

MAINTAINING RACIAL INEQUALITIES THROUGH CRIME CONTROL:  
THE RELATIONSHIP BETWEEN RESIDENTIAL SEGREGATION AND MASS  
INCARCERATION

By

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To Becky Hayes-Smith and Lori Smith

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## TABLE OF CONTENTS

	<u>page</u>
ACKNOWLEDGMENTS .....	4
LIST OF TABLES .....	8
LIST OF FIGURES .....	9
ABSTRACT.....	10
CHAPTER	
1 INTRODUCTION .....	11
Introduction.....	11
Functional Analysis Orientation .....	13
Specific and Significant Contributions .....	15
Layout of the Dissertation .....	16
Reflexive Statement.....	16
2 DEVELOPMENT AND TRENDS IN INCARCERATION.....	17
Introduction.....	17
Incarceration Trends .....	18
Putting the Development of Prisons in Social Context .....	20
Racial Disparities in Imprisonment .....	22
Race and Collateral Consequences of Crime Control .....	25
Community Effects of Incarceration .....	28
3 RACIAL RESIDENTIAL SEGREGATION .....	36
Introduction.....	36
Three Primary Explanations of Racial Residential Segregation.....	38
The Influence of Mass Incarceration of Racial Residential Segregation .....	42
Previous Research on the Statistical Correlates of Black-White Racial Segregation .....	47
4 DATA AND METHODS .....	52
Introduction.....	52
Data Sources .....	52
Dependent Variable .....	55
Independent Variables .....	56
Control Variables.....	61
Limitations of the Incarceration Data.....	64

5	DESCRIPTIVE STATISTICS.....	68
	Introduction.....	68
	Descriptive Statistics .....	68
	Conclusion.....	70
6	MULTIVARIATE ANALYSIS .....	75
	Introduction.....	75
	Examining Regression Assumptions .....	76
	Detecting Outliers.....	76
	Multicollinearity and heteroskedasticity .....	76
	Accounting for Change in the Dissimilarity Index from 1990-2000.....	78
	Accounting for Change in the Interaction Index from 1990-2000 .....	82
7	DISCUSSION OF STATISTICAL RESULTS .....	87
8	LOOKING BACK AT METHODOLOGICAL SHORTCOMINGS.....	91
	Assessment of the National Corrections Reporting Program Data .....	91
	Measuring Housing Changes.....	94
9	DISCUSSION OF THE RECIPROCAL NATURE OF THE CRIME CONTROL- RACIAL INEQUALITY RELATIONSHIP .....	96
	Introduction.....	96
	New Sources of Racial Formation.....	97
	Use of Criminal Law to Maintain Racial Order .....	99
	Conclusion.....	104
APPENDIX		
A	METROPOLITAN AREAS IN MAJOR ANALYSIS.....	105
B	MEAN PERCENT MISSING RACE DATA.....	112
C	CORRELATION BETWEEN PERCENT RACE MISSING AND BLACK INCARCERATION RATE .....	113
	LIST OF REFERENCES .....	114
	BIOGRAPHICAL INFORMATION.....	122

LIST OF TABLES

<u>Table</u>		<u>page</u>
5-1	Annual rate of black prison incarceration per 100,000 black residents across metropolitan areas with 2,500 black residents.....	72
5-2	Estimated linear trends and initial status of black incarceration rates. ....	72
5-3	Linear trend from 1990-2000 categorized into quartiles. ....	72
5-4	Descriptive statistics for dependent and control variables.....	73
5-5	Descriptives of dummy variables.....	73
6-1	Zero-order correlations for segregation change and incarceration trends. ....	84
6-2	Regression estimates for change in residential segregation (dissimilarity) on three trends in black incarceration rates and control variables. ....	85
6-3	Regression estimates for change in residential segregation (interaction) on three trends in black incarceration rates and control variables. ....	86
8-1	Percentage of cases without county identification per year.....	95

## LIST OF FIGURES

<u>Figure</u>		<u>page</u>
4-1	Distribution of households within one hypothetical metropolitan area with high segregation and one with low segregation: Dissimilarity index (evenness). .....	66
4-2	Distribution of households within one hypothetical metropolitan area with high segregation and one with low segregation: Interaction index (exposure).....	67
5-1	Trend for black incarceration rate.....	74

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By

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The criminal justice system has dramatically grown in the United States over the past several decades. The use of the prison system to incarcerate has been one of the primary control mechanisms since the early 1970s, immediately after many civil rights changes. The system of mass incarceration has entailed wide and continuous racial disparities which maintain inequality across social institutions such as the economy and political participation – the institutions in which the civil rights movement sought to secure equality. The current study attempted to examine the association between crime control and racial residential segregation, another major social institution targeted by the civil rights movement. This research links theoretical discussions on race relations, law and crime control, and residential segregation to advance our understanding of the reciprocal relationships among these institutionalized processes.

## CHAPTER 1 INTRODUCTION

### **Introduction**

The civil rights movement brought hope of many new forms of social equality between racial groups in the United States. In the past several decades however the racial disparities in economic opportunities, housing, voting participation, health care, and education continue to appall those who are carefully watching. The reliance on explaining these disparities in terms of differences in personal responsibility is most common. The view of a “color-blind” society overshadows the systemic, subtle and accumulating social processes that maintain stratification between white and black Americans. As sociologists continue to study the durability of racial inequalities we must bear witness to the institutionalized processes that contribute and facilitate their continuation. In the post-civil rights era the criminal justice system, particularly the institution of mass incarceration, has maintained racial inequalities within the United States.

By incarcerating a mass population we segregate people into categories of official and unofficial citizens (Western, 2006). The disproportional distribution of current and former inmates between blacks and whites create vast inequalities in the collateral consequences that follow incarceration (Mauer and Chesney-Lind, 2002). Voting rights are relinquished by many felons essentially eliminating them from the pool of potential voters (Manza and Uggen, 2007). Inmates are eliminated from being counted in employment figures, in turn disguising a more comprehensive estimate of citizens who are actually unemployed. Western (2007) insightfully points out that since incarceration rates are dramatically higher for black Americans compared with white Americans, official measures of inequality are often underestimated due to the elimination of individuals from official measures based on criminal histories. The employment opportunities of not only former inmates but young, black males are substantially diminished due

to the stigmatization of actual or perceived criminal backgrounds (Pager, 2007). Family disruption and community disorganization of black communities are also unevenly affected by concentrated incarceration in disadvantaged places (Clear, 2007).

The story this project attempts to unfold entails both theoretical propositions and empirical evidence to investigate the extent to which the system of mass incarceration has worked to uphold a system of durable racial inequality. This manuscript begins by examining the trends and development of mass incarceration in the U.S. Next, it covers the existing theoretical and empirical state of knowledge on racial residential segregation. A discussion of the relationship between mass incarceration and segregation follows.

Currently, there are vast and continuing patterns of inequality between black and white Americans across social, economic, education, and health measures. The institutions in which these clear disparities resonate are not disconnected from disparities in the other institutions. Instead, influences go back and forth. For instance, racialized patterns in the health care system influence differences in family relations; disparate trends in income and wealth affect educational attainment; and shifts in the criminal justice system affect housing patterns. Below are examples of striking figures that illustrate inequality between races.

- In 2006, 21.6 % of black families were below poverty while 8 % of white families were below poverty.
- In 2007, 18 % of black males had a college degree compared to 29.9 % of white males.
- In 2004, the median net worth of white families was about \$140,000 compared to about \$25,000 for non-white families.
- In 2005, the infant mortality rate for blacks was 13.7 per one thousand live births while the rate for whites was 5.7.
- In 2007, the black unemployment rate was 8.3 compared to 4.1 for whites.

The figures display some alarming differences between races (U.S. Department of Commerce, 2006). As a former professor of mine once said, if all Americans were in the state of black Americans we would consider it the worst economic depression in our country's history.

In the following sections, I will discuss 1) the extent and development of mass incarceration in the United States 2) descriptions and theoretical understandings of racial residential segregation, 3) an empirical analysis, 4) and theory on the lasting relationships between law and race relations .

### **Functional Analysis Orientation**

This dissertation approaches the topic of study from a perspective consistent with the history of functional analysis. Overall, the dissertation uses functional analysis to understand how and the extent to which the system of mass incarceration (and the parallel increase in punitive crime control strategies) that began in the 1970s and continues into the present has functioned to uphold racial inequalities in the U.S. The use of a functionalist analytic approach should not be confused with the functionalist theoretical paradigm. Long ago, Merton (1967) clarified confusions about functional analysis. First, he explicitly stated that functionalist analysis was inherently linked to no theoretical paradigm. Instead, it is put into sociological practice to identify functions, both latent and manifest, of social mechanisms in order to understand social structures and institutions in society.

