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DIFFERENT TIME, SAME PLACE, SAME STORY? A SOCIAL
DISORGANIZATION PERSPECTIVE TO EXAMINING JUVENILE HOMICIDES

by

MINNA K. LAURIKKALA
B.S. University of Florida, 2002
M.A. University of Central Florida, 2005

A dissertation submitted in partial fulfillment of the requirements
for the degree of Doctor of Philosophy
in the Department of Sociology
in the College of Sciences
at the University of Central Florida
Orlando, Florida

Summer Term
2009

Major Professor: Jay Corzine

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ABSTRACT

In 2007, juveniles were involved in a minimum of 1,063 murders in the United States (Federal Bureau of Investigation, 2008), and a concern over juvenile homicide offenders remains. While increasingly more macrolevel research on juvenile homicide offending has been accumulated, particularly since the 1980s, research focusing on macrolevel correlates of juvenile homicides is still relatively scarce (MacDonald & Gover, 2005; Ousey & Campbell Augustine, 2001). In the first part of this study, several variables relating to the offender, victim, setting, and precursors to the homicide by race and gender were examined in order to provide details on the context of youth homicides between 1965 and 1995 in Chicago. The *Homicides in Chicago, 1965-1995* data set and Census data for 1970, 1980, and 1990 were used in this study. The results indicate that changes in youth homicides over the 31-year time period involved increases in lethal gang altercations, particularly among Latinos, and increases in the use of automatic weapons. Young females had very little impact on homicide rates in Chicago. The second part of the study examined whether measures of social disorganization can aid in the prediction of homicides committed by youths, and a total of ten negative binomial models were run. The results of the analyses in the three time periods indicate that racial/ethnic heterogeneity, educational deprivation, unemployment, and family disruption are significantly and positively related to homicides. Foreign-born population and median household income were found to be significantly and negatively related to homicides. The significant indicators of social disorganization varied in the seven models for the disaggregated groups. Overall, the results reflect support for social disorganization theory. Limitations, suggestion for future research, and policy implications are also addressed.

To my mother Liisa.

ACKNOWLEDGMENTS

I owe a special debt of gratitude to my dissertation chair, Dr. Jay Corzine, for his guidance, time, and commitment throughout this dissertation process. I include in this thanks my appreciation for the generous opportunities to teach a variety of classes and the chances to conduct research in several projects. I want to thank Dr. Lin Huff-Corzine whose help and mentorship extends beyond this dissertation and her role as a member of my dissertation committee. I wish also to thank my other dissertation committee members, Dr. Jason Ford and Dr. Mark Lanier (in alphabetical order), for their helpful comments and support throughout the process.

I want to thank my peers who offered endless support, encouragement, and many much-needed laughs along the way. I especially want to thank Dr. Rae Taylor for her camaraderie during all the hours spent studying and working together, for all the laughs, comic relief, and helpful advice—and for being a wonderful friend. I am looking forward to a continuation of collaboration with Dr. Christa Polczynski Olson on future research endeavors and I want to thank her for sharing her statistical expertise on more than one occasion.

I want to extend my thanks to the faculty at the sociology department at UCF. I especially want to thank Dr. Jana Jasinski for all her guidance and help throughout the years—she always had an answer for every possible question and her commitment to the success of the doctoral students is greatly appreciated. I also want to thank Tonya Walker and Tami Pullin for taking care of all the logistical matters in the office.

The data used in my dissertation were collected by Dr. Carolyn Block and Dr. Richard Block and I am thankful for their several decades long data collection efforts and making the

data available for researchers to use. I am also grateful for the assistance provided by Richard Gause at the UCF library for his help in downloading three decades of census data from the library archives—a task that seemed like a massive undertaking at one point.

Finally, I want to thank all of my family and friends for balancing my life outside of school and keeping me in check about all the other important things in life during times when school *could* have (and on many occasions did) consume every minute of the day. Donovan, you have truly been my rock during the last hurdles of the doctoral program and I thank you for that from the bottom of my heart. Lastly, I want to thank my mother Liisa for her endless support and encouragement she has provided over the years. Without the continuous support of my friends and family, this dissertation hardly would be written, so thank you all.

TABLE OF CONTENTS

LIST OF FIGURES	xii
LIST OF TABLES	xiii
CHAPTER ONE: INTRODUCTION.....	1
Outline for Chapters.....	5
CHAPTER TWO: LITERATURE REVIEW	8
Age-Related Concepts	9
Race and Involvement in Homicides	10
The Importance of Disaggregating Homicide Data by Race	12
Homicide and Latinos	13
Structural Factors, Race, and Homicide.....	15
Race and Family Disruption	18
Poverty in Urban Neighborhoods	21
Ethnic Heterogeneity	22
Gender Patterns.....	23
Victim-Offender Relationship	25
Patterns of Juvenile Homicide Offending.....	27
Circumstances	28
Weapons.....	29
CHAPTER THREE: THEORETICAL FRAMEWORK.....	34
Social Disorganization Theory	35
Criticisms of Social Disorganization Theory.....	36

Extension of Social Disorganization Theory	38
A Comprehensive Test of the Theory by Sampson and Groves	38
Bursik and Grasmick.....	39
Empirical Support for Social Disorganization Theory	40
CHAPTER FOUR: DATA, HYPOTHESES, AND METHODOLOGY	43
The Present Study	43
Hypotheses.....	44
Hypothesis 1: Offenders’ Race, Age, and Gender	44
Hypothesis 2: Number of Offenders	45
Hypothesis 3: Victims.....	46
Hypothesis 4: Setting	46
Hypothesis 5 Victim-Offender Relationship	47
Hypothesis 6: Circumstances	48
Hypothesis 7: Weapons.....	48
Hypothesis 8: Test of Social Disorganization Theory	49
Hypothesis 9: Disaggregated Tests of Social Disorganization Theory.....	50
Homicide Data	51
Variables	53
Data Analysis	56
Indicators of Social Disorganization.....	56
Unit of Analysis	58
Dependent Variables	60
Offset Variables	61

Data Analysis	62
CHAPTER FIVE: PART ONE RESULTS.....	64
Population Characteristics	65
Hypotheses 1 and 2: Offenders.....	66
Race.....	66
Gender.....	69
Age.....	72
Age and Gender	72
Age and Race	76
Multiple Offenders.....	80
Gender and Multiple Offenders	81
Race and Multiple Offenders	84
Hypothesis 3: Victims.....	88
Victim-Level Data	89
Gender of Victims.....	90
Race of Victims.....	92
Age of Victims.....	94
Hypothesis 4: Setting.....	96
Locations.....	96
Do the Locations Differ for Males and Females?.....	99
Do the Locations Differ by Race/Ethnicity?.....	103
When Did the Homicides Occur—Month, Day, and Time?.....	107
Do Males and Females Differ in Terms of When They Commit Homicides?	108

Do Blacks, Whites, and Latinos Differ in Terms of When They Commit Homicides? .	114
Hypotheses 5, 6, and 7: Precursors	119
Victim-Offender Relationship.....	120
Gender and Victim-Offender Relationship.....	123
Race and Victim-Offender Relationship.....	126
Circumstances Leading to the Homicide Incident	127
Circumstances by Gender	129
Circumstances by Race	131
Weapons.....	133
Gender and Weapons	134
Race/Ethnicity and Weapons	136
Summary and Conclusion to Part One.....	138
CHAPTER SIX: RESULTS OF THE NEGATIVE BINOMIAL MODELS	143
Negative Binomial Models	145
Testing Social Disorganization Theory Using the 1970 Census.....	146
Testing Social Disorganization Theory Using the 1980 Census.....	148
Testing Social Disorganization Theory Using the 1990 Census.....	150
Average Annual Offending Rates.....	152
Test of Social Disorganization Variables for Whites.....	154
Test of Social Disorganization Variables for Blacks	155
Test of Social Disorganization Variables for Latinos.....	158
Test of Social Disorganization Variables for Males	159
Test of Social Disorganization Variables for Females.....	165

Summary and Conclusion to Part Two	166
CHAPTER SEVEN: POLICY IMPLICATIONS, DISCUSSION, AND CONCLUSION.....	171
Who, Why, When, and Where?	171
Applying Social Disorganization Theory to Understanding Young Killers.....	174
Policy Implications	175
Legal System Response to Young Killers	180
Limitations	183
Suggestions for Future Research	184
APPENDIX A: VARIABLE NAMES AND DEFINITIONS FOR HOMICIDE DATA	187
APPENDIX B: CENSUS VARIABLES	192
APPENDIX C: MODELS FITTING REGRESSIONS	203
LIST OF REFERENCES	209

LIST OF FIGURES

Figure 1: Map of City of Chicago in 1990.....	143
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LIST OF TABLES

Table 1: Race of the Offenders	67
Table 2: Gender of the Offenders	70
Table 3: Race and Gender of the Offenders.....	72
Table 4: Age of the Offenders by Gender.....	75
Table 5: Age of the Offenders by Race	77
Table 6: Number of Offenders Involved in an Incident by Gender	83
Table 7: Number of Offenders Involved in an Incident by Race.....	87
Table 8: Summary of the Victims' Gender, Race, and Age	91
Table 9: Locations of Homicide Incidents.....	97
Table 10: Locations of the Homicides by Gender	101
Table 11: Locations of the Homicides by Race	104
Table 12: Month of the Homicide Incident by Gender.....	110
Table 13: Day of the Week of the Homicide Incident by Gender	112
Table 14: Time of the Homicide Incident by Gender	114
Table 15: Month of the Homicide Incident by Race.....	116
Table 16: Day of the Week of the Homicide Incident by Race	118
Table 17: Time of the Homicide Incident by Race.....	119
Table 18: Relationship of the Offender to the Victim by Gender.....	125
Table 19: Relationship of the Offender to the Victim by Race	127
Table 20: Circumstances Leading to the Homicide Incident by Gender	130
Table 21: Circumstances Leading to Homicide Incident by Race.....	132
Table 22: Type of Weapons Used by Gender.....	135

Table 23: Type of Weapon Used by Race	137
Table 24: Descriptive Statistics for the Indicators of Social Disorganization for the 1970, 1980, and 1990 Censuses	144
Table 25: Negative Binomial Regression Analysis for the Estimated Effects of Social Disorganization on Homicides, 1970 Census	146
Table 26: Negative Binomial Regression Analysis for the Estimated Effects of Social Disorganization on Homicides, 1980 Census	149
Table 27: Negative Binomial Regression Analysis for the Estimated Effects of Social Disorganization on Homicides, 1990 Census	151
Table 28: The Average Annual Homicide Offending Rates for Selected Groups Ages 10-19	154
Table 29: Negative Binomial Regression Analysis for Whites	155
Table 30: Negative Binomial Regression Analysis for Blacks.....	157
Table 31: Negative Binomial Regression Analysis for Latinos.....	159
Table 32: Negative Binomial Regression Analysis for Males, 1970 Census	160
Table 33: Negative Binomial Regression Analysis for Males, 1980 Census	162
Table 34: Negative Binomial Regression Analysis for Males, 1990 Census	164
Table 35: Negative Binomial Regression Analysis for Females	166

CHAPTER ONE: INTRODUCTION

The most recent national report on juvenile offenders and victims released by the Office of Juvenile Justice and Delinquency Prevention shows that, in 2007, law enforcement agencies made 2.18 million arrests of persons under the age of 18 (Puzzanchera, 2009). In almost half of the arrests, the most serious charge was larceny-theft, simple assault, a drug abuse or a liquor law violation, disorderly conduct, curfew violation or loitering (Puzzanchera, 2009). National homicide rates indicate that between the mid-1990s and 2002, there was a decline in the number of murders committed by juveniles (Snyder & Sickmund, 2006). The two most recent Uniform Crime Reports (UCR) from 2006 and 2007 indicate that the proportionate involvement of juveniles in homicides has remained relatively stable, even showing a slight decline. In 2006, 6.4% of the murders involved a juvenile offender, and in 2007, 6.2% of the homicides involved a juvenile offender (Federal Bureau of Investigation, 2007; Federal Bureau of Investigation, 2008). Thus, juveniles were involved in a minimum of 1,111 murders in the United States in 2006 and in a minimum of 1,063 murders in 2007 (Federal Bureau of Investigation, 2007; Federal Bureau of Investigation, 2008). The majority of youth homicide¹ offenders are males (Ewing, 1990; Federal Bureau of Investigation, 2007; Federal Bureau of Investigation, 2008; Heide, 1999). For example, in 2007, 92.3% of the juvenile offenders were male (Federal Bureau of Investigation, 2008).

The most recent peak in juvenile homicides occurred in 1993. That year a total of 20,285 arrests were made for murder, and 3,284 arrests involved persons under the age of 18 (Heide, 1999). The Federal Bureau of Investigation (FBI) data from 1985 to 1993 indicate that the

¹ By *homicide*, I refer to criminal homicides, to the intentional and/or illegal killing of another human being. This definition excludes killings that are deemed as justifiable, such as killings in self-defense.

number of juveniles arrested for murders and their relative proportion of all murder arrestees increased for 10 consecutive years (Heide, 1998). Blumstein (1995) argues that the increase in juvenile homicides in the mid-1980s can be attributed to recruitment of young persons into illicit (crack) markets, who in turn, protected themselves with guns. Therefore, the increase in homicides by young persons during this period, has been largely impacted by the increase in the utilization of guns. Blumstein (1995) notes that the number of homicides committed by guns more than doubled between 1985 and 1992, while no change in non-gun homicides was evidenced for the same time period. Another suggested contributing factor for the increases is an upsurge in gang-related homicides. For example, Rosenfeld et al. (1999) found that, in St. Louis, while neither gang-motivated or gang-affiliated homicides played a significant role in homicides during the 1980s when both types of homicides represented approximately less than 5% of all homicides, gang homicides began increasing in 1989, and gang-motivated homicides peaked in 1993, constituting nearly 20% of all homicides that year.

One possible explanation for the homicide increases is more juveniles in the population. Indeed, during the 1960s and 1970s, several studies concluded that as much as half of the increase in crime could be contributed to proportionate increases in the *number* of young persons (Phillips, 2006). However, Phillips (2006) argues that “the common wisdom of a universal relationship between age structure and crime is overly simplistic” (p. 231), a notion supported by researchers who have noted that the increase in youth homicides in the mid-1980s occurred during a period when the number of young persons under age 18 had been declining (Blumstein, 1995; Ewing, 1990). Therefore, contrary to intuitive appeal, the increase in homicides committed by juveniles cannot be attributed to an increase in the juvenile population over the past decade (Heide, 1999).

Although it has been over a decade since the most recent peak in juvenile homicides occurred, a concern over juvenile homicides remains, and further understanding of the etiology of juvenile homicide is called for. Several, highly publicized and to some extent sensationalistic reports of kids killing, for example the reports of school massacres at Columbine High School in Littleton, Colorado in 1999, and at Jonesboro, Arkansas in 1998, may in part contribute to the level of public concern over juvenile crime, including murders. The problem is, however, that some of the fears may be based on misconceptions, rather than on social science research. Indicative of this, the U.S. Department of Health and Human Services (HHS) released *The Surgeon General's Report on Youth Violence* in 2001. This report identified numerous myths that the public commonly has about youth violence. Some of the commonly held misconceptions include the belief that a new violent breed of young superpredators threatens the United States, transferring juveniles to criminal courts will reduce recidivism, and that "nothing works" in treating or preventing violent behavior.

To begin with, I want to clarify that in this project, the approach is taken that homicide is an event in which several factors converge—offender characteristics, victim-offender relationship, weapons involved in the incident, location, and precursors to the homicide—all play a role. That being said, this study advances the understanding of juvenile homicide offending in two significant ways. First, this study examines contextual variables relating to the offender, victim, setting, and precursors to homicides over a 31-year time period across different racial groups and between genders. This leads to a comprehensive analysis of youth homicide across groups over a long period of time. This type of empirical research has important implications for prevention. An examination of homicide patterns among youth over time can offer insights into the causes of offending, and thus this line of information has important implications for policy.

Second, this study conducts a test of social disorganization theory. The goal is to examine whether indicators of social disorganization can significantly aid in the prediction of homicides across time, race/ethnicity, and gender. The importance of focusing on racial factors is underscored by the disproportionate involvement of blacks in violent offenses, including youth homicides (e.g., Ousey, 1999; Snyder & Sickmund, 2006). For example, in 2007, blacks constituted 37.9% of the arrestees for homicides (Federal Bureau of Investigation, 2008), while they constituted only about 13.0% of the population (U.S. Census Bureau, 2008). Among persons under the age 18, the racial disparity is even greater—62.4% of the arrestees were black, while 35.0% of the arrestees were white (Federal Bureau of Investigation, 2008). Alarming, the Centers for Disease Control and Prevention (2008) report that, in 2004, homicide was the leading cause of death for black males between the ages 15 to 34. Comparatively, homicide was the second leading cause of death for Hispanic males and the third leading cause of death for white males aged 15 to 34. In this study, race and ethnicity is disaggregated into non-Hispanic whites, blacks, and Hispanics/Latinos. The Latino population in the United States increased significantly between 1980 and 2000, and as Martinez (2002) points out, this upsurge occurred concurrently with the increasing rates of homicide. This might have contributed to many prevailing myths about the criminality of Latinos, although most recent studies have shown that immigrants do not commit more criminal offenses than U.S. citizens (Butcher & Piehl, 2008; Martinez, 2002; Rumbaut, 2005). Moreover, research on Latino involvement in homicides is still a relatively under-explored area of homicide research (Martinez, 2000; Martinez & Lee, 1999). Therefore, this study advances our understanding of how structural factors impact youths from various racial and ethnic backgrounds, as well as between genders.

Outline for Chapters

In chapter two, the literature on juvenile homicide offending will be reviewed. The chapter begins with a review of the significant demographic correlates of homicide: age, race, and gender. As noted above, race in particular warrants significant attention in homicide research because of the disproportionate involvement by minorities. Since this study focuses on structural correlates of homicide with an emphasis on patterns by race, research on structural explanations of race differences in homicide offending will be carefully reviewed. Beeghley (2003) asserts the following: “the concept of *social structure* is a jargon term, peculiar to sociology. In plain language, it refers to how the context affects action” (p. 13). More formally, however, Beeghley notes that social structure refers to the shift in emphasis from social psychological explanations to social structural explanations of violence. For example, a social structural explanation could focus on rates of single-headed households—does this type of structural arrangement impact youths’ behavior? This study aims to provide answers to questions such as this in order to provide a comprehensive picture of how structural conditions are related to youth homicides.

In addition to age and race, the third strong correlate of criminal offending is that of gender. The presence of the gender gap, with males committing significantly more crimes than females, is well noted by researchers (e.g. Chesney-Lind, 1989; Hindelang, 1971; Miethe and Regoeczi, 2004; Steffensmeier et al. 2005). This gender gap in offending is also evident if rates of homicide are being investigated. As with adult homicides, youth homicides appear to be mainly a male phenomenon. For example, in 2006, 93% of the juvenile offenders were male (Federal Bureau of Investigation, 2007). Consequently, macrolevel research that has focused on the relationship between structural disadvantage and urban violence has typically focused on males (Steffensmeier & Haynie, 2000). In the present study, the analyses are run separately for females

to determine whether structural factors impact male and female youth homicide offenders differently. Research on gender differences will be reviewed in this section to evaluate what research has concluded about gender differences in homicide offending. The review on the correlates of homicide will be followed by discussion of what research has shown about the patterns of juvenile homicide offending in general, victim-offender relationship, and weapon usage, as all these factors represent a part of the overall context of homicides.

Chapter three provides a discussion of the theoretical framework of this project, social disorganization theory. The chapter begins with a discussion of the work of Shaw and McKay (1969, [1942]) and their contributions, as well as criticisms of social disorganization theory. This is followed by a discussion on modern developments within the social disorganization perspective, including the work of Sampson and Groves (1993) and Bursik and Grasmick (1993).

Chapter four outlines the methodology for the study, including the research questions, data sources, and hypotheses. Descriptions of the variables, units of analysis, and data analyses are included in this chapter as well.

In chapter five, the result of the descriptive and bivariate analyses focusing on various variables relating to offenders, victims, setting, and precursors to homicide are discussed.

Chapter six includes the results for the negative binomial regressions testing social disorganization theory. Specifically, the results of the negative binomial analyses testing social disorganization theory during three different time periods (1965-1974, 1975-1984, and 1985-1995) will be summarized. Additionally, the results of the negative binomial regressions for the disaggregated groups (whites, blacks, and Latinos, males and females) will be discussed. In summary, this chapter reviews the results of eight separate negative binomial regression models. Lastly, chapter seven includes a summary of main findings, discussion of the limitations of this

study, brief summary of the legal justice response to young killers, policy implications, and suggestions for future research.

In conclusion, the aim of this project is twofold: first, to shed light on the plausible changes that occurred over time in the factors related to the context of youth homicides and whether the patterns are similar or different across race and genders; and second, to advance our understanding of how indicators of social disorganization impact youths over time and from various racial groups and both genders, thus adding to the body of literature that focuses on structural determinants of youth homicide.

CHAPTER TWO: LITERATURE REVIEW

The first part of the study is related to the overall context of youth homicides. The stance is taken that homicides take place when several factors converge. The offender and victim characteristics, the offender-victim relationship, the location of the incident, time, day and month of the incident, the weapon used, and the context all play a role in explaining why the homicide event might have occurred. This study provides insights into the question of how the context of homicides might have changed for youths from different racial and ethnic groups and across gender over time.

To begin with offender characteristics, criminologists have long recognized that certain variables are consistently related to crime. Edwin Sutherland (1992[1942]), for example, noted the significance of age, gender, race, social class, and community size as being variables consistently related to crime, and subsequent research has consistently supported his insights about the correlates of crime. The literature review begins with a discussion of these important correlates. As the following literature review will reveal, minorities, particularly young males, are disproportionately involved in homicides. This study will seek to explain this persistent pattern by focusing on structural factors that may impact crime. The theoretical framework for this study, social disorganization theory, will be reviewed in detail in chapter four. However, to highlight the connection between the empirical findings discussed in the following sections and the theoretical framework for the study, I want to note that studies have consistently shown how violent crime is concentrated in certain communities. These communities are characterized by such factors as family disruption, high rates of unemployment, economic deprivation, and racial segregation (e.g., Peterson & Krivo, 1993; Sampson, 1987; Shihadeh & Steffensmeir, 1994). In

other words, crime rates and the risk of victimization vary greatly by social context, which is evidenced by the fact that crime is more common in specific geographic areas (for example, the rates vary by cities, neighborhoods, census tracts, standard metropolitan statistical area (SMSAs), and so on) that are characterized by greater population mobility, heterogeneity, and lack of economic opportunities (Miethe & Meier, 1994). Following these insights from existing research, in this study measures of family disruption, measures of poverty, and racial heterogeneity were included. To reflect this, what research has established about these factors will be discussed in the literature review.

Age-Related Concepts

Age is such a significant correlate of criminal offending that the relationship is often referred to as the “age-crime curve.” Similar to other types of crimes, after peaking in late adolescence or as young adulthood, homicides decline with age (Blumstein, 1995). In a seminal article, Hirschi and Gottfredson (1983) argued that people commit fewer crimes as they age, regardless of various factors, including race, gender, and social class. In other words, no other factor besides age matters in explaining the age distribution in crime. Ninety-eight percent of juvenile homicide offenders are in their mid-teens to late teens, while those under the age of 13 represent a very small percentage of juvenile homicide offenders (Heide, 1999). In 2006, only 12 juvenile offenders arrested for murder were under the age of 12, while 610 offenders were between the ages of 13 to 16 (Federal Bureau of Investigation, 2007).

Young persons under the age of 18 constitute approximately 25.7% of the population in the United States, while 11.6% of the population is between the ages 10 to 17 as indicated by the 2000 Census (U.S. Census Bureau, 2008). Thus, more than 70 million persons in the United

States are under the age of 18, the group commonly referred to as *juveniles* (Snyder & Sickmund, 2006). Media and even researchers use several different terms to describe and refer to youths, which may be a point of confusion at times. For example, while many of the terms, such as youth, juveniles, and adolescents, are used interchangeably (Heide, 1999), they all have different connotations. Age is the determinant of juvenile or minority status and is a legislative decision (Heide, 1992), and youths under the age of 18 are typically designated as juveniles at the federal level and also in many states (Heide, 1999). Conversely, adolescence is a period of human development that typically begins around the age of 12 or 13, during which hormonal changes, growth spurts, psychological changes, and changes in intellectual abilities and motor skills occur (Heide, 1999). In this paper, several of the above mentioned terms are used interchangeably (youth, adolescents, and juveniles). Unless otherwise specified, all have the connotation that the author is referring to a person under the age of 18. While the focus of this study is on young homicide offenders, this study does not disaggregate the results by age. This is not done because the age of the offenders in the dataset used in this study, *Homicides in Chicago*, was coded into categories for the purposes of confidentiality.

Race and Involvement in Homicides

In addition to age, another significant correlate of homicide is that of race (Phillips, 2002). In 2007, 31.0% of persons arrested for murder were white, while 37.9% of the arrestees were black (Federal Bureau of Investigation, 2008). However, in 2006 blacks constituted only 12.4% of the population (U.S. Census Bureau, 2008). Comparatively, in 2006, whites made up 73.9% of the population and Hispanics 14.8% (Census Bureau, 2008). Regrettably, the reporting of Hispanics/Latinos in the Uniform Crime Report (UCR) is limited. While the category

“Hispanic” was used in the UCR in 1980, it was eliminated shortly thereafter due to police department inattention (Martinez & Lee, 1999). Consequently, most Latinos are being counted as either white or black in the UCR.

In other words, the risk of being involved in a homicide, either as an offender or victim, varies greatly by race (Ousey, 1999). It is well established that lethal violence is a serious problem for many African Americans, who are at risk of dying from homicide at a much higher rate than other racial groups (Peterson & Krivo, 1993). Indeed, Hawkins (1999) notes that, compared to other racial groups, for nearly a century research has shown that blacks are greatly overrepresented as both homicide offenders and victims. Consistently, with regard to juveniles specifically, other researchers (e.g., Ewing, 1990; Snyder & Sickmund, 2006) have noted that black youths are greatly overrepresented in murder arrests. While some of this racial disparity may be due to racial discrimination in the criminal justice system (Ewing, 1990; Harer & Steffensmeier, 1992), blacks are still more involved in homicides compared to whites.

Turning attention specifically to race and juvenile arrests for murder, data have shown that between 1984 and 1994, compared to white juvenile homicide offenders, the increase in black juvenile offenders was significantly greater. While the number of white juveniles arrested doubled, the number of black juveniles arrested quadrupled (Snyder & Sickmund, 2006). In 2007, of the 1,063 murders involving juveniles, 372 offenders (35.0%) were white and 663 (62.4%) were black (Federal Bureau of Investigation, 2008). It can be concluded that the risk of homicide in the United States is not equally distributed across various racial and ethnic groups, rather it is disproportionately concentrated among minorities, especially among youths.

Analyzing data from Chicago for the years 1965 through 1981, Block (1985) found that no single ethnic or racial group was responsible for the increases in homicides over time. Rather,

Block (1985) concludes that the increases in homicides during the mid-1960s were attributable to all racial and ethnic groups, the peak in 1970 could be attributed to homicides involving firearms and blacks, the peak in 1974 could be attributed to robbery-related homicides among blacks and Latinos, and the increase from 1977 to 1981 occurred due to increases in assault homicides among Latinos and robbery-related homicides involving blacks and Latinos.

The Importance of Disaggregating Homicide Data by Race

Several researchers have noted the importance of disaggregating homicide data by racial and ethnic groups (Hawkins, 1999; Martinez, 2002). Hawkins (1999) for example comments that since racial and ethnic diversity has significantly increased over the past three decades, homicide studies that solely focus on black-white comparisons are less valid. Hawkins (1999) notes that the inclusion of various ethnic and racial groups found in the United States in homicide studies is much needed for several reasons. According to Hawkins, the inclusion of several ethnic and racial groups in homicide studies has important implications for the construction and testing of theory. In his words:

For instance, various theories (largely untested) have long held that Black-White differences in crime, violence, and other social behaviors can be attributed to differences in SES, cultural values, patterns of socialization, family life, levels of discrimination and oppression, place of residence, and so forth. The inclusion of multiple ethnic and racial groups will allow researchers to determine the extent to which these and other factors do or do not account for homicide rates currently found among Whites and various non-White groups in the United States and in other societies. (p. 199).

A notable strength of the analyses in this present study is that the data are disaggregated by race. Traditionally, in homicide studies much of the comparison have been limited to exploring differences between blacks and whites (Hawkins, 2008). However, as the racial and ethnic group-breakdown of the United States above illustrates, it is imperative that homicide

analyses go beyond the black and white dichotomy. Today, Hispanics represent the largest non-white minority group in the United States (U.S. Census, 2008). The most recent Census from 2000 show that in Cook County, where Chicago is located, 19.9% of the population were Hispanics and 26.1% of the population were black (U.S. Census, 2008). To reflect the diversity in society, and to better understand homicide offending among youths from different racial and ethnic backgrounds, in the present study the data are disaggregated into black, white, and Hispanic groups.

Homicide and Latinos

One neglected group in homicide studies focusing on the U.S. is Latinos (Martinez, 2002; Martinez & Lee, 1999), although their presence in the country is not a new phenomenon. As mentioned previously, in 2006, Hispanics represented an estimated 14.8% of the population (U.S. Census Bureau, 2008), thus making them the largest ethnic minority group in the country. Comparatively, in 2006 blacks constituted an estimated 12.4% of the population (U.S. Census Bureau, 2008). One of the contributing factors for the neglect of Latinos in homicide research stems from inconsistencies in racial and ethnic categorization (Martinez & Lee, 1999). Even official data sources, including the Uniform Crime Report (UCR), fail to adequately identify those of Hispanic origin from other groups, and most Latinos are being counted as either white or black, which leads to an inaccurate portrayal of group-specific crime rates (Martinez and Lee, 1999).

According to Martinez (2002), the Latino population more than doubled from 1980 to 2000. This increase in immigration took place concurrently with the increases in the homicides evidenced in the nation. The inclusion of Hispanics as a separate category in the present study is

justified for several reasons. First, their importance lies in their mere numbers. As stated previously, Latinos now represent a very large and visible segment of American society. If Latinos are continuously being incorporated into either white or black categories, this greatly obscures the group-specific homicide rates, thus leading to an inaccurate portrayal of homicide offending in the United States. Second, the data for the present study were derived from police files in Chicago. This is ideal since Chicago has both high rates of violence and a large, growing Latino population (Martinez & Lee, 1999).

Overall, the few existing studies on Latino homicides show that, generally speaking, the rates for Hispanics falls in-between blacks and whites, with rates for blacks being the highest (Martinez & Lee, 1999). Martinez and Lee (1999) discuss two, largely ignored but plausible, links between Latino ethnicity and homicide: immigration and economic deprivation. Focusing on the relationship between crime and immigration is not a new phenomenon in the United States. At the beginning of the 20th century, for example, Shaw and McKay (1969[1942]) found a significant, positive link between the percentage of foreign-born and male delinquency rates in their research on Chicago neighborhoods. Contrary to these early findings, most recent studies have shown that immigrants do not commit more criminal offenses than U.S. citizens (Butcher & Piehl, 2008; Martinez, 2002; Polczynski Olson, Laurikkala, Huff-Corzine, & Corzine, 2009; Rumbaut, 2005). In a recent article Sampson (2008) suggests, contrary to many prevailing stereotypes, that the presence of foreign-born in Chicago neighborhoods may actually lower violence rates among native-born whites and blacks.

In the case of Latinos, common wisdom dictates that as poor immigrant populations increase, this leads to increased homicide rates (Martinez, 2002). However, after analyzing data from Chicago, El Paso, Houston, Miami, and San Diego, Martinez (2002) concludes that

increased poverty rates alone are not adequate to explain the involvement of Latinos in homicides. The often-suggested link between economic deprivation and homicide is that some racial and ethnic groups are lacking economic resources and social status, which leads to feelings of frustration and alienation, and they respond with increased aggression (Martinez & Lee, 1999). The data show that, rather than being equally distributed across urban areas, Latino homicides are focused in barrios, as defined by communities with poverty rates of at least 40 percent (Martinez, 2002). However, Martinez (2002) asserts the following: “Although systematic quantitative data are not fully available, there is reason to believe that if non-Latino White poverty were comparable, White rates might *surpass* those of Latinos” (p. 138-139). The main conclusion drawn by Martinez (2002) was that the two factors that can largely explain Latino involvement in homicides include relative deprivation (mainly that Latinos have lower economic expectations than the native born), and structural conditions (particularly high levels of job attachment and social capital). These findings point to the possibility that the main predictors of Latino homicide quite possibly differ from the main predictors for blacks and non-Hispanic whites. Again, this points to the importance of disaggregating data by race and ethnicity.

Structural Factors, Race, and Homicide

What accounts for racial differences in involvement in homicides? Several sociological explanations for crime imply that if whites experienced the same structural conditions as minorities do, the homicide rates among whites would resemble those of minorities (Phillips, 2002). Following this logic, Phillips (2002) attempts to explain why there is a difference in white, black, and Latino homicide rates. The analyses show that the white-Latino homicide differential and approximately half of the white-black homicide gap could be reduced if the

structural characteristics of minorities would be improved to the same level experienced by whites.

Several other studies have included racially disaggregated data to examine the relationship between structural conditions and homicides (e.g., Blau & Blau, 1982; Harer & Steffesmeier, 1992; Messner & Golden, 1992; Ousey, 1999; Parker & McCall, 1997). Structural considerations typically center around social and economic factors. Additionally, in homicide research, the South, which has the highest homicide rates compared to other parts of the country, is often included in the analyses (e.g., see Huff-Corzine, Corzine, & Moore, 1986; Nelsen, Corzine, & Huff-Corzine, 1994; Parker & Pruitt, 2000). In the following section, economic and social factors will be discussed. Overall, this line of research has provided support for the claim that economic deprivation, racial inequality, and social disorganization are correlated with homicide rates (Parker & McCall, 1997).

Harer and Steffesmeier (1992) conclude that income inequality is often thought to produce high crime rates among blacks. In their seminal article, Blau and Blau (1982) tested the idea that differences in socioeconomic conditions contribute to differences in violence rates among blacks and whites in urban areas. After analyzing data from the 125 largest SMSAs, the results show that socioeconomic inequality, both between and within races, increases rates of criminal violence in urban areas. The results led Blau and Blau (1982) to reject subcultural theories, and to view relative deprivation being more applicable in explaining racial differences in homicide offending. Messner and Golden (1992) note that the work of Blau and Blau on racial inequality and violent crime has generated two distinct bodies of literature: studies that have attempted to replicate the results of Blau and Blau's (1982) study and studies that examine structural determinants of intergroup relations.

Consistent with the results of Blau and Blau (1982), Messner and Golden (1992) found support for the role of racial inequality on homicide rates. Drawing on data from Uniform Crime Reports (UCR) and the Comparative Homicide File, which is based on Supplementary Homicide Reports, Messner and Golden (1992) examined the relationship between levels of racial inequality and homicide rates. The results show that racial inequality, as measured by income, education, employment opportunities and residential segregation, has a significant, positive effect on total homicide rates and race-specific offending rates. Others, however, have failed to find support for Blau and Blau's results (e.g., Carroll & Jackson, 1983; Sampson, 1985).

Continuing with the line of research focusing on the impact of economic inequality on crime rates and how that may differ by race, Harer and Steffesmeier (1992) found that the effects of economic inequality, as measured by total inequality (overall family income), between-race inequality (white-to-black income differences) and within-race inequality, differ by race. The results indicate that economic inequality is a strong predictor of high violence rates for whites, but not for blacks. Similarly, Ousey (1999) found that the impact of structural predictors on homicide differed for blacks and whites. While poverty, unemployment, income inequality, and female-headed households significantly and positively influence white homicide rates, only poverty and income inequality were found to have significant effects on black homicide rates. In conclusion, several researchers (Messner & Golden, 1992; Ousey, 1999; Sampson, 1985) have noted that, collectively, the results of studies that have focused on the impact of racial inequality on violent crime rates have been inconsistent, thus underscoring the importance of continuing this line of research.

Another race-related structural factor that warrants attention is the racial composition of the population. The results of Sampson's (1985) analysis of Uniform Crime Report data for the

55 largest cities in the United States revealed that percent black was the strongest predictor of aggregate homicide rates. Once other structural factors were controlled, for example, poverty, racial income inequality and unemployment, the results revealed that percent black did not have a direct effect on black or white homicide rates, however. With regard to level of analysis and race, Sampson (1985) concludes the following: “The vast majority of criminological research is conducted at the individual level of analysis, though much of the theory remains couched in structural terms. If nothing else, the present study has shown that there is considerable variation in race-specific rates of offending across macrosocial units that has heretofore been largely ignored” (p. 73). The present study follows this insight by disaggregating the results by race and also by gender.

Race and Family Disruption

A recurrent theme in criminological research is that of family being an important source of stability and social control in communities. Consequently, families are seen as a fundamental part of urban communities that contribute to attempts to control crime, including homicides (Parker & Johns, 2002). Ousey (2000) notes that two social problems present in America’s major cities are increasing rates of female-headed households and juvenile homicides. It is presumable then that an association between juvenile homicide rates and changes in family composition exists. When family constructs are incorporated into race-specific violence research, researchers are incorporating measures of family disruption, which typically has been defined either as divorce rates or the percentage of female-headed households (Parker & Johns, 2002). Family disruption measures are used as indicators of social disorganization. According to the Population Reference Bureau (2008), increases in the percentage of female-headed households over the past

25 years were particularly evident among blacks, although the increases appear to be slowing down in recent years. About 8% of households in the United States can be classified as female-headed households with children present. The prevalence of female-headed households varies significantly by race. While about 5% of non-Hispanic white households are headed by females, about 14% of Hispanic households were headed by females, and a striking 22% of all black households were female-headed in 2002 (Population Reference Bureau, 2008).

Family disruption may impact crime rates in several ways. On one hand, at the individual level, it can be seen to produce delinquents (Sihadeh & Steffesmeier, 1994). Sihadeh and Steffesmeier (1994) summarize that research has only provided weak and inconsistent support for this type of argument. On the other hand, relevant to the present study, families are also included in macro-level analyses. The macro-theory posits that a high percentage of single-headed households in a community creates an environment conducive to crime since formal and informal social controls are decreased (Shaw & McKay, 1969[1942]; Ousey, 2000) and children are being less attentively supervised.

Exemplifying the latter view on the family/crime rates connection, Sampson (1987) conducted a race-specific analysis focusing on the impact of unemployment and family disruption on adult and juvenile robbery and homicide rates. Sampson's analyses revealed that the number of female-headed households in black communities increases as the number of employed black men in communities decreases. It was found that, independent of such factors as income, region, size, density, and age and race composition, black family disruption significantly increased the rates of black juvenile murders and robberies. Sampson concluded that the disproportionately high involvement of blacks in robberies and homicides seem to be connected to structural factors of unemployment, economic deprivation, and family disruption. Likewise,

Wilson (1996) has noted the disappearance of traditional, married-couple families among blacks in urban areas. Wilson (1996) posits that the greatest factor influencing the declining rates of marriage is joblessness among black men, which is affected by the disappearance of jobs in urban areas. In a similar vein, Shihadeh and Steffensmeir (1994) examined the connection between economic inequality, family disruption, and violent crime rates and found that, among blacks, the impact of income inequality has an indirect effect on violence rates, but this relationship is mediated by family disruption. That is, income inequality increases family disruption, which in turn contributes to higher rates of black violence. As expected, compared to adults, the impact of family disruption was higher for juveniles.

The results of previous studies emphasize the importance of focusing on structural determinants of violent crime and also point to the need to conduct more race-specific analyses. As evidenced above, the body of literature that has focused on both absolute and relative deprivation as explanations of racial differences is large. However, much of this research has not specifically examined how measures of absolute and relative deprivation relate to juvenile homicide offending. A notable exception is Ousey and Campbell Augustine's (2001) study that focused on whether concentrated disadvantage and racial inequality can explain intercity variation in firearm homicides committed by juveniles. While the results failed to provide support for a significant association between concentrated disadvantage and black juvenile firearm homicide rates, the results provided support that the association exists for white juveniles. Important for the purposes of the present study, Ousey and Campbell Augustine's results stress the importance of conducting age-and race-specific homicide research.

Poverty in Urban Neighborhoods

Shihadeh and Steffensmeier (1994) stated that an important area of research, although somewhat neglected, is increases in urban ghettos, characterized by such indicators as chronic joblessness, welfare dependency, disrupted families, and high rates of teenage pregnancies. Further, they note that perhaps the most troubling aspect of these urban ghettos is the extremely high rate of violent crime in black communities. The question of ghettos and poverty in urban areas was thoroughly researched by Jargowsky (1997). In *Poverty and Place: Ghettos, Barrios, and the American City*, Jargowsky provides the first nationwide portrait of metropolitan neighborhood poverty in the United States between 1970 and 1990. Jargowsky defined “a high-poverty” neighborhood as a census tract with a poverty rate of at least 40 percent. The analyses showed that the number of high-poverty tracts increased from 1,177 in 1970 to 2,726 in 1990. The population in those areas increased from 4.1 million to 8.0 million. For example, the number of Hispanics living in high-poverty neighborhoods increased from 729,000 to two million. Indeed, the results show that residents in high-poverty areas are most likely members of minority groups, rather than non-Hispanic whites. One of the other significant findings was that nearly one-third of all people living in high-poverty neighborhoods are children, who might be more susceptible to the influence of the neighborhoods than adults. Common physical characteristics of high-poverty neighborhoods included dilapidated, vacant, and older housing units. The residents have lower levels of employment and earnings, are more likely to dropout of school, and have more out-of-wedlock births than people from wealthier neighborhoods. Jargowsky’s (1997) results are consistent with Wilson’s (1996) argument that urban poverty is caused by structural economic changes and the flight of the black middle class. Jargowsky (1997) concludes that metropolitan economic growth and the general processes that create and sustain

segregation by race and class are the primary causes of high poverty neighborhoods, thus ghettos are not isolated and the cause is not “culture of poverty.” To conclude, the point here is that communities (just like individuals) can be characterized by a measure of socioeconomic status, and it is this aggregate measure of socioeconomic status that is associated with crime rates (Bursik, 1988; Sampson & Groves, 1989).

