helpful in solving any problems?

0 = no
1 = yes
9 = unknown

(if question 102 was answered, continue with question 103)

103. If you did not attend any counselling sessions within the past 2 years, were you aware that such services existed?

0 = no
1 = yes
9 = unknown
104. Would you have used such counselling if you thought it might solve any problems that you had?

0 = no
1 = yes
2 = maybe
9 = unknown

105. How often do you practice shooting firearms? not including any military experience you may have?

0 = never (continue with statement before question 107)
1 = once or twice
2 = regularly but not recently
3 = regularly and recently
7 = other ____________________________(specify)
9 = unknown (continue with question 107)

106. How many years ago was the last time you shot a firearm?

107. How many hours of television would you say you watch in an average week?

108. How many friends and relatives can you rely on when you need help?

0 = none
1 = one or two
2 = three or more
9 = unknown

THE LAST FEW QUESTIONS ARE GENERAL QUESTIONS ABOUT YOUR LIFESTYLE
109. Are you an active member of any religious denomination, i.e. do you belong and attend a church or other house of worship?  
0 = no  
1 = yes  
9 = unknown  

110. In general, how many alcoholic beverages such as glasses of wine, 12 ounce beers or shots of liquor do you have in a week?  

Closing statement: This is the end of the interview. I would like to say again that this information is strictly confidential and will be used for research purposes only. Thank you for your assistance. I appreciate your time and cooperation.  

Remarks:
<table>
<thead>
<tr>
<th>Rank</th>
<th>0-1</th>
<th>1-14</th>
<th>15-24</th>
<th>25-34</th>
<th>35-44</th>
<th>45-64</th>
<th>65-84</th>
<th>85+</th>
<th>Total*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Premature Conditions</td>
<td>Accidents</td>
<td>Accidents</td>
<td>Accidents</td>
<td>Malignant Neoplasms</td>
<td>Malignant Neoplasms</td>
<td>Heart Diseases</td>
<td>Heart Diseases</td>
<td>Heart Diseases</td>
</tr>
<tr>
<td>2</td>
<td>Congenital Anomalies</td>
<td>Malignant Neoplasms</td>
<td>Suicide</td>
<td>Suicide</td>
<td>Heart Diseases</td>
<td>Heart Diseases</td>
<td>Malignant Neoplasms</td>
<td>Malignant Neoplasms</td>
<td>Malignant Neoplasms</td>
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<tr>
<td>3</td>
<td>Accidents</td>
<td>Congenital Anomalies</td>
<td>Malignant Neoplasms</td>
<td>Malignant Neoplasms</td>
<td>Heart Diseases</td>
<td>Accidents</td>
<td>Cerebrovascular Diseases</td>
<td>Cerebrovascular Diseases</td>
<td>Cerebrovascular Diseases</td>
</tr>
<tr>
<td>4</td>
<td>Heart Diseases</td>
<td>Heart Diseases</td>
<td>Malignant Neoplasms</td>
<td>Heart Diseases</td>
<td>Suicide</td>
<td>Liver Diseases and Cerebrovascular Diseases</td>
<td>Heart Diseases and Cerebrovascular Diseases</td>
<td>Pneumonia and Influenza</td>
<td>Bronchitis, Asthma and Emphysema</td>
</tr>
<tr>
<td>5</td>
<td>Pneumonia and Influenza</td>
<td>Heart Diseases</td>
<td>Heart Diseases</td>
<td>Liver Diseases and Cerebrovascular Diseases</td>
<td>Cerebrovascular Diseases</td>
<td>Heart Diseases and Cerebrovascular Diseases</td>
<td>Pneumonia and Influenza</td>
<td>Bronchitis, Asthma and Emphysema</td>
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<tr>
<td>6</td>
<td>Meningitis</td>
<td>Meningitis</td>
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<td>Malignant Neoplasms</td>
<td>Malignant Neoplasms</td>
<td>Heart Diseases</td>
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<td>7</td>
<td>Septicemia</td>
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<td>Cerebrovascular Diseases</td>
<td>Cerebrovascular Diseases</td>
<td>Bronchitis, Asthma and Emphysema</td>
<td>Diabetes</td>
<td>Diabetes</td>
<td>Diabetes</td>
</tr>
<tr>
<td>8</td>
<td>Nephritis and Nephrosis</td>
<td>Malignant Neoplasms</td>
<td>Pneumonia and Influenza</td>
<td>Diabetes</td>
<td>Diabetes</td>
<td>Diabetes</td>
<td>Diabetes</td>
<td>Heart Diseases and Cerebrovascular Diseases</td>
<td>Diabetes</td>
</tr>
<tr>
<td>9</td>
<td>Malignant Neoplasms</td>
<td>Benign Neoplasms</td>
<td>Bronchitis, Asthma and Emphysema</td>
<td>Congenital Anomalies</td>
<td>Pneumonia and Influenza</td>
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<td>Heart Diseases and Cerebrovascular Diseases</td>
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<td>10</td>
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<td>Nephritis and Nephrosis</td>
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<tr>
<td>Total Deaths</td>
<td>20,201</td>
<td>13,950</td>
<td>31,553</td>
<td>34,887</td>
<td>43,236</td>
<td>49,966</td>
<td>28,530</td>
<td>1,270,111</td>
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</table>

