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Specification of Patterns over Time In Chicago Homicide:

Increases and Decreases, 1965-1981

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Table of Contents

Executive Summary

Chicago police recorded 12,872 homicides from 1965 through 1981. This paper is the second of two reports that examine these homicides. The first report, *Lethal Violence in Chicago over Seventeen Years*, describes the overall characteristics of homicide in Chicago, and answers questions such as these: Who are the victims of Chicago homicide?; Who are the offenders?; Are certain racial/ethnic, gender, or age groups in Chicago's population overrepresented among homicide victims or offenders?; Does one racial/ethnic, gender, or age group tend to prey on another--for example, interracial attack, domestic murder, or murder of the elderly by teenagers?; Are some homicide situations--such as robbery homicide, teen gang homicide, firearm homicide, male/female homicide, multiple-offender homicide--more common among certain population groups?

This second report focuses on the pattern over time in the number of homicides occurring from month to month. The number of homicides known to the police in Chicago changed tremendously over the 17-year period (*see figure 1 on page 1*). In 1965, there were about 30 murders in a typical month, but by the end of 1974, there were almost 75 per month. After a brief decline in 1975 and 1976, homicides increased again from 1977 through 1981. Was this pattern over time evident in murders involving only one part of Chicago's population, or did it occur without regard to race/ethnicity, gender, and age? Did it occur in only one type of homicide or in all types?

Together, the two reports describe Chicago homicide from two perspectives--the relationship among victim, offender, and situation in all 12,872 homicides; and the change over time in these homicides. Relationships that are important in the aggregate of all homicides are not necessarily important in determining patterns of change in the number of homicides occurring from year to year. Only by looking at homicide from *both* perspectives--the 17-year aggregate and the change over time--can we derive an accurate description of Chicago homicide. Unless we have an accurate description, any attempt at explanation would be at best fruitless and at worst erroneous.

The first report demonstrates that homicide is not one crime, but many. Typical victim and offender characteristics differ for homicides that begin as a fight, brawl, or argument (assault homicide), for robbery homicide, for burglary homicide, and for rape homicide. In each of these homicide types, crimes committed with and without firearms have different characteristics, as do single- and multiple-offender homicides. In addition, certain homicide subtypes, such as arson homicide and teen/youth gang homicide, have their own characteristics. As a result, answering a seemingly simple question, such as one concerning the involvement of certain racial/ethnic, gender, or age groups in homicide, requires a complex answer.

This complexity occurs not only in a description of aggregate homicide characteristics, but also in a description of homicide changes over time. Because different types of homicide have different characteristics, each type responds differently to changes in society, such as increases or decreases in unemployment, population density, or firearm availability. As a result, different homicide types follow different patterns of change over time. Therefore, an explanation of the rapid increases and decreases that occurred in the total number of homicides in Chicago from 1965 through 1981 must be built on a foundation of detailed descriptions of patterns of change over time in each homicide type. If certain types of homicide did not change at all during this volatile period, then those types cannot explain the increases and decreases in homicide as a whole. If we want to explain the rapid increase in Chicago homicide from 1965 to 1974 and the increase from 1977 through 1981, we should focus on those types of homicide that changed, not the types that remained stable.

One of the most important tasks of this paper is not to show which explanations for the increases and decreases in Chicago homicide *are* possible, but to eliminate from consideration those explanations that are *not* possible. This approach provides a practical basis for establishing public policy and law enforcement priorities for dealing with homicide. Instead of expending available resources in a potentially fruitless attempt to prevent types of homicide that remain at a constant level for years no matter what, we can concentrate on preventing those homicide types that have tended to show volatile change in the past. Homicide types that have changed in the past may be more subject to change in the future. The societal changes that caused a rapid increase in a particular kind of homicide in the past may be expected to cause a similar increase if they occur again. By focusing our attention and our resources on such volatile types of homicide, we can increase the impact of our prevention efforts.

The methodological purposes of these two papers are perhaps as important as their substantive findings. The overall purpose is to show what can be learned from a two-perspective (aggregate and time series) approach that would never be learned if the analysis were limited to one perspective alone. The methodological purpose of the companion paper, which concentrated on overall relationships in all Chicago homicides, was to show that conclusions about homicide may be wrong unless they are firmly rooted in analysis of different *types* of homicide. The methodological purpose of the present paper is to demonstrate the importance of *time series specification* as a descriptive foundation for explaining patterns of change over time.

Following is a thumbnail sketch of homicide in Chicago from two perspectives: aggregate and over time. Details of the time series findings appear in subsequent sections of this report. Details of the aggregate findings can be found in the companion report.

● **Homicide is not one crime but many.** Most (69 percent) of the 12,872 homicide victims in the 17 years were killed in a homicide that began as a fight, brawl, or argument. Another 17 percent were killed in a homicide that began as a robbery, 1 percent each in homicides that began as a rape or a burglary, less than 1 percent in homicides that began in some other way (such as a contract killing or a rape of a male victim), and 12 percent in homicides precipitated by unknown circumstances.

● **Assault homicide** is a function of the vulnerability of the potential victim, the strength of the potential offender, the likelihood of contact between victim and offender, and the lethality of the weapon. Offenders tend to attack victims the same race as themselves and the same age as themselves (any age from 9 to 90).

● **Domestic homicide** is most common among blacks. More black wives kill their husbands than black husbands kill their wives. In contrast, white and Latin husbands kill their wives three times more frequently than white and Latin wives kill their husbands. Domestic homicide constitutes a considerable proportion (13 percent) of all assault murders of black male victims.

● **Violence against women, young children, and the elderly and violence centered in the home** are very rare in the Latin population. Rape homicide, for example, is virtually unknown among Latins. No rape homicide was attributed to a Latin offender during the entire 17-year period.

● **Young children, the elderly, and females** are particularly vulnerable to arson homicide. This is true, however, only for blacks and whites; arson homicide is infrequent among Latins.

● **Three-quarters of the murders of young children** begin as child abuse. As children grow older and stronger, child abuse murder becomes gradually less common, and murder "on the street" by other young people becomes more common.

- Young people have a strong tendency to be involved in group activities, including multiple-offender homicide. Most homicides attributed to a teenage offender involve multiple offenders.

- **Multiple-offender robbery homicide**, however, is not limited to teenage offenders. Even middle-aged offenders use the tool of group attack in robbery homicide.

- **Teen/youth gang-related homicide** accounts for 25 percent of the murders of teenagers. The risk of gang-related murder is much higher for Latins than for whites or blacks, whatever their age. More than half of murdered Latin teenagers are killed in gang-related altercations, and this trend appears to be increasing.

- **Teen/youth gang-related homicide** occurs in "spurts." In some years, there are many incidents; in other years, there are very few. Over the 17 years, there were two peaks, in 1970 and 1981.

- The **risk of being murdered** in an assault homicide is highest for young adults, but the risk of being murdered in a robbery homicide increases with age. For whites and blacks (but not for Latins), the robbery homicide risk is highest for the elderly.

- The design of a program intended to reduce homicide should take into account the fact that the **peak age** for homicide victimization and offense varies for different racial/gender groups. Women and white males who commit homicide do so at a later age than do males, blacks, or Latins. White male victims are more likely to be middle-aged than other victims are. Female victims are more likely than male victims to be killed as children.

- **Male-on-male homicide** is by far the most frequent. This is true throughout the 17 years. The rapid increase in homicide in the late 1970s occurred only in male-on-male homicide.

- **White males** commit homicide less frequently than do black or Latin males, but when white men do kill, a higher proportion of their victims are female than are the victims of black or Latin male offenders.

- The **race/ethnicity of victim and offender** in assault homicide is closely related to the likelihood of day-to-day contact. Because the races in Chicago are so residentially segregated (relative to other large cities with significant black populations), and because exposure of one racial/ethnic group to another is low, assault homicide is almost always committed within, not across, racial boundaries. In contrast, the choice of victim in robbery homicide depends on several factors: likelihood of contact, potential gain, and victim vulnerability. Because whites generally possess more property, and the potential gain is higher, white-on-white, black-on-white, and Latin-on-white robbery homicides are more common than residential exposure would predict. Still, the great majority of robbery homicides are committed within, not across, racial boundaries.

- Because **robbery homicide** is a function of the offender's strength, the proportion of young offenders (under age 25) is high. Because robbery homicide is also a function of victim vulnerability, victim availability, and the amount of property possessed by the victim, victims are likely to be men, and the risk of victimization increases with age. Presumably, this happens because strength begins to diminish with age, men are more available for a robbery (they are "on the street" more), and adults generally possess more property than teenagers do.

- Victims in homicides that begin as a **burglary** tend to be even older, 35 and up.

- Most of the change over time in the number of robbery homicides occurred in those homicides attributed to **young offenders** (aged 15 to 24) and in murders of **middle-aged victims** (aged 35 to 59).

● Robbery homicide is much more common in the black community. The number of robbery homicides involving blacks changed tremendously over the 17 years. Robbery homicide attributed to black offenders, especially black multiple offenders, increased ninefold between 1965 and 1974, but from 1974 through 1981, it decreased almost as rapidly as it had increased.

● **Latin-on-Latin robbery homicide**, though much less frequent than black-on-black robbery homicide, increased throughout the 17 years, especially in the late 1970s.

● Robbery homicide attributed to **female offenders** is very rare, except when they work with a male accomplice. Thus, despite dire predictions of increasing female crime as a result of "women's liberation," the number of homicides attributed to women did not change much over the 17 years.

● Both **robbery victimization** and **robbery offense** are largely race/gender/age-specific. Robbery homicides in Chicago during the 17-year period were attributed predominantly to black offenders (76 percent), to male offenders (86 percent), and to young adult (aged 20 to 34) offenders (45 percent). These differences persist even when we account for the size of the population. Robbery homicide attribution rates are highest for blacks, males, and 20- to 24-year-olds. In fact, 85 percent of the robbery homicides in which an offender was identified were attributed to one or more black male offenders, and 44 percent of these were attributed to an offender 20-to-24 years old.

o **Weapon use** is related to victim's race/ethnicity. White victims are murdered with a firearm less often than black or Latin victims are, no matter what the circumstances.

o **Female murder victims**, as well as victims who are very young or old, are less likely to be killed with a firearm.

o In general, **weapon use** does not depend as much on the offender's characteristics as it does on the victim's characteristics. The one exception is gender: Male offenders are much more likely than female offenders to use a firearm. Race/ethnicity of the offender makes little difference, and offender's age makes no difference at all. Young or teenage offenders are no more or less likely to use a firearm than offenders in other age groups are.

o **Chicago homicide does not fluctuate with the seasons**, except for one specific type--homicides that occur out-of-doors or in a vehicle.

o Certain types of homicide **did not change** over the 17-year period. Though they increased or decreased from month to month, the number occurring in a typical month remained at a stable level, with little or no pattern of increases or decreases. These types of homicide, therefore, cannot account for the tremendous increases and decreases that took place in the number of Chicago homicides as a whole during the 17 years. These homicide types include the following:

- Robbery homicide committed without a firearm
- Assault homicide committed without a firearm (after 1966)
- Rape homicide
- Burglary homicide
- Black-on-Latin homicide (assault and robbery)
- Black-on-white assault homicide
- White victims of teen/youth gang-related homicide
- Robbery homicide of female victims (except for a slight increase in 1974)
- Assault homicide of white or Latin female victims
- Female-on-female homicide
- Child abuse homicide
- Murder of the elderly by the young
- Robbery homicide attributed to offenders aged 35 to 59

o Many, but not all, types of homicide increased between 1965 and 1970 in Chicago. In general, homicides that began as a fight, brawl, or argument (assault homicide) peaked in 1970 and declined afterward. Homicides that began as a robbery not only increased sharply from 1965 to 1970, but also continued to increase after 1970. The **high number of homicides in 1970**, therefore, was a result of a high number of assault homicides *and* a high number of robbery homicides.

o **The peak in 1974** consisted mostly of robbery homicide. Many types of assault homicide had already begun to decline by 1974. The 1974 peak cannot be explained by those kinds of homicide that were decreasing. To explain it, we must find an explanation for those types that were increasing.

Homicide Types that Peaked in 1974:

Assault Homicide:
- Homicide committed with a firearm
- Homicide attributed to white multiple offenders
- Latin victims of teen/youth gang-related homicide
- Male-on-male homicide (peaked in 1973)
- Homicide of victims aged 25 to 34

Robbery Homicide:
- Homicide committed with a firearm
- Homicide of black, or Latin male victims
- Homicide of victims aged 25 to 59

Apparently Strong Robbery Homicide Offender Patterns (because of a problem with missing information, conclusions about robbery homicide offender patterns must be tentative; the patterns listed here are only the very strongest and most consistent):
- Homicide attributed to black multiple offenders
- Homicide attributed to black offenders aged 15 to 24
- Black-on-black homicide

Homicide Types that Decreased in the Mid-1970s (and thus could not explain the increase in total homicides):

Assault Homicide:
- Homicide committed without a firearm
- Multiple-offender homicide
- Black multiple-offender homicide
- Black victims of teen/youth gang-related homicide
- Black-on-black homicide
- Homicide attributed to female offenders
- Female victims of Latin male offenders
- Homicide attributed to black offenders aged 15 to 19 and 35 to 39
- Homicide of black victims aged 15 to 24

Robbery Homicide:
- Homicide of white victims

Apparently Strong Robbery Homicide Offender Patterns (see note above):
- Black-on-white robbery homicide

o Most kinds of homicide involving blacks as either victims or offenders decreased from **1977 through 1981**. The only exceptions were homicide of black victims aged 15 to 24 and homicide of black victims of teen/youth gang-related violence. However, almost every type of homicide involving Latin victims or offenders increased from 1977 through 1981. This increase occurred for assault homicide involving Latin males of every age from 15 to 59, and for robbery homicide involving Latin male victims of every age and offenders aged 15 to 24.

o In summary, all kinds of homicide except those committed without a firearm increased rapidly in the 1960s, but in the 1970s, the increase or decrease in some kinds of homicide varied for offenders and victims of different racial/ethnic, gender, and age groups. The increase of the mid-1960s occurred for all groups, the peak in 1970 occurred mostly in firearm robbery homicide involving blacks or Latins, and the increase from 1977 through 1981 occurred in Latin assault homicide and in black and Latin robbery homicide.

o Even though it is not of great importance in analysis from the aggregate perspective, **weapon** use is extremely important from the perspective of patterns of change over time. Homicide committed without a firearm changed little over the 17 years. The rapid increases and decreases in Chicago homicide as a whole occurred only in homicides committed with a firearm.

o Many researchers and journalists attributed the tremendous increase in homicide in the mid-1970s to the increase in the number of young black men in the population. To the contrary, in Chicago, **change over time in the number of people** in a particular population group has no simple, direct relationship to change over time in the number of homicides attributed to that group. Repeatedly, population increases coincide with homicide decreases and population decreases coincide with homicide increases for specific racial/gender/age groups.

o Aggregate analysis shows that robbery homicide attribution rates are very high for black, male, and young (aged 20 to 24) offenders. Time series analysis indicates that the number of robbery homicides attributed to young black males changed tremendously over the 17 years, first increasing and then decreasing. It changed more than any other type of homicide, and the change did not coincide with changes in the young black male population. Thus, young black male robbery homicide is not a constant, but rather increases and decreases rapidly, possibly in response to some societal change yet to be identified. If such a societal factor (or factors) could be identified, and if it were possible to manipulate it (or them), then it might be possible to reduce the number of robbery homicides in the black community.

Acknowledgements

Introduction

During the 1920s, when Chicago earned its national and international reputation as a violent city, the city's annual homicide rate was about 11 per 100,000 population.[1] Although homicides declined in the 1930s, 1940s, and 1950s (following the national pattern), they began to increase in the 1960s, and by 1965 had risen to roughly the same rate (11.5) as in the "Roaring '20s." The increase, however, did not stop there, but continued at a rapid pace. During the 10 years from 1965 through 1974, the homicide rate more than doubled, reaching 29. During a typical month of 1965, about 30 murders became known to the police (*figure 1*). In 1974, there were almost 75 murders in a typical month, with 102 in October and 110 in November of that year the highest monthly totals in the city's history.[2] A decline after 1974 was soon reversed, and in 1977, the number of homicides per month was again on the rise. By the end of 1981, the number of homicides in a typical month had reached 75 once more.[3]

Why did the tremendous increase through the mid-1970s, and the continued increase after 1977, occur? Answering this question may give us clues for how to prevent homicide rates in Chicago from climbing again. A number of explanations could be suggested; this paper discusses some of them. However, the main purpose of the paper is not to list possible alternative explanations, but to eliminate from consideration those explanations that are *not* possible. Instead of expending resources trying to prevent types of homicide that tend to remain constant for years regardless of conditions, we can concentrate resources on those homicide types that have tended to show volatile change in the past.

Figure 1
Homicide in Chicago, 1965-1981

Months (January 1965 to December 1981)
Source: Chicago Police Department
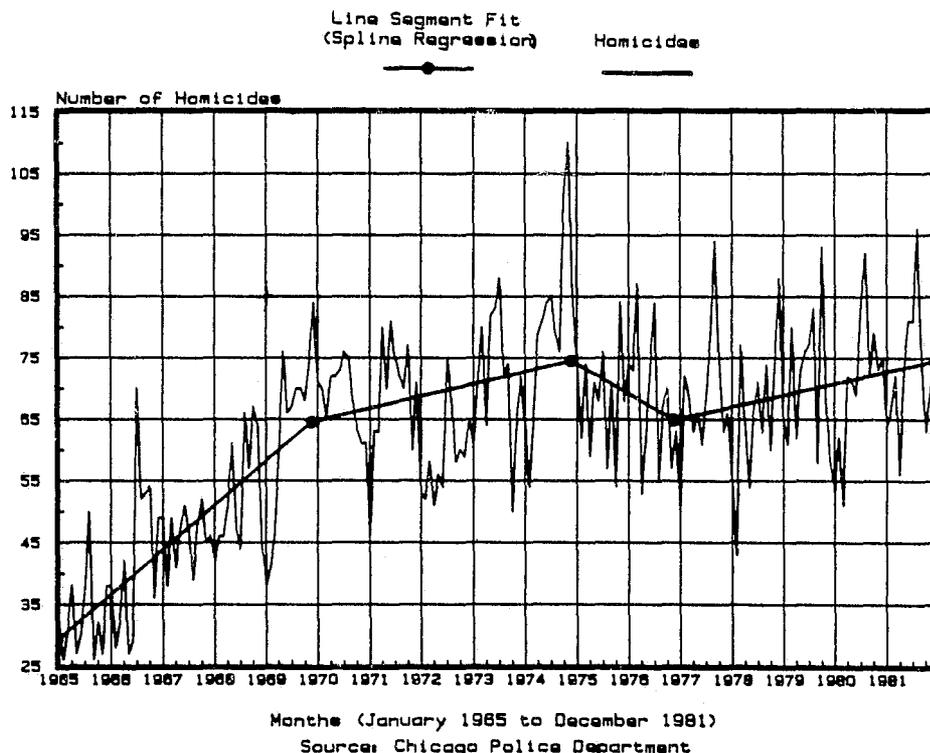
Chicago police recorded 12,872 homicides from 1965 through 1981. This paper describes the pattern of change over the 17-year period in the number of homicides known to the police that occurred each month. The paper also determines whether or not the overall pattern can be explained by increases and decreases in homicides involving one segment of the population. In other words, the paper tries to answer the question, "Was the pattern over time of Chicago homicide--the rapid increase of the 1960s, the continued increase of the early 1970s, the brief decline in 1975 and 1976, and the increase from 1977 through 1981--evident only in murders involving one segment of the population, or did it occur without regard to race/ethnicity, gender, or age?" The paper describes the contributions of non-Latin whites, non-Latin blacks, Latins, other racial/ethnic groups, men and women, and people in seven age groups (and combinations of these) to the overall pattern of increases and decreases in Chicago homicide.

In addition, the *methods* used in this paper may contribute more to our knowledge about homicide than the answer to our specific substantive question will. The methodological purpose of the paper is two-fold: first, to show that conclusions about homicide may be wrong unless they are based on analyses of component *types* of homicide; and second, to demonstrate a method, *time series specification*, for comparing patterns over time in components of a crime.

Homicide from Two Perspectives: Aggregate and Time Series

For an accurate view of the causes and explanations of homicide, it is necessary to begin with an accurate description. An accurate description includes a view of homicide from two perspectives--relationships in the aggregate, and patterns of change over time.

Research studies, including this one, repeatedly have found racial, gender, and age differences in involvement in violent crime in general, and in homicide in particular. However, it is a leap of faith, not logic, to argue that overall differences in the propensity to commit homicide or to be a homicide victim necessarily produce differences *over time* in the number of homicides occurring. The relationship between population changes and increases and decreases in crime should not be assumed *a priori*, but should be considered an hypothesis to be tested against reality. In addition, the appropriate methods for analyzing change over time are not the same as the appropriate methods for analyzing relationships in the aggregate of all homicides, without regard to time.

For example, consider the argument that one explanation of the high homicide rate in some urban areas is the high degree of black-white income inequality. If it is proven that cities with higher income inequality have higher homicide rates, is it necessarily true that reducing income inequality over time in a city will reduce that city's homicide rate? Or, consider the argument that increases in homicides among minority youth are caused by increases in the *number* of minority youth. Is this direct relationship between the number of youth and the homicides attributed to those youths the most reasonable assumption? Is it more reasonable to posit a threshold effect, in which the number of youth-offender homicides increases only if the number of youths increases beyond that which the community's social service resources can handle?

To separate these complex relationships, it is necessary to view the situation from two perspectives. Aggregate relationships form a framework for analyzing patterns of change over time. Similarly, patterns over time may specify, and perhaps explain, aggregate relationships. A knowledge of both perspectives is necessary for an accurate description of homicide patterns.

The companion report to this paper, *Lethal Violence in Chicago over Seventeen Years*, takes the aggregate perspective. It is a thorough, elementary description of homicide involvement, for each type of homicide, by victims and offenders of each racial/ethnic, gender, and age group. The companion report thus forms a foundation for the time series description of this paper.

Summary of Analysis from the Aggregate Perspective

This paper focuses on change over time in Chicago homicide, but its foundation is the examination of overall relationships in the companion report. This section summarizes the more important findings from the aggregate perspective. For details of these findings, see the companion paper.

Overall, the risk of being a homicide victim is highest for blacks, second-highest for Latins, and lowest for whites; homicide risk is much higher for males than for females, and is higher at ages 20 to 34 than at other ages. The overall characteristics of homicide offenders generally are similar to the characteristics of victims--homicides are most likely to be attributed to blacks, least likely to whites; the participation of males is much more common than that of females; and 20- to 24-year-olds are responsible for more homicides per capita than are other age groups. However, these generalities hide some important differences in the characteristics of homicides. This summary reviews these differences.

Homicides that begin as a fight, brawl, or argument differ from homicides that begin as a robbery. Robbery homicides, in turn, differ extensively from homicides that begin as a burglary or a rape. One way these homicide types differ is in the demographic characteristics of the offenders who commit the crimes and of the victims they kill. For example, a different set of circumstances generates interracial (white-on-black, black-on-Latin, etc.) assault homicide than generates interracial robbery homicide. Societal changes or prevention programs that produce an increase or decrease in one type of homicide may not affect other types. Therefore, any conclusions about the race/ethnicity, gender, or age of homicide offenders and victims, especially conclusions about patterns of change over time, must be specific conclusions for each precipitating crime (assault, robbery, burglary, and rape). Otherwise, the conclusions often will be misleading and may be wrong.

In assault homicide, likelihood of association between victim and offender is very important. Therefore, assault homicide occurs most among victims and offenders of the same age, or close to the same age. Also, with few exceptions, assault homicide almost always occurs within racial boundaries in Chicago. The relationship between victim and offender in homicides that begin as a fight, brawl, or argument is one of proximity; races in Chicago generally are segregated residentially, and exposure of one racial/ethnic group to another is low.

On the other hand, robbery homicide victims tend to be people who are likely to possess more property--whites, men, and adults. Therefore, robbery homicide is more interracial and more interage than assault homicide is. White adult males tend to be chosen as targets in robbery homicide, whatever the offender's race/ethnicity or age.

Homicide is a function of the potential victim's vulnerability and the potential offender's strength. Assault homicide is also a function of proximity--the likelihood that victim and offender associate with each other daily. Robbery homicide and burglary homicide depend not only on the vulnerability of the victim vs. the strength of the offender, but also on the availability of the victim to the offender, and whether or not the victim possesses property the offender wants. Together, these considerations produce typical patterns of involvement by different racial/ethnic, gender, and age groups in homicides that begin as assaults, robberies, burglaries, and rapes.

Profiles of White, Black, and Latin Homicide

Relative to other large cities with significant black populations, Chicago historically has been one of the most racially segregated cities in the United States; in 1980, in fact, it was *the most* residentially segregated city in the nation. It is not surprising, then, that social interaction patterns, including homicide patterns, would differ for whites, blacks, and Latins. Indeed, the profiles of a typical homicide for these three racial/ethnic groups differ extensively.

Profile of White Homicide

Overall, homicide involving white victims or offenders is less common than homicide involving Latins or blacks. It is especially rare for whites to be involved in robbery homicide, as either victims or offenders. The typical white homicide, like the typical Latin homicide, begins as a fight, brawl, or argument. However, compared with Latin homicide, the assault is more likely to be one-on-one rather than multiple-offender, the victim is more likely to be female or elderly, and the offender is more likely to be older than 34.

Profile of Black Homicide

In general, lethal violence is much more common in the black community than in the white or Latin communities. Homicides precipitated by assault, robbery, burglary, and rape are all relatively more frequent among blacks, and the differential for blacks persists for victims and offenders of every age group and for males and females. However, two features stand out in a profile of black homicide: Robbery homicide victimization and offense, especially multiple-offender robbery homicide, are much more common among blacks; and homicide attributed to females, in particular the murder of husbands by their wives, is also much more common.

Profile of Latin Homicide

In contrast to white and black homicide victims, Latin victims almost always are young or middle-aged males. The victimization of females, preteen children, and the elderly is rare in the Latin community, and rape homicide is practically unknown among Latins. Two types of homicide involving the home--arson homicide and burglary homicide--are less common. On the other hand, assault homicide--especially teen/youth gang-related assault homicide, assault homicide between males, and multiple-offender assault homicide--is more common. Also, multiple-offender and gang-related assault homicide persists at older ages for Latin offenders, and firearm homicides are slightly more common among Latins. Taken together, these characteristics produce in the Latin community a profile of homicide that usually stems from an altercation between teenage or adult men, often in a group, and almost always occurring away from the home. Attacks within the home or on vulnerable people such as young children, the elderly, and women rarely occur.

Typical Ages

The age of the victim and the age of the offender vary by type of homicide. In assault homicide, offenders tend to attack victims the same age as themselves, at any age from 9 to 90. The young and the elderly are particularly vulnerable to arson homicide. As children grow older, murder by child abuse becomes less common, but assault murder by other young people and teen/youth gang-related murder become more common.

Robbery homicide offenders tend to be young (under 25), but its victims tend to be older. Although the youthfulness of robbery and robbery homicide offenders never has been explained completely (*see Hirschi and Gorrfredson, 1983, for the classic treatment of the question*), the explanation may involve physical strength. A victim is intimidated more easily, other things being equal, if the offender is strong. Because the choice of victim in robbery homicide involves consideration of victim vulnerability, victim availability, and the amount of property the victim possesses, victims tend to be men who are middle-aged or older. Presumably, this happens because strength begins to diminish with age, men are more available for a robbery (they tend to be "on the street" more), and adults generally possess more property than teenagers do. Similarly, victims of burglary homicide tend to be middle-aged or older. However, teenage robbery homicide offenders do *not* tend to choose elderly victims any more than older robbery homicide offenders do.

The peak age for homicide victimization is older for whites than for blacks or Latins. More than half of white male murder victims are 35 or older when they are killed, *vs.* one-third of black male victims and one-quarter of Latin male victims. For the youngest age group, gender is important; female victims are more likely than male victims to be killed at very young ages (birth

through 9). Although murder of 10-to-14-year-old girls is relatively uncommon, a high proportion (28 percent) of the girls in this group who are murdered are killed in a rape homicide.

Although the *homicide-prone* ages for offenders are generally 15 to 24, offender ages vary by race/ethnicity and gender. Among females who commit homicide, most do so when they are older than 25, and very few when they are teenagers. In contrast, one-quarter of the homicides attributed to black or Latin males involve a teenage offender. Like white females, white males who commit homicide do so at a later age. Therefore, a program designed to reduce the number of homicides should take into account the fact that peak ages for one race/gender/age group are not the same as those for another.

Gender

Male-on-male homicide is by far the most frequent type of homicide in Chicago. However, the degree to which male-on-male homicide predominates varies by race/ethnicity. For example, white males commit homicide less frequently than black or Latin males do, but when white men do kill, the victim is more likely to be female than is the victim of black or Latin offenders. The victim is least likely to be female if the offender is Latin; during the 17 years examined, there was no case of a rape homicide attributed to a Latin offender.

One kind of domestic homicide is relatively frequent--murder of black husbands by their wives. White and Latin husbands are about three times more likely to kill their wives as to be killed by them. In contrast, more black wives kill their husbands than black husbands kill their wives. Murder by wives or girlfriends constitutes 13 percent of the assault murders of black men (compared with 5 percent for white men and 2 percent for Latin men).

The choice of victim in a robbery homicide depends, in part, on the victim's vulnerability, the victim's availability, and the amount of property the victim possesses. Women, in general, are not as strong as men, and may be killed by an attack that would only injure a stronger person. However, women are not as available to robberies committed on the street. In any case, females are less likely than males to be robbery homicide victims, whatever their race/ethnicity or age.

Homicides attributed to female offenders are very uncommon. When women do kill, it is usually an assault homicide, and the crime is much less likely to be committed with a firearm. In the rare cases when a woman is a robbery homicide offender, she usually works with a male accomplice. Similarly, a female is rarely an offender in a teen/youth gang-related homicide. Female-offender homicides are much less likely than male-offender homicides to be attributed to a teenager. In contrast, however, more than one-quarter of arson homicides are attributed solely to female offenders.[4]

Weapon Use

Weapon use is a function of the vulnerability of the potential victim. Female, very young, and elderly murder victims are less likely to be killed with a firearm and are more likely to be killed in arson, through brute force, or with a blunt instrument. A small, physically vulnerable person may die in an attack with a weapon that would not kill a stronger person. Vulnerability is especially important in impulsive homicides, such as most assault homicides, because the weapon tends to be whatever is available.

In robbery homicide, weapon choice relates not only to victim vulnerability, but also to the offender's judgment about whether or not the potential victim will resist a given weapon. Female robbery homicide victims are less likely than female assault homicide victims to be killed with a firearm. For male victims, the opposite is true: Male robbery homicide victims are *more* likely to be killed with a firearm than are male assault homicide victims. This suggests that robbery homicide offenders tend to choose a firearm if the potential victim is male, because males are more likely to resist other weapons. However, another interpretation would be that males are more likely to be killed with a firearm *because* they are more likely to resist.

Arson homicide victims are distributed more evenly across categories of gender and age than are victims of other types of homicide, which may reflect the random nature of arson deaths. Arson homicide offenders "choose" their victim less than do offenders in robbery homicide and assault homicide. An arson homicide is also more likely than other types of homicide to claim multiple victims. In addition, arson homicide is "passive," requiring less direct contact between victim and offender than do homicides committed with other weapons. This fact may explain the high proportion (23 percent) of arson homicides attributed to female offenders.

Weapon is also related to the race/ethnicity of the victim. No matter what the precipitating crime, white victims are much less likely than other victims to be killed with a firearm. The combined effects of race/ethnicity and gender mean that white female robbery homicide victims are less likely to be killed with a firearm (29 percent) than are other groups (for example, 80 percent for black males).

In general, weapon use depends more on victim characteristics than on offender characteristics. A firearm is least likely to be used in homicides of whites, females, the very young, and the elderly. Weapon use is not related to the age of the offender, and is related only slightly to the race/ethnicity of the offender. Despite previous research to the contrary, younger offenders in Chicago homicide use a firearm just as much as, if not more than, older offenders do. Latin offenders are slightly more likely to use a firearm, either a handgun or a long gun, than are white or black offenders. However, the only strong relationship between offender characteristics and weapon use is gender: Female offenders are consistently less likely than male offenders to use a firearm.

Multiple-Offender and Gang-Related Homicide

Most homicides attributed to teenagers are committed by multiple offenders. The tendency to commit assault homicide with a group declines rapidly with age; however, the decline is less rapid for Latins than for whites or blacks. Within every age group, assault homicides attributed to Latins are more likely to involve multiple offenders than those attributed to whites or blacks. A considerable proportion (25 percent) of the murders of teenagers in general, and more than half the killings of Latin teenagers, begin as teen/youth gang-related assaults.

In robbery homicide, both older offenders and younger offenders tend to work with a group. For example, of robbery homicides attributed to black offenders aged 35 to 59, 47 percent are committed by multiple offenders. Thus, although young people have a strong tendency to engage in group activities, including multiple-offender homicide, older offenders also use the tool of group attack when it serves an instrumental purpose.

Interracial Homicide

Analyzing interracial *vs.* intraracial homicide is not as simple as counting the number of attacks by members of one race on members of another. The analysis becomes meaningful only when motive is taken into account. A different set of circumstances generates an interracial assault homicide than generates an interracial robbery homicide.

The relationship between victim and offender in homicides that begin as a fight, brawl, or argument is one of proximity. In Chicago, races generally are segregated residentially, and exposure of one racial/ethnic group to another is low. Therefore, assault homicide is almost always *intraracial.* For example, 95 percent of the victims of black assault homicide offenders are themselves black. However, there are two exceptions: In white multiple-offender assault homicide, a black victim is chosen more than likelihood of contact would predict; and, Latin-on-white and white-on-Latin assault homicides are relatively frequent.

In robbery homicide, the choice of victim depends on several things: likelihood of contact, potential gain, and victim vulnerability. Because whites generally possess more property and the potential gain is thus higher, white-on-white and black-on-white robbery homicides occur more

often than likelihood of contact would predict. However, the great majority of robbery homicides still are committed within, not across, racial boundaries.

Demographic Explanations of Homicide Patterns over Time

It might seem, at first glance, that if a certain population group commits crimes at a higher rate than other groups do, and if the size of this population group changes, the total number of crimes would change correspondingly. However, the real situation is more complex. The most effective method to determine the most common race/ethnicity, gender, or age of homicide offenders or victims is not necessarily the most effective method to determine how change over time in the distribution of racial/ethnic, gender, or age groups in the population affects change over time in the number of homicides (*see Gurr, 1981; Farrington, 1979:298-300*). For example, a societal factor important in explaining different homicide rates among U.S. cities is not necessarily an important factor in explaining change over time within one city.

During the 1970s, researchers, government agencies, and the press noticed a rapid increase of violent crime in general, and of homicide in particular. One of the most common explanations given for the increase was the *demographic hypothesis*.[5] This argument holds that teenagers and young adults, especially black teenagers and young adults, are more likely than other people to commit crimes. The proportion of young people, especially young black men, in the population increased in the 1970s because of high birth rates in the 1940s and 1950s. Therefore, according to the demographic hypothesis, the number of homicides (*Wolfgang, 1977*) and the property and violent crime rates (*Fox, 1978a, 1978b*) increased in the 1970s, but would level off in the 1980s as the young black male population also leveled off (*Toby, 1977; Wolfgang, 1977*).

What exactly is the demographic argument? It consists of two hypotheses: first, that increases and decreases in the number of homicides can be explained by increases and decreases in the number of homicides committed by young people, especially young black men; and second, that the patterns of increases and decreases in homicide by youths (or young black men) is caused by a corresponding pattern of increases and decreases in the number of youths. The second hypothesis depends on the first, and there is no reason to test the latter until the first has been tested and supported.

To test the first hypothesis, we must show two things: that the pattern over time of homicides committed by young people (or young black men) follows the same pattern over time as does Chicago homicide as a whole, *and* that the pattern over time of homicides committed by other age/race/gender groups follows a different pattern. If homicides attributed to young people follow the same pattern of increases and decreases over time as homicides attributed to older people, we cannot conclude that the pattern of Chicago homicide over time was caused by change in homicides attributed to young offenders. In that case, we must look for some alternative explanation.

Time Series Specification

To what degree do the various types of homicide--such as assault homicide, robbery homicide, or homicide involving various racial/ethnic, gender, and age groups--contribute to the pattern of change over time in the total number of Chicago homicides? The method this paper uses to examine this question is *time series specification*. Time series specification compares the patterns of change over time of different *types* of homicide with the pattern of change over time of homicide as a whole. If the pattern of one type is similar to the pattern of the whole, *and* if the patterns of the remaining types are *not* similar to the pattern of the whole, the pattern of the whole has been "specified." That is, the pattern of change over time in that one type of homicide accounts for, or specifies, the pattern of change over time in the whole.

Time series specification is similar to *cross-sectional specification* (*see Hyman, 1955:ch. vi-vii; Davis, 1971:81-132*) in that it defines the conditions under which a phenomenon occurs. In

cross-sectional specification, the phenomenon is an association between two variables; in time series specification, the phenomenon is a pattern of change over time.

Cross-sectional specification has a history as old as social research itself (*see the review of Durkheim in Selvin, 1958*). In a classic example (*Kendall and Lazarsfeld, 1950:163-173*), time in the army specifies the association between education and rank. For those who have been in the service longer, education is not related to rank. However, education is related to rank for those who have joined recently. Similarly, if offender's age specifies the pattern over time of homicide in Chicago, the pattern would occur for one age but not for another.

Time series specification will tell us whether or not the overall pattern of increases and decreases in Chicago homicide could be caused by a similar pattern of increases and decreases in homicide occurring to, or attributed to, a particular racial/ethnic, gender, or age group. Time series specification will *not* tell us the cause of these patterns, because the method is a simple, descriptive analysis. However, time series specification can tell us where to look, and where *not* to look, for a causal explanation. Time series specification will eliminate from consideration those explanations that are not possible, and allow us to concentrate on the explanations that are possible.