Ethnic Heterogeneity

Racial and ethnic diversity in an area has been linked to crime rates as well. Shaw and McKay (1969, [1942]) argued that ethnic heterogeneity was one of the significant structural factors that increased crime by decreasing community social organization. Miethe & Meier (1994) offered that “[p]opulation homogeneity reflects the extent to which a community is likely to subscribe to a common value system, to have a common vision of its future, and to generate bonds of attachment and commitment from residents” (p. 25). In other words, this implies that the greater the population heterogeneity in a given neighborhood, the less likely it is that these groups will see “eye-to-eye” on issues impacting the neighborhood. Furthermore, another likely contributing factor is that language barriers may hinder communication between different racial and ethnic groups. This could, in turn, prevent the formation of informal ties that have been suggested to decrease the residents’ ability to exert social control in an area (Grasmick & Bursik, 1993). Lastly, Shaw and McKay (1969, [1942]) noted that population heterogeneity was related to such factors such as socioeconomic status and population turnover. These factors in conjunction were seen to increase social disorganization.

To summarize, race has been found to be significantly correlated with homicide. Looking at the structural factors, rates of family disruption and poverty differ by racial group. Further, one

neglected aspect of research on race and crime is the aggregation of Latinos with either whites or blacks, which in turn leads to an inaccurate portrayal of homicide offending in this country. By conducting race specific analyses on structural factors, this study adds to the body of literature that attempts to provide details beyond the black and white dichotomy. It does not accurately reflect the racial diversity of this country considering that Hispanics now represent the largest minority group in the country (U.S. Census, 2008).

Gender Patterns

One of the strongest correlates of delinquency is gender. The presence of the gender gap, with males committing significantly more crimes than females, is well noted by researchers (e.g., Chesney-Lind, 1989; Hindelang, 1971; Miethe and Regoeczi, 2004; Steffesmeier et al. 2005). However, recently there has been discussion suggesting that the gender gap is closing based on the fact that the arrests of females have significantly increased over the past two decades, particularly for the Part I offenses (Steffesmeier et al., 2005). Drawing on data from the Uniform Crime Reports, National Crime Victimization Survey and Monitoring the Future, and National Youth Risk Behavior Survey self-reports, Steffensmeier and colleagues (2005) conclude that the increases in female arrests can be attributed to changes in arrest policies rather than actual increases in girls' criminality. Thus, an examination of recent trends in girls' violence provides support for the persistence of the gender gap, rather than convergence thereof. One plausible consequence of this gender gap is the apparent omission of research on female homicide offenders (Steffensmeier & Haynie, 2000).

The gender gap is evident even when homicide rates are being studied—it has been well noted that most youth homicides are committed by males (e.g., Chesney-Lind, 1989; Ewing,

1990; Miethe & Regoeczi, 2004; Steffesmeier et al., 2005), and not surprisingly, much of the juvenile homicide research has been based on males (Heide, 1998). In 2007, there were 80 female homicide offenders under the age of 18, representing 8% of the total of 1,063 juvenile homicide offenders for that year (Federal Bureau of Investigation, 2008).

However, the sparse research on girls has indicated some significant differences between girls and boys who kill, thus emphasizing the importance of a focus on gender differences in homicide research. Rowley, Ewing, and Singer (1987) found that, compared to males, females are more likely to murder people they know, whether family members or acquaintances. Additionally, compared to boys, girls are more likely to use accomplices, with the exception of unmarried pregnant girls who kill their child shortly after birth. If the killing was gang-related, girls are more likely to perform secondary roles (Heide 1998). Fox, Levin, and Quinet (2008) note the following with regard to gender differences among female and male homicide offenders: “Homicides by women often result from turmoil and stress that may build up over time. Men, by contrast, are often quick to respond violently, killing an acquaintance in a bar who challenges them or even a stranger on a street who insults them” (p. 50). It is expected that gender differences in the factors surrounding the homicides among boys and girls will emerge in this study as well.

A few studies have focused on the gender differences in the influence of structural disadvantage on crime, and the results point to gender differences. For example, Steffensmeier and Haynie (2000) focused on examining whether city-level variation in rates of adult and juvenile female homicide is connected to structural disadvantage (adverse economic conditions and conditions of social disorganization), and whether macrolevel variables can predict the rates of homicides perpetrated by both adult and juvenile females and males. The results indicate that

while structural disadvantage appear to have an effect on adult female and male homicide rates, among juveniles, the effect is only strong for males. The results of these studies call attention to the importance of conducting research that aims to identify structural influences of violent offending and to unravel the influences that structural factors have on youths across gender lines. Although the number of female homicide offenders may be small, comparing males to females may provide insights into why males have such significantly higher offending rates. This type of insight, in turn, may have important implications for prevention.

Victim-Offender Relationship

Another component of the overall homicide context is the relationship between the perpetrator and the victim. A homicide event requires both an offender and a victim and a context that unites them (Miethe & Meier, 1994). Historically, the focus of criminological research was on explaining motivational factors, but moving away from this prevailing tradition, Luckenbill (1977) argued that criminal homicides involve an interaction between a place, the victim, and the offender, i.e. a collective transaction takes place. In this vein, a prominent criminological theory that captures these elements of time, place, objects, and people is that of routine activities theory developed by Cohen and Felson (1979). Their theory attempts to explain how the likelihood of crime increases in the presence of a motivated offender and suitable targets, and in the absence of capable guardians, thus accounting for factors beyond the offender. Therefore, it is imperative that if a comprehensive picture of offending patterns will be provided, information about the victims will be included in these studies.

The incorporation of the victim-offender relationship is important for several reasons. First, as Blumstein (1995) has noted, this is connected to the level of concern that the general

public has over homicides. According to Blumstein (1995), murders have been viewed as a result of interpersonal conflict, and when the number of homicides committed by strangers increases, this also increases people's fear of becoming victims. Second, research has indicated a shift in the victim-offender relationship. Drawing on the data from the FBI's Supplementary Homicide Reports, a relatively recent study found that, during the time period 1980 to 2002, significant increases in the number of juveniles killing acquaintances and strangers were evidenced, while very little change in the number of juvenile offenders killing family members was found (Snyder & Sickmund, 2006). Victim-offender relationships have received attention in criminological research (Parker & Johns, 2002). If the victim and the offender know each other, as in the case of family members and friends, the motivation and the context (or location) presumably differ compared to homicides where the perpetrator and the victim are mere strangers (Miethe & Meier, 1994).

Similar to adults, research has established that juveniles are more likely to kill strangers (Blumstein, 1995) or acquaintances and strangers (Ewing, 1990) compared to family members. For example, Rowley and colleagues (1987) analyzed who the victims of 787 juvenile homicide offenders were. The results showed that the victims were predominantly acquaintances (49.2%) and strangers (33.17%), while in significantly fewer cases the victim was either a parent or stepparent (8.26%) or other family member (9.4%) (Rowley et al., 1987). One of the strengths of the dataset, *Homicides in Chicago*, used in this study is that it includes victim-offender relationship variables and, thus, enables an examination of the victim-offender relationship patterns over a thirty-year period. Again, these analyses were conducted separately for whites, blacks, and Hispanics, and again for males and females. Consequently, the results will provide detailed information about victim-offender relationships among various groups.

Patterns of Juvenile Homicide Offending

Compared to adults, researchers have identified several distinctive features of youth violence, including high volume, low mortality, and group involvement (Zimring, 1998). Group involvement appears to be related to juvenile homicides as well. National data indicate that, in 2002, 48% of murders involving a juvenile offender involved multiple offenders (Snyder & Sickmund, 2006). An analysis of the FBI's Supplementary Homicide Reports shows an increase in the proportion of murders that involve multiple juvenile offenders between 1980 and 2002. During the first part of the 1980s, approximately one-third of the incidents involved multiple offenders, while in 2002, nearly half of the incidents involved multiple offenders (Snyder & Sickmund, 2006).

Other research has revealed additional information on patterns associated with juvenile homicide offending. For example, drawing on data from the Houston Police Department's Homicide Division and all news stories related to homicides published in the *Houston Chronicle* between 1990 and 1994, Brewer, Damphousse, and Adkinson (1998) examined juvenile involvement in homicides in Houston, Texas, during the five-year time period. The results indicate that, compared to adults, juveniles were more likely to be involved in interracial killings with the victim being a stranger, to use long guns, and to kill in the commission of another crime, mainly robberies. Additionally, it was found that the majority of the homicides occurred in public places, between males, and gang-related killings represented only a small proportion of all juvenile offending.

The analyses in this study provide a comprehensive picture of homicide patterns and trends over a 31-year time period. Factors such as time of the day, week, and month were evaluated. National trends in homicides show that the highest rates of homicides occur during the

months of July, August, and December (Brearley, 1969) and during the weekend—from Friday night through Sunday. Research has shown several differences in the general trends of violent crime (i.e. murders, forcible rapes, robberies, and aggravated assaults) committed by adult and juvenile offenders. First, compared to adult offenders, violent crime by juvenile offenders peaks in the after school hours on school days. The peak in violent crimes committed by juveniles occurs between 3 p.m. and 4 p.m., unlike adult crime that peaks at 10 p.m. (Snyder & Sickmund, 2006). The majority of all violent crime (61%) committed by juvenile offenders occurs on school days, i.e. Monday through Friday (Snyder & Sickmund, 2006). However, in a remarkably similar pattern to adults, juveniles are most likely to commit a crime with a firearm in the evening, between the hours of 9 p.m. and 10 p.m. (Snyder & Sickmund, 2006).

Circumstances

In terms of prevention, knowledge about the circumstances that led to the homicide incident can be particularly important. This is based on the premise that if we can accurately identify patterns with regard to circumstances, resources (i.e. social control efforts) can be allocated to correct avenues in hopes to prevent homicides from taking place. Zahn and McCall (1999) point out the difficulties in obtaining data on both circumstances and the victim-offender relationship, which include definitional inconsistencies and the fact that the motive for the incident and the circumstances surrounding the event are attributions made by officials who were not participants in the incident. Importantly, however, studies that have included information on the circumstances, have been able to provide information on the nature of homicides and how they change over time (Zahn & McCall, 1999). Zahn and McCall (1999) analyzed data derived from Uniform Crime Report for the years 1965 through 1995. The homicides were categorized

into five groups (arguments, those related to the commission of the index crimes rape, robbery, and burglary, narcotics-related, gang-related, and homicides with unknown origins) depending on the circumstances surrounding the incident. Zahn and McCall (1999) found that arguments were the main precipitating circumstance for homicide throughout the 31-year period. During the 1970s and early 1980s, the second most common factor was felony-precipitated homicides. However, since 1983, homicides with unknown origins were found to be the second most common precipitating factor. Echoing Blumstein's (1995) well-accepted explanation of the drugs/guns nexus as the reason for the increases in homicides, Zahn and McCall (1999) conclude that even though narcotics-related homicides increased from 1985 to 1995, in any given year narcotics-related homicides represented no more than 6% of the total homicides in the U.S. The least common precipitating factor was found to be gang-related homicides, and although gang-related homicides increased from 1988 to 1995, on a yearly basis during this period they represented approximately only 5 to 6% of the total homicides. (Zahn & McCall, 1999). The dataset used in this study, *Homicides in Chicago*, includes a variable "causfact," which consists of 52 different causal factors, including drug altercation; money altercation; gang altercation; and armed robbery with 48 other circumstances surrounding the incident. This allowed for a very detailed examination of the circumstances surrounding the homicide incident and whether they differ for whites, blacks, and Hispanics and for males and females.

Weapons

The last piece to the overall homicide context is the facilitating hardware associated with the event. As mentioned previously, one suggested and well-accepted explanation for the increases in homicides by young persons has been the increase in the availability of guns

(Blumstein, 1995). Block and Block (1993) analyzed homicide data from Chicago and concluded that the increases in the number of street gang-motivated homicides could be largely attributed to increases in homicides involving a high-caliber, automatic, or semiautomatic weapons.

Ousey and Campbell Augustine (2001) specifically focused on juvenile firearm-related homicides in their research. Specifically, they examined whether concentrated disadvantage and racial inequality can explain variation in firearm homicides committed by juveniles. While the results failed to provide support for a significant association between concentrated disadvantage and black juvenile firearm homicide rates, the results provided support that the association exists for white juveniles. The results also lend partial support for Blumstein's (1995) hypothesis about the illicit crack market and gun-homicide association. However, most of the support was derived from the analysis for the white juveniles. That is, the results failed to provide strong support for the hypothesis that black juvenile drug market activity is related to black juvenile gun homicide rates. A related, alternative explanation for the increases in homicides has been proposed by Kleck (1997) who dismisses Blumstein's (1995) gun diffusion hypothesis. Kleck (1997) proposes that a more plausible explanation for the increases in homicides would be that violence increases were largely attributable to certain people—those involved in illicit drug markets or street gangs.

While guns are very much present in violent interaction in America (Kleck, 1997), they may only present one piece of the homicide puzzle. Other research has also indicated that increases in the availability of guns can not solely explain changes in the homicide rates. For example, Lanier and Carter (1993) applied a computer simulation program to predict homicide rates by using the following variables: availability of handguns, drugs at arrest, divorce rate, median income, percentage of persons in minority groups, population density, poverty level, and

opportunity to commit crime. The results showed only modest changes in the projected homicide rates when increasing the availability of handguns only. However, the results of multivariate analyses show that increasing the availability of handguns, minority membership, and population density led to a large increase in the projected homicide rate. The authors suitably note: “As can be expected when complex social phenomena are examined, the interactive and reciprocal effects of all variables had the most pronounced influence on the model” (p. 475).

Many of the youths are armed with firepower, however. Based on evaluations of 90 adolescents involved in homicides, Heide (1998) notes that many of the youths killed with guns, and many juveniles also reported that guns were cheap and readily available in their neighborhood. Consistently, research by Wright, Sheley, and Smith (1992) on kids and guns show that guns are plentiful and readily available for juveniles. An analysis of 1368 fathers, 887 mothers, 562 stepfathers, and 54 stepmothers killed by youths revealed that the following four weapon types were most frequently used in the killings: firearms, knives or cutting instruments, blunt instruments, and personal weapons (Heide, 1993). Compared to mothers, fathers were found to be more likely to be killed by firearms, and mothers were more likely to be killed by knives or cutting instruments. The analyses also suggested differences in the types of weapons used by juveniles and adult killers. Compared to adults, juvenile killers used a firearm in 82.3% of the homicides versus 60.2% for the adult killers. While the juveniles were not any more likely to use handguns, they were found to be more likely to use rifles and shotguns (Heide, 1993). In terms of gender differences and weapons used in the killings, data indicate that fewer than 10% of killings with guns were committed by women (Fox, Levin, & Quinet, 2008).

The availability of handguns to young persons remains a challenge. Wright and colleagues (1992) found that 86% of incarcerated juveniles owned at least one firearm at some

point in their lives, and alarmingly, two-thirds had acquired their first firearm by the age of 14. The Gun Control Act of 1968 prohibited the sale of handguns to anyone under the age of 21, and shoulder weapons to anyone under the age of 18 (Wright et al., 1992). While youths are not legally able to purchase guns, there are several other avenues for acquiring a handgun, including the secondary market (e.g., garage sales) and the black market (Zimring, 1998). Zimring (1998) argues that if we want to have effective policies toward youths' possession of handguns, all the avenues of gun supplies should be targeted. The prevention of handgun supply via the gray market, the trade via unofficial or unauthorized channels, is particularly difficult. Research by Wright and colleagues (1992) on kids and guns indicate that juveniles acquire guns the same way as adult felons do—via informal, off-the-record transactions. In addition to being unable to purchase guns legally, one of the noted reasons as to why juveniles prefer informal sources is that guns acquired in the street are much less expensive compared to prices in legal retail outlets (Wright et al., 1992).

The increasing number of homicides committed by young persons with guns has contributed to increases in concern over homicides (Blumstein, 1995). Due to the increasing number of homicides committed by juveniles with guns since the mid-1980s, an analysis of the types of weapons used in the killings over a 31-year period will be included in the present study. This examination will be done separately for females and males and for whites, blacks, and Hispanics.

As reviewed in this chapter, a sizable body of homicide research exists. Research has established that age, race, and gender are significant correlates of homicides. One of the most outstanding and alarming patterns is the overrepresentation of minority males as homicide offenders. Additionally, several structural characteristics, such as family disruption and poverty,

have been found to be related to homicides. Research has also shown several contextual factors to be related to homicides, for example, availability of weapons, the victim-offender relationship, circumstances surrounding the homicide, and time of the day or week. Guided by social disorganization theory, this study seeks to answer the question whether structural factors can aid in the prediction of homicides committed by youths from various racial and ethnic groups and across gender. Social disorganization theory can lead to a greater understanding of criminal offending since it focuses on social structural characteristics of neighborhoods where the homicides were committed. Social disorganization theory is applied and tested in this study in attempts to better understand homicide offending among youth, and it will be reviewed in greater detail in the next section.

CHAPTER THREE: THEORETICAL FRAMEWORK

In the 1980s, several researchers noted that a significant proportion of the literature on juvenile homicide had been derived from the clinical reports of mental health professionals who have either diagnosed and/or treated children who have killed (e.g., Rowley, Ewing, & Singer, 1987). These anecdotal reports were often based on a single case or included a very small sample size (Cornell, Miller, & Benedek, 1988; Rowley et al., 1987), thus raising questions over the generalizability of the results. Consequently, this type of research portrayed youthful homicide offenders as emotionally disturbed, and practically all the juvenile killers had been diagnosed as suffering from such psychiatric conditions as neuroses, psychoses, personality disorders, and brain syndromes, and their parents had been portrayed as psychologically impaired as well (Rowley et al., 1987).

Research based on clinical samples ignored the plausible influence of structural factors that may have an impact on juvenile homicide offending. Since the 1980s, more macrolevel research on juvenile homicide offending has accumulated, however (e.g., Brewer et al., 1998; MacDonald & Gover, 2005; Ousey & Campbell Augustine, 2001; Sampson, 1987; Steffensmeir & Haynie, 2000). Nevertheless, research focusing on macrolevel correlates of juvenile homicides is still relatively scarce (MacDonald & Gover, 2005; Ousey & Campbell Augustine, 2001), while much more is known about individual-level risk factors for homicide offending (MacDonald & Gover, 2005). One of the main conclusions of the existing studies that have focused on the impact of structural factors has been that measures of family disruption and social disorganization are correlated with higher rates of youth violence (e.g., Ousey, 2000; Sampson, 1987).

Therefore, this study utilizes social disorganization theory, which holds that criminal behavior is more frequent in areas that are less socially organized. By focusing on community factors, as opposed to factors such as an individual's pathology, social disorganization theory advances our understanding of homicides at the macro-level. Steffesmeier and Haynie (2000) noted that there has been a renewed interest in examining the effects of macrolevel or structural characteristics on crime rates. In the following sections, this theoretical perspective will be reviewed in detail.

Social Disorganization Theory

According to social disorganization theory, criminal behavior is more frequent in areas that are less socially organized. Sampson and Groves (1989) define social disorganization as “the inability of a community structure to realize the common values of its residents and maintain effective social controls” (p. 777). In other words, solidarity and cohesion within a group, community, or society is hypothesized to inhibit criminal and deviant behavior (Akers & Sellers, 2004). This line of argument has long standing roots in the field of sociology. Indeed, research on community context and its relation to crime rates can be traced back to the Chicago School and many of the early sociologists, including Shaw and McKay (1969, [1942]), Park and Burgess (1924), and Thrasher (1963, [1927]).

In *Juvenile Delinquency and Urban Areas*, Shaw and McKay (1969, [1942]) state their theory of social disorganization. Shaw and McKay demonstrated systematic relations between social areas and crime rate, and how delinquency rates declined as the distance from the inner-city neighborhoods increased. Examining the distribution of male delinquency in Chicago, Shaw and McKay found that the highest rates of delinquency were in areas considered to be transition

zones, locations adjacent to the areas zoned for industry and commerce, including the central business district. The essence of their argument was that, compared to socially organized communities, socially less organized communities experience higher rates of crime and delinquency. In their words, Shaw and McKay (1969, [1942]) state that “It is clear from the data included in this volume that there is a direct relationship between conditions existing in local communities of American cities and differential rates of delinquents and criminals” (p.315).

In addition to juvenile delinquency rates, Shaw and McKay included the following types of variables as indicators of social organization in communities: rates of home ownership, percent of families on welfare, percentage increase or decrease of population, population composition, rates of school truants, rates of infant mortality, tuberculosis, and rates of mental disorders. Specifically, Shaw and McKay (1969, [1942]) argued that three structural factors increase crime by decreasing community social organization: (a) low socioeconomic status, (b) ethnic heterogeneity, and (c) residential mobility. Bursik (1988) notes that Shaw and McKay did not attribute a direct relationship between economic status and rates of delinquency. Rather, the three structural factors work in conjunction—areas with high levels of economic deprivation tend to also have high rates of population turnover and rapid changes in composition of the residents (Bursik, 1988). Consequently, residential mobility and ethnic heterogeneity increase the likelihood of social disorganization (Bursik, 1988).

Criticisms of Social Disorganization Theory

Bursik (1988) notes that social disorganization theory was largely considered marginal to modern criminological thought until relatively recently and identifies the main criticisms that have been commonly leveled against research guided by social disorganization theory. The first

criticism has been the ‘disciplinary shift in emphasis.’ The criticism here is that the results of research guided by social disorganization theory cannot be used to predict individual behavior. While Bursik (1988) notes that this may appear in line with Robinson’s (1950) ecological fallacy, that is, inferences about an individual’s behavior cannot be accurately drawn from aggregate-level data, Bursik dismisses the criticisms leveled against the group orientation as invalid since the group orientation focuses on certain social processes that have received less focus while much of the more recent criminological explanations have focused more on the social-psychological aspects of human behavior. In other words, a comprehensive explanation of criminal behavior would include both individual and group factors. The second criticism is ‘the assumption of stable ecological structures.’ Basically, the limitation here is that much of the subsequent research following Shaw and McKay’s work was cross-sectional. In order to fully understand the dynamics of urban neighborhoods, this requires longitudinal data. But, this is a comment on the research and should not be viewed as a critique of the theory. The third criticism is related to the operationalization of social disorganization—or ‘the measurement of social disorganization.’ The criticism here is that delinquency rate indicates social disorganization and is also caused by it. That is, Shaw and McKay did not explicitly specify the outcome variable (rates of delinquency) from disorganization itself. However, recent extensions (e.g. Bursik & Grasmick, 1993; Sampson & Groves, 1989) have attempted to provide a clarification by defining social disorganization in terms of the neighborhood’s ability to regulate itself through formal and informal controls (Bursik, 1988), thereby allowing for the conceptual distinction between the processes that are thought to make the regulation of the neighborhood difficult (i.e. to cause social disorganization) and the rates of crime. The fourth criticism pertains to ‘the measurement of crime and delinquency.’ In essence, the fact that Shaw and McKay used official data, which

only includes arrests that may contribute to racial bias effects, is being questioned. Finally, the fifth criticism touches upon ‘the normative assumptions of social disorganization theory.’ The overarching criticism here is that the concept of social disorganization assumes people having common values and agreed upon goals (Bursik, 1988). I believe that it is a reasonable assumption to make that residents in a given neighborhood desire lives free from crime and violence.

Despite these criticisms, due to efforts of such scholars as Sampson and Bursik beginning in the 1980s, who have related the original model to more current theories and addressed some of the main criticisms of the original statement, social disorganization theory has received renewed theoretical attention (Akers & Sellers, 2004). In the following section, these efforts to extend and refine the original social disorganization model will be reviewed.

Extension of Social Disorganization Theory

A Comprehensive Test of the Theory by Sampson and Groves

In 1989, Sampson and Groves claimed that, to date, Shaw and McKay’s prominent theory of community social disorganization had never been directly tested. According to Sampson and Groves (1989), this was hardly due to lack of theoretical insight, but instead due to lack of relevant data. Drawing on data from the British Crime Survey (BCS), Sampson and Groves directly tested Shaw and McKay’s original theory. The findings show that communities characterized by sparse friendship networks, unsupervised teenage groups, and low organizational participation have disproportionately high rates of crime and delinquency. More importantly, Sampson and Groves found that variation in the above-mentioned dimensions in large part mediated the effects of Shaw and McKay’s three key structural factors of low

socioeconomic status, residential mobility, and ethnic heterogeneity. In sum, the results of the study provide support for social disorganization theory.

Bursik and Grasmick

A notable extension of Shaw and McKay's original model has been advanced by Bursik and Grasmick (1993) who strived to demonstrate that the theory is readily adaptable to modern developments in urban sociology. Bursik and Grasmick (1993:x) argued that the original framework of social disorganization ignored the "the dynamics that shape the regulatory processes of contemporary urban neighborhoods that must compete with other local communities for scarce (and often shrinking) public and private resources." Bursik and Grasmick address a shortcoming of the original framework by developing a broader systemic theory of community, which emphasizes how neighborhood life is shaped by the structure of formal and informal networks of association. In essence, Bursik and Grasmick address a limitation of Shaw and McKay's model—some communities that did not experience social control issues were also experiencing crime-related problems. The following two aspects of community structure were included in the model by Bursik and Grasmick: the networks among residents and local institutions, and the linkages among local representatives of the neighborhood and external actors, institutions, and agencies. Importantly, Bursik and Grasmick (1993) employ a three-level approach to community social control in their study. Specifically, Bursik and Grasmick (1993) employ a model proposed by Albert Hunter (1985) that consists of the following three levels: personal, parochial, and public. The most basic level of social control is achieved at the "personal" level by intimate informal primary groups who share a sentimental attachment, such as family members and neighbors. The second level of social control is referred to as the

“parochial” order, and it includes local institutions such as schools, churches, stores, and voluntary organizations. The third level of social control is the “public” level, which centers around a community’s ability to secure public goods and services. This level includes the relationship between the neighborhood and the local police department, which is a very important source of social control. The theoretical contribution that Bursik and Grasmick make is that they recognize that all these levels contribute to level of social organization in a neighborhood. A limitation of Bursik and Grasmick’s work is that they fail to recognize differences in family structure. As discussed previously, many American families are characterized by disruption and many children, particularly minorities in urban areas, are growing up in female-headed households.

Empirical Support for Social Disorganization Theory

In recent years, empirical research has provided support for social disorganization theory. For example, Osgood and Chambers (2000) extended the study of social disorganization to rural areas. Their results show that juvenile violence was correlated with residential instability, family disruption, and ethnic heterogeneity. Additionally, Gottfredson, McNeil, and Gottfredson (1991) examined social area influences on delinquent behavior, and their results indicate that two dimensions of area, socioeconomic status and social disorganization, significantly, have a small, significant effect on individual delinquency. Additionally, their results provide some support for Shaw and McKay’s model that within areas characterized by weak family and other social structures, control over children is lost, i.e. children from these areas reported less bonding to institutions, more negative peer influence, and more delinquency of the interpersonal aggressive type.

Several prior studies have examined the influence of social disorganization on homicide rates across various subgroups (race, gender, and age). With regard to race, for example, Peterson and Krivo's (1993) analysis of the impact of racial residential segregation on the rates of homicide victimization indicated that, inconsistent with the assumptions of social disorganization theory, black-white segregation is associated with higher rates of black homicides. Meaning that higher homicide rates among blacks are not influenced by social deprivation, but rather, through the process of social segregation (Peterson & Krivo, 1993). However, the social disorganization perspective holds that ethnic heterogeneity is a contributing factor in creating social disorganization (Shaw & McKay, 1969, [1942]). Harer and Steffensmeier (1992) found that economic inequality strongly affects white violence rates, but it only had a weak effect on black violence rates.

Research also indicates gender differences in the influence of structural disadvantage on crime. For example, Steffensmeier and Haynie (2000) focused on examining whether city-level variation in rates of adult and juvenile female homicide is connected to structural disadvantage (adverse economic conditions and conditions of social disorganization), and whether macrolevel variables can predict the rates of homicides perpetrated by both adult and juvenile females and males. Although Steffensmeier and Haynie (2000) do not make a direct reference to social disorganization theory, the results indicate that structural disadvantage (as measured by percentage black among female and male adult populations, percentage of female-headed households, percentage of female and male poverty, female and male joblessness, and income inequality) appear to have a positive effect on adult female and male homicide rates, but among juveniles, the effect is only strong for males, not female juveniles. The results of these studies call attention to the importance of conducting research that aims at identifying structural

influences of violent offending and unraveling the influences that structural factors have on youth from various racial groups and between genders.

Encouragingly national data show a slight decline in juvenile arrests for violent crimes from 2006 to 2007, Puzzanchera (2009) cautions: “Although this general trend [of decline in overall juvenile arrests] is indeed encouraging, it should not be misconstrued to provide a rationale for complacency” (p. 1). I concur with this statement. Consequently, this study aims to add to our understanding of juvenile homicides in two ways. First, by examining the context of juvenile homicides and by providing details on the offenders, victims, setting, and precursors, and second, by examining whether indicators of social disorganization can aid in the prediction of homicides committed by juvenile homicide offenders in three different time periods, and for whites, blacks, Hispanics, males and females. *Homicides in Chicago* and Census data for 1970, 1980, and 1990 were used in this study. In the next chapter the hypotheses, data sources, and the methodology will be discussed in greater detail.

CHAPTER FOUR: DATA, HYPOTHESES, AND METHODOLOGY

The Present Study

The present study extends our understanding of the etiology of juvenile homicide offending in two significant ways. First, the results focusing on the context of homicides offer group-specific information (across gender and race) about youth homicide offenders, victims, precursors, and settings. This study examined the context of juvenile homicides over a thirty-one year period by race and gender. In this study, *context* refers to four factors: *offenders*, *victims* (family member, acquaintance, stranger, etc), *setting* (home, street, etc), and *the precursors to the homicide* (circumstances leading to the homicide incident, victim-offender relationship, and types of weapons used). The analyses were conducted for whites, blacks, and Hispanics, and for males and females for three time periods: time1 consists of the incidents that took place between 1965 and 1974, time2 consists of the incidents that took place between 1975 and 1984, and time3 consists of the incidents that took place between 1985 and 1995.

Second, several researchers have noted that a somewhat neglected area of research is that focusing on macrolevel correlates of juvenile homicides (MacDonald & Gover, 2005; Ousey & Campbell Augustine, 2001). Social disorganization theory provides an avenue for guiding the examination of how structural characteristics may impact juvenile homicide offending. The main contribution of this study is that it tests of social disorganization theory at the census tract level with the analyses disaggregated by time, race, and gender. These analyses provided insights into structural correlates of juvenile homicide offending that can be utilized in future research endeavors, as well as for guidance of effective juvenile justice policies and prevention efforts. Lastly, as reviewed previously, Hispanics in particular have been neglected in homicide research

although their presence in this society is visible, and their number is increasing. This study, because the results are disaggregated by race, advances the understanding of ethnicity on homicide rates. Advancing our knowledge about the impact that social disorganization has on youths from different racial groups can further help explain the disproportionately high involvement of blacks in homicide. Shihadeh and Shrum (2004) state that “[t]he relationship between race and crime is one of the most significant issues on the public agenda today, not only because of its implications for policy but for race relations more generally” (p. 507). Ultimately then, the importance of these analyses is grounded in the predicted influence of social structural factors on youth homicides, which will help further understand the phenomenon of juvenile homicide offending better. What circumstances lead a young person to kill? Specifically, as discussed in the section below, the following hypotheses are tested in this study.

Hypotheses

Hypothesis 1: Offenders’ Race, Age, and Gender

Research has consistently shown that race, age, and gender are significant correlates of crime, including homicide. The majority of young killers are found to be in their mid-to late-teens, while those under the age of 13 represent a very small percentage of juvenile homicide offenders (Heide, 1999). Combined with the generally agreed upon notion that crime is age distributed (Hirschi & Gottfredson, 1983), it is hypothesized that (a) no significant changes in the average age of youth homicide offenders will be evidenced over the study period.

The presence of a gender gap, with males committing significantly more crimes than females, is frequently noted by researchers (e.g., Chesney-Lind 1989; Hindelang 1971; Miethe and Regoeczi, 2004; Steffesmeier et al. 2005). In 2006, overwhelmingly, the youth homicide

offenders were male (93%) (Federal Bureau of Investigation, 2008). Because of the persistence of this gender gap in offending, it is expected that (b) the proportionate involvement of males and females in homicides has not significantly changed over the years.

The third significant correlate of homicide is that of race. Hawkins (1999) concludes that, compared to other racial groups, research has shown that for nearly a century, blacks have been greatly overrepresented as both homicide offenders and victims. Also guided by Block's (1985) analysis of homicide data from Chicago for the years 1965 to 1981, which showed that beginning in the mid-1970s, increases in homicides could be attributed to homicides involving blacks and Latinos, (c) it is expected that compared to whites, the proportionate involvement of black and Hispanic youths in homicides will be greater.

Hypothesis 2: Number of Offenders

One distinctive feature of youth involvement in crime is co-offending (Zimring, 1998). As the national data have shown, during the first part of the 1980s, approximately one-third of the incidents with a juvenile homicide offender involved multiple offenders, while in 2002, nearly half of the incidents involved multiple offenders (Snyder & Sickmund, 2006). It is therefore hypothesized that (a) an increasing trend in incidents involving multiple offenders will be evidenced in the present study. Because of the disproportionate involvement of minorities in homicides, it is expected that compared to whites, more blacks and Hispanics will be involved in incidents involving multiple offenders.

Hypothesis 3: Victims

Looking at combined rates for the years 1976 to 2005, national data show that 46.9% of homicide victims are black and 52.2% of the homicide offenders are black. Also 50.9% of the homicide victims are white and 45.8% of the homicide offenders are white, while 83.7% of the population was white and 12.3% black (Fox, Levin, & Quinet, 2008). This again illustrates the disproportionate involvement of blacks in homicides, and also that the majority of homicides are intraracial (Fox, Levin, & Quinet, 2008). Following this logic, it is expected that (a) if the proportionate involvement of offenders increases for any one racial group, the trend will be paralleled as increases in the proportionate involvement of victims from that racial group. It is expected that (b) no changes in the average ages of the victims will be evidenced, (c) nor is increases in the proportionate involvement of either males or females as homicide victims expected to emerge. Consistent with trends in homicide, with data indicating males constituting the majority of homicide victims (76.5%) (Fox, Levin, & Quinet, 2008), (d) it is expected that the majority of homicide victims will be white males.

Hypothesis 4: Setting

In their examination of juvenile involvement in homicides in Houston, Brewer and colleagues (1998) found that the majority of the homicides occurred in public places; a finding which is in line with research showing that juveniles are more likely to kill strangers (Blumstein, 1995), or acquaintances and strangers (Ewing, 1990), rather than family members. Also, this hypothesis is guided by the expectation that the victim-offender relationship increasingly shifts from family members as victims to acquaintances or strangers as victims. It is therefore hypothesized that (a) the setting where the incidents take place will increasingly shift from home

and indoor locations to outdoor and public places, thus reflecting where the interactions with the victims are most likely to take place. Guided by previous homicide trends that have shown the peak in homicides occurring in 1993, it is expected that this finding will emerge during the third study period. Although much of the juvenile crime occurs during school days and during the afternoon hours (Snyder & Sickmund, 2006), research has shown that, in a remarkably similar pattern to adults, juveniles are most likely to commit a crime with a firearm in the evening, between the hours of 9 p.m. and 10 p.m. (Snyder & Sickmund, 2006). Therefore, (b) it is expected that the majority of the homicides take place in the evening. Additionally, following national trends in homicides, (c) it is expected that the highest rates of homicides will be evidenced for the months of July, August, and December (Brearley, 1969) and during the weekend—from Friday night through Sunday.

Hypothesis 5 Victim-Offender Relationship

Research has shown that juveniles are most likely to kill acquaintances or strangers rather than family members (Blumstein, 1995; Ewing, 1990). In addition, the analysis of national trends for the years 1980 to 2002 revealed significant increases in the number of juveniles killing acquaintances and strangers while very little change in the number of juvenile offenders killing family members was found (Snyder & Sickmund, 2006). It is hypothesized that the following patterns will emerge in the present study. First, (a) it is expected that during each of the three time periods included in the study, the majority of the victims killed by juveniles are either acquaintances or strangers. Second, (b) consistent with the national trends, it is expected that proportionately speaking, beginning with the 1980s, an increase in the proportion of homicides involving juveniles killing either acquaintances or strangers will emerge. Third, research has

indicated that one difference between males and females who kill is that, compared to males, females are more likely to kill people they know, either family members or acquaintances (Rowley et al., 1987). Therefore, (c) it is expected that the changes in the proportion of homicides involving juveniles killing either acquaintances or strangers will emerge only for males.

Hypothesis 6: Circumstances

It is hypothesized that (a) the main precipitating factor leading to homicide will be arguments. This is based on the premise that, after analyzing data from Uniform Crime Reports for the years 1965 through 1995, Zahn and McCall (1999) found arguments to be the main precipitating circumstance for homicide throughout the 30-year period. Additionally, building upon Blumstein's (1995) well-accepted explanation of the drugs/guns nexus as the reason for the increases in homicides, the author hypothesizes that, (b) beginning in the mid-1980s, increasingly more homicide incidents began to have drugs as a causal factor. Specifically, it is expected that the number of incidents involving an altercation over drugs or money will increase from time1 to time2 and again from time2 to time3.

Hypothesis 7: Weapons

Increases in the availability of guns has been noted as a factor contributing to increase in homicides (Blumstein, 1995), and the increase in gang-motivated homicides involving automatic, semi-automatic, and high caliber weapons has been found in Chicago (Block & Block, 1993). Consistently, (a) it is therefore hypothesized that over the study period there was a shift in the types of weapons used in the killings. Therefore, consistent with existing research

(Blumstein, 1995; Block & Block, 1993), it is expected that the number of homicides involving handguns will increase from time1 to time2 and again from time2 to time3. Research has shown that the types of weapons used in the killings by males and females differ—with males utilizing firearms more frequently in their killings, as fewer than 10% of killings involving guns are committed by females (Fox, Levin, & Quinet, 2008). It is expected (b) that gender differences in the types of weapons used in the killings will emerge in the present study.

Hypothesis 8: Test of Social Disorganization Theory

The analyses in the present study represent a test of social disorganization theory. Accordingly, it is hypothesized that the indicators of social disorganization are significant predictors of juvenile homicides. If levels of social disorganization are high in neighborhoods, the rates of juvenile homicides should be accordingly high (Shaw and McKay's (1969, [1942])). Specifically, it is hypothesized that rates of juvenile homicides will be positively related to (a) racial heterogeneity and (b) foreign-born population. Shaw and McKay (1969, [1942]) postulated that ethnic diversity will impede social organization by disrupting communication between the groups. Further, communication between the groups is less likely because differences in customs and shared experiences may lead to mistrust (Sampson & Groves, 1989). Additionally, it is expected that rates of homicides will be positively related to (c) residential instability. This is based on the premise that when residents move in and out of neighborhoods frequently, this impedes the formation of strong ties to community and thus impedes social organization (Bursik, 1988). While Shaw and McKay (1969, [1942]) did not posit a direct link between socioeconomic status and rates of violence (Bursik, 1988), they saw low socioeconomic status as being a characteristic of socially disorganized communities that also have high rates of population

turnover and ethnic diversity. Measures of poverty are, indeed, often included as indicators of social disorganization (e.g., Mustaine, Tewksbury, & Stengel, 2006; Osgood & Chambers, 2000; Sampson & Groves, 1989). It is thus expected that (d) low socioeconomic status will be positively related to rates of homicides. Another frequently used measure of economic deprivation is (e) unemployment rate (e.g., Osgood & Chambers, 2000; Mustaine, et al., 2006), and it is therefore expected that the rates of unemployment are positively associated with homicide rates. Shaw and McKay (1969, [1942]) used rates of school truants as one of the indicators of social disorganization. To measure educational deprivation in this study, a measure of (f) rates of high school dropouts is used as an indicator of social disorganization, and it is expected that low educational attainment is positively associated with homicide rates. Another measure included by Shaw and McKay (1969, [1942]) was rates of homeownership, and they found that, overall, low rates of homeownership were correlated with high rates of delinquency. Consistent with their finding, it is expected that (g) high rates of rentals are positively associated with homicide rates. Lastly, a measure of family disruption was used as an indicator of social disorganization by Sampson and Groves (1989). In an earlier study, Sampson (1987) found that family disruption may lead to decreased levels of informal social control due to lessened supervision, and this is therefore associated with increased rates of juvenile crime. Thus, it is hypothesized in this study that family disruption is positively associated with homicide rates.

Hypothesis 9: Disaggregated Tests of Social Disorganization Theory

Hypothesis nine focuses on the neighborhood characteristics where the homicides take place. Specifically, the question to be answered is whether social disorganization variables can aid in the prediction of homicides committed by whites, blacks, and Latinos and males and

females. Consistent with social disorganization theory, it is expected that areas with high levels of social disorganization (as indicated by the variables discussed above) also have higher homicide rates. That is, consistent with social disorganization theory, the assumption is that race or gender per se is not correlated with homicide rates. Rather, if a census tract has high homicide rates, this corresponds with a high level of social disorganization, regardless of whether the rate is for blacks, whites, or Latinos or males or females. It is thus expected that social disorganization impacts youths from all racial and ethnic groups in the same way. Interestingly enough, Shaw and McKay (1969, [1942]) based their perspective on male delinquents, so one of the interesting questions is whether social disorganization impacts males and females similarly. The description of the dataset, along with description of the variables, units of analysis, and data analyses will be discussed next.

Homicide Data

To test the nine hypotheses outlined above, the *Homicides in Chicago, 1965-1995* dataset, which was compiled by Block and Block and made available by the Inter-University Consortium for Political and Social Research (ICPSR), was used. The dataset consists of information on every homicide recorded by the Chicago Police Department (with the exception of “justifiable” homicides) between the years 1965 and 1995. In this study, therefore, only criminal homicides are included. This is one of the most comprehensive datasets on homicides ever collected for any major city in the United States (Christakos & Block, 1997).

The data were derived from police investigation files and includes all cases, irrespective of whether the investigation led to an arrest or prosecution. The dataset consists of two files: one for the victims and one for the offenders. In the victim dataset, there are a total of 23,817 cases

and in the offender dataset, there are a total of 26, 030 cases, each case having over 100 variables. Unfortunately, for reasons of confidentiality, the ages of the offenders and victims were recoded into age categories (Block & Block, 1998). Consequently, for the purposes of the present study, it was impossible to exclude nineteen year-old offenders from the sample. When the homicides are reduced to incidents involving youths (those 19 and under), the number of cases in the offender level file was reduced to 7,233. Of these offenders, 5.2% (n=374) were females. When the victim-level file was reduced to include only the victims of youth offenders, the file was reduced to 5,141 cases. Of the victims, 11.4% (n=588) were females.