*Excludes persons of unknown age

**Deaths from all other causes

SOURCE: CDC HOMICIDE SURVEILLANCE, ATLANTA, NOV. 1986
<table>
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<tr>
<th>Rank</th>
<th>C.1</th>
<th>1-14</th>
<th>15-24</th>
<th>25-34</th>
<th>35-44</th>
<th>45-64</th>
<th>55-64</th>
<th>65+</th>
<th>Total*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Perinatal Conditions</td>
<td>Accidents</td>
<td>Pneumonia and Influenza</td>
<td>Heart Disease</td>
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*Includes persons of unknown age
**Deaths from all other causes

SOURCE: CDC HOMICIDE SURVEILLANCE, ATLANTA, NOV. 1986
<table>
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<tr>
<th>Sex by City</th>
<th>Family Homicide</th>
<th>Acquaintance Homicide</th>
<th>Stranger Homicide</th>
<th>Type Unknown</th>
<th>Total Homicides</th>
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</tr>
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<td>58 92.1</td>
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<tr>
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<td>71 78.9</td>
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<td>Total Cities.</td>
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<td>45 15.5</td>
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<tr>
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<td>720 100.0</td>
<td></td>
<td>384 100.0</td>
<td>1,631 100.0</td>
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</table>

**Source:** National Institute of Justice, The Nature and Patterns of American Homicide, 1985

**Note:** Percentages may not sum to 100.0 due to rounding.
<table>
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<tr>
<th>Age</th>
<th>Total</th>
<th>Male</th>
<th>Female</th>
<th>Unknown</th>
<th>White</th>
<th>Black</th>
<th>Other</th>
<th>Unknown</th>
<th>Hispanic</th>
<th>Non-Hispanic</th>
<th>Unknown</th>
</tr>
</thead>
<tbody>
<tr>
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<td>4,975</td>
<td>29</td>
<td>10,199</td>
<td>8,909</td>
<td>452</td>
<td>97</td>
<td>2,841</td>
<td>12,548</td>
<td>3,548</td>
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<td>1.0</td>
<td>53.0</td>
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<td>5.0</td>
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<td>1,499</td>
<td>599</td>
<td>1</td>
<td>130</td>
<td>721</td>
<td>41</td>
<td>3</td>
<td>208</td>
<td>1,097</td>
<td>204</td>
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<td>13,155</td>
<td>4,207</td>
<td>2</td>
<td>9,109</td>
<td>7,655</td>
<td>406</td>
<td>94</td>
<td>2,642</td>
<td>11,744</td>
<td>3,754</td>
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<table>
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<th>15-19</th>
<th>20-29</th>
<th>30-49</th>
<th>50-64</th>
<th>65+</th>
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<td>3,918</td>
<td>3,606</td>
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<td>2</td>
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<tr>
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<td>2,148</td>
<td>4,675</td>
<td>3,817</td>
<td>905</td>
<td>216</td>
<td>5</td>
<td>11,927 5.9</td>
</tr>
<tr>
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<td>187</td>
<td>2,477</td>
<td>5,017</td>
<td>4,094</td>
<td>999</td>
<td>233</td>
<td>6</td>
<td>13,013 6.4</td>