Outline of Paper

The results of the two-perspective analysis of Chicago homicide are being published in two reports. The companion report covers relationships in the aggregate of Chicago homicide over the 17 years from 1965 through 1981. The present report is devoted to time series specification of Chicago homicide over the same 17 years. The central question of this report is whether specific types of homicide accounted for the pattern of increases and decreases in Chicago homicide as a whole. Did some particular type of Chicago homicide increase rapidly in the late 1960s, continue to increase through 1974, decline briefly, then increase again, while all other types of homicide stayed at a constant level? If so, the pattern over time of total Chicago homicide is specified by the pattern of that particular type.

The mechanism for comparing the pattern over time of one type of homicide with the pattern of another is *time series pattern description*. In pattern description, *line segment fits* are superimposed on graphs depicting each type of homicide (*see, for example, figure 1*). These line segment fits are spline regressions--the best-fitting one, two, three, or four-or-more segment line that fits the entire 17 years for that type of homicide. The second section of the paper ("*Methods*") discusses details of pattern description and specific criteria for deciding whether or not the patterns of two types of homicide are similar. It also covers other details of our methodology, including data definitions, specific criteria for time series specification, and methods of analyzing seasonal fluctuation.

The companion paper concludes that analyzing homicide may be misleading unless the analysis is done separately for each *type* of homicide, including assault homicide, robbery homicide, burglary homicide, and rape homicide. It also shows that two other factors are particularly important in homicide involvement by different racial/ethnic, gender, and age groups--type of weapon, and multiple-offender *vs.* single-offender homicide. The present report, which views homicide from a time perspective, describes patterns of change over time in each type of homicide. The third section ("*Circumstance, Weapon, and Number of Offenders*") begins this analysis with a basic description of patterns of each homicide type and combinations of different types. This description provides a foundation for later sections, which describe patterns of change over time in types of homicide involving each racial/ethnic, gender, and age group.

Next is a section ("*Population Patterns*") that describes patterns of change over time in Chicago's population, including specific patterns for various racial/ethnic and age groups. For reasons discussed in the *Methods* section, we make no prior assumption about the relationship of population and crime. Therefore, all of the homicide graphs contain raw numbers, not rates. Using rates in a description of patterns of change over time would assume a constant relationship

over time between the number in each population group and the number of homicides involving that group. Instead of assuming this, we test it. Then we describe separately change over time in population groups and in homicides involving those population groups.

The next three sections ("*Race/Ethnicity*," "*Gender*," and "*Age*") deal with the central issue of this report--time series specification of Chicago homicide, by the race/ethnicity, gender, and age of victims and offenders. Each section builds on the findings of the previous sections--the *Gender* section describes combinations of gender and race/ethnicity, the *Age* section describes combinations of age, gender, and race/ethnicity, and all three sections describe various types of homicide (motive, weapon, and number of offenders) and population patterns.

Some caution is necessary in interpreting the graphs in these sections. Not all of the graphs use the same scale. When direct comparisons are made between change over time in two types of homicide, the two pattern description graphs *do* have the same scale; however, a single scale is not maintained throughout the entire specification analysis. If it were, some graphs would be illegible. Therefore, the reader should be cautious. What seems to be a rapid increase or decrease in one scale may appear as a minor increase or decrease in another scale. Check the range of each graph (the minimum is always zero), and note the discussions in the narrative. The discussions usually mention percent increases and decreases in the typical number of homicides.

The paper ends with a recap of the major findings ("*Summary and Discussion*"). Finally, the paper includes appendices that compare homicide in Chicago with homicide in Illinois, the nation, and other large Northern cities. Additional details of our analysis are also included for the interested reader.

Methods

This section describes in detail the methods used in this paper. The casual reader may skip or skim this section, since most of the analyses in the following sections can be understood without this section. When other parts of the paper require familiarity with the methods, the reader is referred back to this section for details. However, readers who want an intimate understanding of homicide in Chicago will benefit by reading this section.

Data

Data analyzed in this report include all 12,872 homicides known to the police in Chicago from January 1965 through December 1981. *Homicide* is broadly defined as the killing of a person by another person, but these homicides were, from the perspective of the police, murders--that is, purposeful, unjustifiable killings of a person by another person. Accidental death, vehicular manslaughter, and justifiable homicide are not included in our analysis. The great majority of the homicides in which police identified an offender were prosecuted as murder (80 percent to 90 percent, depending on the year) or as voluntary manslaughter (5 percent to 10 percent).

The unit of analysis is the victim. The analysis does not consider whether the victim might have been killed by a serial murderer (an offender who kills several people in separate incidents) or in a mass murder (where the same offender kills many people in one incident). In addition, all information about an offender relates to the person murdered. Instead of counting the number of people of various ages or races who were arrested for homicide, this analysis counts the number of murder victims whose deaths were caused by offenders of various ages or races. The emphasis is on describing change over time in the number of people who were murdered, not in the number of people who became murderers.

The data are city-level, and are not aggregated to the county or State. This method has the advantage of avoiding aggregation error (*see Parker, 1982; Zahn and Riedel, 1983*), but means that the results are limited to Chicago. However, Chicago is not atypical of other large U.S. cities, either in the amount of homicide or in its general pattern over time (*for details, see Appendix I*). Homicide mortality data for total U.S. metropolitan areas show the same rapid increase in the 1960s, a slower increase in the early 1970s, a brief decline, and then another increase. Furthermore, the patterns of change over time in the number of homicides known to the police in two other large Northern cities, Philadelphia and Detroit, are similar to the pattern in Chicago (*see Appendix I*). This consistency from place to place suggests that the pattern over time of Chicago homicide does not simply reflect random increases and decreases from one year to the next, but instead reflects some general phenomenon that caused these increases and decreases. If this is the case, an examination of Chicago homicide patterns over time may generate reasonable hypotheses for explaining homicide patterns in urban areas of the nation as a whole.

Compared with police data on other violent crimes, police data on homicides are more likely to reflect the characteristics of all homicides that occur, not just those crimes that become known to the police. Many assaults, especially assaults among acquaintances, are never reported to the police, and strongarm robberies are less likely than armed robberies to be reported to the police (*Block and Block, 1979*). As a result, police data contain a smaller proportion of assaults by acquaintances and strongarm robberies than victimization data do. Homicides, on the other hand, are much more likely to become known to the police. Police homicide data, therefore, may provide more accurate information about demographic patterns over time in homicide than police data provide about patterns over time in other violent crimes.

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Police Investigation Data

The Chicago data used here were coded from police investigation files. For 88 percent of the 12,872 homicides (from 74 percent to 96 percent in any given year), police investigation determined the racial/ethnic group, gender, and age of at least one offender. In collecting data for this study, we recorded information for up to four offenders per homicide victim. These offenders are not all of the possible suspects in each case; they represent only those suspects for whom police investigators found probable cause to believe that they had committed the homicide. Not all of these people were arrested, and of those arrested,[6] not all were prosecuted or convicted eventually. Thus, the offenders in these data are offenders by *police definition*.

The use of police investigation data avoids the bias arrest data may have as an indicator of the contribution of various population groups to change over time in homicide (*Braucht, et al., 1980; Snyder and Hutzler, 1981*). (Using investigation data does not, of course, avoid possible bias in the initial listing of people as suspects.) If the probability of arrest relates to some characteristic of the offender or victim, offender data from police investigation files will not only contain *more* cases than arrest data will, but those cases also will have systematically *different* characteristics. For example, in crimes other than homicide, research (*Greenwood, et al., 1980*) has found that juveniles are more likely than adults to be arrested. Also, depending on the jurisdiction, official arrest data may exclude young offenders. Police investigation data include information about all identified offenders, whether or not the offender is a child too young to be officially "arrested."

Because an offender was not identified in every case, we cannot examine whether the arrest probability for homicide relates to race/ethnicity or age. However, in homicides from 1975 through 1981 in which offender age was known, 18 of the 19 (95 percent) attributed to an offender aged 13 and under, and 26 of the 27 (96 percent) attributed to an offender aged 14, led to an arrest.[7] In comparison, 95 percent of homicides attributed to an offender aged 15 to 19, 89 percent of homicides attributed to an offender aged 20 to 24, and 90 percent of homicides attributed to an offender aged 25 or older led to an arrest. In homicides in which the race/ethnicity of the offender was known, a slightly higher proportion of those attributed to black offenders (91 percent), compared with Latin (82 percent) or white (85 percent) offenders, were followed by an arrest. Although the available evidence does not necessarily suggest a relationship between an offender's race/ethnicity and the likelihood of arrest, the use of police investigation data guards against systematic bias the data may contain.

Population Data: Rates vs. Raw Numbers

One aspect of simple description is the use of raw data rather than rates. A rate standardizes the number of homicides by the number of people at risk. For example, to calculate a homicide rate for black victims in Chicago in 1980, you would divide the number of black homicide victims in 1980 by Chicago's black population that year. For legibility, rates are usually multiplied by 100,000. Rates are necessary when comparing the risk of being victimized in two different cities with different populations. However, in this paper, rates are avoided for several reasons:

● Population rates can be misleading (*Parker, 1982; Block, 1983*) for two reasons. First, they may obscure the separate patterns over time of the numerator (crime) and the denominator (population). Also, Rose and McClain (1981) found that a considerable number of homicides in six large cities were perpetuated against victims who were not residents of the city, and the Centers for Disease Control (1983) found that 14 percent of homicide victims in the United States in 1978 died outside their county of residence. To the extent that non-residents are murdered in a city (and *vice versa*), the city population is an inappropriate denominator for a homicide rate.

● To obtain population estimates between the Census years, population data must be interpolated. This produces a smooth line running from Census to Census. However, this smooth line probably does not follow the actual change in population, and the line might change abruptly before and after the Census years. The degree of interpolation that would be required for analyzing *monthly* rates over time would be very large. Although some between-Census estimates

are available through the Chicago Department of Planning, they are rough, especially for small population segments such as Latin males aged 15 to 19. Therefore, the few rates that are used in this paper have as their denominator the population in a Census year.

● In general, the Census is known to undercount two population segments of great importance in homicide analysis--young black and Latin men. In 1980, however, there may have been less of an undercount of these groups. If this is the case, an artificial increase in the number of young black and Latin men in 1980, compared with 1970 and 1960, would have been produced. In particular, figures for the Latin population are problematic. Latin population information is not available before 1970, and different definitions were used in 1970 (Spanish *speaking*) and in 1975 and 1980 (Spanish *origin*). In addition, the change in coding methods resulted in a number of whites being classified as *Other* (*Chilton, 1984; U.S. Public Health Service, 1983*). For all these reasons, this paper uses rates cautiously. When rates are used, descriptions of patterns of change over time are given separately for each of the two components of the homicide rate (homicide and population).

Counting Offenders in Multiple-Offender Homicides

Murder Attributions

It may be wrong to assume that an increase in the number of young people arrested indicates that crime committed by young offenders is increasing. If, for example, one middle-aged man murders 33 people, police investigation records would show one adult offender. But if a group of five teenagers murders one person, police investigation records would show five times as many youthful murderers as adult murderers. However, 33 times as many people would have been murdered by the adult as by the teenager.

If the proportion of multiple-offender homicides changes over time, the apparent pattern over time of homicides attributed to young people may change accordingly. In an earlier analysis of these data (*Block and Block, 1980*), we attempted to control for multiple offenders by considering only one offender per homicide--the first offender recorded by police investigators. However, further analysis revealed that the age of the offender affects which offender the police report lists first. In multiple-offender homicides, older offenders tend to be listed first. Thus, if we count only the first offender listed, we would attribute fewer homicides to young multiple offenders than they really committed.

To alleviate these problems, a murder attribution calculation was devised that corrects for both sources of bias by weighting offenders in multiple-offender homicides (*for details and examples, see the companion paper*). Under this calculation, the age group of the offender in a single-offender homicide receives full weight; the age group of each offender in a two-offender homicide receives half weight, and so on. (The data contain a maximum of four offenders per murder.) For example, if all offenders in a particular homicide were teenagers, the teenage age group would be given full responsibility for that murder. However, if there were three offenders, one teenager and two adults, the teenage age group would be given responsibility for one-third of a murder. The sum of murder attributions across all ages equals the number of people murdered (given the age of the offender was known). The total for each age group tells us the number of murders attributed to that group.

In 1965, for example, police investigation attributed 29 single-offender murders to offenders aged 15 to 19. These cases received full weight. In the same year, 19 people aged 15 to 19 were police suspects in murder cases involving two offenders, 10 people aged 15 to 19 were police suspects in murder cases involving three offenders, and six people aged 15 to 19 were police suspects in murder cases involving four or more offenders. We weighted the two-offender cases half, the three-offender cases a third, and the four-or-more-offender cases a fourth. Summing these attributions produced a total of 43.3 (rounded to 43) murders attributed to offenders aged 15 to 19.

Figure 2
Homicides Attributed to Offenders Aged 15 to 19

THREE ALTERNATIVE MEASURES

Homicide Attribu-   First Listed   At Least One Off.
tions, Age 15-19   Offender is 15-19   is Age 15-19

Year

SOURCE: Chicago Police Department.
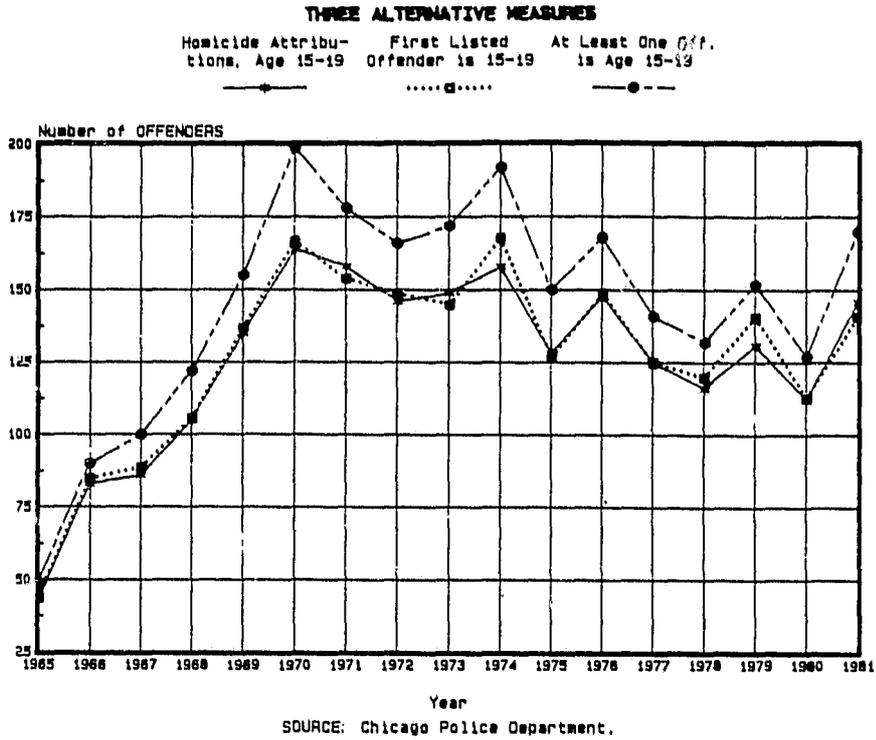
Figure 3
Homicides Attributed to Offenders Aged 35 to 59

THREE ALTERNATIVE MEASURES

Homicide Attribu-   First Listed   At Least One Off.
tions, Age 35-59   Offender is 35-59   is Age 35-59

Year

SOURCE: Chicago Police Department.

Illinois Criminal Justice Information Authority

Page 14
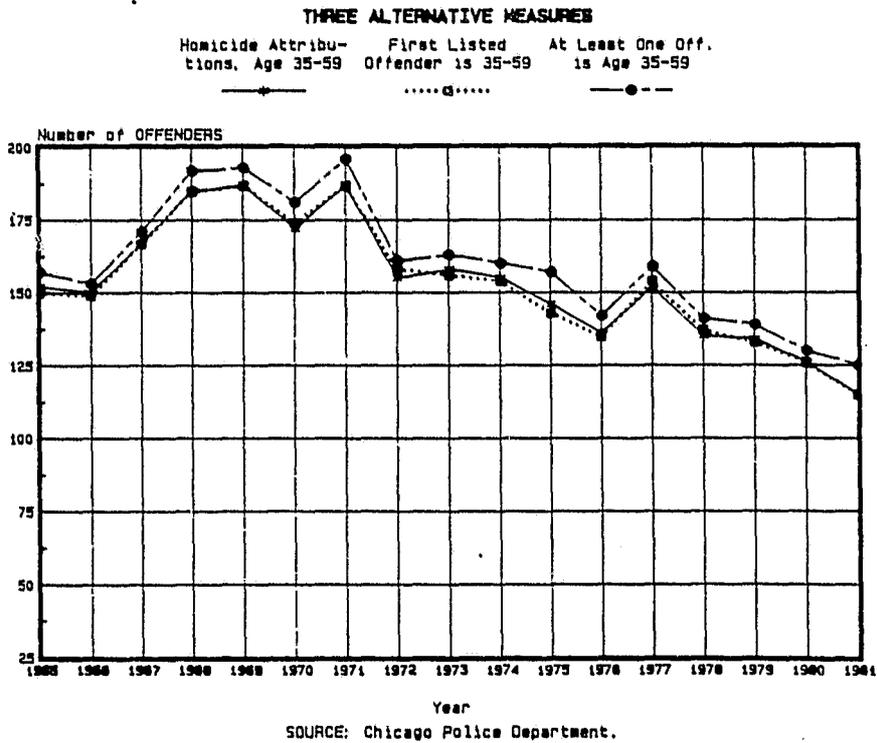
The effect of the three alternative measures for offenders aged 15 to 19 can be seen readily in figure 2. The three measures follow the same general pattern over time. However, the number of homicides attributed to *at least one* teenage offender is always greater than the number of homicides for which teenagers were responsible (homicide attributions). Because multiple-offender homicide is strongly related to age, the wide discrepancy among the three measures is most evident for young offenders. In contrast, for offenders aged 35 to 59 (*figure 3*), the choice of measure of offender age does not make much difference.

Analysis of Race and Gender

The murder attribution calculation is necessary to analyze offender age because offenders in multiple-offender homicides are not always the same age. However, relatively few multiple-offender homicides have offenders of different racial/ethnic groups (6 percent of the 1,184 multiple-offender assault homicides and 6 percent of the 957 multiple-offender robbery homicides) or genders (11 percent of multiple-offender assault homicides and 9 percent of multiple-offender robbery homicides). The murder attribution calculation, therefore, is not as necessary for the analysis of race or gender.

On the other hand, it would be misleading to count only the race/ethnicity or gender of the offender listed first in the police report. In the few homicides that involve offenders of different races or genders, the black or male offender is more likely to be listed first. For example, there were 33 two-offender homicides involving a black and a white offender. Of these, the black offender was listed first in the police report in 25 cases (76 percent). Of the 11 two-offender homicides involving a black and a Latin offender, the black offender was listed first in seven (64 percent). Of the 31 two-offender homicides involving a white and a Latin offender, the white offender was listed first in 18 (58 percent). Similarly, in the 135 two-offender homicides involving a man and a woman, the man was listed first in 85 cases (63 percent). Three- and four-offender homicides followed a similar pattern for all racial/ethnic and gender groups.

Therefore, in analyses involving race/ethnicity or gender, we use the number of homicides in which *any* offender is a given race/ethnicity or gender. This way, each group is given equal responsibility for homicides attributed to multiple offenders of more than one race/ethnicity or gender.

Other Definitions

Race/Ethnicity

The designation of the race or ethnicity of the victim and suspected offender(s) in each case was made by police investigators. Although some of the categories changed over the years, the definition of non-Latin white, non-Latin black, and Latin is consistent throughout. Orientals and American Indians were not distinguished from *Other* until 1971.

From 1965 through 1970, Latins were categorized as *Puerto Rican* or *Mexican*, from 1971 through 1980 as *Puerto Rican, Mexican,* or *Other Latin*, and in 1981 as *Black Hispanic* or *White Hispanic*. For this study, these subcategories were totaled to equal *Latin*. Thus, although the *Census* definition of *Latin* changed during the 17-year period, the *police* definition remained the same. The definitions of *non-Latin white* and *non-Latin black* were also consistent, with the only change being from the use of *Negro* to *black*. The data in this report never use the generic category *non-white*--neither in the homicide data nor in the population data.

Precipitating Crime

In homicide incidents involving a felony other than the homicide itself, police investigators record the type of felony as well--armed robbery, strongarm robbery, rape (sexual assault of women), or burglary. This information is coded dichotomously (present or absent) for each type of felony. Thus, a murder involving strongarm robbery and rape is counted as both a robbery murder and a rape murder. Over the 17-year period, 211 strongarm robbery homicides, 1,953 armed robbery homicides, 133 rape homicides of females, and 73 burglary homicides occurred. Five cases involved both rape and robbery. Police also classified 118 homicides as *perversion* (and in later years as *homosexual assault*). Because the police definition may have changed over the 17 years, this category was not separated out for analysis here. In another 1,593 homicides, the precipitating crime was unknown or *Other* (contract killings, for example).

Whether or not the homicide began as a fight, brawl, or argument is not recorded explicitly by the Chicago Police Department. However, for such "assault" homicides, the department records the motive (money, love triangle, politics, and so on). For this study, the variable *assault* was constructed using this motive information plus information contained in the police's "brief statement of facts" about the crime. A homicide involving a robbery, a burglary, a rape, or the sexual assault of a man was not counted as an assault homicide. Also, in constructing the *assault* variable for this study, cases were excluded that were recorded in the police murder analysis files as *teen/youth gang-related*, but in which the relationship of the victim to the offender was unknown to the police. During the 17 years, there were 8,893 assault homicides by this definition.

Teen/Youth Gang

The Chicago Police Department designates as a *teen or youth gang-related homicide* any homicide in which the motive for the killing was related to gang activity.[8] For example, if witnesses say the offender asked the victim for his or her gang affiliation and then shot the victim, the murder would be counted as a gang murder, even if the victim were not a gang member. On the other hand, if two gang members enter into an altercation over some subject not related to the gangs and one kills the other, the murder would not be counted as a gang-related murder. Gang membership then is *not* a criterion for classifying a homicide as gang-related. For example, an innocent victim killed in the crossfire of a gang shootout or the purposeful killing of the innocent sister of a gang member to punish the gang member both would be classified as teen/youth gang-related homicides.

The decision to classify a homicide as teen/youth gang-related usually is made at the detective level by those most familiar with the circumstances of the case. In a questionable case, the police department's Gang Crimes Unit might be consulted. The department's decision in questionable cases is conservative. That is, in cases where no clear evidence of a gang-related motive exists, the case is not classified as gang-related. Age is not a criterion in the teen/youth gang classification decision. While three-quarters of the teen/youth gang-related homicides involved a teenage offender, many older people were victims or offenders. In 9 percent of the cases, at least one offender was 25 or older; the oldest was 59.

Almost all teen/youth gang-related homicides are assault homicides (670 of 672). Thus, any robbery homicides committed by youth gang members, possibly to finance gang-related activities, are not designated as teen/youth gang-related in these data. Such robbery homicides seldom, if ever, meet the strict criterion of having clear evidence of a gang-related motive.

During the 17 years, there were 672 victims of teen/youth gang-related homicides (*for yearly figures, see Appendix III*). All of these victims were killed in an assault situation, except for two who were killed in a robbery. For 44 teen/youth gang-related homicide victims, the police had no information about the offenders. Although the number of teen/youth gang-related homicides is low compared with the total number of assault homicides, the proportion is large enough in some years to affect analysis, unless the two are treated separately. For example, in 1981, the 83

teen/youth gang-related homicides constituted a considerable proportion (15 percent) of all assault homicides.

Weapon

Police investigation files record the weapon used in each homicide. For this study, this information was coded into approximately 100 specific categories, such as .22 caliber rifle, kitchen knife, or baseball bat. Over the 17 years, there were 6,233 homicides with a handgun, 832 with a long gun, 1,086 with an undetermined type of gun, 2,713 with a knife or cutting instrument, 1,363 with a blunt instrument or hands and fists, and 626 with another weapon. The most common other weapon was arson, which accounted for 180 homicides. In 20 other cases, the victim was killed by an attack with a vehicle. These incidents were not reckless homicide, but deliberate cases of a vehicle used as a murder weapon. The weapon was unknown to the police in only 19 of the 12,872 homicides.

Arson homicide constituted about 1 percent of all homicides in Chicago over the 17 years, and it never totaled more than 5 percent in any one year (*see Appendix III*). In New York City, on the other hand, arson homicide constituted 20 percent of all homicides in at least one year (*Zimring, 1984*). This variance may reflect differences in investigatory decisions in the two cities. The designation of an arson homicide generally requires a more complex and lengthy investigation than classifying homicides committed with other weapons requires. As a result, these cases are likely to enter the homicide police files long after the incidents actually took place. For example, an arson in October 1977 took the lives of seven people, but was not included in the initial coding of 1977 data because of the long investigation. We added these seven homicides when we coded the data for 1979 through 1981. Thus, it is possible that an arson homicide occurring in 1980 or 1981 was missed in the current coding.

Unsolved Cases and Robbery Homicides

Homicides attributed to white offenders, black offenders, and Latin offenders declined after 1978. How is this possible, when the total number of Chicago homicides *increased* after 1976 (*see figure 1*)? It is possible because the increase in total homicides after 1976 occurred in robbery homicides in which police investigators did not know the offender's race. This circumstance occurred regardless of the victim's race.

Of those cases during the 17-year period in which the circumstances were known to the police (88 percent of all homicides), the race of at least one offender was almost always known for assault homicides, but was known less often for homicides precipitated by another felony. The offender's race/ethnicity was unknown in 1 percent of assault homicides, 21 percent of strongarm robbery homicides, and 19 percent of armed robbery homicides. These proportions do not vary by the victim's race, except that there were not enough strongarm robbery homicides of Latin or other-race victims to calculate percents.

Whatever the race of the victim, the number of unsolved robbery homicide cases increased sharply after 1977 (*figure 4*). The same sharp increase is found in the pattern followed by robbery homicides as a whole (*see figure 5*). Thus, the number of cases in which police investigators were unable to identify the race/ethnicity, gender, and age of at least one offender in a robbery homicide appears to be related to the number of robbery homicides occurring, not to the race of the victim. Police workload in investigating robbery homicides may determine the number that remain unsolved. Whatever the reason, this phenomenon produces a decline in the late 1970s in robbery homicides in which the offender's race/ethnicity was known to the police. Therefore, the pattern over time of robbery homicides attributed to offenders of various races should be analyzed very carefully, if at all. In contrast, there is no problem in examining offender's race/ethnicity in homicides that begin as a fight, brawl, or argument.

Figure 4
Unsolved Robbery Homicides, by Victim's Race/Ethnicity

Figure 4
Unsolved Robbery Homicides, by Victim's Race/Ethnicity

Sources: Chicago Police Department
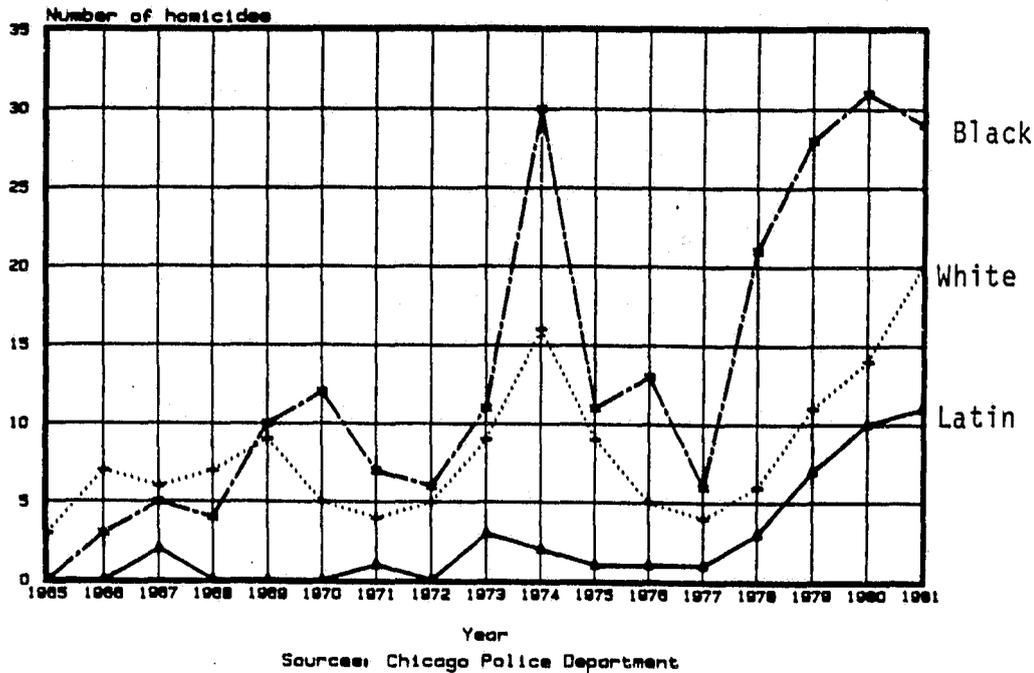
Time Series Pattern Description

Pattern descriptions are used throughout this paper to describe the general pattern of change over the 17-year period in various homicide components--for example, assault homicide, robbery homicide, homicide with and without a firearm, homicide involving each racial/ethnic, gender, and age group, and combinations of all of these. Time series pattern description (*Block, 1983*) is descriptive and exploratory, a method to detect and describe the general pattern of change over time.

The *line segment fit* superimposed on the graph of monthly Chicago homicides in figure 1 exemplifies time series pattern description. It shows whether the variable generally increased, decreased, or stayed the same during the period in question; whether there was a change in the pattern (for example, from an increase to a decrease); and, if there were a change, roughly when it occurred. A line segment fit will not tell you *exactly* when a change occurred nor will it give you confidence limits for the change, but it will provide a general description of patterns of change over time.

A line segment fit consists of one or more straight lines that connect to one another. The line segment fit is calculated by linear spline regression. As in ordinary regression, the criterion for best fit is minimum sum-of-square-residuals. The most obvious characteristic of a linear spline regression is that every segment connects to the next segment. Instead of fitting separate regression lines to sections of a series (which would be piecewise regression), a linear spline fits one continuous (though jointed) line to the entire series. Because each segment connects to the next one, the best fit for one segment affects the best fit for adjacent segments.

The pattern description method uses both subjective and objective criteria to choose the best overall description from among alternative line segment (linear spline) fits. The alternative fits are calculated with an algorithm developed by Ertel and Fowlkes (1976). This algorithm uses a smallest sum-of-square-residuals criterion, and results are graphed by a program developed by the Authority's Statistical Analysis Center. From this package of alternative line segment fits, the goal is to choose the simplest description, given a standard of accuracy. The pattern description method, detailed in the user's manual for the package (*Miller, 1983; Grant, 1985*), contains quantitative and qualitative guidelines for making this determination. (The computer package that supports the pattern description method is available for transfer to criminal justice agencies and other non-profit organizations.)

For the present analysis, the simplicity criterion was that no line segment fit would contain a segment shorter than 12 months. Line segment fits containing a segment longer than 12 months but shorter than 24 months were accepted only if the slope of the short segment changed direction (from increasing to decreasing or *vice versa*) from the preceding or following segment. The criterion for accuracy was the C_p statistic (*Mallows, 1973*), which compares the amount and kind of error in a group of alternative fits. For example, the pattern description in figure 1 is a four-segment line, the best-fitting four-segment line for the data. This line fits better than any three-segment, two-segment, or one-segment (ordinary straight regression) line.

Criteria for Time Series Specification

As discussed earlier, time series specification divides a series into components, and then compares the patterns of the components with the pattern of the whole. If one component follows a pattern over time that is similar to the pattern of the whole, and if the other components follow patterns that are not similar, then the pattern of the whole has been specified by the similar component pattern. Therefore, time series specification depends upon a decision about whether or not two series follow similar patterns over time. What are our criteria for similarity?

In keeping with the descriptive purpose of the paper, our criteria for similarity are simple and descriptive. Time series pattern description is used to find the best line segment fits for the total series and for each component series. If a component series contains segments that join one another at roughly the same time (plus or minus six months) as the segments of the total series, and if these segments increase and decrease at about the same rate (slope) as the total, the two descriptions are considered similar.

Although these simple criteria were sufficient in early analyses of these data that used only a 12-year series, analysis of the 17-year series proved to be more complex. Block and Block (1980) found that Chicago homicides from 1965 through 1976 were clearly specified by only one component variable—weapon. Homicides with a firearm followed the same pattern over time as total Chicago homicide, while homicides without a firearm stayed at a constant level. Patterns from 1976 through 1981 still were specified by weapon: Homicides without a firearm stayed at a constant level, and homicides with a firearm did not. However, a few specific types of firearm homicide declined during the final five years, while others increased.

Therefore, our criteria for time series specification in this paper not only include the specification of patterns over the entire 17 years, but also pay special attention to the period from 1977 through 1981. During this period, total homicides generally increased, but the number varied considerably from month to month (*see figure 1*). Certain types of homicide increased, while others decreased; the month-to-month variation is much smaller if we analyze each type of homicide separately.

Seasonal Analysis

An elemental part of describing patterns over time in monthly data is the description of seasonal fluctuation, the tendency for certain months to be relatively high and other months low. Although researchers and policymakers often assume that any monthly time series fluctuates with the seasons, reality is not nearly so clear-cut (*Block, 1984a*). The presence of seasonality should be treated as a question, not as a foregone conclusion.

Therefore, we analyzed the total Chicago homicide series, and the series for each of more than 100 specific homicide types, to determine the presence of seasonality. The method was twofold: first, a short screening program, the "Bell-Canada," which is similar to the Census X-11 program, but which allows no options; and second, for all series with a Bell-Canada F of 2.41 or more, the Census X-11 itself (*for details of the analysis and results, see Block, 1984a*). Only one of the homicide series we examined contained seasonal fluctuation: homicide occurring out-of-doors or in a vehicle. This type of homicide tends to occur half as often in January and almost twice as often in August as in an average month (*see Appendix II*).

Circumstance, Weapon, and Number of Offenders

Most homicides are a subset of another crime (*see companion paper for details*). Although some homicides, such as a contractual killing or a gangland or youth gang "hit," have no motive other than murder, most start as some other crime and escalate to murder. Among those homicides in which the precipitating circumstances are known, the majority (79 percent) begin as a fight, brawl, or argument. Others begin as a robbery (19 percent), a burglary (1 percent), or a rape (1 percent). Homicides that begin as a fight, brawl, or argument are similar in their characteristics to non-fatal aggravated assaults; homicides that begin as a robbery are similar in their characteristics to non-fatal robberies, and so on. In fact, assault homicides resemble assaults more than they resemble other kinds of homicide. Each type of homicide almost can be considered a separate kind of crime. Therefore, explaining increases and decreases over time in homicide requires separate explanations for assault homicide, robbery homicide, burglary homicide, and rape homicide.

Other aspects of the homicide situation are also important in the analysis of race/ethnicity, gender, and age. One of these factors is whether a single offender or a group of offenders committed the homicide. This consideration is especially important in the analysis of offender's age. More than half of all Chicago homicides with a teenage offender involve multiple offenders. The proportion is even higher for robbery homicides than for other types of murder. In fact, robbery homicide is more likely than other kinds of homicide to involve multiple offenders, whatever the offenders' ages. Therefore, an analysis of offender characteristics must be specific not only to the events that precipitated the homicide, but also to the number of offenders.

Another homicide aspect especially important in patterns of change over time is whether or not the lethal weapon is a firearm. Assault homicides with a firearm, for example, have different characteristics and follow different patterns of change over time than do assault homicides without a firearm. In an impulsive homicide, such as one beginning as a fight or argument, the weapon tends to be whatever is immediately available. In an instrumental homicide, such as those beginning as a robbery, choice of weapon tends to be a more rational decision, based in part on the vulnerability of the victim.

Because societal changes or prevention programs may produce an increase or decrease in one type of homicide but not in others, any conclusions about the race/ethnicity, gender, or age of homicide offenders and victims--especially conclusions about patterns of change over time--must be specific conclusions for each precipitating crime (assault, robbery, burglary, rape). A variable that might explain demographic patterns or patterns over time in one type of homicide will not necessarily explain patterns in another type. The proper method for analyzing homicide is to consider separately the patterns of each component type. To analyze the effect of age, for example, it is necessary to look at age in assault homicide *and* age in robbery homicide. Otherwise, the conclusions will often be misleading and may be wrong.

This section describes patterns of change over time in several types of Chicago homicide-- homicides that begin as a fight, brawl, or argument (assault homicide), homicides that begin as a robbery, burglary, or rape; homicides committed with different weapons, in particular firearms and other weapons; homicides involving only one offender or multiple offenders; and combinations of these types.

Precipitating Crime

Because each precipitating crime has different characteristics, and because societal changes presumably affect each crime differently, we would expect patterns of change over time to vary for different precipitating crimes. For example, researchers and journalists (*Rose, 1984; Brown, 1984; Silberman, 1978*) have argued recently that robbery homicide--particularly "gratuitous viciousness" in robbery homicide--is increasing. Cook (1984b), on the other hand, found no evidence in the 57 largest U.S. cities to support the argument that the proportion of people killed in robberies increased from 1968 through 1981. The ratio of robbery homicides to all robberies did not increase, he found; however, Cook also suggests the possibility of systematic measurement error in estimating the number of robberies. Perhaps a more direct approach to the question of whether or not robbery homicide is increasing would be to compare the pattern over time of robbery homicide with the pattern over time of homicides precipitated by other events. This comparison would show us whether or not robbery homicide increased while other types of homicide did not.