The victim-level file includes a plethora of information pertaining to the homicide incident, including data on the relationship of victim to offender, whether the victim or offender had previously committed a violent or nonviolent offense, time of occurrence and place of homicide, type of weapon used, cause and motivation for the incident, whether the incident involved drugs, alcohol, gangs, child abuse, or a domestic relationship, if or how the offender was identified, and information on the death of the offender(s). Demographic variables such as the age, gender, and race of each victim and offender are also provided. For each case in this dataset, there is one victim and 1 to 11 offenders. The offender-level file, which was created so that offender rates could be accurately calculated (Block & Block, 1998), contains a wealth of information about the offender demographics, information on the victim-offender relationship, and information about the homicide incident. Although the dataset is limited to Chicago, which unarguably presents questions of generalizability of the results, no national database exists that compares in comprehensiveness and completeness of the information that can be found in this dataset. This comprehensive dataset is a key asset of this present project as it allowed for very detailed examination of homicide trends.

To illustrate the comprehensiveness of this dataset, it has been utilized in several different ways in previous research. For example, to examine homicide clearances (Litwin, 2004; Litwin & Xu, 2007; Riedel & Boulahanis, 2007), to examine prostitution-related homicides (Brewer et al., 2006), to examine the impact of resource deprivation or neighborhood inequality on urban violence (Mears & Bhati, 2006; Morenoff et al., 2001), intimate partner homicide (Block & Christakos, 1995), risk of homicide for abused women (Block, 2003), to apply social disorganization theory to partner violence (Browning, 2002), siblicide (Daly, Wilson, & Salmon, 2001), deviant homicides (Varano & Cancino, 2001), to examine gun ownership and homicide offending (Kleck, 1998; Kleck & Hogan, 1999), the role of firearm caliber in homicides (Zimring, 1972), whether gun control could reduce violent killings (Zimring, 1968), to examine homicide victimization among the elderly (Nelsen & Huff-Corzine, 1998), homicides followed by suicides (Stack, 1997), gangs and homicides (Howell, 1994; Polczynski Olson, 2009), trends of homicides in Chicago (Block, 1976; Block, 1985; Block & Block, 1992; Block & Zimring, 1973), spouse killings (Wilson & Daly, 1992), the relationship between robberies and homicides (Chilton, 1987), and to examine victim-offender dynamics in homicides (Block, 1981).

Variables

For the descriptive and bivariate analyses focusing on offenders, precursors, and setting, the unit of analysis was the number of black, white, Latino, and male and female offenders in three different time periods: time1 consists of the incidents that took place between 1965 and 1974, time2 consists of the incidents that took place between 1975 and 1984, and time3 consists of the incidents that took place between 1985 and 1995. For the descriptive analyses focusing on the victims, the unit of analysis was the city of Chicago homicide rates in the three different time

periods, derived from the victim-level file. In the following section, more details on how the variables are coded in the dataset will be provided.

To provide descriptives on trends related to the four facets of the context of youth homicides, the following variables were included in the study (see Appendix A for a summary of the variables included in the analyses). The variable INJYEAR indicates the year of occurrence of the incident (ranging from 1965 to 1995). Variable INJMONTH indicates the month occurrence of the incident (coded January=1 thru December=12), variable INJDAY (coded Sunday=1 thru Saturday=7) and INJTIME (coded according to the four-digit military clock) indicates the time of occurrence of the incident.

The following variables relating to the offender would be included: OSEX indicates the offender's gender (coded 1=male, 2=female, 9=missing). ORACE indicates the offender's racial/ethnic group. The values in the dataset are Asian, Black, Latino, and White (coded 1=White Non-Latino, 2=Black Non-Latino, 3=Latino, 4=Asian², 5=Other, and 9=missing).

The variable OAGE tells the age of the offender and the variable VAGE the age of the victim. The values in the dataset are in interval categories of five years, beginning with the category zero to five and ending with the category 85 years old or older. The age categories included in the present analyses consist of the following categories coded 1=under 5 years; 2=5 to 9 years; 3=10 to 14 years; 4=15 to 19 years. This variable was recoded into a new variable consisting of the offenders between the ages 5 and 19. In the present study, all offenders under the age of 19 and all victims, regardless of age, were included, that is, unless otherwise noted, the analyses were not restricted to incidents with single-victim and single-offender. The variable

² Please note: Asians and those belonging to the "other" category will not be included in the analyses due to their small numbers and the focus being on the three main racial/ethnic groups.

NUMOFF indicates the number of offenders involved in an incident. The values range from one to eleven.

In order to evaluate the type of relationship between the offender and the victim, the variable RELATION was utilized. The coding of this variable in the dataset is as follows:

1=spouse; 2=child/parent; 3=other family; 4=friends; 5=acquaintances; 6=rival gang; 7=business/work; 8=illegal business; 9=other; 10=stranger; and 11=unknown.

To provide information on the setting of the homicides, the variable PLACE, which indicates the location of the incident/body, was used. This variable is coded as follow: 1=home; 2=hotel; 3=indoor, other residential; 4=tavern; 5=indoor pub, other; 6=vehicle; 7=public transportation; 8=street; and 9=outdoor, other.

To provide information on the precursors of the homicide, the following two variables were included. First, to examine whether the circumstances leading to the homicide have changed over the years, the variable CAUSFACT will be included, which refers to the main causal factor leading to the incident. It should be noted that the dataset uses the terminology “causal factor.” The author recognizes that the variable indicates the circumstances leading to the homicide, and causality is inferred. The dataset consists of 52 different causal factors, including 117=drug altercation; 120=money altercation; 382=gang altercation; and 300=armed robbery. Second, to examine if and how the weapon usage by juveniles has changed over the years, the variable WEAPON is included. This variable indicates the type of weapon used in the killings, and it is coded as follows: 0=mystery; 1=automatic handgun; 2=handgun non-auto; 3=rifle non-auto; 4=shotgun non-auto; 5=firearm-type unknown; 6=knife, sharp instrument; 7=club, blunt instrument; 8=arson; 9=other weapon; and 10=hand, fist, feet.

Data Analysis

Frequencies and cross tabulations/chi-squares were completed by race (conducted separately for whites, blacks, and Hispanics) and for males and females. All of the analyses of juvenile homicides over 31-year period were performed using SPSS (Statistical Package for the Social Sciences) version 16.0.

Indicators of Social Disorganization

One of the strengths of the *Homicides in Chicago* dataset is that it contains the census tract identifier for the location where the incident took place. There are a total of 873 separate census tracts in the city of Chicago. The homicides in Chicago were dispersed over 854 census tracts with juveniles committing homicides in 697 of the census tracts in Chicago. Only 13 cases had missing census tract information. In order to conduct analyses relating to social disorganization, the variable CENTRACT was utilized, which indicates the census tract number of the address of the incident.

In order to evaluate hypotheses eight and nine, which are related to examining whether the indicators of social disorganization theory can aid in the prediction of homicides over time, and by race/ethnicity and gender, in addition to the *Homicides in Chicago dataset*, U.S. Census data for 1970, 1980 and 1990 were used. The census data were compiled from the University of Central Florida Library Geolytics Database. In this study, analyses were conducted for three different time periods: for the incidents that took place during 1965 to 1974, the 1970 census data were used. Consistently, the 1980 census data were used for the incidents that occurred between 1975 and 1984, and the 1990 census data were used for the incidents that occurred between 1985 and 1995. The victim-level and the offender-level datasets were first split

according to the year of the incident and each of these three sets of data was merged with the corresponding Census year data. In an examination of gang homicides in Chicago, Polczynski Olson (2009) used the ArcGIS mapping program to see whether the census boundaries for 1970, 1980, and 1990 were changed. No changes from 1970 to 1980, or 1980 to 1990 were found. Therefore, no changes, either splitting or combining the census tracts, were required in this study.

Shaw and McKay (1969 [1942]) included three exogenous variables thought to increase neighborhood social disorganization: SES, residential mobility, and ethnic heterogeneity. As described in greater detail in the hypotheses section, much of the research on social disorganization has included the following measures as central indicators of social disorganization: measures of socioeconomic status, residential stability, family stability/disruption, ethnic/racial heterogeneity, urbanization (e.g., Sampson & Groves, 1989), and also unemployment and poverty rates (Osgood & Chambers, 2000) and income and housing values and concentrations of young persons (e.g., Mustaine, Tewksbury, & Stengel, 2006).

To be consistent with existing research on the indicators of social disorganization, the following variables were used from each census tract: (a) *Racial/ethnic heterogeneity*³ as measured by the Simpson's Diversity Index. This index reflects the racial and ethnic heterogeneity of the population in the census tract. (b) *Family disruption* was measured

³ The Simpson's Diversity Index was used to create a racial heterogeneity index for the present study. The formula for the Simpson's Diversity Index is as follows: $D = 1 - \sum \left(\left(\frac{n}{N} \right)^2 \right)$, where n is the count of a single race, and N in the total count of races. The outcome of the equation denotes the racial heterogeneity of each of the census tracts. The index numbers range between 0 and 1. A number closer to zero indicates less diversity in the area. For example, if the index number was "0," this would indicate that the tract had a racially homogenous population. The measures of race and ethnicity differed for the 1970, 1980, 1990 Censuses. For the purposes of this study, three categories were included: black, white, and other. An explanation of how these variables were created can be found in Appendix B.

according to the proportion of all households that are single-headed by either a female or male. (c) *Renter-occupied units* was measured according to proportion of housing units occupied by renters. (d) *Residential instability* was measured as the proportion of the population 5 years or older who had lived in the same residence five years earlier. (e) *Educational deprivation* was measured as a percent of the population 25 years of age or older without a high school degree (f) *Unemployed* was measured as the percentage of the population over the age of 16 who are unemployed. (g) *Poverty* was measured as the percent of the population living below the poverty line. (h) Another measure of *economic deprivation* included was median household income. The last explanatory variable included was (i) *foreign born* population indexed as the proportion of population who were foreign born. Further details of how these variables were calculated can be found in Appendix B.

With the exception of the median household income, all of the independent variables were multiplied by 100, so that the outcomes of the percentage of change in the expected count for a unit increase in the independent variable was a percentage. The median household income was divided by 1000 so that the results could be interpreted by 1000 dollar increases or decreases, rather than one dollar increases or decreases, which would essentially be a meaningless indication of the impact of median household income in a census tract on the homicide rates.

Unit of Analysis

The unit of analysis for part two of the study was census tracts. Again, juveniles committed homicides in 697 of the 873 tracts in Chicago, with only 13 cases having missing information. Census tracts are small, relatively permanent statistical subdivisions of a county.

Census tract boundaries typically follow visible features but may also follow governmental unit boundaries or other invisible features. A typical census tract averages approximately 4,000 inhabitants. Further, the unit is designed to be relatively homogenous with respect to population characteristics, economic status, and living conditions (U.S. Census Bureau, 2007).

Admittedly, the use of census tracts as the level of analysis has been criticized; for example, Sampson and Groves (1989) argue that census-level data rarely provide measures of the variables hypothesized to mediate the relationship between community structure and crime. However, Gottfredson et al. (1991) point out that the validity of census data for measuring the exogenous structural characteristics associated with increased crime rates outlined by Shaw and McKay (i.e. socioeconomic status, ethnic heterogeneity, and residential mobility), has not been questioned. Therefore, for the purposes of the present study, census tract-level data were utilized.

Lastly, for the purposes of the present study, the location of the homicide incident is used as a proxy for where the youth homicide offender is living. While the *Homicides in Chicago* dataset does not contain the census tract number for the address where the offender was living at the time of the offense, this study is consistent with Shaw and McKay's (1969[1942]) argument that rates of criminal offending will be higher in socially disorganized areas. Further, existing research has found that youths commit crimes in locations familiar to them, as familiarity with the area provides young offenders with knowledge about quick escape routes—referred to as the “awareness space”—and, consistently, youth do not typically travel far to commit crimes (Smith, Glave Frazee, & Davidson, 2000). Bernasco and Nieuwbeerta (2005) have noted that a familiar location allows an offender to blend in, not look out of place, and not get lost when returning home. Therefore, in the present study it is assumed that youth often commit homicides in locations familiar to them, their neighborhoods.

Dependent Variables

There are ten dependent variables for the second part of the analyses, one for each of the negative binomial regression models. First, there are three models testing social disorganization theory, one for each of the time periods. For each of these models, the dependent variable is the count of homicides by census tract. Each of the homicide counts were derived from the victim-level file and all victims of youth offenders between the ages 10 to 19⁴ were included. For time1, there were 1,502 homicide victims, 1,482 during time2, and 2,147 victims during time3. Due to their small number (n=36), Asian offenders were excluded from this study and consequently, the victims of Asian offenders were excluded from the analyses as well, (n=8, n=12, and n=11), in each of the time periods, respectively. Additionally the census tract information was missing in 4, 2, and 7 cases, respectively. This left counts of 1,490, 1,468, and 2,129 homicide victims to be included. The unit of analysis, however, is the census tract. In order to be able to interpret the counts as rates, offset variables were created and this process is described further in the next section. For the models for the disaggregated groups, the dependent variable was the count of homicide offenders between the ages 10 and 19 in the selected group per census tract, derived from the offender-level file. In other words, seven different dependent variables were created: the count of white offenders (n=129), with 4 of the cases missing the census tract, leaving 125 offenders included in the analyses, count of black offenders (n=2,314), with 4 of the cases missing the census tract, leaving 2,310 offenders included in the analyses, count of Latino offenders (n=624), with 3 of the cases missing the census tract, leaving 621 offenders included in the analyses, count of male offenders in each of the three time periods (n=2,067); 6 missing reducing n to 2,061; n=1,861 but with 2 missing leaving 1859 males to be included; and n=2,925

⁴ Offenders under the age of 10 (n=8) were excluded from the negative binomial analyses due to their small number.

with 11 missing reducing the number to 2,914, and the count of female offenders (n=142). But, similar to models 1-3, the unit of analysis is still census tracts (n=873). With the exception of males, the disaggregated analyses by race/ethnicity and by gender were only done for the third time period. This was done because the 1970 and 1980 Censuses do not provide race by age data. Consequently, it would have been impossible to create an offset variable for these analyses.

Offset Variables

In order to be able to interpret the results as rates in negative binomial models, an offset variable was created for each of the eight models, that is, the population at risk. Osgood and Chambers (2000) applied the negative binomial model in their research on the impact of social disorganization on juvenile violence in rural areas, and they offer the following insight with regard to this analytic strategy: “The standard form for a Poisson-based regression model is that the natural logarithm of a linear model (i.e. the sum of a set of explanatory variables each multiplied by a regression coefficient). Of course, our interest is in the arrest rate relative to population size, rather than in the number of offenses. To convert the model to this form, we add the natural logarithm of the size of the population at risk... giving that variable a fixed coefficient of 1” (p. 96). In other words, this technique can be utilized to standardize the model (Osgood & Chambers, 2000). Negative binomial regression is an extension of Poisson regression and is a type of regression model that can be used to analyze count data (Hilbe, 2007), such as the count of homicides, and thus it was applicable for the purpose of the present study.

As Osgood and Chambers (2000) note, while the typical approach is to use the rates as the dependent variable in ordinary least-squares regression, this approach is inappropriate in studies such as this one because it is expected that the offense rate is low relative to the

population size and overdispersion emerges as a problem for the analyses. For models 1 to 3, testing social disorganization theory in each of the three time periods, the offset variable in these models was the natural log of the total population by census tract, as the victim could be of any age. The total population counts by census tract were derived from the 1970, 1980, and 1990 Censuses, respectively. For the disaggregated analyses, seven different offset variables were also created, reflecting the population at risk for each of the analyses. The 1990 census information was used to calculate the offset variables. With the exception of males for whom the analyses were run for all three time periods, the disaggregated analyses were only run for the third time period by race and for females⁵. For model 4, the offset variable was the natural log of the total white population between the ages 10 and 19. For model 5, the offset variable was the natural log of the total black population between the ages 10 and 19. For model 6, the offset variable was the natural log of the total Latino population between the ages 10 and 19. For models 7-9, the offset variable was the natural log of the total male population between the ages 10 and 19, derived from 1970, 1980, and 1990 censuses. And finally, the offset variable in model 10 was the natural log of the total female population between the ages 10 and 19. These offset variables were created in Excel by using the function LN(n) where n=the population at risk.

Data Analysis

To examine whether social disorganization variables can aid in the prediction of homicides and since the dependent variable is a count variable of the number of homicides by census tract and by race group and by gender, ten negative binomial regressions were run in STATA, version SE10. First, however, it was evaluated whether Poisson regression or a negative

⁵ This was done because the 1970 and 1980 Censuses do not provide race by age data and thus it was impossible to create an offset variable for these analyses.

binomial regression would better fit the data. The results showed that a negative binomial regression better fit the data as the counts were overdispersed in eight of the analyses and underdispersed in two of the analyses. The graphs of these comparisons can be found in Appendix C.

Variance inflation factors (VIFs) were run on all variables to test for potential problems of multicollinearity. A commonly used practice assumes VIFs above 4 to indicate problems of multicollinearity (Fisher & Mason, 1981). As a result of these analyses, percent below poverty was excluded since the VIF was 4.6 for the 1990 Census data. Two models were run: one with the variable percent below poverty line and one without it. The results of these models were not significantly different. Although percent below poverty line is a commonly used variable in criminological research, it is probable that it exerts influence on violent crimes through other variables, e.g. single-headed households, unemployment, or levels of educational attainment. After excluding below poverty, there were no indications that the variance of one independent variable is greatly affected by another variable, as all of the VIFs were under 4.

In chapter 5, the results of the descriptive and bivariate analyses pertaining to the offender, victim, setting, and precursors to homicide will be reviewed. This chapter is arranged into four sections: offenders, victims, precursors, and setting. This chapter thus provides a discussion about whether hypotheses one to seven were supported. In chapter 6, the results of the ten negative binomial models will be summarized. That is, a discussion about whether hypotheses eight and nine were supported will be provided. The results of the negative binomial regression models testing social disorganization theory in three time periods (1965-1974, 1975-1984, and 1985-1995) will be discussed first, followed by the results of the disaggregated analyses evaluating whether indicators of social disorganization can aid in the prediction of homicides by whites, blacks, & Latinos, and males & females.

CHAPTER FIVE: PART ONE RESULTS

In this chapter, the results of the descriptive and bivariate analyses examining offender characteristics, victim characteristics, settings of the homicides, and precursors to the homicides will be discussed. Rather than separating the results into sections that cover frequencies and the results of the bivariate analyses separately, the results section is arranged according to the questions that the first part of this study seeks to answer. Specifically, the first part is divided into the following four subsections: questions pertaining to offenders (hypotheses 1 and 2), victims (hypothesis 3), settings (hypothesis 4), and precursors to the homicide (hypotheses 5, 6, and 7).

In these analyses, all offenders age 19 and under, and all victims, regardless of age, are included. That is, unless otherwise noted, the analyses were not restricted to incidents involving single-victims and single-offenders. This is done based on the premise that the purpose of this study is to examine juvenile homicides as a whole, and if the results were analyzed only for single-victim and single-offender cases, the results would not be representative (Homicides in Chicago, n.d.). A significant number of homicides involve multiple offenders and/or multiple victims, and these types of homicide incidents differ along a continuum for several variables, including offender's age, gender, and homicide circumstances. For example, a street gang-related homicide and a familicide exemplify these differences (Homicides in Chicago, n.d.). The limitations of only including single-victim, single-offender homicide incidents would be that, presumably, the portrayal of juvenile homicides would not be accurate. That is, there might be significant differences in the precursors and victim characteristics depending upon whether the incident is a single-victim, single-offender homicide, or multiple-offender and/or multiple-victim

homicide. To truly capture the reality of youth homicides, all offenders are included. It should be noted that the inclusion of multiple offenders and victims will obviously impact some of the frequencies. For example, if an incident had three offenders, this case will have a greater impact on the frequency of such variables as the month or day of the week of the incident.

Population Characteristics

To begin, a brief description of the population in the city of Chicago over the three decades that this study covers will be provided. In 1970, the total population in Chicago was estimated at 3,465,304 (U.S. Census, 1970). During the following decade, the population decreased to an estimated 3,049,187 (U.S. Census, 1980) and by 1990, the total population in the city was estimated at 2,832,214 (U.S. Census, 1990). Of the total population, the 1970, 1980, and 1990 Censuses estimated that 47.6%, 47.5%, and 47.9% were males, respectively.

In 1970, 65.6% of the city's population were white, 30.5% black, 3.4% Latino, and 1.3% some other race (U.S. Census, 1970). By 1980, whites comprised 50.4% of the population, blacks 39.3%, the Latino population had increased to 13.9%, and other races to 10.4% (U.S. Census). In 1990, the racial breakdown of the total population was as follow: 46.3% white, 38.4% black, 15.3% of some other race, and an estimated 19.1% of the population was Hispanic. It should be noted that in the census a person of Hispanic heritage is most likely counted as a white, black, or some other race and again as a person of Hispanic heritage and thus the numbers may not equal to 100. In comparison, in the *Homicides in Chicago* dataset, an offender is classified as either black, white, or Latino. In other words, the way the census counts Hispanic heritage is not consistent with the *Homicides in Chicago* dataset, but this is the best measure available on Hispanic heritage in Chicago and thus is utilized in the study. The youth homicide

offenders in these analyses were between the ages 5 and 19 years. In 1970, this age group, the population at risk, comprised 27.2% of the population (U.S. Census, 1970). In 1980, 24.3% of the city's population were between the ages 5 and 19 (U.S. Census, 1980), and by 1990 the percentage had decreased to an estimated 21.2% (U.S. Census, 1990).

Hypotheses 1 and 2: Offenders

In the 1990s, claims were made about a new breed of juvenile offender, and the term “super-predator” was coined to characterize this new type of violent juvenile offender (Zimring, 1998). Arguments have been made, therefore, that changes can be expected in the future, for example, that young offenders will be younger and more violent. Charting trends over time with regard to offender characteristics can offer significant insights into change and stability among juvenile offenders. Consequently, the first goal of this study is to look at the plausible changes in the characteristics of youth homicide offenders between 1965 and 1995. This study looks at the trends in terms of the offenders' race, gender, age (hypothesis 1), and changes in the incidents involving multiple offenders (hypothesis 2). Specifically, this study provides answers to the following questions. Has the average age of the offenders changed for these groups? Has the proportionate involvement of males and females changed over the years? Has the proportionate involvement of white, black, and Latino offenders changed? And, has the number of incidents involving multiple offenders for these groups changed?

Race

Between the calendar years 1965 and 1995, a total of 7,269 youths 19 years of age and under were arrested for homicide in Chicago. Of the sample, 470 (6.5%) were White (non-

Latino), 5,468 (75.2%) were Black (non-Latino), 1,293 (17.8%) were Latino, and 36 (0.5%) were Asian or of some other race. The first step was to eliminate the racial category “Asian” due to its small number and this study focuses on whites, blacks, and Latinos. Consequently the final sample size included in the analyses was reduced to 7,233. Table 1 displays the race of the offenders for the three study periods (1965 to 1974, 1975 to 1984, and 1985 to 1995).

Table 1: Race of the Offenders

Year	Race			
	Total	White	Black	Latino
1965-1974	2,184 (30.2%)	181 (8.3%)	1,789 (81.9%)	214 (9.8%)
1975-1984	1,980 (27.4%)	160 (8.1%)	1,365 (68.9%)	455 (23.0%)
1985-1995	3,067 (42.4%)	129 (4.2%)	2,314 (75.4%)	624 (20.3%)
Total	7,231 (100%)	470 (6.5%)	5,468 (75.6%)	1,293 (17.9%)

Note. Data on race were missing on two of the offenders. Percentages are calculated using only known data. The percentages in parentheses refer to the percentage of the race during each of the time periods.

In the sample, 470 individuals (6.5%) were white (non-Latinos). During the first ten-year period, there were a total of 181 white offenders, which constituted 8.3% of the sample. The proportionate involvement of whites remained relatively stable during the second period, with 8.1% (n=160) of the offenders being white. During the third period, the involvement of white youths in homicides declined, with 4.2% (n=129 individuals) of the sample being white. In

general terms then, white youths were underrepresented in the sample as they comprised 65.6% of the population in Chicago in 1970, 50.4% in 1980, and 46.3% in 1990 (U.S. Census, 1970; U.S. Census, 1980; U.S. Census, 1990). Notably, however, as the proportion of whites in the total population decreased, this coincided with a decline in the proportionate representation of white youths as homicide offenders.

Comparatively, a total of 5,468 black youths were arrested for homicide in Chicago during the 31-year time period, a number significantly higher than that for whites. During the first time period, 1,789 offenders were black, representing 81.9% of the sample, while blacks represented 30.5% of the population in Chicago in 1970 (U.S. Census, 1970). Between the years 1975 and 1984 a small decrease in the number of black youths being involved in the homicides was evidenced with 1,365 black youths, representing 68.9% of the sample, having been involved in homicides. In 1980, blacks represented 39.3% of the population in Chicago (U.S. Census, 1980). During the third study period, the proportionate involvement of blacks in homicides increased. A total of 2,314 blacks were involved in homicides, constituting 75.4% of the sample while constituting only 38.4% of the population in Chicago in 1990 (U.S. Census, 1990). As expected, black youths were greatly overrepresented as homicide offenders in the sample.

Perhaps the most interesting and consistent pattern of changes in terms of race was evidenced for Latinos. Over three decades, there was a consistent increase in the proportion of Latino offenders. The number of Latinos in the sample, a total of 1,293, was much lower than the number of blacks, but about three times the number of whites. During the first study period, 214 Latino youths were involved in homicides, thus representing 9.8% of the sample. However, during the second period, the percentage of Latinos in the sample had increased to 23.0%. The number of offenders increased again from the second to the third period, from 455 to 624 Latino

offenders. Similar to the second period, during the third period, 20.3% of the sample were Latinos, a remarkable shift in the racial representation of Latinos in the sample in just over three decades. These findings can be best interpreted by looking at the racial and ethnic composition of Chicago for the 1970s, 1980s, and 1990s. According to the U.S. Census, only 3.4% of the population in Chicago was Latino in 1970, but by 1980 this had increased to 13.9%, and to 19.0% by 1990. Therefore, this increase in young Latino homicide offenders parallels increases in Latino population in the area. In summary, it was expected that black and Latino youths would be overrepresented in the sample. While this was found for blacks in all three time periods, Latinos were overrepresented in the first two time periods, but by the third time period, Latino youths were represented roughly in proportion to their presence in Chicago's population. White youths were greatly underrepresented as homicide offenders in all three time periods.

Gender

Consistent with the persistent finding of a gender gap in offending, with males committing significantly more crimes, including homicides, than females (e.g., Chesney-Lind 1989; Miethe and Regoeczi, 2004; Steffesmeier et al. 2005), the results show that homicide offending in Chicago is mainly a male phenomenon. Of the total sample of 7,233 offenders, 94.8% were male and 5.2% were female. Consistent with the expectations, the proportionate involvement of males and females remained relatively stable over the three time periods. Table 2 displays the gender of the offenders for the three time periods.

Table 2: Gender of the Offenders

Years	Total	Male	Female
1965-1974	2,186 (30.2%)	2,073 (94.8%)	113 (5.2%)
1975-1984	1,980 (27.4%)	1,861 (94.0%)	119 (6.0%)
1985-1995	3,067 (42.4%)	2,925 (95.4%)	142 (4.6%)
Total	7,233 (100%)	6,859 (94.8%)	374 (5.2%)

During the first time period, the breakdown of gender was as follow: males 94.8%, females 5.2%. No significant changes were evidenced in the gender of the offenders during the second time period: with males representing 94.0% of the sample and females 6.0%. Consistently, the existence of the gender gap was strikingly evident during the third time period: 95.4% of the sample was male, and 4.6% female. In summary, the univariate analysis of offenders' gender implies a strikingly consistent pattern over a 31-year period, with males constituting the majority of offenders. Therefore the expectation that the proportionate involvement of males and females in homicides has not changed over the years was supported by the findings.

A number of biological, psychological, and sociological explanations have been offered for the gender gap in crime. Early explanations on crime focused on biological differences. In the *Criminal Man*, Lombroso attempted to find an explanation for criminality by focusing on physical characteristics of offenders. With regard to female criminality, Lombroso (2006[1876])

notes the following “[t]he only conclusion about the physiognomy of criminal women I can draw from my sample is that female criminals tend to be masculine” (p. 55). This type of biological explanation has been attacked by many, for example Sutherland (1992[1942]), as lacking any real explanatory powers. The disadvantage of applying biological explanations to account for the gender gap is that it assumes some people are predisposed to commit crime and further, it ignores all the sociological factors that research has consistently shown to impact crime. In the second part of this study, it will be examined whether indicators of social disorganization have a differential impact on males and females, and it is in the hope that these analyses will contribute to the sociological body of research attempting to explain the disproportionate involvement of males in homicides.

To further break down the results, crosstabulation/chi-squares were also run to examine the racial and ethnic breakdown by gender. The results show that 6.4% of the male offenders (n=440) were white males and 8.0% of the female offenders (n=30) were white. Of the male offenders, 75.0% were black (n=5,145) and of the female offenders, 86.4% were black (n=323). Of the male offenders, 18.6% were Latinos (n=1,272), and of the female offenders, 5.6% were Latinas (n=21). The chi-square value of 40.613 is highly significant ($p < .001$). These findings provide support for the hypothesis that there are differences in the racial and ethnic background of both male and female youth homicide offenders. These results are summarized in table 3. In summary, the results indicate that the majority of both-male and female-homicide offenders are black. Among males, the second largest racial/ethnic group is Latinos, while among females the second largest group is whites. Among male homicide offenders, the smallest racial/ethnic group is whites, while comparatively the smallest racial/ethnic group among females is Latinas.

Table 3: Race and Gender of the Offenders

Gender	Total	White	Black	Latino
Male	6,857 (94.8%)	440 (6.4%)	5,145 (75.0%)	1,272 (18.6%)
Female	374 (5.2%)	30 (8.0%)	323 (86.4%)	21 (5.6%)
Total	7,231 (100%)	470 (6.5%)	5,468 (75.6%)	1,293 (17.9%)

Note. The results are statistically significant. $\chi^2 = 40.613$; $df=2$; $p<.001$. Data on race were missing on two of the offenders. Percentages are calculated using only known data.

Age

The third question to be answered in this study in regard to offenders was whether the average age of male and female youth homicide offenders have changed over the years, and whether there are racial/ethnic differences in terms of the age of the offenders. It is expected that no significant changes in the ages of youth homicide offenders will be evidenced. Unfortunately, as described previously, the age of the offenders was recoded into categories due to reasons of confidentiality and privacy. Therefore, the dataset provides only limited information about the age of the offenders. The variable utilized from the dataset was *OAGE*, and the specific age categories available from the dataset were under 5 years of age (coded as 1), 5 to 9 years (coded as 2), 10 to 14 years (coded as 3), and 15 to 19 years (coded as 4).

Age and Gender

The first question pertained to the average age of male and female offenders, and whether any changes in the ages can be evidenced over the 31-year time period. Since age is coded as a

categorical variable and gender is also a categorical, nominal-level data, crosstabulation/chi-squares were run to examine whether the average age differed for male and female offenders. Age category 5 to 9 was collapsed with the age category 10 to 14 years since only a small number of the offenders (n=8) were under the age of 10. The results in table 4 show that the majority of both male (94.0%) and female (87.7%) offenders were between the ages of 15 to 19, a total of 6,776 individuals. A total of 457 offenders were in the age category 5 to 14 years. Of these, 89.9% were male and 10.1% female.

Next, it was evaluated whether any changes occurred in the average ages for male and female offenders, or whether the age patterns remained relatively stable over time. The results of these analyses can also be found in Table 4. Between 1965 and 1974, there were a total of 2,073 male offenders, constituting 94.8% of the sample. Comparatively, of the sample, 113 were females, constituting 5.2% of the total sample. The majority of both males and females belonged to the 15 to 19 year-old category (93.3% and 91.2%, respectively). That is, only 6.7% (n=138) of male offenders and 8.8% (n=10) of female offenders were between 5 to 14 years of age. The results of the analyses comparing the ages of the offenders by gender were not significant during this time period, however.

Gender patterns in terms of age remained relatively stable over the next study period—between the years 1975 and 1984. Again, the majority of both males and females belonged to the 15 to 19 year old category, (94.7% and 89.9%, respectively). A notably smaller percentage of the male offenders, 5.3%, were between the ages of 5 and 14 years of age, while the percentage was about half of that for females (10.1%). Divergent from the first time period, this comparison was found statistically significant with the chi-square value of 4.798 ($p < .05$).

Lastly, turning to the third study period, the years 1985 to 1995, the bivariate analyses reveal an interesting pattern in terms of age and gender. The results show that between 1985 and 1995, 16.9% of female offenders belonged to the age category 5 to 14 years of age. To summarize the trend over three decades, between 1965 and 1974, 8.8% of females belonged to this category, between 1975 and 1984 this percentage increased to 10.1% and it increased again over the next 10 years to 16.9%, so that over the 31-year time period, the percentage of 5 to 14-year old female offenders nearly doubled. This pattern does not emerge for males. During the third time period, 6.7% of males belonged to the 5 to 14 years old category. Consistent with the previous two study periods, the majority of both males, 94.1% (n=2,751) and females 83.1% (n=118) belonged to the 15 to 19 year old category. The gender differences evidenced during the third study period were statistically significant ($p < .001$) with the chi-square value 26.901.

To summarize the trends in terms of gender and age, the results imply a great deal of consistency in the proportionate involvement of younger and older offenders for males, but the results imply increases in the proportionate involvement of female offenders between the ages of 5 to 14. Therefore, the results of the analyses pertaining to the offenders' age and gender provide only partial support for the hypothesis that no changes in the average age of the offenders would be evidenced. Of course, a limitation of the analyses here is the low number of females in the sample.

Table 4: Age of the Offenders by Gender

Age	Total	1965-1995*		1965-1974**		1975-1984***		1985-1995****	
		Male	Female	Male	Female	Male	Female	Male	Female
5 to 14	457 (6.3%)	411 (5.9%)	46 (12.3%)	138 (6.7%)	10 (8.8%)	99 (5.3%)	12 (10.1%)	174 (5.9%)	24 (16.9%)
15 to 19	6,776 (93.7%)	6,448 (94.0%)	328 (87.7%)	1,935 (93.3)	103 (91.2%)	1,762 (94.7%)	107 (89.9%)	2,751 (94.1%)	118 (83.1%)
Total	7,233 (100%)	6,859 (100%)	374 (100%)	2,073 (98.4%)	113 (5.2%)	1,861 (94.0%)	119 (6.0%)	2,925 (95.4%)	142 (4.6%)

*The results are statistically significant. $\chi^2 = 23.837$; $df=1$; $p<.001$.

**The results are not statistically significant.

***The results are statistically significant. $\chi^2 = 4.798$; $df=1$; $p<.05$.

****The results are statistically significant. $\chi^2 = 26.901$; $df=2$; $p<.001$.

Age and Race

The next question to be answered was whether there were racial and ethnic differences in terms of the offenders' age. Table 5 displays the results of the crosstabulations showing the age category and race of the offenders. A total of 6,774 offenders (93.7%) belonged to the 15 to 19 year-old category, and this was also the most frequent age category within each race. Specifically, within the races, 94.7% of white offenders (n=445), 93.0% of black offenders (n=5,087), and 96.1% of Latino offenders (n=1,242) belonged to this category. Age categories 5 to 9 and 10 to 14 were combined due to small number of offenders being under the age of 10 (n=8). This combined age category 5 to 14 years was also relatively small. Within the races, 5.3% of white offenders (n=25), 7.0% of black offenders (n=381), and 3.9% of Latino offenders (n=51) belonged to this category. While few differences between the age of the offenders and their racial and ethnic background were evidenced, the differences were statistically significant. The chi-square value of 16.997 is highly significant ($p < .001$). The greatest difference in terms of age and race emerged in the comparison of offenders between the ages 10 and 14 for blacks and Latinos. A slightly higher percentage of blacks (7.0%) in the sample belonged to this age category, while the proportion among Latinos was 3.9%. In other words, very few of the Latino offenders were under the age of 15. As expected, the greatest proportions of offenders, regardless of race, were between the ages of 15 to 19. In summary, the analyses reveal that, in general, the proportionate involvement of offenders in specific age categories follow the same pattern, regardless of race. The comparison of age and race in general was followed by an analysis of trends over time.

Table 5: Age of the Offenders by Race

Age	1965-1995 (N=7,231)*				1965-1974 (N=2,184)**			1975-1984 (N=1,980)***			1985-95 (N=3,067)****		
	Total	White	Black	Latino	White	Black	Latino	White	Black	Latino	White	Black	Latino
5 to 14	457 (6.3%)	25 (5.3%)	381 (7.0%)	51 (3.9%)	7 (3.9%)	139 (7.8%)	2 (0.9%)	8 (5.0%)	84 (6.2%)	19 (4.2%)	10 (7.8%)	158 (6.2%)	30 (4.8%)
15 to 19	6,774 (93.7%)	445 (94.7%)	5,087 (93.3%)	1,242 (96.1%)	174 (96.1%)	1,650 (92.2%)	212 (99.1%)	152 (95.0%)	1,281 (93.8%)	436 (95.8%)	119 (92.2%)	2,156 (93.2%)	594 (95.2%)
Total	7,231 (100%)	470 (6.5%)	5,468 (75.6%)	1,293 (17.9%)	181 (8.3%)	1,789 (81.9%)	214 (9.8%)	160 (8.1%)	1,365 (68.9%)	455 (23.0%)	129 (4.2%)	2,314 (75.4%)	624 (20.3%)

*The results are statistically significant. $\chi^2 = 16.997$; $df=2$; $p<.001$. Data on race were missing on two of the offenders. Percentages are calculated using only known data.

**The results are statistically significant. $\chi^2 = 16.779$; $df=2$; $p<.001$. Data on race were missing on two of the offenders. Percentages are calculated using only known data.

***The results are not statistically significant.

****The results are not statistically significant.

The analyses reveal significant stability for whites, blacks, and Latinos over the 31-year period. The comparisons of race and age were found to be statistically significant only during the first study period with the chi-square value of 16.779 ($p < .001$). During the first period (1964 to 1975), 3.9% of whites ($n=7$) were between the ages of 5 to 14. During the second study period (between 1975-1984), this percentage for whites was 5.0% ($n=8$), and it increased slightly to 7.8% ($n=10$) over the third study period (between 1985-1995). That is, every ten years, an average of one more white offender in Chicago belonged to the age category 5 to 14 years of age. Consequently, the percentages of whites in the 15 to 19 year-old category for the three study periods (1965-1974, 1975-1984, and 1985-1995) were 96.1% ($n=174$), 95.0% ($n=152$), and 92.2% ($n=119$), respectively. While the proportionate involvement of whites in terms of age remained relatively stable over the study period, the results show a decrease in the number of white homicide offenders, as the number decreased from 174 during the first study period to 119 during the third study period.

The representation of blacks in each of the age categories over the study period paralleled the trend for whites, also showing much stability. That is, the results do not indicate that the age of the black offenders changed much over the thirty-one year time period. The majority of black offenders in all three study periods (1965-1974, 1975-1984, and 1985-1995) belonged to the 15 to 19 year-old age category: 92.2% ($n=1,650$), 93.8% ($n=1,281$), and 93.2% ($n=2,156$), respectively. By comparison, 7.8% ($n=139$), 6.2% ($n=84$), and 6.8% ($n=158$) belonged to the 5 to 14 year old category. While the proportionate involvement of blacks was stable in terms of age, the number of black youths involved in homicide increased notably over the 31-year period, from 1,789 decreasing to 1,365, but then increasing markedly to 2,314 from the mid-1980s to the

mid-1990s. Of course, this increase in the numbers of homicides from mid-1980s to mid-1990s follows the national trend (Blumstein, 1995).

The ages of Latinos offenders were as follow. Between 1965 and 1974, 99.1% (n=212) of Latino offenders belonged to the 15 to 19 age category. Between 1975 and 1984, 95.8% (n=436) of Latino offenders did, and between 1985 and 1995, 95.2% (n=594) of the Latino offenders were between the ages 15 to 19. Comparatively, two Latinos (0.9%) were between the ages 5 to 14 during the first study period, 4.2% (n=19) belonged to that age category during the second study period, and 4.8% (n=30) were between the ages 5 to 14 during the third study period. Again, the analyses reveal general consistency in terms of the proportionate involvement of younger and older Latino juvenile offenders, but notably the number of Latino homicide offenders increased significantly. During the first study period, there were a total of 214 Latino offenders. This number increased to 436 over the second study period and again to 594 offenders over the third study period. However, again, the proportionate involvement in terms of age of the offenders shows stability. Thus, the results do not indicate that the age of Latino offenders became either younger or older between 1965 and 1995. In summary, the results of the analyses focusing on the age of the offenders are consistent with the hypothesis that, first, those under the age of 13 represent a very small percentage of homicide offenders, and second, the age of the offenders remained relatively stable over the 31-year period. As described previously, one of the concerns over violent juvenile offenders is whether they are becoming younger. The results in this study show little change in the ages of the offenders over three decades, either by gender or race/ethnicity. Of course, the limitation here is the inability to conduct detailed analyses by age as the ages in the dataset were coded in categories.

Multiple Offenders

The last question (hypothesis 2) relating to the offenders had to do with the number of offenders involved in an incident. The variable *NUMOFF* in the dataset indicates the number of offenders involved in an incident, with the values ranging from one to eleven. The first step was to eliminate incidents involving multiple offenders of both genders and multiple offenders of multiple races because this may lead to double counting. This was achieved by going back to the original offender dataset, which also included adult offenders. This was done because it is plausible that a juvenile was involved in an incident with an adult offender. The dataset (n=26,030) was sorted according to the variable *NUMOFF*. The variable *HOMINEW* indicates each new homicide case, and thus it was possible to look at each homicide case. Both sex and race of the offenders (variables *OSEX* and *ORAC*) were used, and all cases involving offenders of both genders and multiple races were eliminated from the dataset. These included cases with missing information on the offender's race. This process was done separately to create two separate datasets: one that consisted of a reduced number of cases for gender and another that consisted of a reduced number of cases due to elimination of cases with multiple offenders of multiple races. Since this study sought to examine gender and racial differences, it was necessary to create two separate datasets by race and gender.

The elimination of cases with multiple offenders involving both genders resulted in 6,898 youths included in the gender analyses. That is, a total of 107 females and 228 males were eliminated from the analyses due to their involvement in multiple offender homicides with offenders of both genders. Notably, a significant percentage of female offenders (28.6%) had been involved in homicide incidents with males. A significantly lower percentage of males (3.3%) had been involved in multiple offender homicides consisting of both genders. In other

words, a male is more likely to be involved in a homicide incident with another male compared to a female counterpart, but a significant percentage of female homicide offenders are involved in multiple offender homicides involving male offenders. Likewise, 425 (5.9%) youth were eliminated because of their involvement in incidents with multiple offenders of multiple races, resulting in 6,808 youths to be included in the race analyses.