Second, Merton authoritatively argued that functions should not be viewed as subjective categories of disposition (i.e. motivations or anticipated outcomes) but instead he argues that functions should clearly refer to objective outcomes, or both the dysfunctional and functional outcomes of a social institution or cultural practice (Merton, 1967). For example, while crime deterrence is an anticipated outcome or motive for punishment it may be only one of several functions, or perhaps not a function at all. Likewise, while economic inequality between groups

may not be an explicit motive it may be a latent function. Therefore practices that are divisive or lead to social change can in fact be functions, along with those that maintain order.

Since many scholars have confused functionalist analysis with the functionalist theory of law, which emphasizes the notion that law serves the interests of a consensus within society, it has been erroneously inferred that functionalist analysis inherently implies a consensus view of society. In response to this last confusion, Merton clarified that institutions and structures often exist because they function for powerful groups, not for all groups. He stated that simply because structures and cultural practices exist does not make them entirely functional toward maintaining order. Even though a structure or practice emits a function toward social order, functionalism admits that alternatives may exist and should be sought - perhaps those that entail fewer dysfunctions. And herein lays the connection to the current study: an examination of a potential dysfunction of a particular style of law administration and an effort to seek potential alternatives.

This study follows a history of functionalist analyses that has outlined the consequences of law and social control. Theoretical developments by Jeffrey Reiman (2007) serve as particularly similar examples of examining the consequences of punishment, specifically the administration of mass incarceration in contemporary US. His exploration of class- and race-based inequalities that have accumulated during the 'tough on crime' era draws from a functionalist approach to understand the continuation of the prevailing crime control regime. Inverarity, Lauderdale and Feld (1983) illustrate how equality rights laws functioned to maintain capitalist markets following the demise of previous modes of production. Their application of Marxian analysis of law within a functionalist framework shows the reciprocal nature between the administration of law and other social institutions.

The empirical section of this study focuses on two specific indicators that represent crime control (incarceration rates) and racial stratification (racial residential segregation). Specifically, the empirical portion includes an examination of the association between incarceration rates and changes in racial residential segregation. Rather than approach the empirical analysis of this relationship as a test of all the theoretically important influences upon segregation, this study focuses on examining the extent of one potential function of mass incarceration. To help understand the specific association between incarceration and segregation, discussions following the empirical section revolve around how crime control and race relations are bound in a reciprocal relationship. This dissertation synthesizes theory and research evidence on the 1) maintenance of racial inequalities, 2) conflict theory of law, 3) and research on unequal outcomes of mass incarceration to contribute a theoretical understanding of racial inequalities as a function of crime control in the US during the latter part of the twentieth and into the twenty-first century.

### **Specific and Significant Contributions**

This dissertation contributes three particular advancements in the sociological study of social control and race relations. First, it provides the first macro-level, empirical analysis of the segregation-incarceration association. Second, it brings together various theoretical statements on sociology of law, segregation, and race relations to understand the diverse and intersecting associations between race and crime control. Third, it adds a methodological advancement toward the macro-level study of incarceration. Specific to this third contribution, data from the National Corrections Reporting Program (NCRP) are used to compile the first measurement of prison admission at the metropolitan area-level. Previous research has generally used state-level incarceration data, even in studies where the primary unit of analysis was a smaller aggregate such as the metropolitan area or city. By contributing this methodological tool future research on

the macro-level effects of incarceration, an emerging area of study (Clear, 2007), can utilize this more refined measure.

### **Layout of the Dissertation**

The manuscript first introduces the development and trends of incarceration within the United States. Since this study is primarily concerned with examining the consequences of mass incarceration, it attempts to put the development of this historically unique social process into context. Next, an overview of research and theoretical statements on racial residential segregation follows. An empirical examination of the segregation-incarceration relationship and its results are then presented. Lastly, a theoretical discussion concludes this dissertation by providing understanding to the complex linkages between crime control and race relations.

### **Reflexive Statement**

I dove into this project because I was, and continue to be, working toward understanding the continuation of social inequalities. During my first experiences with sociology and into the present, inequalities based on race, gender, and class have attracted my attention. The fact that our arbitrary and constructed social boundaries are so closely tied with basic human rights such as housing, health, and justice troubles me. Part of my responsibility as a sociologist is to use the language of the sociological imagination to bear witness to the things that go unseen for many people. Institutionalized racism is one of them. I hope that this project is only the beginning of a long struggle for equality on many fronts. At the very least, it was good practice and sharpened my ability to think theoretically.

## CHAPTER 2 DEVELOPMENT AND TRENDS IN INCARCERATION

### **Introduction**

Mass incarceration is happening in the United States. It has been happening here since the mid-1970s and there is little dispute of its existence and continuation. The recent developments in incarceration over the past few decades have been astounding; many statistics have been displayed in reports, books, articles, and media programs to show the extent and characteristics of the system of mass incarceration (Garland, 2001; Mauer, 2006; Western, 2006). Scholars, practitioners, and administrators market their opinions and empirical research to showcase their litany of evidence that speaks to the extraordinary character of our incarceration trend.

Garland (2001) insightfully points out that there are two distinct characteristics of mass incarceration as a unique phenomenon distinguished from normal patterns of punishment. First, the sheer numbers create a distinguishable phenomenon. From a historical and comparative perspective the US system has met the criterion. The second feature is that mass incarceration does not only deal with individuals under the supervision of the prison system but its effects also breed within entire, specific groups. In the U.S. the experience of imprisonment has become normalized among populations of young, urban black males – it has become a social institution with long-reaching effects upon a concentrated population. This evidence is important to consider when examining racial inequalities across different social arenas. In order to understand the effects that incarceration may be exerting, incarceration trends must first be delineated and placed into historical and comparative context. In addition, it is also important to detail the extent of racial disparities in incarceration and in crime control generally.

## **Incarceration Trends**

The number of individuals under supervision in prisons and jails across the US has become a well-documented phenomenon in the general media and even more so across the academic community. The well-noted trend displays that during the 50 years preceding 1973 the incarceration rate never eclipsed 150 inmates per 100,000 residents (Blumstein and Beck, 1999). Analyses show that as of year-end 2007 there were nearly 2.3 million individuals detained in jails and prisons, over 1.5 million of which in federal and state prisons (West and Sabol, 2008). This amounts to 506 inmates per 100,000 residents in the U.S. The increase in incarceration has affected a growing number of U.S. residents. In 2001, 2,673 persons per 100,000 had ever gone to prison, a significant increase from the 1,251 persons per 100,000 in 1974 (Bonczar, 2003).

Prison growth has led to several consequences that trouble state and federal governments. Prison overcrowding, recidivism, and persistent racial disparities are primary concerns that prison growth has created. Interestingly, states with high prison populations continue their binge on incarceration. Of the 10 states with the largest prison populations in 2000, nine experienced increases in the rate of growth in 2006 (Sabol et al., 2007). Clearly, the role of the correctional system in social control has become dramatically more substantial.

These numbers are the result of an uninterrupted rise in prison populations since the early 1970s. Coincidentally, as others have pointed out this was the same time that criminologists were arguing that prison populations were stable across time (Blumstein and Cohen, 1973). These recent prison trends provide an illustration of what is currently happening. But a comparison of present statistics to statistics from earlier points provides an even grimmer outlook on our punitive movement.

To describe the salience of this shift, Loury (2008) draws on clear and alarming patterns in the era of mass incarceration. For instance, from 1980 to 2001 the chance of being arrested

after a filed complaint was stable – it remained slightly under 50%. However, the likelihood of being incarcerated as a result of that arrest increased from 13% to 28%. In addition, the incarceration rate for non-violent offenders in 1997 was triple its rate from 1980, and drug incarceration rates increased eleven-fold. Felon disenfranchisement has increased to 3.9 million individuals – six times its figure in 1974 (Uggen and Manza, 2007). Lounsbury adds:

As of 2000, thirty-three states had abolished limited parole (up from seventeen in 1980), twenty-four states had introduced three-strikes laws (up from zero) and forty states had introduced truth-in-sentencing laws (up from three). The vast majority of these changes occurred in the 1990s, as crime rates fell. (Lounsbury, 2008:9-10)

Blumstein and Beck (1999:54) provide some of the most comprehensive analyses of prison growth and state that, other than drug offenses, “very little is attributable to changes in offense rates.” Instead, “the preponderance of the responsibility for prison population growth lies in the sanctioning phase, the conversion of arrests into prisoners and the time they serve in prison.” The uniqueness of shifts in drug control creates difficulty in unraveling the independent influences of drug offenses on prison population growth. That is, it is difficult to decipher the extent to which actual drug activity was causing more arrests (and in turn convictions and sanctioning) or if police decision-making was responsible. Nonetheless, from 1980 to 1996 drug arrests accounted for about one-third of the increase in drug incarceration growth, while the conversion of drug arrests into convictions accounted for approximately two-thirds (Blumstein and Beck, 1999).