Rape homicide and burglary homicide are too infrequent to analyze monthly patterns over time (*for yearly figures, see Appendix III*). There were between one and 15 rape homicides and between zero and 10 burglary homicides in any single year. The peak years for rape homicide were 1970, 1971, and 1973, all of which had 15 victims. For burglary homicide, the peak years were 1970 (nine), 1974 (eight), and 1977 (10).

Neither assault homicide nor robbery homicide followed exactly the same pattern over time as did Chicago homicide as a whole (*figure 5*). At the beginning of 1965, there were about 28 assault homicides and two robbery homicides in a typical month. Both increased rapidly in the late 1960s, until in 1970, there were almost 50 assault homicides and about 10 robbery homicides in a typical month. However, assault homicide declined after 1969, while robbery homicide continued to increase. At the end of 1974, there were about 17 robbery homicides in a typical month. Though robbery homicide declined briefly in 1975 and 1976, it increased again from mid-1977 through 1981.

Figure 5
Assault Homicide and Robbery Homicide in Chicago: 1965 through 1981

Month, January 1965 to December 1981
Source: Chicago Police Department
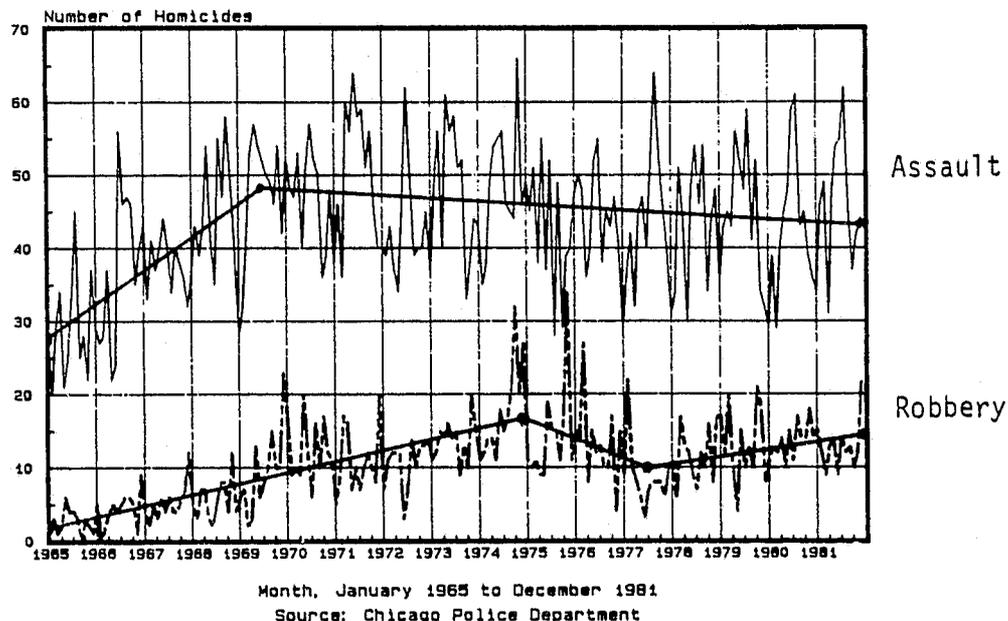
Some *types* of assault homicide seem to have followed different patterns over time than did assault homicide as a whole. For example, the peak years for arson homicide victimizations, 1976 (45) and 1965 (21), were low years for most other kinds of homicide (*for yearly frequencies, see Appendix III*). The number of arson homicide *incidents*, however, may follow a different pattern over time than the number of victims does, because arson homicide often claims multiple victims. Unfortunately, information on the number of victims killed in each arson homicide incident was not collected until 1977.

Although teen/youth gang-related homicides, by definition, begin as assaults (*see "Methods"*), aggregate analysis (*see companion paper*) shows that these crimes share some of the characteristics of both impulsive homicides and rational, instrumental homicides. Therefore, it is not surprising that the pattern over time in teen/youth gang-related homicide (*figure 6*) resembles the pattern of assault homicide in some respects, the pattern of robbery homicide in some respects, and neither pattern in some respects. In general, teen/youth gang-related homicide did not follow a smooth pattern from year to year; either there were several incidents in a year, or there were very few (*figure 6*). From 1965 through 1967, for example, there were very few. From 1968 through 1974, there was a wave of youth gang homicides--as many as 12 in a single month--but in the next two years, there was only one or two per month. Beginning in 1977 and continuing through 1981, youth gang homicide increased again; 1981, in fact, had the highest yearly total in the entire 17-year period (*see Appendix III*). In one *month* of 1981, there were 16 of these homicides.

Figure 6
Teen/Youth Gang-Related Homicide in Chicago: 1965 through 1981

Line Segment Fit
(Spline Regression)   Homicides

Number of homicides

Months (January 1965 to December 1981)
Source: Chicago Police Department
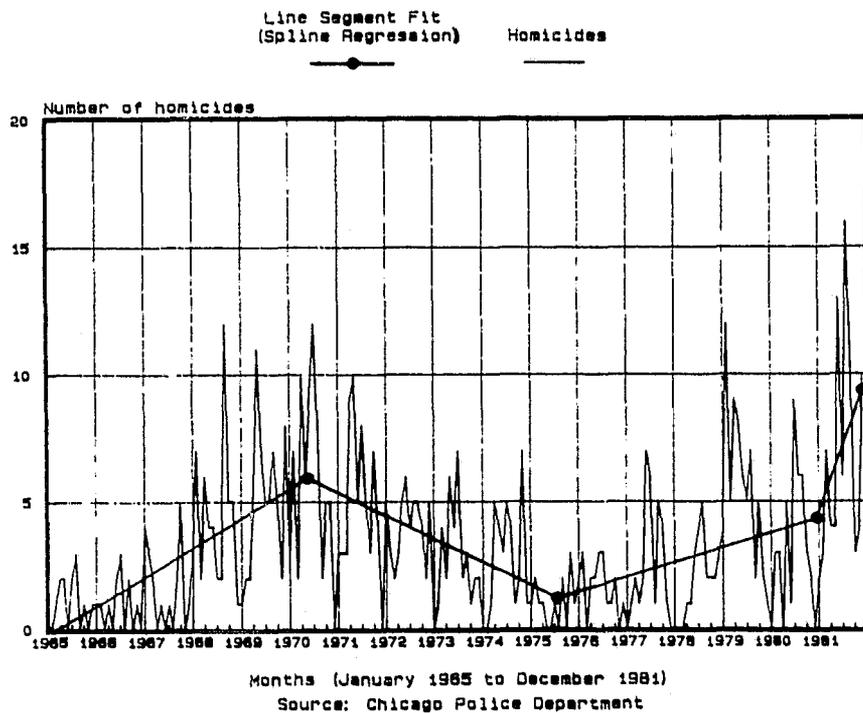
Because the number of teen/youth gang-related homicides did not increase and decrease over time in a smooth, continuous pattern, but rather changed abruptly from one year to the next, a line segment fit is probably not the most appropriate pattern description (*see Block and Miller, 1983: 6-7*). It is interesting, however, that the four-segment fit in figure 6 is unlike either the pattern of assault homicide or the pattern of robbery homicide (*see figure 5*), except for the increase in the 1960s. Total assault homicide declined from 1970 through 1981, while assault

homicide related to teen/youth gangs increased rapidly after 1975. The peak period for robbery homicide was the end of 1974; this was a period of decline for teen gang (assault) homicide.

In the 1970s, the amount of month-to-month variation around the best line segment fit for assault homicide (*see figure 5*) is quite wide. We will see that specific *types* of assault homicide followed different patterns over time from 1970 through 1981, and thus account for this wide variation. The pattern of teen/youth gang-related homicide is one example of this. In addition, because many teen/youth gang-related homicides occur out-of-doors, and because homicide occurring out-of-doors is the only type of homicide that fluctuates with the seasons (*see Appendix II*), we might expect that teen/youth gang-related homicide would be seasonal as well. However, our seasonality analysis (*see "Methods"*) found that this type of homicide is not significantly seasonal.

In summary, neither assault homicide nor robbery homicide, by itself, specifies the pattern of change over the 17 years in Chicago homicide as a whole. Homicide precipitated by assault *and* homicide precipitated by robbery increased sharply in the late 1960s. In general, robbery homicide, but not assault homicide, increased from the late 1970s through 1981. However, certain kinds of assault homicide, such as teen/youth gang-related homicide, also may have increased during that period.

Weapon

Weapon is a very important factor in analyzing patterns of change over time. In a previous analysis of the early years of this 17-year data set, Block and Block (1980) found that assault homicide with a firearm and assault homicide without a firearm followed very different patterns of change over time. The pattern of robbery homicide with a firearm was also very different from that of robbery homicide without a firearm. For both assault homicide and robbery homicide, those committed without a firearm remained stable, showing very little change over time. Those committed with a firearm also followed the same pattern as homicides as a whole. Thus, the 1980 study concluded that weapon specified the pattern of change in total Chicago homicide.

Similarly, for the United States, Farley (1980: 184), using age-standardized homicide mortality data, found that "rates for nonwhite men went up from 419 deaths per million in 1960 to 716 in 1975, the entire change resulting from additional shooting deaths." Similar patterns were found by Fisher (1976) in Detroit homicide from 1963 through 1971; by Munford, et. al., (1976: 229) in a comparison of 1961-1962 and 1971-1972 homicide in Atlanta; by Hirsch, et al., (1973) in Cuyahoga County (Cleveland) homicide from 1940 to 1970--especially the fourfold increase from 1962 to 1970--and by Cook (1982) in U.S. homicide from 1930 to 1977.

In Chicago, whether they began as an assault or as a robbery, the number of homicides without a gun changed very little over the 17 years. Assault homicide without a gun (*figure 7a*) increased in 1965 and 1966 to about 19 a month at the beginning of 1967. However, there was little change after that--a slow decline to about 15 in a typical month of 1974 and then a slower increase to about 18 per month in 1981. In contrast, the rapid increase in assault homicide with a gun continued to 1970, and a slower increase continued to 1974. The number of assault homicides with a gun was about 13 per month at the beginning of 1965, 30 per month at the beginning of 1970, and 33 per month at the beginning of 1974.

Similarly, the number of robbery homicides without a gun remained at about the same level, typically two or three a month, throughout the 17 years. (The best pattern description is a straight line with a slope near zero.) Although there were about as many robbery homicides with a gun as without a gun in 1965, by 1974 there were 13 with a gun *vs.* three without a gun in a typical month.

Figure 7
Assault Homicide and Robbery Homicide in Chicago, by Weapon: 1965 through 1981

(a)
Assault Homicide with and without a Firearm

Number of Homicides

Firearm

Other Weapon

Month, January 1965 to December 1981
Source: Chicago Police Department

(b)
Robbery Homicide with and without a Firearm

Number of Homicides

Firearm

Other Weapon

Month, January 1965 to December 1981
Source: Chicago Police Department
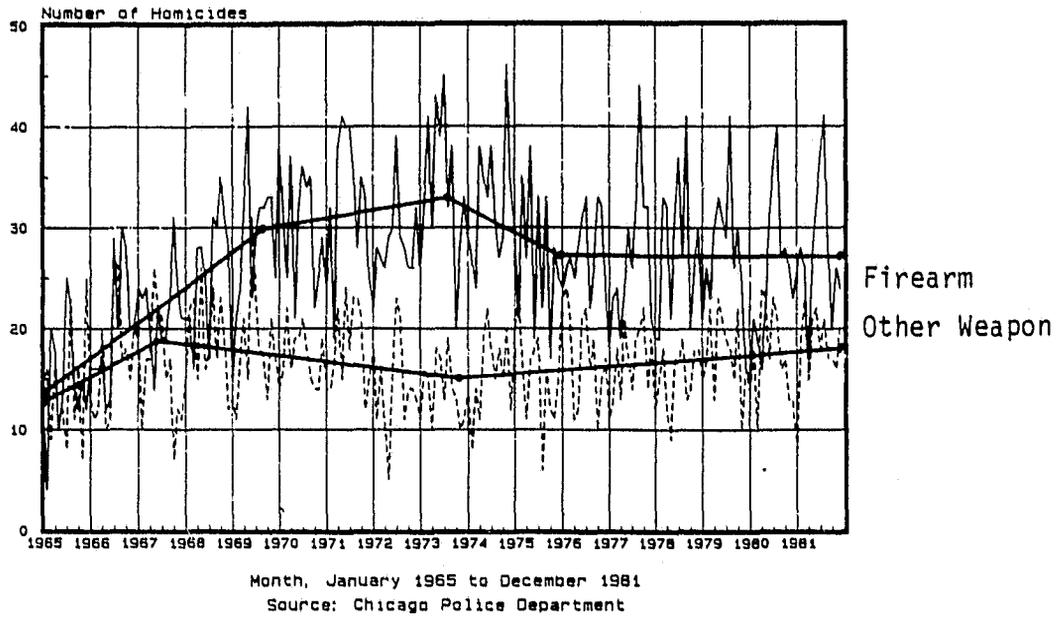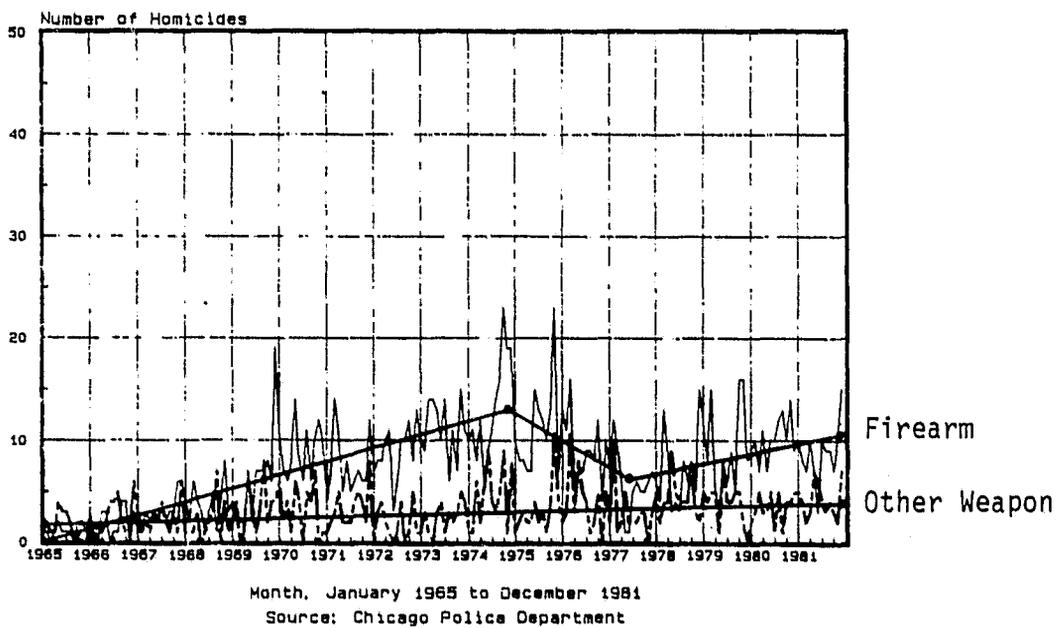
From 1965 through 1977, firearm homicides, whether they began as an assault or as a robbery, followed patterns over time very similar to each other (*figure 7*). Both types increased very rapidly in the late 1960s, continued to increase through the mid-1970s, and then declined. However, after 1977, the patterns diverged. The number of firearm *assault* homicides in a typical month stayed at a constant level (about 27), though it varied considerably from month to month. In contrast, the number of firearm *robbery* homicides in a typical month rose sharply, from about six to about 10 per month.

Therefore, weapon specifies the pattern of Chicago homicide over the entire 17-year period. The number of homicides committed without a firearm changed very little from year to year. The number of homicides committed with a firearm, however, changed considerably. In addition, patterns over time of assault homicide and robbery homicide differ according to weapon (*figure 7*), even though the aggregate analysis (*see companion paper*) found that assault homicide and robbery homicide are not particularly dissimilar in the overall proportion of weapons used.

Multiple-Offender vs. Single-Offender Homicide

Analysis in the companion paper found that multiple-offender and single-offender homicide have very different patterns of victim, offender, and situation. Number of offenders is an important consideration in aggregate analysis of homicides committed by young people, and number of offenders is important in robbery homicide, whatever the offender's age. Number of offenders is also related, at the aggregate level, to the offender's race/ethnicity. Black offenders tend to commit *robbery* homicide in groups, and Latin offenders tend to commit *assault* homicide in groups. Thus, in a description of homicide patterns over time according to race/ethnicity and age, the possibility that those patterns are specified by the number of offenders should be considered.

Figure 8
Patterns of Assault Homicide in Chicago, by Number of Offenders

Month. January 1965 to December 1981
Source: Chicago Police Department
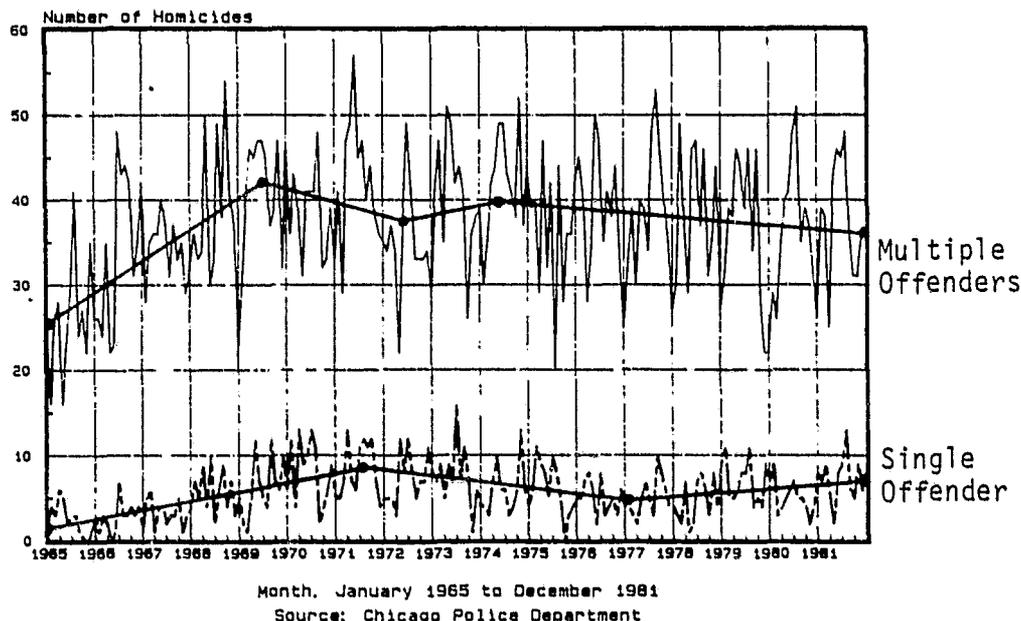
Although some research has explored the relationship between multiple-offender crime and offender's age (*see, for example, Zimring, 1981*), patterns of increases and decreases *over time* in the number of crimes committed by multiple offenders have received little attention. Even though multiple-offender assault homicide is uncommon, compared with single-offender assault homicide, those assault homicides that do involve a group of offenders have different characteristics (*see companion paper*), and thus may respond differently to factors influencing the number of homicides occurring overall. As a result, multiple-offender assault homicide followed a somewhat different pattern over time than did single-offender assault homicide (*figure 8*). Both types increased in the late 1960s, and generally declined after 1970. However, those involving a single offender continued to decline after 1974, while those involving multiple offenders increased slightly, from about five to about seven in a typical month.

About half of teen/youth gang-related assault homicides involve multiple offenders (*see companion paper*). However, the pattern over time of these homicides (*see figure 6*) resembles the pattern of multiple-offender assault homicide more than it resembles the pattern of single-offender assault homicide (*figure 8*). Teen/youth gang-related homicides seem to occur in spurts: In some years there are many incidents, in other years, very few.

The number of robbery homicides, on the other hand, followed approximately the same pattern over time, regardless of whether the crimes involved one offender or multiple offenders. Both patterns resemble the pattern of robbery homicide as a whole (*see figure 5*). In fact, the graph for single-offender *vs.* multiple-offender robbery homicide is not shown because the figures largely overlap. Both multiple-offender and single-offender robbery homicide increased from one or two in a typical month of 1965 to a peak of about eight multiple-offender and five single-offender robbery homicides per month at the end of 1974. Multiple-offender robbery homicide then declined to four in a typical month of 1978, and remained at four per month through 1981; single-offender robbery homicide declined gradually from five per month in 1974 to four per month in 1981. Thus, both kinds of robbery homicide followed the same general pattern over time, but multiple-offender robbery homicide increased somewhat faster from 1965 through 1974 and declined faster from 1975 through 1978. There is no difference in the patterns over time of robbery homicide involving two, three, or four-or-more offenders. However, as with all robbery homicide offender patterns over time, these patterns may be affected by changes over time in the number of unsolved robbery homicides, and must be interpreted cautiously.

Although it is reasonable to assume that some multiple-offender robbery homicides were teen/youth gang-related--committed, for example, to finance gang activities--information on teen/youth gang-related robbery homicide generally is not available in these data (*see "Methods"*). However, even if the considerable number of multiple-offender robbery homicides attributed to young people were not committed as an "official" activity of an organized youth gang, they might be considered, in Miller's (1975, 1982) term, to have been committed by a "law-violating youth group," or in Cloward and Ohlin's (1960) term, a "delinquent group." Therefore, comparing peak years in teen/youth gang-related homicide and multiple-offender assault homicide with peak years in multiple-offender robbery homicide may raise some interesting questions about the evolution of gangs. This issue is discussed in later sections.

In summary, the patterns over time of multiple-offender and single-offender homicide are specified by whether the homicide began as an assault or as a robbery. Multiple-offender and single-offender *robbery* homicide follow the same pattern over time as each other, but multiple-offender and single-offender *assault* homicide follow different patterns. Multiple-offender assault homicide was much less common than single-offender assault homicide was over the 17 years. However, only multiple-offender, not single-offender, assault homicide increased in the late 1970s. This difference, as we will see throughout this paper, is a useful way to differentiate among types of assault homicide. Some kinds of assault homicide increased in the late 1970s, while others decreased. Those types that increased between 1976 or 1977 and 1981 differ characteristically from those that decreased. One difference is in the number of offenders.

Population Patterns

Although Chicago's total population declined between 1965 and 1981, the decline occurred only for whites (*figure 9*). Between 1965 and 1980, the white population decreased 39 percent, while the black population increased 25 percent.[9] There was a 70 percent increase in the number of Spanish *origin* people in 1980, relative to the number of Spanish *speaking* people in 1970. (The definition of *Latin* changed from Spanish *speaking* in 1970 to Spanish *origin* in 1980.)

Figure 9
Chicago Population, by Race/Ethnicity: 1965 to 1981

Interpolated from 1960, 1970, 1975, 1980 and 1981.

Source: U.S. Census Bureau, City of Chicago Department of Planning
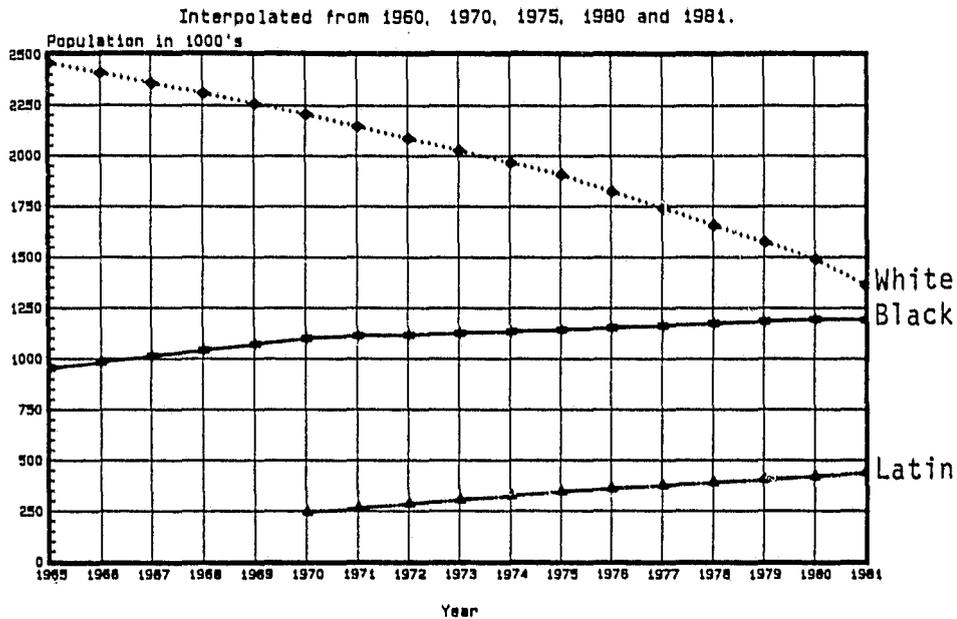
Similarly, the decline in Chicago's population was largely a decline in people aged 35 to 59 (27 percent). The number of people aged 20 to 24 and 25 to 34 increased in Chicago from 1965 through 1981 (*figure 10*), the former group by 25 percent and the latter by 15 percent. However, the increase in 25- to 34-year-olds was not constant. Their number declined slightly (3 percent) from 1965 to 1970, and increased only in the 1970s. The number of young people aged 15 to 19 also increased during the early years (12 percent from 1965 through 1975), then declined after 1975.

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Figure 10
Chicago Population, by Age: 1965 to 1981

Interpolated from 1960, 1970, 1975, 1980, 1981.

Population in 1000's
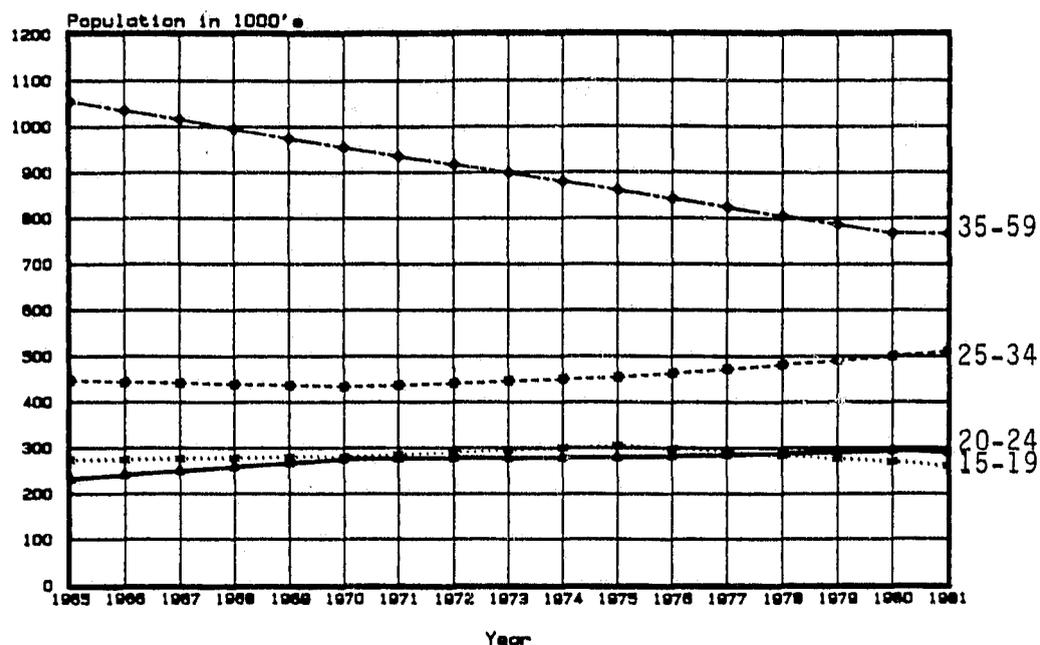
Year

Sources: US Census: 1960, 1970, 1980; Chicago Dept. of Planning: 1975, 1981

The number of very young and elderly Chicagoans generally declined over the 17 years. The number of children through age 9 decreased 28 percent from 1965 to 1980, but may have increased slightly in 1981 (*source: Chicago Department of Planning*). However, the number of children aged 10 through 14 increased from 1965 to 1970 (8 percent), and then declined from 1970 to 1981 (28 percent). Although the number of people over age 59 generally declined, those aged 70 and older increased slightly (6 percent) from 1965 to 1981. The overall decline among persons older than 59 occurred only for those aged 60 to 69 (14 percent).

The patterns over time of the white and black populations differ by age (*figure 11*). In the late 1960s, the populations of all age/race groups increased, except for whites aged 25 to 34. The number of blacks aged 15 to 19 increased most rapidly; the number of whites 15 to 19 and 20 to 24 was essentially stable, with a slight increase. However, in the 1970s, the number of white 15- to 19-year-olds and 20- to 24-year-olds declined, while the number of blacks aged 15 to 19, 20 to 24, and 25 to 34 increased steadily, and at about the same rate for all three groups. Over the entire 17 years, the number of whites aged 25 to 34 was much higher, relative to the number of whites aged 15 to 19 or 20 to 24, than was the number of blacks aged 25 to 34, relative to the number of blacks aged 15 to 19 or 20 to 24.

If the number of homicides simply reflected the number of people, we would expect that change over time in homicide would follow the population patterns in figure 11. In other words, we would expect the number of homicides involving each black or white age group from 15 to 34, except for whites aged 25 to 34, to have increased between 1965 and 1970. Given this premise, we also would expect the number of homicides involving black teenagers to have increased most rapidly, since their population experienced the fastest growth. Furthermore, if the demographic argument were the only explanation for change in homicide, we would expect that, from 1970 through 1981, the number of homicides involving whites of every age group from 15 to 34 would have declined, and homicides involving blacks would have increased.

Figure 11
Chicago Population, by Age and Race/Ethnicity

Population in hundreds

White 25 to 34

White 20 to 24

White 15 to 19

Black 25 to 34

Black 15 to 19

Black 20 to 24

1965 1966 1967 1968 1969 1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 1980 1981

Year
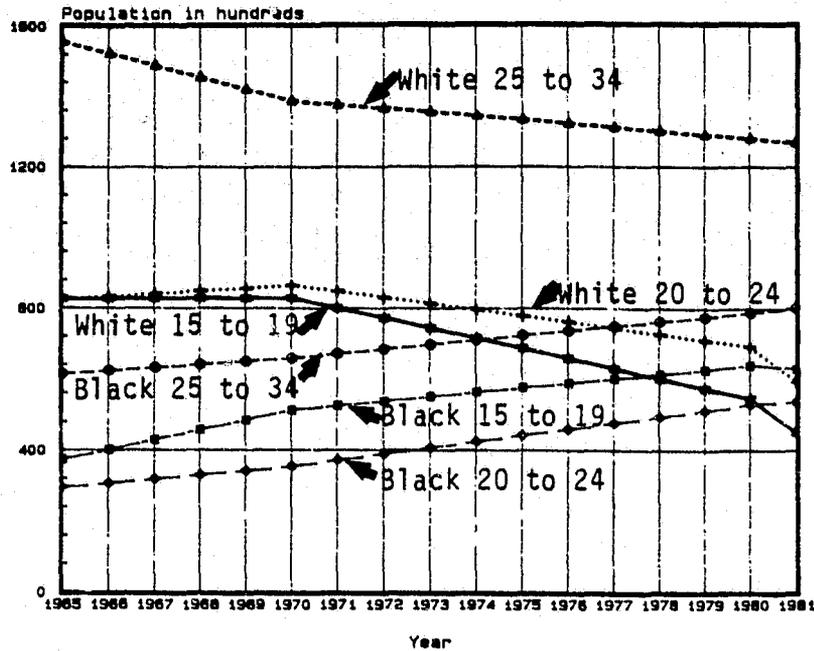
Source: U.S. Census Bureau, City of Chicago Department of Planning

Reliable estimates are not available of patterns over time of the age/gender segments of Chicago's Latin population. However, because the age distribution of the Spanish *origin* population in 1980 was typical of immigrant populations,[10] it would be reasonable to assume that the increase in the Latin population during the 17-year period probably reflects a disproportionate increase in the number of young men, relative to the number of women and the elderly. Thus, the increase in the number of young Latin men in Chicago's population was probably rapid, but whether it increased 70 percent from 1970 to 1980, as figure 9 would indicate, is impossible to determine.

Race/Ethnicity

Because homicide among blacks is more prevalent than other types of homicide, it would not be surprising to find the pattern over time of black homicide reflected in the pattern over time of Chicago homicide as a whole. But to demonstrate, for example, that the increase in Chicago homicide during the 1960s was caused entirely by an increase in homicides among blacks, we would have to show that black homicide--and only black homicide--increased during the decade.

It is also possible that patterns of change over time in homicide involving whites, blacks, or Latins vary by precipitating crime. Rose (1984) found that the increase in black homicide victimization rates in St. Louis from 1965 to 1980 was due largely to an increase in instrumental (in his words, "materialistic") homicide, and that the decrease in black homicide rates in Atlanta from 1970 to 1980 was due largely to a drop in "conflict motivated confrontations." Did black homicide in Chicago follow the pattern of St. Louis, the pattern of Atlanta, or some other pattern? Did white and Latin homicide in Chicago follow patterns similar to that of black homicide in Chicago?

The time series specification analysis in this section addresses these questions. The analysis compares patterns of change over time in the number of homicides involving whites, blacks, and Latins. Because homicide patterns differ by type of homicide, time series specification is also performed according to precipitating crime, weapon, and number of offenders. However, as the companion paper shows, race/ethnicity should not be considered simply as an entity in itself, but instead in combination with gender and age. Therefore, the following sections examine gender and age, as well as combinations of race/ethnicity, gender, and age.

Victimization of Whites, Blacks, and Latins over Time

The *demographic hypothesis (see page 7)* would predict that the number of homicides attributed to offenders of each racial/ethnic group would increase or decrease in a pattern corresponding to changes in the total number of people within each group. Thus, the hypothesis would predict that homicide involving whites in Chicago would have declined throughout the 1965-1981 period, homicide involving Latins would have increased rapidly, and homicide involving blacks would have increased slowly.

In reality, the explanation for the homicide increase in the 1960s is not as simple as a change in the racial structure of Chicago's population. In the late 1960s, *all* types of homicide in Chicago increased, regardless of the victim's race/ethnicity (*figure 12*). Although there were not enough homicides involving *other* racial/ethnic groups to graph here, the increases and decreases in even this small number of offenses follow the increases and decreases of homicides as a whole, with a peak occurring in the mid-1970s. Clearly, whatever caused the rapid increase in Chicago homicide in the 1960s affected homicides involving every racial/ethnic group.

During the early 1970s, the total number of Chicago homicides (*see figure 1*) continued to increase, but at a much slower rate than in the 1960s. Homicides of a black or white victim followed a similar pattern (*figure 12*). The number of black homicide victims in a typical month increased slightly during this time (even though black-offender homicide fluctuated widely during the period and accounted for the extremely high months late in 1974). Despite the decline in the number of whites in Chicago's population, the number of homicides of a white victim remained at the 1969 level through 1975 (about 13 or 14 in a typical month). On the other hand, homicides of a Latin victim increased from about four to seven per month during this period.

Figure 12
Chicago Homicide, by Race/Ethnicity of Victim

Month, January 1965 to December 1981
Source: Chicago Police Department
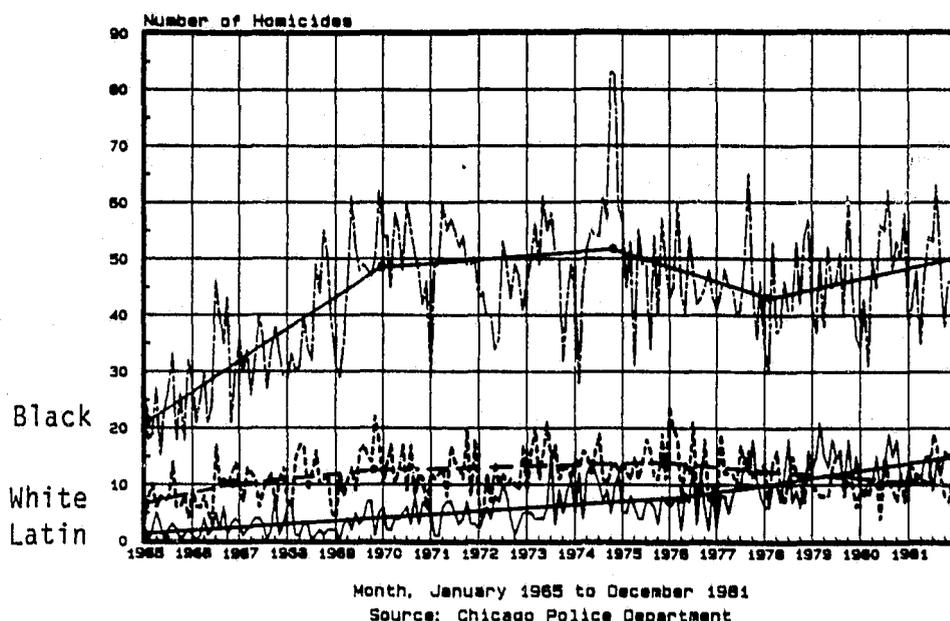
The change in the number of homicides involving Latin victims reflects more than the rapid increase in the Latin population. While the Latin population may have increased by as much as 70 percent during the 1970s, the number of Latin homicide victims increased even more, from about four in a typical month of 1970 to about 14 per month in 1980. From 1975 through 1977, when homicides of black and white victims remained stable or decreased, homicides of Latin victims continued to increase. In fact, the increase in Latin homicide from 1976 through 1981 was more rapid than it had been in earlier years of the 17-year period.

From 1975 through 1977, the number of homicides of a black victim in a typical month declined from about 51 to about 43, this despite the continued increase of blacks in Chicago's population. In fact, the number of blacks in every age group from 15 to 34 increased continually from 1965 through 1981 (see figures 9 and 11), but the number of homicides of black victims did not. The largest change in black-victim homicide during the 17 years was the rapid increase from 1965 through 1970. From 1970 through 1981, the number of homicides of black victims changed relatively little, except for a dip that reached its lowest point in early 1978. If we attribute the decline in homicides of whites after 1975 to the decline in the white population, how can we explain the decline in black-victim homicide at a time when the black population was growing? Also, how can we explain the increase in white-victim homicide from 1965 to 1970, when the white population declined?