Gender and Multiple Offenders

The first question of interest with regard to incidents involving multiple offenders had to do with whether the number of incidents involving multiple offenders changed for males and/or females. The results in table 6 show that a total of 2,462 males (36.6%) were involved in a single offender homicide incident, while the comparative percentage is 88.4% for females (n=236). While 27.6% of males were involved in incidents involving a total of two male offenders, only 6.0% of females were involved in a homicide incident with another female. The proportions of females involved in multiple offender homicides with other females are remarkably low. Only 8 females were involved in homicide incidents involving three females and 7 with four female offenders. There were no multiple offender incidents involving more than four female offenders in the sample. However, there were a number of multiple offender incidents involving all males. About a quarter, 27.6%, of the males in the sample offended with another male, while 18.7% offended with two other males, 9.2% with three other males, 4.3% with four other males, 1.9% with five other males. The percentages were less than 1% for any higher number of males involved in an incident. Now, looking at the stability and change over time in terms of homicide incidents involving multiple offenders for males, the results show, overall, significant stability. Specifically, the percentage of incidents involving single offenders for the three study periods

were 36.0%, 40.2%, and 34.7%, respectively. Similarly, the percentages for the incidents involving two male offenders were 25.6%, 30.2%, and 27.3%. Therefore, contrary to the expectations, the results indicate very little change in the proportion of incidents involving multiple offenders over the three decades.

Similar to males, the results evidence very little change in the proportions of incidents involving multiple female offenders. Rather, the results indicate significant stability. The percentages for single offenders for the three study periods were 89.2%, 87.4%, and 88.7%. Notably, after eliminating cases where females were involved in an incident with males, overwhelmingly, female offenders were involved in single-offender incidents. The percentages for two-offender incidents were 8.4%, 3.4%, and 6.2%. Again, there were no incidents that involved more than four female offenders.

The comparisons with regard to number of offenders involved in an incident by gender were found to be statistically significant in all three time periods. While the chi-squares do not tell the direction of the differences per se, by looking at the comparison of the results from the crosstabulations, it is implied that when young girls kill, compared to males, they are more likely to kill alone. The vast majority of girls (88.4%) during the 31-year time period were involved in single-offender incidents.

Table 6: Number of Offenders Involved in an Incident by Gender⁶

Number of Offenders	1965-1995*			1965-1974**		1975-1984***		1985-1995****	
	Total	Male	Female	Male	Female	Male	Female	Male	Female
1	2,662 (38.6%)	2,426 (36.6%)	236 (88.4%)	722 (36.6%)	74 (89.2%)	729 (36.0%)	76 (87.3%)	975 (40.2%)	86 (88.7%)
2	1,845 (26.7%)	1,829 (27.6%)	16 (6.0%)	514 (27.6%)	7 (8.4%)	547 (25.6%)	3 (3.4%)	768 (30.2%)	6 (6.2%)
3	1,245 (18.0%)	1,237 (18.7%)	8 (3.0%)	407 (20.3%)	2 (2.4%)	272 (15.0%)	1 (0.4%)	558 (19.9%)	5 (5.2%)
4	617 (8.9%)	610 (9.2%)	7 (2.6%)	186 (9.2%)	0 (0.0%)	142 (9.3%)	7 (8.0%)	282 (7.8%)	0 (0.0%)
5	283 (4.1%)	283 (4.3%)	0 (0.0%)	64 (4.3%)	0 (0.0%)	100 (3.2%)	0 (0.0%)	119 (5.5%)	0 (0.0%)
6	124 (1.8%)	124 (1.9%)	0 (0.0%)	43 (2.1%)	0 (0.0%)	22 (1.2%)	0 (0.0%)	59 (2.1%)	0 (0.0%)
7	44 (0.6%)	44 (0.7%)	0 (0.0%)	27 (1.3%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	17 (0.6%)	0 (0.0%)
8	45 (0.7%)	45 (0.7%)	0 (0.0%)	24 (1.2%)	0 (0.0%)	2 (0.1%)	0 (0.0%)	19 (0.7%)	0 (0.0%)
9	14 (0.2%)	14 (0.2%)	0 (0.0%)	9 (0.2%)	0 (0.0%)	0 (0.4%)	0 (0.0%)	5 (0.0%)	0 (0.0%)
10	10 (0.1%)	10 (0.2%)	0 (0.0%)	10 (0.2%)	0 (0.0%)	0 (0.5%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
11	9 (0.1%)	9 (0.1%)	0 (0.0%)	0 (0.1%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	9 (0.3%)	0 (0.0%)
Total	6,898	6,631	267	2,006	83	1,814	87	2,811	97

Note. Included in the analyses are only multiple offenders involved in an incident with an offender of the same gender. (N=6,898).

* $\chi^2 = 2.918E2$; $df=10$; $p<.001$. Six cells (27.3%) have an expected count less than 5.

** $\chi^2 = 95.597E2$; $df=9$; $p<.001$. Six cells (30.0%) have an expected count less than 5.

*** $\chi^2 = 81.117$; $df=6$; $p<.001$. Four cells(28.6%) have an expected count less than 5.

**** $\chi^2 = 1.187E2$; $df=9$; $p<.001$ Seven cells (35.0%) have an expected count less than 5.

⁶ Due to small number of females in the sample, in all of the analyses, the assumption of cell size was violated since more than 20% of the cells had an expected count less than five. To correct this problem, cells were collapsed into two categories: one offender only and two or more offenders. In no case, however, was there a change in the significance/non-significance as a result of collapsing the categories. Therefore, the results of the full analyses are shown here.

Race and Multiple Offenders

The second main question to be evaluated with regard to incidents involving multiple offenders had to do with examining whether the number of incidents involving multiple offenders showed evidence of change for blacks, whites, and Latinos, with the results shown in Table 7. Due to small number of whites in the sample (n=155, n=118, and n=86, in each of the respective time periods), it was necessary to collapse the categories 4 to 11 offenders together as not to violate the assumption of chi-square test that no more than 20% of the cells should have a count less than 5. The results comparing the number of offenders by race/ethnicity were found statistically significant in the analysis for the 31-year time period and during the second time period.

Of the total sample that consisted only of youths involved in incidents with multiple offenders of the same race (n=6,808), 39.1% of the homicide offenders (n=2,662) were involved in a single-offender incident. 26.9% of the offenders (n=1,830) were in incidents involving two offenders, while 17.9% of the offenders (n=1,216) were involved in homicide incidents consisting of three offenders, and 16.2% of the offenders (n=1,100) were involved in incidents with four or more offenders. In general the data show that, as the number of multiple offenders involved in an incident increases, the frequencies of these types of homicide incidents decrease. More homicide incidents, therefore, involved one offender compared to incidents involving two offenders, and so on.

Beginning with whites, the results indicate that, overall, 46.2% (n=166) of the white offenders were involved in single-offender homicide incidents. The results also imply an increase in the proportion of white offenders involved in single-offender incidents over the three

study periods. In other words, during the first time period (1965-1974), 35.5% of white offenders were involved in single offender incidents and this increased to 58.5% over the second study period and decreased slightly to 48.8% over the third study period. Approximately a quarter, 27.3%, of the white offenders were involved in incidents with two offenders, and the percentage of white youths involved in this type of homicide remained relatively stable over the 31-year period (25.8%, 28.0%, and 29.1%). The proportion of whites involved in incidents with three offenders showed a similar pattern to incidents with single-offenders. Of the total sample, 13.1% of white offenders were involved in this type of homicide. The percentages for the three study periods are as follow: 18.7%, 7.6%, and 10.5%. Overall, the number of incidents involving multiple offenders shows no significant change over three decades.

Turning to blacks, the results show that of the total sample, 39.1% of black offenders (n=2,081) were involved in single-offender incidents. The respective percentages over the 31-year period are as follow: 38.4%, 43.9%, and 36.7%. Thus, compared to whites, a somewhat smaller percentage of black offenders were involved in incidents with only a single offender. All in all, the results do not indicate significant changes for blacks in terms of incidents involving multiple offenders, rather, the results imply much stability over a 31-year time period.

Lastly, of the total Latino sample, 36.9% (n=415) were involved in incidents involving a single offender. This proportion is smaller than that of either whites or blacks and may imply something vital about the types of homicides committed by Latino youths, a point to be examined further in the paper. The percentages of Latino youths involved in single-offender incidents over the three study periods are as follow: 35.9%, 38.2%, and 36.3%. That is, the percentage of Latinos involved in single offender incidents was less than 40% during any given study period. Comparatively, 28.1% were involved in incidents involving two offenders, 19.0%

in incidents involving three offenders, and 16.0% in incidents involving four or more offenders. As with whites and blacks, the results do not indicate a significant increase in the percentages of Latinos being involved in incidents involving multiple offenders.

The results with regard to incidents involving multiple offenders were somewhat inconsistent with national data and also with expectations. While national data indicate that, in 2002, 48% of murders involving a juvenile offender involved multiple offenders (Snyder & Sickmund, 2006), the results of this study imply an even higher number. Looking at the breakdown by race (results not shown), 60.9% were involved in homicides with multiple offenders. However, consistent with the FBI's Supplementary Homicide Reports, which show an increase in the proportion of murders involving multiple juvenile offenders between 1980 and 2002 (Snyder & Sickmund, 2006), the results of this study show that the number of incidents involving single offenders during the second study period (between 1975-1984) was 43.6% and this percentage decreased to 37.0% over the third study period (between 1985-1995). That is, consistent with national trends and also with the expectations laid out in hypothesis 2 that the number of youths involved in homicides involving multiple offenders increased between the second and third study periods in the present study.

Table 7: Number of Offenders Involved in an Incident by Race

Number of		1965-1995*			1965-1974**			1975-1984***			1985-1995****		
Offenders	Total	White	Black	Latino	White	Black	Latino	White	Black	Latino	White	Black	Latino
1	2,662 (39.1%)	166 (46.2%)	2,081 (39.1%)	415 (36.9%)	55 (35.5%)	676 (38.4%)	65 (35.9%)	69 (58.5%)	583 (43.9%)	153 (38.2%)	42 (48.8%)	822 (36.7%)	197 (36.4%)
2	1,830 (26.9%)	98 (27.3%)	1,416 (26.6%)	316 (28.1%)	40 (25.8%)	452 (25.7%)	52 (28.7%)	33 (28.0%)	367 (27.6%)	119 (29.7%)	25 (29.1%)	597 (26.7%)	145 (26.8%)
3	1,216 (17.9%)	47 (13.1%)	956 (18.0%)	213 (19.0%)	29 (18.7%)	329 (18.7%)	38 (21.0%)	9 (7.6%)	213 (16.0%)	70 (17.5%)	9 (10.5%)	414 (18.5%)	105 (19.4%)
4 to 11	1,100 (16.2%)	48 (13.4%)	872 (16.4%)	180 (16.0%)	31 (20.0%)	302 (17.2%)	26 (14.4%)	7 (5.9%)	166 (12.5%)	59 (14.7%)	10 (11.6%)	404 (18.1%)	509 (17.8%)
Total	6,808	359	5,325	1,124	155	1,759	181	118	1,329	401	86	2,237	542

Note. Included in the analyses are only multiple offenders involved in an incident with an offender of the same race. N=6,808

* $\chi^2 = 14.109$; $df=6$; $p<.05$.

**The results are not significant.

*** $\chi^2 = 20.554$; $df=6$; $p<.01$.

****The results are not significant.

Hypothesis 3: Victims

In the previous section, offender characteristics were detailed over the 31-year period. The analyses revealed much stability in terms of offender characteristics and also that the young offenders arrested for homicide between 1965 and 1995 were disproportionately minority males, particularly African Americans (75.6% of the sample). While historically the focus of criminological research was on explaining motivational factors and focusing on the offender only, David Luckenbill (1977) argued that criminal homicides involve an interaction between the victim and the offender, i.e. a collective transaction takes place. Following Luckenbill's insights, and also to reflect the premises laid out in the routine activities theory (Cohen & Felson, 1979) which account for the elements of people, place, and objects, this study also focuses on the victim characteristics to truly capture the context of youth homicides. The underlying question to be answered is "who are the victims?" Specifically, this study provides answers to the following three questions: Has the average age of victims changed significantly over the 31-year period? Has the proportions of white, black, and Hispanic victims changed over the 31-year period? Has the proportion of victims being male/female changed over the 31-year period?

According to Miethe and Regoeczi (2004), it is commonly noted that criminal offenders and victims share many of the same characteristics. In other words, available data supports that both homicide victims and offenders are similar populations (Miethe & Regoeczi, 2004). Consequently, it is expected that the majority of the homicide victims in the present study are young minority males, particularly blacks. In the following section, the results of the analyses examining victim characteristics will be discussed.

Victim-Level Data

For this part of the study, the victim-level data file from the *Homicides in Chicago, 1965-1995* dataset was used. In the victim dataset, there are a total of 23, 817 cases, with one record per victim. That is, an incident with four victims would be represented four times in the victim-level data file. If an incident involved multiple offenders, this file only contains information for up to five offenders. Consequently, this dataset is not suitable for analyzing patterns for offenders (Homicides in Chicago, n.d.). The victim-level file includes a plethora of information pertaining to the homicide incident, including demographic variables such as the age, gender, and race of each victim and the relationship of victim to offender.

Since the purpose was to look at the victim characteristics of youth offenders, the first step required was to include only the victims of youth offenders in the analyses. First, all victims killed in an incident involving at least *one* youth offender were selected. However, as noted previously, the victim-level file only included information for up to five offenders. To ensure that all victims of youth homicides were included, the homicide case numbers of multiple offenders over five involved in an incident were derived from the offender-level file and checked against the victim-level file. This resulted in 5,141 victims. The final step, however, was to exclude Asian only offenders (n=19). This was done since the focus of this study is on whites, blacks, and Latinos. In other words, victim-level information for those cases that had multiple offenders of multiple races was included. The final victim-level dataset to be included in the analyses was thus reduced to 5,122 victims.

Gender of Victims

Of the total 5,122 victims, 88.5% (n=4,535) were male and 11.5% (n=587) were female. By comparison, of the total offender sample, 94.8% (n=6,859) were male and 5.2% (n=374) were female. This comparison shows that young males are disproportionately represented as both offenders and victims of homicides. The variable *VICSEX* was used from the dataset to determine whether the involvement of males/females as homicide victims changed significantly.

Overall, the proportionate representation of both genders as victims remained relatively stable from 1965 to 1995. The percentages for female victims in the three study periods were 11.6%, 12.5%, and 10.7%. By comparison, the percentages for male victims were 88.4%, 87.5%, and 89.3%. It was hypothesized in this study that the majority of homicide victims will be males and that no significant changes in the proportionate involvement of either males or females as homicide victims was expected. These two hypotheses were supported by the analyses. The finding that the majority of the victims were male is in part a reflection of national trends in homicide, as data has indicated that males also constitute the majority, 76.5%, of homicide victims (Fox, Levin, & Quinet, 2008). In comparison to the national trends, however, the percentage of homicide victims in the present study indicates that even a higher proportion of homicide victims are males since the percentage of males as victims was close to ninety percent over the 31-year time period. It is possible that Chicago has a higher percentage of male victims because, compared to the nation, Chicago might have a higher percentage of certain types of homicides that might be more likely to involve males, for example, gang-homicides. This question will be examined further in the “precursors” section. Nonetheless, the results highlight the gender disparity in homicide victimization, even among young offenders and victims. These results are displayed in Table 8.

Table 8: Summary of the Victims' Gender, Race, and Age

Victim	Total	Study Period		
		1965-1974	1975-1984	1985-1995
Gender*				
Male	4,535 (88.5%)	1,332 (88.4%)	1,291 (87.5%)	1,912 (89.3%)
Female	587 (11.5%)	175 (11.6%)	184 (12.5%)	228 (10.7%)
Race**				
White	689 (13.5%)	273 (18.1%)	235 (15.9%)	181 (8.5%)
Black	3,576 (69.8%)	1,091 (72.4%)	948 (64.3%)	1,537 (71.8%)
Latino	815 (15.9%)	138 (9.2%)	276 (18.7%)	401 (18.7%)
Asian, Other	42 (0.8%)	5 (0.3%)	16 (1.1%)	21 (1.0%)
Age***				
0-9	170 (3.3%)	48 (3.2%)	55 (3.7%)	67 (3.1%)
10-19	1,837 (35.9%)	535 (35.5%)	488 (33.1%)	814 (38.0%)
20-29	1,590 (31.0%)	378 (25.1%)	464 (31.5%)	748 (35.0%)
30-39	610 (11.9%)	182 (12.1%)	179 (12.1%)	249 (11.6%)
40-49	370 (7.2%)	140 (9.3%)	99 (6.7%)	131 (6.1%)
50-59	266 (5.2%)	110 (7.3%)	91 (6.2%)	65 (3.0%)
60-69	159 (3.1%)	80 (5.3%)	50 (3.4%)	29 (1.4%)
70-79	84 (1.6%)	25 (1.7%)	35 (2.4%)	24 (1.1%)
Over 80	36 (0.7%)	9 (0.6%)	14 (0.9%)	13 (0.6%)
Total	5,122 (100%)	1,507 (100%)	1,475 (100%)	2,140 (100%)

Note. Victims by Asian offenders only are excluded from the analyses (n=19), leaving 5,122 victims to be included.

*The results are not statistically significant.

**The results are significant. $\chi^2 = 1.475E2$; $df=6$; $p<.001$.

***The results are significant. $\chi^2 = 1.382E2$; $df=16$; $p<.001$.

Race of Victims

The second question pertaining to the victims had to do with their racial and ethnic composition. Whites represented 13.5% (n=689) of the victims, while blacks represented 69.8% (n=3,576) of the victims, Latinos represented 15.9% (n=815), and 0.8% (n=42) of the victims in the sample were Asian or some other race. The variable *VICRACE* was utilized from the dataset in this part of the analyses. By comparison, 6.5% of the offenders in the sample were white, 75.6% were black, and 17.9% were Latino.

The percentages of white victims in the three study periods (1965-1974, 1975-1984, and 1985-1995) were 18.1% (n=273), 15.9% (n=235), and 8.5% (n=181). The percentages of black victims in the three study periods were 72.4% (n=1,091), 64.3% (n=948), and 71.8% (n=1,537), respectively. The percentages of Latino victims in the three study periods were 9.2% (n=138), 18.7% (n=276), and 18.7% (n=401). Lastly, very few of the victims were Asian or of some other race. The percentages for this racial group in the three study periods were 0.3% (n=5), 1.1% (n=16), and 1.0% (n=21). These results are also summarized in Table 8.

To summarize the results with regard to racial and ethnic background of the victims over the 31-year period, two main findings emerge. First, the proportionate representation of whites as homicide victims decreased markedly from 18.1% to 8.5% over the 31-year study period. The representation of black victims decreased between the first and second study periods, from 72.4% to 64.3%, but increased again between the second and third study periods, to 71.8%. The second main finding was related to the significant increase in the representation of Latinos as homicide victims. Over the 31-year time period, the percentage of Latinos as homicide victims increased from 9.2% to 18.7%. As with offenders, this increase can be best understood in terms of looking at the increases in the Latino population in Chicago, as it increased from 3.4% in 1970

to 13.9% by 1980 and to 19.0% by 1990 (U.S. Census, 1970; U.S. Census 1980, & U.S. Census, 1990).

The aggregation of the national homicide rates for the years 1976 to 2005 have shown that 46.9% of the homicide victims and 52.2% of the homicide offenders are black, while 50.9% of the homicide victims and 45.8% of the homicide offenders are white. Comparatively, 83.7% of the population was white and 12.3% black (Fox, Levin, & Quinet, 2008). This illustrates again the disproportionate involvement of blacks in homicides and also that the majority of homicides are intraracial (Fox, Levin, & Quinet, 2008). This notion was supported by the findings in this study as it relates to young offenders and their victims. A majority of both victims and offenders were black, (69.8% and 75.6%, respectively), thus illustrating the intraracial nature of homicide offending in this country. Crosstabulations were also run (results not shown) for victim race by offender race. This analysis was restricted to single-offender, single-victim incidents (n=2,619). The results show that 62.7% of victims of white offenders are white, 91.6% of black victims are killed by blacks, and 70.8% of Latinos are killed by Latinos. Following the logic derived from the intraracial nature of killings, it was hypothesized that if the proportionate involvement of offenders changes for any one racial group, the trend will be paralleled as increases or decreases in the proportionate involvement of victims for that racial group. This hypothesis was also supported by the results of this present study. The percentage of Latinos as offenders increased from 9.8% to 20.3% between 1965 and 1995. Consistently, as expected, the percentage of Latino victims also increased, from 9.2% to 18.7%. Expectedly, the Latino population in Chicago increased from 3.4% in 1970 to 19.0% by 1990 (U.S. Census, 1970; U.S. Census 1980, & U.S. Census, 1990). While it was hypothesized that the majority of victims would be white males in the study, this hypothesis was not supported by the results in the present study. Quite the

contrary, as discussed in this chapter, homicide offending and victimization appear to disproportionately affect minorities in Chicago.

Age of Victims

To examine whether the average age of victims evidenced change or stability, the variable *VICAGE* was utilized. The values in the dataset are in interval categories of five years, beginning with the category zero to five and ending with the category 85 years old or older. Specifically, the variable was coded as under 5 years=1; 5 to 9 years=2; 10 to 14 years=3; 15 to 19 years=4; 20 to 24=5 years of age and so on. This variable was first recoded in interval categories of 10 years, thus resulting in nine age categories: 0-9 years=1; 10-19=2; 20-29=3; 30-39=4; 40-49=5; 50-59=6; 60-69=7; 70-79=8; and over 80 years of age=9. These results are also shown in table 8.

Of the victims, 3.3% (n=170) were below the age of ten. The percentages of victims under the age of ten in the three study periods were: 3.2% (n=48), 3.7% (n=55), and 3.1% (n=67), respectively. In short, although the actual number of victims in this age category increased slightly, the percentage within all of the homicides remained notably stable, around 3% of all homicides, for each of the three time periods.

Many of the victims of the youth offenders were between the ages 10 to 19. Of the total sample, 35.9% (n=1,837) belonged to this age category. The breakdown over the 31-year period was as follow: 35.5% (n=535), 33.1% (n=488), and 35.9% (n=814). Overall, the representation of victims between the ages 10 and 19 remained relatively stable between 1965 and 1995.

Similar to the previous age category, a notable proportion of the victims, 31.0% (n=1,590), were between the ages 20 and 29 years of age. The percentages of victims between

the ages of 20 and 29 in the three study periods were 25.1% (n=378), 31.5% (n=464), and 35.0% (n=748), respectively. A rather noticeable ten percent increase in the percentages of victims belonging to this age category was evidenced from 1965 to 1995.

Looking at the number of victims over the age of 30 to over 80 years of age, a steady decline can be evidenced in the number of victims from these age groups. In other words, youth killers are more likely to kill someone close to their own age and less likely to kill someone much older than them. For example, of the total sample of the victims, 66.9% of the victims were between the ages 10 and 29 years. This is consistent with the notion that homicide victims and offenders are a relatively homogenous population.

To summarize, it was hypothesized in the present study that no changes in the average ages of the victims will be evidenced. However, contrary to this expectation, some changes in the ages of the victims were evidenced over the 31-year time period. First, the percentage of victims belonging to the 20 to 29 year old age category increased notably from 25.1% during the first study period to 35.0% during the third study period. This represents a nearly ten percent increase in the representation of victims belonging to this age category over the study periods. Second, the percentages of victims between the ages 50 and 59 and 60 and 69 steadily decreased between 1965 and 1995, from 7.3% to 3.0% and from 5.3% to 1.4%, respectively. In general, however, the results in terms of the victims' ages further provide support for the notion that homicide victims and offenders are a relatively homogenous population and share many of the similar characteristics (Miethe & Regoeczi, 2004), including age.

Hypothesis 4: Setting

In terms of the setting, this study sought to answer two questions. The first question pertained to the locations of the homicides and whether the locations of homicides have changed over the years. Additionally, the goal was to evaluate whether the locations where homicide incidents occurred differed for males and females and whether there are racial and ethnic differences in terms of location. Second, this study aims to provide a comprehensive view of the patterns of youth homicides in terms of when youth commit homicides (the month of the year, day of the week, and time of the day). This study also evaluated whether these patterns differ for males and females and for blacks, whites, and Latinos.

Locations

First, frequencies were run on the locations of the homicides for the three time periods to see if there has been any change in the percentage of homicides committed in a specific location. To provide information on the setting of the homicides, the variable *PLACE*, which indicates the location of the incident/body, was used. This variable consist of nine locations: home (coded as 1); hotel (coded as 2); indoor, other residential (coded as 3), tavern (coded as 4); indoor pub, other (coded as 5); vehicle (coded as 6); public transportation (coded as 7); street (coded as 8); and outdoor, other (coded as 9).

For the total sample of offenders (N=7,233), by far the most frequent location was street (47.0%); followed by home (16.7%); outdoor, other (13.3%); indoor, other residential (8.3%); vehicle (6.4%); indoor pub, other (6.0%); tavern (1.6%); and the most infrequent locations were hotel (0.3%) and public transportation (0.3%). Next, the frequencies of locations in each of the three time periods were analyzed. These results are displayed in table 9.

Table 9: Locations of Homicide Incidents

Location	Total	Study Period		
		1965-1974	1975-1984	1985-1995
Home	1,206 (16.7%)	420 (19.2%)	407 (20.6%)	379 (12.4%)
Hotel	23 (0.3%)	10 (0.5%)	10 (0.5%)	3 (0.1%)
Indoor/ Other residence	597 (8.3%)	185 (8.5%)	187 (9.4%)	225 (7.3%)
Tavern	131 (1.8%)	61 (2.8%)	37 (1.9%)	33 (1.1%)
Indoor pub/ Other	434 (6.0%)	170 (7.8%)	125 (6.3%)	139 (4.5%)
Vehicle	461 (6.4%)	70 (3.2%)	76 (3.8%)	315 (10.3%)
Public Transportation	22 (0.3%)	7 (0.3%)	7 (0.4%)	8 (0.3%)
Street	3,397 (47.0%)	1,012 (46.3%)	873 (44.1%)	1,512 (49.3%)
Outdoor, other	962 (13.3%)	251 (11.5%)	258 (13.0%)	453 (14.8%)
Total	7,233 (100%)	2,186 (100%)	1,980 (100%)	3,067 (100%)

Note. The analyses are calculated by using offender data. N=7,233.

It was hypothesized that the settings where the incidents take place will increasingly shift from home and indoor locations to outdoor and public places. First, it is assumed that the victim-offender relationship will have an impact on the location of the incident. That is, the place of the

homicide is impacted by the victim-offender relationship. For example, if the victim and the offender are family members, for example, a daughter and a mother, it is likely that the setting for this incident differs from a homicide incident where the victim and the offender are strangers. Compared to homicides involving family members, these types of stranger homicides are more likely to take place in public places. This hypothesis with regard to expectation that a shift in the locations of the homicides will emerge is guided by research that indicates a shift in the victim-offender relationship (Snyder & Sickmund, 2006). Specifically, drawing on the data from the FBI's Supplementary Homicide Reports, a relatively recent national study found that, during the time period 1980 to 2002, significant increases in the number of juveniles killing acquaintances and strangers were evidenced, while very little change in the number of juvenile offenders killing family members was found (Snyder & Sickmund, 2006). Therefore, it is expected that proportionately speaking more homicides are committed in locations other than at a home.

Contrary to the expectation, however, the analyses revealed a relatively consistent pattern for the locations of the incidents for all three time periods. Between 1965 and 1974, the three most frequent locations were street (46.3%), homes (19.2%), and some other outdoor location (11.5%). This pattern of most frequent locations was similarly found for the time period between 1975 and 1984 with 44.1% of the homicides committed on the street, 20.6% at a home, and 13.0% at some other outdoor location. Similar results were evidenced for the time period between 1985 and 1995 when 49.3% of the homicides were committed on the street, 12.4% at a home, and 14.8% at some other outdoor location. Interestingly, however, the percentage of homicides committed in a vehicle increased from 3.2% in the first time period to 3.8% during the second time period to a notable 10.3% for the third period. Therefore, between 1985 and 1995, the fourth most frequent location of a homicide was a vehicle. While this particular location

increased for all racial and ethnic groups over three decades, the increase in the number of incidents was particularly evident for blacks (63, 57, and 216 incidents in the three study periods, respectively) and for Latinos (3, 14, and 86 incidents, respectively). In short, these changes in homicides increasingly committed in vehicles were attributable to both blacks and Latinos. Very few of the killings in vehicles were committed by whites (4.8%). A closer look at the causal factors reveal two main factors related to vehicle-associated incidents. In vehicle-related deaths, gang-altercations were the main precipitating factor in 41.2% (n=190) of the incidents and armed robbery in 34.1% (n=157) of the incidents. However, it bears pointing out that there are clear racial and ethnic differences. Vehicle-deaths were mainly related to gang-altercations for Latinos (86.4%), but vehicle-deaths were both gang-related (25.3%) and armed robbery-related (45.2%) for blacks. This is an interesting finding and points to racial and ethnic differences in types of homicides committed by black and Latino youths. Another factor that could be possibly be related to increases in vehicle-associated killings is the plausible increase in vehicles in the population over three decades. It is also possible that the increases in vehicle-deaths are connected to increases in carjackings. Another change indicated by the results was the rather noticeable decrease in the homicides being committed in indoor pubs were evidenced over the 31-year time period. During the first study period, 7.8% of homicides were committed in indoor pubs or other similar establishments, but by the third study period, only 4.5% of homicides were committed in this location.

Do the Locations Differ for Males and Females?

The next step was to evaluate whether the locations of the homicides differed for males and females. Existing research has indicated that the majority of the homicides committed by

juveniles occur in public places (Brewer et al., 1998), which is in line with research showing that juveniles are more likely to kill strangers (Blumstein, 1995), or acquaintances and strangers (Ewing, 1990), rather than family members. Additionally, research has indicated differences between males and females who kill, for example, females are more likely to kill people they know, either family members or acquaintances (Rowley et al., 1987). Consistently, it is expected that the locations of the homicides differ for males and females in this study. Following this logic, it is expected that females are more likely to commit homicides in the home since they are more likely to kill people they know, and it is expected that males are more likely to kill on the street and outdoor locations where they might interact with acquaintances and strangers. It was also evaluated whether the locations changed over the years for males and females.

During the years 1965 to 1974, the three most frequent locations for males were street (47.5%), home (17.6%), and some other outdoor location (11.7%). Comparatively, the three most frequent locations for females were home (48.7%), street (23.9%), and some other residential, indoor location (8.8%). The two least frequent locations for males were public transportation (0.2%) and hotel (0.4%). For females, the two least frequent locations were hotel (0.9%) and taverns (0.9%). A chi-square statistic was estimated to determine whether this sex difference in the locations was statistically significant. The chi-square value of 79.77 is highly significant ($p < .001$). These findings provide support for the hypothesis that the locations of homicides differ for females and males, but it should be cautioned that 22.2% of the cells have a count less than five. Consistent with the expectations, a significant proportion of homicides committed by females occurred in the home. In comparison, 17.6% of the homicides committed by males occurred in the home, yet a significantly higher proportion of the homicides (47.5%) took place on the streets. The results of these analyses are summarized in Table 10.

Table 10: Locations of the Homicides by Gender⁷

Location	Total	1965-1995*		1965-1974**		1975-1984***		1985-1995****	
		Male	Female	Male	Female	Male	Female	Male	Female
Home	1206 (16.7%)	1,026 (14.9%)	180 (48.1%)	365 (17.6%)	55 (48.7%)	354 (19.0%)	53 (44.5%)	307 (10.5%)	72 (50.7%)
Hotel	23 (0.3%)	19 (0.3%)	4 (1.1%)	9 (0.4%)	1 (0.9%)	9 (0.5%)	1 (0.8%)	1 (0.0%)	2 (1.4%)
Indoor, Other Res	597 (8.3%)	569 (8.3%)	28 (7.5%)	175 (8.4%)	10 (8.8%)	178 (9.6%)	9 (7.6%)	216 (7.4%)	9 (6.3%)
Tavern	131 (1.8%)	123 (1.8%)	8 (2.1%)	60 (2.9%)	1 (0.9%)	31 (1.7%)	6 (5.0%)	32 (1.1%)	1 (0.7%)
Indoor pub/ Other	434 (6.0%)	420 (6.1%)	14 (3.7%)	163 (7.9%)	7 (6.2%)	123 (6.6%)	2 (1.7%)	134 (4.6%)	5 (3.5%)
Vehicle	461 (6.4%)	451 (6.6%)	10 (2.7%)	68 (3.3%)	2 (1.8%)	71 (3.8%)	5 (4.2%)	312 (10.7%)	3 (2.1%)
Public Transp.	22 (0.3%)	18 (0.3%)	4 (1.1%)	5 (0.2%)	2 (1.8%)	7 (0.4%)	0 (0.0%)	6 (0.2%)	2 (1.4%)
Street	3,397 (46.9%)	3,311 (48.3%)	86 (23.0%)	985 (47.5%)	27 (23.9%)	841 (45.2%)	32 (26.9%)	1,485 (50.8%)	27 (19.0%)
Outdoor/ Other	962 (13.3%)	922 (13.4%)	40 (10.7%)	243 (11.7%)	8 (7.1%)	247 (13.3%)	11 (9.2%)	432 (14.8%)	21 (14.8%)
Total	7,233	6,859	374	2,073	113	1,861	119	2,925	142

Note. The analyses are calculated using offender data (n=7,233). In each of the three time-period analyses, four cells (22.2%) have an expected count less than 5.

* $\chi^2 = 3.112E2$; df=8; p<.001.

** $\chi^2 = 79.77$; df=8; p<.001.

*** $\chi^2 = 57.69$; df=8; p<.001.

**** $\chi^2 = 2.49E2$; df=8; p<.001.

⁷ Due to small number of females in the sample, in all three of the time-period analyses, the assumption of cell size was violated since 22.2% of the cells have an expected count less than five. To correct this problem, cells were collapsed into six categories: (1) home, (2) hotel/other indoor, (3) taverns/pubs, (4) vehicle/public transportation, (5) street, and (6) other outdoor. In no case, however, was there a change in the significance/non-significance as a result of collapsing the categories. Therefore, the results of the full analyses are shown, but the results should be interpreted with caution.

No significant change in the locations of the homicides for either males or females were evidenced between the first study period to the second. As with the first study period, the three most frequent locations for males were street (45.2%), home (19.0%), and other outdoor location (13.3%). The two least frequent locations for males were public transportation (0.4%) and hotel (0.5%). For females, the three most frequent locations were the same between 1975 and 1984 as they were the decade before: home (44.5%), street (26.9%), and other residential, indoor locations (7.6%). During this study period, females were not involved in any homicides that took place in public transportation, and only one homicide (0.8%) occurred in a hotel. A chi-square statistic was estimated to determine whether this sex difference in the homicide locations was statistically significant during this time period. The chi-square value of 57.69 is highly significant ($p < .001$). While these findings provide further support for the hypothesis that the locations of homicides differ for females and males, these results should also be interpreted with caution as 22.2% of the cells have a count less than 5, which violates one of the assumptions of chi-square.

Contrary to the previous two study periods, changes in the homicide locations for both males and females were evidenced during the third study period. While consistent with the previous two decades, the most frequent location for the homicides for males was street (50.8%). However, inconsistent with the previous two decades, the second most frequent location for males was now other outdoor locations (14.8%), and even more remarkably, the third most frequent location was vehicles (10.7%). None of the homicides by males were committed in a hotel, and the second least frequent location was public transportation (0.2%). Similarly, while home remained the most frequent location of homicides for females with 50.7% of incidents occurring at this location, the second most frequent location was still homicides occurring on the

street (19.0%), the third most frequent location for females shifted from other indoor locations to other outdoor locations (14.8%). Notably, during the first study period, 7.1% of the homicides where females were involved took place in other outdoor locations, during the second study period, 9.2% of the homicides took place in this location, and this percentage further increased by 5.6 percentage points going from the second study period to the third. The two least frequent locations for females were taverns (0.7%) and hotels (1.4%).

In summary, the results of these analyses indicate significant differences in the locations where males and females commit homicides and this was consistent with the hypotheses. The small number of females poses a problem for the analyses, however. The main difference in the locations of the homicides by gender is that a significant proportion of homicides committed by females are committed at a home, while street was the most frequent location of the homicides for males over three decades. Additionally, a noteworthy finding in terms of trends in the locations was the emergence of vehicles as a third most frequent location of homicides for males during the third study period, a change attributable to both black and Latino youths. These analyses were followed by an analysis whether racial and ethnic differences emerged in the locations of the homicide incidents, which will be discussed next.

Do the Locations Differ by Race/Ethnicity?

The analyses of homicide locations by gender were followed by an examination of whether the locations differed for whites, blacks, and Latinos. As with the analyses above, crosstabulation/chi-squares were run to examine where blacks, whites, and Latino offenders committed homicides. The cross-tabulation of race with the location of the homicide incidents is presented in Table 11.

Table 11: Locations of the Homicides by Race⁸

Location	1965-1995*			1965-1974**			1975-1984***			1985-1995****		
	White	Black	Latino	White	Black	Latino	White	Black	Latino	White	Black	Latino
Home	90 (19.1%)	1,029 (18.8%)	86 (6.7%)	33 (18.2%)	360 (20.1%)	26 (12.1%)	41 (15.6%)	333 (24.4%)	33 (7.3%)	16 (12.4%)	336 (14.5%)	27 (4.3%)
Hotel	3 (0.6%)	19 (0.3%)	1 (0.1%)	0 (0.0%)	10 (0.6%)	0 (0.0%)	0 (0.0%)	9 (0.7%)	1 (0.2%)	3 (2.3%)	0 (0.0%)	0 (0.0%)
Indoor/Other Residential	13 (2.8%)	537 (9.8%)	47 (3.6%)	3 (1.7%)	172 (9.6%)	10 (4.7%)	6 (1.9%)	163 (7.8%)	18 (3.5%)	4 (3.1%)	202 (8.7%)	19 (3.0%)
Tavern	9 (1.9%)	98 (1.8%)	24 (1.9%)	3 (1.7%)	52 (2.9%)	6 (2.8%)	3 (1.7%)	23 (1.7%)	11 (2.4%)	3 (2.3%)	23 (1.0%)	7 (1.1%)
Indoor Pub/Other	18 (3.8%)	373 (6.8%)	43 (3.3%)	10 (5.5%)	146 (8.2%)	14 (6.5%)	3 (1.9%)	106 (7.8%)	16 (3.5%)	5 (3.9%)	121 (5.2%)	13 (2.1%)
Vehicle	22 (4.7%)	336 (6.1%)	103 (8.0%)	4 (2.2%)	63 (3.5%)	3 (1.4%)	5 (3.1%)	57 (4.2%)	14 (3.1%)	13 (10.1%)	216 (9.3%)	86 (13.8%)
Public Transportation	1 (0.2%)	18 (0.3%)	3 (0.2%)	0 (0.0%)	7 (0.4%)	0 (0.0%)	1 (0.6%)	5 (0.4%)	1 (0.2%)	0 (0.0%)	6 (0.3%)	2 (0.3%)
Street	238 (50.6%)	2,319 (42.4%)	839 (64.9%)	97 (53.6%)	790 (44.2%)	124 (57.9%)	81 (0.6%)	484 (0.4%)	308 (0.2%)	60 (46.5%)	1,045 (45.2%)	407 (65.2%)
Outdoor/Other	76 (16.2%)	739 (13.5%)	147 (11.4%)	31 (17.1%)	189 (10.6%)	31 (14.5%)	20 (12.5%)	185 (13.6%)	53 (11.6%)	25 (19.4%)	365 (15.8%)	63 (10.1%)
Total	470	5,468	1,293	181	1,789	214	160	185	455	129	2,314	624

The analyses are calculated by using offender data.

* $\chi^2 = 1.97E2$; $df=16$; $p<.001$.

** $\chi^2 = 50.78$; $df=16$; $p<.001$.

*** $\chi^2 = 1.833E2$; $df=16$; $p<.001$. Six cells (22.2%) have an expected count less than five.

**** $\chi^2 = 2.104E2$; $df=16$; $p<.001$. Six cells (22.2%) have an expected count less than five.

⁸ Since the assumption of cell size was being violated in the second and third period analyses, to correct this problem, cells were collapsed into six categories: (1) home, (2) hotel/other indoor, (3) taverns/pubs, (4) vehicle/public transportation, (5) street, and (6) other outdoor. In no case, however, was there a change in the significance/non-significance as a result of collapsing the categories. Results for the second and third time periods should be interpreted with caution, however.

Table 11 shows that for all races the most frequent location over the 31-year time period was street: white (50.6%); black (42.4%), and Latino (64.9%). The second most frequent location of the incidents for whites and blacks was home (19.1% and 18.8%, respectively), while the second most frequent location for Latinos was other outdoor locations (11.4%). In fact, only 6.7% of the homicides involving Latinos occurred at a home. The third most frequent location, other outdoor locations, was the same for whites and blacks (16.2% and 13.5%, respectively), while the third most frequent location for Latinos was vehicles (8.0%). The two least frequent locations for all groups was hotel and public transportation. The chi-square value of 3.197E2 is highly significant ($p < .001$). These findings provide support for the hypothesis that the locations of the homicides differ for white, black and Latino offenders in Chicago.

Turning to analyses focusing on whether the locations of the homicide incidents changed for whites, blacks, and Latinos over the thirty-year period indicates some changes for all three groups. The patterns of changes in the locations follow a similar trend for blacks and whites, but differed slightly for Latinos. During the first and second study periods, the most frequent location for both whites (53.6% and 50.6%, respectively) and blacks (44.2% and 35.5%, respectively) was street. However, during the last study period, between 1985 to 1995, other outdoor locations emerged as the second most frequent location for whites (19.4%) and blacks (15.8%). During this last study period, home remained the third most frequent location for both whites (12.4%) and blacks (14.5%). An interesting change in the locations emerged for Latinos over the thirty-one year time period. During the first and second time periods, street was the most frequent location for homicides involving Latinos (57.9% and 67.7%, respectively) and other outdoor locations were the second most frequent location between 1965 to 1974 (14.5%) and between 1975 to 1984 (11.6%), while home was the third most frequent location for Latinos

between 1965 to 1974 (12.1%) and between 1975 to 1984 (7.3%). However, between 1985 to 1995, a shift in the locations of homicide incidents was evidenced for young Latino homicide offenders. While homicides occurring on the streets remained the most frequent location (65.2%), vehicles became the second most frequent homicide location for Latinos, with 13.8% of the homicides falling into this category. The third most frequent location during the third time period was other outdoor locations, with 10.1% of the homicides occurring in this location. Homicides occurring at a home were the fourth most frequent location during this time period, with 4.3% occurring at this location.