Looking back at the last thirty years of prison growth three fairly distinct periods of increases appear (Zimring, 2001). The first wave from 1973 to 1981 was due mostly to an increased commitment of marginal offenders regardless of offense type and the revocation of parole. From 1982 to 1992, drug arrests accounted for a significant portion of increases. Finally, since 1993 we have moved from a “lock ‘em up” approach toward a “throw away the key”

movement characterized by “truth in sentencing” policies and further sentencing policies such as California’s “Three Strikes” policy (Zimring, 2001).

### **Putting the Development of Prisons in Social Context**

The development of corrections policy must be considered in the contextual characteristics in which broad changes have taken place (see Pratt, 2009). The transformations in penal policy and practice that led to such dramatic increases in the utilization of incarceration simply did not occur in a vacuum. What often seems most astounding is the sudden back-peddle away from the rehabilitation ideal that had a strong hold on correctional philosophy and practice for several decades and into a reaffirmation of retributive styles of justice that were formerly seen as obsolete (Garland, 2001). While only a brief historical overview follows, it is useful to place the rapid, dramatic philosophical and practical changes into a historical context.

In the late nineteenth and early twentieth century prisons were primarily focused on isolating and reforming the immorality of offenders. In this era, the lack of connection to a moral code – undoubtedly one based on a Christian ethic – was a major explanation of crime and reform was heavily based on a ‘one size fits all’ scheme where connection to jobs and religion were central. The ideals of this era shifted largely due to the emergence of scientific positivism in the 1920s.

In regards to the study of crime, during the first half of the twentieth century there was a focus on finding observable and objective sources of criminal behavior. Researchers sought to find the psychological and sociological influences on human behavior through scientific methods. This was reflected in the prison system through reform policies that stressed the importance of individualized treatment through psychological and medical practices – a philosophical and practical standpoint broadly termed the ‘rehabilitative ideal’. The rehabilitation model of justice flourished in this context as treatment was implemented to fix the

psychological and social factors that were supposedly pushing people to behave criminally (Rothman 1980). As Tonry (1999) notes, it was quite startling how much attention was paid to the individualized needs of offenders toward their correctional rehabilitation.

For a variety of reasons, the rehabilitation model was pushed aside and gave way to a conservative model of deterrence and incapacitation (Zimring and Hawkins 1995). There are now numerous explorations and explanations into this unpredicted transition that are important to consider (Currie, 1998; Garland, 2001; Simon, 2007).

In short, crime control policy and discourse shifted during and in the aftermath of a period of major social changes where racial, gender, and class hierarchies were being broken down. In this atmosphere the criminal justice system did not go untouched. Politicians from both sides of the aisle stressed the imperativeness of a new approach toward social control and criminal justice. Noting the rising crime rates, conservatives Goldwater and Nixon were two of the first to explicitly state their advocacy for increasing policy based on deterrence and law and order (Parenti, 1999). Liberals also played an influential role in the decline of rehabilitation, albeit a bit inadvertently, by confronting it as another repressive and discriminatory form of state control. For instance, prisoner and civil rights groups claimed the discriminatory nature of indeterminate sentencing and claimed it neglected due process (Tonry, 1999).

In this social and historical context, those from opposing political groups reacted with evidence from the social scientific that stated the inadequate nature of rehabilitation. Martinson (1974) reviewed hundreds of studies on rehabilitation and implied that “nothing works” in the field. The studies included analyses of education, medical, vocational, and therapeutic treatment and although 48% showed some positive results he offered an overall negative perception of rehab programming. From here the ‘get tough’ movement took hold and politicians rode the

wave. Therefore when Martinson wrote his analysis of rehabilitation in corrections there was a perfect storm for correctional policy change.

Further criminological literature has noted the weakness of the Martinson study and the over reliance on its findings (Palmer, 1978) but most policy discussion toward prison growth did not reflect admonition from the academic criminological community. In this sense, it is clear that correctional policy as well as criminal justice policy in general has not been founded simply on rational, evidence-based strategies to combat increasing crime and disorder. Indeed, crime rates have been on a significant downward trend while incarceration rates continue to increase (King, Mauer and Young, 2005).

While there are many insightful theoretical explanations for this phenomenon (see Garland, 2001), the focus of the current study lies in the effects of mass incarceration rather than explaining its rise. In order to clarify the racialized trends in the institution of mass incarceration the next section details the racial disparities that abound in the prison population. Reasonable and guided predictions toward the collateral outcomes of mass incarceration are easier to grasp once the range and prevalence of racial disparities in the prison population are understood.

### **Racial Disparities in Imprisonment**

Incarceration is unevenly applied across racial groups. Mass incarceration extends substantial social and legal consequences across societal arrangements and continues not only to affect those who are imprisoned but also to have continued, far-reaching impacts on families and communities. One conspicuous sign of an institutionalization of racial disparities in the penal system is that the disparity in imprisonment between whites and blacks is wider than in any other major social arena (Western, 2007). Due to these undeniable patterns of incarceration we must view the penal system as a social institution that profoundly impacts entire communities and consider the potential racialized impact it may place upon other institutions of society. An

overview of racial disparities is warranted in order to offer a contextual discussion of the influence that mass incarceration has upon communities and race relations

Tonry and Melewski sum up the state of racial disparities in the correction system adequately:

Blacks constituted 12.8 percent of the general population in 2005 but nearly half of prison inmates and 42 percent of Death Row residents. Imprisonment rates for black men were nearly seven times higher than for white men. About a third of young black men aged 20-29 were in prison or jail or on probation or parole on an average day in 2005. The Bureau of Justice Statistics (BJS) estimated in 2003 that 32 percent of black men born in 2001 will spend some part of their lives in a state or federal prison. That is a substantial underestimate of the likelihood that black men will spend time behind bars; it does not take account of jail confinement, which is much more common than time in prison. (2008:2)

The explanations of racial disparities in incarceration have been contested. Arguments pointing toward systemic racial discrimination as the primary influence have lasted for decades, while others claim that differences in offending rates between whites and blacks makes most of the difference. In the 1980s, strong evidence established that, while bias and discrimination occur, they are not the primary forces behind racial disparities in incarceration (Blumstein, 1982; Langan, 1985). Two qualifications must be considered however when drawing on this conclusion. First, sentencing for violent offenses reflect patterns of actual violent offenses but disparities for less serious offenses are not explained as strongly by actual offending patterns. Essentially, there is less bias and discrimination for serious offenses so racial disparities for these crimes are mostly explained by racial differences in violent criminal behavior. Second, drug offense rates and drug arrests are not necessarily linked. Therefore, racial disparities in arrests for drugs are largely due to discretionary police behavior (Tonry and Melewski, 2008). Further, the explanatory power of racial differences in crime involvement toward sentencing has been declining. Using 1991 prison and arrest data, Blumstein (1993) found that unexplained disparities increased from 20.5% in 1979 to 25% in 1991. Tonry and Melewski (2008)

continued this analysis with 2004 data and reported that unexplained disparities increased to 38.9%.

Although racial disparities have been present in prison rates for decades, the ‘war on drugs’ significantly widened the gap. In the late 1970s, whites made up about 80% of drug arrestees. Since the late 1980s, blacks have come to represent 32 to 40% (Tonry and Melewski, 2008). Often people may consider it reasonable to assume that blacks are more likely to use and traffic drugs, in turn explaining this wide gap in drug imprisonment. Analyses by Blumstein (1982) and Tonry and Melewski (2008) report, however, that drug offenses explained the least amount of racial disproportionality for imprisonment compared with any other offense. It is evident that rates of drug use and drug trafficking for blacks and whites do not explain the vast disparities in imprisonment for drugs.

Beatty, Patteruti and Ziedenberg (2007) indicate that when patterns of county drug admission rates were compared with those of drug use rates there is little evidence that drug use drives drug imprisonment. One illustrative example is that Macomb County, Michigan and Cook County, Illinois have similar rates of drug use but Cook County has an admission rate seven times greater than Macomb County indicating that incarceration for drugs offenses is not evenly distributed across places either. In fact, counties with higher poverty levels, higher proportions of black residents, and those which spend more on policing and the judicial system tend to have higher rates of drug imprisonment (Beatty, Patteruti and Ziedenberg, 2007).