Although many more blacks are murdered each month in Chicago when compared with whites or Latins, the rapid increase in Chicago homicide from 1965 through 1974 does not simply reflect an increase in homicide of black victims. Homicide of white and Latin victims also increased during these 10 years, although the rate of increase leveled off after 1970. In the mid-1970s, on the other hand, the number of Latin homicide victims increased, while the number of white and black victims did not. Can we assume that different societal forces in the white, black, and Latin communities produced a real difference in homicide trends, or was this difference simply a product of chance--that is, random change? One clue to these differing patterns over time may be found

by examining whether the patterns persist for various types of homicide, for gender and age subgroups within the population, and for offenders as well as victims.

Robbery Victimization, by Race/Ethnicity and Weapon

We already have seen that robbery homicide and assault homicide committed with and without a firearm followed different patterns of change over time in Chicago (*see figures 5 and 7*). Although both assault homicide with a gun and robbery homicide with a gun increased in the late 1960s, the increase in robbery homicide with a gun accounts for most of the overall peak in Chicago homicide in 1974 and the increase from 1977 through 1981. Did the 1974 peak and 1977-1981 increase occur among robbery homicides involving only one racial/ethnic group? *Yes*, the pattern of robbery homicide is specified by the victim's race/ethnicity (*figure 13*). Only robbery homicide of a black or Latin victim rose rapidly from 1965 through the mid-1970s, declined sharply, then increased from mid-1977 through 1981. Although not enough robbery homicides of Latin victims occurred each month for the offenses to be graphed here, the number per year parallels the pattern of black robbery homicide victims. From 1965 through 1972, an average of four robbery murders of Latins occurred each year; from 1973 through 1976; the average was 15. In 1977 and 1978, there were 11, but the number rose to 24 in 1979 and 1980 and 25 in 1981.

In a typical month of 1965, there were about as many robbery homicides of a white victim as robbery homicides of a black victim (*figure 13*). Both types of homicide increased from 1965 to 1970, but those involving black victims increased faster and continued to increase longer. Robbery homicide of white victims remained at a constant level (about three per month) throughout the 1970s, while robbery homicide of black victims declined from 1975 to mid-1977, and then increased again.

Figure 13
Robbery Homicide, by Race/Ethnicity of Victim
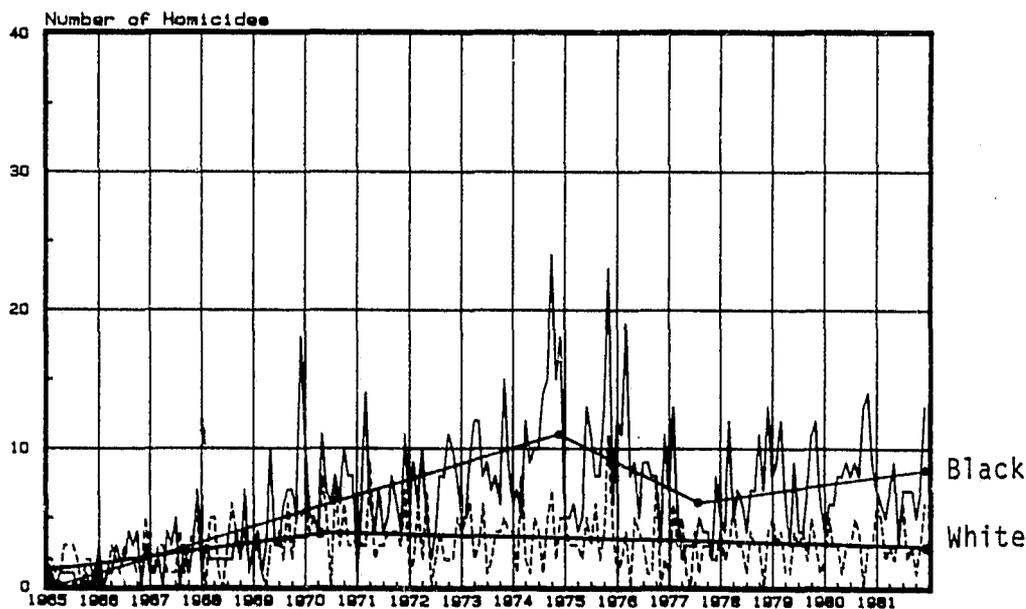
Month. January 1965 to December 1981
Source: Chicago Police Department

These patterns are not a simple reflection of the increase of blacks and the decrease of whites in Chicago's population (*see figure 9*). The white population declined from 1965 to 1970, when the number of robbery homicides of white victims increased. If we attribute the decline in white-victim robbery homicide in the 1970s to the decline in the white population, how can we then explain the increase in white–victim robbery homicide in the late 1960s? Similarly, the black population increased steadily throughout the 17 years, but the number of black robbery homicide victims declined from 1974 to 1977. If population change explains the increase, what explains the decline?

The pattern over time of robbery homicide can be further specified by a combination of the victim's race/ethnicity and the weapon used. The great majority of robbery homicides of black victims are committed with a firearm, and the pattern from 1965 through 1981 is similar to both the pattern of all robbery homicides of black victims (*figure 13*) and the pattern of robbery homicide as a whole (*see figure 5*). From one or two offenses in a typical month of 1965, *firearm* robbery homicide of black victims in Chicago rose to 10 a month in 1975. This increase was followed by a sharp decline to 1977, and then a gradual increase. At the end of 1981, there were about seven firearm robbery homicides of a black victim in a typical month. In contrast, the best pattern description of *non–firearm* robbery homicide of black victims was a straight line that increased very slowly from one a month in 1965 to two a month in 1981. Therefore, the pattern over time of the number of black victims killed in robbery homicide is specified by weapon.

In general, the pattern over time of robbery homicide victimization in Chicago is specified by the victim's race/ethnicity. The 1974 peak and the 1977–1981 increase occurred only in robbery homicides of black or Latin––and not white––victims. But what was the race/ethnicity of *offenders* in these homicides? Were all of these crimes *intraracial* (that is, white–on–white, black–on–black, *etc.*), or can some of the pattern over time of robbery homicide victimization be attributed to increases and decreases in *interracial* homicide (for instance, white–on–black)? The following section considers this question.

Interracial Homicide

In the aggregate of the 17 years, assault homicide and robbery homicide are both strongly intraracial (*see companion paper*); they almost always occur within, not across, racial boundaries. However, changes in even a few interracial homicides, if they increase or decrease rapidly, could affect the pattern of change over time in the total of all homicides. For example, research in Atlanta (*Munford, et al., 1976:227-228*) found that the increase over time in the number of white homicide victims was accounted for by an increase in those homicides committed by black offenders. Was this true in Chicago as well? Did the number of interracial homicides of white, black, or Latin victims follow the same pattern over time as the total number of homicides?

Robbery Homicide

Is the pattern of change over time of robbery homicide as a whole specified by the pattern of interracial robbery homicide? Unfortunately, this question cannot be answered precisely, because the number of unsolved robbery homicides varies according to the total number of robbery homicides (*see "Methods"*). However, available data do *not* support the argument.

For example, the number of robbery homicides attributed to black offenders (*figure 14*) appears to have increased in the late 1960s if the victim was black or white, but not if the victim was Latin. The huge increase in black–offender robbery homicide that followed in the early 1970s occurred in black–on–black, not black–on–white or black–on–Latin, offenses. Even if we were to assume, for the sake of argument, that all of the unsolved white–victim and Latin–victim robbery homicides (*see figure 4*) were committed by black offenders, and we added all of these cases to the white–victim and Latin–victim cases in figure 14, we still would not find that interracial homicide accounted for the large increase in black–offender robbery homicide from the late 1960s to the mid–1970s.

Figure 14
Robbery Homicide Attributed to Black Offenders: Race of Victim
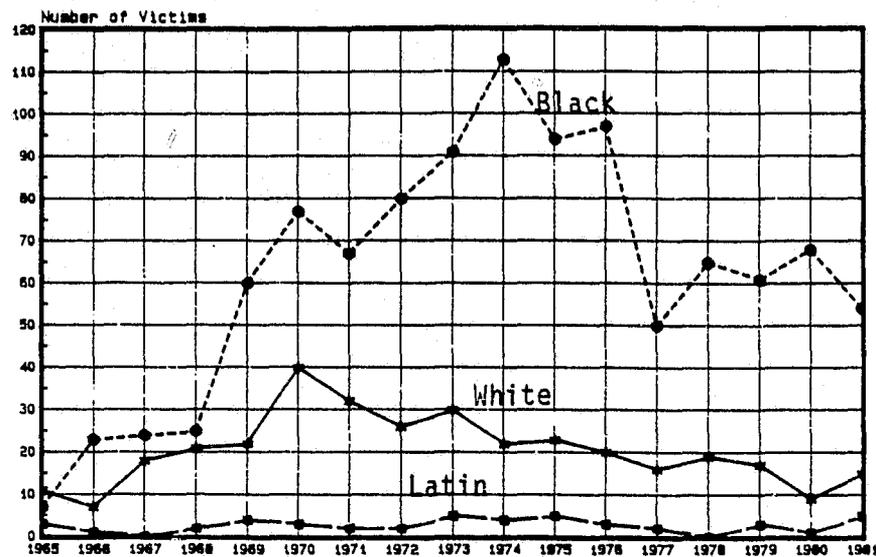
CAUTION: missing data in later years. Multiple-offender homicides with white or Latin offenders excluded. Source: Chicago Police Department.

Similarly, robbery homicide attributed to white or Latin offenders is largely intraracial, although there are too few of these offenses to graph. As the companion paper indicates, victims of robbery homicide attributed to white offenders are almost always white, and Latin robbery homicide offenders almost never choose a black victim. (These phenomena may be related to the fact that whites as a group generally possess more property than do blacks.) From 1965 through 1981, there were one white-on-black, one white-on-Latin, and three Latin-on-black robbery homicides. Obviously, these five homicides could not have affected the patterns of change over time in robbery homicide as a whole. Of the 14 Latin-on-white robbery homicides that occurred during the 17 years, an average of less than one a year happened from 1965 through 1974, and an average of two or three a year occurred from 1975 through 1981.

Thus, change over time in the number of interracial robbery homicides does not seem to account for the change over time in robbery homicide as a whole. The pattern over time of robbery homicide is specified by the race/ethnicity of the *victim*; the peak in 1974 and the increase from 1977 through 1981 occurred in robbery homicide of black and Latin victims. Furthermore, these homicides appear to be intraracial: *black-on-black* and *Latin-on-Latin*. The companion paper shows that, overall, robbery homicide is very common among black victims and offenders, but that it occurs relatively infrequently among Latins. However, the number of Latin-on-Latin robbery homicides appears to be increasing.

Assault Homicide

Assault homicide is even more strongly intraracial than robbery homicide is (*see companion paper*). But was the pattern over time in the small number of interracial assault homicides specified by race/ethnicity? *No*, according to our time series analysis. Although the number of white, black, or Latin assault homicide victims who were killed by an offender of another race/ethnicity is too small for a month-to-month analysis, the annual figures seem to change randomly from year to year, with no clear pattern of increases or decreases.

For example, although black victims represent a relatively high proportion of the targets of white multiple-offender assault homicide (*see companion paper, table 6*), white-on-black assault homicide does not appear to have increased over time. Six white-on-black assault homicides occurred in an average year between 1965 and 1981, and most of these were single-offender homicides. The largest number of white-on-black multiple-offender assault homicides occurred in 1970, when there were five. On the other hand, white-on-*Latin* assault homicide did peak in 1974 and again in 1978. The number of white-on-Latin assault homicides increased from one in 1965 to 14 in 1974, declined briefly, then increased again, following the general pattern over time of homicide as a whole.

Because Chicago's Latin population increased between 1965 and 1981, it is not surprising that Latin-on-white assault homicide increased over the 17 years as well. In 1965, there were two Latin-on-white assault homicides, while in 1981, there were 16. Although the number of Latin homicide victims increased (*see figure 12*), the proportion of all assault homicides of Latin victims that were *intraracial* was three-quarters over the entire 17 years, and 87 percent from 1978 through 1981. Thus, Latin assault homicide became more intraracial in the late 1970s.

Assault homicide of black victims or assault homicide attributed to black offenders are even more strongly intraracial than is Latin assault homicide. This characteristic did not change from 1965 through 1981: In every year, more than 95 percent of the assault homicides of black victims in Chicago were attributed to black offenders. The number of black-victim assault homicides attributed to whites ranged from two to 11, with 1967 the highest year; there were six cases in the average year. In addition, an average of four black-victim assault homicides a year were attributed to Latin offenders, and there was no noticeable increase over time. Although the highest yearly total occurred in 1980 (eight), 1978 and 1979 registered very low totals (two and one, respectively). Thus, the degree to which murders of black victims are attributed to black offenders has not changed over time.

Similarly, the number of black-on-white assault homicides did *not* follow the same pattern over time as the number of assault homicides in general. Although 1970 was a high year for total assault homicide (*see figure 5*), it was an average year (15 offenses) for black-on-white assault homicide. The number of black-on-white assault homicides ranged from six in 1980 to 34 in 1976, with an average of 14 per year. The 34 offenses in 1976 was unusually high because of a 14-victim arson homicide (*see note 4*); in the next highest year, 1967, there were 19 black-on-white assault homicides. From 1977 through 1981, the average number of these assault homicides per year was 12. In other words, black-on-white assault homicide does not appear to be increasing. Black-on-Latin assault homicide also seems to have changed randomly from year to year (an average of four per year).

Intraracial Assault Homicide

Because, as we have just seen, the increase in assault homicide from 1965 to 1970 was not caused by an increase in interracial assault homicide, the increase must have been due to an increase in *intraracial* assault homicide. Therefore, the patterns over time of white, black, and Latin victimization (*see figure 12*) reflect a combination of robbery homicide victimization patterns (*figure 13*) and intraracial assault homicide patterns (*figure 15*).

The increase in the mid-1960s in intraracial assault homicide occurred in homicides involving all three major racial/ethnic groups. Black-on-black assault homicide increased from about 20 offenses per month in 1965 to about 35 per month in 1970. White-on-white assault homicide increased about 50 percent (from three to five in a typical month) in 1965 and 1966, then remained at about five per month through 1970. Latin-on-Latin assault homicide increased steadily, though slowly.

Figure 15
Intraracial Assault Homicide

Number of Homicides

Month. January 1965 to December 1981
Source: Chicago Police Department
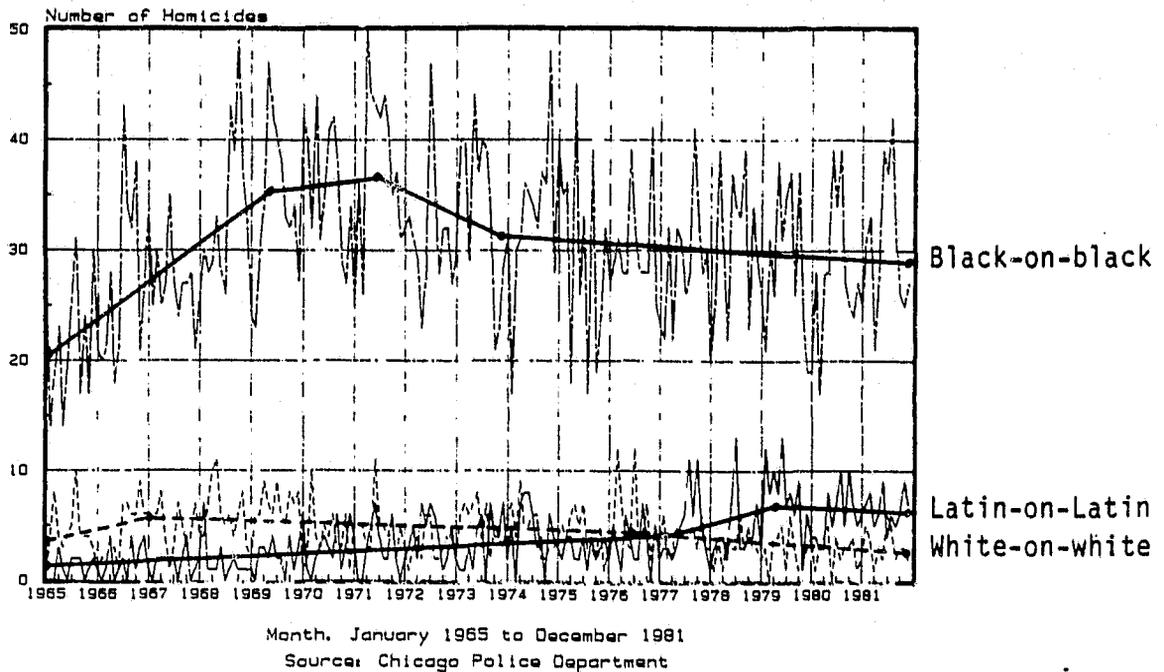
White-on-white, black-on-black, and Latin-on-Latin assault homicide patterns diverged in the 1970s, however. For whites, the number of these homicides declined continuously after 1966; there were fewer at the end of 1981 than at the beginning of 1965. After a very rapid increase, black-on-black assault homicide also declined throughout the 1970s. Intraracial assault homicide involving Latins, however, did not decline in the 1970s. Latin-on-Latin assault homicide increased from 1977 to 1979, and then remained at about the same level from 1979 through 1981. As we have just seen, Latin-on-white and white-on-Latin assault homicide also increased.

These same patterns occur in both black and Latin teen/youth gang-related assault homicide as well. In 1965, there were only 10 black victims of a teen/youth gang homicide, but in 1970, there were 59. The number then fell rapidly to only two in 1975 and five in 1976, and remained low until 1979. But in 1981, there were 38. Among Latins, however, the number of teen/youth gang-related homicide victims increased gradually from one in 1965 to a peak of 49 in 1979, generally following the pattern of all Latin assault homicide (*see figure 15*); in 1980 and 1981, the number remained high (25 and 37, respectively). There were relatively few teen/youth gang-related homicides of white victims (74) during the 17 years, and this number did not follow the pattern of total white-on-white assault homicide (*figure 15*), but instead seemed to increase and decrease randomly. In 1976, there were 10 of these cases, the most in any year. Thus, the pattern of teen/youth gang-related homicide (*see figure 6*) is specified by race/ethnicity.

Do patterns of race/ethnicity specify the pattern of all assault homicide in Chicago? In the first nine years of our analysis, 1965 through 1973, change in the number of black-on-black assault homicides accounted for much of the change in total assault homicide. Furthermore, much of the 1965-1970 increase was because of an increase in black teen/youth gang-related assault homicide. Although both white-on-white and Latin-on-Latin assault homicide increased in the mid-1960s, neither increased as dramatically as black-on-black assault homicide did, and neither decreased so rapidly in the early 1970s.

Figure 16a
Intraracial Assault Homicide with a Gun, by Race/Ethnicity

Number of homicides

Black-on-black

Latin-on-Latin

White-on-white

Year

Source: Chicago Police Department
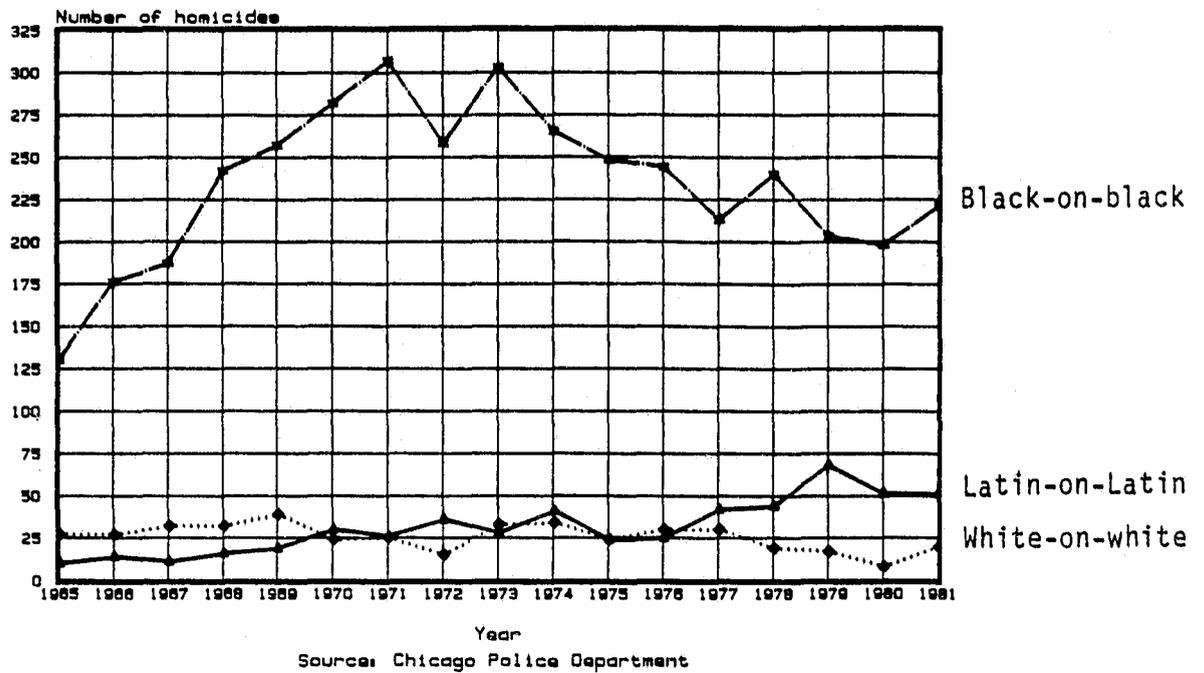
Figure 16b
Intraracial Assault Homicide without a Gun, by Race/Ethnicity

Number of homicides

Black-on-black

White-on-white

Latin-on-Latin

Year

Source: Chicago Police Department
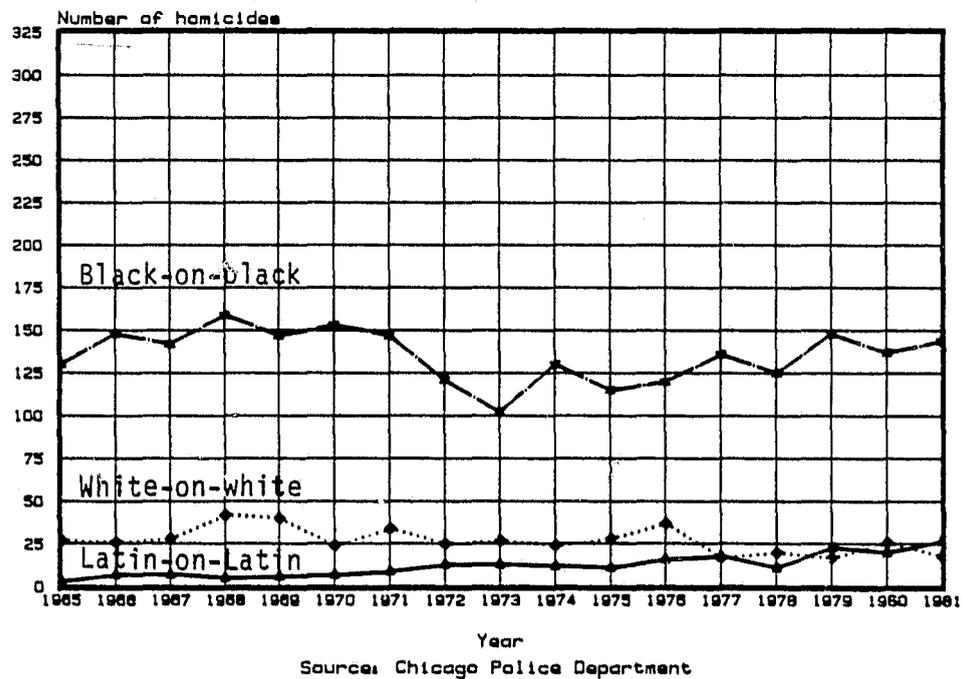
On the other hand, black-on-black assault homicide followed about the same pattern as white-on-white assault homicide did from 1974 through 1981--both declined slowly. Only Latin-on-Latin assault homicide increased in the late 1970s. The increase in teen/youth gang-related homicide from 1975 to 1980 was due largely to an increase in Latin gang homicides, although the large number of gang murders in 1981 was caused by high numbers of *both* black and Latin gang homicides. In the following sections, further specification of assault homicide finds differing patterns when weapon and number of offenders are accounted for.

Weapon and Intraracial Assault Homicide

Much of the pattern of change over time in black-on-black and Latin-on-Latin assault homicide can be attributed to a change in the number of those homicides committed with a firearm, not those committed with another weapon (*figure 16--because of the small number of white and Latin offenses, this is a yearly graph*). The increase in black-on-black assault homicide in the late 1960s and early 1970s occurred only for homicides with a gun. Between 1965 and 1970, the number of black-on-black gun assault homicides in a typical month increased from 10 to 26; the yearly total increased from about 130 in 1965 to more than 300 in 1971 (*figure 16a*).

Latin-on-Latin assault homicide increased during the 17 years, regardless of the weapon used. However, most of the increase was in homicide committed with a firearm (*figure 16a*). The total number of Latin-on-Latin assault homicides was 13 in 1965 and 78 in 1981, a difference of 65. Of these extra 65 homicides, 41 were committed with a firearm (an increase of 31 from 10 in 1965) and 24 were committed without a firearm (an increase of 21 from three in 1965). Further specification by weapon and gender, as well as by race/ethnicity, (*figure 17*) shows that firearm assault homicide attributed to Latin male offenders increased rapidly between 1965 and 1975, from less than one to almost five in a typical month. These offenses increased again, from about three per month in 1976 to about seven per month in 1981. Those without a gun also increased, but more slowly, from less than one per month in 1965 to about three a month in 1981.

Figure 17
Assault Homicide, by Weapon: Latin Male Offenders

Month, January 1965 to December 1981
Source: Chicago Police Department
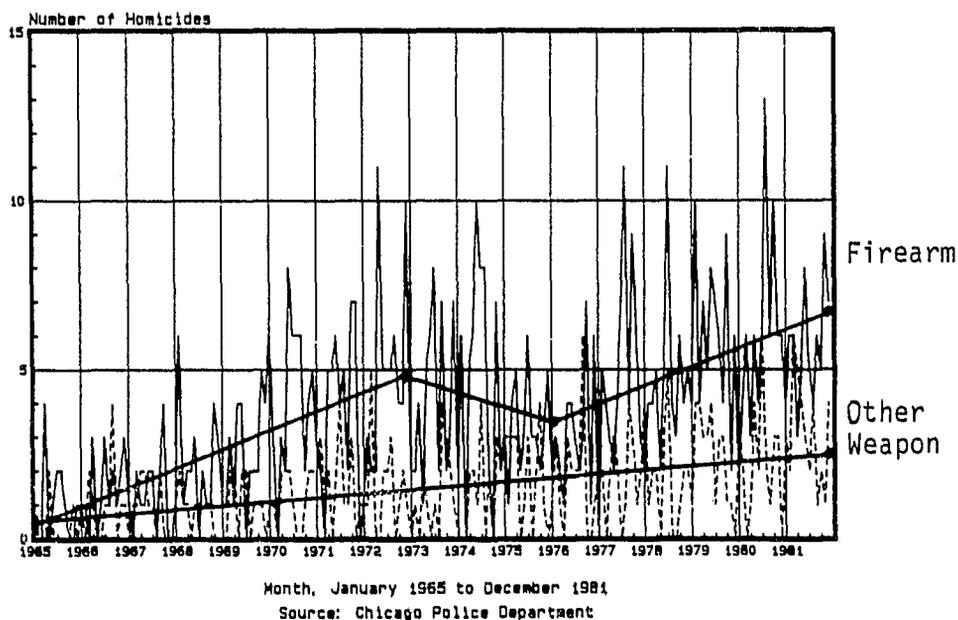
Thus, the pattern over time of black-on-black assault homicide is specified by weapon--the increases and decreases occurred only in those homicides committed with a firearm. Much of the increase in Latin-on-Latin assault homicide occurred in offenses committed with a firearm. On the other hand, the decline in white-on-white assault homicide after 1966 occurred regardless of the weapon used.

Race/Ethnicity and Precipitating Crime: Multiple Offenders

Robbery Homicide

Although the analysis of offender patterns over time in *robbery* homicide is subject to methodological limitations, these limitations cannot entirely explain the large increases and decreases in robbery homicide with multiple offenders (*figure 18 shows yearly data because the monthly number of white- and Latin-offender robbery homicides is low*). As we have already seen, the total number of multiple-offender robbery homicides peaked late in 1974, declined from 1975 through mid-1978, then remained at the same level through 1981. However, the pattern over time is *not* the same for homicides attributed to white, black, and Latin offenders. The number of white or Latin multiple-offender robbery homicides was very low throughout the late 1960s and early 1970s, with a numerically slight (but proportionately high) increase in the mid-1970s. In contrast, the number of black multiple-offender robbery homicides increased very sharply in the first 10 years of the time period, with peaks in 1970 and 1974, then declined almost as sharply. In 1965, there were nine multiple-offender robbery homicides attributed to black offenders, but in 1974 there were 91. However, between 1974 and 1981, the number fell by half, to 42 a year.

Figure 18
Robbery Homicides with Multiple Offenders

Year
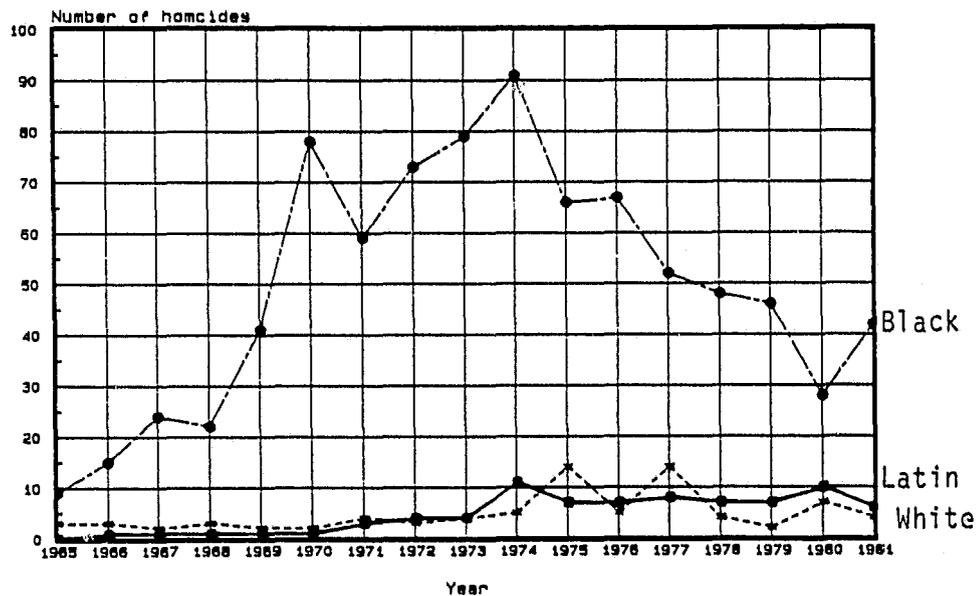
SOURCE: Chicago Police Department.

Thus, most of the increase *and* most of the decrease in multiple-offender robbery homicide occurred in those homicides attributed to black offenders. Multiple-offender robbery homicide accounts for a large proportion of the total number of homicides attributed to blacks (*see companion paper*). In fact, in 1970 and again between 1972 and 1978, more of the homicides attributed to black multiple offenders were robbery homicides than assault homicides (*see figures 18 and 19*). This is unusual, since assault homicide generally predominates over robbery homicide.

Assault Homicide

The total number of assault homicides that involved two or more offenders increased from one or two in a typical month of 1965 to nine in mid-1971; the number of these homicides declined slightly through the end of 1976, then increased again to seven per month in 1981 (*see figure 8*). However, the pattern varied by the offender's race/ethnicity (*figure 19 shows yearly data because the monthly number of white and Latin multiple-offender assault homicides is low*).

Figure 19
Assault Homicides with Multiple Offenders

Year
SOURCE: Chicago Police Department.
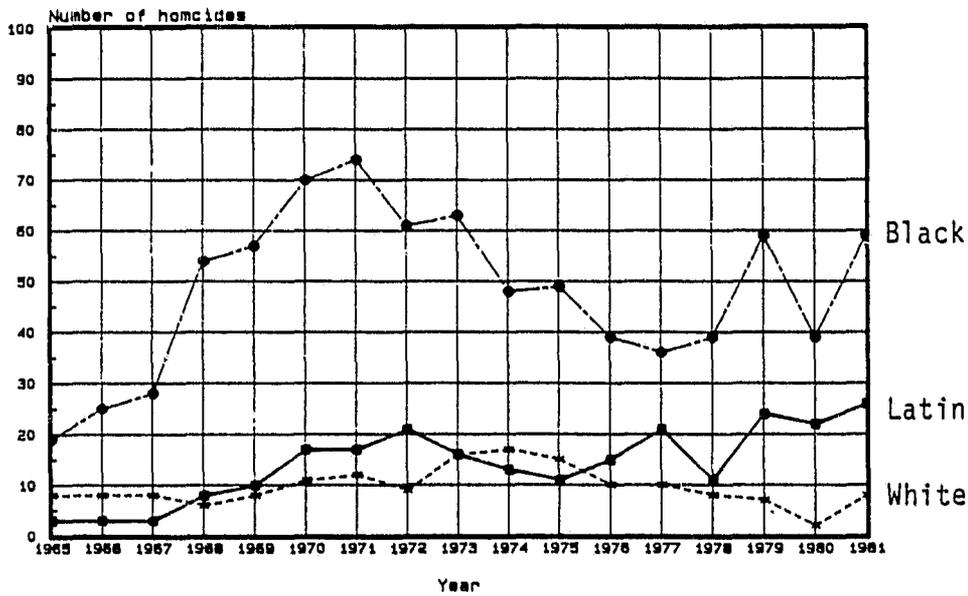
In 1965, there were fewer than 20 black multiple-offender assault homicides and fewer than 10 white or Latin multiple-offender assault homicides. Between 1965 and 1971, the number of black multiple-offender assault homicides more than tripled, reaching 74 in 1971. The number of Latin multiple-offender assault homicides increased even more rapidly, peaking at 21 in 1972. The number of white multiple-offender assault homicides also increased, doubling from a low of eight in 1965 to a peak of 17 in 1974. Thus, in contrast to the increase in multiple-offender *robbery* homicide (*figure 18*) in the 1965-1974 period--an increase that occurred only in those robbery homicides attributed to black offenders--the increase in multiple-offender *assault* homicide occurred in offenses attributed to all three major racial/ethnic groups.

The peak number of assault homicides attributed to white multiple offenders occurred in 1974, when the white population in every age group was declining and when multiple-offender homicide involving every other racial/ethnic group was also declining. Only about four

teen/youth gang-related assault homicides per year were attributed to white offenders during the 17 years analyzed. In the lowest years (1965 and 1967), there was only one, while in the highest year (1979), there were 11. In 1974, there were five. Thus, the relatively high number of white multiple-offender homicides in 1974 were mostly homicides that were *not* teen/youth gang-related.

In contrast, black and Latin assault homicides officially designated as teen/youth gang-related followed the same pattern over time as did all black and Latin multiple-offender assault homicides. Teen/youth gang-related homicide attributed to one or more black offenders increased from nine in 1965 to 56 in 1970, then declined to three in 1978; in 1981, however, there were 40. Teen/youth gang-related homicide attributed to one or more Latin offenders increased from one or two per year in the mid-1960s to 20 in 1972 and 42 in 1979; there were 31 in 1981.

It is interesting that the peak years for the number of multiple-offender robbery homicides (*figure 18*) lag behind the peak years for the number of multiple-offender assault homicides (*figure 19*). For example, the peak in black multiple-offender assault homicide occurred in 1971, while the peak in black multiple-offender robbery homicide occurred in 1974. This lag is also apparent in white multiple-offender and Latin multiple-offender homicide. White multiple-offender assault homicide peaked in 1974; white multiple-offender robbery homicide was high in 1975 and 1977. Latin multiple-offender assault homicide was high in 1972, and Latin multiple-offender robbery homicide was high in 1974. Because black and Latin multiple-offender assault homicide was very high in 1981, should we then expect a peak in black and Latin multiple-offender robbery homicide a year or two later?

These lags are consistent with the argument that violent teen/youth gangs develop into adult criminal organizations. Whether or not a multiple-offender robbery homicide is gang-related cannot be determined from these data. However, the fact that the pattern over time of multiple-offender robbery homicide appears to lag behind the pattern of multiple-offender assault homicide for each racial/ethnic group is consistent with a two-stage theory of gang organization (*see Spergel, et al., 1984*).

In summary, much of the increase in assault homicide in the late 1960s and all of the increase in assault homicide in the early 1970s were caused by an increase in multiple-offender assault homicide. Much of this increase involved assault homicides attributed to black and Latin offenders. Both black and Latin teen/youth gang-related assault homicide and black and Latin multiple-offender assault homicide increased rapidly from 1965 to 1971 or 1972, and again in the late 1970s. These homicide types were especially high in 1981. Therefore, the pattern of assault homicide from 1976 through 1981 has been specified: Multiple-offender assault homicide and teen/youth gang-related assault homicide involving black or Latin victims and offenders increased, while other types of assault homicide decreased or remained steady.

Summary

Does race/ethnicity specify the pattern over time of Chicago homicide? The answer depends upon the precipitating crime. The pattern over time of homicides that began as a robbery is specified by the racial/ethnic group of the victim and offender. Black-on-black robbery homicide, especially those attributed to multiple offenders, increased tremendously between 1965 and 1974. There were only 25 black-on-black robbery homicides in 1968, but 144 in 1974. However, from 1974 through 1981, black-on-black robbery homicide *decreased* almost as rapidly as it had increased. From 1965 to 1970, black-on-white robbery homicide also increased, but from 1970 through 1981, it declined (at the same time, black-on-black robbery homicide continued to increase). Latin-on-Latin robbery homicide, though infrequent, also increased gradually throughout the 17 years. In general, robbery homicide victimizations of blacks and Latins followed the same pattern of increases and decreases as did total robbery homicide, but robbery homicide victimizations of whites did not.