</tr>
<tr>
<td>1971</td>
<td>190</td>
<td>2,731</td>
<td>5,922</td>
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<td>219</td>
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<tr>
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<td>482</td>
<td>3,015</td>
<td>6,289</td>
<td>4,789</td>
<td>1,010</td>
<td>284</td>
<td>13</td>
<td>15,882 7.6</td>
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<tr>
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<td>234</td>
<td>3,074</td>
<td>6,452</td>
<td>4,706</td>
<td>1,028</td>
<td>275</td>
<td>0</td>
<td>15,769 7.5</td>
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<tr>
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<td>2,960</td>
<td>6,603</td>
<td>4,512</td>
<td>1,027</td>
<td>261</td>
<td>15</td>
<td>15,602 7.4</td>
</tr>
<tr>
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<td>163</td>
<td>2,708</td>
<td>6,362</td>
<td>4,241</td>
<td>913</td>
<td>240</td>
<td>8</td>
<td>14,635 6.9</td>
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<td>3,065</td>
<td>6,714</td>
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<td>1,011</td>
<td>245</td>
<td>4</td>
<td>15,635 7.3</td>
</tr>
<tr>
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<td>955</td>
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<td>15,044 7.0</td>
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<td>1,118</td>
<td>267</td>
<td>6</td>
<td>17,638 8.1</td>
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</table>

Sources: (a) FBI, Uniform Crime Reports, Age, Sex, and Race of Arrested Persons Reports; 1968-1978.

Source: NATIONAL INSTITUTE OF JUSTICE, NATURE AND PATTERNS OF AMERICAN HOMICIDE, 1985
## TABLE 40 RACE OF HOMICIDE OFFENDERS IN THE NATION, 1968-1978

<table>
<thead>
<tr>
<th>Year</th>
<th>White</th>
<th>Black</th>
<th>Other Race</th>
<th>Total Offenders</th>
</tr>
</thead>
<tbody>
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<td>5,774</td>
<td>229</td>
<td>9,646 100.1</td>
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<tr>
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<td>3,897</td>
<td>6,693</td>
<td>236</td>
<td>10,826 100.0</td>
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<tr>
<td>1970</td>
<td>4,427</td>
<td>6,715</td>
<td>244</td>
<td>11,386 100.0</td>
</tr>
<tr>
<td>1971</td>
<td>4,792</td>
<td>8,323</td>
<td>316</td>
<td>13,431 100.1</td>
</tr>
<tr>
<td>1972</td>
<td>5,532</td>
<td>8,740</td>
<td>367</td>
<td>14,639 100.0</td>
</tr>
<tr>
<td>1973</td>
<td>5,551</td>
<td>8,362</td>
<td>311</td>
<td>14,224 100.0</td>
</tr>
<tr>
<td>1974</td>
<td>5,782</td>
<td>7,982</td>
<td>489</td>
<td>14,253 100.0</td>
</tr>
<tr>
<td>1975</td>
<td>6,142</td>
<td>6,915</td>
<td>281</td>
<td>13,338 99.9</td>
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<tr>
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<td>6,400</td>
<td>7,621</td>
<td>393</td>
<td>14,414 100.0</td>
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<tr>
<td>1977</td>
<td>6,820</td>
<td>7,736</td>
<td>468</td>
<td>15,024 100.0</td>
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<tr>
<td>1978</td>
<td>8,122</td>
<td>8,757</td>
<td>711</td>
<td>17,590 100.2</td>
</tr>
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</table>

Source: FBI, Uniform Crime Reports, Age, Sex, and Race of Arrested Persons Reports; 1968-1978.