Drug incarceration is obviously affected by the policing and arrest of drug offenses (Blumstein and Beck, 1999). The clearest explanation of why police arrest blacks for drug crimes and subsequently why black are highly more likely to be imprisoned for drug offenses is that they are easier to arrest. While white drug dealing is more likely to occur in private spaces

and amongst friends and relatives, a lot of black drug dealing – specifically in low-income areas - on the other hand happens in the open-air market and among strangers (Tonry and Melewski, 2008).

Another major contributor to continuation of wide racial disparities in incarceration is the increase in sentencing policies for violent and drug crimes. As mentioned above these policies were influential toward prison growth in general and they have particularly impacted the imprisonment of black Americans, in turn aggravating racial disparities. Meanwhile, these policies have done little to slow crime (Tonry and Melewski, 2008).

Here we can see how the ironies of punishment abound. The racially unequal crime control strategies perpetuate the disadvantages seen in metropolitan communities. Meanwhile, the disparate use of police and prisons does not go unseen by citizens; instead it is observed and provides the basis for a loss of legitimacy within contexts of concentrated incarceration (LaFree, 1999; Tyler, 1990). These ironies of punitiveness likely account for some of the lack of a deterrent effect from “tough on crime” strategies over past decades.

Overall, the experience of proceeding through the system from arrest to imprisonment to release entails an array of negative effects. Clearly, racial disparities exist within arrest rates, court decisions, and imprisonment rates. These disparities are higher in certain geographic areas and lower in others. From decades of social research we know that people experience life-changing effects after going through the criminal justice system (e.g. Becker, 1963; Braithwaite, 1990). If these effects are experienced in different degrees between black and white Americans and across places, then it is plausible that the outcomes of these effects are also likely to vary.

### **Race and Collateral Consequences of Crime Control**

Bruce Western and several colleagues have produced enlightening findings surrounding the effects of mass imprisonment on economic inequalities (Western and Pettit, 2000; 2005).

Western states that there are two profound effects that must be recognized. First, incarceration has created invisible inequalities. Second, incarceration significantly reduces the life chances after release. Recent evidence clearly shows these patterns across measures of economic inequality (Western, 2006; 2007). The following section describes how racial inequalities in the economy and other realms such as voting rights are exacerbated and made invisible through mass imprisonment.

Western and Beckett (1999) offer a dynamic understanding of incarceration that goes beyond the typical understanding of the control of a surplus supply of labor. They claim that mass incarceration has become a labor market institution that has tightened the labor market in the short-run but will make workers more unemployable in the long-run. This labor market effect is highly concentrated among black males and under-skilled workers. The dramatic racial differences in future unemployment continue the institutionalized system of racialized labor market control. Interestingly however, these effects are hidden in official joblessness statistics since incarcerated individuals are not included in calculations of unemployment. The racial disparities work to mask vast racial differences in unemployment by underestimating joblessness among incarcerated populations.

Incarceration has significant negative effects on future employment opportunities by reducing labor wages, employment rates, and annual earnings (Western, 2007). By comparing a group of former inmates with a similar group of men who had not been incarcerated, Western (2006) reported that incarceration substantially reduced length of job tenure, especially for African-American and Hispanic workers. Thus, black and Hispanic men with a history of incarceration are moving in and out of short-term jobs more frequently compared with their white counterparts.

Wage growth is also affected by incarceration. As men age from 25 to 35, they typically experience steady increases in wages. Incarceration disrupts this trajectory and significantly slows this trend (Western, 2002). Former inmates are more likely to be pushed into the secondary labor market due to restrictions on employment for many public sector jobs, professional positions, and skilled professions and disruption of social networks where legitimate employment can be found. Therefore, the experience of being locked up in prison has ongoing impacts that follow individuals throughout their life course.

The stigma that follows conviction appears to have racialized outcomes as well. Western (2002) shows evidence that wage growth differentials between ex- and non-inmates were larger for whites compared with blacks. With such a high rate of incarceration for young black males in certain communities, the difference in wages among black men who are ex-inmates and those who are not may be small due to the stigma that is applied to this group as a whole. While individualized effects are experienced by incarcerated whites, the massive scale of imprisonment among young, urban black males propels aggregate effects among this entire group.

Devah Pager (2003; 2007) accelerated the research on the array of effects that histories of incarceration and criminal records have upon individuals. Her analyses dive into the heart of sociological and criminological theory by portraying the effects of labeling citizens as criminal. Through stringent experimental designs her work shows strong evidence of the expectation that individuals with a “mark” of a criminal record experience exceptionally difficult obstacles in finding jobs. Moreover, black Americans who are given the mark are substantially less likely to acquire employment. The stigmatizing effects that criminal histories exert even go beyond those individuals the criminal justice system has successfully marked as criminal. This research speaks to the stigmatizing effects of upholding historical perceptions of the “black, male

criminal” across communities. Stigmatization that follows young, black men is upheld by mass labeling. Indeed, she found that black males without a criminal record were less likely to find employment compared with white males with a criminal record (Pager, 2007).

Along with impact upon employment, the disconnection of felons from political participation is clearly articulated by Manza and Uggen (2006) in their recent analysis of felony voting disenfranchisement. The authors show the far-reaching consequences of revoking voting rights from felons. Felon disenfranchisement has sharply increased since 1976 following a decline between 1960 and 1976 that was due to civil rights era changes. In 1976 there was a population of approximately 1.2 million disenfranchised; by 2004 the number reached 5.3 million. The state of Florida alone had over 1 million disenfranchised citizens by the end of 2004. The impact of voting disenfranchisement has a specifically greater effect on black Americans. In several states, over 20 % of the African-American voting age population has lost its right to vote (Manza and Uggen 2006). As Manza and Uggen claim, wide-spread disenfranchisement across the US has had debilitating effects upon individual offenders, communities and political participation.

### **Community Effects of Incarceration**

By the mid-1990s criminologists had observed twenty years of increasing incarceration rates. Meanwhile, dramatic reductions in crime were not being seen (although by the end of the decade we saw a downward trend). Around this time some criminologists began to offer contributions toward understanding the effects that concentrated incarceration was extending beyond the individuals being locked up. After realizing that some communities were beginning to have a significant number of residents imprisoned, particularly young males, researchers and practitioners started to focus on the collateral consequences mass incarceration was exerting beyond the individual prisoners (e.g. Clear, 1996; Hagan and Dinovitzer, 1999).

Before the recognition of collateral consequences of incarceration, its effects were generally studied through an atomistic approach where the thoughts and behaviors of individuals committing crime were the object of examination. This line of research ignored the contextual connections between incarceration and larger social arrangements, and in turn, perpetuated the study of individual criminal careers (Clear, 1996). Clear pronounced the advantages of looking at developments in incarceration as “a product of shifting social forces and as a provocation of social change” (Clear, 1996:11) and specified that a research agenda be developed to analyze the ways incarceration promotes social conditions that foster criminal behavior. This vantage point has accelerated the study of various reciprocal relationships between patterns of incarceration and social characteristics of families and communities.

Incarceration is often highly concentrated in and around certain neighborhoods. An often cited statistic shows that about three quarters of the prison population in New York come from seven New York City neighborhoods. Clear and Rose (Clear, 1996; 2007; Rose and Clear, 1998) have conceptualized how incarceration, especially when many individuals experience it in a concentrated place, can have unintended crime-inducing effects. Clear (2007) illustrates four central points:

- 1) The extraordinary growth in the U.S. prison system, sustained over 30 years, has had, at best, a small impact on crime.
- 2) The growth in imprisonment has been concentrated among poor, minority males who live in impoverished neighborhoods.
- 3) Concentrated incarceration in those impoverished communities has broken families, weakened the social-control capacity of parents, eroded economic strength, soured attitudes toward society, and distorted politics; even, after reaching a certain level, it has increased rather than decreased crime.
- 4) Any attempt to overcome the problems of crime will have to encompass a combination of sentencing reforms and philosophical realignment. (Clear, 2007: 5-6).

According to their “coercive mobility” perspective, communities that experience low levels of social cohesion and self-regulation amongst residents due to concentrated incarceration can potentially experience increased crime and disorder. Considering the dramatic increases in incarceration, Rose and Clear illustrate the conundrum that we face between the crime-inducing properties of incarceration and the rehabilitative ideal. Myers (1980) has referred to the crime-breeding effects of incarceration as a “negative externality effect” that may neutralize the intended rehabilitative effect.

The concentration of incarceration clearly can have a negative effect upon community social capital. Social capital results from an extension of social networks and involvement in other social structures (Putnam, 2000). The loss of important male residents and the concentration of officially sanctioned individuals is accompanied by an “accumulation of criminal human capital” (Myers, 2000:6) which negates forms of positive social capital from environments such as schools. These negative, accumulating effects on social capital that emanate from concentrated involvement in the criminal justice system sensitize us to the differential role incarceration can play between minority and non-minority communities (Loury, 2008).