The pattern of assault homicide is more complex. The increase from 1965 to 1967 occurred in assault homicide involving all three major racial/ethnic groups. The increase from 1967 to 1971 was due mostly to an increase in multiple-offender assault homicide involving blacks and Latins, although white multiple-offender assault homicide also increased slightly. Black and Latin teen/youth gang-related assault homicide also increased very rapidly in the 1960s, but it peaked in 1970 and then declined sharply, remaining low through 1976.

In the 1970s, the pattern of assault homicide varied by the number of offenders; those attributed to a single offender decreased, while those attributed to multiple offenders increased (*see figure 8*). However, the decrease in single-offender assault homicide occurred only in those attributed to a white or a black offender. Those attributed to a white offender declined from 66 in 1976 to 42 in 1981, while those attributed to a black offender declined from 364 to 321. In contrast, single-offender assault homicide attributed to a *Latin* offender increased in the late 1970s, from 45 in 1976 to 76 in 1981.

Multiple-offender assault homicide as a whole increased in the late 1970s (*see figure 8*). This increase, however, was limited to black-on-black and Latin-on-Latin multiple-offender assault homicide. Multiple-offender assault homicide involving white victims or offenders declined. The number of black and Latin teen/youth gang-related assault homicides also increased sharply in the late 1970s.

Thus, from 1970 through 1981, some types of assault homicide increased and others decreased. The *decline* in assault homicide in the late 1970s occurred only in white-on-white and single-offender black-on-black assault homicide. The *increase* in assault homicide in the late 1970s occurred in Latin-on-Latin and white-on-Latin assault homicide, in particular those committed with a gun, and in multiple-offender black-on-black assault homicide.

Weapon specifies the pattern over time of black-on-black homicide, both robbery and assault. Almost all of the increases and decreases in robbery homicide involving blacks during the 17 years occurred in robbery homicide committed with a firearm. Similarly, black-on-black assault homicide committed with a firearm peaked from 1971 to 1973, the same period in which black-on-black assault homicide committed without a firearm declined.

Although neither reliable offender data nor data on precipitating crime are available nationally, there is some evidence that homicide of non-white victims in the United States as a whole, and in other large Northern cities, generally followed a similar pattern over time as did homicide of blacks in Chicago (*see Appendix I*). The pattern over time of black-victim homicide in Illinois excluding Chicago was also similar to the Chicago pattern. Patterns over time of *white* victimization in Chicago were not similar to patterns in the nation as a whole, but were similar to patterns in Downstate Illinois and in other large Northern cities. Thus, there is some indication that racial patterns in Chicago homicide are also found in other places in Illinois and in other Northern cities.

Gender

The companion paper concludes that males are much more likely than females to be either a homicide victim or a homicide offender. This finding is especially true for robbery homicide. However, the fact that more homicides occur among men does not necessarily mean that change over time in male homicide explains change over time in Chicago homicide as a whole. For homicide to be specified by gender, homicides involving men must follow a different pattern over time from homicides involving women. Verkko (1967) suggested that total homicide follows the same pattern over time as male-victim homicide, and that female-victim homicide remains constant. However, in national mortality data, Farley (1980) and Klebba (1981) found that homicide of men and women (both white and non-white) followed similar patterns from 1960 to 1975. This section uses time series specification to determine whether or not this phenomenon also occurred in Chicago.

Victimization of Males and Females over Time

Between 1965 and 1981, homicide of female victims followed the general pattern of total Chicago homicide, although there were relatively few female-victim homicides. The number of female homicide victims doubled from about seven per month in 1965 to 15 per month in 1975, then declined slowly. Homicide of male victims, on the other hand, increased more dramatically in the 1960s, from about 20 in a typical month of 1965 to more than 60 per month in 1970 and then to about 120 per month in 1974. After declining in 1975, the number of male victims again increased to 120 in a typical month of 1981, while the number of female victims declined to 11 per month.

Thus, taken as a whole, the gender of the victim does not specify the overall pattern of Chicago homicide during the 17 years. However, as the companion paper shows, gender is strongly related to the *circumstances* of the homicide--precipitating crime, weapon, and number of offenders. Furthermore, the frequency of intergender homicide (male-on-female, female-on-male) is related to race/ethnicity. Among Latins, intergender homicide is rare, and male-on-male homicide is by far the most common. Among whites, male-on-female homicide is relatively more common, and among blacks, female-on-male homicide is relatively more common. Therefore, patterns of different *types* of homicide may specify patterns of the whole. The following sections explore this possibility.

Victim's Gender and Precipitating Crime

Patterns of both assault homicide and robbery homicide are specified by the gender of the victim. Assault homicide of both males and females (*figure 20*) increased rapidly in the late 1960s, from 21 to 40 per month for males, and from six to 10 per month for females; both types then declined in the early 1970s. However, male-victim assault homicide *increased* from 1977 through 1981, while female-victim assault homicide declined.

Robbery homicide was very uncommon in the mid-1960s, regardless of whether the victim was male or female. In 1965, for example, between two and three robbery homicides occurred in a typical month, one to a female victim and one or two to a male victim (*figure 21*). The number of female robbery homicide victims remained fairly constant over the 17 years, fluctuating at about one per month from 1965 through 1973 and, after an increase in 1974, remaining at about two per month through 1981. In contrast, robbery homicide involving male victims increased rapidly in the late 1960s and early 1970s, from two to 15 in a typical month. In 1975 and 1976, the number of male-victim robbery homicides fell to eight per month, then increased again to 12 per month in 1981. Thus, the pattern over time of male-victim robbery homicide specifies the pattern of total robbery homicide in Chicago.

Figure 20
Assault Homicide in Chicago, by Gender of Victim

Number of Homicides

Male

Female

Month, January 1965 to December 1981
Source: Chicago Police Department
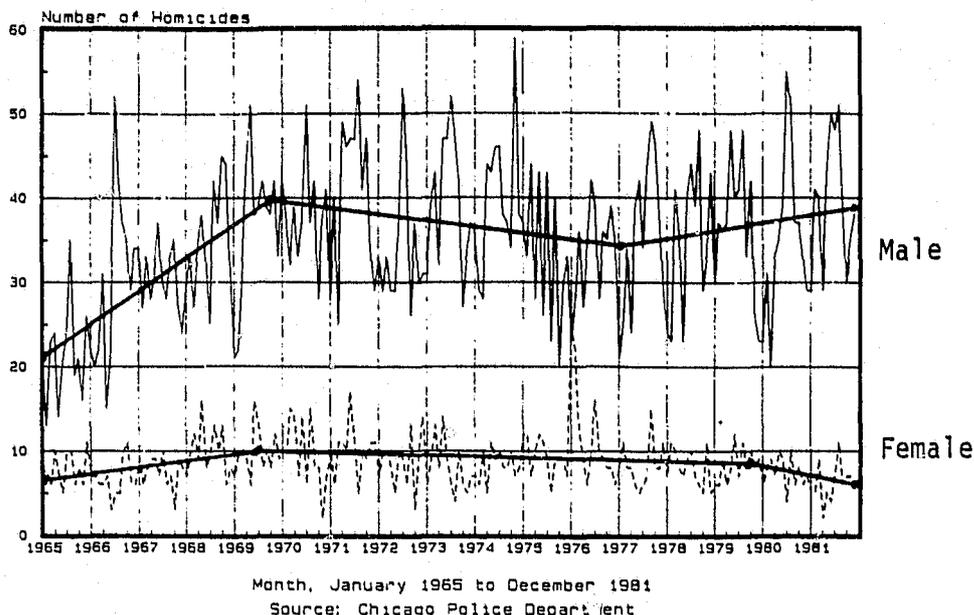
Figure 21
Robbery Homicide in Chicago, by Gender of Victim

Number of Homicides

Male

Female

Month, January 1965 to December 1981
Source: Chicago Police Department
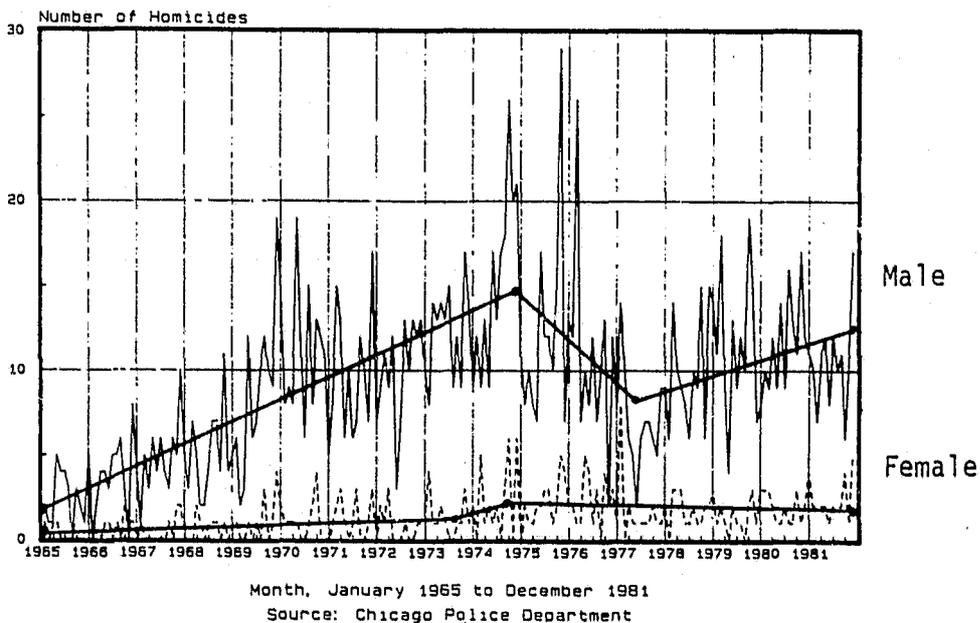
The general patterns of male-victim and female-victim assault homicide are similar from 1965 to 1977, but diverge from 1977 through 1981. Therefore, figure 20 shows us another type of assault homicide--assault homicide of male victims--that increased in the late 1970s, while other types of assault homicide declined.

Offender's Gender and Precipitating Crime

Robbery Homicide

The problem of unsolved cases in robbery homicide hampers the analysis of offender patterns of change over time. However, unless all of the unsolved robbery homicides involved a female offender, it is a safe to assume there was no increase over the 17 years in the number of robbery homicides attributed to female offenders. In the aggregate of homicides from 1965 through 1981, only 2 percent of robbery homicides were attributed to one or more female offenders. In four of the 17 years, no female-offender robbery homicide occurred. The highest yearly total, six, came in 1980, but the number does not seem to have increased in the late 1970s; there was only one female-offender robbery homicide each year in 1978, 1979, and 1981, and none in 1977.

Although robbery homicide attributed to female/male accomplices is also uncommon (5 percent of all robbery homicides), it did increase in the mid-1970s, and peaked at 11 homicides in 1975. It then declined to four in 1979, but increased again in 1980 and 1981. Thus, robbery homicide attributed to female/male accomplices followed the same pattern as robbery homicide attributed solely to male offenders. Therefore, whatever societal factors affected the pattern of change over time in Chicago robbery homicide attributed to males also apparently affected the pattern over time of robbery homicide attributed to female/male teams.

Assault Homicide

The specification of the pattern over time of Chicago assault homicide by offender's gender varies with the number of offenders involved. Between 1965 and 1974, single-offender assault homicide attributed to males *and* single-offender assault homicide attributed to females both increased. The number of assault homicides attributed to a single male offender increased from 243 in 1965 to 411 in 1974 (69 percent), and those attributed to a single female offender jumped from 68 to 88 (29 percent). From 1974 through 1981, both types of single-offender assault homicide declined--those attributed to a male offender decreased to 379 (an 8 percent decline), while those attributed to a female offender fell to 63 (28 percent). Thus, the offender's gender does *not* specify the pattern over time of single-offender assault homicide.

On the other hand, there were only 14 multiple-offender assault homicides attributed entirely to female offenders during the 17 years, compared with approximately 1,400 attributed entirely to male offenders. No female multiple-offender assault homicide occurred between 1979 and 1981, and neither this type of homicide nor the 135 multiple-offender assault homicides attributed to female/male accomplices followed any particular pattern over time. Thus, the pattern of multiple-offender assault homicide (*see figure 8*) reflects the pattern of those attributed to *male* offenders. In particular, the only type of multiple-offender assault homicide to increase from 1978 through 1981 were those attributed to male offenders.

Intergender and Intragender Assault Homicide

Is any *combination* of victim's and offender's gender responsible for the general pattern over time of assault homicide in Chicago? Were attacks of men on women, men on men, women on women, or women on men responsible for the pattern of change in assault homicide as a whole?

There were very few assault homicides of women by women in Chicago between 1965 and 1981. The best pattern description for these crimes is a straight line that fluctuates around one per month. Assault homicide of women by men, however, was more frequent; this type of offense increased from about six per month in 1965 to eight per month in 1970, then declined again to six per month in 1981.

In contrast, assault homicide of males by males over the 17 years (*figure 22*) followed almost the same pattern of change as Chicago homicide as a whole. Assault homicide of male victims, whether the offender was male or female, increased in the 1960s (*figure 22*). However, except for a slight increase in the mid-1970s, those attributed to female offenders generally declined after 1968, and averaged about four per month in 1981. Male-on-male assault homicide, on the other hand, nearly doubled between 1965 and 1970, from about 16 to 31 in a typical month. These homicides continued to increase until 1974, and after a brief decline, increased again to a new peak of 33 in a typical month of 1981.

Figure 22
Assault Homicide of Men, by Gender of Offender

Month, January 1965 to December 1981
Source: Chicago Police Department
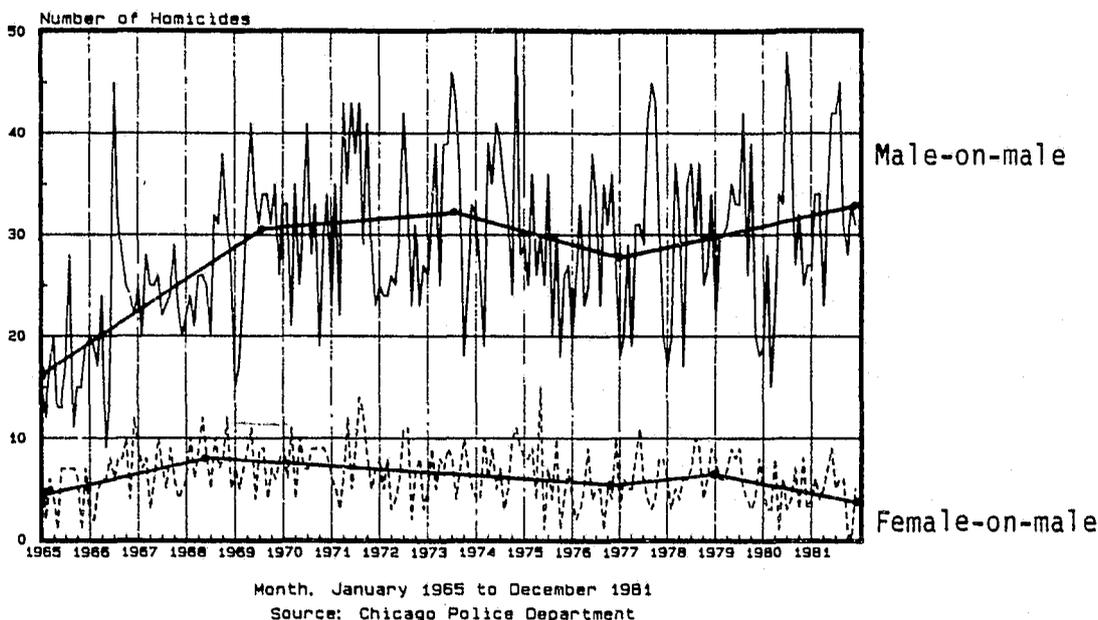
As the data indicate, most of the change over the 17 years in assault homicide occurred in male-victim assault homicide attributed to male offenders, although attacks of women on men and of men on women also increased in the late 1960s. Only male-on-male assault homicide increased in the late 1970s, however. This fact, combined with the analysis in the previous section, tells us that the increase in assault homicide in Chicago from 1977 through 1981 occurred in assault homicide of a male victim by multiple male offenders.

### Offender's Gender and Race/Ethnicity in Assault Homicide

In every month of each of the 17 years studied, more assault homicides were attributed to one or more black male offenders than to one or more white or Latin male offenders. However, the pattern of change over time of male-on-male assault homicide (*figure 22*) is not a simple reflection of the pattern of homicides attributed to black offenders.

In the mid-1960s, assault homicides attributed to white males, black males, and Latin males all increased, although the increase stopped earlier for white males and continued longer for Latin males (*figure 23*). Assault homicides attributed to black males fluctuated downward from 1970 through 1981, and those attributed to white males also decreased throughout the 1970s.

In contrast, the rapid increase of male-on-male assault homicide that began in the mid-1970s (*see figure 22*) was caused largely by those crimes attributed to Latin offenders (*figure 23*). The number of assault homicides attributed to Latin males increased from one or two in a typical month of 1965 to about nine per month in 1981. From 1976 through 1981, at the same time that assault homicide attributed to Latin males was increasing especially rapidly, assault homicide attributed to white or black males was decreasing.

Figure 23
Assault Homicide Attributed to Males, by Race/Ethnicity

Number of Homicides

Black male

Latin male

White male

Month, January 1965 to December 1981
Source: Chicago Police Department
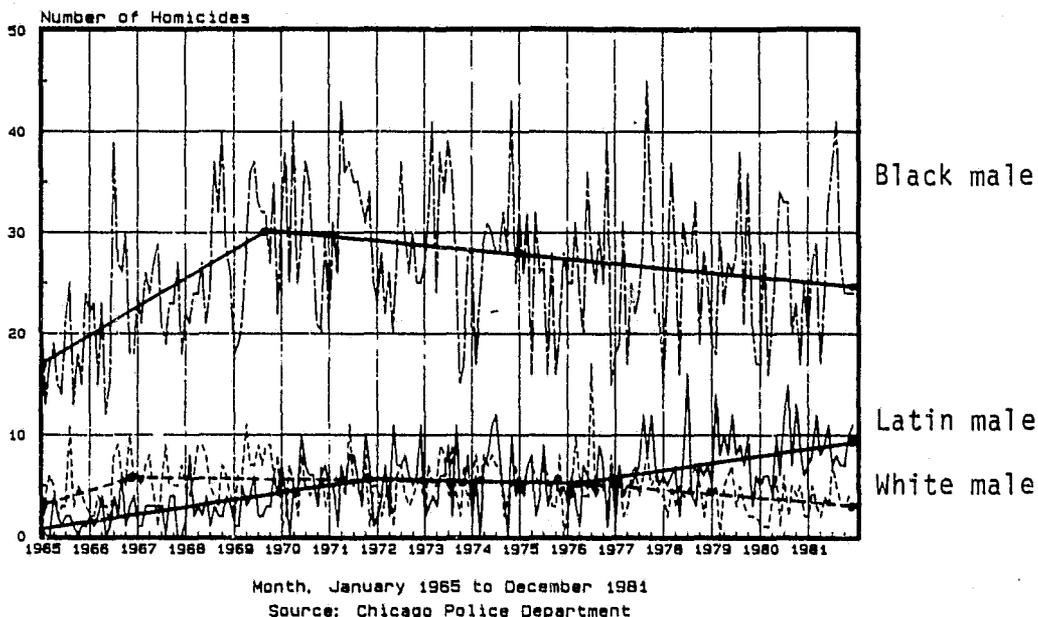
At the beginning of 1965, there were more assault homicides attributed to white males than to Latin males in a typical month. From 1972 through 1975, the numbers were almost equal and constant. From 1976 through 1981, however, white male-offender assault homicide declined, while Latin male-offender assault homicide increased. In fact, by the end of 1981, there were twice as many assault homicides attributed to Latin males as to white males in a typical month.

As we already have seen, assault homicides attributed to female offenders increased in the late 1960s, but then generally declined. Because there were very few assault homicides attributed to white or Latin women, most of this pattern is due to changes over time in assault homicides attributed to black women. There were never more than five assault homicides attributed to Latin women in any year, nor more than 15 attributed to white women. In 95 of the 204 months analyzed, there was no assault homicide attributed to a white woman, and in 160 months, there was no assault homicide attributed to a Latin woman.

Therefore, the increase in the number of assault homicides from 1977 through 1981 occurred in homicides of male victims, not female victims, and in homicides attributed to male, not female, offenders. Furthermore, the increase occurred only in homicides attributed to *Latin* male offenders. As the companion paper shows, male-on-male assault homicide is the predominant type of murder in the Latin community. The time series analysis in this paper indicates that this type of homicide appears to be increasing.

Thus, the pattern over time of assault homicide in Chicago is specified by race/ethnicity and gender. The increase in the mid- and late 1960s occurred in all types of assault homicide, whatever the victim's or offender's gender or race/ethnicity. However, the increase in the late 1970s and early 1980s occurred only in assault homicides of male victims attributed to Latin male offenders. The following section examines whether or not this pattern occurred for homicide committed with a firearm and for homicide committed without a firearm.

Gender, Race/Ethnicity, and Weapon in Assault Homicide

Not enough assault homicides attributed to white female or Latin female offenders occurred for us to generate a month-to-month pattern description, and there were certainly too few for further specification by weapon. However, for assault homicide attributed to white males, black males, black females, and Latin males, such a specification is possible. Was the pattern over time of assault homicide attributed to these offenders specified by weapon type?

The number of assault homicides attributed to one or more white males changed little between 1965 and 1981, regardless of weapon. Those committed with a firearm and those committed without a firearm each averaged between two and three a month throughout the 17 years (the graphs are not shown because they overlap), and both increased between 1965 and 1968. However, *firearm* assault homicide attributed to white males continued to increase slowly until the end of 1976 (when there were three in a typical month), then dropped to one per month in 1979, and increased again in 1980 and 1981. In contrast, *non-firearm* assault homicide attributed to white males decreased steadily from three in a typical month of 1968 to fewer than two per month in 1981. Thus, although the population of white males in the homicide-prone years *decreased* throughout the 1970s, the number of firearm assault homicides attributed to white male offenders *increased* from 1965 through 1976 and again from 1979 through 1981.

At the beginning of 1965, the number of assault homicides attributed to black male offenders in a typical month was about the same whether the crimes were committed with a gun (nine) or without a gun (eight). By the middle of 1970, however, the number committed with a gun had risen to 23 per month, while the number committed without a gun was still less than 10 per month. After 1970, black male-offender assault homicide committed with a firearm declined, but never to the level of non-firearm homicide. By the end of 1981, 16 of these homicides were committed with a firearm in a typical month, compared with 10 per month without a firearm.

Assault homicides attributed to black women, both those committed with and without a gun, increased in 1965 and 1966. However, those committed without a firearm decreased after mid-1966, while those committed with a firearm continued to increase, from two in a typical month of 1965 to four per month in 1969. The number of these firearm assault homicides remained the same through 1974, but then declined to two per month at the end of 1981. These relatively small increases and decreases coincided with the more rapid increases and decreases in total assault homicide. Thus, the peak in black-offender assault homicide in 1970 occurred in firearm homicides attributed to both males and females.

In any month, fewer assault homicides were attributed to Latin male offenders than to black male offenders, regardless of the weapon. However, Latin male-offender assault homicide increased greatly during the 17 years, and most of this increase occurred in homicides committed with a firearm (*see figure 17*). Those committed without a firearm increased continually, from

fewer than one in a typical month at the beginning of 1965 to about three per month at the end of 1981, but those committed *with* a firearm increased even faster. At the beginning of 1965, just about as many Latin male-offender assault homicides were committed with a firearm as without a firearm. The number committed with a firearm increased to almost five in a typical month at the end of 1972, declined briefly, then increased again to almost seven per month by the end of 1981.

Therefore, the *increase* in Latin male-offender assault homicide after 1975 was due largely to an increase in homicides committed with a firearm. The *decrease* in white male-offender assault homicide as a whole, which occurred after 1968, was due to a decrease in homicides committed without a firearm (those committed with a firearm actually *increased* in 1980 and 1981). Similarly, among assault homicides attributed to black females, those committed with a gun peaked in 1970, while those committed without a gun declined. However, the biggest difference for weapon is in assault homicides attributed to black male offenders. Between 1965 and 1970, the number committed with a firearm increased from nine to 23 in a typical month, and then declined; in contrast, the number committed without a firearm did not change much at all.

Domestic Homicide and Race/Ethnicity

Domestic homicide,[11] especially the murder of a male by a female, is more common among blacks than among whites or Latins (*see companion paper*). More black men are killed by their wives or girlfriends than are black women killed by their husbands or boyfriends. The opposite is true for whites and Latins; more women are killed by men than men are killed by women in domestic homicide. In fact, domestic murder accounts for 13 percent of all assault homicides of black male victims, *vs.* only 5 percent of white and 2 percent of Latin male assault homicide victims. Was the pattern over time of assault homicide involving black victims and offenders (*see figure 15*) a reflection of increases and decreases in domestic homicide?

The highest number of black men killed in domestic situations occurred in 1971, when there were 53. The highest number of black women killed in domestic situations also occurred in 1971, when there were 41. Thus, in 1971, 1.3 times as many black men as black women were killed in domestic assaults. Between 1971 and 1981, both numbers decreased gradually. The lowest number of black men killed by their wives or girlfriends occurred in 1980, when there were 27. This figure was still 1.2 times the number of black women killed by their husbands or boyfriends in that same year. The greatest male/female difference was in 1981, when 1.7 times as many black men (32) as black women (19) were killed in domestic situations.

Therefore, the pattern over time of black domestic homicide, whether female-on-male or male-on-female, is similar to the pattern over time of all black-on-black assault homicide (*see figure 15*). The largest number of incidents occurred in 1971, and the number fell throughout the 1970s. Among blacks, domestic murder of men by women is consistently more common than domestic murder of women by men.

Among whites and Latins, however, domestic murder of women by men is more common than domestic murder of men by women. Also, in assault homicides attributed to white male offenders, killings of females are relatively more frequent than in homicides attributed to black or Latin males. But did this pattern change over time? The number of female-victim assault homicides attributed to one or more white male offenders seemed to follow the overall pattern of white-offender homicide throughout the 17 years. An average of 27 of these homicides per year occurred from 1965 through 1981, with 38 in 1969 the highest yearly total. Between 1977 and 1981, the number of these offenses was relatively low, about 11 to 15 per year. Thus, victimization of women by white males increased from 1965 to 1969 (as did white-offender homicide as a whole), but it did not increase in the late 1970s.

Summary

Does gender specify the pattern over time of Chicago homicide? *Yes*--the types of homicide involving female victims or offenders generally *did not* follow the same pattern over time as total Chicago homicide. The most visible increases and decreases in Chicago homicides--the rapid increase from 1965 to 1970, the peak in 1974, the brief decrease, and the increase in the late 1970s--occurred mostly in male-on-male homicide.

Assault homicide among men, such as fights in bars, gang-related altercations, and multiple-offender assaults, increased rapidly from 1965 to 1970, and again from 1977 through 1981. (Appendix II shows that the number of male homicide victims who were killed out-of-doors or in a vehicle increased rapidly in the late 1970s.) Two kinds of male-on-male assault homicide--those attributed to Latin offenders and those attributed to multiple offenders of any race/ethnicity--increased from 1977 through 1981. In contrast, female-on-male and male-on-female assault homicide changed very little over the 17 years. Black female-offender assault homicide was relatively frequent from 1970 to 1974, but it, like all assault homicide involving female victims or offenders, declined in the late 1970s.

Weapon specifies the pattern over time of assault homicide, regardless of the race/ethnicity and gender of the offender. While the number of assault homicides *without* a firearm was not completely constant over the 17-year period, it changed relatively little. In fact, the most rapid change in this type of homicide (offenses attributed to Latin males), was an increase of only 1.5 to 2.6 in a typical month in 1965 *vs.* 1981. In contrast, increases in assault homicide committed *with* a firearm accounted for: 1) most of the 1972 peak and most of the 1976-1981 increase in Latin male-offender assault homicide, 2) most of the 1970 peak in black male-offender assault homicide, and 3) all of the 1970-1974 increase in black female-offender assault homicide. Also, for white male-offender assault homicide, those committed without a firearm decreased from 1979 through 1981, while those committed with a firearm increased.

Although relatively few robbery homicides involved female victims, the number declined from 1977 through 1981; at the same time, the number of male robbery homicide victims increased sharply. The number of female-*offender* robbery homicides was very small, and seemed to follow no pattern over time, while robbery homicide attributed to males or to male and female accomplices followed the same pattern over time as robbery homicide as a whole. Therefore, the pattern over time of robbery homicide in Chicago is specified by gender. The only type of robbery homicide that increased after 1976 was homicide of a male victim attributed to either one or more male offenders or to male/female multiple offenders.

Age

In the aggregate analysis of all 12,872 homicides between 1965 and 1981 (*see companion paper*), we find an age effect--homicides are most frequently attributed to offenders aged 15 to 34, and especially to those aged 20 to 24. However, this age effect actually may mask other types of effects--namely cohort or period effects. *Age effect* refers to the tendency for an individual's criminal involvement to increase or decrease with age, other things being equal. (As a further complication, an age effect may differ by race/ethnicity or gender.) *Cohort effect* refers to the tendency for a group of people who were born during the same year to commit more or fewer crimes than other *cohorts*, regardless of age. *Period effect* refers to the tendency for everyone, no matter what age or birth cohort, to commit more or fewer crimes during certain years. For example, the peak ages could be caused by homicides committed by one birth cohort that happened to be aged 20 to 24 during a generally high-homicide period.

Analysis of the effect, or projected effect, of many governmental policies must be based on the assumption that change over time in crime is not due to an age or cohort effect, but rather to a period effect. For example, a change in deterrence policy (such as a change in arrest or conviction probabilities or severity of sentence) would be expected to produce a period effect on the number of crimes committed. However, even if we can show that crime dropped following the policy change, before we can attribute the drop to a period effect, we first must ask whether the decline really reflects an age or cohort effect. Only after it has been determined that there is an actual period effect can the reason for the period effect become a question for research.

The methodology of a complete explanatory analysis of age, cohort, and period is quite complex; indeed, some argue it is impossible to construct (*see Larkin and Greenberg, 1983, for a review of the issues*). In cross-sectional data, a cohort effect may mimic an age effect, and in time series data, an age effect may mimic a period effect. However, any explanatory analysis must rest on a firm descriptive foundation. Although the age-cohort-period question cannot be answered here, the question itself can be stated more specifically if we know whether or not offender's age specifies the pattern of Chicago homicide from 1965 through 1981. This paper represents a first step toward describing the effects of age (by race/ethnicity and gender) and period in Chicago homicide during these 17 years. The addition of cohort analysis is left for future analysis.

Age of Victim over Time

Like victim's gender, victim's age does not specify the pattern of Chicago homicide as a whole. Homicide of all victim age groups, except the very young and the very old, increased in the 1960s, leveled off or declined, and then increased again in the late 1970s. Even for specific precipitating crimes and racial/ethnic groups, age patterns are the same. For example, the patterns over time of teen/youth gang-related homicides of black and white victims are the same for every age group of victims.

Although murders of people aged 60 to 69 increased in the 1960s and early 1970s and declined afterwards, as did other Chicago homicides, homicides of people *older* than 69 and of children up to age 14 followed a steady or slightly increasing pattern throughout the entire 17 years. This pattern occurred even though the number of children in the population declined in the 1970s.

Weapon and Age

Even though victim's age, by itself, does not specify the pattern of change over time in Chicago homicide, the combination of victim's age *and* weapon does. Homicides committed without a firearm showed little or no change during the 17 years, whatever the victim's age. On the other hand, the patterns over time of homicides committed with a firearm differ somewhat according to the victim's age. Apparently, even though non-firearm homicide changed little over time, when it is included with firearm homicide, it adds enough *interference* to obscure the pattern of each age group. But when non-firearm homicide is removed from the analysis, the patterns become clear.

However, even when we consider firearm homicides separately, victimization patterns of different age groups over time are very similar to one another. This phenomenon is especially true in the 1960s, when firearm homicide of victims in every age group from 15 to 59 increased (*figures 24 through 27*). The most rapid increase occurred among victims aged 35 to 59 (*figure 27*), even though the number of people aged 35 to 59 in Chicago's population declined steadily throughout the 17 years; between 1965 and 1970 alone, the number fell 10 percent. Despite this decline, the number of firearm homicides of victims aged 35 to 59 increased from about five in a typical month of 1965 to more than 15 per month in 1970. Thus, the increase in firearm homicide victimizations in Chicago from 1965 through 1970 occurred for victims of all ages, whether their number in the population was increasing or decreasing.

Firearm homicide of victims in every age group also increased between the mid-1970s and 1981, even though the populations of two of the age groups, 25- to 34-year-olds and 35- to 59-year-olds, declined. The increases in these homicides were slight, relative to the rapid increases of 1965-1970, but they occurred consistently across age groups, and for firearm homicide only.

Figure 24
Firearm Homicide, Victims Aged 15 to 19

Months (January 1965 to December 1981)
Source: Chicago Police Department
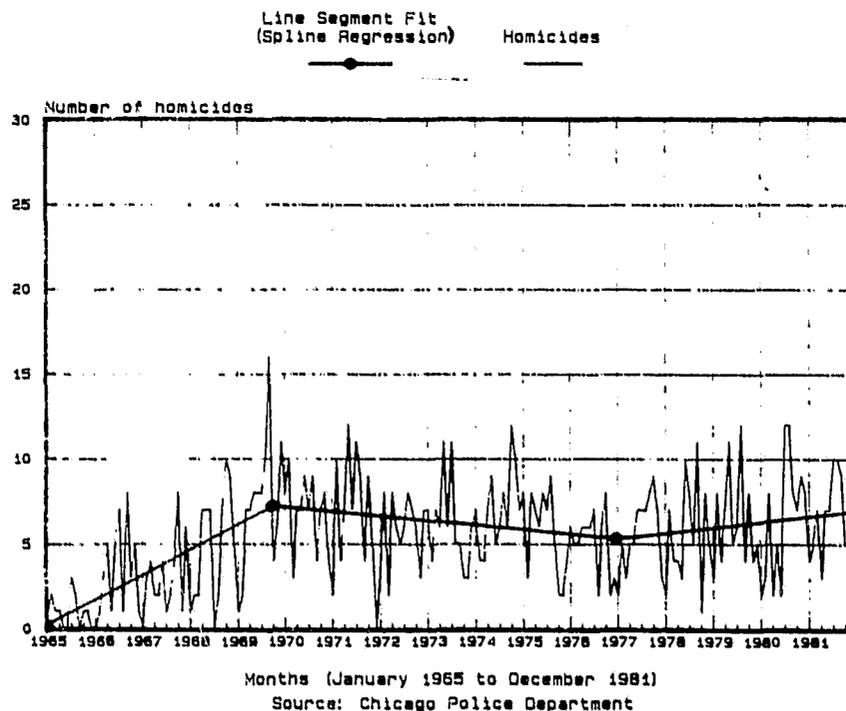
Figure 25
Firearm Homicide, Victims Aged 20 to 24

Line Segment Fit
(Spline Regression)   Homicides

Months (January 1965 to December 1981)
Source: Chicago Police Department
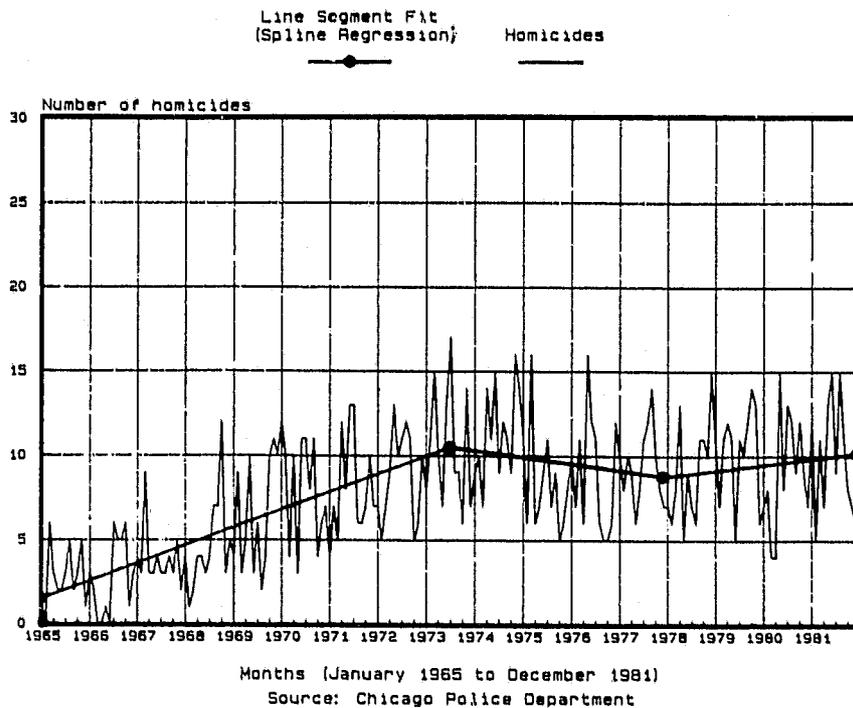
Figure 26
Firearm Homicide, Victims Aged 25 to 34

Line Segment Fit
(Spline Regression)   Homicides

Months (January 1965 to December 1981)
Source: Chicago Police Department
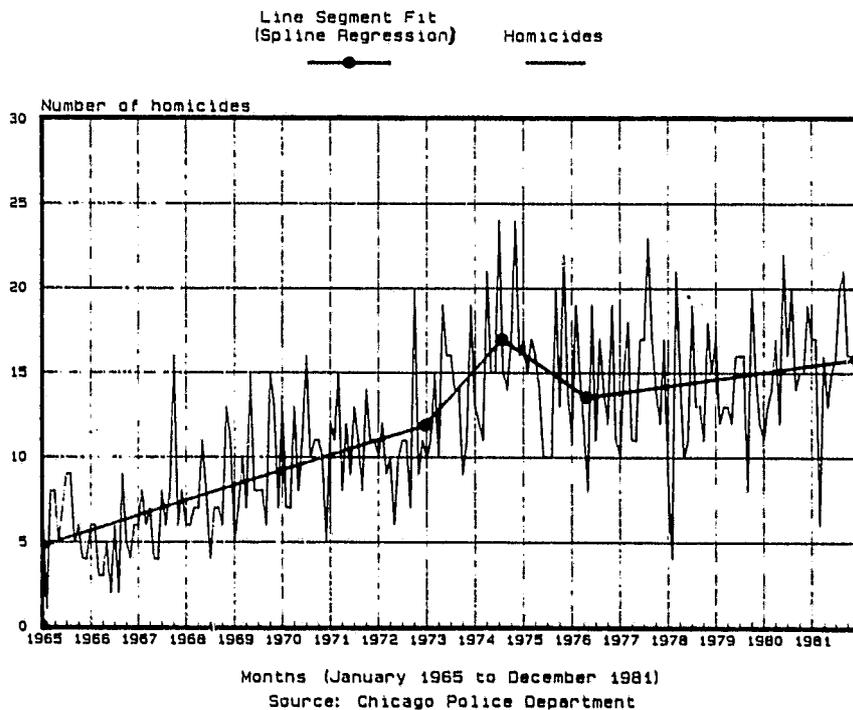
Figure 27
Firearm Homicide, Victims Aged 35 to 59

Months (January 1965 to December 1981)
Source: Chicago Police Department
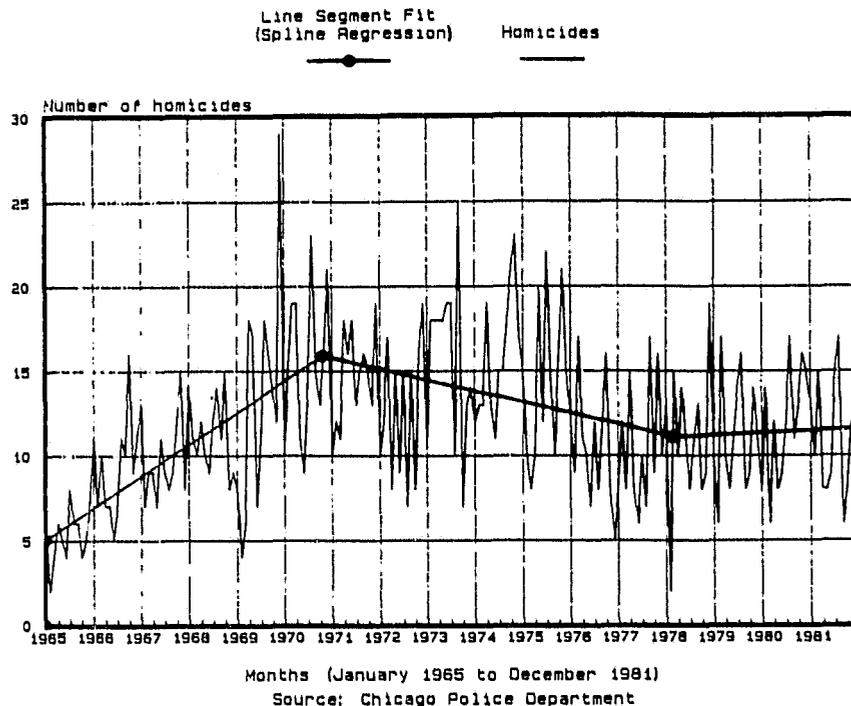
The only real difference in victim's age patterns over time occurred in the pattern of change in the number of victims aged 25 to 34 (*figure 26*). For the three other age groups, most or all of the increase between 1965 and 1981 occurred during the 1960s (for teenage and middle-aged victims) or during the 1960s and early 1970s (for victims aged 20 to 24). The number of victims aged 25 to 34, however, increased almost every year.