In summary, the results of the analyses indicate changes in the locations of the homicide incidents for whites, blacks, and Latinos over the thirty-year period. In general, the pattern of the locations and the trend in the changes in the locations was similar for whites and blacks, but differed for Latinos. Perhaps the most striking change in the locations was the proportionate increase in homicides involving Latinos that occurred in vehicles. The percentage for Latinos increased from 1.4% to 3.1% to a striking 13.8% over the thirty-year time period. Additionally, the comparisons of homicide locations by race/ethnicity were found to be statistically significant for all three study periods, thus suggesting that the locations where white, black, and Latino youths commit homicides differ significantly. In the next section, the patterns of when, in terms of month, day of the week, and time of the day when young offenders killed in Chicago will be discussed in detail.

When Did the Homicides Occur—Month, Day, and Time?

The next section describes in detail when youth committed homicides in Chicago. Specifically, this study focuses on examining during which month, day of the week, and time of the day homicides are committed by youth. Research has shown that, in a remarkably similar pattern to adults, juveniles are most likely to commit a crime with a firearm in the evening, between the hours of 9 p.m. and 10 p.m. (Snyder & Sickmund, 2006). Therefore, it is expected that the majority of the homicides take place in the evening. Additionally, following national trends in homicides, it is expected that the highest rates of homicides will be evidenced for the months of July, August, and December (Brearley, 1969) and during the weekend—from Friday night through Sunday night.

Frequencies and descriptive statistics were first run for the total sample of the young offenders (n=7,233) on the following variables: *INJMONTH*, which indicates the month of occurrence of the incident (coded January=1 thru December=12). The highest percentage of the homicides were committed in August (10.5%), followed by July (9.8%), and June and October (8.9% each). The fewest numbers of homicides occurred in January (6.6%) and February (6.8%). Of course, considering that many of the homicides occurred in the street (46.9%), and winter conditions in Chicago are harsh, it can be expected that fewer homicides are committed during winter months. The variable *INJDAY* from the dataset shows the day of the week of the incident (coded Sunday=1 thru Saturday=7). As expected, the most common day of the week for youth homicides was Saturdays (18.0%) followed by Sundays (16.6%) and Fridays (14.9%). The least frequent day of the week for homicides was Wednesdays (11.1%).

The variable *INJTIME* from the dataset indicates the time of the incident, coded according to the four-digit military clock. This variable was first recoded into variable *injtimer*, consisting of 24 categories with all incidents that occurred between 00:01 hours to 01:00 hours coded as 1, all incidents that occurred between 01:01 hours to 02:00 hours coded as 2, and so on. As hypothesized, and also consistent with the existing research, the results show that the greatest frequency of homicides took place between 21:01 to 22:00 hours, that is, between 9:01 pm and 10:00 pm, when 9.7% of all the homicides took place. This was followed by the time between 23:01 to 24:00, when a total of 9.0% of the homicides took place. The fewest homicides occurred between 09:01 to 10:00 hours. The time of the incident was further recoded into four time blocks. The first time block consisted of incidents that occurred between 00:01 to 06:00 hours (26.6% of the incidents), the second time block consisted of incidents that took place between 06:01 to 12:00 hours (8.0%), the third time block consisted of incidents that took place between 12:01 to 18:00 hours (18.9%), and the third time block consisted of incidents that took place between 18:01 to 00:00 hours (46.5%). Therefore, out of these four possible time blocks, the greatest number of homicides took place during the evening hours, between 6pm and midnight.

Do Males and Females Differ in Terms of When They Commit Homicides?

Next, gender differences were evaluated for the variables. Since both gender and month of the year were nominal-level variables, crosstabulation/chi-squares were run to examine whether the month of the homicide incident differed for males and females. Table 13 shows that males committed 10.6% of the homicides in August followed by July (9.9%) while the most frequent month for females was November (10.7%) followed by September (9.9%). The least frequent months for males were January (6.5%) and February (6.5%). Comparatively, the least

frequent months for females were April (4.3%) and March (5.9%). The chi-square value of 34.471 is highly significant ($p < .001$). These findings indicate that the months of occurrence of the homicide differ for males and females. This analysis was followed by an examination whether the months when homicides occur have changed over the thirty one-year period for males and females. The results indicate some consistency in terms of the months when homicides are committed. Over the thirty one-year period, July and August were consistently months when males committed many of the homicides, but the pattern in terms of the months varied more for females. Yet again, the frequency at which females commit homicides is considerably lower than it is for males, so women do not necessarily kill at a high enough rate to impact the patterns. On one hand, for males, between 1965 and 1974, the most frequent months during which homicides occurred were July (9.7%), April (10.1%), with August and November each having 8.7%. Between 1975 and 1984, the most frequent months were August (10.5%), July (10.2%), and October (10.0%). Between 1985 to 1995, the most frequent months were August (12.1%), July (9.8%), and September (9.6%). On the other hand, for females, between 1965 to 1974, the most frequent months during which homicides occurred were September (17.7%), August (13.3%), and June (11.5%). Between 1975 and 1984, the most frequent months were June (16.0%), July (12.6%), and November (11.8%). Between 1985 to 1995, the most frequent months were June (14.8%), November (12.0%), and December (11.3%). The results of these analyses are displayed in Table 12.

Table 12: Month of the Homicide Incident by Gender

Month	Total	1965-1995*		1965-1974**		1975-1984***		1985-1995****	
		Male	Female	Male	Female	Male	Female	Male	Female
January	478 (6.6%)	446 (6.5%)	32 (8.6%)	146 (7.0%)	8 (7.1%)	130 (7.0%)	10 (8.4%)	170 (5.8%)	14 (9.9%)
February	492 (6.8%)	467 (6.8%)	25 (6.7%)	143 (6.9%)	7 (6.2%)	162 (8.7%)	10 (8.4%)	162 (5.5%)	8 (5.6%)
March	585 (8.1%)	63 (8.2%)	22 (5.9%)	153 (7.4%)	5 (4.4%)	178 (9.6%)	5 (4.2%)	232 (7.9%)	12 (8.5%)
April	556 (7.7%)	569 (8.3%)	16 (4.3%)	209 (10.1%)	7 (6.2%)	114 (6.1%)	5 (4.2%)	246 (8.4%)	4 (2.8%)
May	556 (8.9%)	530 (7.7%)	26 (7.0%)	190 (9.2%)	10 (8.8%)	130 (7.0%)	4 (3.4%)	210 (7.2%)	12 (8.5%)
June	647 (8.9%)	594 (8.7%)	53 (14.2%)	170 (8.2%)	13 (11.5%)	162 (8.7%)	19 (16.0%)	262 (9.0%)	21 (14.8%)
July	710 (9.8%)	677 (9.9%)	33 (8.8%)	201 (9.7%)	6 (5.3%)	190 (10.2%)	15 (12.6%)	286 (9.8%)	12 (8.5%)
August	762 (10.5%)	729 (10.6%)	33 (8.8%)	181 (8.7%)	15 (13.3%)	195 (10.5%)	5 (4.2%)	353 (12.1%)	13 (9.2%)
September	640 (8.8%)	603 (8.8%)	37 (9.9%)	160 (7.7%)	20 (17.7%)	163 (8.8%)	10 (8.4%)	280 (9.6%)	7 (4.9%)
October	647 (8.9%)	624 (9.1%)	23 (6.1%)	175 (8.4%)	7 (6.2%)	187 (10.0%)	10 (8.4%)	262 (9.0%)	6 (4.2%)
November	565 (7.8%)	525 (7.7%)	40 (10.7%)	180 (8.7%)	9 (8.0%)	125 (6.7%)	14 (11.8%)	220 (7.5%)	17 (12.0%)
December	566 (7.8%)	532 (7.8%)	34 (9.1%)	165 (8.0%)	6 (5.3%)	125 (6.7%)	12 (10.1%)	242 (8.3%)	16 (11.3%)
Total	7,233	6,859	374	2,073	113	1,861	119	2,925	142

Note. The analyses are calculated by using offender data. * $\chi^2 = 34.471$; $df=11$; $p<.001$. ** $\chi^2 = 23.704$; $df=11$; $p<.05$. *** $\chi^2 = 24.316$; $df=11$; $p<.05$. **** $\chi^2 = 26.950$; $df=11$; $p<.05$.

This analysis was followed by an examination whether the day of the week homicides were committed differed for males and females. As with the above, crosstabulation/chi-squares were run to examine whether differences between the genders were significant. Consistent with the hypothesis, it was found that both males and females committed most homicides on Saturdays: males (17.9%) and females (18.2%). The second most frequent day for males was Sunday (16.7%) and the third most frequent day of the week Fridays (14.9%). Comparatively, the second most frequent day for females was Fridays (15.2%) followed by Sundays (14.7%). However, these differences were not found to be statistically significant. Therefore, the results indicate that the days of the week when males and females commit homicides do not significantly differ among offenders in Chicago. These results are displayed in Table 13. Additionally displayed in Table 13, are the results of the analyses run separately for three of the time periods and day of the week of the incidents for males and females.

Table 13: Day of the Week of the Homicide Incident by Gender

Month	Total	1965-1995		1965-1974		1975-1984		1985-1995	
		Male	Female	Male	Female	Male	Female	Male	Female
Sunday	1,199 (16.6%)	1,144 (16.7%)	55 (14.7%)	369 (17.8%)	16 (14.2%)	286 (15.4%)	20 (16.8%)	489 (16.7%)	19 (13.4%)
Monday	1,027 (14.2%)	977 (14.2%)	50 (13.4%)	287 (13.8%)	18 (15.9%)	248 (13.3%)	11 (9.2%)	442 (15.1%)	21 (14.8%)
Tuesday	933 (12.9%)	884 (12.9%)	49 (13.1%)	240 (11.6%)	13 (11.5%)	234 (12.6%)	19 (16.0%)	410 (14.0%)	17 (12.0%)
Wednesday	800 (11.1%)	755 (11.0%)	45 (12.0%)	198 (9.6%)	7 (6.2%)	218 (11.7%)	20 (16.8%)	339 (11.6%)	18 (12.7%)
Thursday	897 (12.4%)	847 (12.3%)	50 (13.4%)	219 (10.6%)	19 (16.8%)	225 (12.1%)	7 (5.9%)	403 (13.8%)	24 (16.9%)
Friday	1,078 (14.9%)	1,021 (14.9%)	57 (15.2%)	348 (16.8%)	19 (16.8%)	307 (16.5%)	18 (15.1%)	366 (12.5%)	20 (14.1%)
Saturday	1,299 (18.0%)	1,231 (17.9%)	68 (18.2%)	412 (19.9%)	21 (18.6%)	343 (18.4%)	24 (20.2%)	476 (16.3%)	23 (16.2%)
Total	7,233 (100%)	6,859 (100%)	374 (100%)	2,073 (100%)	113 (100%)	1,861 (100%)	119 (100%)	2,925 (100%)	142 (100%)

Note. The analyses are calculated by using offender data (n=7,233). None of the analyses in this table were statistically significant.

Lastly, it was examined whether the time of the day when males and females committed homicides differed for males and females and whether changes in the times during which males and females committed homicides had changed over the years. For this part of the analyses, the variable *time blocks* was utilized, which consisted of four six-hour time periods. The results show that, during all three study periods, the most number of homicides committed by both males and females occurred between 6:01pm and midnight. The numbers for males for the three study periods are 53%, 44.1%, and 44.6%, respectively. The numbers for females for the three study periods, and for this time block, are 41.6%, 36.1%, and 34.5%. With the exception of females between 1975 and 1985 when the second most frequent time block for them was between 12:01 to 18:00, the second most frequent time block for both genders in all three study periods was the hours between 00:01 to 06:00. The least frequent time block for females during the second study period was the hours between 00:01 to 06:00, while for both males and females in all three time periods it was the hours between 06:01 to 12:00. In summary, consistent with the expectations, most homicides committed by young persons occur during the evening hours. This finding was consistent for both genders over the 31-year period. These results are summarized in Table 14.

Table 14: Time of the Homicide Incident by Gender

Time	1965-1995*		1965-1974**		1975-1984***		1985-1995****	
	Total	Male	Female	Male	Female	Male	Female	
00:01-06:00	1,927 (6.6%)	479 (23.1%)	27 (23.9%)	527 (28.3%)	22 (18.5%)	836 (28.6%)	36 (25.4%)	
06:01-12:00	579 (8.0%)	149 (7.2%)	14 (12.4%)	169 (9.1%)	25 (21.0%)	197 (6.7%)	25 (17.6)	
12:01-18:00	1,364 (18.9%)	346 (16.7%)	25 (22.1%)	344 (18.5%)	22 (24.4%)	588 (20.1%)	32 (22.5%)	
18:01-24:00	3,361 (46.5%)	1,098 (53.0%)	47 (41.6%)	820 (44.1%)	43 (36.1%)	1,304 (44.6%)	49 (34.5%)	
Total	7,233 (100%)	2,185* (100%)	113 (100%)	1,860 (100%)	119 (100%)	2,925 (100%)	142 (100%)	

Note. The analyses are calculated by using offender data.

* $\chi^2 = 54.042$; $df=3$; $p<.001$

** $\chi^2 = 8.424$; $df=3$; $p<.05$.

*** $\chi^2 = 23.796$; $df=3$; $p<.001$.

**** $\chi^2 = 26.118$; $df=3$; $p<.001$.

Do Blacks, Whites, and Latinos Differ in Terms of When They Commit Homicides?

Comparison with regard to when youth commit homicides was additionally conducted for whites, blacks, and Latinos. First, it was evaluated whether there were differences in the percentages during the months of the year the homicides were committed for whites, blacks, and Latinos. Since both race and month of the year were nominal level variables, crosstabulation/chi-squares were run. Table 15 shows that the three most frequent months for whites were August (11.7%), July (10.9%), and September (10.9%). The least frequent month for whites was February (5.3%). The three most frequent months for blacks were August (10.5%), July (9.7%),

and October (9.0%). The least frequent month for blacks was January (6.4%). The three most frequent months for Latinos were June (11.4%), August (10.3%), and July (9.9%). The least frequent month for Latinos was December (6.3%). The chi-square value of 35.306 was significant ($p < .05$), thus indicating that the months during which youths from different racial/ethnic groups commit homicides differ. In fact, the comparisons were found to be statistically significant in all three study periods. Unfortunately, however, chi-square does not indicate the direction of the differences and I am not certain how to interpret these results. In attempts to decipher why there were racial/ethnic differences in terms of the months, I conducted additional analyses by looking at causal factors leading to the homicide incident by race, but no clear pattern emerged in the analyses. One plausible explanation for the differences is the involvement of young Latinos in gang-homicides during months when school is out, as the three most frequent months for Latinos were June, July, August—the months when school is not in session. The results of crosstabulations show that 10.1% of gang-related homicides by Latinos were committed in June, 10.5% in July, and 10.4% in August. In other words, of all gang-related homicides by Latinos, 30% were committed during the summer months. The rationale here would be that rival gang members are out of school, there is less supervision, and thus more opportunities for confrontations that turn lethal. But again, both July and August were the most frequent months for all three racial/ethnic groups, and attempting to decipher where the difference lies is unclear from the data.

Table 15: Month of the Homicide Incident by Race

Month	1965-1995*			1965-1974**			1975-1984***			1985-1995****		
	White	Black	Latino	White	Black	Latino	White	Black	Latino	White	Black	Latino
January	36 (7.7%)	352 (6.4%)	90 (7.0%)	17 (9.4%)	125 (7.0%)	12 (5.6%)	9 (5.6%)	98 (7.2%)	33 (7.3%)	10 (7.8%)	129 (5.6%)	45 (7.2%)
February	25 (5.3%)	382 (7.0%)	85 (6.6%)	10 (5.5%)	130 (7.3%)	10 (4.7%)	7 (4.4%)	127 (9.3%)	38 (8.4%)	8 (6.2%)	125 (5.4%)	37 (5.9%)
March	42 (8.9%)	454 (8.3%)	89 (6.9%)	19 (10.5%)	128 (7.2%)	11 (5.1%)	16 (10.0%)	128 (9.4%)	39 (8.6%)	7 (5.4%)	198 (8.6%)	39 (7.2%)
April	34 (7.2%)	464 (8.5%)	87 (6.7%)	13 (7.2%)	186 (10.4%)	17 (7.9%)	14 (8.8%)	80 (5.9%)	25 (5.5%)	7 (5.4%)	198 (8.6%)	45 (7.2%)
May	34 (7.2%)	412 (7.5%)	109 (8.4%)	17 (9.4%)	154 (8.6%)	28 (13.1%)	6 (3.8%)	102 (7.5%)	26 (5.7%)	11 (8.5%)	156 (6.7%)	55 (8.8%)
June	39 (8.3%)	461 (8.4%)	147 (11.4%)	16 (8.8%)	136 (7.6%)	31 (14.5%)	16 (10.0%)	109 (8.0%)	56 (12.3%)	7 (5.4%)	216 (9.3%)	60 (9.6%)
July	51 (10.9%)	531 (9.7%)	128 (9.9%)	14 (7.7%)	173 (9.7%)	20 (9.3%)	24 (15.0%)	131 (9.6%)	50 (11.0%)	13 (10.1%)	227 (9.8%)	58 (9.3%)
August	55 (11.7%)	574 (10.5%)	133 (10.3%)	23 (12.7%)	150 (8.4%)	23 (10.7%)	15 (9.4%)	130 (9.5%)	55 (12.1%)	17 (13.2%)	294 (12.7%)	55 (8.8%)
September	51 (10.9%)	466 (8.5%)	123 (9.5%)	15 (8.3%)	147 (8.2%)	18 (8.4%)	20 (12.5%)	116 (8.5%)	37 (8.1%)	16 (12.4%)	203 (8.8%)	68 (10.9%)
October	34 (7.2%)	490 (9.0%)	122 (9.4%)	18 (9.9%)	154 (8.6%)	9 (4.2%)	10 (6.2%)	136 (10.0%)	51 (11.2%)	6 (4.7%)	200 (8.6%)	62 (9.9%)
November	29 (6.2%)	438 (8.0%)	98 (7.6%)	11 (6.1%)	161 (9.0%)	17 (7.9%)	11 (6.9%)	106 (7.8%)	22 (4.8%)	7 (5.4%)	171 (7.4%)	59 (9.5%)
December	40 (8.5%)	444 (8.1%)	82 (6.3%)	8 (4.4%)	145 (8.1%)	18 (8.4%)	12 (7.5%)	102 (7.5%)	23 (5.1%)	20 (15.5%)	197 (8.5%)	41 (6.6%)
Total	470	5,468	1,293	181	1,789	214	160	1,365	455	129	2,314	624

The analyses are calculated by using offender data (n=7,233).

* $\chi^2 = 35.306$; df=22; p<.05.

** $\chi^2 = 40.877$; df=22; p<.05.

*** $\chi^2 = 37.739$; df=22; p<.05.

**** $\chi^2 = 42.974$; df=22; p<.05.

Crosstabulations were also run for the three different study periods to examine whether the days of the week and times of the day during which whites, blacks, and Latinos committed homicides changed over the 31-year period. Over three decades, Saturday was the most frequent day of the incident for whites (21.9%) and for blacks (16.9%) while Sunday was the most frequent day of the incident for Latinos (22.4%). Wednesday was the least frequent day of the incident for all groups: whites (8.9%), blacks (11.6%), and Latinos (9.6%). The comparisons of day of the week of the homicide incident by race/ethnicity were found to be statistically significant in all three study periods. The chi-square values of the comparisons of time of the homicide incident by race were also found to be statistically significant in all three study periods. Between 1965 and 1974, the most frequent time block for all groups was the time block between 18:01 and 24:00. The fewest number of homicides were committed during the hours of 06:01 to 12:00, and this was found for all three racial/ethnic groups. While during the second study period, the time block from 18:01 to midnight remained the time block consisting of most homicides, whites committed the fewest number of homicides between 12:01 to 18:00. However, this percentage was only slightly lower from the number of homicides committed between 06:01 to 12:00 (13.1% and 13.8%, respectively). As with the first study period, both blacks and Latinos committed the fewest number of homicides between 06:01 to 12:00. An interesting change was evidenced going from the second study period to the third study period, however. Consistent with the previous two decades, blacks committed the highest number of homicides between 18:01 to 24:00 (45.7%), but both whites and Latinos committed the highest number of homicides during the hours of 00:01 to 06:00 (39.5% and 43.1%, respectively). Consistent with the previous two decades, all three groups committed the least number of homicides between the hours of 06:01 to 12:00. The results are displayed in Tables 16 and 17.

Table 16: Day of the Week of the Homicide Incident by Race

Day	1965-1995*			1965-1974**			1975-1984***			1985-1995****		
	White	Black	Latino	White	Black	Latino	White	Black	Latino	White	Black	Latino
Sunday	98 (20.9%)	811 (14.8%)	290 (22.4%)	47 (26.0%)	284 (15.9%)	54 (25.2%)	26 (16.2%)	190 (13.9%)	90 (19.8%)	25 (19.4%)	337 (14.6%)	146 (23.4%)
Monday	66 (14.0%)	805 (14.7%)	155 (12.0%)	24 (13.3%)	255 (14.3%)	25 (11.7%)	25 (15.6%)	191 (14.0%)	43 (9.5%)	17 (13.2%)	359 (15.5%)	87 (13.9%)
Tuesday	55 (11.7%)	733 (13.4%)	145 (11.2%)	20 (11.0%)	215 (12.0%)	18 (8.4%)	19 (11.9%)	181 (13.3%)	53 (11.6%)	16 (12.4%)	337 (14.6%)	74 (11.9%)
Wednesday	42 (8.9%)	634 (11.6%)	124 (9.6%)	14 (7.7%)	182 (10.2%)	9 (4.2%)	17 (10.6%)	167 (12.2%)	54 (11.9%)	11 (8.5%)	285 (12.3%)	61 (9.8%)
Thursday	49 (10.4%)	713 (13.0%)	135 (10.4%)	13 (7.2%)	199 (11.1%)	26 (12.1%)	14 (8.8%)	176 (12.9%)	42 (9.2%)	22 (17.1%)	338 (14.6%)	67 (10.7%)
Friday	57 (12.1%)	847 (15.5%)	174 (13.5%)	31 (17.1%)	302 (16.9%)	34 (15.9%)	16 (10.0%)	232 (17.0%)	77 (16.9%)	10 (7.8%)	313 (13.5%)	63 (10.1%)
Saturday	103 (21.9%)	925 (16.9%)	270 (20.9%)	32 (17.7%)	352 (19.7%)	48 (22.4%)	43 (26.9%)	228 (16.7%)	96 (21.1%)	28 (21.7%)	345 (14.9%)	126 (20.2%)
Total	470	5,468	1,293	181	1,789	214	160	1,365	455	129	2,314	624

The analyses are calculated by using offender data (n=7,231).

* $\chi^2 = 84.093$; df=12; p<.001.

** $\chi^2 = 32.254$; df=12; p<.001.

*** $\chi^2 = 34.692$; df=12; p<.001.

**** $\chi^2 = 55.790$; df=12; p<.001.

Table 17: Time of the Homicide Incident by Race

Time	1965-1974*			1975-1984**			1985-1995***		
	White	Black	Latino	White	Black	Latino	White	Black	Latino
00:01-06:00	51 (28.2%)	390 (21.8%)	65 (30.4%)	49 (30.6%)	341 (25.0%)	159 (35.0%)	51 (39.5%)	552 (23.9%)	269 (43.1%)
06:01-12:00	12 (6.6%)	140 (7.8%)	11 (5.1%)	22 (13.8%)	148 (10.8%)	24 (5.3%)	10 (7.8%)	191 (8.3%)	21 (3.4%)
12:01-18:00	28 (15.5%)	329 (18.4%)	14 (6.5%)	21 (13.1%)	294 (21.5%)	58 (12.8%)	18 (14.0%)	513 (22.2%)	89 (14.3%)
18:01-24:00	90 (49.7%)	929 (52.0%)	124 (57.9%)	68 (42.5%)	582 (42.6%)	213 (46.9%)	50 (38.8%)	1,058 (45.7%)	245 (39.3%)
Total	181 (100%)	1,788 (100%)	214 (100%)	160 (100%)	1,365 (100%)	454 (100%)	129 (100%)	1,058 (100%)	245 (100%)

Note. The analyses are calculated by using offender data.

* $\chi^2 = 27.862$; $df=6$; $p<.001$. Information on time of the incident was missing on one of the offenders.

** $\chi^2 = 44.782$; $df=6$; $p<.001$.

*** $\chi^2 = 1.095E2$; $df=6$; $p<.001$.

Hypotheses 5, 6, and 7: Precursors

In the case of young homicide offenders, what is their relationship to their victims? What were the circumstances leading to the homicide incident like? What types of weapons did young offenders use in the killings? To finish the examination of homicide patterns, the precursors leading to the homicide incident were examined in greater detail. Specifically, the aim was to provide answers to the following three questions: Has the victim offender-relationship changed over the years for males and/or for females, for blacks, whites and Hispanics? What are the main circumstances leading to the homicide? Have those circumstances changed over the years and do

they differ by race and by gender? And, what types of weapons are used in the killings? Has the weapon types used in the homicides changed over the years by gender and race?

Victim-Offender Relationship

Knowledge about the victim-offender relationships can lead to a greater understanding of the homicide incident. If patterns with regard to the victim-offender relationship can accurately be established, this information can be used to guide prevention strategies. The variable *RELATION*, which indicates the type of relationship between the victim and the offender was used from the offender-level dataset. The variable consists of eleven options: spouse, child/parent relationship, other family, friends, acquaintances, rival gang, business/work, illegal business, other, stranger, and mystery. The sample was restricted to single-offender, single-victim cases in these analyses (n=2,619). Analyzing victim-offender relationships in cases where there are multiple offenders and/or multiple victims is methodologically complicated by the fact that the victim could presumably have differing relationships with specific offenders. For example, let's say the homicide incident had one victim and three offenders. It is possible that in one case the victim could be a complete stranger to one of the offenders, but an acquaintance to another, yet related to the third offender.

Existing research has shown that juveniles are most likely to kill acquaintances or strangers rather than family members (Blumstein, 1995; Ewing, 1990). It was thus hypothesized that the majority of the victims killed by juveniles are either acquaintances or strangers and this was supported by the findings. The results show that of the total sample (n=2,619), acquaintances represented 29.7% of the victims (n=777) and strangers 19.7% (n=516). The third

most frequent relationship was a rival gang member (15.2%). Young offenders were least likely to kill business or work associates (1.1%) or persons involved in illegal business (3.0%).

Past research endeavors have also found a significant increase in the number of juveniles killing acquaintances and strangers between 1980 and 2002, while very little change in the number of juvenile offenders killing family members was found (Snyder & Sickmund, 2006). It was thus expected that, beginning with the 1980s, an increase in the proportion of homicides involving juveniles killing either acquaintances or strangers will emerge. The results in the present study were partly consistent with the hypothesis. Consistent with the hypothesis, it was found that the percentage of the victims being family members did not change significantly from 1965 to 1995, for the total sample. The child/parent relationship was present in 3.2%, 6.9%, and 4.5% of the incidents, respectively. The percentage of victims who were other family members for the three study periods was 4.1%, 5.0%, and 2.5%. Inconsistent with the hypothesis, however, it was found that the percentage of the victims who were either acquaintances or strangers actually decreased from 1965 to 1995. The percentage of victims who were acquaintances in the three time periods was 29.0%, 35.8%, and 24.5%, respectively. Only single-victim, single-offender homicide incidents were included, however. The percentage of victims who were strangers in the three time periods was 23.5%, 21.9%, and 15.1%.

Significant increases in the victim-offender relationship being that of a rival gang member were evidenced over three decades. While during the first study period the percentage was 8.4%, this increased to 9.9% in the second, and by the third time period it had increased to a remarkable 24.7%. (Results not shown). Further crosstabulations revealed racial and ethnic differences. While increases were evidenced among all racial/ethnic groups, the increase in the victims who were rival-gang members was particularly striking for Latinos. The proportion of

victims who were rival gang members increased from 18.5% to 27.2% to 52.9% for Latinos. Comparatively, the percentages were 7.6%, 5.0%, and 17.6% for blacks. While the percentage increases were noticeable for whites, (5.8%, 13.5%, and 32.5%), the mere number of victims who were rival gang members remained low (n=3, n=9, and n=13, respectively). The results thus imply that homicides in Chicago were greatly impacted by Latinos killing rival gang members. Crosstabulations also show that in blacks killed blacks in 93.1% of the incidents and Latinos killed other Latinos from rival gangs in 76.9% of the cases and blacks in 11.5% of the cases.

There are two plausible explanations for these increases among Latinos. First, it is possible that these increases are a reflection of gang turf wars, as territoriality is recognized as an important component of gangs (Howell, 2009). Second, following insights from Cloward and Ohlin (1960), violent behavior occurs due to subcultural expectations. Specifically, Cloward and Ohlin (1960) argued that youths who do not have access to legitimate means to achieve success will deviate into one of the three types of subcultures: criminal, conflict, and retreatist. If a youth is unable to gain access to a criminal subculture, a conflict subculture will develop. Violence, particularly gang violence, is a characteristic of this type of subculture (Cloward & Ohlin, 1960). It is possible then that the increases in gang-related homicides among Latinos is a reflection of them working through the process from conflict to economy-based subculture. The *Homicides in Chicago* dataset includes a variable *CIRCUM* that indicates whether the circumstances leading to the homicide was instrumental or expressive. Over three decades, the majority of incidents were either fights and brawls (47.7% for blacks, 48.1% for Latinos) and other expressive circumstances (50% for blacks and 51.9% for Latinos), rather than instrumental in nature, thus implying that majority of rival gang members were killed due to conflict, also pointing to the possibility of turf wars.

Gender and Victim-Offender Relationship

It has been established that compared to males, females are more likely to kill people they know, either family members or acquaintances (Rowley et al., 1987). It was therefore expected that compared to males, a significantly higher percentage of the female homicide offenders' relationships to their victims would be that of a family member. This hypothesis was supported by the results. During the first study period, 2.0% of the male offenders' victim-offender relationships was that of a parent-child, while the comparative percentage for females was 14.9%. During the second study period, this type of victim-offender relationship represented 4.5% of the male offenders' relationships to their victim, but 30.3% of the female offenders' relationships with their victims. During the third study period, the respective percentages were 2.4% for males and 27.9% for females.

Spouses represented a significant percentage of victims for females: 41.9%, 17.1%, and 27.9% in the three study periods. For males, acquaintances represented a significant proportion of the victims: 30.6%, 36.9%, and 24.4%, as did strangers: 25.3%, 23.8%, and 16.4%. The percentage of the victims being friends decreased for both males (19.0% to 8.6% to 4.0%) and for females (18.9% to 11.8% to 2.3%). In terms of trends in the victim-offender relationship, a notable change evidenced during the 31-year period was the percentage increase in the victims being rival gang members for males only. Rival gang members were not victims of females in any of the three time periods. However, during the first study period, this was the victim-offender relationship for 9.3% of the homicides for males, this increased slightly to 11.1% over the second study period, to a remarkable 26.9% over the third study period. In conclusion, differences in the victim-offender relationship were evidenced for males and females. The analysis for the 31-year time period was also found statistically significant with the chi-square

value of 6.76E2 ($p < .001$). The results of the comparisons were also statistically significant in all three of the time periods, but due to small size of females in the sample, the chi-square assumption of cell size was violated and the time-period results should thus be interpreted with caution. Nonetheless, the results imply changing trends in the nature of the victim-offender relationship over the 31-year period. Most notable was the increase of victims being rival gang members from 9.3% to 26.9%, but this was found for males only. This result implies that changes in youth homicides over three decades can be largely attributable to increases in gang-related homicides. These results are displayed in Table 18.

Table 18: Relationship of the Offender to the Victim by Gender⁹

Relation	1965-1995*	1965-1974**		1975-1984***		1985-1995****	
	Total	Male	Female	Male	Female	Male	Female
Spouse	112 (4.3%)	22 (3.1%)	31 (41.9%)	4 (0.6%)	13 (17.1%)	18 (1.9%)	24 (27.9%)
Child/parent	127 (4.8%)	14 (2.0%)	11 (14.9%)	32 (4.5%)	23 (30.3%)	23 (2.4%)	24 (27.9%)
Other Family	98 (3.7%)	29 (4.1%)	3 (4.1%)	34 (4.7%)	6 (7.9%)	19 (2.0%)	7 (8.1%)
Friends	260 (9.9%)	135 (19.0%)	14 (18.9)	62 (8.6%)	9 (11.8%)	38 (4.0%)	2 (2.3%)
Acquaintances	777 (29.7%)	218 (30.6%)	10 (13.5%)	265 (36.9%)	20 (26.3%)	243 (25.5%)	21 (24.4%)
Rival gang	401 (15.3%)	66 (9.3%)	0 (0.0%)	79 (11.0%)	0 (0.0%)	256 (26.9%)	0 (0.0%)
Business/ Work	28 (1.1%)	8 (1.1%)	0 (0.0%)	10 (1.4%)	1 (1%)	9 (0.9%)	0 (0.0%)
Illegal Business	79 (3.0%)	4 (0.6%)	0 (0.0%)	0 (0.0%)	1 (1.3%)	70 (7.4%)	4 (4.7%)
Other	125 (4.8%)	15 (2.1%)	0 (0.0%)	40 (5.6%)	0 (0.0%)	67 (7.0%)	3 (3.5%)
Stranger	516 (19.7%)	180 (25.3%)	5 (6.8%)	171 (23.8%)	3 (3.9%)	156 (16.4%)	1 (1.2%)
Unknown	96 (3.7%)	21 (2.9%)	0 (0.0%)	22 (3.1%)	0 (0.0%)	53 (5.6%)	0 (0.0%)
Total	2,619	712	74	719	76	952	86

Note. Only single-offender, single-victim incidents are included (n=2,619).

* $\chi^2 = 6.76E2$; df=10; p<.001.

** $\chi^2 = 2.131E2$; df=10; p<.001. Eight cells (36.4%) have expected count less than five.

*** $\chi^2 = 1.952E2$; df=10; p<.001. Seven cells (31.8%) have expected count less than five.

**** $\chi^2 = 3.007E2$; df=10; p<.001. Six cells (27.3%) have expected count less than five.

⁹ Since the assumption of cell size was being violated in the three time period analyses, cells were collapsed into various categories. Due to small size of females in the sample, however, it was impossible to combine the categories as not to violate the assumption for the time-period analyses. Thus, results should be interpreted with caution.

Race and Victim-Offender Relationship

In addition to examining gender differences in the victim-offender relationship, potential racial and ethnic differences were examined. In terms of race and the victim-offender relationship, the results show that the proportionate increase in the victims being rival gang members was particularly evident for Latinos in the sample. The percentages in the three study periods in this category were 18.5%, 27.2%, and 52.9%. Comparatively, the percentages for whites were 5.8%, 13.6%, and 32.5%, and for blacks: 18.5%, 5.0%, and 17.6%. While the percentage of victims who were acquaintances decreased for all racial ethnic groups from 1965 to 1995, albeit increasing during the second study period for blacks, the percentage decrease was the greatest for Latinos: 33.8% to 20.5% to 9.9%. (Results not shown). It is also possible that there could have been a change in how the police coded the victim-offender relationship over the years.

In order to examine whether there were racial/ethnic differences in each of the three time periods, and in order not to violate the assumption of no more than 20% of the cells having a cell size less than five, it was necessary to collapse some of the categories for these analyses. Accordingly, the following victim-offender relationships were combined: (1) spouse with child/parent and other family, (2) friends with acquaintances, (3) rival gang with was combined with business/work, illegal business and other, and (5) stranger and (6) mystery was left uncombined. While the results show no statistically significant differences during the first time period, the analyses indicate significant differences in terms of race/ethnicity and victim-offender relationship for the second and third study periods. The results of these analyses are summarized in Table 19.

Table 19: Relationship of the Offender to the Victim by Race

Relation	1965-1974*			1975-1984**			1985-1995***		
	White	Black	Latino	White	Black	Latino	White	Black	Latino
Spouse/Child/ Parent/Family	9 (17.3%)	99 (14.8%)	2 (3.1%)	10 (15.2%)	98 (17.0%)	4 (2.6%)	4 (10.0%)	99 (12.3%)	12 (6.3%)
Friends/ Acquaintances	26 (50.0%)	320 (47.8%)	31 (47.7%)	26 (39.4%)	296 (51.2%)	34 (22.5%)	11 (27.5%)	272 (33.7%)	21 (11.0%)
Rival gang/ Business/Other	7 (13.5%)	74 (11.1%)	12 (18.5%)	11 (16.7%)	60 (10.4%)	60 (39.7%)	19 (47.5%)	265 (32.8%)	125 (65.4%)
Stranger	8 (15.4%)	157 (23.5%)	20 (30.8%)	19 (28.8%)	110 (19.9%)	45 (29.8%)	6 (15.0%)	121 (15.0%)	30 (15.7%)
Mystery	2 (3.8%)	19 (2.8%)	0 (0.0%)	0 (0.0%)	14 (2.4%)	8 (5.3%)	0 (0.0%)	50 (6.2%)	3 (1.6%)
Total	52 (100%)	669 (100%)	65 (100%)	66 (100%)	578 (100%)	151 (100%)	40 (100%)	807 (100%)	191 (100%)

Note. Included in the analyses are single-offender, single-victims incidents only. N=2,619.

*The results are not significant.

** $\chi^2 = 1.160E2$; $df=8$; $p<.001$.

*** $\chi^2 = 83.296$; $df=8$; $p<.001$.

Circumstances Leading to the Homicide Incident

It was hypothesized that the main precipitating factor leading to homicide would be arguments. This was based on the premise that, after analyzing data from Uniform Crime Reports for the years 1965 through 1995, Zahn and McCall (1999) found arguments to be the main precipitating circumstance for homicide throughout the 30-year period. To examine the circumstances surrounding the homicide incident, the variable *CAUSFACT* was utilized. This variable refers to the causal factor leading to the incident. The dataset consist of a total of 52 different causal factors, including drug altercation, money altercation, gang altercation, and

armed robbery. The following categories were collapsed into one: sex altercation, sexual jealousy, sexual rivalry, & sexual assault, and armed robbery category was combined with strongarm robbery.

Consistent with the expectations, different types of altercations precipitated many of the homicide incidents. Specifically, of the total, restricted sample, (n=2,619), in 22.9% of the incidents the event preceding the homicide was gang altercation. Other altercations preceded the homicide incidents in 21.8% of the cases. Following at a distant third most frequently occurring precursor to homicides were armed robberies (10.2%).

Additionally, building upon Blumstein's (1995) well-accepted explanation of the drugs/guns nexus as the reason for the increases in homicides in the late 1980s, the author hypothesizes that, beginning in the mid-1980s, increasingly more homicide incidents began to have drugs as a causal factor. Specifically, it is expected the number of incidents involving an altercation over drugs or money will increase from time1 to time2 and again from time2 to time3. The results showed an increase in the proportionate representation of drug altercations. The percentage increased notably from 0.1% to 0.8% to 5.3%. Contrary to expectations, however, the results did not show a significant increase in homicides involving money altercations. Rather, in all of the three study periods, the percentage of homicides involving a money altercation remained remarkably stable: 4.5%, 4.5%, and 3.9%. (Results not shown). It should be noted that, these analyses were restricted to single-offender/single-victim homicides. It is possible that these drug and money altercations are more characteristic of homicides involving multiple offenders.

Circumstances by Gender

The next goal was to examine whether the circumstances leading to the homicide incident differed by gender. The results evidence distinct gender differences. The results were statistically significant in all three time periods. For females, domestic altercations represented a significant percentage of the leading circumstances for the homicides (35.1%, 25.0%, and 37.2%), while for males, the percentages were significantly lower: (4.6%, 6.3%, and 5.1%). Second, the increase in drug altercations was a male phenomenon increasing from 0.1% to 0.8% to 5.7%. Another gender difference was male and female involvement in gang altercations—this was also mainly a male phenomenon. The percentages for males were 16.9%, 18.8%, and 35.8%. Additionally, these types of homicides increased notably for males going from 1965 to 1995. The percentages for females were 1.4%, 2.6%, and 1.2%. These results are summarized in Table 20. Please note that circumstances with less than 1% of cases were omitted from the table, thus the numbers in the table do not equal to 2,619.

Table 20: Circumstances Leading to the Homicide Incident by Gender¹⁰

Circumstance	1965-1995*	1965-1974**		1975-1984***		1985-1995****	
	Total	Male	Female	Male	Female	Male	Female
Gang Altercation	600 (22.9%)	120 (16.9%)	1 (1.4%)	135 (18.8%)	2 (2.6%)	341 (35.8%)	1 (1.2%)
Other Altercation	571 (21.8%)	178 (25.0%)	22 (29.7%)	192 (26.7%)	14 (18.4%)	153 (16.1%)	12 (14.0%)
Armed Robbery/ Strongarm Robbery	294 (11.2%)	96 (13.5%)	2 (2.7%)	95 (13.2%)	3 (3.9%)	70 (7.4%)	1 (1.2%)
Domestic Altercation	204 (7.8%)	33 (4.6%)	26 (35.1%)	45 (6.3%)	19 (25.0%)	49 (5.1%)	32 (37.2%)
Undetermined	173 (6.6%)	59 (8.3%)	0 (0.0%)	52 (7.2%)	0 (0.0%)	62 (6.5%)	0 (0.0%)
Sexual Alt/Assault Jealousy/Rivalry	105 (4.0%)	11 (1.5%)	3 (4.1%)	15 (2.1%)	5 (6.6%)	5 (0.5%)	6 (7.0%)
Child Abuse	97 (3.7%)	15 (2.1%)	6 (8.1%)	22 (3.1%)	16 (21.1%)	15 (1.6%)	23 (26.7%)
Unlawful Use Of Weapons	86 (3.3%)	38 (5.3%)	1 (1.4%)	17 (2.4%)	2 (2.6%)	26 (2.7%)	2 (2.3%)
Retaliation	81 (3.1%)	14 (2.0%)	0 (0.0%)	13 (1.8%)	0 (0.0%)	53 (5.6%)	1 (1.2%)
Drug Altercation	62 (2.4%)	1 (0.1%)	0 (0.0%)	6 (0.8%)	0 (0.0%)	54 (5.7%)	1 (1.2%)
Theft Altercation (Alleged)	46 (1.8%)	7 (1.0%)	0 (0.0%)	11 (1.5%)	1 (1.3%)	26 (2.7%)	1 (1.2%)
Love Triangle	32 (1.2%)	10 (1.4%)	5 (6.8%)	4 (0.6%)	1 (1.3%)	11 (1.2%)	1 (1.2%)
Gambling Altercation	28 (1.1%)	12 (1.7%)	0 (0.0%)	14 (1.9%)	0 (0.0%)	2 (0.2%)	0 (0.0%)

Note. Circumstances with less than 1% of cases were omitted from the table. N=2,619

* $\chi^2 = 5.44E2$; $df=34$; $p<.001$.