In some disadvantaged minority communities the concentration of extracted residents and former inmates links almost everyone to someone who has experienced being under surveillance. Not only does it increase networks with stigmatized individuals but it also decreases the likelihood of gaining positive contacts such as those with steady employment. The ability of community members to obtain connections with people employed in steady work maintains the social capital within a community. When a work force disappears from a community and social networks are desolate, many employers resort to other areas for a workforce (Wilson, 1996).

Recent research has begun to clarify the effects incarceration has had on communities. Empirical research points toward three primary unintended consequences of mass incarceration related to the idea that mass incarceration increases or at least maintains crime. First, imprisonment worsens socioeconomic inequalities by a) reducing the employability of released offenders b) stigmatizing potential employees from certain areas (Pager, 2007) and c) indirectly resulting in moving urban economic resources to other settings (Clear, 1996; Myers, 1983; Pager, 2007). The decisions of potential employers are likely to be touched by the concentration former prisoners released into areas as reaffirmation of stereotypes can stigmatize entire sectors of the city. Potential employees from some neighborhoods may be perceived to be connected to the world of individuals working the informal economy – stereotyped to be a part of the informal networks of violent and drug dealing in neighborhoods experiencing concentrated incarceration. Extracting a highly concentrated number of young males from a community also may injure the local economy. The removal of one or a few members simply may lead to the replacement by another community member, but removing many members can have negative effects upon the local economy. This coercive removal “raids local supplies of human capital and leaves a gap in employable residents” (Clear, 2007:109).

Second, incarceration can destabilize community organization (Nightingale and Watts, 1996; McGahey, 1986). Community organization can be conceptualized here as the extent to which community members engage with one another, trust in one another, and are able to informally supervise the community. Community organization relies heavily on the economic opportunities for community members and as these opportunities decline community organization is negatively impacted. Crime control strategies can also have an effect on community organization. Some argue that police presence can increase community interactions

in disadvantaged communities (Wilson and Kelling, 1982) while others show evidence that heavy police presence can negatively impact views toward the criminal justice system and political structures in turn limiting involvement among members of the community (Moore, 1996; Anderson, 1999).

Lynch and Sabol (2001) studied the affect of incarceration across Baltimore neighborhoods and found that higher rates of incarceration were correlated with reduced community solidarity, interactions among community members, and involvement in community organizations. However, there was not a significant relationship between neighborhood incarceration rates and informal social control.

Anderson's (1999) ethnographic research illustrates some of the dynamics that lead researchers to believe that crime control strategies in disadvantaged neighborhoods can have deleterious outcomes on community organization. The significant amount of adults taken out of the neighborhood reduces the supply of mentors that ease the transition into adulthood. These relationships can be key transitional elements among young men in these communities and without them we expect that crime, sexual promiscuity, and educational achievement would be affected.

In addition, views surrounding the legitimacy of state authority and political action are affected. The importance of attitudes toward state authority and the criminal justice system is shown in research evidence that finds that people who have a low sense of legitimacy toward the justice system are less likely to conform to its standards (Tyler, 1990). In communities where incarceration is highly concentrated, it becomes somewhat normalized for people growing up there (Rose and Clear 2004). Even further, the acquisition of 'street status' can follow the survival of being locked up.

Third, incarceration is purported to have destabilizing effects upon family structure. That is, through the removal of a high proportion of residents – mostly males – communities are less likely to have two-parent homes and simply have fewer family members to provide community supervision and strong informal ties. This is important to family relations since most male prisoners with families report having spent time with their children most everyday before being arrested and most were living with their children before being placed in prison (Lanier, 1993). After fathers are taken away, their children often experience trauma and other psychological issues that resemble effects of death and divorce (Lowenstein, 1986). Although many young fathers who become incarcerated often show patterns of irresponsible behavior and intermittent relations with the mothers of their children, many of them reportedly spend a considerable amount of time with their children.

The incarceration of mothers is also becoming an increasing concern. In fact, the growth rate of women prisoners has recently been higher than that for men prisoners (Blumstein and Beck, 1999). While mothers account for only less than 10% of the prison population, the growth of this population presents challenges to the criminal justice system and social services agencies. When fathers are incarcerated, about 90% of the time their children fall under the custody of the mother. The children's custody presents a much different problem when mothers are incarcerated. In these cases, friends or relatives typically gain custody rather than the fathers (Raeder, 1995). The increasing number of women entering prison introduces life changes and struggles to many other people besides the individual serving time.

By extracting a concentrated number of young adults, sexual and intimate relations can be changed. The affected sex ratio may change how women and men decide to remain in or refrain from long-term relationships. Thomas and Torrone (2006) performed a study that

showed that incarceration rates were associated with higher levels of sexually transmitted diseases among women and higher rates of childbirth among teenage women.

Again, the deleterious effects of incarceration on community-level health outcomes are not evenly distributed by race. The extraction of males from communities is even more detrimental to black families and communities (Darity and Myers 1984; Lynch and Sabol, 2004). Noting the wide racial disparities in incarceration rates, differences in the social impacts across racial groups are important to examine. Interestingly, many effects are manifested quite differently between white and black communities. For instance, Lynch and Sabol (2004) found that in counties with high proportions of black residents incarceration is correlated with family disruption and unemployment rates.

Piquero and colleagues (2006) examined the effects of incarceration across census tracts in New York City. Their research added an examination of the race-specific effects of jail and prison admissions on neighborhood median income and human capital. They found African American prison admissions led to lower median income and human capital between 1985 and 1996. Their evidence provides further suggestions that not only are the rates of incarceration racialized but the negative consequences also have more pronounced effects on black neighborhoods.

In sum, there are negative consequences when incarceration is concentrated in communities. Family structure, community organization, and stable economic opportunities are adversely affected by the extraction of many community members through the criminal justice system. These effects are particularly experienced by already-disadvantaged, urban black communities. Such racialized impacts maintain the cycle of disadvantage within these places. The communities themselves become stigmatized as ones seen as being comprised mostly of

crime and disorder – ones perceived to be feared and controlled. In these ways, the patterns of racial inequality persist between neighborhoods by repressing struggles to improve upon community organization and life chances of folks in disadvantaged neighborhoods.

To the extent that communities themselves are stigmatized by racialized incarceration patterns, we may expect that segregation patterns develop. Indeed, this study examines the relationship between incarceration and segregation. Therefore, the next section turns to the literature on racial residential segregation.

## CHAPTER 3 RACIAL RESIDENTIAL SEGREGATION

### INTRODUCTION

In the late 1980s and early 1990s scholars revived research on the primacy of residential segregation in urban America through empirical evidence (Wilson, 1987; Massey and Denton, 1993). Most importantly, it called attention to the dire situation of those urban communities that found themselves at the crux of an intersection of economic disadvantage and blackness. The focus on places comprised of concentrated, extreme impoverishment of black residents showed the sociological importance of the convergence of race- and class-based disadvantage and the powerful and haunting forces that situated so many individuals into a world of evident disadvantage.

Racial residential segregation remains an imperative focus for social research. To some degree, describing and explaining the segregation of certain social groups has been a part of human inquiry for centuries. The experience of residential segregation between black and white Americans in the twentieth century was a primary issue among many scholars, politicians, artists, and writers and this problem continues into our twenty-first century context. W.E.B. DuBois and Gunnar Myrdal were two of the most prominent scholars to examine and detail segregation in the U.S. (DuBois, 1899; Myrdal, 1944). Their descriptions gave us many insights into the dynamics of race and segregation. The social inequalities that arise from spatial housing patterns which they spoke of have lasted through today.

Today, however, we find ourselves in a different era where overt racial discrimination is not nearly as common. While overt discrimination clearly exists, it is often stigmatized and formally controlled. Since the legal breakthroughs of the civil rights era, overt housing discrimination is formally regulated. Unfortunately, we still see discrimination and disparate

outcomes when it comes to housing and our other major social institutions (Roscigno, Karafin and Tester, 2009). These discriminatory outcomes and racialized patterns of social behavior are maintained through exercises of more subtle, covert mechanisms (Bonilla-Silva, 2003).

Therefore to understand racial residential segregation we must account for the developing institutional arrangements that maintain it in contemporary times; to understand segregation using theoretical understandings of past decades will likely fall short.