The number of firearm homicides per month of 25- to 34-year-olds more than tripled over the 17 years, increasing much faster than the population of that age group (*15 percent--see figure 10*). This steady and rapid increase was broken by an extremely high number of murders in 1974. The companion paper shows that the age group with the highest homicide *victimization* rate was 20-to-24 year olds in 1970, but 25-to-34 year olds in 1980. However, the age group with the highest homicide *offense attribution* rate remained the same in both 1970 and 1980--20-to-24 year olds. Are the ages of victims increasing, while the ages of offenders are remaining the same?

Age, Race/Ethnicity, and Gender

Most population groupings that combine age, race/ethnicity, and gender have too few homicide victims for a monthly analysis. However, there is one category that has more than enough homicide victims for analysis--young black males. In addition, though assault homicide of Latin males between the ages of 15 and 59 does not have enough cases for a monthly analysis throughout the 17 years, it increases rapidly enough in the later years for a monthly analysis then. This section describes the patterns of these two specific types of homicide.

Young Black Male Victims

As the companion paper indicates, the murder rate of young black men in the United States is so high, it is considered a problem of epidemic proportion. The problem in Chicago is as least as

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great as that in the nation as a whole (*for national patterns over time, see Appendix I*). National mortality rates of black males aged 15 to 44 have increased since the 1950s, even though mortality rates of most other population groups have decreased. The primary cause of death associated with this increase is homicide (*Center for Health Statistics, 1983; Mercy, et al., 1984*). In Chicago, the homicide victimization rate of black men is extremely high. Among 20- to 24-year-olds, the rate per 100,000 was 246 in 1970 and 159 in 1980. Among black males aged 15 to 19, the rate was 167 in 1970 and 81 in 1980.

Murder of young black men followed the same pattern of change over time as total Chicago homicide. In 1965, there were about five black men aged 15 to 24 murdered in Chicago every month. Between 1970 and 1974, about three times as many were murdered in a typical month. After a brief decline, the number increased again in the late 1970s. However, like the murder patterns of all young people (*figures 24 and 25*), the pattern of murders of young black men is specified by weapon (*figure 28*).

At the beginning of 1965, there were relatively few murders of young black men in Chicago in a typical month, regardless of whether the crimes were committed with a firearm or not (*figure 28*). From 1965 through 1969, however, firearm homicides of young black men increased very rapidly, from fewer than one in a typical month to more than 10 per month. During this period, homicides without a firearm also increased, but much more slowly, from about one to about three in a typical month. The number of these homicides then declined, while homicides committed with a firearm remained high through 1974. Homicides with a firearm also accounted for the decline in 1975 and 1976 and for much of the increase from 1977 through 1981. Thus, the pattern of firearm homicides of young black men follows very closely the pattern of total Chicago homicide. The main difference is that this type of homicide increased in the late 1960s *more rapidly* than did the total.

Figure 28
Homicide of Young Black Men in Chicago, by Weapon

Month, January 1965 to December 1981
Source: Chicago Police Department
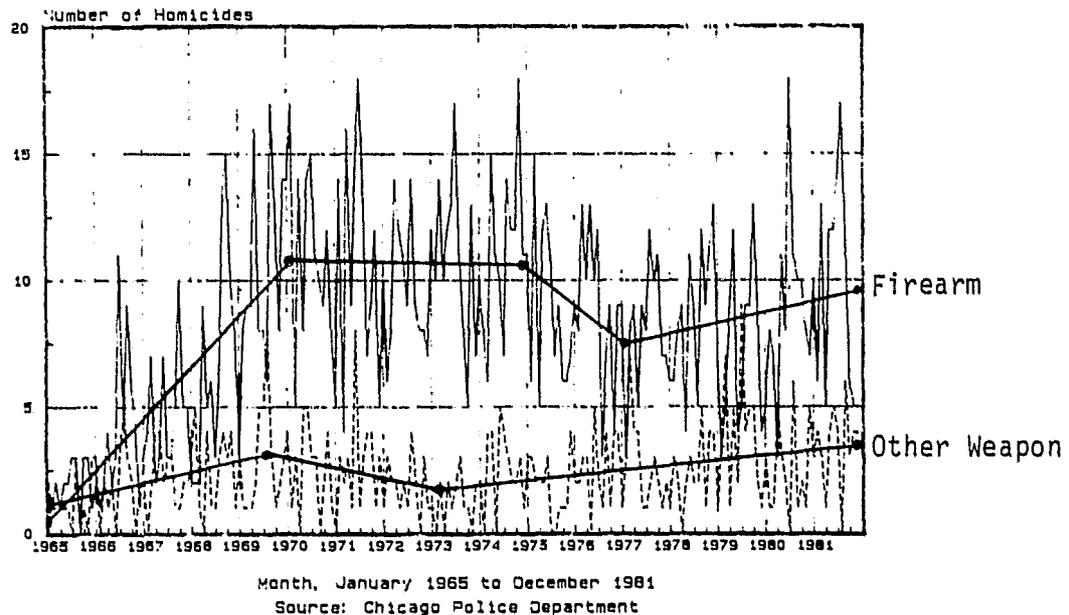
Young and Middle-Aged Latin Male Victims

The companion paper shows that in the Latin community, women, the very young, and the elderly are relatively less likely than other population groups to become homicide victims. For example, the 1980 homicide victimization rate in Chicago for children through age 4 was lower for Latins (less than 2 per 100,000) than for whites (4) or blacks (13). In addition, robbery homicide among Latins is rare when compared with assault homicide. For example, only five robbery homicides of Latin female victims, and only six robbery homicides of Latins aged 60 or older, occurred in the entire 17 years. The predominant type of homicide in the Latin community is Latin-on-Latin assault homicide involving males between the ages of 15 and 59.

This type of homicide increased rapidly between 1965 and 1981. For every age group from 15 to 59, the number of assault homicide victims was very low in the late 1960s—an average of four, five, eight, and nine per year from 1965 through 1970 for age groups 15 to 19, 20 to 24, 25 to 34, and 35 to 59, respectively. There was an increase from 1971 through 1974 (10, 18, 12, and 12 per year), generally a decline in 1975 and 1976 (6, 13, 15, and 9 per year), and then a rapid increase from 1977 through 1981 (20, 21, 27, and 13 per year).

Between 1976 and 1981, the yearly number of assault homicides of Latin males increased 250 percent for victims aged 15 to 19 (from 6 to 21), 99 percent for victims aged 20 to 24 (from 11 to 21), 83 percent for those aged 25 to 34 (from 18 to 33), and 117 percent for 35- to 59-year-olds (from 6 to 13). Could these 1976-1981 increases be explained by population increases? Although the number of Latin men in Chicago's population increased between 1976 and 1981, the exact amount of the increase is difficult to estimate (*see figure 9 and discussion*). For example, one estimate says that the Latin male population aged 15 to 19 increased 24 percent between 1976 and 1981, and 97 percent overall between 1970 and 1981.[12] Even if we assumed, for the sake of argument, that the actual population increase were twice this estimate, a 48 percent increase between 1976 and 1981 would not account for a 250 percent increase in assault homicide victimization during the same period. Similarly, an estimated increase of 33 percent in the population of Latin males aged 20 to 24 (*same source*) would not account for the 99 percent increase in assault homicide victimization.

Although assault homicide is more common and robbery homicide less common among Latin victims than among white or black victims, there has been an increase in robbery homicide of middle-aged Latin male victims. Robbery homicide of other age groups is extremely uncommon among Latins. During the 17 years, there was no Latin robbery homicide victim younger than age 10; in addition, there was only one victim aged 10 to 14, 15 aged 15 to 19, 26 aged 20 to 24, and six aged 60 or older. (In comparison, there were one white and four black robbery homicide victims under age 10; two whites and six blacks aged 10 to 14; 16 whites and 69 blacks aged 15 to 19; 43 whites and 149 blacks aged 20 to 24; and 227 whites and 223 blacks aged 60 or older.) Nevertheless, the number of middle-aged Latin robbery homicide victims, though small, increased in the 1970s. In the seven years from 1965 through 1971, there were only four victims aged 25 to 34 and 20 victims aged 35 to 59, but in the seven years from 1975 through 1981 there were 48 and 41, respectively. Thus, the increase in the Latin robbery homicide victimization rate between 1970 and 1980, noted in the aggregate analysis, is explained by an increase in robbery homicide of victims aged 25 to 59.

Weapon, Precipitating Crime, and Victim's Age

We have just seen that between 1965 and 1981, the pattern of change over time in the murders of victims of various age groups did not coincide with the pattern of change over time in their numbers within the population. A few of the homicide increases were fairly dramatic. For example, firearm homicide of young people, especially young black males, increased very rapidly from 1965 through 1969 (*see figures 24, 25, and 28*). Firearm homicide of victims aged 25 to 34 also increased rapidly throughout the 17 years, with an especially high number occurring in 1974 (*see figure 26*). And firearm homicide of victims aged 35 to 59 increased rapidly from 1965

through 1970, despite a decreasing population. Did these increases happen in assault homicide or in robbery homicide?

The increase in the number of firearm homicides of young victims between 1965 and 1969 was largely due to an increase in assault homicide (*figure 29*). The number of firearm *assault* homicides of victims aged 15 to 24 increased from about three in a typical month of 1965 to about 14 per month at the beginning of 1971. At the same time, the number of firearm *robbery* homicides of victims in the same age group increased very slightly, from close to zero to one per month. Similarly, the number of firearm assault homicides of black males aged 15 to 24 increased from less than one in a typical month at the beginning of 1965 to almost 10 per month at the end of 1969, while the number of firearm robbery homicides of victims in this group stayed at about one per month throughout the 17 years. Therefore, the 1965–1969 increase in homicide of young victims in general, and of young black males in particular, was an increase in assault homicide with a gun, not robbery homicide and not assault homicide without a gun.

Figure 29
Firearm Homicide of Victims Aged 15 to 24, by Precipitating Crime

Month, January 1965 to December 1981
Source: Chicago Police Department
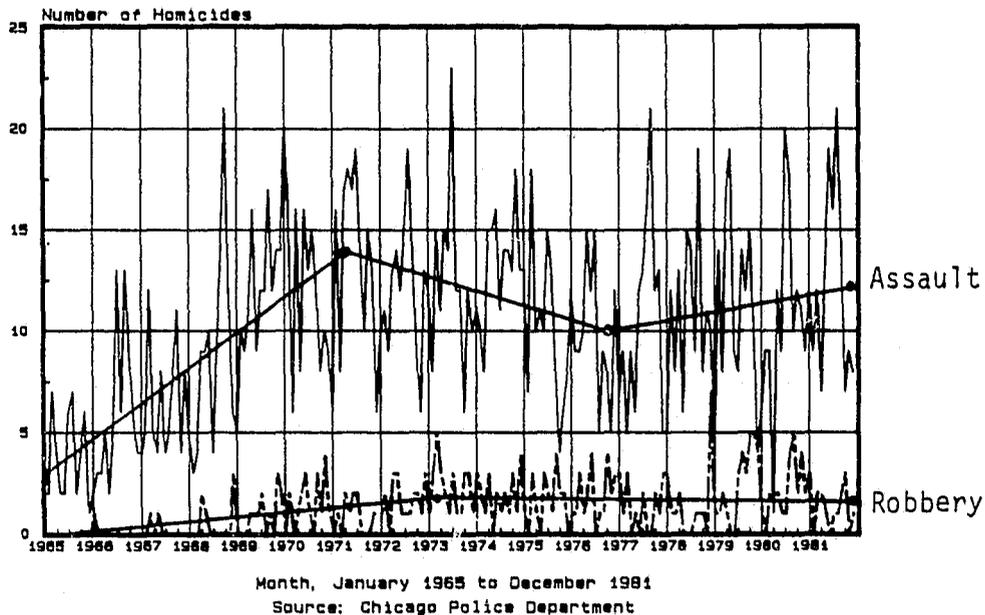
Although the increase in the number of homicides of 15- to 24-year-olds from 1977 through 1981 was not as pronounced as the increase from 1965 to 1969, it too was caused by an increase in firearm homicides, not non-firearm homicides, and by an increase in assault homicides, not robbery homicides. From 1977 through 1981, the number of firearm assault homicide victims increased from 10 to 12 in a typical month (*figure 29*), while the number of firearm robbery homicide victims did not change after 1972. This pattern was also true of homicide of young black male victims—*assault* firearm homicide increased from five per month in 1979 to eight per month in 1981, while *robbery* firearm homicide continued to fluctuate at about one per month.

Another notable pattern is the 1974 peak in the number of victims aged 25 to 34 (*see figure 26*). This peak occurred in both firearm assault homicide *and* firearm robbery homicide. However, the patterns of assault homicide and robbery homicide are somewhat different, especially

after 1974. The number of firearm assault homicide victims was less than five in a typical month of 1965, peaked at 10 per month in 1974, and then declined slowly but steadily to nine per month in 1981. The number of firearm robbery homicide victims, on the other hand, increased from zero in 1965 to more than three per month in 1974, declined slowly, then increased again between 1979 and 1981. Thus, the increase in the late 1960s in the number of homicide victims aged 25 to 34 occurred in both assault homicide and robbery homicide, but the increase in the late 1970s occurred only in robbery homicide. Both firearm assault homicide and firearm robbery homicide of black male victims aged 25 to 34 increased throughout the 17-year period, even in the late 1970s.

Similarly, the rapid increase from 1965 through 1970 in the number of firearm homicides of victims aged 35 to 59 (*see figure 27*) occurred in both assault homicide and robbery homicide, although the number of assault homicide victims increased more rapidly (*figure 30*). In contrast, from 1970 through 1975, robbery homicide increased and assault homicide decreased. The decline in *assault* homicide was fairly rapid, and continued through 1981. The number of people aged 35 to 59 who were killed in a firearm *robbery* homicide increased from two in in a typical month at the end of 1976 to four per month at the end of 1981 (*figure 30*), this despite the rapid decline of this age group in the population (*see figure 10*).

Figure 30
Firearm Homicide of Victims Aged 35 to 59, by Precipitating Crime

Month, January 1965 to December 1981
Source: Chicago Police Department
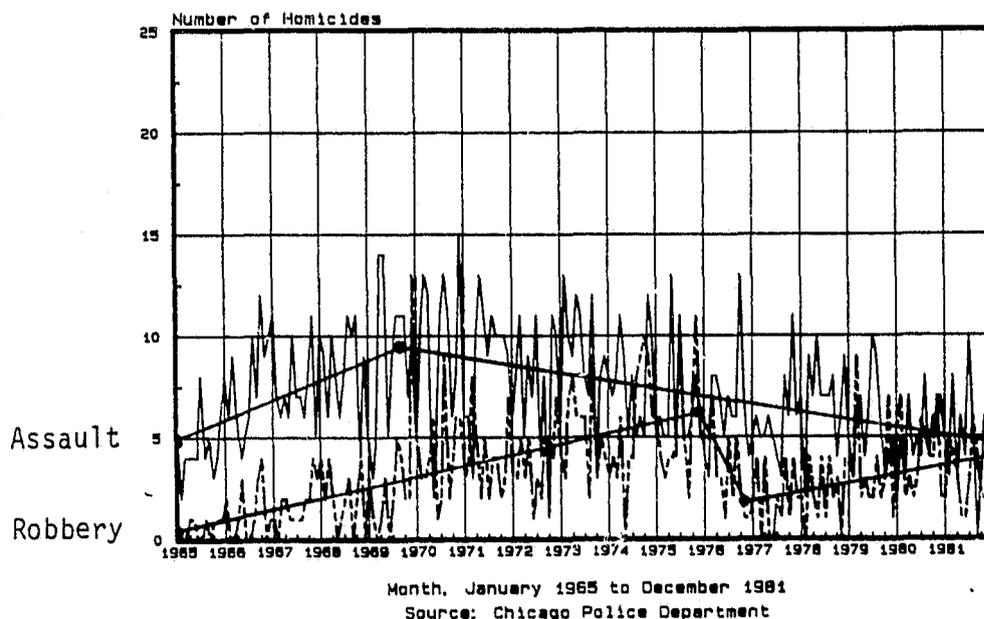
In 1965, more firearm homicides of victims aged 35 to 59 began as an assault than as a robbery. This was also the case for every other age group. What is unusual about the 35-to-59 age group, however, is that after 1965, robbery homicide increased and assault homicide declined, until, in 1976 and again in 1981, the numbers occurring in a typical month were nearly equal (*figure 30*). Similarly, robbery homicide of *black* men aged 35 to 59 (*not shown in graph*) increased markedly in 1974, and again from 1976 through 1981, while assault homicide of this group declined. In 20 of the 24 months in 1965 and 1966, there was no robbery homicide of a black

middle-aged man, but by the end of 1974, there were four in a typical month. Thus, homicide of black males accounts for most of the increase from 1965 through 1974 in middle-aged victims (*figure 30*).

In summary, the pattern of change over time in firearm homicide of young victims occurs mostly in homicides that began as an assault, but the pattern of change over time in firearm homicide of victims aged 25 to 34 and 35 to 59 occurs in both assault homicide and robbery homicide. Analyzing the aggregate of all Chicago homicides (*see companion paper*) shows that the age group with the highest homicide victimization rate changed between 1970 and 1980. In 1970, the highest victimization rate occurred among persons 20-to-24 years old, but in 1980, the most victimized age group was 25- to 34-year-olds. This change in peak age seems to have been caused by an increase in both assault homicide and robbery homicide of victims aged 25 to 34.

Interage Homicide

The pattern of child abuse murder over time is not the same as the pattern of homicide in general. An average of 13 child abuse homicides per year were recorded between 1971 and 1981 (the period for which such data are available). The number seems to change randomly from year to year, with no clear pattern. It was highest in 1978 (there were 24), when the total number of homicides in Chicago was generally low, and lowest in 1973 (seven cases), when the total number of homicides was generally high. The proportion of child abuse homicide victims killed by their mothers *vs*. their fathers did not change over time.

Another interage concern is murder of the elderly by the young. Did this type of murder follow the same pattern over time as total homicide? Did it follow the same pattern as the number of teenagers in Chicago's population? Between 1965 and 1981, there were 30 assault homicides and 130 robbery homicides in which the victim was aged 60 or older and at least one offender was aged 15 to 19. There were also 69 assault homicides and 122 robbery homicides with an elderly victim and one or more offenders aged 20 to 24. Neither assault homicide nor robbery homicide involving these victim and offender groups followed any discernible pattern over time, except that few occurred in 1965 and 1966. Otherwise, the numbers varied randomly from year to year and did not follow the same pattern over time as the number of young people in the population (*see figure 10*). For example, the largest number of elderly people killed by teenagers was 13 in 1973 and again in 1976, but in 1975 and 1977, there were only five cases each year. In addition, there is no evidence of an increase from the mid-1970s through 1981 in any type of murder of the elderly by youthful offenders. Murder of the elderly by other age groups follows the same general pattern over time as homicide as a whole, and these crimes account for a higher proportion of homicides than do murders of the elderly by the young.

Consequently, murder of the elderly by the young does not appear to be a growing problem. Whatever explains the general pattern of change over time in Chicago homicide probably also explains the pattern of murders of the elderly by the young.

Age of Offender over Time

Because offender's age is strongly related to the *number* of offenders involved in a homicide, counting the number of known offenders in each age group would not accurately reflect the number of *victims* killed by those young offenders. The "murder attribution" calculation (*see "Methods"*) corrects for an overcount of multiple offenders. For example, if three teenagers commit a homicide, the teenage age group is responsible for one homicide, not three. The number of homicide attributions for an age group equals the number of homicides for which people in that age group were responsible. Because the calculation of attributions is cumbersome, it was done for each year, not for each month, and only for the total series, not for assault homicide and robbery homicide separately.

Although the change in the age structure of the population would predict that the number of homicides attributed to offenders aged 15 to 19 and 20 to 24 would increase from 1965 to 1970, and the number attributed to offenders aged 25 to 34 and 35 to 59 would decline, in fact, the number of homicides attributed to *all* age groups from 15 to 59 increased in the late 1960s (*figure 31*). Homicides attributed to offenders aged 15 to 24 increased the most, but the increase was even more rapid than would have been expected by that group's population increase. Homicides attributed to 15- to 19-year-olds increased 279 percent from 1965 to 1970, while their population increased only 11 percent. Homicides attributed to offenders 20-to-24 years old increased 166 percent, while their population increased 19 percent. And even though the number of people aged 25 to 34 and 35 to 59 declined from 1965 to 1970, the number of homicides attributed to offenders in those age groups increased, 79 percent and 13 percent, respectively. The increase in total Chicago homicide from 1965 to 1970 occurred for offenders of all ages, despite increases or decreases in their respective populations. Therefore, increases in the population of a crime-prone age group cannot provide a simple explanation of the increase in the number of homicides in Chicago in the 1960s.

Figure 31
Chicago Homicide, by Age of Offender
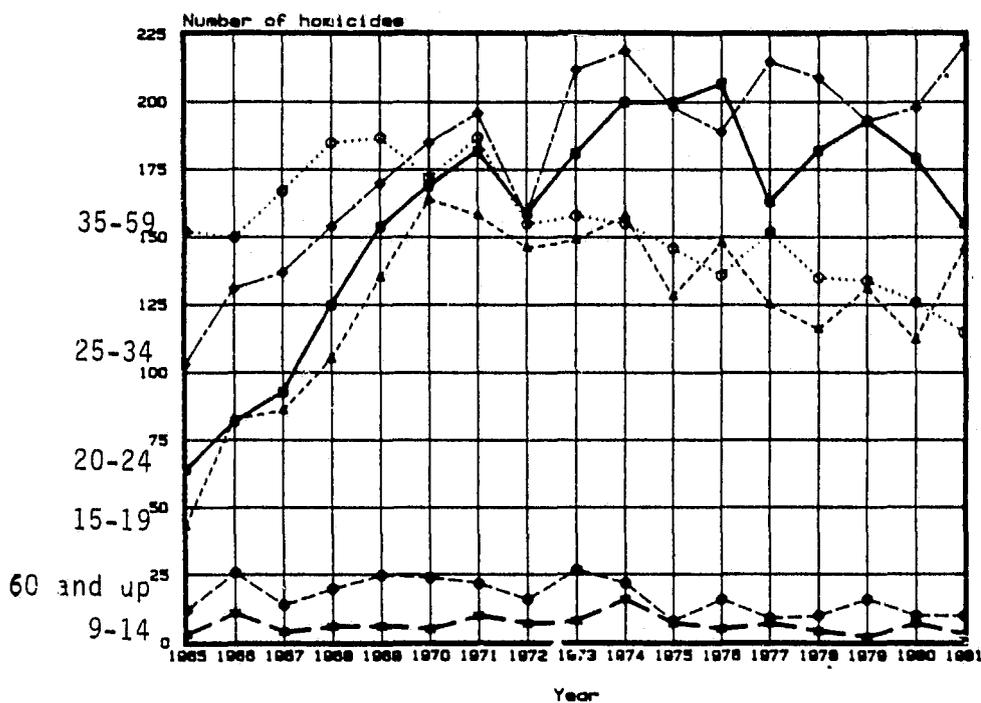
Source: Chicago Police Department

Between 1970 and 1974, the total number of Chicago homicides continued to increase, but more slowly than in the late 1960s, until the number eventually reached it peak at the end of 1974 (*see figure 1*). The number of young people in Chicago's population also leveled off between 1970 and 1974; the number of 15- to 19-year-olds and 20- to 24-year-olds--after increasing 11 percent and 19 percent, respectively, from 1965 to 1970--increased only 4 percent and 1 percent from 1970 to 1975. Could one pattern have influenced the other? *Apparently not*--the number of homicides attributed to offenders of these two young age groups followed different patterns. Homicides attributed to 15- to 19-year-olds *declined* 22 percent between 1970 and 1974, while homicides attributed to 20- to 24-year-olds *increased* 18 percent.

Actually, the total Chicago homicide pattern from 1970 to 1974 was a composite of opposite patterns, depending on the age of offender. Homicides attributed to offenders aged 20 to 24 and 25 to 34 increased, except for a decline in 1972 (this decline occurred only in black-on-black homicide with a firearm). However, homicides attributed to offenders aged 15 to 19 and 35 to 59 declined between 1970 and 1974. The decline in homicides attributed to teenagers would not have been predicted by change in population; the number of people aged 15 to 19 increased 7 percent during this period. On the other hand, the number of people aged 35 to 59 declined. However, the population decline from 1965 to 1970, when homicides attributed to this age group increased, was just as rapid as the decline from 1970 to 1974, when homicides attributed to them declined.

From the mid-1970s through 1981, homicides attributed to offenders of most age groups declined. Even homicide attributed to offenders aged 20 to 24, which had first increased rapidly and then continued to increase until 1976, generally declined. However, there was one exception to this pattern--homicides attributed to offenders aged 25 to 34 did *not* decline. In fact, this age group was responsible for more homicides in 1981 than in its previous peak year of 1974. The number of people aged 25 to 34 increased 13 percent between 1975 and 1981 (*see figure 10*), while the number of homicides attributed to 25- to 34-year-olds increased 12 percent (from 198 to 221). The population of 20- to 24-year-olds also increased (4 percent) between 1975 and 1981, but the number of homicides attributed to persons in this age group declined 22 percent (from 200 to 155).

The number of murders attributed to very young or elderly offenders seemed to change randomly from year to year. An average of seven homicides a year were attributed to offenders aged 9 to 14, with the yearly number ranging from two in 1979 to 16 in 1974. Although the population of 9- to 14-year-olds increased about 7 percent from 1965 to 1970, and then declined 25 percent from 1970 to 1981, these changes were not reflected in the number of homicides attributed to young offenders. Similarly, population patterns did not seem to affect the number of homicides attributed to persons aged 60 and older. An average of 17 homicides per year were attributed to offenders aged 60 and older (a low of nine in 1977 and a high of 27 in 1973). The 60-and-older population was steady from 1965 to 1970, and then declined about 5 percent over the next 11 years.

To summarize, the number of homicides attributed to offenders in each age group did not necessarily follow the same pattern over time as the population of that age group. Population increases often coincided with homicide decreases, and homicide increases often occurred at the same time as population decreases. In addition, there is no single age group that specifies the pattern of change in Chicago homicide from 1965 through 1981. Homicides attributed to *all* age groups, except the very young and the elderly, increased in the mid- to late 1960s. This increase occurred even in homicides attributed to offenders aged 35 to 59, a group that declined rapidly in population.

However, certain age groups were more responsible than others for the 1974 peak in homicides and for the increase from 1977 through 1981. The peak in 1974 occurred because of an increase in homicides attributed to offenders aged 20 to 24 and 25 to 34. These patterns are similar to the patterns for *victims* of the same age groups (*see figures 25 and 26*), which also peaked in 1974. The increase from 1977 through 1981 occurred because of an increase in homicides attributed to offenders aged 25 to 34, which again resembles the increase in the number of victims in that age group.

Thus, our analysis so far has not supported the demographic hypothesis, that there is a simple relationship between an increase or decrease in the number of people in the crime-prone years and an increase or decrease in the number of homicides they commit. However, the demographic argument does not usually define the crime-prone population group as all young people, but specifically as young black males. In the following sections, we consider whether or not patterns over time in this particular group specify patterns over time in total homicides. However, because

offender's age is closely related to the type of homicide committed, it is necessary to begin with a time series specification of age patterns in robbery homicide and assault homicide.

Age and Precipitating Crime: Assault and Robbery

The companion paper discusses in detail the relationship between the age of the offender and the events that precipitate a homicide. Robbery homicide is much more common among homicides attributed to young people than it is among homicides attributed to older people. Also, we have just seen that victim's age patterns *over time* vary by precipitating crime. In the mid- to late 1960s, the increase in teenage-victim homicide was mostly an increase in assault homicide. In the late 1970s, the increase in homicides of victims aged 25 to 34 and 35 to 59 occurred in *both* assault homicide and robbery homicide. For these reasons, we would expect that the patterns over time of murders attributed to offenders of various age groups would differ if the crimes began as an assault or a robbery.

Not only are most robbery homicides attributed to one or more offenders aged 15 to 24, but, as figures 32 through 34 show, the pattern *over time* of robbery homicide also occurs mostly in increases and decreases in those attributed to the 15-to-24-year-old group. In contrast, the pattern over time of assault homicide varies little for homicides attributed to offenders of different age groups.

Assault homicides attributed to every age group from 15 to 59 increased in the late 1960s (*figures 32 through 34*). After 1970, assault homicides attributed to one or more offenders aged 35 to 59 declined (*figure 34*), while those attributed to younger offenders remained stable. However, in the final year, 1981, there is some indication of an increase in assault homicides attributed to one or more offenders aged 25 to 34 (*figure 33*).

Figure 32
Precipitating Crime in Homicides Attributed to Offenders Aged 15 to 24

Month, January 1965 to December 1981
Source: Chicago Police Department
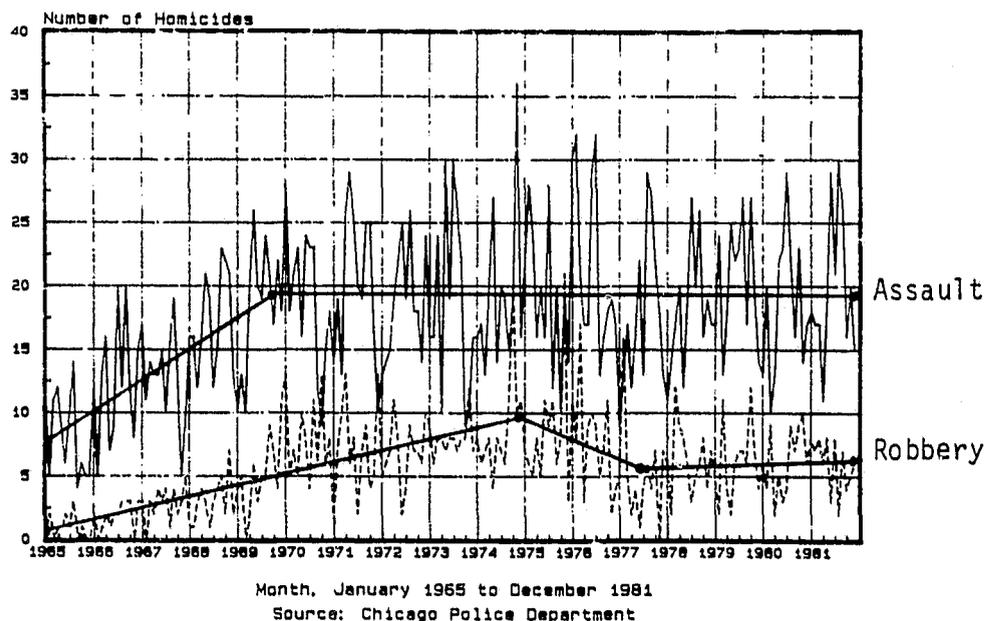
Figure 33
Precipitating Crime in Homicides Attributed to Offenders Aged 25 to 34

Number of Homicides

Assault

Robbery

Month, January 1965 to December 1981
Source: Chicago Police Department
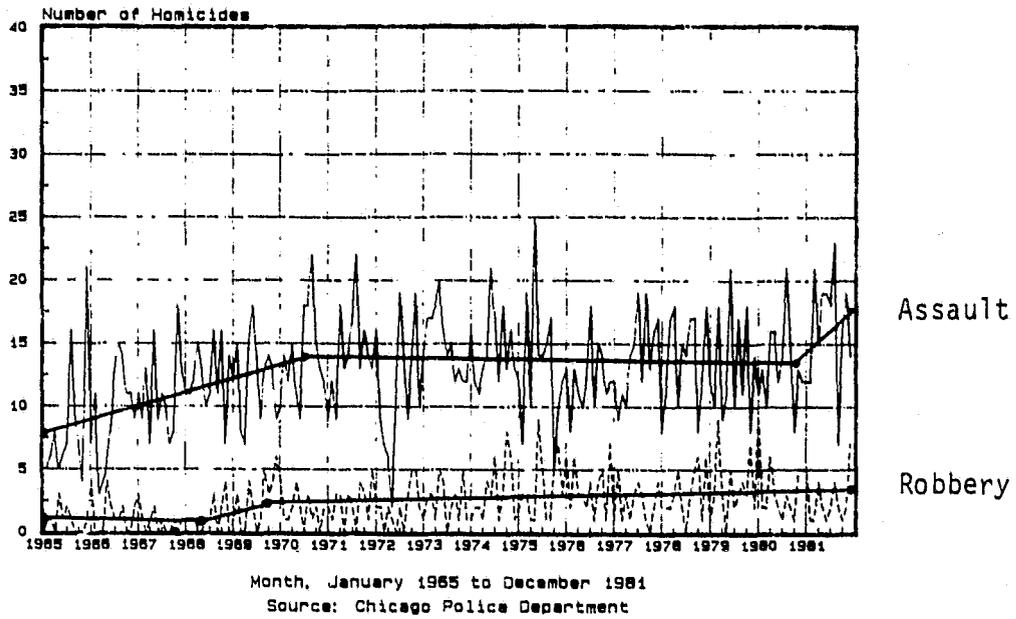
Figure 34
Precipitating Crime in Homicides Attributed to Offenders Aged 35 to 59

Number of Homicides

Assault

Robbery

Month, January 1965 to December 1981
Source: Chicago Police Department
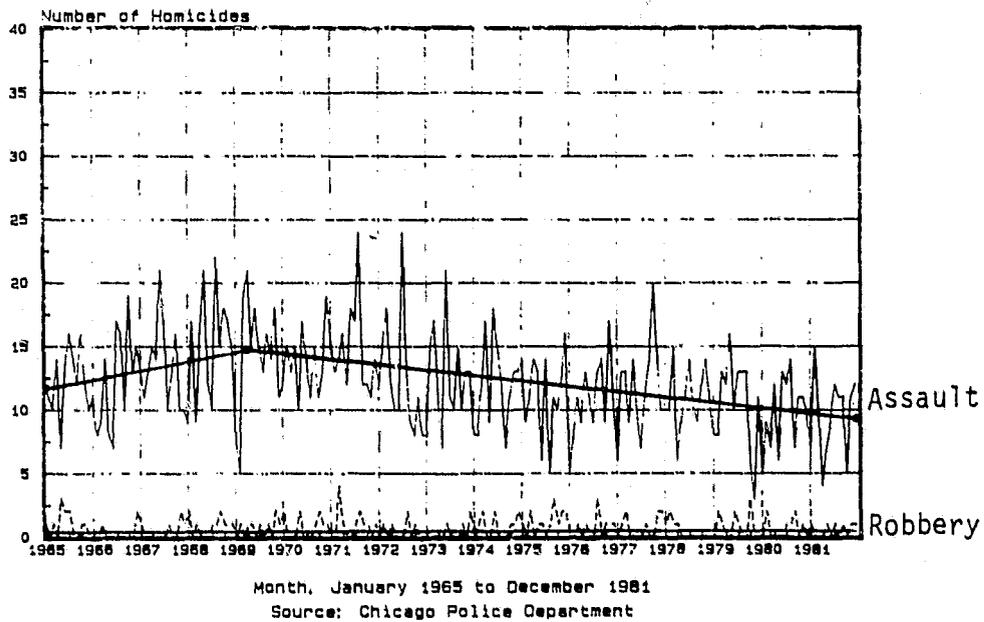
Describing patterns over time in robbery homicide is limited by a problem with unsolved cases (see "Methods"). However, even taking this methodological caveat into account, it is clear that the pattern over time of robbery homicide is specified by offender's age. The overwhelming majority of robbery homicides are attributed to offenders aged 15 to 24 (see companion paper). These homicides increased and decreased over time in a pattern corresponding to the pattern of change in robbery homicide as a whole (figure 32). In contrast, robbery homicides attributed to offenders aged 35 to 59 may be one of the only kinds of Chicago homicide that did not increase in the late 1960s (figure 34); this number fluctuated around one per month throughout the 17 years. Robbery homicides attributed to offenders aged 25 to 34 (figure 33) declined slightly after 1965, then increased slightly in 1968 and 1969. After 1970, their number increased very slowly, from about three to about four in a typical month. Thus, robbery homicide peaked in 1974 for victims aged 25 to 34 and 35 to 59, and for offenders aged 15 to 24 (see companion paper).