** $\chi^2 = 1.609E2$; $df=30$; $p<.001$. Thirty-seven cells have expected count less than five.

*** $\chi^2 = 1.349E2$ $df=27$; $p<.001$. Thirty-three cells have expected count less than five.

**** $\chi^2 = 3.224E2$; $df=29$; $p<.001$. Forty cells have expected count less than five.

¹⁰ Due to small number of females in the sample, in all three of the time-period analyses, the assumption of cell size was violated since more than 20.0% of the cells have an expected count less than five. To correct this problem, cells were collapsed into eight categories: (1) gang altercation/other altercation/retaliation, (2) armed robbery/strongarm robbery, (3) domestic altercations, (4) drug/money/gambling altercations/alleged theft, (5) Sexual altercation/assault/jealousy/rivalry/love triangle, (6) child abuse, (7) U.U.W. and (8) all other circumstances, all of which comprised less than 1% of cases. In no case, however, was there a change in the significance/non-significance as a result of collapsing the categories. Thus, the full results are shown here.

Circumstances by Race

Racial and ethnic differences were additionally examined. A notable difference in terms of race and circumstances that emerged in the present study was gang altercations. This type of precipitating event represented a significant proportion for Latinos; 32.3%, 45.7%, and 66.5% in three of the study periods. Comparatively, the percentages for whites were 15.4%, 24.2%, and 47.5% and for blacks: 13.6%, 9.0%, and 24.3%. The results imply that there are significant differences by race and ethnicity as to what the precipitating event leading to the homicide incident is, as the chi-square values of the comparisons were statistically significant in all three time periods. However, caution is necessary when interpreting the results as the assumption of cell size was violated in the analyses. Efforts were taken to collapse the cells to correct the problem, but due to low number of Latinos in several cells during the first period and low number of whites in several cells during the third time period, I was unable to combine the cells in a manner that would still provide meaningful information about the circumstances leading to the homicide incident. Looking at the frequencies, the results show that domestic altercations were very infrequently the main circumstance leading to the homicide for Latinos (0.0%, 1.3%, and 2.6%). However, this represented 5.8%, 9.1%, and 7.5% of the homicide circumstances for whites and 8.4%, 9.7%, and 9.0% for blacks. The detailed results of these analyses can be found in Table 21. Again, circumstances with less than 1% of cases were omitted from the table.

Table 21: Circumstances Leading to Homicide Incident by Race

Circumstance	1965-1995*	1965-1974**			1975-1984***			1985-1995****		
	Total	White	Black	Latino	White	Black	Latino	White	Black	Latino
Gang Altercation	600 (22.9%)	9 (15.4%)	91 (13.6%)	21 (32.3%)	16 (24.2%)	52 (9.0%)	6 (45.7%)	19 (47.5%)	196 (24.3%)	127 (66.5%)
Other Altercation	571 (21.8%)	11 (21.2%)	172 (25.7%)	17 (26.2%)	12 (18.2%)	161 (27.9%)	33 (21.9%)	8 (20.0%)	137 (17.0%)	20 (10.5%)
Armed Robbery/ Strongarm Rob	294 (11.2%)	16 (11.5%)	101 (15.1%)	6 (9.3%)	6 (9.1%)	92 (16.0%)	11 (7.3%)	3 (7.5%)	62 (7.7%)	6 (3.6%)
Domestic Altercation	204 (7.8%)	3 (5.8%)	56 (8.4%)	0 (0.0%)	36 (9.1%)	56 (9.7%)	2 (1.3%)	3 (7.5%)	73 (9.0%)	5 (2.6%)
Undetermined	173 (6.6%)	1 (1.9%)	57 (8.5%)	1 (1.5%)	4 (6.1%)	37 (6.4%)	11 (7.3%)	0 (0.0%)	58 (7.2%)	4 (2.1%)
Money Altercation	111 (4.2%)	1 (1.9%)	29 (4.3%)	5 (7.7%)	4 (6.1%)	29 (5.0%)	3 (2.0%)	2 (5.0%)	37 (4.6%)	1 (0.5%)
SexualAlt/Asault Jealousy/Rivalry	105 (4.0%)	4 (7.6%)	31 (4.6%)	0 (0.0%)	6 (9.0%)	33 (5.7%)	4 (2.6%)	0 (0.0%)	24 (2.9%)	3 (0.7%)
Child Abuse	97 (3.7%)	3 (5.8%)	16 (2.4%)	2 (3.1%)	1 (1.5%)	35 (6.1%)	2 (1.3%)	1 (2.5%)	34 (4.2%)	3 (1.6%)
Unlawful Use of Weapons	86 (3.3%)	5 (9.6%)	32 (4.8%)	2 (3.1%)	1 (1.5%)	17 (2.9%)	1 (0.7%)	0 (0.0%)	24 (3.0%)	4 (2.1%)
Retaliation	81 (3.1)	0 (0.0%)	0 (0.0%)	1 (1.5%)	0 (0.0%)	0 (0.0%)	1 (1.5%)	0 (0.0%)	0 (0.0%)	1 (1.5%)
Drug Altercation	62 (2.4%)	0 (0.0%)	0 (0.0%)	1 (1.5%)	0 (0.0%)	6 (1.0%)	0 (0.0%)	0 (0.0%)	52 (6.4%)	3 (1.6%)
Theft Altercatio (Alleged)	46 (1.8%)	0 (0.0%)	7 (1.0%)	0 (0.0%)	0 (0.0%)	12 (2.1%)	0 (0.0%)	0 (0.0%)	24 (3.0%)	3 (1.6%)
Love Triangle	32 (1.2%)	0 (0.0%)	12 (1.8%)	3 (4.6%)	0 (0.0%)	5 (0.9%)	1 (0.0%)	1 (2.5%)	11 (1.4%)	0 (0.0%)
Gambling Altercation	28 (1.1%)	1 (1.9%)	11 (1.6%)	0 (0.0%)	1 (1.5%)	13 (2.2%)	0 (0.0%)	0 (0.0%)	2 (0.2%)	0 (0.0%)

Note. Circumstances with less than 1% of cases were omitted from the table (n=2,619). * $\chi^2 = 3.626E2$; df=68; p<.001.

** $\chi^2 = 1.111E2$; df=60; p<.001. Interpret results with caution as sixty-seven cells have expected count less than five.

*** $\chi^2 = 2.0009E2$; df=54; p<.001. Interpret results with caution as fifty-six cells have expected count less than five.

**** $\chi^2 = 1.832E2$; df=58; p<.001. Interpret results with caution as sixty-three cells have expected count less than five.

Weapons

Increases in the availability of guns has been noted as a factor contributing to increases in homicides (Blumstein, 1995), and an increase in gang-motivated homicides involving automatic, semi-automatic, and high caliber weapons has been found in Chicago (Block & Block, 1993). It is therefore hypothesized that over the study period there was a shift in the types of weapons used in the killings. Consistent with existing research (Blumstein, 1995; Block & Block, 1993), it is therefore expected that the number of homicides involving handguns will increase from time1 to time2 and again from time2 to time3. A variable *WEAPON* was used from the dataset. This variable indicates what type of weapon was used in the killings and it consists of the following categories: automatic, handgun non-automatic, rifle non-automatic, shotgun non-automatic, firearm-type unknown, knife/sharp instrument, club/blunt instrument, arson, other weapon, and hand/fist/feet. Consistent with the hypotheses, of the total, restricted sample (n=2,619), the highest percentage of homicides involved handguns (35.7%). However, the percentage of this type of weapon used in the killings remained relatively stable over the three study periods: 37.0%, 35.1%, and 35.1%. Automatic guns represented 17.8% of the weapons used in the killings and a significant increase in these types of weapons was apparent, dropping from 11.6% in the first study period to 7.3% in the second, and an astonishing increase, to 30.6% during the third study period. Knives as a category were the third most frequent weapon of choice for young killers; 17.3% of the total sample. However, the percentage of knives and other sharp instruments as weapons used in the killings decreased from 19.5% to 23.5% to 10.8%.

Gender and Weapons

Research has shown that the types of weapons used in killings by males and females differ—with males utilizing firearms more frequently, as nationally fewer than 10% of killings involving guns are committed by females (Fox, Levin, & Quinet, 2008). It was consequently expected that gender differences in the types of weapons used in the killings would emerge in the present study and the results supported this hypothesis. First, the comparison of weaponry used in the killings by males and females was found to be statistically significant in all three time periods. Second, the percentage of homicides involving automatic weapons is low for females (5.4%, 1.3%, and 3.5%). However, this is a frequently used weapon by males (12.2%, 7.9%, and 33.1%). As discussed above, there was a significant increase in this type of weapon used in the killings over the 31-year time period. Both males and females used non-automatic handguns in the killings relatively frequently. The rates for males remained high, but stable (38.2%, 35.7%, and 36.8%). The rates for females were 25.7%, 28.9%, and 16.3%.

One notable gender difference was the use of firearms with the type unknown. The percentages were much higher for males (11.0%, 13.1%, and 10.6%) than for females (1.4%, 2.6%, and 1.2%). Another gender difference that emerged in the present study, also consistent with previous findings, is that females frequently use knives and other sharp instruments in the killings (52.7%, 40.8%, and 51.2%) compared to males (16.0%, 21.7%, and 7.1%). The use of hand/fist/feet increased for females from 8.1% to 13.2% to 16.3% over the study period, while the percentage decreased for males from 7.2% to 5.3% to 4.1%. In conclusion, the results imply support for the hypothesis that young male and female killers differ in the types of weapons used in the killings. Please see Table 22 for results.

Table 22: Type of Weapons Used by Gender¹¹

Weapon	1965-1995*			1965-1974**		1975-1984***		1985-1995****	
	Total	Male	Female	Male	Female	Male	Female	Male	Female
Automatic	467 (17.8%)	459 (19.3%)	8 (3.4%)	87 (12.2%)	4 (5.4%)	57 (7.9%)	1 (1.3%)	315 (33.1%)	3 (3.5%)
Handgun (non-auto)	934 (35.7%)	879 (36.9%)	55 (23.3%)	272 (38.2%)	19 (25.7%)	257 (35.7%)	22 (28.9%)	350 (36.8%)	14 (16.3%)
Rifle (non-auto)	76 (2.9%)	75 (3.1%)	1 (0.4%)	42 (5.9%)	1 (1.4%)	19 (2.6%)	0 (0.0%)	14 (1.5%)	0 (0.0%)
Shotgun (non-auto)	75 (2.9%)	74 (3.1%)	1 (0.4%)	25 (3.9%)	1 (1.4)	27 (3.8%)	0 (0.0%)	19 (2.0%)	0 (0.0%)
Firearm (Type unk)	277 (10.6%)	273 (11.5%)	4 (1.7%)	78 (11.0%)	1 (1.4%)	94 (13.1%)	2 (2.6%)	101 (10.6%)	1 (1.2%)
Knife/Sharp Instrument	452 (17.3%)	338 (14.2%)	114 (48.3%)	114 (16.0%)	39 (52.7%)	156 (21.7%)	31 (40.8%)	68 (7.1%)	44 (51.2%)
Club/Blunt Instrument	106 (4.0%)	100 (4.2%)	6 (2.5%)	3 (4.5%)	1 (1.4%)	41 (5.7%)	2 (2.6%)	27 (2.8%)	3 (3.5%)
Arson	7 (0.3%)	6 (0.3%)	1 (0.4%)	0 (0.0%)	1 (1.4%)	5 (0.7%)	0 (0.0%)	1 (0.1%)	0 (0.0%)
Other Weapon	67 (2.6%)	51 (2.1%)	16 (6.8%)	8 (1.1%)	1 (1.4%)	25 (3.5%)	8 (10.5%)	18 (1.9%)	7 (8.1%)
Hand/Fist/ Feet	158 (6.0%)	128 (5.4%)	30 (12.7%)	51 (7.2%)	6 (8.1%)	38 (5.3%)	10 (13.2%)	39 (4.1%)	14 (16.3%)
Total	2,619	2,383	236	712	74	719	76	952	86

Note. Included in the analyses are single-offender, single-victims incidents only (n=2,619).

* $\chi^2 = 2.555E2$; df=9; p<.001.

** $\chi^2 = 73.097$; df=9; p<.001. Six cells (30.0%) have expected count less than five.

*** $\chi^2 = 43.756$; df=9; p<.001. Seven cells (35.0%) have expected count less than five.

**** $\chi^2 = 2.197E2$; df=9; p<.001. Seven cells (35.0%) have expected count less than five.

¹¹ The assumption of cell size was violated in the time-period analyses due to small number of females. To correct this problem, cells were collapsed into six categories: (1) automatic, (2) handgun, (3) rifle/shotgun/firearm type unknown, (4) sharp/blunt instruments, (5) arson/other, and (6) hand/fist/feet. In no case, however, was there a change in the significance/non-significance as a result of collapsing the categories. Thus, full results are shown.

Race/Ethnicity and Weapons

Do young white, black, and Latino homicide offenders differ in the types of weapons they use in the killings? On one hand, the results show that compared to whites (11.4%) and to blacks (16.7%), a significantly higher percentage of Latinos (26.4%) used automatic weapons in the killings. Similarly, compared to whites (5.1%) and blacks (10.7%), Latinos (12.0%) used firearms where the type was unknown more frequently. On the other hand, compared to blacks (6.1%) and Latinos (3.2%), a higher percentage of whites (12.7%) used hands/fists/feet as the weapon in the killings. Similarly, whites used knives (20.3%) more frequently compared to blacks (17.6%) and Latinos (14.3%), and clubs/other blunt instruments (10.8%) compared to blacks (3.6%) and Latinos (3.7%). (Results not shown).

Next, it was evaluated whether the use of weapons has changed over the years by for blacks, whites, and Latinos. As shown in Table 23, one finding that stands out is the increase in the use of automatic weapons by all racial/ethnic groups, with the increase shown as 15.4% to 13.9% to 39.3% for Latinos, 9.6% to 4.5% to 25.0% for whites, and 11.4% to 5.9% to 28.9% for blacks. A particularly large proportion of homicides by Latinos were committed with automatic weapons during the third time period. The use of rifles in the killings decreased for all racial and ethnic groups over the 31-year period. Arson was very infrequently used in the killings by any of the offenders; of the total of 2,619 homicide incidents, arson was the weapon in only seven of the homicides. The comparison of the weapons used in the killings by race and ethnicity was found to be significant in the second and third study periods. Therefore, the results imply differences in the weapons used in the killings by white, black, and Latino youths, but the results should be interpreted with caution as the cell size assumption of chi-square was violated in the analyses.

Table 23: Type of Weapon Used by Race¹²

Weapon	1965-1974*			1975-1984**			1985-1995***		
	White	Black	Latino	White	Black	Latino	White	Black	Latino
Automatic	5 (9.6%)	76 (11.4%)	10 (15.4%)	3 (4.5%)	34 (5.9%)	21 (13.9%)	10 (25.0%)	233 (28.9%)	75 (39.3%)
Handgun (non-auto)	17 (32.7%)	244 (36.5%)	30 (46.2%)	20 (30.3%)	212 (36.7%)	47 (31.3%)	8 (20.0%)	293 (36.3%)	63 (33.0%)
Rifle (non-auto)	3 (5.8%)	37 (5.5%)	3 (4.6%)	0 (0.0%)	14 (2.4%)	5 (3.3%)	0 (0.0%)	11 (1.4%)	3 (1.6%)
Shotgun (non-auto)	1 (1.9%)	28 (4.2%)	0 (0.0%)	2 (3.0%)	19 (3.3%)	6 (4.0%)	1 (2.5%)	14 (1.7%)	4 (2.1%)
Firearm (Type unk)	2 (3.8%)	69 (10.3%)	8 (12.3%)	4 (6.1%)	70 (12.1%)	22 (14.6%)	2 (5.0%)	81 (10.0%)	19 (9.9%)
Knife/ Sharp inst.	8 (15.4%)	136 (20.3%)	9 (13.8%)	16 (24.2%)	135 (23.4%)	36 (23.8%)	8 (20.0%)	91 (11.3%)	13 (6.8%)
Club/ Blunt inst.	7 (13.5%)	25 (3.7%)	1 (1.5%)	7 (10.6%)	29 (5.0%)	7 (4.6%)	3 (7.5%)	20 (2.5%)	7 (3.7%)
Arson	0 (0.0%)	1 (0.1%)	0 (0.0%)	1 (1.5%)	2 (0.3%)	2 (1.3%)	0 (0.0%)	1 (0.1%)	0 (0.0%)
Other Weapon	1 (1.9%)	8 (1.2%)	0 (0.0%)	5 (7.6%)	26 (4.5%)	2 (1.3%)	4 (10.0%)	20 (2.5%)	1 (0.5%)
Hand/Fist/ Feet	8 (15.4%)	45 (6.7%)	4 (6.2%)	8 (12.1%)	37 (6.4%)	3 (2.0%)	4 (10.0%)	43 (5.3%)	6 (3.1%)
Total	52 (100%)	669 (100%)	65 (100%)	66 (100%)	578 (100%)	151 (100%)	40 (100%)	807 (100%)	191 (100%)

Note. Included in the analyses are single-offender, single-victims incidents only. N=2,619.

*The comparison is not statistically significant.

** $\chi^2 = 37.494$; $df=18$; $p<.05$. Ten cells (33.3%) have expected count less than five.

*** $\chi^2 = 36.899$; $df=18$; $p<.05$. Thirteen cells (43.3%) have expected count less than five.

¹² In the analyses the chi-square assumption of cell size was violated. To correct this problem, cells were collapsed into five categories: (1) automatic, (2) handgun, (3) rifle/shotgun/firearm type unknown, (4) sharp/blunt instruments, (5) arson/other/hand/fist/feet. In no case, however, was there a change in the significance/non-significance as a result of collapsing the categories. Therefore, the full results are shown.

Summary and Conclusion to Part One

The analyses in this chapter were conducted to provide a comprehensive portrayal of youth homicides over time and across subgroups. The analyses revealed significant commonalities across the groups, for example, in the ages of the offenders, but also significant diversity across the subgroups. I will begin with a brief summary of the hypotheses.

The results indicate partial support for the hypotheses pertaining to the *offenders*. First, as hypothesized, no changes in the average age were evidenced for males, although there was some indication that more female offenders belonged to the 10 to 14 age category by the third time period, but this should be interpreted with caution as the number of females in the sample was low. Second, the results supported the hypothesis that the proportionate involvement of males and females in homicides has not changed significantly. Third, as expected, compared to whites, the proportionate involvement of blacks and Latinos in homicides was greater. The hypothesis related to *number of offenders* was partly supported by the results in the present study, as it was found that compared to whites (53.8%), more blacks (60.9%) and Hispanics (63.1%) were involved in incidents involving multiple offenders. While it was hypothesized that an increase in the proportion of incidents involving multiple offenders, the results show that the percentages changed very slightly in that direction by either gender or race/ethnicity.

In terms of the hypotheses pertaining to *victims*, the results provided support for the hypothesis that if the involvement of offenders changes for any racial/ethnic groups, the trend is paralleled by changes in the proportion of victims belonging to this group. Second, it was hypothesized that no changes in the victims' age will be evidenced, but the results indicate a small increase in the proportion of victims who were 20 to 29 years of age, as it increased from 25.0% to 34.9%. Also, the proportion of victims who were 50-69 years of age decreased from

12.6% to 4.3%. It was also hypothesized that the majority of homicide victims would be males and that no significant changes in the proportionate involvement of either males or females as homicide victims was expected and these two hypotheses were supported by the results. The hypothesis that the majority of victims would be white was not supported by the results.

In terms of the *setting* it was hypothesized the location of the homicides would increasingly shift from home and indoor locations to outdoor and public places, but this was not supported by the results that indicated much stability in these locations. However, the emergence of vehicles as the fourth most frequent location was evident by the results. As hypothesized, most homicides (46.5%) were committed in the evening, between 18:01 and 00:00, during the summer months and during weekends.

The results provided partial support for the hypotheses pertaining to the *victim-offender relationship*. First, as hypothesized, most victims were found to be either acquaintances (29.7%) or strangers (19.7%), and the hypothesis that gender differences will emerge with females being more likely to kill people they know was supported by the results. However, inconsistent with the hypothesis that beginning with the mid 1980s, an increase in the proportion of homicides for males involving either acquaintances or strangers as victims, it was found that between the second and third time periods these types of victim-offender relationships decreased from 36.9% to 25.5% and 23.8% to 16.4%, respectively. Changes in the victim-offender relationship were evidenced, however. Most notably, rival-gang members who were victims of male homicides increased from 9.3% to 26.9%.

Consistent with the hypothesis, different types of altercations were the main *circumstance* leading to the homicide incident. Additionally, as hypothesized, the results indicated an increase in drug altercations, but failed to provide support for increases in money altercations. The results

also provided support for the hypothesis that over the 31-year time period, a shift in the types of *weapons* used would emerge. While the use of handguns remained relatively stable over three decades, a notable increase from 11.6% to 30.6% in the use of automatic guns was evidenced. Also, as hypothesized, the types of weapons used in the killings by males and females differed. Compared to males, females were more likely to use knives and other sharp instruments and compared to females, males were more likely to use automatic guns, handguns, rifles, and shotguns in the killings.

An examination of trends over the 31-year period revealed that changes in the nature of the killings by young persons include increases in gang-homicides, particularly among Latinos, and changes in the types of weapons used in the killings, mainly increases in the use of automatic weapons. While these changes were evidenced across groups, for example, the increases in the use of automatic weapons by whites, blacks, and Latinos, the changes were particularly large for Latinos. For example, while gang homicides increased collectively for all racial and ethnic groups from 8.4% to 9.9% to 24.7%, the increase over the 31-year period was particularly evident for Latinos, as these types of homicides increased from 18.5% to 27.2% to 52.9%. These results indicate that increases in homicides over three decades were greatly impacted by increases in lethal gang altercations. Second, youths increasingly began using automatic weapons in the killings. During the first time period, 11.6% of the homicides were committed by automatic guns and this dropped down to 7.3% during the second time period, but then increased remarkably to 29.7% during the third time period. The increases in the use of automatic weapons can be attributed both to blacks who utilized these types of guns in 11.4%, 5.9%, and 28.9%, of the killings in each of the three time periods, respectively, and to the use of these types of weapons by Latinos (15.4%, 13.9%, and 39.3% in the three time periods, respectively).

Overall, the results show several divergences by race/ethnicity. Minorities are greatly overrepresented as homicide offenders and victims. It is not assumed, however, that race or ethnicity is the cause. Rather, the stance is taken that structural characteristics of neighborhoods where youth reside are related to crime, a notion to be tested in the next chapter. One example of the differences is that, compared to whites and blacks, Latino youth are very unlikely to kill in the home. Speculatively speaking, this finding could be related to cultural differences—as family represents a very central concept in Latino cultures. Indeed, familism is recognized as a core value of Hispanic cultures (Sabogal, Marín, Otero-Sabogal, Marín, & Perez-Stable, 1987). Sabogal et al. (1987) found familial obligations, perceived support from the family, and family as referents to be the most important facets of Hispanic familism in their study on the impact of acculturation on attitudinal familism.

It is also notable that the homicide event is, in many respects, a very different event for young males and females. To begin, not surprisingly, very few young females killed over the 31-year period, and thus females had very little impact on homicides in Chicago. The results imply that when a female kills, they are more likely to act alone compared to males who more frequently are involved in multiple-offender homicides. Compared to males who often kill acquaintances and strangers, and increasingly rival gang members in the streets, women commonly commit homicides in the home, with the relationship to the victim being a spouse, child or parent. The circumstances leading to the homicide incident also differed by gender. While domestic altercations were a prevalent circumstance for females, gang altercations, other altercations, and armed robberies were some of the more frequent circumstances leading to homicide incidents for males. Although both genders were likely to use non-automatic handguns, when females killed they were likely to use weapons different from those used by males. While

males in this study frequently used automatic weapons, knives and other sharp instruments were recurrently used by females. These results hold important connotations. First, the results show that the homicides committed by males and females are qualitatively different. Second, relatedly, the prevention of homicides by males should focus on different factors compared to preventing homicides by females.

The small number of cases in the cells in the chi-square analyses for the number of offenders, locations, victim-offender relationship, circumstances, and weapons pose a limitation of the analyses in this part of the study. Consequently, some caution is warranted when interpreting these results.

In conclusion, the analyses revealed significant differences across the subgroups and this further reinforces the notion that it is important to disaggregate homicide research across subgroups. In particular, these analyses began unraveling trends among young Latino homicide offenders, a group often neglected in homicide research. Since many of the contextual factors differ by subgroup, obviously, there is no ‘one-size-fits-all’ solution to how to reduce youth homicides—a point to be discussed later in chapter seven. Central to this study is the concept of social disorganization and its relevancy in explaining why crime occurs. In the following chapter, the results of the test of social disorganization theory and the results of the analyses examining whether social disorganization theory can aid in the prediction of homicides committed by males and females and by whites, blacks, and Latinos will be discussed.

CHAPTER SIX: RESULTS OF THE NEGATIVE BINOMIAL MODELS

The goal of the analyses was to determine whether indicators of social disorganization have a significant effect on homicide rates among youths between the ages 10 and 19. An explanation of how the measures of social disorganization were constructed can be found in Appendix B, and the descriptive statistics for these indicators for the 1970, 1980, and 1990 Censuses are shown in Table 24. First, the results of the negative binomial regressions testing social disorganization theory in the three time periods (1965-1974, 1975-1984, and 1985-1995) will be discussed. This is followed by an evaluation of whether social disorganization variables can aid in the prediction of homicides committed by male and female white, black, and Latino juveniles. The area analyzed in the present study was the City of Chicago, depicted by the highlighted area in Figure 1. The unit of analysis was the census tract, and there are a total of 873 census tracts in the city of Chicago.

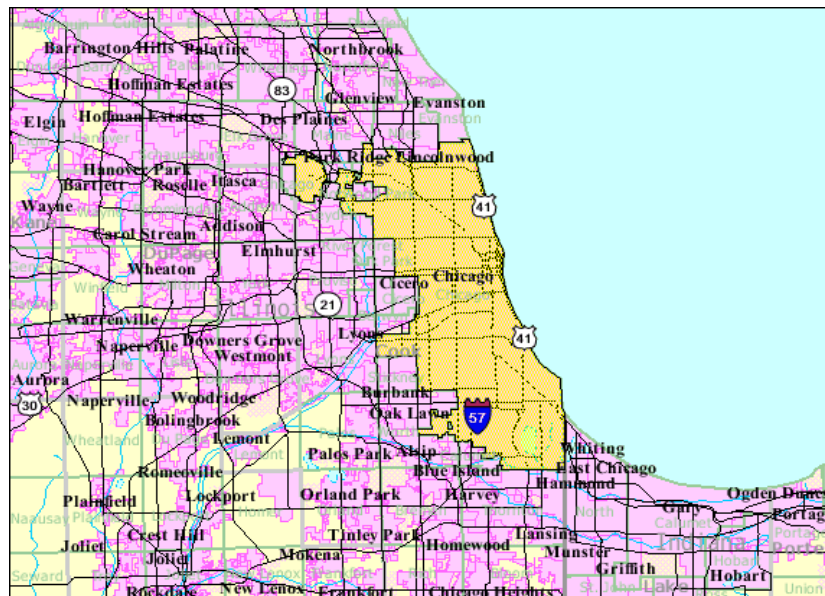


Figure 1: Map of City of Chicago in 1990¹³

¹³ Created from 1990 Census.

Table 24: Descriptive Statistics for the Indicators of Social Disorganization for the 1970, 1980, and 1990 Censuses

	1970		1980		1990	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
Racial Heterogeneity Index	0.135	0.133	0.211	0.204	0.238	0.218
% No High School Degree	59.14	17.53	47.7	19.49	37.6	18.6
% Foreign Born	10.5	8.76	13.79	13.5	14.6	15.2
% Same House for 5 Years	52.00	16.82	56.5	18.3	54.4	16.9
% Unemployed	2.65	1.76	6.15	3.8	14.6	12.5
% Single HH	8.59	9.11	15.7	13.3	14.7	13.4
% Renter Occupied Units	58.22	24.24	60.9	25.6	59.9	27.5
Median Household Income	10,710	4,158	14,327	6,129	24,472	11,702
Natural Log Total Population	7.89	1.27	7.71	1.44	7.63	1.37
Natural Log Whites	--	--	--	--	3.22	2.49
Natural Log Blacks	--	--	--	--	3.31	2.63
Natural Log Latinos	--	--	--	--	2.77	2.39
Natural Log Males	5.42	1.28	5.21	1.26	4.94	1.43
Natural Log Females	--	--	--	--	4.90	1.42

Negative Binomial Models

While the dependent variables, offset variables, and VIFs were discussed earlier in the methodology section, I will briefly summarize them here. A total of ten different dependent variables are included, one for each of the negative binomial regression models. The dependent variable in the first three models is the count of homicides by census tract, and for the seven models for the disaggregated groups, the dependent variable was the count of homicide offenders in the selected group per census tract. The unit of analysis in each of the models was census tracts (n=873), however. With the exception of males, the disaggregated analyses (by race/ethnicity and by gender) were only run for the third time period. This was done because it was not possible to create an offset variable for these analyses.

To be able to interpret the results as rates, offset variables were created. For models 1 to 3, the offset variable was the natural log of the total population by census tract, as the victim could be of any age. For the disaggregated analyses, seven different offset variables were also created, reflecting the population at risk for each of the analyses, for example for whites the offset variable was the natural log of the total white population between the ages 10 and 19, and for males the offset variable was the natural log of the total male population between the ages 10 and 19, and so on. The variance inflation factors (VIFs) were also run on all variables to test for potential problems of multicollinearity. A commonly used practice assumes VIFs above 4 to indicate problems of multicollinearity (Fisher & Mason, 1981). As a result of these analyses, percent below poverty was excluded since the VIF was 4.6 for the 1990 Census. After excluding percent below poverty, there were no indications of potential problems of multicollinearity as all of the VIFs were under 4.

Testing Social Disorganization Theory Using the 1970 Census

The results from the negative binomial regression in Table 25 show that several indicators of social disorganization had significant effects on the rates of homicide committed by young persons between the years of 1965 and 1974. Specifically, with the exception of percentage of the population in the same house five years earlier and single-headed households, all of the other indicators of social disorganization were found to be significant.

Table 25: Negative Binomial Regression Analysis for the Estimated Effects of Social Disorganization on Homicides, 1970 Census

Variable	b	e^{b1}	% X^2
Racial Heterogeneity	0.021***	1.02	2.1
% No High School Degree	0.015**	1.01	1.5
% Foreign Born	-0.047***	0.95	-4.6
% Same House for 5 Years	-0.0010	0.99	-0.1
% Unemployed	0.13***	1.14	13.6
% Single Headed-Households	0.007	1.00	0.7
% Renter Occupied Units	0.0053*	1.00	0.5
Median Household Income	-0.13***	0.87	-12.4
Constant	-8.1***		
X^2	97.95***		
N	873		

¹The exponent of beta, it is the factor change in the expected count for a unit increase in the independent variable. ²The percentage of change in the expected count for a unit increase in the independent variable, while all other variables are held constant. *p < .05; **p < .01; ***p < .001

Consistent with social disorganization theory, increases in the racial heterogeneity of the population, the percentages of the population with no high school diploma, unemployed persons, and renter-occupied housing units in a census tract significantly and positively influence the homicide rate. For every one unit increase in the population heterogeneity index, there is a 2.1% increase in homicides. For every 1% increase in the population with no high school diploma, there is a 1.5% increase in homicides. Similarly, every 1% increase in the population who are unemployed is associated with a notable 13.6% increase in homicides. Finally, every 1% increase in the percentage of population renting, there is a 0.5% increase in homicides. Two of the other variables, percentage of the foreign-born population and median household income were found to significantly and negatively influence the homicide rate. Consistent with social disorganization theory, every \$1,000 increase in the median household income in a tract, there is a 12.4% decrease in homicides.

Interestingly, the results of the analysis indicate that every 1% increase in the percentage of foreign-born population, there is a 4.6% decrease in homicides. Shaw and McKay ([1942], 1969) found that, areas with high concentrations of foreign-born residents and blacks also had higher rates of delinquency. Shaw and McKay ([1942], 1969) cautioned making causal inferences about the findings, however. In their words: “Clearly one must be aware of attaching causal significance to race or nativity” (p. 155). The finding of this study is consistent with more recent research. For example, Sampson (2008) found that, in Chicago neighborhoods, the foreign-born population actually lowers violence rates among native-born whites and blacks. The findings of this analysis indicate that the presence of foreign-born may actually serve as a protective factor against youth homicides in neighborhoods. Also contrary to the expectations,

the percentage of the households headed by single persons did not emerge as a significant predictor of homicides.

In summary, the model for the first time period provides support for social disorganization theory, with one exception. Increases in the percentage of the population who were foreign-born were found to significantly and negatively influence the homicide rate. The analyses for this time period indicate that the social disorganization indicators can significantly aid in the prediction of homicides, however. Next the results of the test of social disorganization theory for the second time period will be discussed.

Testing Social Disorganization Theory Using the 1980 Census

The results of the analyses testing social disorganization theory during the second time period, 1975-1984, were mostly consistent with the results from the first time period. The results show that six of the eight indicators of social disorganization theory significantly aid in the prediction of homicides. Compared to the previous decade, however, single-headed households emerged as a significant predictor of homicides and percentage of renter occupied housing units was no longer found to be a significant predictor of homicides. The results are summarized in Table 26.

Table 26: Negative Binomial Regression Analysis for the Estimated Effects of Social Disorganization on Homicides, 1980 Census

Variable	b	e ^{b1}	%X ²
Racial Heterogeneity	0.017***	1.02	1.7
% No High School Degree	0.02***	1.02	1.7
% Foreign Born	-0.02***	0.98	-2.0
% Same House for 5 Years	0.003	1.00	0.3
% Unemployed	0.05***	1.05	4.6
% Single Headed-Households	0.02***	1.02	2.1
% Renter Occupied Units	0.002	1.00	0.2
Median Household Income	-0.05***	0.95	-5.0
Constant	-8.9***		
X ²	52.22***		
N	873		

¹The exponent of beta, it is the factor change in the expected count for a unit increase in the independent variable. ²The percentage of change in the expected count for a unit increase in the independent variable, while all other variables are held constant.

*p < .05; **p < .01; ***p < .001

Again, every one unit increase in the racial heterogeneity index is associated with a 1.7% increase in homicides. Other significant and positive predictors of homicides during this study period were the percentages of population with no high school diploma, % unemployed, and single-headed households. For every 1% increase in population with no high school diploma, there is a 1.7% increase in homicides; for every additional 1% increase in unemployed population, there is a 4.6% increase in homicides; and every 1% increase in single-headed

households is associated with a 2.1% increase in homicides. Additionally, it was found that for every \$1,000 increase in median household income, there is a 5.0% decrease in homicides. These findings are in line with social disorganization theory. Interestingly, it was found again that the percentage of foreign-born was significantly and negatively associated with homicides. For every 1% increase in foreign born population, there is a 2.0% decrease in homicides. Overall, the results reflect further support for social disorganization theory, as many of the indicators could significantly aid in the prediction of homicides. Next, the results of the test for the third time period will be reviewed.

Testing Social Disorganization Theory Using the 1990 Census

The results from the negative binomial regression indicate that again six of the eight indicators of social disorganization in a census tract are significantly related to the counts of homicides in the tract. The significant predictors were identical to those in the previous time period. With the exception of residential mobility and renter-occupied units, all other indicators were found to be significant predictors of homicides.

Consistent with social disorganization theory, racial heterogeneity index, the percentages of persons with no high school degree, single-headed households, and unemployed persons significantly and positively influence the homicide rates. Also consistent with expectations, median household income significantly and negatively influences homicide rates. It was found that for every 1% increase in the percentage of population with no high school degree, there is a 2.1% increase in homicide rates. For every additional 1% increase in the percentage of single-headed households, there is a 1.2% increase in homicides. Every increase in the racial heterogeneity index is associated with a 1.7% increase in homicides. Lastly, every 1% increase

in the proportion of the population unemployed corresponds with a 1.6% increase in homicides. Also consistent with social disorganization theory, the results indicate that every \$1,000 increase in the median household income is associated with a 3.0% decrease in homicides. As with the previous two time periods, the results of the analyses here show that, for every additional 1% increase in the percentage of foreign-born, there is a 2.3% decrease in homicides. Consistently, therefore, the results show that a larger presence of foreign-born in an area may actually serve to lower violent crime among youths in that area. These results can be found in Table 27.

Table 27: Negative Binomial Regression Analysis for the Estimated Effects of Social Disorganization on Homicides, 1990 Census

Variable	b	e ^{b1}	%X ²
Racial Heterogeneity	0.005*	1.01	0.5
% No High School Degree	0.021***	1.02	2.1
% Foreign Born	-0.023***	0.98	-2.3
% Same House for 5 Years	-0.00008	0.99	0.0
% Unemployed	0.016**	1.02	1.6
% Single Headed-Households	0.012**	1.02	1.2
% Renter Occupied Units	-0.003	0.99	-0.3
Median Household Income	-0.03***	0.97	-3.0
Constant	-7.5***		
X ²	218.16***		
N	873		

¹The exponent of beta, it is the factor change in the expected count for a unit increase in the independent variable. ²The percentage of change in the expected count for a unit increase in the independent variable, while all other variables are held constant.

*p < .05; **p < .01; ***p < .001

Looking at the results over a 31-year period, it can be concluded that many of the indicators of social disorganization persistently aid in the prediction of homicides committed by juveniles. The results of the analyses in the three time periods indicate that racial/ethnic heterogeneity, educational deprivation, unemployment, and family disruption are significantly and positively related to youth homicides. Foreign-born population and median household income were found to be significantly and negatively related to homicides. Interestingly, residential stability did not emerge as a significant predictor in any of the three models. Another consistent finding of the present study is that the percentage of foreign-born population may actually serve to lower homicides committed by youths. This is an interesting finding in itself and also in the light of current discussion on immigration and crime, as Martinez (2006) notes “discussion on social problems stereotypically associated with racial minorities (e.g., blacks and Native Americans), such as high rates of male unemployment, substance abuse, and violent crime involvement, have now become important themes in the public immigration debate” (p. 1). Overall, the patterns found in the present study reflect support for social disorganization theory. Continuing with the central focus of this study, in the next sections, the results of the disaggregated analyses will be reviewed to provide answers to the question whether social disorganization can aid in the prediction of homicides by youths from various subgroups; whites, blacks, and Latinos and males and females.

Average Annual Offending Rates

To begin, the average annual offending rates were calculated for whites, blacks, and Latinos and for males and females. It should be noted that the numbers for Chicago represent a one-year snapshot as totals were derived from the 1990 Census, but the total numbers for the

sample groups represent an eleven-year time period. Therefore, the rates for the groups represent the average annual offending rate. The youth homicide offenders included in the negative binomial analyses were between the ages of 10 and 19 years. In 1990, this age group, the population at risk, comprised 14.9% of the population (U.S. Census, 1990). Of the total population between the ages 10 and 19 years of age 51.2% were males and 48.8% were females. Of this age group in the total population, 30.1% were white, 45.1% were black, and 24.8% were Latinos. In comparison, during the third study period (1985-1995), the totals in the sample were 4.2% White, 75.4% Black, and 20.3% Latino. Comparatively, 95.4% of the youth homicide offenders were male and 4.6% female. In other words, blacks and males were greatly overrepresented in the sample.

The average annual homicide offending rates were found to be considerably higher for males, 123.3 per 100,000, compared to females, whose average annual offending rate in the sample was 6.3 per 100,000. The average homicide offending rates for whites was 9.3 per 100,000, while the average rate for blacks was notably higher at 110.7 per 100,000. Finally, the rate for Latinos was 54.3 per 100,000. The results further reinforce the notion that the rates of homicide offending are significantly higher among blacks (Ewing 1990; Hawkins 1999; Snyder & Sickmund 2006), as their rates of offending were considerably higher compared to rates of either white or Latino youth. Also consistent with the persistent finding of males committing more crimes than females (e.g., Chesney-Lind, 1989; Miethe & Regoeczi, 2004; Steffesmeier et al., 2005), the results show that the rates of homicide offending in Chicago are much higher for males than for females. These results are summarized in Table 28.

Table 28: The Average Annual Homicide Offending Rates for Selected Groups Ages 10-19

1985-1995			
Group	Sample	City of Chicago*	Homicide Rate per 100,000
Males	2,925	215,586	123.3
Females	142	205,753	6.3
Whites	129	126,809	9.3
Blacks	2,314	190,123	110.7
Latinos	624	104,407	54.3

Note. The totals for the City of Chicago were calculated from the 1990 Census Categories and represent a one-year snapshot of the total population ages 10 to 19, while the total numbers for the sample groups represent an eleven-year time period. The rates, therefore, are the average annual offending rates per 100,000 for the selected groups.

Test of Social Disorganization Variables for Whites

A goal of this study was to determine whether the indicators of social disorganization can aid in the prediction of homicides by youths from different racial/ethnic groups. In the analysis of white youth homicide offenders, the results show that none of the social disorganization variables significantly aid in the prediction of homicide rates for whites. This finding can potentially be attributed to the fact that there was not enough variance to accurately predict the counts. That is, there were only 129 counts of white homicide offenders dispersed over the unit of analysis, i.e. census tracts during the third time period and it is possible that there was not enough variance in the tracts to accurately predict homicide rates by whites. These results are summarized in Table 29.

Table 29: Negative Binomial Regression Analysis for Whites

Variable	b	e ^{b1}	%X ²
Racial Heterogeneity	0.003	1.00	0.3
% No High School Degree	0.03	1.03	2.8
% Foreign Born	-0.023	0.98	-2.3
% Same House for 5 Years	-0.03	0.97	-2.9
% Unemployed	0.03	1.03	2.9
% Single Headed-Households	-0.046	0.96	-4.5
% Renter Occupied Units	0.0011	1.00	0.1
Median Household Income	-0.03	0.97	-2.6
Constant	-5.04***		
X ²	68.24***		
N	873		

¹The exponent of beta, it is the factor change in the expected count for a unit increase in the independent variable. ²The percentage of change in the expected count for a unit increase in the independent variable, while all other variables are held constant.

*p < .05; **p < .01; ***p < .001

Test of Social Disorganization Variables for Blacks

The results of the negative binomial regressions indicate that five of the social disorganization variables significantly aid in the prediction of the counts of black homicide offenders. It was found that every increase in the racial heterogeneity index serves to lower homicides by 1%. Consistent with expectations it was found that every 1% increase in the percent of population with no high school degree is associated with a 1.0% increase in homicides. Also, a measure of residential mobility was found to be a significant predictor of

homicides for black youths. Consistent with the social disorganization perspective, every 1% increase in the proportion of the population who had resided in the same house five years earlier was associated with a 1.4% decrease in homicides for young blacks, and it was also found that every 1% increase in the percent of population unemployed is associated with a 1.4% increase in homicides.