The criminal justice system is one social institution that we must examine to understand the influences of racial residential segregation patterns across the US. In particular, this study focuses on the institution of mass incarceration and the extent it upholds black-white residential segregation across urban areas of the U.S. While the argument that the criminal justice system works to oppress disadvantaged groups is not a new found claim, the direct connection between mass incarceration and segregation patterns has yet to be explicated. In our current social and historical context, mass incarceration is a social institution that affects the lives of not only the millions of citizens under surveillance but the families and communities to which they are connected. The experience of incarceration is not a corrective or rehabilitating one for these individuals and many of the social groups they identify with and belong to. Instead, it formally disallows future employment opportunities for ex-inmates, stigmatizes entire communities that experience ‘concentrated imprisonment,’ and disrupts and stigmatizes entire families (Clear, 2007).

These collateral effects of mass incarceration are clearly racialized (Tonry and Melewski, 2008). We observe the racial disparities throughout stages of the criminal justice system, especially within incarceration – the last stop. In turn, the collateral consequences of mass incarceration proliferate unevenly between racial groups – impoverished, urban black

communities become more stigmatized, lose social and human capital, and in the end remain highly segregated from places where opportunities abound.

The complexities of processes that lead to the connection between mass incarceration and racial residential segregation are plentiful, yet recognizable once we acknowledge the developing insights from work on theories of racial inequality, collateral consequences of incarceration, racial disparities in criminal justice, and patterns of segregation. Here, I will describe current explanations of segregation and delineate some of the salient social patterns that are involved in the connection between mass incarceration and racial residential segregation.

### **Three Primary Explanations of Racial Residential Segregation**

Essentially, there are two models that explain racial residential segregation, one of which has two variants. Perspectives focusing on the socioeconomic status fall under the spatial assimilation model, and the explanations emphasizing discrimination and prejudice are included within the variants of the place stratification model (Charles, 2006). In the following, I will discuss evidence from studies focusing on these two models.

The spatial assimilation model predicts that residential segregation by race results from persistence and severity of socioeconomic inequalities between races. Since blacks, Hispanics, and other minorities have a higher concentration in lower-status occupations, earn less, and receive less quality education, segregation is an outcome of differences in statuses and lifestyles (Charles, 2006). Over the past several decades, research findings illustrate complex dynamics of this model. For Asians and Hispanics upward mobility in socioeconomic status along with generation shifts from foreign-born to native-born result in reduced segregation from whites. For blacks the story is different. Even as blacks gain economic status, it generally does not lead to substantial declines in segregation from whites. Research shows that while gains in income and education are positively associated with residential outcomes, blacks suffer the smallest returns

compared with other minority groups (Alba, Logan and Stults, 2000). A large reason for the lowered importance of socioeconomic status among blacks is connected to homeownership. Black homeowners are less likely to live among whites, instead living in more segregated and less affluent areas thus paying a penalty compared with homeowners of other races (Alba et al., 2000). Overall, compared with other groups, blacks fare less well from improvements in socioeconomic status thus signaling the importance of race beyond class in constructing social boundaries.

The place stratification model understands segregation as a form of separation that maintains social distance and social positioning for whites and develops from structural processes linked to racial prejudice and discrimination that maintain the status of whites (Bobo and Zubrinsky, 1996; Massey and Denton, 1993). The place stratification model has two variants: traditional prejudice and race prejudice as a sense of group position (Charles, 2006). The traditional prejudice viewpoint predicts a strong association between negative racial stereotypes and neighborhood racial composition preferences and points its focus on the importance of individual attitudes about living near racial minorities. This perspective would expect that decreases in overt racial stereotypes and preferences would clearly lead to reductions in segregation. Since there are clearly individuals with negative attitudes toward blacks and other groups, this expectation appears reasonable.

Perhaps, structural processes beyond traditional prejudices impact group positioning and drive residential patterns on a larger scale. The second variant of place stratification model stresses the importance of such structural forces and group positioning. Emanating from Blumer's (1958) conceptualization of race prejudice as a sense of group positioning, this perspective explains segregation as a form of racial separation that results in the maintenance of

white superiority. The expectation here is the “greater the perceived relative differences, the less desirable out-group members will be as potential members” (Charles, 2006: 47; see also Bobo and Zubrinsky, 1996; Charles, 2000a). Further, in times of significant population shifts and immigration, tensions and conflicts arise that reduce cooperation between groups (Blumer, 1958). Thus, in periods of transformation race structures actions and attitudes to uphold entitlements and privilege.

In innovative research on residential preferences, it has been shown that race clearly makes a difference beyond economic status. In a study of Detroit-area residents, whites showed clear resistance toward integration while blacks favored integration (Farley et al, 1978). In addition, further studies showed that Latinos and Asians also appear to favor integration and substantial coethnic presence within their neighborhoods. This line of research consistently indicates that people of various races order whites as the most desirable out-group (racial group other than one’s own) to live amongst and blacks as the least desirable (Charles, 2006). Some have argued that people’s general discomfort with living around a significant black population is an indirect race effect, referred to as the “race-as-proxy” perspective. That is, people actually prefer not to live in areas of perceived high crime, lower-quality schools, and low property values. However, this “racial-proxy” explanation of residential preferences is in the end racial, although more subtle than explicit and less articulate reasoning for preferring one neighborhood over the next (Krysan, 2002:693). As Quillian and Pager clarify:

Even if neighborhood evaluations and decisions to move are largely determined by nonracial considerations, such as perceptions of neighborhood crime, if these perceptions are themselves influenced by racial context, then they can no longer be thought of as race-neutral. (2001:721)

Krysan, Farley and Couper (2008) detail how race has a direct influence on housing preferences. By controlling objective features of neighborhoods such as housing cost, safety,

and quality of schools, their experimental design showed that white respondents view neighborhoods with black residents significantly more negatively compared with the exact same neighborhoods shown with white residents. Thus, race is not simply a proxy for other presumably deciding factors, but instead is a proxy shaped by negative stereotypes. The objective traits of a neighborhood are not sufficient to overcome racial stereotypes toward black residents. From this evidence, Krysan and colleagues (2008) claim that negative stereotypes toward areas with integrated populations that include more than a few black residents directly influence whites' decisions toward a location to settle.

Another explanation of the continuance of residential segregation is that it is due largely to housing discrimination. Audit studies over the past several decades have shown clear and consistent discriminatory practices within the housing market (Yinger, 1995; Turner and Ross 2005). The presumed driving force in the maintenance of housing discrimination falls upon the prejudice and the more subtle institutionalized processes that support it.

Recent evidence continues to show housing discrimination for blacks compared with their white counterparts. The 2000 Housing Discrimination Study reports mixed results regarding shifts in housing discrimination in the housing sales and rental markets, but again shows that there are differences between treatment of whites compared with blacks across several metropolitan areas. In the rental market during 2000, whites were favored over blacks 21% of the time. While this was a decrease from 26.4% in 1989 discrimination is far from being eliminated. A 12% drop in the percentage of whites favored over blacks from 29% in 1989 to 17% in 2000 is a promising sign in the sales market. However, this recent report interestingly shows that the steering of black potential homebuyers away from certain geographic spaces has increased (Turner and Ross 2005). Therefore, while we have seen changes in attitudes toward

segregation and the mechanisms that maintain it, black and white segregation continues for a variety of complex reasons.

### **The Influence of Mass Incarceration of Racial Residential Segregation**

There are three general explanations of racial residential segregation: unequal socioeconomic status, prejudice, and housing discrimination (Charles, 2006). The trends in incarceration over the past few decades have affected each of them. First, socioeconomic status is presumed to influence segregation based on the assumption that as minorities experience increases in social position they will be more likely to live among white neighbors. To the extent that high incarceration rates affect the economic status of predominantly black communities and residents in those communities, incarceration will have an impact on segregation.

The experience of incarceration dramatically reduces the chances of individuals finding employment once released from prison or jail, especially for black men (see Pager, 2007). Job opportunities following incarceration are lost through both formal and informal processes. There are now several formal barriers to employment for individuals with criminal histories. States legally prohibit those with criminal records to be employed in certain sectors of the labor market. This 'negative credential' placed upon former inmates disallows employment for many young adults during a period in their life-course where developing an employment career projects them on a path that will largely determine their future economic prospects. The criminal mark makes it predictable for most individuals to remain economically stagnant.

Informal stigmatization processes extend to reaffirm negative attitudes and stereotypes toward urban, black communities. In communities where incarceration is seen as an extraordinary experience that only a few residents are familiar with, the economic consequences only diffuse so far. In communities where there is a concentration of individuals with histories of incarceration, employment opportunities stretch beyond their own individual experiences and

upon the neighborhoods and the families they are connected to. The concentration of incarceration leads to the stigmatization of other individuals from these communities which has negative consequences on their likelihood of gaining employment and prevents new employers from entering these communities to provide a substantial amount of jobs. Therefore, the community as a whole is affected by high rates of incarceration. Outsiders have little incentive to move into the urban community when no jobs are available and few residents have reason to move away from their intimate groups if they experience extreme difficulty finding a job elsewhere anyway.