Again, it is clear that change over time in the population of each of these age groups (see figure 10) did not coincide with changes over time in the number of homicides attributed to that age group. Certainly, the pattern over time of robbery homicide attributed to young offenders bears little similarity to the pattern over time of the number of young people in the population. The number of 15- to 24-year-olds increased 14 percent from 1965 to 1974, but the number of robbery homicides attributed to these young people increased tenfold, from one to 10 in a typical month. From 1975 to 1979, the population of young people remained steady (it changed less than one-half of 1 percent), yet the number of robbery homicides attributed to them declined to fewer than six per month. Between 1978 and 1981, this population decreased 4 percent, while robbery homicides attributed to them increased slightly. In addition, the number of assault homicides attributed to every age group increased between 1965 and 1969, despite varying population trends. From 1969 through 1981, assault homicides attributed to offenders aged 35 to 59 declined, as did their population. However, if we attribute the 1969–1981 decline in assault homicide to the population decrease, how can we explain the increase in assault homicide from 1965 to 1969, when the population was also decreasing?

Therefore, the age of the offender specifies the pattern over time of robbery homicide, but not the pattern of assault homicide. The pattern of robbery homicide in Chicago--the peak in 1974, the brief decline, and then the gradual increase from 1977 through 1981--is seen in robbery homicides attributed to one or more young offenders (aged 15 to 24), but not in robbery homicides attributed to older offenders. For assault homicide, however, the increase of the 1960s occurred in homicides attributed to offenders of every age group from 15 to 59. The increase in assault homicide in the late 1970s--an increase that occurred only in homicides of certain groups of victims (Latin male-on-male, black-on-black, and 15-to-24-year-old victims)--does not appear in any specifications of the offender's age group. The next section discusses robbery homicide and assault homicide patterns, as jointly specified by both offender's age and race/ethnicity.

Race/Ethnicity and Offender's Age

Robbery Homicide

The aggregate analysis (see companion paper) indicates not only a strong relationship between robbery homicide and offender's age, but also a relationship between robbery homicide and offender's race/ethnicity. Robbery homicide victimization and offense are much more prevalent among blacks than among whites or Latins, whatever the ages of the persons involved. There are not enough robbery homicides to conduct a monthly analysis simultaneously of both offender's age and race/ethnicity, and there also is the problem of unsolved cases (see "Methods"). However, it is clear from the year-to-year patterns in figure 35 that much of the increase in total robbery homicide between 1965 and 1974 (see figure 5) reflects an increase in robbery homicides attributed to young black offenders aged 15 to 24.

Figure 35

·Robbery·Homicide Attributed to Young Offenders, by Race/Ethnicity

Number of homicides
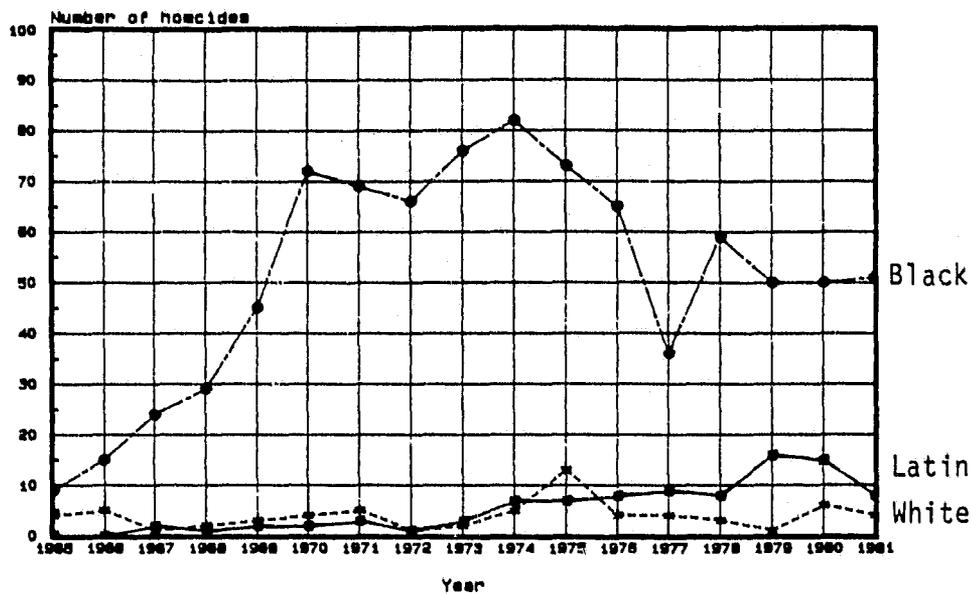
SOURCE: Chicago Police Department. CAUTION: missing data in later years.

If we assume, for the sake of argument, that all of the unsolved robbery homicides (*see figure 4*) were committed by whites or Latins aged 15 to 24, then white–offender and Latin–offender robbery homicide in figure 35 would increase between 1965 and 1974. However, these increases still would not be as rapid as the increase in black–offender robbery homicide during the same period. If, on the other hand, we assume that the unsolved robbery homicide cases occurred in equal proportions among those actually committed by white, black, and Latin offenders, then the evidence of specification of the robbery homicide pattern becomes fairly strong.

While robbery homicides attributed to young black people increased from about 10 in 1965 to about 80 in 1974, robbery homicides attributed to young white or Latin people hardly changed (*figure 35*). From 1974 through 1981, robbery homicides attributed to young black offenders generally *decreased*, with 1977 an exceptionally low year. In contrast, robbery homicides attributed to Latin offenders aged 15 to 24 occurred only once or twice in any year between 1965 and 1970; this number increased to 16 in 1979, then decreased slightly. Although these figures are small compared with the number of robbery homicides attributed to young black people, they may indicate an increase in the 1970s.

If we take the data in figure 35 at face value, the pattern of increases and decreases from 1965 through 1981 in robbery homicide in Chicago is specified by the offender's age and race/ethnicity. The increase in robbery homicide from nearly zero in a typical month of 1965 to about 15 per month in 1974 (*see figure 5*) occurred in those offenses attributed to young offenders (*see figure 32*), especially young black offenders (*figure 35*). The slight increase from 1977 through 1981 occurred in robbery homicides attributed to young black and Latin offenders of every age group.

The demographic argument might suggest that the increase in the number of young black people from 1965 to 1974 (*see figure 11*) caused the increase in the number of robbery homicides attributed to young blacks. However, the number of young blacks continued to increase from 1974 through 1981, when the number of homicides attributed to young black offenders declined. If we argue that the population increase caused the homicide increase, then how do we explain the homicide decline?

Assault Homicide

We already have seen in figures 32 through 34 that the rapid increase in assault homicide in the mid- to late 1960s occurred in homicides attributed to every age group, except the very young and the elderly. But did this increase also occur for every racial/ethnic group? *Yes*, the increase in assault homicide from 1965 to 1970 occurred in offenses attributed to black offenders and Latin offenders of every age group (*figures 36 through 40*). (Because of the small numbers involved, especially for whites and Latins, these graphs contain yearly data.) Assault homicides attributed to white offenders in the 25-to-34 and the 35-to-59 age groups, but not in the teenage and young adult groups, increased. This increase happened despite the decrease in the older white population and the increase in the younger white population (*see figure 11*). For example, even though the number of whites in the population aged 25 to 34 declined from 1965 to 1970 (*see figure 11*), the number of homicides attributed to white offenders in this age group increased (*figure 39*).

In assault homicides attributed to teenage offenders (*figure 36*), those offenses attributed to black offenders increased more rapidly from 1965 to 1970 than those attributed to white or Latin offenders. Assault homicides attributed to teenage black offenders increased from 30 in 1965 to a peak of 101 in 1970 (*figure 36*), or from two or three in a typical month to about eight per month (*figure 37*). However, from 1970 to 1977, teenage black-offender assault homicide decreased, while assault homicides attributed to white and Latin teenagers increased slightly.

Although the number of assault homicides attributed to black offenders of every age group increased from 1965 to 1970, between 1970 and 1981, the patterns were different for different ages. We can see this most clearly in pattern descriptions of monthly data (shown only for *teenage offenders--figure 37*). Assault homicides attributed to 20-to-24-year-old black offenders remained at about nine per month from 1970 through 1975, then declined slightly to eight per month at the end of 1981. Assault homicides attributed to 25-to-34-year-old offenders remained at about 10 per month from 1973 through 1981, and those attributed to 35-to-59-year-old offenders decreased from 11 in a typical month of 1969 to six per month by the end of 1981. Thus, only those black-offender assault homicides attributed to teenagers (*figure 37*) increased from 1978 through 1981.

For assault homicides attributed to white and Latin offenders, the patterns from 1977 through 1981 were the same for every age group. Assault homicides attributed to white offenders of every age group from 15 to 59 declined or remained steady during this period; those attributed to Latin offenders of every age group increased from 1975 through 1981.

In summary, the increase in assault homicide from 1965 to 1970 occurred in homicides attributed to offenders of every racial/ethnic and age group. However, the increase in assault homicide in the late 1970s occurred only in offenses attributed to two groups: Latins of any age, and blacks aged 15 to 19.

Summary

Was the pattern of increases and decreases in total Chicago homicide from 1965 through 1981 specified by the age of the victim or offender? Did the increases and decreases occur only in homicides attributed to *offenders* in a particular age group, or in homicides of *victims* in a particular age group? The answer depends upon the specific time period in question.

Figure 36

Assault Homicides Attributed to Offenders Aged 15 to 19, by Race/Ethnicity

Year

Source: Chicago Police Department

Figure 37

Assault Homicides Attributed to Black Offenders Aged 15 to 19

Months (January 1965 to December 1981)

Source: Chicago Police Department
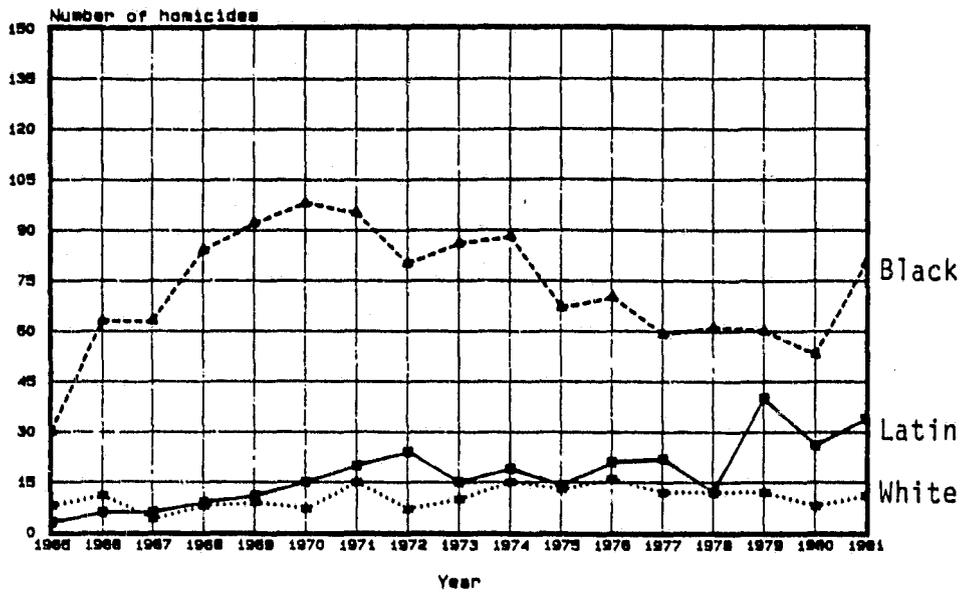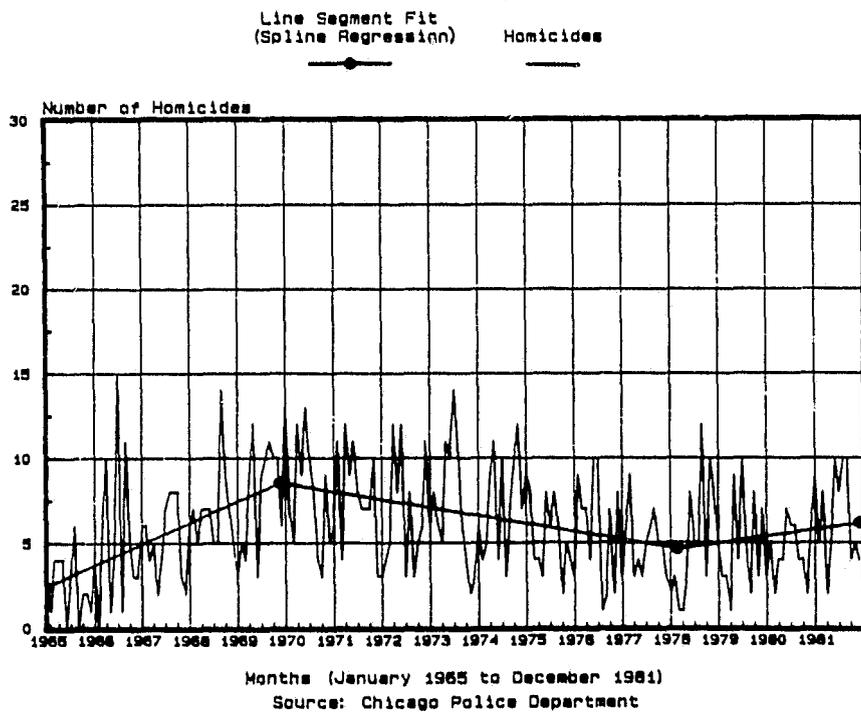
Figure 38
Assault Homicides Attributed to Offenders Aged 20 to 24, by Race/Ethnicity

Source: Chicago Police Department
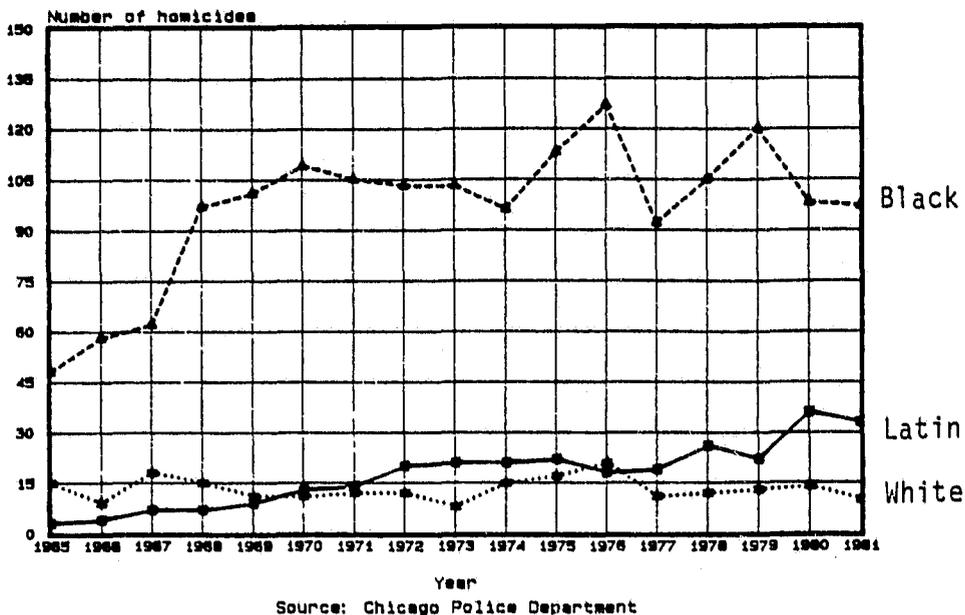
Figure 39
Assault Homicides Attributed to Offenders Aged 25 to 34, by Race/Ethnicity

Source: Chicago Police Department
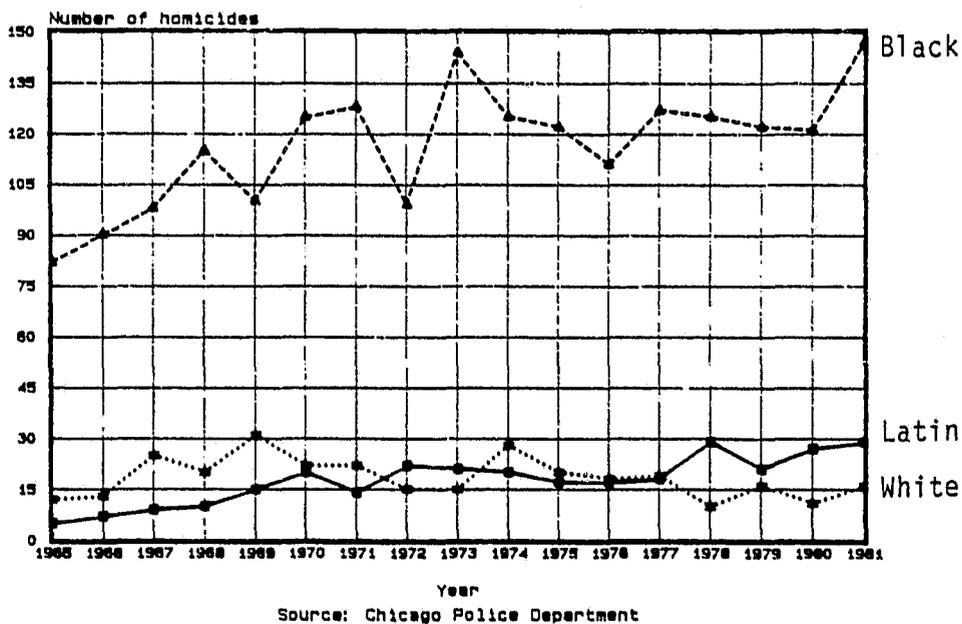
Figure 40
Assault Homicides Attributed to Offenders Aged 35 to 59, by Race/Ethnicity
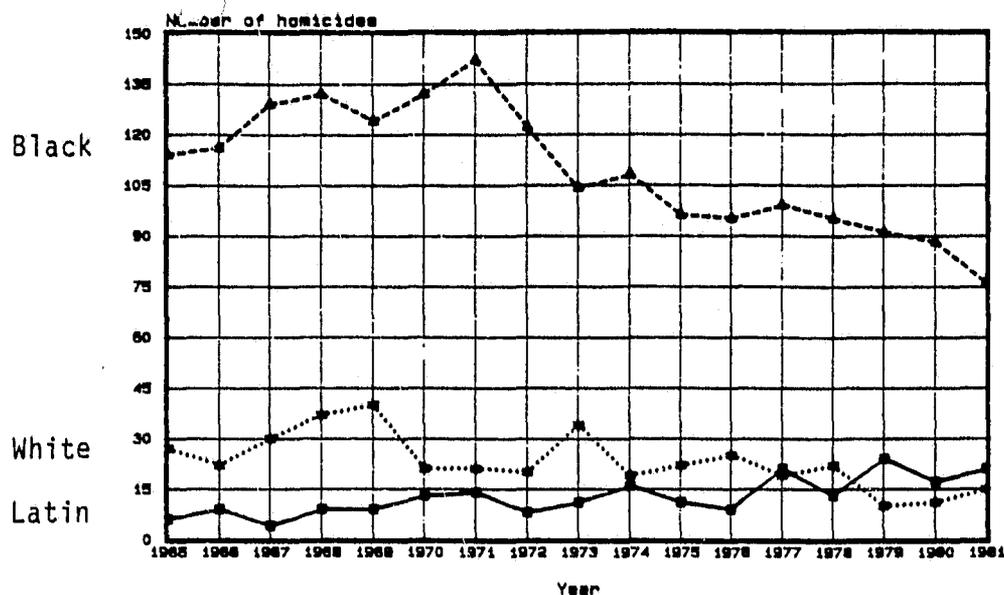
Source: Chicago Police Department

The general increase in homicide in the late 1960s was just that--a general increase. It oc-curred for all age groups and for all age/gender/race combinations of victims and offenders. From 1965 to 1970, homicides involving *all* age groups increased (if the homicide was committed with a firearm). Even at ages 35 to 59, homicide attributions and victimizations increased rapidly, de-spite the decrease in the population of that age group.

Although there was a general increase in the late 1960s, age-specific patterns did vary with the precipitating crime. The increase in adult (25 to 34) and middle-aged (35 to 59) victims oc-curred in *both* assault firearm homicide and robbery firearm homicide. However, the increase from 1965 to 1970 of victims aged 15 to 24 occurred mostly in firearm assault homicide, not in robbery homicide. In contrast, in homicide offense attribution patterns, *assault* homicides at-tributed to every age group from 15 to 59 increased from 1965 to 1969. However, the increase in *robbery* homicide attributions was largely confined to young offenders aged 15 to 24.

Age-specific homicide patterns diverge in the 1970s. The homicide peak in 1974 occurred only for these types of homicide: assault homicide and robbery homicide of victims aged 25 to 34 who were killed with a firearm; firearm robbery homicide of victims aged 35 to 59; and robbery homicides attributed to black offenders aged 15 to 24. Assault homicides attributed to Latin and black offenders aged 20 to 34 did not peak in 1974, but rather increased continually throughout the 1970s.

Age-specific homicide patterns from 1977 through 1981 also vary with the homicide cir-cumstances. The following kinds of homicide *increased* from 1977 through 1981: firearm assault homicide of victims aged 15 to 24 (especially black victims); firearm robbery homicide of victims aged 25 to 59; robbery homicide and assault homicide attributed to teenage offenders; and assault homicide attributed to Latins of any age. Assault homicides of black and Latin victims, especially teen/youth gang-related homicides, also increased sharply in 1981. On the other hand, other types of homicide *decreased* from 1977 through 1981: firearm assault homicide of victims aged

35 to 59; firearm assault homicide attributed to offenders aged 35 to 59; homicide attributed to white offenders of any age; and assault homicide attributed to black offenders aged 20 to 24 and 35 to 59.

Thus, the pattern of change over time of robbery homicide is specified by both victim's age and offender's age. Robbery homicide of victims aged 25 to 59 and robbery homicide attributed to offenders aged 15 to 24 followed the same pattern of change over time as robbery homicide as a whole. Robbery homicide involving victims and offenders of other age groups changed very little over the 17 years.

Summary and Discussion

Summary of Homicide Patterns over Time

This report uses *time series specification* to examine similarities and differences in the patterns of change over time in many types of Chicago homicide. Included in the analysis are categories of the race/ethnicity, gender, and age of victims and offenders, all within other categories of precipitating crime, weapon, and number of offenders. The following is a summary of the time series specification findings.

One of the most important tasks of this time series specification is not to show which explanations for the increases and decreases in Chicago homicide are possible, but to eliminate from consideration those explanations that are *not* possible. Therefore, this summary stresses not only those types of homicide that changed over time but also those homicide types that did not change.

In addition, remember that conclusions regarding robbery homicide offender patterns are unreliable, because the number of cases in which the offender's identity is not known varies over time with the number of homicides. However, in some specific cases, the patterns over time of robbery homicide attributed to a certain group of offenders were so strong that the time series specification conclusions would be logical no matter what the characteristics of the unsolved cases were. Only these very strong patterns are included in this summary.

Types of Homicide that Were Stable

Certain types of homicide *did not change* over the 17-year period from 1965 through 1981. Although these homicide types increased or decreased from month to month, the number occurring in a typical month remained at a stable level throughout, with little or no pattern of increases or decreases. These types of homicide, therefore, cannot account for the tremendous increases and decreases that took place in the number of Chicago homicides as a whole during the 17 years.

These stable homicide types are the following:

- Robbery homicide committed without a firearm
- Assault homicide committed without a firearm (after 1966)
- Rape homicide
- Burglary homicide
- Black-on-Latin homicide (assault and robbery)
- Black-on-white assault homicide
- White victims of teen/youth gang-related homicide
- Robbery homicide of female victims (except for a slight increase in 1974)
- Assault homicide of white or Latin female victims
- Female-on-female homicide
- Child abuse homicide
- Murder of the elderly by the young
- Robbery homicide attributed to offenders aged 35 to 59

If these types of homicide did *not* explain the very rapid increase of Chicago homicide from the late 1960s to the mid-1970s and the increase from 1977 through 1981, what types of homicide *did* increase during those periods?

Patterns in the Late 1960s

Many, but not all, types of homicide increased between 1965 and 1970 in Chicago. In general, homicide that began as a fight, brawl, or argument (assault homicide) peaked in 1970 and declined afterward. Homicide that began as a robbery not only increased sharply from 1965 to 1970, but continued to increase after 1970. The large number of homicides in 1970, therefore, was a result of a high number of both assault homicides *and* robbery homicides.

The following are the types of homicide responsible for the peak in 1970:

– Assault Homicide:
- Homicide committed with a firearm
- Teen/youth gang-related homicide (black or Latin victims)
- Homicide attributed to black male or female offenders
- Male black-on-black or Latin-on-Latin homicide (all ages)
- Homicide attributed to multiple offenders aged 15 to 24

– Robbery Homicide:
- Homicide committed with a firearm
- Homicide of black or Latin male victims

– Apparently Strong Robbery Homicide Offender Patterns:
- Homicide attributed to black multiple offenders
- Homicide of black or white victims attributed to blacks
- Homicide attributed to offenders aged 15 to 34

The 1974 Peak

The number of homicides occurring in Chicago in a typical month increased tremendously from 1965 to 1974. However, the peak in 1974 involved mostly robbery homicide. Many types of assault homicide had already begun to decline by 1974. The 1974 peak, therefore, cannot be explained by those kinds of homicide that were decreasing; it can be explained only by those homicide types that were increasing.

The following are the homicide types that peaked in 1974:

– Assault Homicide:
- Homicide committed with a firearm
- Latin victims of teen/youth gang-related homicide
- Homicide attributed to white multiple offenders
- Male-on-male homicide (peaked in 1973)
- Homicide of victims aged 25 to 34

– Robbery Homicide:
- Homicide committed with a firearm
- Homicide of black or Latin male victims
- Homicide of victims aged 25 to 59

– Apparently Strong Robbery Homicide Offender Patterns:
- Homicide attributed to black multiple offenders
- Homicide attributed to black offenders aged 15 to 24
- Black-on-black homicide

The following types of homicide *decreased* in the mid–1970s:

– Assault Homicide:
- Homicide committed without a firearm
- Multiple–offender homicide
- Black victims of teen/youth gang–related homicide
- Homicide attributed to female offenders
- Black–on–black homicide
- Firearm homicide attributed to Latin male offenders
- Black multiple–offender homicide
- Homicide attributed to black offenders aged 15 to 19 or 35 to 59
- Black victims aged 15 to 24

– Robbery Homicide:
- Homicide of white victims

– Apparently Strong Robbery Homicide Offender Patterns:
- Black–on–white robbery homicide

Patterns from 1977 through 1981

In general, the period from 1977 through 1981 saw a decrease in assault homicide and an increase in robbery homicide. However, not all types of assault homicide decreased, and not all types of robbery homicide increased. To explain the increase in total Chicago homicide between 1977 and 1981, we must find an explanation that applies to the types of homicide that increased, not to the types of homicide that did not increase.

The following types of homicide increased from 1977 through 1981:

– Assault Homicide:
- Homicide attributed to black or Latin multiple offenders
- Teen/youth gang–related homicide (black or Latin victims)
- White–on–Latin and Latin–on–white homicide
- Male–on–male homicide
- Male Latin–on–Latin homicide
- Firearm homicide attributed to white male offenders
- Homicide attributed to Latin offenders (all age groups)
- Homicide of black male victims aged 15 to 24
- Homicide attributed to black offenders aged 15 to 24

– Robbery Homicide:
- Homicide committed with a firearm
- Homicide of black or Latin victims (any age group)
- Homicide of male victims
- Homicide of victims aged 25 to 59

– Apparently Strong Robbery Homicide Offender Patterns:
- Black–on–black homicide
- Homicide attributed to Latin offenders aged 15 to 24
- Homicide attributed to offenders aged 15 to 24

The following types of homicide *decreased* from 1977 through 1981:

– **Assault Homicide:**
  - Homicide attributed to a single offender
  - Homicide attributed to white multiple offenders
  - White-on-white and black-on-black homicide
  - Homicide attributed to black offenders
  - Non-firearm homicide attributed to white male offenders
  - Homicide of white or black male victims
  - Female-on-male and male-on-female homicide
  - Homicide of female victims
  - Homicide of victims aged 35 to 59
  - Homicide attributed to white or black offenders aged 35 to 59

– **Robbery Homicide:**
  - Homicide of white victims

– **Apparently Strong Robbery Homicide Offender Patterns:**
  - Homicide attributed to black multiple offenders
  - Black-on-white homicide
  - Homicide attributed to black offenders aged 15 to 24

In general, almost every type of homicide involving Latin victims or offenders increased from 1977 through 1981. This pattern occurred for assault homicide involving Latin males of every age from 15 to 59, and for robbery homicide involving Latin male victims of every age and Latin male offenders aged 15 to 24. On the other hand, most kinds of homicide involving black victims or offenders decreased from 1977 through 1981. The only two exceptions--homicide of black victims aged 15 to 24 and homicide of black victims of teen/youth gang-related violence--accounted for a large proportion of black victims, however.

Most of the change in robbery homicide over the 17 years occurred in black-on-black and Latin-on-Latin offenses. Robbery homicide attributed to black offenders increased tremendously between 1965 and 1974; there were fewer than 10 in 1965 and more than 90 in 1974. Between 1974 and 1981, however, black-offender robbery homicide decreased as rapidly as it had increased. The 1965-1974 increase and the 1974-1981 decrease were largely in homicides of black, not white or Latin, victims, and there is no evidence of an increase in interracial robbery homicide from the late 1970s through 1981. Latin-on-Latin robbery homicide, though much less frequent than black-on-black robbery homicide, increased throughout the 17 years, especially in the late 1970s. For both blacks and Latins, most of the change over time in robbery homicide occurred in those offenses attributed to young offenders aged 15 to 24, and in homicide of older victims aged 35 to 59.

Even though weapon use is not of great importance in analysis from the aggregate perspective, it is extremely important from the perspective of patterns of change over time. Homicide committed without a firearm changed little over the 17 years. The rapid increases and decreases in Chicago homicide as a whole occurred only in homicide committed with a firearm.

In summary, all kinds of homicide (except those committed without a firearm) increased rapidly in the 1960s, but in the 1970s, the increase or decrease in some kinds of homicide depended on the offender's or victim's race/ethnicity, gender, or age. The increase of the mid-1960s occurred for all racial/ethnic groups and for all ages; the peak in 1970 occurred mostly in firearm assault homicide involving blacks; the peak in 1974 occurred mostly in firearm robbery homicide involving both blacks and Latins; and the increase from 1977 through 1981 occurred in Latin assault homicide and in black and Latin robbery homicide.

The Demographic Hypothesis

Many researchers and journalists attributed the tremendous increase in homicide in the mid-1970s to the increase in the number of young black men in the population. But do the results of this time series analysis support the demographic hypothesis as an explanation for the pattern of change from 1965 through 1981 in Chicago homicide?

The demographic hypothesis consists of two parts: first, that increases and decreases in the number of homicides can be explained by increases and decreases in the number of homicides committed by young people, especially young black men; and second, that the reason for the pattern of increases and decreases in homicides by youths or young black men is a corresponding pattern of increases and decreases in their numbers within the population. Our analysis, however, did *not* support the second part of this hypothesis. Throughout the analysis, we repeatedly found that population increases coincided with homicide decreases and population decreases coincided with homicide increases, for specific race/gender/age groups.

However, was the *first* part of the demographic hypothesis supported? Was the pattern over time of Chicago homicide--the rapid increase of the 1960s, the continued increase of the early 1970s, the brief decline in 1975 and 1976, and the increase from 1977 through 1981--evident only in murders involving one or more population groups, or did the pattern occur without regard to race/ethnicity, gender, and age? In the 1960s, all kinds of homicide, except those without a firearm, increased. On the other hand, in the 1970s, the increase or decrease in some kinds of homicide depended on the offender's or victim's race/ethnicity, gender, or age. Certain population groups seem to have been responsible for the peak in 1974 and the increase from 1977 through 1981. However, no *single* population group was responsible for the entire pattern.

Whatever caused the rapid increase in Chicago homicide in the late 1960s had an effect on homicide involving every racial/ethnic group, despite differing population patterns. But even though all types of homicide increased, the peak in 1970 was especially apparent in teen/youth gang-related homicide and in black-on-black firearm assault homicide, particularly those attributed to multiple offenders. Teen/youth gang-related homicide, which seems to occur in spurts (either very many or very few in a given year), had two extremely high years between 1965 and 1981--1970 and 1981.

Homicide patterns in the 1970s were more complex. In the first half of the decade, many kinds of homicide declined, or at least remained stable; teen/youth gang-related homicide and black-on-black assault homicide declined sharply. In fact, gang homicide was very low in the mid-1970s, which was a peak period for many other types of homicide. At the same time, however, robbery homicide, in particular firearm robbery homicide of a black or Latin victim, increased sharply, causing a second peak in total Chicago homicide in 1974. Thus, from 1970 to 1974, when black-on-black *assault* homicide, including teen/youth gang-related homicide, decreased, black-on-black *robbery* homicide increased very rapidly. In other words, two kinds of homicide involving the same population group changed in opposite directions during the same time period. Clearly, this does not support the demographic hypothesis.

After 1974, the *total* number of homicides in Chicago declined, but certain kinds of homicide still increased. The disparate patterns are especially evident in the period from 1977 through 1981. One of the most rapidly increasing types of homicide during this period was assault homicide involving Latin males, particularly teen/youth gang-related homicide and multiple-offender homicide. Male-on-male assault homicide, especially homicides with multiple offenders and those committed with a firearm, was an increasing problem in Chicago's Latin community through 1981. In contrast, all types of homicide involving white victims continued to decline in the 1970s, and most types of homicide involving black victims or offenders also declined. Even some types of homicide that had increased rapidly in the 1960s, such as black-on-black assault homicide or robbery homicide attributed to black multiple offenders, declined in the late 1970s. Again, these patterns do not correspond with population patterns. For example, the population of

blacks of every age group from 15 to 59 increased during the entire 17 years, but only assault homicide involving black teenage victims or offenders increased in the late 1970s.

In summary, changes in homicide victimization and offense patterns do not simply reflect population changes over time. Patterns of change over time in the number of homicides involving each age group are different for different racial/ethnic groups and genders, and these race/gender/age patterns do not necessarily coincide with increases and decreases in the population of the corresponding group.

Unexpected and Unexplained Findings

In the time series specification of Chicago homicide, the most conspicuous patterns are the increases and decreases in almost every type of homicide involving black victims and offenders. For example, the increase in black-on-black robbery homicide from 1965 to 1974 was more than ten-fold, and the decrease from 1974 to 1981 was almost as rapid. Although other analyses of homicide in the United States have prepared us to see high black homicide rates, the degree to which black homicide increases and decreases *over time* is surprising. What could cause this volatile pattern? Clearly, such huge increases and decreases cannot be explained away by a demographic argument. And it would strain credibility to maintain that a change such as the increase in black-on-black robbery homicide from seven offenses in 1965 to 113 in 1974 is nothing but chance variation. That leaves us with a question, which the present analysis has articulated but has not answered: What explains the tremendous increase of black homicide in the early years, and why did it decline in the later years?

Specification of the pattern of black homicide over time does not explain these increases and decreases, but it does narrow the search for an explanation. We know, for example, that most of the change in both robbery homicide and assault homicide involving blacks resulted from change in those homicides committed with a firearm; homicide committed with other weapons changed little, if at all, during the 17 years. We also know that the pattern over time of robbery homicide differs from the pattern of assault homicide. In addition, we know that, while the increase in the late 1960s occurred in homicide involving victims and offenders of every age group, the peak in 1974 and the increase from 1977 through 1981 occurred in robbery homicide attributed to 15-to-24-year-old offenders. The increase from 1977 through 1981 also was caused by an increase in assault homicide attributed to teenagers, and this increase reflects the extremely high number of teen/youth gang-related assault homicides in 1981. Perhaps this profile of change over time in black homicide can provide a foundation for hypotheses that might explain high murder rates in the black population.