Notes: Percentages may not sum to 100.0 due to rounding.

"Other Race" includes American Indians or Alaskan Natives, Asians or Pacific Islanders, and persons of Hispanic origin.

### Table 41: Sex of Homicide Offenders in the Nation, 1968-1978

<table>
<thead>
<tr>
<th>Year</th>
<th>Male Frequency</th>
<th>Male Percent</th>
<th>Female Frequency</th>
<th>Female Percent</th>
<th>Total Offenders Frequency</th>
<th>Total Offenders Percent</th>
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<td>16.3</td>
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<td>2,361</td>
<td>15.0</td>
<td>15,769</td>
<td>100.0</td>
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<td>14.6</td>
<td>15,602</td>
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<tr>
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<td>2,251</td>
<td>15.4</td>
<td>14,635</td>
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<tr>
<td>1976</td>
<td>13,422</td>
<td>85.8</td>
<td>2,213</td>
<td>14.2</td>
<td>15,635</td>
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</tr>
<tr>
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<td>2,524</td>
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<td>100.0</td>
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Source: FBI, Uniform Crime Reports, Age, Sex, and Race of Arrested Persons Reports; 1968-1978.

Source: NATIONAL INSTITUTE OF JUSTICE, NATURE AND PATTERN OF AMERICAN HOMICIDE NOV. 1985
<table>
<thead>
<tr>
<th>Offender Sex by City</th>
<th>Type of Homicide</th>
<th>Family Homicide</th>
<th>Acquaintance Homicide</th>
<th>Stranger Homicide</th>
<th>Type Unknown</th>
<th>Total Homicide Offenders</th>
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<td>16</td>
<td>11.9</td>
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<td>135</td>
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<td>77.4</td>
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<td>100.0</td>
</tr>
<tr>
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<td>Female</td>
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<td>7</td>
<td>22.6</td>
<td></td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>Total</td>
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<td>31</td>
<td>43.1</td>
<td></td>
<td>72</td>
</tr>
<tr>
<td>Chicago</td>
<td>Male</td>
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<td>176</td>
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<td>77</td>
<td>93.9</td>
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<td>5</td>
<td>6.1</td>
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<tr>
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<td>Female</td>
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<td>7</td>
<td>10.3</td>
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</tr>
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<td>87.2</td>
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<td>Female</td>
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<td>12</td>
<td>12.8</td>
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<td>86.4</td>
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<td>6</td>
<td>13.6</td>
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<td>10</td>
</tr>
<tr>
<td></td>
<td>Total</td>
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<td>71</td>
</tr>
<tr>
<td>&quot;Ashton&quot;</td>
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<td>12</td>
<td>31</td>
<td>83.8</td>
<td>15</td>
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</tr>
<tr>
<td></td>
<td>Female</td>
<td>7</td>
<td>6</td>
<td>16.2</td>
<td></td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>19</td>
<td>37</td>
<td>48.1</td>
<td>16</td>
<td>77</td>
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<tr>
<td>Total Cities</td>
<td>Male</td>
<td>140</td>
<td>608</td>
<td>87.6</td>
<td>299</td>
<td>109</td>
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<tr>
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<td>Female</td>
<td>92</td>
<td>86</td>
<td>12.4</td>
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<td>18</td>
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<tr>
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<td>Total</td>
<td>232</td>
<td>694</td>
<td>100.0</td>
<td>317</td>
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</table>

Note: Percentages may not sum to 100.0 due to rounding.