Second, housing preferences toward living in integrated or segregated neighborhoods substantially guide residential outcomes. Most importantly, white prejudice against living among black neighbors – at least more than a few token black neighbors – presumably maintains segregated patterns of residence (Charles, 2006; Krysan, Farley and Couper, 2008). To the extent that high incarceration rates affect the attitudes and perceptions – stigmatization - toward communities with a heightened density of black residents and residents in those communities, incarceration will have an effect on segregation.

To this point, there has been no research that directly tests the association between community-level incarceration rates with racial attitudes or housing preferences. But recent work illustrates important related patterns surrounding perceptions of crime and disorder and neighborhood racial composition. It is plausible to argue that racially disproportionate incarceration rates will reaffirm and reproduce racial stereotypes toward young black men and communities where they reside. This proposition rests on evidence that the dramatic increases in incarceration and crime control in general, alongside the politicization of crime have maintained a culture of fearing crime, especially in black communities (Russell, 1998). Images and stories

across local media outlets that showcase the conviction of high rates of young, minority men are observed by wide audiences, perpetuating stereotypes that exert influence upon perceptions of crime and attitudes toward certain neighborhoods. All of this occurs, ironically, while violent crime rates continue to drop, most dramatically among young black populations (Parker, 2008).

Recently, some have indicated that neighborhoods with high concentrations of black residents are perceived as having high crime rates irrespective of actual crime levels. Quillian and Pager (2001) show that perceptions of high crime neighborhoods are associated with the percentage of young black men in a neighborhood, even after actual crime rates and other neighborhoods traits are taken into account. People are likely to attribute neighborhood safety based on its racial composition for two primary reasons. First, racial composition is easily observable in the U.S.; second, stereotypes associating black individuals with crime are persistent and commonly known (Quillian and Pager, 2001). While this relationship does not clearly indicate a direct connection between incarceration rates and segregation, it sheds light on the continuing connection between views of areas with a concentration of young black men and how residents perceive crime in those areas.

Similarly, Sampson and Raudenbush (2004) argue that perceptions of neighborhood disorder are not necessarily reflective of actual observed disorder, but instead are guided by social influences outside of actual neighborhood disorder. Through a unique and comprehensive study design carried out in Chicago neighborhoods, they found that racial composition was actually a stronger predictor of perceived disorder than observed disorder. Individual residents of all races perceived heightened disorder as the concentration of minority populations and poverty increased. This signals to us that residents augment their first-hand observations of neighborhoods with prior beliefs regarding racial stigma rooted in the long American history of

racial inequality and conflict (Loury, 2002). The larger issue this evidence speaks to is that race plays a significant role in the development of perceptions of urban residential locations because it is intrinsically linked to indicate levels of crime and disorder. As Sampson and Raudenbush conclude:

Perceptions of disorder thus appear to create a self-fulfilling structural prophecy whereby all actors are likely to disinvest in or move away from black or mixed areas viewed as high in risk for disorder, but in which whites are more sensitive in the first place and consequently more likely to move. In this way, implicit bias in perceptions of disorder may be one of the underappreciated causes of continued racial segregation in the United States. (2004:337)

As past research has shown, perceptions of crime do not clearly align with actual crime rates (Quillian and Pager, 2001). Knowing that preferences and attitudes toward neighborhoods are determinants of residential decision-making, especially for those with the financial wherewithal, and knowing that perceptions of crime guide attitudes, we must consider social arrangements that maintain historical stereotypes. These patterns might suggest that incarceration and the images and stories of convictions maintain historical stereotypes toward black criminality thus reproducing perceptions even more than actual crime. Therefore, any evidence that suggests incarceration rates influence perceptions of crime may add to our understanding of the discrepancy between perceptions of crime and actual crime rates. In addition, any evidence that black incarceration rates influence segregation patterns would imply that perceptions might be affected by unequal incarceration, in turn maintaining white fear of movement into black or integrated communities.

Third, housing discrimination stands in the way of blacks and other minorities who would like to purchase or rent housing in predominantly white areas (Yinger, 1995). To the extent that high incarceration rates constrain the residential options of black potential residents both formally and informally, incarceration will influence segregation. In addition, to the extent

perceptions of area crime are influenced by unequal incarceration, segregation will be affected due to avoidance and steering of whites away from neighborhoods consisting of considerable black residents.

There is reason to believe that a criminal history can put forth strong constraints on the ability of ex-inmates to find housing. Travis (2002) claims that for many ex-offenders finding housing, alongside employment, is becoming a noticeable difficulty and leading many into homelessness. Much like formal restrictions on employment, housing has become more restricted since landlords have become professionalized and trained to perform criminal background checks on potential tenants (Thacher, 2008). In a recent survey the National Multi-Housing Council shows that 80% of its members check criminal histories of tenants (Delgado, 2005).

In a study of tenant screening, Thacher (2008) illustrates how actual methods of social control diffuse beyond the criminal justice system and into our institutions such as private housing. He pulls quotations from “how-to” manuals on property management to illustrate recent techniques in the industry:

[I]n a discussion of “problem tenants,” the book advises that “an ounce of prevention is worth many pounds of cure, for cures are costly, agonizing, time-consuming, crisis-oriented, and sometimes downright dangerous to life, limb, and property.” (quotation from Robinson, 1997:197)

The concentration on tenant criminal history is a recent phenomenon within this literature, thus showing the pervasiveness of the crime control movement. The shift of landlord focus upon safety and controlling risk emanates partially from legal transformations that now hold landlords responsible for maintaining safety (*Kline v. 1500 Massachusetts Avenue Apartment Corp, 1970*). In turn, landlords have become pressured by justice officials to screen in order to reduce liability

and are provided with institutional infrastructures to facilitate their use of criminal record databases (Thacher, 2008).

It is important to note that restrictions on housing for ex-offenders may not lead directly or necessarily to residential segregation by race. Perhaps these restrictions push folks of all races into places that are more racially integrated due to lack of other housing options. It is more likely, however, that property managers use these procedures to their advantage and use them selectively. In areas of concentrated poverty and racial minorities, property owners may have fewer potential tenants and become willing to accept those with lesser credentials. In the end, the majority of potential tenants who are black, come from impoverished urban areas and who have not been selected for residence are unlikely to end up living in areas new to them.

In addition to formal processes that control the housing of those with criminal records, as mentioned above, housing discrimination continues to occur largely as a result of informal interactions such as steering potential renters and buyers away from certain neighborhoods. This seems to occur due to the perceptions of crime surrounding an area and the property values associated with it. Therefore, as the system of incarceration continues to associate crime with poor, black populations it will indirectly affect attitudes and perceptions regarding neighborhood safety.

### **Previous Research on the Statistical Correlates of Black-White Racial Segregation**

In analyses similar to the current one, researchers include several ecological variables to indicate macro-level patterns expected to influence residential segregation. This study accounts for such relevant variables theorized to be associated with segregation. The following provides brief descriptions of the importance of these ecological factors and the operationalization of these variables is discussed further in the next section.

One of the primary macro-level explanations of the persistence of racial residential segregation is that large and/or growing black populations are feared by white populations. The racial threat perspective on race relations proposes that larger black populations and the growth of black populations solidify a perceived threat among whites, leading to the maintenance of residential segregation (Blalock, 1967). This hypothesis is optimized in Detroit, the metropolitan area with the highest level of segregation. Detroit experienced a major growth of blacks, mostly from southern regions, during the period of labor expansion in the first half of the twentieth century. Subsequently, in the 1960s, fearful whites secured segregation through suburbanization and hostility toward blacks. Since then the large black population, perceived as a threat by suburban residents, has remained largely isolated in the central city of Detroit (Farley, Danziger, and Holzer, 2000).

The growth of a black middle-class presents a complex influence on segregation. Segregation research on other ethnic groups besides blacks and whites shows how economic assimilation leads to residential integration for groups such as Asian-Americans. While many have argued that the closing of the black-to-white income gap will mirror assimilation by other groups and result in considerable increases in integration, others have documented that blacks continue to be segregated regardless of socioeconomic status (Massey and Denton, 1988). When studied at the aggregate-level – as the current study does – blacks do not experience the same gains as other minority groups when their socioeconomic status increases. This is tied to black homeowners as a group being more segregated than black renters (Alba, Logan and Stults, 2000). It should be noted however that at the individual-level, socioeconomic status does have a significant effect on residential outcomes for blacks (see Charles, 2003). Overall, the intricacies

of the influence of socioeconomic assimilation on the segregation of blacks from whites continue to be explored.