Our first impression in describing change over time in the number of homicides involving white victims and offenders is that nothing much happened. There was no rapid increase or decrease to rival the 1965-1974 increase in black homicide. However, this first impression may be deceptive. The white victimization rate per 100,000 population for assault homicide increased 40 percent between 1970 and 1980 (*see companion paper*), and certain kinds of white assault homicide increased numerically, despite population decreases. For example, the number of assault homicides attributed to white middle-aged offenders increased rapidly from 1965 through 1969, although their population decreased rapidly. White multiple-offender assault homicide peaked in 1974, although the number of whites of all ages in the population was declining rapidly by then, and firearm assault homicide attributed to white males increased from 1979 through 1981. In addition, assault homicide attributed to white teenagers and white-on-Latin assault homicide both increased through the mid- to late 1970s.

Since the white "community" in Chicago is not monolithic, but instead includes a variety of ethnic groups who live in widely separated neighborhoods, it makes sense to ask whether these assault homicide increases involved specific ethnicities or whether they occurred only in specific neighborhoods. Certain groups in the white population—perhaps ethnic groups, immigrant groups, or neighborhood groups—may have experienced a rapid increase in homicide. One way to answer

this question would be to analyze Chicago homicide neighborhood by neighborhood. This analysis would add a spatial dimension to the aggregate and time dimensions already described.

Even though homicide involving Latin victims and offenders is much less frequent than homicide involving blacks, Latin homicide increased from a very small number in 1965 to a considerable number in 1981. Just as the aggregate analysis shows that Latin homicide, in contrast to white or black homicide, almost always is precipitated by an assault between adult males, the time analysis shows that the increase in Latin homicide over the 17 years occurred only in homicide involving males aged 15 to 59, and occurred largely in firearm assault (not robbery) homicide. Thus, Latin homicide followed a very different pattern over time from black homicide or white homicide. Latin firearm assault homicide, especially multiple-offender and gang-related assault homicide, peaked in 1972, was steady or decreasing from 1974 to 1976, and increased rapidly from 1977 through 1981. The number of Latin robbery homicide victims increased sharply from 1964 to 1976, decreased in 1977 and 1978, then was high from 1979 through 1981, lagging behind the firearm assault homicide pattern by several years.

Why do the patterns over time of white homicide, black homicide, and Latin homicide differ? Remember that these different patterns occur even though factors such as precipitating crime, weapon, number of offenders, and race/age/sex-specific population changes are held constant. If the societal changes (for example, changes in unemployment, firearm availability, and population density, or law enforcement programs to reduce teen/youth gang violence or control street robbery) that are thought to generate increases and decreases in the number of homicides operated in the same way on each racial/ethnic group, then homicide patterns over time would be similar for whites, blacks, and Latins. Since the patterns are different, these societal changes must affect the three racial/ethnic groups differently. In order to reduce the number of homicides or prevent a recurrence of huge increases such as the 1965-1974 jump in black homicide, we must first know how specific societal changes affect homicide involving specific groups in the population. Time series specification has laid the foundation for an explanatory study that would enable us to answer this question.

From Description to Explanation

Analyzing homicide is more complex than it may seem. In the first place, homicide is not one crime, but many. Conclusions about homicide that begins as a fight, brawl, or argument may not be true for homicide that begins as a robbery. In the second place, aggregate differences in the propensity to commit homicide or to be a victim of homicide are not necessarily associated with differences over time in the number of homicides occurring. Variables that are important in explaining patterns in the aggregate of all homicides may not be important in explaining patterns of change over time, and *vice versa*.

The matter is further complicated by the fact that the appropriate methods for analyzing homicide from the aggregate perspective are not the same as the methods for analyzing homicide from the time series perspective. We can derive an accurate description of homicide only by looking at it from *both* perspectives. Yet, the methods for doing so require two separate kinds of analysis.

In our two companion reports, we have attempted to conduct a thorough, exhaustive description of Chicago homicide from these two perspectives. The purpose was elementary *description*; the analysis made no prior assumptions, even about the relationship between population size and homicide. And instead of merely describing homicide *rates* for a few select years, we portrayed the *patterns* of homicide involvement by different racial/ethnic, gender, and age groups (and their combinations) over all 17 years. One of the most important reasons for doing such an exhaustive descriptive analysis is to lay a foundation for an *explanatory* analysis. What have we learned that might help us explain the rapid increases and decreases in the number of homicides in Chicago from 1965 through 1981? How can we find out how to prevent another tremendous increase in homicide, such as the increase from 1965 to 1974, from happening again?

One explanatory theory supported by the results of our descriptive analysis is a two-stage theory of gang-related violence. The peak years in the number of multiple-offender robbery homicides lag a few years behind the peak years in the number of multiple-offender assault homicides. This pattern is true for white, black, and Latin offenders alike. Thus, 1970 was a peak year for assault homicide attributed to young black offenders and for black teen/youth gang-related assault homicide. A few years later, in the mid- and late 1970s, a high number of multiple-offender robbery homicides were attributed to slightly older black offenders. This lag is consistent with the argument that violent teen/youth gangs develop into adult criminal organizations. A period of heavy youth gang recruitment, reflected in a high number of territorial disputes and gang fights, might be followed a year or two later by a high number of predatory crimes committed by the same group. The same cohort of people may move from violence among rival gangs to planned and organized predatory robberies. Whether or not such an evolution of gangs did indeed happen cannot be determined using these data, however. Such an analysis would require case-by-case review of offender characteristics.

The differing patterns of change over time in homicide involving whites, blacks, and Latins of different ages suggest that an explanatory analysis of the effect of *social disorganization* on particular race/gender/age cohorts might be worthwhile. For example, although the increase in the Latin population was not large enough to account for the increase in Latin homicide, especially the very rapid increase in the number of homicides involving young Latin men, population growth may have had an *indirect* effect. There may have been a threshold effect—the population increase may have been so rapid that it overtaxed the capacity of support facilities in Latin neighborhoods. Agencies, such as churches, schools, youth clubs, and neighborhood associations, that ordinarily would defuse potentially volatile domestic situations or feuds between neighbors might have been unable to handle the additional pressure of a rapidly growing population.

Both the aggregate analysis and the time analysis found that age differences are not the same for homicide involving whites, blacks, and Latins. For whites and Latins, assault homicide attributed to teenagers, young adults, and middle-aged people followed similar patterns over time. However, for blacks, assault homicide attributed to each age group followed a distinctive pattern, even though the population patterns over time of the age groups were very similar. It is possible that these race-specific age differences over time reflect the differing experiences of different cohorts of white, black, and Latin ethnic groups. Social disorganization caused by rapid population growth (especially of the Latin population, but also of blacks aged 15 to 34) and by the stress of immigration to a big city (not only on the first generation but also on the second) may have produced black and Latin birth cohorts responsible for peak numbers of homicides.

The time series specification analysis looked at the effects of period and detailed age categories (victim and offender, age by race by gender) on the number of homicides in Chicago over the 17 years. It did not examine the effect of cohort. However, in specifying the differing patterns of change over time in types of homicide involving specific age/gender/race groups, we were able to determine some questions that an explanatory study of the joint effects of age, period, and cohort might answer.

In analyzing age, period, and cohort, these factors must be considered:

● Participation in robbery homicide and assault homicide should be analyzed separately, with particular attention to assault homicide for whites and Latins, multiple-offender assault homicide for Latins, and robbery homicide and domestic homicide for blacks.

● Because age and period effects apparently vary with race/ethnicity, we should also expect to find different cohort effects for whites, blacks, and Latins. A joint study of age, period, and cohort should attempt to determine the extent to which race-specific age and period differences really reflect the experiences of first and second generation immigrant cohorts.

● The age effect probably will be less for Latins (crime will not diminish with age as much as it will for whites or blacks). This will be especially true for assault homicide.

● An age/period/cohort analysis should consider carefully the cohort of young black men who were teenagers in 1970.

Our companion papers have described Chicago homicide from two perspectives--the aggregate perspective and the time perspective. To explain some of the unexpected and unexplained findings, however, we may need to describe Chicago homicide from still another perspective--a spatial one. For example, some of the increase in white/Latin homicide may reflect territorial conflict between existing white ethnic groups and Latin immigrants competing for the same housing. A spatial analysis would describe geographical relationships, first in the aggregate of all 17 years, and second, over time.

Appendices

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Chicago Homicide in State and National Context

There is some indication that Chicago is not atypical of other large U.S. cities in terms of homicide. In 1981, Philadelphia's homicide rate of 22 per 100,000 population was somewhat lower than Chicago's rate of 29; the rates in New York (26) and Los Angeles (29) were about the same, and the rates in Houston (39) and Detroit (42) were higher.[13] If homicide risk were calculated another way, the lifetime risk of being murdered, Chicago residents had a risk of 57-to-1 in 1971 and 1972 and a risk of 54-to-1 in 1976 and 1977 (*Barnett, et. al., 1980*). Of the 50 other largest U.S. cities, nine had higher lifetime murder risks; in the 50 cities combined, the risks were 67-to-1 in 1971 and 1972 and 70-to-1 in 1976 and 1977.

Chicago is typical not only in its homicide rate, but also in the general pattern over time in the level of homicide. Although comparable police data are not available for urban areas during the 1965-1981 period, homicide mortality data for metropolitan areas (*figure 41*) show the same rapid increase in the 1960s, a slower increase in the early 1970s, a brief decline, and then another increase.[14] In addition, the pattern of murder rates from 1968 through 1981 in the nation's 52 largest cities combined was similar to this pattern (*Cook, 1984b*), although individual cities varied from it (for example, Los Angeles experienced a "murder wave" in 1980, and New York City had an artifactual low in 1976 when it reported only six months of data to the FBI).

Figure 41
Homicide in Metropolitan United States: White and Non-White Victims

*Standard Metropolitan Statistical Areas
SOURCE: National Center for Health Statistics
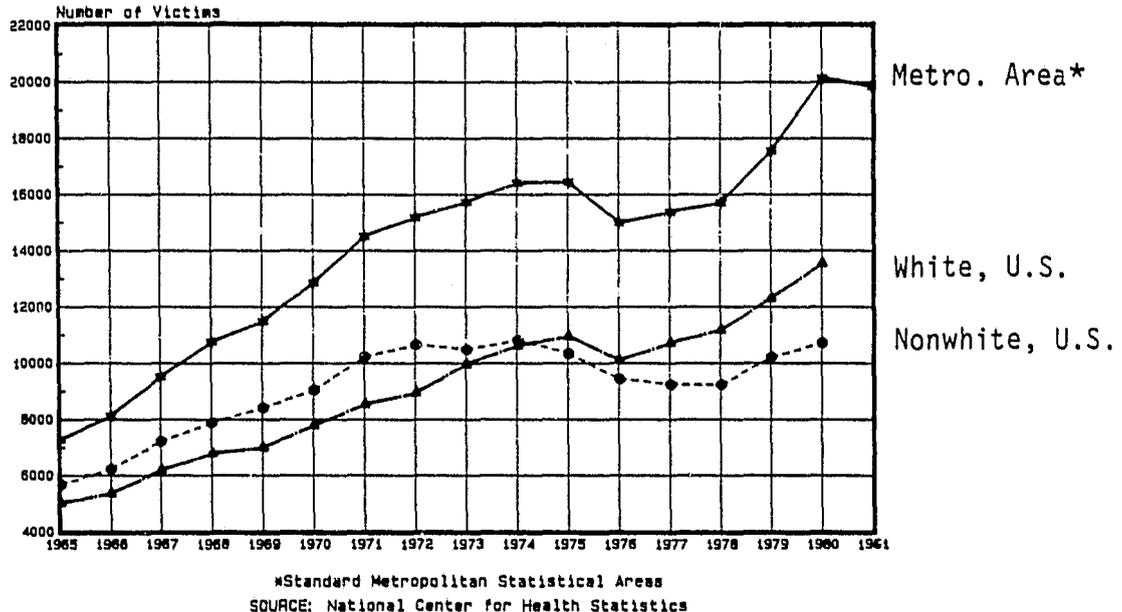
Homicide of non-white victims in the United States as a whole (*figure 41*) followed the same pattern from 1965 to 1980 as did homicide of black victims in Chicago (*see figure 12*). Both

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types rose rapidly from 1965 to 1970, continued to increase (but at a less rapid rate) from 1970 to 1974, fell from 1975 to 1977, and then increased again. However, these patterns may also be regional. Mercy, *et al.*, (1983) found that the 1974 peak in non-white homicide rates did not occur in the Northeast region of the country.

On the other hand, the pattern of white homicide victimizations in Chicago is *not* similar to the national pattern. This is due partially, though not entirely, to the decline of the white population in Chicago. The number *and* the rate of white homicide victimizations climbed in the United States in the second half of the 1970s, but the number *and* rate declined in Chicago.

It is possible that Chicago patterns over time are typical of *Northern* cities, but not of cities in other regions of the country. Rose (1984) found that homicide rates in Atlanta declined from 1970 to 1980. Block, *et al.*, (1983) found that the pattern from 1940 to 1977 of homicide in the Pacific states differed from the pattern in all other regions. In other regions of the country, the homicide victimization rate peaked in the mid-1970s, but in the Pacific states, it increased rapidly and continually from 1964 to 1977, with no sign of reaching a peak. This finding agrees with Cook's (1984b) finding for Los Angeles.

The pattern of change in the number of homicides in the 1960s and 1970s in Chicago is similar to the patterns in two other large Northern cities, Detroit and Philadelphia (*figure 42*).[15] Homicide in all three cities increased rapidly in the 1960s, reached a peak in about 1974, declined briefly, and increased again in 1980. Rose (1984) found that the pattern of homicide rates in St. Louis from 1965 to 1980 was similar to the pattern in Chicago and other Northern cities, but that the pattern in Atlanta was different.

Figure 42
Homicide in Detroit, Philadelphia, and Chicago

Year
SOURCE: Uniform Crime Reporting Division, FBI
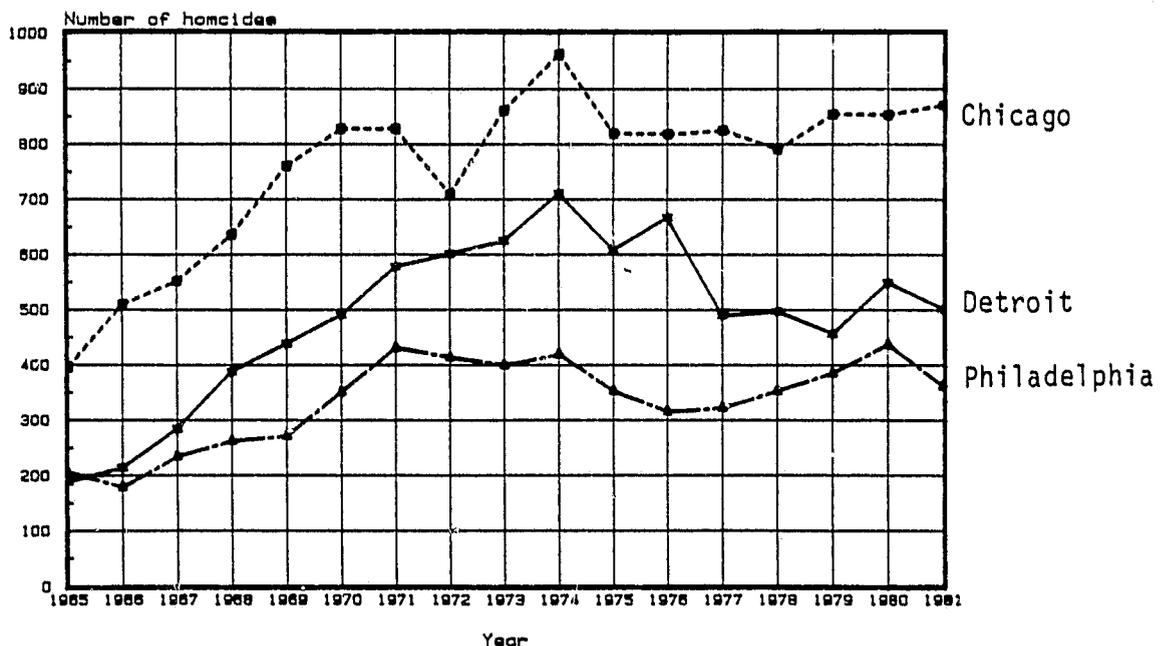
Although this general pattern of change over time may be only regional, it is not necessarily only urban. In Illinois, time series data beginning in 1973 (*figure 43*) indicate that the number of homicides occurring Downstate (Illinois outside Chicago) followed a pattern over time similar to the pattern of homicides occurring in Chicago. The number of Downstate homicides peaked late in 1974, as did the number of Chicago homicides. (The extreme number of Downstate murders in November 1978 does not represent homicides that occurred in that month, but the discovery in November of the bodies of victims of a serial murderer.) Thus, although the number of homicides occurring in Chicago is always much higher than the number occurring in the rest of the State, the patterns of change over time are similar from 1973 through 1981.

Figure 43
Homicide in Illinois: Chicago and Downstate

Number of homicides known to the police

Month, January 1965 to December 1981
Sources: Chicago Police Department, Authority Victim-Level SHR Murder Data Set
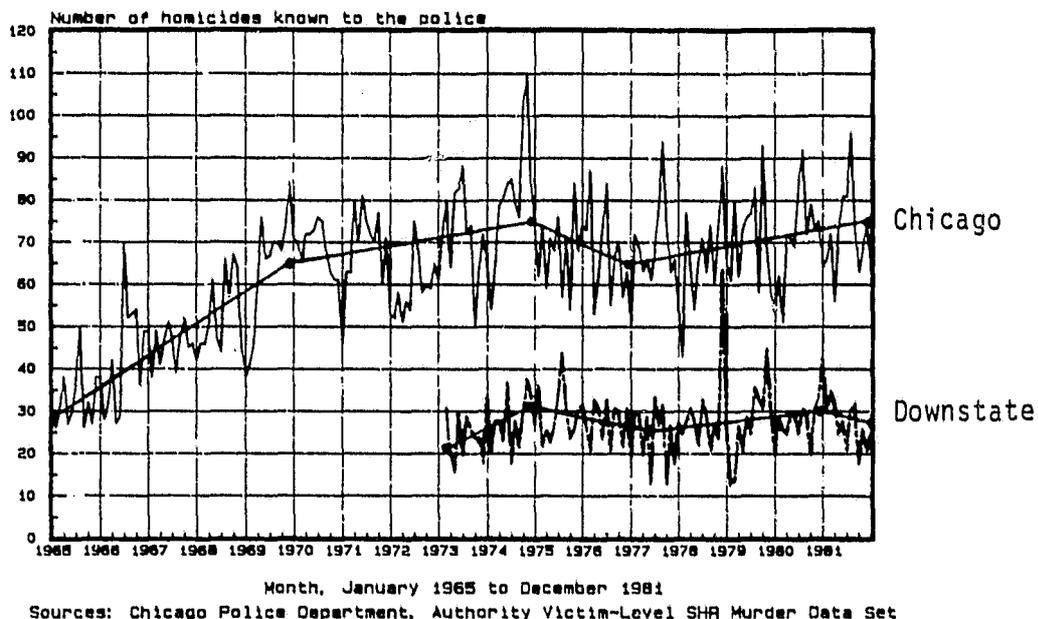
The patterns over time of homicide of black victims in Detroit and Philadelphia (*figure 44*) are remarkably similar to the pattern of black victims in Chicago (*see figure 12*) and the pattern of non-white victims in the United States as a whole (*figure 41*). From 1965 to 1970, the black population increased 16 percent in Detroit and 10 percent in Philadelphia, but black homicide increased much faster than the population did--by 150 percent in Detroit and 64 percent in Philadelphia. In Detroit, black homicide increased more rapidly and the increase continued longer than in Philadelphia or Chicago. Rose (1984) also found rapid increases in the black homicide victimization rates of St. Louis and Atlanta from 1965 to 1970.

In Chicago, Detroit, and Philadelphia, black homicide victimization peaked in 1974, then declined. Again, the decline was faster and lasted longer in Detroit, despite the continued increase in the black population (15 percent from 1970 to 1980). Black homicide victimization in Philadelphia, on the other hand, *increased* from 1976 to 1980. This increase, combined with a 2 percent decline in Philadelphia's black population from 1970 to 1980, produced an increase in the black victimization rate from 39 to 52 per 100,000. In contrast, the respective 1970 and 1980 black victimization rates were 56 and 49 in Chicago and 57 and 59 in Detroit. Black homicide in

Chicago also fell from 1974 through 1977, then increased (see figure 12). Although Rose's analysis is not so detailed, it appears that black homicide in St. Louis followed a pattern similar to Chicago, Detroit, and Philadelphia in the 1970s, but that black homicide in Atlanta declined sharply during the decade.

Figure 44
Homicide in Detroit and Philadelphia, by Race/Ethnicity

Number of homicides
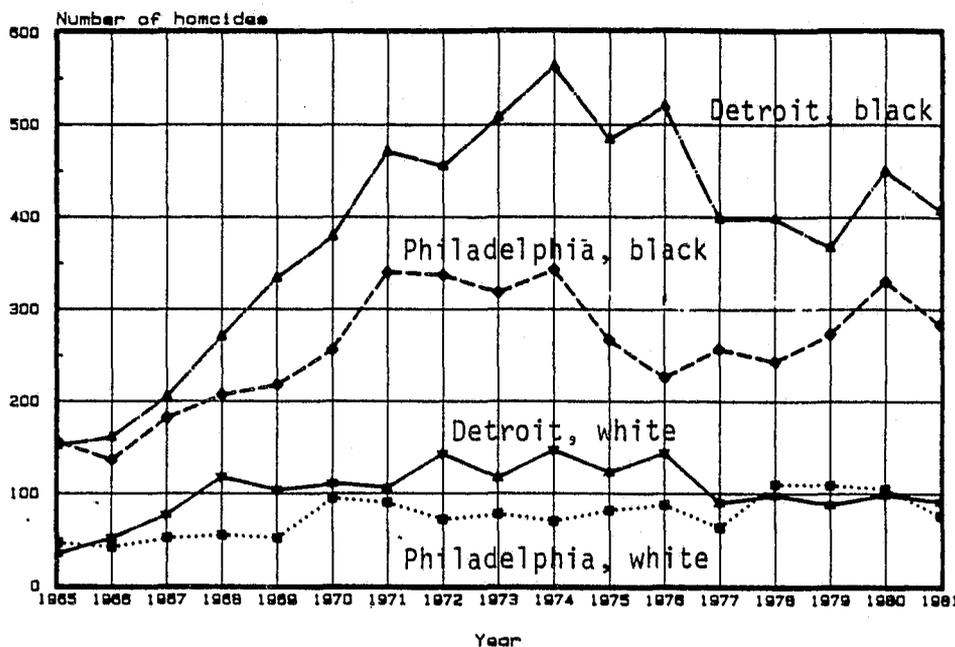
SOURCE: Uniform Crime Reporting Division, FBI

Not one of these three large Northern cities has a white victimization pattern over time that is similar to the national pattern.[16] In Detroit, homicide of white victims follows the same pattern over time as homicide of black victims, which is also the same pattern as homicide of white victims in Chicago (see figure 12). From 1965 to 1970, the non-black population of Detroit fell 16 percent, while the number of non-black homicide victims more than doubled; from 1970 to 1980, the number of non-blacks fell 48 percent, and the number of non-black homicides decreased only 12 percent. The non-black population of Philadelphia also declined throughout the 17 years--6 percent from 1965 to 1970 and 19 percent from 1970 to 1980. Homicide of non-black victims in Philadelphia almost doubled from 1965 to 1970, but fell 32 percent to a low of 65 offenses in 1977. Thus, it did not peak in the mid-1970s, as did homicide of black victims in Philadelphia. However, white homicide increased in the late 1970s, when black homicide also increased, and it declined in 1981.

In Downstate Illinois, homicides of white victims constituted slightly more than half the total number of homicides from 1973 through 1981. The number of white victims in a typical month increased slightly from 14 at the beginning of 1965 to 16.5 at the end of 1974, then remained at exactly the same level through 1981. The number of black victims in a typical month also increased, from 7.5 in 1973 to 12 at the end of 1974. However, the dip in 1977 and increase between 1977 and 1980 in total Downstate homicides (figure 43) occurred only in homicides of black victims.

Thus, the pattern from 1965 through 1981 of *black* homicide victimization in Chicago bears some similarity to the patterns of black (or non-white) homicide victimization in the nation as a whole and in Detroit, Philadelphia, St. Louis, and Downstate Illinois. In contrast, the pattern from 1965 through 1981 of *white* homicide victimization in Chicago is not similar to the pattern of white victimization in the nation as a whole. It is, however, similar to the patterns of white (or non-black) homicide victimization in Detroit, Philadelphia, and Downstate Illinois. Nationally, the number of white homicide victims increased rapidly from 1976 to 1980. This pattern did not happen, however, in Chicago, Detroit, Philadelphia or Downstate Illinois. In general, it appears that the rapid increase in homicide in the second half of the 1970s may have occurred in the Pacific states, but not in the North or North Central states. Also, from the analysis of Downstate Illinois, it appears that this Northern homicide pattern was not limited to the largest cities. However, additional analyses of patterns in other places would be necessary to determine whether these tentative conclusions were, in fact, the case.

The patterns of black-victim homicide are similar in Chicago, Detroit, Philadelphia, St. Louis, and the nation as a whole. Is the pattern over time of homicide victimization of young black men, a group with a comparatively high homicide risk, similar in Chicago and the nation as a whole? Although comparable figures are available only from 1970 to 1978 (*figure 45*), the two patterns for those years are roughly similar. In both Chicago and the nation, the victimization risk is less for 15- to 19-year-olds than for 20- to 24-year-olds, and the rates fell from 1974 to 1978. Rates in Chicago are higher than in the nation as a whole, probably reflecting the higher rates in large cities. However, the most striking thing about figure 45 is that the victimization rates are so high, approaching 250 per 100,000 population in 1970 for black men in Chicago aged 20 to 24.

Figure 45
Victimizations of Young Black Men: Chicago and the United States

Homicide rate per 100,000 population

Year
Sources: Chicago Police Department, U. S. Centers for Disease Control
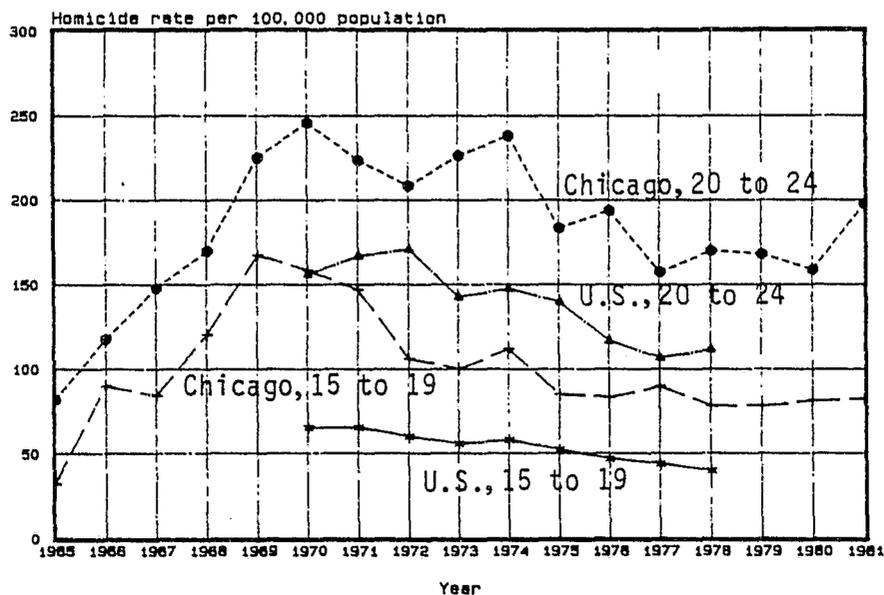
APPENDIX II

Gender and Location

Our analysis of Chicago homicide, in both the companion paper and the present paper, has concentrated on describing patterns of race/ethnicity, gender, and age, and patterns of types of homicide associated with race/ethnicity, gender, and age—namely, patterns involving precipitating crime, weapon, and number of offenders. Other homicide types, however, are associated with certain population groups. For example, the location of the homicide is associated with gender (*figure 46*).

Figure 46
Homicides Out-of-Doors or in a Vehicle

Month, January 1965 to December 1981
Source: Chicago Police Department
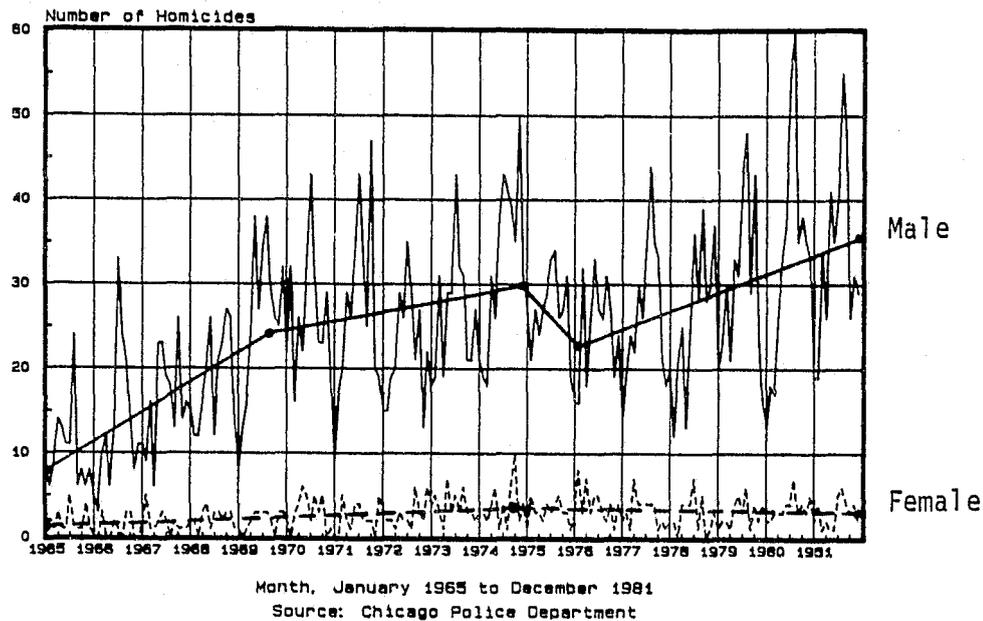
Location refers to the place where the victim's body was found, which is not necessarily the place where the murder occurred. For example, bodies are sometimes found in the trunks of cars at O'Hare Airport, and "floaters" are found in Lake Michigan or the Chicago River. Homicides in which the body was found out-of-doors are the only type of Chicago homicide found to fluctuate with the the seasons (*see "Methods" and Block, 1984b, for details*).

Female victims are more likely than male victims to be murdered inside a residence, rather than inside a non-residence, out-of-doors, or in a vehicle. Even though women are more likely to be murdered in the home than anywhere else, there are still more men than women murdered at home. However, the *pattern over time* of homicide within a residence or within a non-residence is the same for both male and female victims.

Illinois Criminal Justice Information Authority

In contrast, the patterns over time of homicides occurring out-of-doors or in a vehicle differ for male and female victims (*figure 46*). The pattern of homicides involving male victims accounts for the pattern of homicides out-of-doors or in a vehicle. Homicide of male victims increased through most of the 17 years, while homicide of female victims hardly changed. Note that the male-victim pattern in figure 46 is very similar to the pattern of male-on-male assault homicide seen in figure 22, to the pattern of homicide of young black males (*see figure 28*), and, in fact, to the pattern of Chicago homicide as a whole (*see figure 1*).

Yearly Frequencies: Some Less Common Precipitating Crimes

Table 1
Total Chicago Homicide and Less Frequent Homicide Types, by Year

	Precipitating Crime				Total Chicago Homicides
	Rape	Burglary	Teen/Youth Gang Assault	Arson	
1965	3	2	12	21	395
1966	11	1	11	4	510
1967	7	2	19	3	552
1968	5	5	53	9	636
1969	3	6	60	4	760
1970	15	9	69	8	828
1971	15	2	60	6	828
1972	9	0	49	7	709
1973	15	6	34	3	861
1974	10	8	33	6	963
1975	5	4	12	4	819
1976	8	2	20	45	818
1977	11	10	30	15	825
1978	7	5	23	6	790
1979	1	5	66	11	854
1980	3	1	38	15	853
1981	5	5	83	13	871
Total	133	73	672	180	12,872

Notes

[1]The average homicide rate for the years 1920 through 1925 was 12.6 per 100,000 population (*Brearly, 1932*); the rate was 10.4 in 1926 and 10.6 in 1927 (*Lashly, 1929*).

[2]The lowest number of homicides in any month from 1931 to the present was seven, in April 1943. The highest month in the 1930s was 42 (August 1931); this number was not equaled in the 1940s or 1950s, and was not exceeded until July 1964 (*Source: Crime Analysis Unit, Chicago Police Department*).

[3]For an explanation of the "line segment fit" superimposed on figure 1, see *Methods*.

[4]Because arson homicides tend to claim multiple victims (*see "Methods"*), the number of arson homicide *victims* differs greatly from the number of arson homicide *incidents*. A few multiple-victim incidents could easily skew calculations such as the "percent of arson homicides attributed to a female offender." For example, an arson homicide in January 1976, in which 14 elderly people were killed, constitutes a third of the arson homicides attributed to females.

[5]The demographic hypothesis received almost universal support in the 1970s (*Wolfgang and Ferracuti, 1967:258-264; Wolfgang, 1970:35-39, 1977; Sagi and Wellford, 1968; Ferdinand, 1970; Chilton and Spielberger, 1971; Moynihan, 1973; Wilson and DuPont, 1973; Wellfoad, 1973; Blumstein and Nagin, 1975; Land and Felson, 1976; Toby, 1977; Empey, 1978; Zimring, 1978; Vetter and Silverman, 1978:53; Cohen and Felson, 1979; Kleck, 1979; Blumstein, et al., 1980:3; Jones, 1980; Brown, et al., 1982*). The influential government report, *The Challenge of Crime in a Free Society* (*United States, 1967b:27, 1967a; also Mulvihill and Tumin, 1969:80-85*), which heralded the "War on Crime," stated, "One of the most significant factors affecting crime rates is the age composition of the population." However, some research did support the other side of the argument: Forst (1977); Archer and Gartner (1976); Block and Block (1980); Chaiken and Chaiken (1983:18-19); and (for victims) Barnett, Kleitman, and Larson (1975). Shin (1981), in a carefully conducted study (*see DasGupta, 1978, for the method*), concluded that the age/race/sex structure of the population accounted for, at most, 10 percent of the change from 1930 to 1975 in the national homicide mortality rate.

[6]In 73 percent of the homicides in the seven years for which data are available (1975 through 1981), at least one person was arrested.

[7]These arrest percentages are based on all cases occurring from 1975 through 1981. For earlier homicides, arrest information was not recorded.

[8]Although it is stated frequently in the press and elsewhere (*see Spergel, 1984*) that the Chicago Police Department uses gang membership as the criterion for classifying a crime as teen/youth gang-related, according to Sgt. Timothy Tidmarsh of the department's Crime Analysis Unit, this is a misconception. The department has used *gang-related motive* as the criterion since at least the mid-1970s, and probably before. The source of this error appears to be a report by Miller (1982:5-6, Chap. IV).

[9]Although most race tabulations for 1960 use *non-white* instead of *black* as a definition, all of the figures in this paper are based on specific data for *Negro* in 1960 (*see table 96, Census of the Population: 1960, Volume I*).

[10]There were more men than women; the ratio female/male was .93 for Latins, compared with 1.11 and 1.17 for whites and blacks, respectively. The Latin median age was younger (22 for both men and women) than the white (39) or black (25) median ages. A greater proportion of the population was younger than 5 years old and a lesser proportion was 65 and older than in the white and black populations (*Source: 1980 Census of Population, General Population Characteristics, Illinois, table 31*).

[11]Domestic homicide is defined as being killed by a spouse, ex-spouse, common-law spouse, boy- or girlfriend, or ex-boy- or ex-girlfriend in a homicide that began as a fight, brawl, or argument.

[12]Source: Chicago Department of Planning. Note that the definition of Latin changes from Spanish *speaking* in 1970 to Spanish *origin* in 1980 and 1981. Therefore, these figures must be interpreted *very* cautiously.

[13]Source: *Crime in the United States, 1981*. The Houston rate is for 1980.

[14]We are grateful to James Mercy of the Center for Health Promotion and Education, Centers for Disease Control, for these data. Population rates are impossible to calculate, because the SMSA population (1970 definition) is not available for all years. The data used here are collected by the Centers for Disease Control from medical examiners' offices throughout the country. The data include not only murder and voluntary manslaughter, but also involuntary manslaughter and homicides resulting from legal intervention. However, medical examiner data and police data track each other very closely over time (*Cantor and Cohen, 1980*). In Cook County, the correlation between the two data sets in the three years from 1977 through 1979 was .94.

[15]We are grateful to Kenneth W. Candell and the staff of the Uniform Crime Reporting Division of the FBI for compiling these data. Of the six largest U.S. cities, this paper compares only Detroit and Philadelphia with Chicago, not only because they are large Northern cities but also for data quality reasons. Neither New York City nor Houston reported homicides to the FBI for all 17 years. Also, in New York City and Los Angeles, the definition of race/ethnicity changed for both population and homicides, and the changes did not occur in the same year.

[16]Accurate victimization rates for whites and Latins are not available. Both the Census definition and the official FBI definition for race/ethnicity changed between 1970 and 1980. The implementation of the FBI change did not occur in the same year in all cities, and did not necessarily occur in the same year as the Census change. In a comparison of FBI data with police data in Chicago, FBI definitional changes do not seem to affect the number of black homicides, but do affect the number of white *vs.* other homicides.

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