Perplexingly, it was found that every 1% increase in single-headed households is associated with a 0.9% decrease in homicides. This finding is contrary to the well-established notion of how family disruption positively influences rates of violence and crime, especially for juveniles (e.g., Osgood & Chambers, 2000; Sampson, 1987). It is plausible that this effect for blacks can be best explained by the measure of family disruption employed in this study. Family disruption was measured as the proportion of households headed by single person. First, a common approach of how family disruption is measured in research is to include female-headed households (e.g., Osgood & Chambers, 2000; Sampson, 1987; Steffensmeir & Haynie, 2000). In this study, however, households headed by males were also included, although the number of households headed by males was low. This was based on the assumption that the influence of family disruption exerts its influence on juvenile crime via reduced supervision and lack of informal social control. Therefore, the importance of family disruption is connected to presence of adults in a household—whether it be a male or a female. Now, the way the U.S. Census Bureau measures different household types may not capture the reality of various family arrangements. For example, the 1990 Census included a measure of male householder, no wife present and a female householder, no husband present. This measure would not include the presence of other adults in a household, for example, grandparents or cohabiting partners. Therefore, although not necessarily indicated by the Census Bureau, there might be other adults

present in a household. Another point to consider here is the fact that the *Homicides in Chicago* dataset indicated the census tract of the location of the homicide incident, rather than the location of the youths' residence. This could potentially impact the results here. For example, it is possible that a youth is impacted by growing up in a single-headed households, but the homicide incident happened to occur in another census tract, one that did not have high rates of single-headed households. Percent foreign born, renter occupied housing units, and median household income did not emerge as significant predictors for blacks. These results are shown in Table 30.

Table 30: Negative Binomial Regression Analysis for Blacks

Variable	b	e ^{b1}	%X ²
Racial Heterogeneity	-0.009**	0.99	-1.0
% No High School Degree	0.009*	1.00	1.0
% Foreign Born	0.011	1.00	1.1
% Same House for 5 Years	-0.014**	0.98	-1.4
% Unemployed	0.014*	1.01	1.4
% Single Headed-Households	- 0.009*	0.99	-0.9
% Renter Occupied Units	0.0005	0.99	0.1
Median Household Income	-0.002	0.99	-0.2
Constant	-3.86***		
X ²	342.21***		
N	873		

¹The exponent of beta, it is the factor change in the expected count for a unit increase in the independent variable. ²The percentage of change in the expected count for a unit increase in the independent variable, while all other variables are held constant.

*p < .05; **p < .01; ***p < .001

Test of Social Disorganization Variables for Latinos

The analysis of youth Latino offenders indicate that only one of the social disorganization variables, the percentage of the population in the same house 5 years earlier, aid in the prediction of the number of Latino homicide offenders. Consistent with social disorganization theory it was found that for every one unit increase in the percentage of the population in the same house five years earlier, there is a 2.6% decrease in Latino homicide offenders. Residential mobility was one of the key facets of Shaw and McKay's ([1942], 1969) theory, and it was postulated to increases social disorganization in an area. The results of the present study provide support for this being an important predictor of homicides by young Latinos. These results are shown in Table 31.

Table 31: Negative Binomial Regression Analysis for Latinos

Variable	b	e ^{b1}	%X ²
Racial Heterogeneity	-0.009	0.99	-0.9
% No High School Degree	0.014	1.01	1.4
% Foreign Born	-0.015	0.99	-1.4
% Same House for 5 Years	-0.027***	0.97	-2.6
% Unemployed	0.027	1.02	2.8
% Single HH	-0.019	0.98	-1.9
% Renter Occupied Units	-0.003	0.99	-0.3
Median Household Income	-0.027	0.97	-2.7
Constant***	-2.77		
X ²	200.38***		
N	873		

¹The exponent of beta, it is the factor change in the expected count for a unit increase in the independent variable. ²The percentage of change in the expected count for a unit increase in the independent variable, while all other variables are held constant.

*p < .05; **p < .01; ***p < .001

Test of Social Disorganization Variables for Males

In addition to examining the impact of social disorganization variables on youth homicide offenders from different racial and ethnic groups, another main goal of the negative binomial analyses was to determine whether the indicators of social disorganization aid in the prediction of homicides committed by males and females. In addition to calculating the model by using 1990 census, this was also done for 1980 and 1970 censuses for males. This was done because it was possible to calculate the offset variables for males for 1980 and 1970, and due to young

males representing the majority of offenders in this study. I will discuss the results of the negative binomial model using the 1970 census first, followed by the 1980 and 1990 results. As shown in Table 32, the results show that with the exception of residential stability, as measured by the percent of the population in the same house five years earlier and single-headed households, all of the other six indicators of social disorganization aid in the prediction of homicides committed by males between 1965 and 1974.

Table 32: Negative Binomial Regression Analysis for Males, 1970 Census

Variable	b	e ^{b1}	%X ²
Racial Heterogeneity	0.016***	1.02	1.6
% No High School Degree	-0.009*	0.99	-1.0
% Foreign Born	-0.029***	0.97	-2.8
% Same House for 5 Years	-0.008	0.99	-0.8
% Unemployed	0.14***	1.15	15.4
% Single Headed-Households	-0.015	0.99	-1.5
% Renter Occupied Units	0.010***	1.01	1.0
Median Household Income	-0.22***	0.81	-19.5
Constant	-2.74***		
X ²	577.99***		
N	873		

¹The exponent of beta, it is the factor change in the expected count for a unit increase in the independent variable. ²The percentage of change in the expected count for a unit increase in the independent variable, while all other variables are held constant. *p < .05; **p < .01; ***p < .001

Consistent with social disorganization theory, every one unit increase in the racial heterogeneity index was associated with a 1.6% increase in homicides. It was also found that every 1% increase in the percent of the population unemployed was associated with a remarkable 15.4% increase in homicides. Similarly, every \$1,000 increase in the median household income was associated with an astonishing 19.5% decrease in homicides. The results imply that these economic indicators of unemployment and household income were particularly significant predictors of homicides committed by male youth during this time period. Also consistent with the social disorganization perspective, every 1% increase in renter-occupied units was associated with a 1.0% increase in homicides. Every 1% increase in foreign-born population was again found to decrease homicides by 2.8% for males during this time period.

Unexpectedly, every 1% increase in the percent of the population without a high school degree was found to decrease homicides by 1.0%. It is possible that a lack of high school degree during this time period reflects a proportion of population, for example, grandparents or stay-at-home mothers, who would actually serve to supervise children and thus during this time period this variable was found to decrease homicides. The significance of unemployment and household income as predictors are particularly remarkable in this period. Now, turning to the second time period, Table 33 shows the results of the negative binomial regression for the estimated effects of community disorganization for the second time period for males.

Table 33: Negative Binomial Regression Analysis for Males, 1980 Census

Variable	b	e ^{b1}	%X ²
Racial Heterogeneity	0.02***	1.02	2.1
% No High School Degree	0.009*	1.00	1.0
% Foreign Born	-0.02***	0.98	-1.9
% Same House for 5 Years	0.002	1.00	0.2
% Unemployed	0.06***	1.06	6.6
% Single Headed-Households	0.008	1.00	0.8
% Renter Occupied Units	0.007	1.00	0.7
Median Household Income	-0.05**	0.95	-5.1
Constant	-6.12***		
X ²	302.71***		
N	873		

¹The exponent of beta, it is the factor change in the expected count for a unit increase in the independent variable. ²The percentage of change in the expected count for a unit increase in the independent variable, while all other variables are held constant.

*p < .05; **p < .01; ***p < .001

Compared to the first time period, renter-occupied housing units no longer significantly predicted homicides for young males. However, five of the variables were found to be significant predictors of homicides. As expected, every 1% increase in the racial heterogeneity index was associated with 2.1% increase in homicides. The effect of percent of the population with no high school degree also operated in the manner expected according to social disorganization theory. Every 1% increase in the percent of population with no high school degree was associated with 1.0% increase in homicides. Percent of the population unemployed and median household

income were also found to be significant predictors, with every 1% increase in the percent of population unemployed being associated with a 6.6% increase in homicides and \$1,000 increase in income being associated with a 5.1% decrease in homicides. As repeatedly demonstrated in this study, every 1% increase in the percent of foreign-born population was associated with a 1.9% decrease in homicides. In summary, as with the first study period, the results here imply that economic deprivation in terms of high unemployment rates and low household incomes were particularly important predictors of homicides committed by young males.

The results of the third time period for males show again that several indicators of social disorganization aid in the prediction of homicides by young males. Two changes in terms of the significant variables were evidenced from the second to the third time period. During the third time period, racial heterogeneity was no longer a significant predictor of homicides. The second change was that residential mobility was found to significantly and negatively influence homicides. As postulated by Shaw and McKay ([1942], 1969), larger proportions of population who had resided in the same house five years earlier were found to decrease homicides by young males. Specifically, every 1% increase in the percent of population in the same house five years earlier was shown to decrease homicides by 1.1%. As expected, the results show that, with every 1% increase in the percentage of population with no high school diploma, there is a 1.0 increase in the number of young male homicide offenders. The results also show that every \$1,000 increase in the median household income is associated with a 2.9% decrease in the number of male youth homicide offenders in the census tract. Social disorganization theory assumes poverty is related to crime and violence, and the results of the analyses imply that economic variables are important predictors of homicides committed by young males. Consistently, every 1% increase in the percent of the population unemployed was associated with a 1.8% increase in

homicides. Lastly, a consistent finding of this study has been the influence of the foreign-born population. The results also show that for every 1% increase in the percentage of the foreign-born population, there is a 2.8% decrease in the count of male homicide offenders in the tract. These results are shown in Table 34.

Table 34: Negative Binomial Regression Analysis for Males, 1990 Census

Variable	b	e ^{b1}	%X ²
Racial Heterogeneity	-0.00002	1.00	0.0
% No High School Degree	0.009*	1.00	1.0
% Foreign Born	-0.029***	0.97	-2.8
% Same House for 5 Years	-0.012*	0.99	-1.1
% Unemployed	0.02**	1.02	1.8
% Single Headed-Households	-0.009	0.99	-0.9
% Renter Occupied Units	0.002	1.00	0.2
Median Household Income	-0.03***	0.97	-2.9
Constant	-3.22***		
X ²	793.26***		
N	873		

¹The exponent of beta, it is the factor change in the expected count for a unit increase in the independent variable. ²The percentage of change in the expected count for a unit increase in the independent variable, while all other variables are held constant.

*p < .05; **p < .01; ***p < .001

Test of Social Disorganization Variables for Females

Finally, the influence of social disorganization variables were evaluated to examine whether they would be able to predict homicides by young females. The results in Table 35 show that four of the indicators of social disorganization aid in the prediction of homicides by young females. Residential stability was also found to significantly and negatively influence homicides, with every 1% increase in the percent of population in the same house five years earlier being associated with 2.4% decrease in homicides for females. Unemployment was found to significantly and positively influence homicide rates, with every 1% increase being associated with a 3.8% increase in homicides. Unexpectedly, every 1% increase in single-headed households was found to decrease homicides by 3.7% for females. The possible explanations for this finding were discussed earlier in this chapter in the discussion on the results for blacks. Lastly, while controlling the effects of other social disorganization variables, every 1% increase in the percentage of the foreign-born population was associated with a 5.3% decrease in the counts of female homicide offenders. Again, while Shaw and McKay ([1942], 1969) found a positive relationship between foreign-born population and crime, they cautioned against causality. The results of this model also underscore the importance of re-evaluating the impact of the foreign-born population on homicides. The results imply that the presence of foreign-born population aids significantly in the prediction of homicides perpetrated by young females. Specifically, the results show that the presence of the foreign-born population significantly and negatively impacts homicide rates.

Table 35: Negative Binomial Regression Analysis for Females

Variable	b	e ^{b1}	%X ²
Racial Heterogeneity	0.007	1.00	0.7
% No High School Degree	0.014	1.01	1.4
% Foreign Born	-0.054***	0.95	-5.3
% Same House for 5 Years	-0.024*	0.98	-2.4
% Unemployed	0.037**	1.04	3.8
% Single Headed-Households	-0.04***	0.96	-3.7
% Renter Occupied Units	-0.001	1.00	0.0
Median Household Income	-0.032	0.97	-3.1
Constant	-5.34***		
X ²	8.30**		
N	873		

¹The exponent of beta, it is the factor change in the expected count for a unit increase in the independent variable. ²The percentage of change in the expected count for a unit increase in the independent variable, while all other variables are held constant. *p < .05; **p < .01; ***p < .001

Summary and Conclusion to Part Two

The main contribution of the analyses in the present study is the test of social disorganization theory at the census tract level for three different time periods. The results of the analyses in the three time periods indicate that racial/ethnic heterogeneity, educational deprivation, unemployment, and family disruption are significantly and positively related to homicides. Foreign-born population and median household income were found to be significantly and negatively related to homicides.

Overall, percent of unemployed persons in a census tract was found to be the most consistent predictor of youth homicides in this study with it being significant in eight of the ten models. The percentage of foreign-born population was found to be a significant predictor of homicides in seven of the ten models. It was found, however, that the larger concentrations of foreign-born decrease homicides by youth. In other words, this is at odds with the notion that higher concentrations of foreign-born residents is associated with higher levels of crime. Other consistent predictors were the percentage of population with no high school diploma (with the exception of the 1970 model for males) and median household income, each being significant in six of the models. Expectedly, as the median household income increases, this is associated with a decrease in homicides in the census tract. Both educational and economic deprivation, in other words, were found to be significant predictors of homicides.

Social disorganization theory does not assume that growing up in single-headed households causes one to engage in lethal violence, rather, the assumption is that with one parent present there is less supervision of children, i.e. less informal social control (Bursik & Grasmick, 1993). While the results of the test of the social disorganization theory for the 1980 Census and 1990 Census are consistent with much of the literature on family disruption being an important variable related to juvenile violence and crime (e.g., Osgood & Chambers, 2000; Sampson, 1987), the results of two of the disaggregated models (for blacks and females) implied inconsistent support for the influence of family disruption. As discussed previously in this paper, it is possible that these inconsistent results are related to how the variable is measured in the census. It is plausible that the census variable does not capture all the different variations of families present in our society, for example, the presence of grandparents or cohabiting partners

in households. However, an adult present in a household could mean increased level of supervision and increased informal social control.

The racial heterogeneity index significantly aided in the prediction of homicides in seven of the models. The index was found to be significantly and positively related to homicides in each of the three models testing social disorganization theory in three of the time periods and for males for the first and second time periods. However, contrary to expectations, the index was found to significantly and negatively influence homicides for blacks and Latinos. Population turnover, as indicated by the percentage of the population living in the same house five years earlier was a significant predictor of homicides in four of the models.

Consistent with social disorganization theory, it was found during the first study period that higher percentages of renter-occupied housing units were associated with increases in homicides. During the second and third study periods, this variable failed to reach significance, however. One plausible explanation for this finding is that it reflects the rates of home-ownership in Chicago in general. As Shaw and McKay ([1942], 1969) noted, the rates of homeownership becomes a significant variable when rentals differentiate areas in a city. In other words, levels of rentals are associated with higher levels of delinquency when homeownership rates are significantly different from one area to another. The mean level of rentals in the tracts remained relatively unchanged over three decades (58.2%, 60.9%, and 59.9%), however. What is not evident from the data, though, is whether the housing conditions got progressively better or worse over time. However, population decreasing may suggest the worsening of housing conditions as the population in the City of Chicago was estimated at 3,465,304 in 1970 (U.S. Census, 1970) and by 1990, the total population in the city was estimated at 2,832,214 (U.S. Census, 1990). Overall, of the eight indicators of social disorganization, renter-occupied housing

units was found to be the least likely indicator to be able to aid in the prediction of youth homicides, as it was significant in only two of the models.

The second main notable contribution of the analyses in this present study is that the data were disaggregated by race/ethnicity and gender. Traditionally in homicide studies, many of the comparisons have been limited to comparing blacks and whites (Hawkins, 2008). However, as the society becomes racially and ethnically more diverse, it is imperative that homicide analyses go beyond the black and white dichotomy. Today, Hispanics represent the largest non-white minority group in the United States (U.S. Census, 1990). To reflect the diversity in the society, and to better understand homicide offending among youth from different racial and ethnic backgrounds, in the present study the data were disaggregated into black, white, and Hispanic groups.

The results of the disaggregated analyses by race indicate that several indicators of social disorganization aid in the prediction of black homicides and population turnover was found to be a significant predictor of Latino homicides. None of the variables related to social disorganization emerged as significant predictors of homicides for whites. The greater ability for significant prediction for blacks and Latinos in the sample is most likely due to higher counts of offenders from these groups in each tract compared to the numbers of whites in each tract. In other words, the inability to accurately predict homicides for whites was most likely due to problems related to variance.

The results also showed that the indicators of social disorganization can aid in the prediction of both male and female homicides. Three of the same variables significantly predicted both male and female homicides during the third time period; foreign-born population, residential stability, and percent of the population unemployed. While other studies have failed

to find structural disadvantage having a strong impact on juvenile female homicides (Steffensmeier & Haynie, 2000), the results of this study imply that structural correlates can also aid in the prediction of homicides by young females. The low number of female homicide offenders in the sample in the present study should be taken into consideration when interpreting the results, however. Specifically, there were only 142 female offenders, which might have potentially left very little variance in the census tracts to accurately predict the influence of the social disorganization variables on females. However, the results show that measures of social disorganization can be applied to understand the phenomenon of young female killers further.

In conclusion, the analyses of the present study underscore the importance of disaggregating homicide data. Although the independent variables that attained significance varied among the models, the results of the first three negative binomial models indicate that several measures of social disorganization significantly aid in the prediction of homicides committed by youths. Consequently, it can be concluded that these results reflect support for social disorganization theory. The analyses for the five different subgroups indicate that there are different variables pertaining to social disorganization that significantly aid in the prediction of homicides by young offenders from the selected groups. The policy implications of these findings will be discussed in the next chapter, along with suggestions for future research and a discussion of limitations of this present study.

CHAPTER SEVEN: POLICY IMPLICATIONS, DISCUSSION, AND CONCLUSION

This final chapter begins with a summary of some of the main findings of the study, followed by a discussion of some of the policy implications that can be derived from them. A brief discussion on the legal standards for adolescent homicide offenders in the U.S. are also presented. The chapter concludes with a discussion on the limitations of this study and suggestions for future research.

Who, Why, When, and Where?

The findings of the first part of this study showed that the nature of lethal violence differs in several ways among various subgroups. Overall, the results are consistent with the decades old trend of minorities being overrepresented as both perpetrators and victims of lethal violence. The representation of both blacks and whites decreased over the 31-year period, from 81.9% to 75.4% and 8.3% to 4.2%, respectively, while Latino representation increased markedly from 9.8% to 20.3%, but these trends parallel changes in the demographic composition of the general population. According to the 1970 Census, the majority of Chicago's population were white (65.6%), while 30.5% were black, and only 3.4% of the population were Hispanic. By 1990, however, the white population had decreased to 46.3%, blacks represented 38.4% of the population, and an estimated 19.1% of the population was Hispanic (U.S. Census, 1990).

The first main finding from the first part of the analyses show that changes in youth homicides over the 31-year time period in Chicago involved significant increases in lethal gang altercations, and a majority of lethal gang-violence occurred among Latino youth. The number of

lethal gang altercations more than doubled over the study periods, going from 554 incidents during the first time period to 1,304 during the third time period. Clearly then, gang violence remains one of the main causes of youth homicides in Chicago and any serious effort to reduce homicides among youth would focus on reducing gang violence. Latino involvement in gang altercations was particularly prominent. By the third time period, a rival gang member was the victim in the majority (52.9%) of all homicides committed by Latino youth. Of course, the presence of gangs in Chicago is not a new phenomenon, as one of the seminal works on gangs is Thrasher's (1963, [1927]) study of 1,313 gangs in Chicago.

In terms of weapons and young persons, several noteworthy findings emerged in the present study. First, guns appear to be readily available for young persons, as many of the homicides were committed by handguns. While it is debatable whether 'guns kill people or people kill people,' research indicates that types of weapons used during an assault, e.g., firearm caliber (Zimring, 1972), or whether the injury is caused by guns, knives, blunt objects, etc., (Kleck & McElrath, 1991; Wells & Horney, 2002) will largely determine whether the incident will end in lethality. Targeting gun-violence, therefore, should be a chief facet of prevention—a point to be visited in the next section. Second, looking at the trends over time, one striking finding is the increase in the use of automatic guns in the killings. The use of automatic guns differed among racial and ethnic groups, however. Compared to whites and blacks, Latinos were found to use automatic guns more frequently in the killings. This is a significant finding and in this context it bears repeating that increases in gang altercations among Latinos became evident in this study. In other words, a prominent theme in the trends of youth homicides was that changes occurred mainly among young Latinos who became increasingly involved in gang-related homicides in which they increasingly utilized automatic guns. Third, males and females

used different types of weapons in the killings. Females were found to be very unlikely to employ automatic guns in the killings, but rather likely to use knives and other sharp instruments.

Over the 31-year period, males represented the vast majority of all offenders, and over the years, no significant changes in the proportions of genders were evidenced. In short, young females had very little impact on homicide rates in Chicago, and it appears that no significant increase in female involvement in homicides has occurred over the 31-year period. The circumstances leading to the homicide incident also differed distinctly between the groups. First, domestic altercations represented a significant proportion of all homicides for females. This finding is consistent with the fact that many of the homicides committed by females occurred in the homes. In the domestic violence literature it is recognized that women may kill their abusers (e.g. Walker, 1989), and while parricide, the killing of parents or close relatives, is a rare occurrence (Heide, 1992), an estimated 300 parents are killed by children yearly with the severely abused child being the most common type of young adolescent parricide offender (Heide, 1992). Neonaticides also represent a considerable portion of female-perpetrated homicides (Steffesmeier & Haynie, 2000 cites Ewing, 1990). In summary, considering the location of female-perpetrated homicides found in this study, these may present plausible explanations for many of the female killings. The expected and confirmed increases in drug and gang altercations were found to be mainly a male phenomenon. Therefore, when talking about changes in the nature of violent youth offenders, the results of this present study highlight the importance of talking about the changes in terms of subgroups.

Another noteworthy aspect of lethal violence perpetration by young persons is the large proportion of homicides being perpetrated by more than one offender, but this was found only to

apply to males. Females were far more likely to be involved in single-offender incidents. During any of the three time periods, less than half of all homicides by young males were single-offender incidents, however. This finding may imply something vital about the developmental period of young persons—the role of group influence on one’s behavior, culpability, the desire to belong to a group, and to please. Additionally, the findings point to racial and ethnic differences, with whites being more likely to be involved in single-offender incidents.

Looking at the victim characteristics, the findings emphasize the old adage that offenders and victims are similar in many demographic characteristics. The majority of victims were found to be males, minorities, and under the age of 30—close to the same age as the offenders. Although media portrayals of violent young offenders may increase the fear of victimization among the public, clearly, the risk of being a victim of lethal violence is not distributed equally across all groups in our society.

While the findings of the descriptive and bivariate analyses offer insights into differences in the nature of lethal violence among subgroups and the trends and patterns over a 31-year period, the vital question of *why* young persons kill remains largely unanswered by these findings. To shed light to the question of *why* young persons may resort to lethal violence, social disorganization theory was tested and applied in the present study to unravel social structural correlates that may help us further understand this phenomenon. The main findings of these analyses are discussed next.

Applying Social Disorganization Theory to Understanding Young Killers

The results of the negative binomial regression models were discussed in detail in the previous chapter. The main point that bears repeating here is that the results of the first three

negative binomial models testing social disorganization variables in each time period indicate that several variables significantly aid in the prediction of homicides by youths. These results reflect consistent support for social disorganization theory. The main consistent predictors were related to educational and economic deprivation variables. Interestingly, the percentage of foreign-born population was found to be a significant predictor of homicides in seven of the models. Contrary to the expectations, it was found that larger concentrations of foreign-born decrease homicides by youths, however. This finding is consistent with those of Sampson (2008) who recently suggested that, due to diffusion of cultural values less accepting of violence and crime, the presence of foreign-born in Chicago neighborhoods may actually lower violence rates among native-born whites and blacks.

The second notable contribution of the analyses was the disaggregation of data by race and ethnic group and by gender. The analyses for the different subgroups indicate that there are different variables pertaining to social disorganization that significantly aid in the prediction of young homicide offenders from the selected groups, and this further underscores the importance of data disaggregation. Following these findings, the next obvious question is—what could be done to reduce homicides by young persons? This question is addressed in the next section.

Policy Implications

The results of the analyses in this present study provide several important implications for prevention. Typically, crimes in urban areas are concentrated in certain areas, rather than being randomly distributed, and these areas are often characterized by high levels of poverty, unemployment, and other indicators of economic distress (e.g., Corzine, Huff-Corzine, Mustaine, Polczynski, Libby, Bachmann, Grantham, & Eson, 2007; Osgood & Chambers, 2000; Shaw &

McKay(1969, [1942]). This notion is supported by the results in the present study, as it was found in several models that educational and economic deprivation in a census tract predict the number of homicides committed by young offenders. To reduce the number of homicides in Chicago by young persons, efforts need to be taken to ameliorate these social problems. Taken together, efforts focusing on structural factors should account for the following.

A lack of education was associated with higher homicide counts, thus the policy implication here is that we need to develop policies that would help to increase the educational attainment of the population. Not enough can be said of the importance of investing in educating the young persons in this country in helping to decrease violence in our society. Educational failure is commonly cited as one of the most consistent risk factors for delinquency (Felson & Staff, 2006). It is my belief that any serious efforts to decrease juvenile homicides include investment in the educational system. I acknowledge that this may be a challenge for several reasons, including that highly qualified teachers may be reluctant to take jobs in schools in already economically deprived, violent, areas. The second important policy implication emerging out of the results in the present study is the implication that people need employment opportunities. Efforts targeting unemployment could have the potential to reduce homicides. That is, efforts could be targeted to develop employment opportunities for people in neighborhoods, as unemployment appears to be associated with higher levels of homicide. To complicate matters, however, is the fact that economic vitality can be negatively impacted by violence (Ander, Cook, Ludwig, & Pollack, 2009). For example, it has been found that in higher-crime areas, fewer people worked in the evenings and at night as many businesses were likely to close early (Hamermesh, 1999). Hamermesh (1999) speculated that this effect was related to high crime rates and fear of crime, and he estimated that this costs the economy potentially

billions. Thirdly, considering that single-headed households significantly and positively impacted homicide rates in two of the three time period analyses, the implication is that it is important to alleviate stresses associated with households headed by single persons (where the head of the household is either male or female). The mechanism through which single-parenthood may influence homicide rates may be related to lack of supervision for juveniles (Bursik & Grasmick, 1993).

Fourth, Sampson and Groves (1989) have defined social disorganization as “the inability of a community structure to realize the common values of its residents and maintain effective social controls.” The overarching implication of the results is that, in order to reduce youth homicides, efforts have to be aimed to increase the common goals shared by the residents in a community. What could these efforts be? Deriving from the “Broken Windows Hypothesis”, an idea first discussed by Wilson and Kelling (1982) which holds that disorder in communities leads to increased levels of fear among residents that eventually produces more serious crime and community decline. The idea is to reduce all ‘broken windows,’ if you will. The basic idea would be to focus on keeping neighborhoods free of graffiti, broken cars, loiterers and drunks, or any other signs of disruption. Another suggestion could be to increase participation of residents in various community organizations—from schools to churches to various local organizations. Shaw and McKay (1969, [1942], p. 324) also called for the cooperation of various community organizations such as churches, schools, societies, clubs, recreation centers, labor unions, etc. and for concerted efforts to offer recreational opportunities, summer camps, scouting, and forums, etc. for youth in an effort to reduce delinquency.

The second main area that calls for attention is the prevention of gang violence, as a significant number of homicides by young persons were found to be gang-related. While there is

little agreement among criminologists as to what a definition of a 'gang ' should be, most gang researchers agree that youth status, an age ranging from 10 to the early 20s or even older, and the group involvement in law-violating behavior are characteristics of gangs (Esbensen, Winfree, He, & Taylor, 2001). While no one has yet discovered an effective way to prevent the formation of youth gangs (Howell, 2009), several programs have attempted to reduce the number of youths joining. An example of an existing program that has been found at least somewhat effective includes a school-based prevention program, Gang Resistance Education and Training (GREAT) which is geared towards middle-school students. Evaluations have found small but positive program effects on several facets, including reduced victimization, more negative views about gangs, more prosocial peers, and improved attitudes toward police (Esbensen, Osgood, Taylor, Peterson, & Freng, 2001). Disappointingly, however, while the cross-sectional analyses found lower rates of gang membership and self-reported delinquency, these results were not found in the longitudinal analyses.

The third main area of prevention should focus on preventing availability of guns. In recent years several large cities have implemented programs to reduce gun-violence. One example of such programs is that of *Consent to Search* in St. Louis which was implemented in 1994 as a response to increases in homicides in the late 1980s and early 1990s (Decker & Rosenfeld, 2004). In essence, residential searches could be initiated by citizens, police reports from other units, or by information derived from other investigations. Two police officers will then visit the home and inform an adult resident that the juvenile will not be charged with illegal possession of firearm if they sign the Consent to Search and Seize Form. Despite the criticism that the program interferes with a citizen's right to protect themselves against crime, more than 1,300 guns were confiscated between 1994 to 1997, and evaluations of the program have

indicated positive responses by families of juveniles who had guns confiscated and by the larger community (OJJDP, n.d.). Another example of a successful program to combat gun-violence is that of Boston's *Operation Ceasefire*, first implemented in 1996, although replication studies in other cities have produced less promising results (Howell, 2009). The two main components of the program focused on reducing illicit firearms trafficking and deterrence of violence, particularly gun violence, among chronic gang members, a.k.a. the "pulling levers" strategy (Kennedy, Braga, & Piehl, 2001). An evaluation study of the program in Boston indicated reductions in youth homicide victimization, calls for service due to shots-fired, and reduction in gun assault incidents (Braga, Kennedy, Waring, & Piehl, 2001).

Additionally, the findings suggest that the prevention of youth homicides should be targeted towards certain months, days, and hours. Since most youth homicides were committed during the evening hours, on Saturdays, and during the summer months of July and August, the obvious implication here is to target prevention efforts accordingly. These trends might be best explained by the facts that young persons are out of school during the summer months, assuming that they are going to school in the first place, and further, the weather permits being outdoors. When children are off from school, there is less supervision. In terms of prevention, the results imply that youths should be provided with activities to keep them busy and involved, including during summers.

Lastly, the results of the disaggregated analyses emphasize the fact that efforts to reduce youth homicides should be targeted toward Latino and black males in Chicago. In a recent article on gun-violence among youths in Chicago, Ander and colleagues (2009), however, very fittingly made the following point: "[t]he sociodemographic and geographic concentration of interpersonal gun violence in modern America should not be cited or construed to 'blame the

victim.' American society has a responsibility to address persistent social inequality and to focus on the individuals and neighborhoods most likely to bear the costs of violent crime" (pp. 6-7).

The point is that the results consistently showed that much of lethal violence is attributable to homicides by young Latino and black males. This point ties into reducing gang-violence made earlier, however, and also to alleviating the obstacles that may lead a young minority male to drop out of school, become unemployed, and so on. The structural factors impacting crime unequally impact segments of our population, and minority males appear to bear the brunt of it.

After a juvenile commits a homicide, the criminal justice system is faced with the difficult task of deciding what to do with youth homicide offenders. Although focusing on the criminal justice system per se is beyond the scope of this study, the challenge that juvenile homicide offenders pose for the criminal justice system will be briefly outlined in the following section. This challenge in itself calls for solid social science research so that policies can be implemented that are firmly grounded in empirical research.

Legal System Response to Young Killers

One of the biggest challenges that juvenile homicide offenders pose is what the response of the justice system should be. Ewing (1990) summarizes that the continuing debate surrounds two main questions: should juveniles who kill be tried as adults and should juveniles receive similar penalties as adults, including the death penalty when they commit a homicide. A number of scholars have noted that in response to increases in violent crime among juveniles, there have been a number of sentencing reforms in state and federal systems over the past two decades (e.g. Barnes & Franz, 1989; Brink, 2004; Jensen & Metsger, 1994; Singer & McDowall, 1988; Tang & Nunez, 2003). In short, the trend in treating juvenile offenders is increasingly punitive.

As discussed previously in this paper, in the 1990s, the term “super-predator” was used to characterize the new breed of violent juvenile offenders that was expected to contribute to a youth crime wave during the first part of the 21st century, thus contributing to public fears of juvenile crime. According to Zimring (1998), James Q. Wilson was one of the first to suggest that by the end of the 21st century, there will be 31,000 more youth muggers, killers, and thieves. Echoing Wilson, John DiIulio predicted in 1996 that compared to 1990, by 2010, there would be about 270,000 more juvenile predators on the streets (Zimring, 1998, p.49). Zimring (1998) argues that a “super-predator” was a socially constructed image that was successfully applied to justify tougher approaches to juvenile crime. Because of the increases in homicides committed by juveniles since the mid-1980s, the fear of increases in future juvenile crime were heightened and the policy makers responded by getting tough on juvenile crime.

One of the major changes in the reaction to juvenile crime is the increased number of juvenile offenders being transferred to criminal court. For example, during the 1980s, juvenile waivers increased by 400 percent (Krisberg & Austin, 1993 as cited in Steiner et al., 2006). Bishop and colleagues (1996) argue the following: “Ironically, approval of a transfer as a method of reducing youth crime survives and grows without support from empirical research. At present, transfer holds intuitive appeal as a commonsense solution, but its efficacy has not been established” (p. 173). For example, Bishop et al. (1996) compared recidivism of 2,738 juvenile offenders who were transferred to criminal court in Florida in 1987 to a matched sample of delinquents who were retained in the juvenile system. Three measures of recidivism were used; rates of reoffending, seriousness of reoffending, and time to failure among the rearrested. The results show that youths in the transfer group were significantly more likely to be arrested compared to the nontransfer matches (30% and 19%, respectively) during the one-year follow-up

period. With regard to time, the mean time to failure was 135 days among transfers and 227 days among nontransfers. Thus, the results show that the transfers were likely to reoffend more quickly than nontransfers. Lastly, 93% of the transfers were rearrested for felonies, while 85% of the nontransfers were arrested for felony offenses. All in all, the results suggest that in Florida, transfers have had little deterrent effect (Bishop et al., 1996).

A recent shift toward rehabilitation in juvenile policies was achieved in the decision of *Roper v. Simmons* in 2005 where it was determined that anyone who killed while under the age of 18 cannot receive the death sentence (Pagnanelli, 2007). According to Human Rights Watch (2008), only five countries in the world have exercised the death penalty on juvenile offenders in recent years: Iran, Pakistan, Saudi Arabia, Sudan and Yemen. None of the western countries in the world exercises capital punishment on children. The decision of *Roper* is recognition that youths are different from adults, less culpable, and should be punished differently (Pagnanelli, 2007). Zimring (1998) adds that youth who kill should receive lesser sentences compared to adults, mainly because of lack of maturity and the impact of group pressure. A final point to mention here is the Supreme Court ruling was influenced by the results of new research on adolescent brain development that indicates that the brain is not fully developed until post-adolescence (Heide & Solomon, 2006), a point that questions what the criminal justice system response to young killers should be.

Now, whether the response of the criminal justice system toward youth homicide offenders should be more rehabilitative or punitive is a complex question and beyond the scope of this study. Evident from the present study is the fact that structural conditions in our society greatly impact rates of lethal violence among youths. While greater punishment might sound as a theoretically appealing response to young killers, and while get tough approaches have shown to

produce reductions in youth violence, for example, the impact of Operation Ceasefire discussed above, attention should also be targeted to also alleviate numerous social problems associated with lack of education, family disruption, or lack of jobs, just to name a few.

Limitations

The present study is not without limitations. First, caution should be utilized when generalizing from the results, as the homicide data were derived from one city. However, as described previously, no national database exist that compares in comprehensiveness and completeness of the information that can be found in the *Homicides in Chicago* dataset. Consequently, this comprehensiveness of the dataset is a key asset of this present project as it allows for a very detailed examination of homicide trends and also provides the census tract where the homicide occurred. In a similar vein, the data used in the study is admittedly dated, but it was fitting for the purposes of this study since the focus was on examining trends and testing theory over time. The second main limitation of the analyses was that the location of the incident was used as a proxy for where the offenders came from. This was done because the dataset did not contain information on the census tract of the offender's home residence at the time of the homicide incident. But guided by existing research, it is assumed that many of the offenders commit crimes in areas they are familiar with, i.e. in their own neighborhoods. Of course, there is one location, home, where the location of the incident accurately reflects the home location of the youth homicide offenders. Between 1985 and 1995, 12.4% of the homicides committed by youths were committed in the home. The percentage for females was 50.7% and for males 10.5%. Comparatively, 12.4% of the homicides committed by whites, 14.5% of the homicides committed by blacks, and 4.3% of the homicides committed by Latinos were in the home. The

third main limitation of the analyses is that the disparity in the reporting of the Hispanic heritage between the Census and the *Homicides in Chicago* dataset. Since a person is most likely counted as either black or white and by heritage in the census, this might impact the calculation of the offset variable used in the analyses for Hispanics. However, it is not expected that the difference in the calculation of the heritage significantly impacts the results and the census data is used to calculate the rate of Hispanics in Chicago because it remains the best available measure of Hispanic heritage. Fourth, as discussed extensively in chapter five, the low number of cases in the cells for the analyses pertaining to number of offenders, locations, victim-offender relationship, circumstances, and weapons, were at odds with the assumption of chi-square test which assumes that no more than 20% of cells should have a count less than five. Thus, these results should be interpreted with a grain of salt. An apparent fifth limitation of the present study is the inability to disaggregate by age. I recently became aware of a possibility to apply to gain access to the restricted data, which would also include the exact age of the offenders, rather than an age category. This would allow for more detailed analyses in the future and it would also be possible to include only those under the age of 18 in the analyses.

Suggestions for Future Research

The results of this study present several important avenues for future research. First, building upon the findings from the test of the social disorganization theory in the three different time periods, an important next step in furthering of our understanding of these results would be to map the results by using ArcGIS procedures. Second, according to the principal investigators, Block and Block and the Illinois Criminal Justice Information Authority, they are currently in the process of archiving homicide data through the years of 2000 (*Homicides in Chicago*, n.d.). As

this data becomes available, an examination of more recent trends in lethal violence among youths could be conducted to build upon this study and to also conduct a test of social disorganization theory with more recent data. Third, during the process of this research, two questions related to social disorganization theory emerged that could further add on to our understanding of homicide offending—whether social disorganization variables similarly predict homicides committed in the homes and in public places, and whether the age of the victims is a significant factor. Fourth, considering the policy implications presented in this study, it would be particularly important to conduct evaluation studies on programs aimed at reducing gang-violence and gun availability. Fifth, an interesting addition to the present study would be to supplement this study by either news articles from the killings or by interviews with persons impacted by these killings. Further, I feel that Elijah Anderson’s (1999) “Code of the Street” may be applicable to providing further insights into violent and lethal offending among youths. In essence, Anderson argues that certain “codes” govern the behavior of young persons in inner cities. Above all, the codes emphasize respect, which can be viewed as a type of social capital in the streets, and the protection of honor at any cost, including violence. One example of how these codes influence behavior is education. Educational deprivation was found to be a predictor of homicides in the current study, but Anderson (1999, p. 93) provides insights on how things such as educational attainment are viewed negatively as it seen as “acting white.” A future study applying the Code of the Street could potentially be particularly insightful in furthering our understanding of young killers, and how street etiquette guides their behavior.

In closing, the results of this study highlight the importance of focusing on gang-and-gun-related violence in attempts to reduce youth homicides. In the long run the greatest reductions in

youth homicides could be perhaps achieved by a comprehensive approach that would focus on targeting at-risk-youths, for example, the Operation Ceasefire was targeted towards chronic gang-involved offenders (Braga et al., 2001), and also alleviating the various social and economic stresses that appear to be at the root of the problem, as indicated by the results of this present study. While targeted, hard-core approaches to reduce youth homicides have also produced promising results, the words of Shaw and McKay (1969, [1942]) still echo today: “Any great reduction in the volume of delinquency in large cities will probably not occur except as general changes take place which effect improvements in the economic and social conditions surrounding children in those areas in which the delinquency rates are relatively high” (p. 321). For as long as lethal violence is seen as “their” problem rather than “all of our” problem, it is likely that lethal violence continues to be a significant health problem to certain groups in our society.

**APPENDIX A: VARIABLE NAMES AND DEFINITIONS FOR HOMICIDE
DATA**

Variable Names and Definitions for Homicide Data

The following variables included in the study are from the offender-level file included in the Chicago Homicides dataset. Note that this Appendix provides definitions of how the variables are coded in the original dataset.

1. *INJYEAR*

Indicates the year of occurrence of the incident (ranging from 1965 to 1995).

2. *INJMONTH*

Indicates the month occurrence of the incident (coded January=1 thru December=12).

3. *INJDAY*

The day of the week of the incident (coded Sunday=1 Saturday=7).

4. *INJTIME*

Time of the incident is coded according to the four-digit military clock.

5. *OSEX*

Indicates the offender's gender (coded 1=male, 2=female, 9=missing).

6. *ORACE*

Offender's race (coded 1=White Non-Latino, 2=Black Non-Latino; 3=Latino; 4=Asian, Other; and 9=missing).

7. *OAGE*

The age of the offender. The values in the dataset are in interval categories of five years, beginning with the category zero to five and ending with the category 85 years old or older. The following age categories would be included in the present analyses: 1=under 5 years; 2=5 to 9 years; 3=10 to 14 years; 4=15 to 19 years. Coded as 1=under 5 years; 2=5 to 9 years; 3=10 to 14 years; 4=15 to 19 years.

8. *NUMOFF*

Indicates the actual number of offenders involved in an incident. Values are from one to eleven.

9. *RELATION*

A variable indicating the type of relationship between the victim and the offender. This is a summary variable of the type of relationship between the victim(s) and the offender. If there is more than one relationship, the closest relationship was coded in this variable. The variable is coded as follows: 1=spouse; 2=child/parent; 3=other family; 4=friends; 5=acquaintances; 6=rival gang; 7=business/work; 8=illegal business; 9=other; 10=stranger; 11=mystery.

10. *PLACE*

Indicates the general location of the incident/body. This is a summary variable created from the variable *location* and it was recoded into nine categories as follows: 1=home; 2=hotel; 3=indoor, other residential; 4=tavern; 5=indoor pub, other; 6=vehicle; 7=public transportation; 8=street; and 9=outdoor, other.