Source: National Institute of Justice, Nature and Patterns of American Homicide
### Table 43

Homicide-attributable years of potential life lost before age 65 (YPLL) and rates per 100,000 population, by sex and race — United States, 1985

<table>
<thead>
<tr>
<th>Sex and race</th>
<th>YPLL</th>
<th>Rate</th>
<th>Deaths</th>
<th>No.</th>
<th>(%)</th>
<th>Rate</th>
<th>Average age at death (yrs)</th>
<th>Average YPLL per death</th>
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<tbody>
<tr>
<td><strong>Males</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>White</td>
<td>241,931 (39.5)</td>
<td>273.0</td>
<td>7,467 (40.7)</td>
<td>8.4</td>
<td>32.6</td>
<td>32.4</td>
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<tr>
<td>Black</td>
<td>212,713 (34.7)</td>
<td>1669.3</td>
<td>6,284 (34.2)</td>
<td>49.3</td>
<td>31.2</td>
<td>33.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>10,361 (1.7)</td>
<td>316.6</td>
<td>305 (1.7)</td>
<td>9.3</td>
<td>31.0</td>
<td>34.0</td>
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<td></td>
</tr>
<tr>
<td>All</td>
<td>464,972 (75.9)</td>
<td>444.4</td>
<td>14,056 (76.6)</td>
<td>13.4</td>
<td>31.9</td>
<td>33.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Females</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>87,895 (14.3)</td>
<td>99.4</td>
<td>2,630 (14.3)</td>
<td>3.0</td>
<td>31.6</td>
<td>33.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td>55,738 (9.1)</td>
<td>403.9</td>
<td>1,550 (8.4)</td>
<td>11.2</td>
<td>29.0</td>
<td>36.0</td>
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<tr>
<td>Other</td>
<td>4,020 (0.7)</td>
<td>119.4</td>
<td>115 (0.6)</td>
<td>3.4</td>
<td>30.0</td>
<td>35.0</td>
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<tr>
<td>All</td>
<td>147,619 (24.1)</td>
<td>139.8</td>
<td>4,295 (23.4)</td>
<td>4.1</td>
<td>30.6</td>
<td>34.4</td>
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<tr>
<td><strong>Total</strong></td>
<td>612,556 (100.0)</td>
<td>291.4</td>
<td>18,251 (100.0)</td>
<td>8.7</td>
<td>31.6</td>
<td>33.4</td>
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*Source: CDC: Premature Mortality Due to Homicides—United States, 1968–1985*
<table>
<thead>
<tr>
<th>Age</th>
<th>Total</th>
<th>Firearms</th>
<th>Cutting or stabbing instruments</th>
<th>Blunt objects (club, hammer, etc.)</th>
<th>Personal weapons (rifle, shotgun, etc.)</th>
<th>Poison</th>
<th>Explosives</th>
<th>Fire</th>
<th>Narcotics</th>
<th>Smothering</th>
<th>Asphyxiation</th>
<th>Other weapons or weapon not stated</th>
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<tbody>
<tr>
<td>Total</td>
<td>19,237</td>
<td>11,381</td>
<td>2,957</td>
<td>1,099</td>
<td>1,310</td>
<td>16</td>
<td>16</td>
<td>230</td>
<td>23</td>
<td>341</td>
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<td>Percent distribution</td>
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<td>6.7</td>
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<tr>
<td>Under 18</td>
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<td>602</td>
<td>220</td>
<td>90</td>
<td>387</td>
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<td>22</td>
<td>69</td>
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<td>15,384</td>
<td>3,666</td>
<td>962</td>
<td>880</td>
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<td>13</td>
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<td>23</td>
<td>301</td>
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<td>36</td>
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<td>2</td>
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<td>8</td>
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<table>
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<th>Weapon</th>
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<th>Black male</th>
<th>Black female</th>
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<tr>
<td></td>
<td>MO</td>
<td>FO</td>
<td>MO</td>
<td>FO</td>
</tr>
<tr>
<td>Guns</td>
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<td>75</td>
<td>64</td>
<td>33</td>
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<td>17</td>
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</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

* Excludes 3,990 incidents in which the sex of the first-specified victim was unknown, or the race of the first-specified victim was unknown or other than white or black, or the sex of the first-specified offender was unknown. In incidents with more than one victim and/or offender, these are not specified in any predetermined order (FBI-UCR, personal communication, 1981).

* Male offender (MO); female offender (FO).

* The category "other" includes blunt objects, bodily part, poison, arsenic, narcotics or drugs, strangulation, asphyxiation, and the FBI-UCR category "other."