11. *CAUSFACT*

A variable referring to the causal factor leading to the incident. This variable indicates the causal factor most relevant to the incident. The dataset consists of a total of 52 different causal factors: Altercation Over Children=100; Gambling Altercation=105; General Domestic Altercation=110; Liquor Altercation=115; Drug Altercation=117; Money Altercation=120; Political Altercation=125; 130=Racial/hate Altercation; 135=Sexual Altercation; 137=Sexual Jealousy; 140=Gang Altercation

145=Theft Altercation (alleged); 147=Drive-by-Shoot; 150=Traffic Altercation;
155=Love Triangle; 157=Sexual Rivalry; 160=Other Altercation;
167=Desert/Termination; 200=Burglary; 300=Armed Robbery; 305=Strongarm Robbery
400=Sexual Assault; 500=Unlawful Use of Weapons (U.U.W.); 600=Undetermined
700=Organized Crime; 800=Arsonist (vtm); 805=Burglar (vtm); 810=Crtg thief (vtm)
815=Chop Shop; 820=Countrfr (vtm); 825=Fence (victim); 830=Gambler (victim);
835=Loan Shark (vtm); 840=Narcotic Dealer (vtm); 845=Prostitute (vtm); 846=Rapist
(victim); 850=Robber (victim); 900=Arson Victim; 905=Att theft/Shoplifting
910=Blackmail; 915=Child Abuse; 917=Medical Treatment; 920=Deceptive Practice
925=Escape; 930=Insurance Fraud; 935=Intrcd in Felony/Flight; 940=Mental Disorder
945=Mercy Killing; 950=Ransom; 955=Suicide Pact; 960=Retaliation; 965=Contract
Killing; 966=Contract Arson.

11. *WEAPON*

A variable indicating what type of weapon was used in the killings and it is coded as follow: 0=mystery; 1=automatic; 2=handgun non-auto; 3=rifle non-auto; 4=shotgun non-auto; 5=firearm-type unknown; 6=knife, sharp instrument; 7=club, blunt instrument; 8=arson; 9=other weapon; 10=hand, fist, feet.

12. *CENTRACT*

Indicates the census tract number to address of incident.

The following variables included in the study are from the victim-level file included in the Chicago Homicides dataset. Note that this Appendix provides definitions of how the variables are coded in the original dataset.

13. *VICSEX*

A variable indicating the sex of the victim. The variable is coded as male=1 and female=0.

14. *VICAGE*

A variable indicating the age of the victim. The values in the dataset are in interval categories of five years, beginning with the category zero to five and ending with the category 85 years old or older. The following age categories would be included in the present analyses: 1=under 5 years; 2=5 to 9 years; 3=10 to 14 years; 4=15 to 19 years. Coded as 1=under 5 years; 2=5 to 9 years; 3=10 to 14 years; 4=15 to 19 years.

15. *VICRACE*

A variable indicating the race/ethnicity of victim. Note: The CPD has used different race codes over the years. This variable was created to make the coding consistent over the years. Coded as 1=White, Non-Latino; 2=Black, Non-Latino; 3=Latino; 4=Asian, Other, 9=Missing.

APPENDIX B: CENSUS VARIABLES

CENSUS VARIABLES

1. Tract Number

A four-digit geographic identifier that identifies each of the census tracts.

1990: AreaName

1980: TRACT4

1970: AreaKey

2. Total Population

1990: TotPop90: Total Population in 1990

1980: Total numbers for males (1amale) and females (1afemale) added together.

1970: 100POPCO: 100% Population Count

3. Total Number of Households

1990: HousHlds: Total Households

1980: 1aHH: Total Households

1970: 100HOUC1: 100% Housing Count

4. Gender

Divided by the total population.

1990: Males

Females

1980: 1aMale

1aFemale

1970: AIPYO001 : Male

AIPYO002 : Female

5. Age

Constructed various age categories (over the age of 5, 5 to 19, over the age of 16, and over the age of 25) by adding corresponding age categories together.

1990:

Age1 : Under 1 year

Age1_2: 1 and 2 years

Age3_4: 3 and 4 years

Age5 : 5 years

Age6: 6 years

Age7_9: 7 to 9 years

Age10_11: 10 and 11 years

Age12_13: 12 and 13 years

Age14 : 14 years

Age15 : 15 years

Age16 : 16 years

Age17 : 17 years
Age18 : 18 years
Age19 : 19 years
Age20 : 20 years
Age21 : 21 years
Age22_24: 22 to 24 years
Age25_29: 25 to 29 years
Age30_34: 30 to 34 years
Age35_39: 35 to 39 years
Age40_44: 40 to 44 years
Age45_49: 45 to 49 years
Age50_54: 50 to 54 years
Age55_59: 55 to 59 years
Age60_61: 60 and 61 years
Age62_64: 62 to 64 years
Age65_69: 65 to 69 years
Age70_74: 70 to 74 years
Age75_79: 75 to 79 years
Age80_84: 80 to 84 years
Age85+: 85 years and over

1980:

1aPop1: 1A Persons Under 1 Year
1aPop2: 1A Persons 1 and 2 yr
1aPop4: 1A Persons 3 and 4 yr
1aPop5: 1A Persons 5 yr
1aPop6: 1A Persons 6 yr
1aPop9: 1A Persons 7-9 yr
1aPop13: 1A Persons 10-13 yr
1aPop14: 1A Persons 14 yr
1aPop15: 1A Persons 15 yr
1aPop16: 1A Persons 16 yr
1aPop17: 1A Persons 17 yr
1aPop18: 1A Persons 18 yr
1aPop19: 1A Persons 19 yr
1aPop20: 1A Persons 20 yr
1aPop21: 1A Persons 21 yr
1aPop24: 1A Persons 22-24 yr
1aPop29: 1A Persons 25-29 yr
1aPop34: 1A Persons 30-34 yr
1aPop44: 1A Persons 35-44 yr
1aPop54: 1A Persons 45-54 yr
1aPop59: 1A Persons 55-59 yr
1aPop61: 1A Persons 60 and 61 yr
1aPop64: 1A Persons 62-64 yr

1aPop74: 1A Persons 65-74 yr
1aPop84: 1A Persons 75-84 yr
1aPop85p: 1A Persons 85+ yr

1970:

AGESE051: Male Under 3
AGESE002: Male 3-4
AGESE004: Male 5
AGESE006: Male 6
AGESE008: Male 7-9
AGESE010: Male 10-13
AGESE012: Male 14
AGESE014: Male 15
AGESE016: Male 16
AGESE018: Male 17
AGESE020: Male 18
AGESE022: Male 19
AGESE024: Male 20
AGESE026: Male 21
AGESE028: Male 22-24
AGESE030: Male 25-29
AGESE032: Male 30-34
AGESE034: Male 35-39
AGESE036: Male 40-44
AGESE038: Male 45-49
AGESE040: Male 50-54
AGESE042: Male 55-59
AGESE044: Male 60-61
AGESE046: Male- 62-64
AGESE048: Male 65-69
AGESE050: Male 70-74
AGESE052: Male 75 and over
AGESE103: Female Under 3
AGESE054: Female 3-4
AGESE056: Female 5
AGESE058: Female 6
AGESE060: Female 7-9
AGESE062: Female 10-13
AGESE064: Female 14
AGESE066: Female 15
AGESE068: Female 16
AGESE070: Female 17
AGESE072: Female 18
AGESE074: Female 19
AGESE076: Female 20

AGESE078: Female 21
AGESE080: Female 22-24
AGESE082: Female 25-29
AGESE084: Female 30-34
AGESE086: Female 35-39
AGESE088: Female 40-44
AGESE090: Female 45-49
AGESE092: Female 50-54
AGESE094: Female 55-59
AGESE096: Female 60-61
AGESE098: Female 62-64
AGESE100: Female 65-69
AGESE102: Female 70-74
AGESE104: Female 75 and over

6. Offset Variables

1990: Additionally, in order to create offset variables for the disaggregated analyses, the following categories were used from the 1990 Census to create log of the population at risk for:

- Males (added white, black, and Hispanic males between the ages 5 to 19 together)
- Females (added white, black, and Hispanic females between the ages 5 to 19 together)
- Whites (added both white males and females between the ages 5 to 19 together)
- Blacks (added both black males and females between the ages 5 to 19 together)
- Hispanics (added both Hispanic males and females between the ages 5 to 19 together)

White males

WM_u1: Under 1 year
WM_1_2: 1 and 2 years
WM_3_4: 3 and 4 years
WM_5: 5 years
WM_6: 6 years
WM_7_9: 7 to 9 years
WM_10_11: 10 and 11 years
WM_12_13: 12 and 13 years
WM_14: 14 years
M_15: 15 years
WM_16: 16 years
WM_17: 17 years
WM_18: 18 years
WM_19: 19 years

White females

WF_u1: Under 1 year
F_1_2: 1 and 2 years
WF_3_4: 3 and 4 years
WF_5: 5 years

WF_6: 6 years
WF_7_9: 7 to 9 years
WF_10_11: 10 and 11 years
WF_12_13: 12 and 13 years
WF_14: 14 years
WF_15: 15 years
WF_16: 16 years
WF_17: 17 years
WF_18: 18 years
WF_19: 19 years

Black males

BM_u1: Under 1 year
BM_1_2: 1 and 2 years
BM_3_4: 3 and 4 years
BM_5: 5 years
BM_6: 6 years
BM_7_9: 7 to 9 years
BM_10_11: 10 and 11 years
BM_12_13: 12 and 13 years
BM_14: 14 years
BM_15: 15 years
BM_16: 16 years
BM_17: 17 years
BM_18: 18 years
BM_19: 19 years

Black females

BF_u1: Under 1 year
BF_1_2: 1 and 2 years
BF_3_4: 3 and 4 years
F_5: 5 years
BF_6: 6 years
BF_7_9: 7 to 9 years
BF_10_11: 10 and 11 years
BF_12_13: 12 and 13 years
BF_14: 14 years
BF_15: 15 years
BF_16: 16 years
BF_17: 17 years
BF_18: 18 years
BF_19: 19 years

Males of Hispanic origin

HM_u1: Under 1 year

HM_1_2: 1 and 2 years
HM_3_4: 3 and 4 years
HM_5: 5 years
HM_6: 6 years
HM_7_9: 7 to 9 years
HM_10_11: 10 and 11 years
HM_12_13: 12 and 13 years
HM_14: 14 years
HM_15: 15 years
HM_16: 16 years
HM_17: 17 years
HM_18: 18 years
HM_19: 19 years

Females of Hispanic origin

HF_u1: Under 1 year
HF_1_2: 1 and 2 years
HF_3_4: 3 and 4 years
HF_5: 5 years
HF_6: 6 years
HF_7_9: 7 to 9 years
HF_10_11: 10 and 11 years
HF_12_13: 12 and 13 years
HF_14: 14 years
HF_15: 15 years
HF_16: 16 years
HF_17: 17 years
HF_18: 18 years
HF_19: 19 years

1980: To test social disorganization for males in 1980, calculated an offset variable for males by subtracting counts for females from the total population counts.

1aFem5: 1A Female: 5 yr
1aFem6: 1A Female: 6 yr
1aFem9: 1A Female: 7-9 yr
1aFem13: 1A Female: 10-13 yr
1aFem14: 1A Female: 14 yr
1aFem15: 1A Female: 15 yr
1aFem16: 1A Female: 16 yr
1aFem17: 1A Female: 17 yr
1aFem18: 1A Female: 18 yr
1aFem19: 1A Female: 19 yr

1970: To test social disorganization for males in 1970, added the 5-19 year old categories together to create an offset variable for males.

AGESE051: Male Under 3

AGESE002: Male 3-4

AGESE004: Male 5

AGESE006: Male 6

AGESE008: Male 7-9

AGESE010: Male 10-13

AGESE012: Male 14

AGESE014: Male 15

AGESE016: Male 16

AGESE018: Male 17

AGESE020: Male 18

AGESE022: Male 19

7. Racial/ethnic Heterogeneity

The racial heterogeneity is determined according to Simpson's Diversity Index, which is calculated as follow: $D = 1 - \sum \left(\left(\frac{n}{N} \right)^2 \right)$, where n is the count of a single race, and N in the total count of races.

1990:

PopWhite: White

PopBlack: Black

Other race was calculated by adding the following categories together:

PopNatAm: American Indian, Eskimo, or Aleut

PopAsPac: Asian or Pacific Islander

PopOther: Other race

1980: RACE

1aWhite: 1A White

1aBlack: 1A Black

Other race was calculated by adding the following categories together:

1aAmerI : 1A American Indian

1aEskimo: 1A Eskimo

1aAleut: 1A Aleut

1aJapan: 1A Japanese

1aChines: 1A Chinese

1aFilip: 1A Filipino

1aKorean: 1A Korean

1aAsInd: 1A Asian Indian

1aViet: 1A Vietnamese

1aHawaii: 1A Hawaiian

1aGuam: 1A Guamanian
1aSomoan: 1A Samoan
1aRacOth: 1A Other

1970:
RACE_W : White
RACE_NG: Negro
RACE_O: Other

8. Hispanic Heritage

Divided by the total population.

1990: PopHispa: Total Persons of Hispanic Heritage

1980: HISPANIC ORIGIN: Added the following categories together:
1aMexica: 1A Mexican
1aPuerto: 1A Puerto Rican
1aCuban: 1A Cuban
1aHisOth: 1A Other Hispanic

1970: Added the following categories together:
COUOR054: Native (of foreign or mixed parentage) Mexico
COUOR056: Native (of foreign or mixed parentage) Cuba
COUOR058: Native (of foreign or mixed parentage) Other America
COUOR120: Foreign born Mexico
COUOR122: Foreign born Cuba
COUOR124: Foreign born Other America

9. Foreign-Born

Divided by the total population.

1990: BorForgn: Foreign born
1980: 3aBrnFor: Foreign born
1970: NATIV002: Foreign born

10. Single-Headed Households

Divided by the total number of households.

1990:
MnWChu18: Male householder, no wife present: With own children under 18
FnHChu18: Female householder, no husband present: With own children under 18.

1980:
1aCHHMNS: 1A w/children Male Hhldr, no Wife Present
1aCHHFNS: 1A w/children Female Hhldr, no Husband Present

1970:

FTPAO006: Other family with male head. Own children under 18 years old present, own children under 6 years old present

FTPAO008: Other family with male head. Own children under 18 years old present, own children under 6 years old not present

FTPAO010: Family with female head. Own children under 18 years old present, own children under 6 years old present

FTPAO012: Family with female head. Own children under 18 years old present, own children under 6 years old not present

11. No High School Degree (Population 25 years of age and older)

Divided by the total population 25 years of age and older.

1990:

S_0_8Grd: Less than 9th grade

S_9_12Gr: 9th to 12th grade, no diploma

1980:

3aCmElm: 3A School Cmplte Elementary (0-8 yr)

3aCmHs3: 3A School Cmplte HS 1-3 yr

1970:

PYOOY037: Male: No school years completed (includes nursery and kindergarten)

PYOOY002: Male: Elementary 1-4 years

PYOOY004: Male: Elementary 5-6 years

PYOOY006: Male: Elementary 7 years

PYOOY008: Male: Elementary 8 years

PYOOY010: Male: High school 1-3 years

PYOOY020: Female: No school years completed (includes nursery and kindergarten)

PYOOY022: Female: Elementary 1-4 years

PYOOY024: Female: Elementary 5-6 years

PYOOY026: Female: Elementary 7 years

PYOOY028: Female: Elementary 8 years

PYOOY030: Female: High school 1-3 years

12. Median Household Income

1990: MedHsIn: Median household income (dollars) in 1989

1980: 3aMedInc: 3A Median HH Income In 1979

1970: AGFAINFA: The Aggregate family income divided by the number of families in the census tract (Added the following categories together: FTPAO03, FTPAO02, FTPAO04, FTPAO07, FTPAO06, FTPAO08, FTPAO011, FTPAO010, and FTPAO012).

13. Population Below Poverty Level

Divided by the total population

1990: PovBelow: Number of people in poverty.

1980: 3aPoPv: 3A Persons In Poverty

1970.: *ANPFBPL*: The aggregate number of people below the poverty level.

14. Percentage of the Population Renting

Divided by total housing units.

1990: RntrOcc: Renter occupied

1980: 1aOccRnt: 1A Occupied hus Renter occupied

1970: TENURE

TENUR002: Rented for cash rent

TENURE_N: Rented units occupied without payment of cash rent

15. Percentage of the Population Unemployed (Over 16 years of age)

1980 and 1970 measures were divided by the population over 16 years of age.

1990: L_PctUmp: Percent unemployed

1980: Added the following categories together:

3aMaUe: 3A Male: Unemployed

3aFeUe: 3A Female: Unemployed

1970: PYOOES_U: Unemployed

16. Same House 5 Years Earlier (5 Years of age and older)

Divided by the total population five years of age and older.

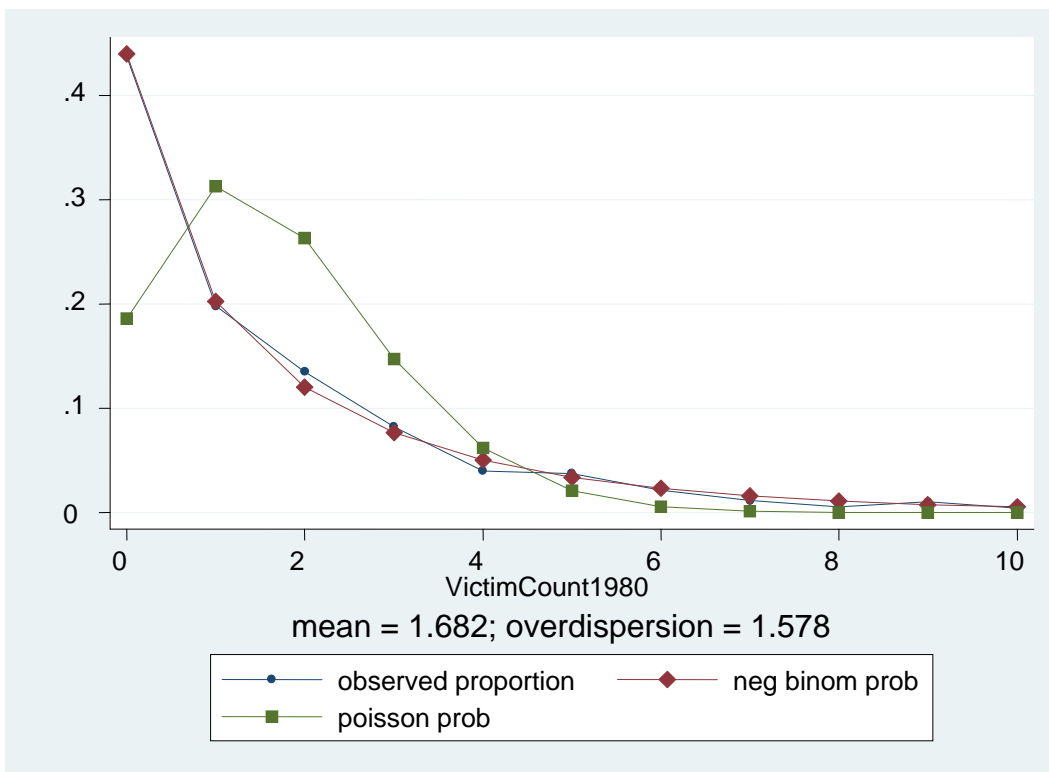
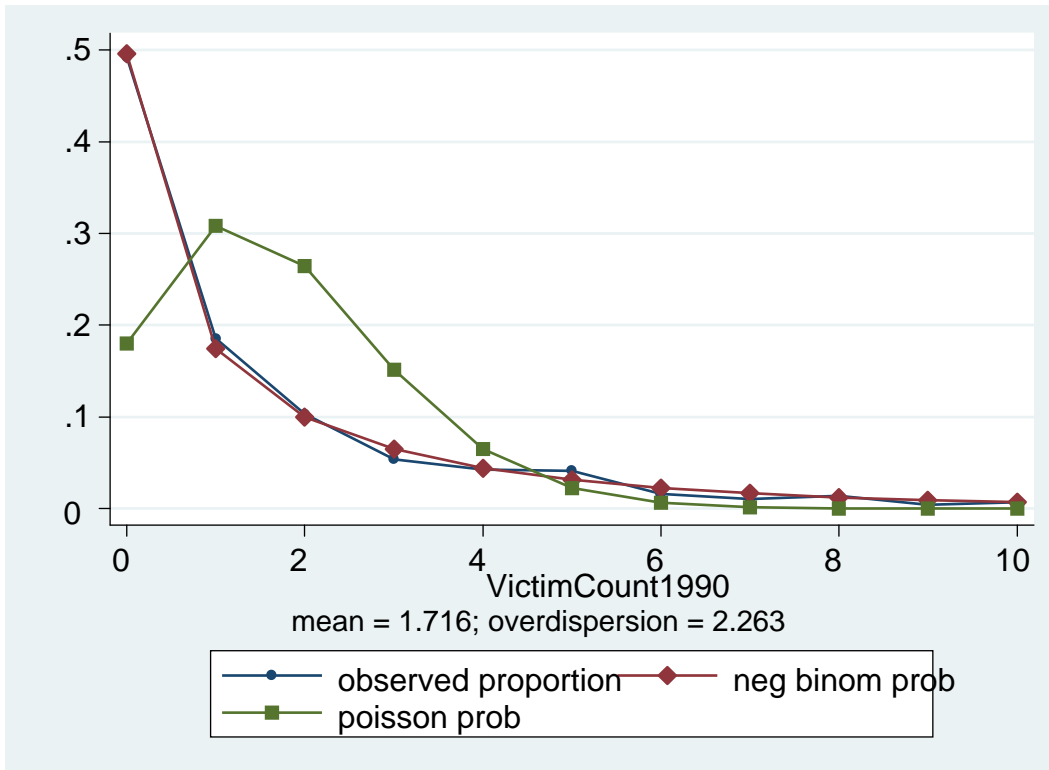
1990: Rs85Same: Same house in 1985

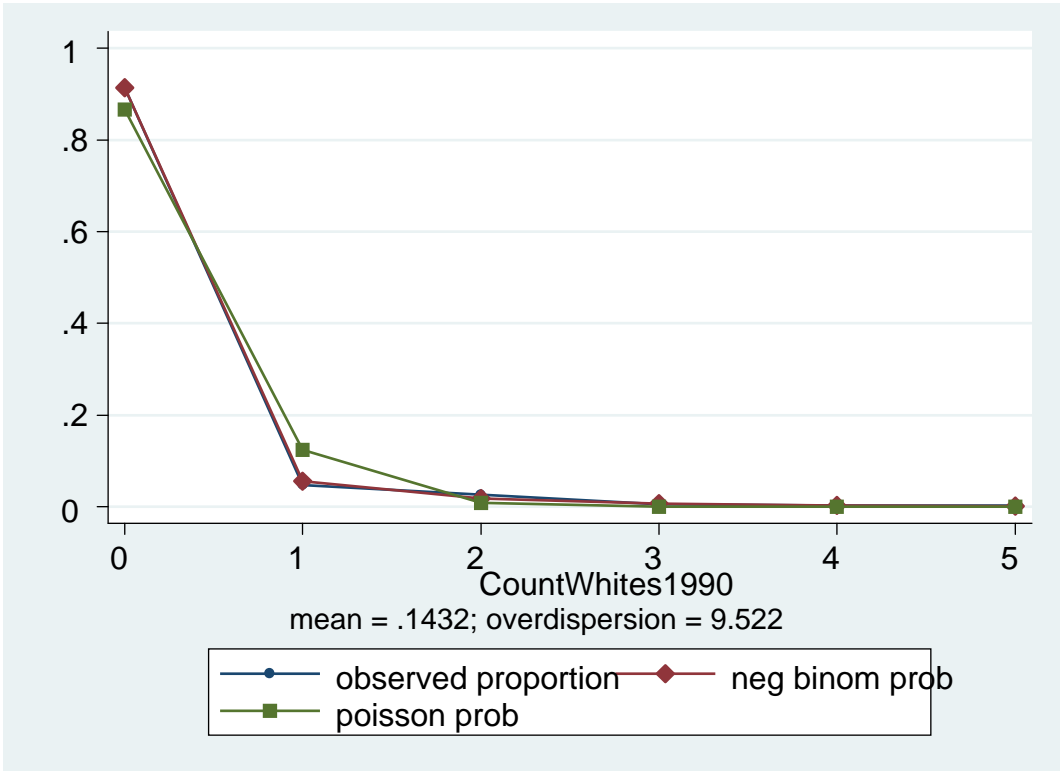
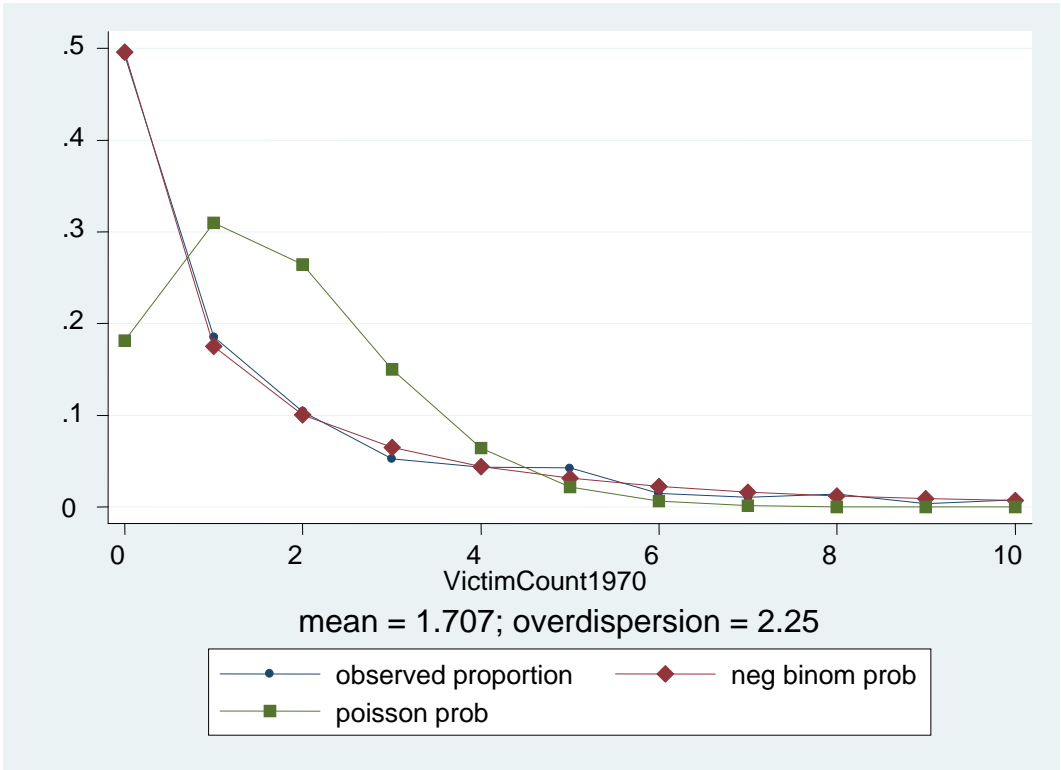
1980: 3aResSam: 3A Res 1975 Same House

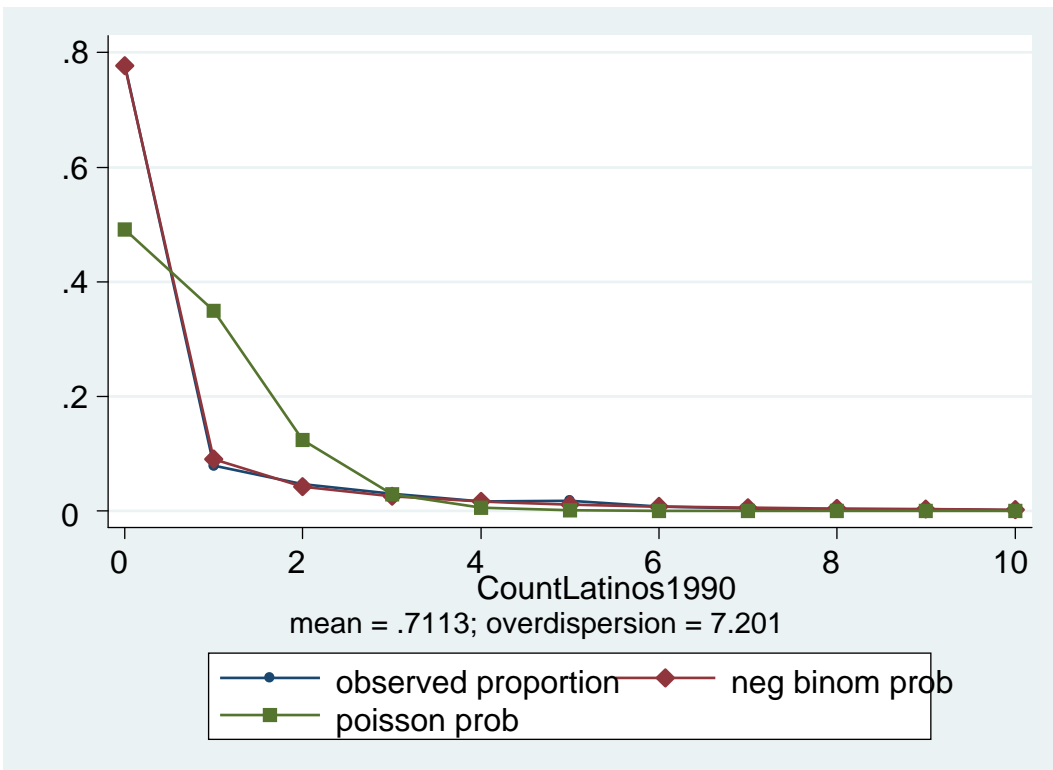
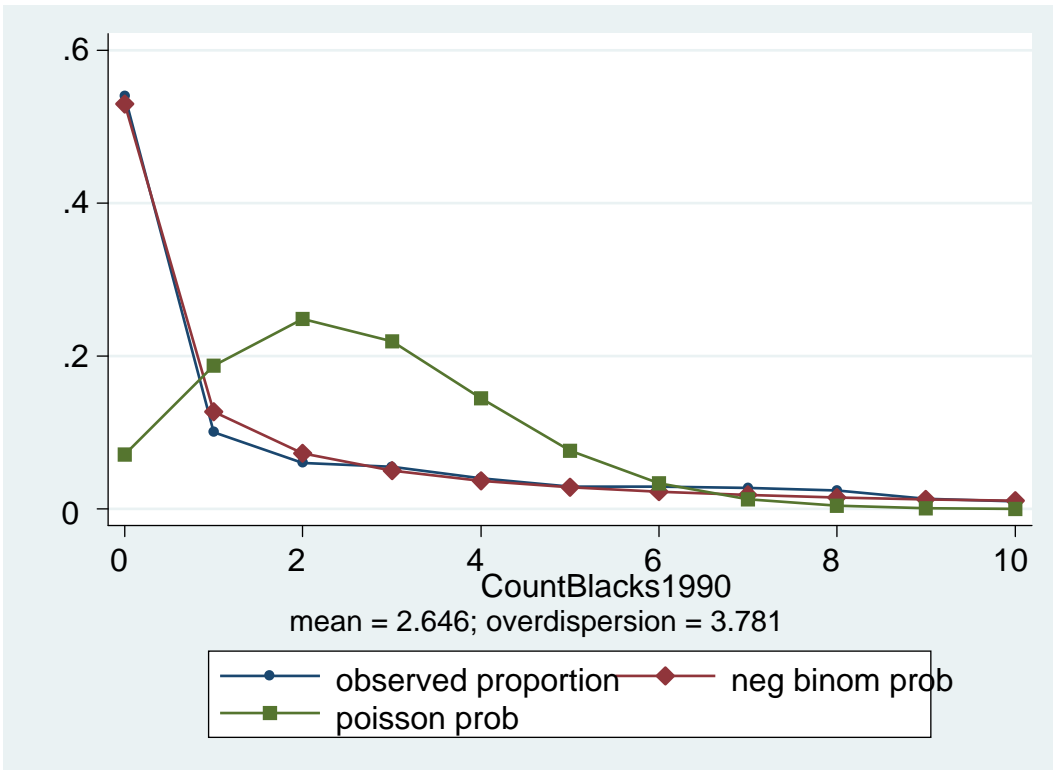
1970: PYOOR017: Same house

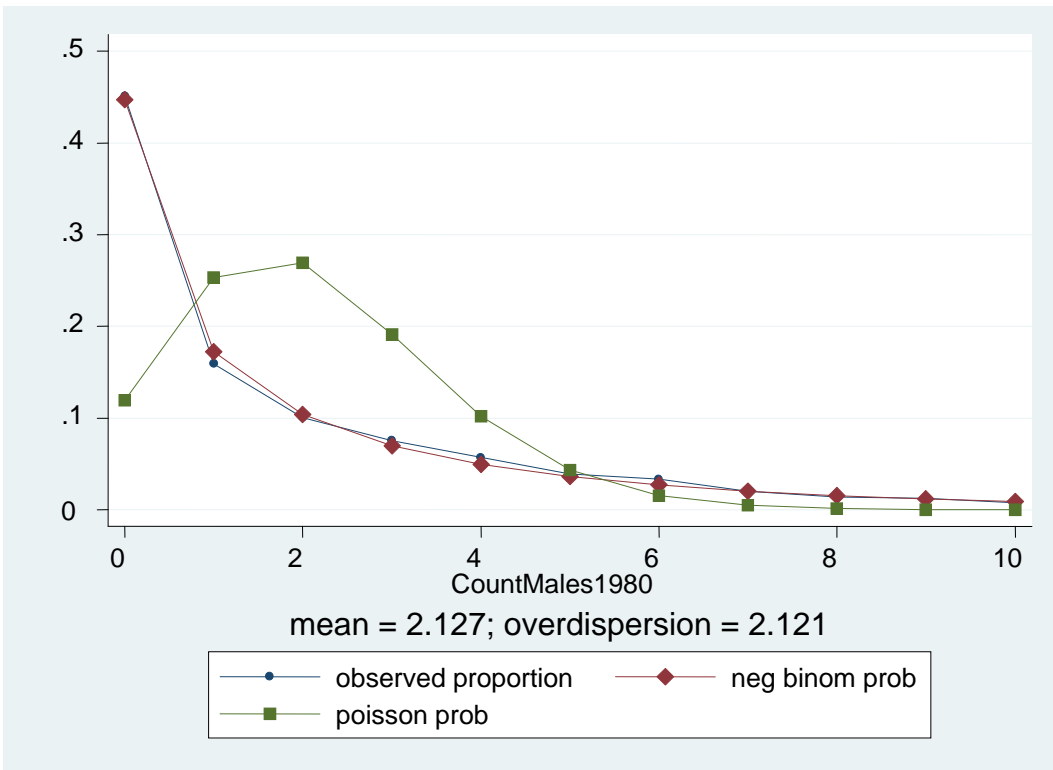
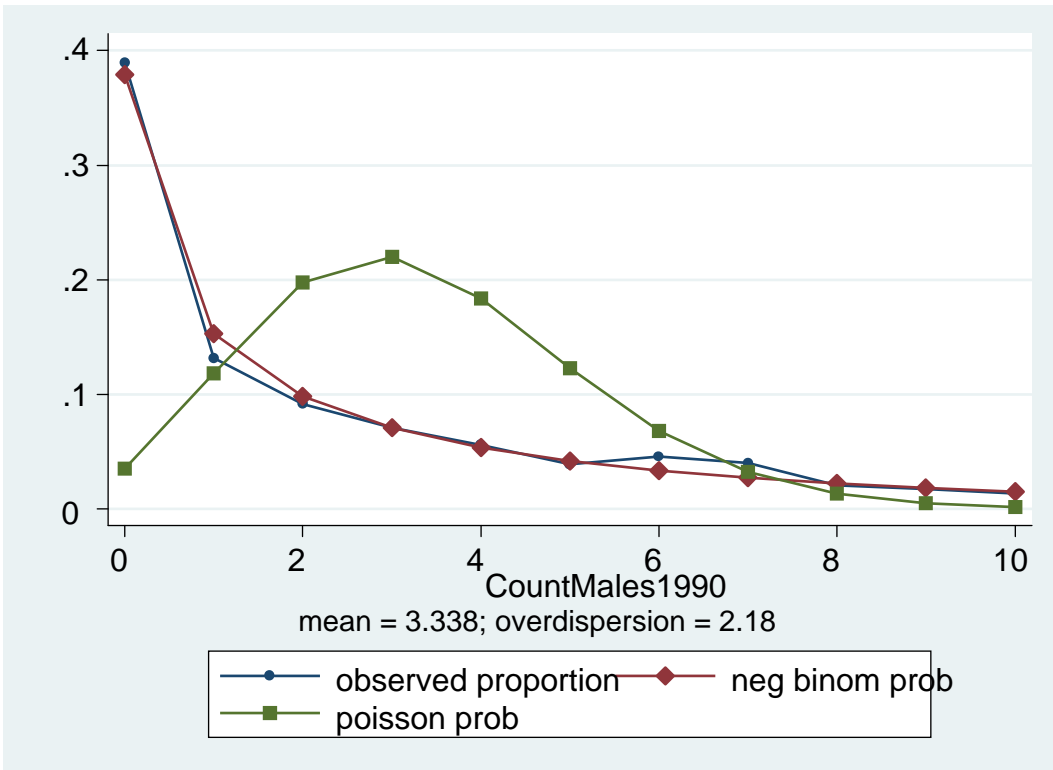
APPENDIX C: MODELS FITTING REGRESSIONS

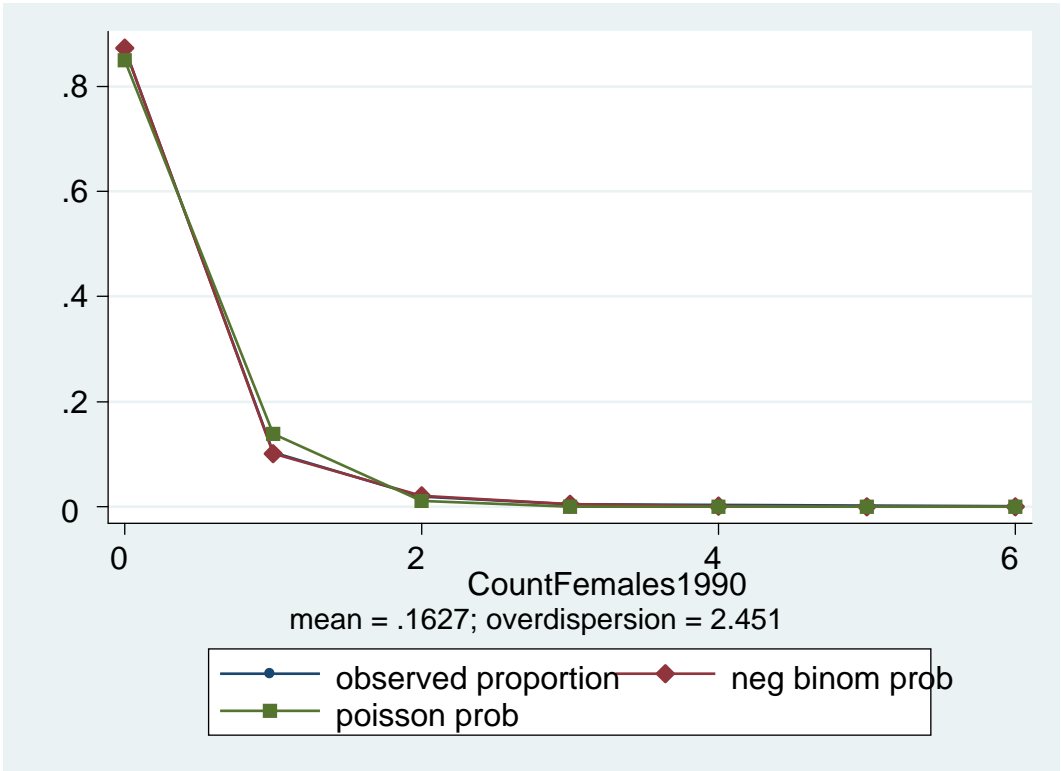
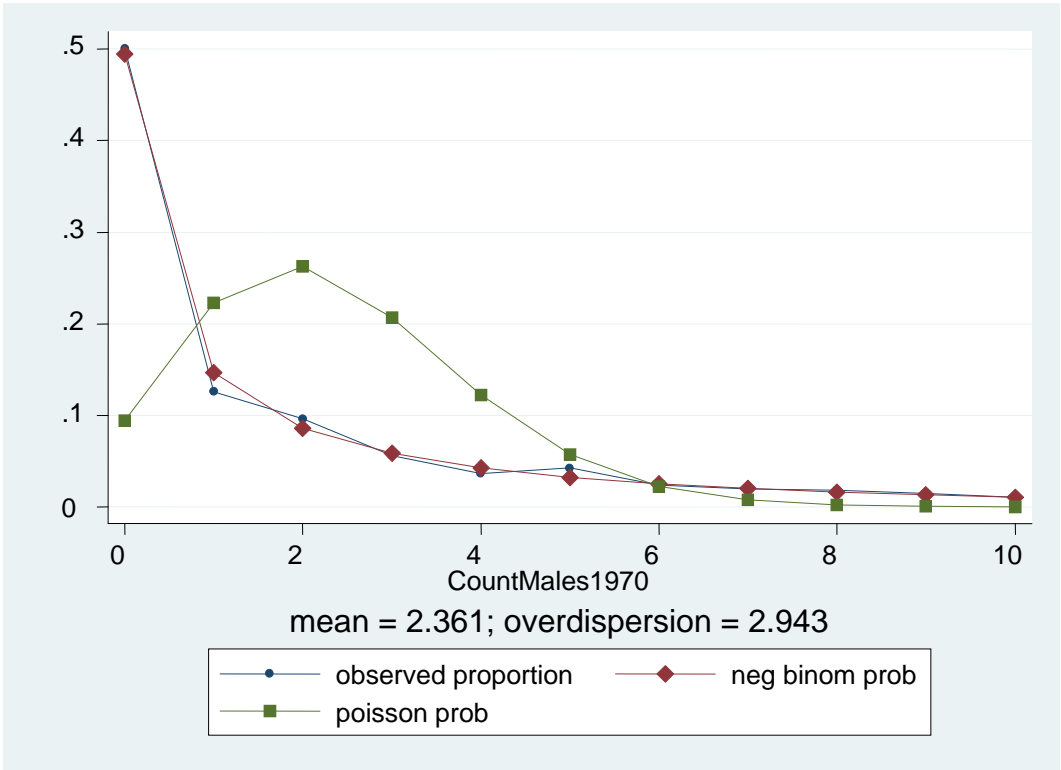
Appendix C











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