The influence of black suburbanization upon segregation patterns has also been detailed and is related to the discussion on the socioeconomic assimilation. There is, however, little consensus on its influence. On the one hand, as blacks move into the suburbs it could be expected that they will become more integrated with white residents. While on the other hand, it could be found that black enclaves develop and simply replace old forms of segregation (Logan et al., 2004).

Regional differences also account for variation in segregation patterns due to their connection with the structure of local governments. Farley and Frey (1996) note the importance of region by illustrating differences in the historical developments of local governments in the Midwest and northeast with local governments in the South. In the northern and Midwestern metropolises, local governments in the suburbs functioned to shield white residents who fled central cities with growing black populations. Suburban city officials were able to effectively isolate white communities through their own police strategies, zoning regulations, and public schools and growing recognition of being hostile toward blacks. Meanwhile, as metropolises grew in the South the local governmental authority rested at the county-level. Therefore racial integration through federal mandates occurred in a more pronounced way due to the inability of southern whites to move to a suburb that held an all-white school system. These patterns continue to be reflected in recent studies of segregation. In the West, there is more variability as old cities have similar histories of the Midwestern and Northeast cities, while newly developed areas in the West tend to have lower segregation levels due to their annexation of outlying areas (Farley & Frey, 1996).

The functional specialization of a metropolitan area influences residential patterns. Functional specialization refers to the economic base of a community. If most or a significant portion of a community's population is employed in a certain type of labor, this can affect where people live and how racial groups are integrated in many realms of social life. In macro-level segregation studies and the current one, functional specialization – or the core economic base of a community – is broken down into several groups: manufacturing, educational, military, retirement and government. Some areas do not have one clear specialized economic base and in this study these are categorized as having no specialization.

Government, military and educational (e.g. university towns) communities generally have a different level of educational attainment and other compositional features compared with manufacturing areas (Farley & Frey, 1996). Military and university communities are also different from others since many residents do not choose their place of residence. Also, university towns are unique in their capacity to have unique changes in housing dynamics. First, since educational attainment and racial attitudes are strongly associated with one another, such places should entail greater levels of racial tolerance. Also, structural forces in a university community create distinguishable patterns. For example, after the University of Florida became integrated black students and black professionals new to the area were allowed to live in neighborhoods that had previously excluded other blacks (Wineberg, 1983). Research also shows that military communities have the lowest level of segregation while university and government towns have moderate levels of segregation; while all three typically show a significant and negative association with black-white segregation when compared with areas of other economic bases (Farley & Frey, 1996; Logan et al., 2004).

Retirement communities have consistently been shown to have a high level of segregation (Farley & Frey, 1996; Logan et al., 2004). It is generally assumed that retired blacks secure fewer resources to afford the ability to move into retirement communities in states such as Florida and Arizona. In addition, there is evidence that whites from racially segregated areas in the North who search for retirement homes in such communities tend to look for racially homogenous neighborhoods.

Manufacturing in an area has influences on residential segregation largely because of the history connected to the pull of southern blacks into Midwest and Northeast cities such as Detroit, MI, Cleveland, OH, and Flint, MI during the first half of the twentieth century. These manufacturing communities tend to have heightened levels of segregation.

Another ecological factor associated with the segregation of blacks is the overall growth of housing across metropolises – typically indicated by the percentage of new housing in a metropolis. Newly developed areas tend to be less segregated (Logan et al., 2004). This tendency is likely connected to two processes: HUD regulations on affirmative marketing of new housing toward minority populations since the 1970s and the lack of local histories of being hostile toward blacks in recently developed areas.

The age of the metropolis is associated with segregation. Age is indicated by the period in which the largest city in the metropolitan area surpassed a population of 50,000. The time period matters once we consider that places such as Boston, New Orleans, and San Francisco were large metropolises before the turn of the twentieth century while places like Anaheim grew after World War II and Daytona Beach developed after many changes in civil rights and housing regulations.

## CHAPTER 4 DATA AND METHODS

### **Introduction**

As discussed in prior sections, the current study will empirically examine the extent to which trends of incarceration are related to patterns of residential racial segregation. To this point an empirical analysis of the relationship between incarceration rates and segregation has yet to be examined by sociological research. The current study serves as an initial attempt to answer the research questions at hand by bringing together data sources that provide the most valid measures possible. In the following, data from the U.S. Census, American Community Project and the National Corrections Reporting Program (NCRP) will be discussed.

Since this analysis is performed using Metropolitan Statistical Areas (MSA), all measures are operationalized at the MSA level. Both the dependent and independent variables represent boundaries of the MSAs across the U.S. This strategy is consistent with research that examines predictors of segregation patterns (Iceland, Weinberg and Steinmetz, 2002; Logan et al, 2004). Appendix A shows the list of MSAs included.

### **Data Sources**

The unit of analysis is the metropolitan area. Since residential segregation occurs at many levels there are several possible units of analysis. Following extant research on segregation, this study uses the metropolitan area because it represents the most reasonable approximation of housing markets and is chosen over other units for a couple of reasons (see Iceland et al, 2002 for detailed discussion). First, using the census unit of “place” which represents a town or city is typically considered too small. Individuals may move across or into a nearby neighborhood and would be in a different jurisdiction. Second, the consolidated metropolitan statistical area (CMSA) is too large. For instance, boundaries of the New York

CMSA go from Pennsylvania to Connecticut. Therefore, this analysis estimates measures for primary metropolitan areas.

When measuring racial residential segregation another geographic component necessitates a decision among alternatives. Since there are independent estimates of racial characteristics available for occupied households, census tabulation blocks, block groups, tracts, places, and counties, segregation could potentially be measured using each (see Iceland et al, 2002). For this research the census tract is used as the unit of analysis for calculating residential segregation since it is made to represent neighborhoods, varies little from census to census, and has been used by most recent research (Iceland et al, 2002; Logan et al. 2004).

Data utilized in this study come from three main sources. The segregation data were collected from the American Communities Project (ACP). The ACP (2008) used data from the U.S. Bureau of the Census to create segregation scores across metropolitan areas from 1990 and 2000 (available at [www.s4.brown.edu/cen2000/index.html](http://www.s4.brown.edu/cen2000/index.html)). The U.S. Bureau of Census (1992; 2002) *Summary Tape File 3* from 1990 and 2000 provides the second source of data. These data offer information on population and housing characteristics such as racial composition, employment status, and education. Finally, the National Corrections Reporting Program (NCRP) supplies data on incarceration. The NCRP data give information on offense and offender characteristics and county where the sentence was imposed which allow for aggregation of incarceration data to the metropolitan area. The NCRP data begin in 1983 but few states were involved until the late-1980s. This study uses NCRP data from 1988 to 2000 because this range of years is temporally linked to the change in segregation from 1990 to 2000 – the dependent variable – and before this time period the number of MSAs with sufficient data did not produce a large enough sample.

There are 331 metropolitan areas with segregation data for 1990 and 2000 from the ACP. There are some sampling decisions that reduce the number of metropolitan areas included within this study. First, NCRP data are only available for areas in states that participated.

Second, while some metropolitan areas have some data for all these years – 1988 to 2000 - they do not all include all data since some counties may lie within a state that did not participate for at least one of the years. In this study, an MSA is excluded if it had three or more years with incomplete data. In other words, if an MSA had complete data for all years from 1988 to 2000 they are included. An MSA was also included if it had only one or two years missing complete data. (This is explained more thoroughly below in the section on measurement of variables). The NCRP data allow for three different trends to be used in analyses.

Third, following previous segregation research, this study includes only metropolitan areas with a significant population of black residents. The expected value of our dependent variable – index of dissimilarity (see below) – is not zero under conditions of random assignment if the population of one race is small compared with the number of geographic units used in its calculation (Johnson and Farley 1985; Logan et al. 2004). Therefore, it is not necessary or appropriate to include areas with very few black residents at start or end dates. After metropolitan areas with less than 2% black residents in 2000 were excluded the number of metropolitan areas was further reduced. The sample size for the trend from 1990 to 2000 was 222, while the sample for models using the 1989 to 2000 and 1988 to 2000 trends were 214 and 213, respectively. This is compared with similar work by Logan and colleagues (2004) that included 255 metropolitan areas – all metropolitan areas with sizable black populations in 1980 and 2000.

## Dependent variable

Massey and Denton (1988) show that the measurement of racial residential segregation can occur at five different dimensions: evenness, exposure, concentration, centralization, and clustering. This study will use two of the most common dimensions of segregation: evenness and exposure. Figures 4-1 and 4-2 show two hypothetical metropolitan areas to help conceptualize these two dimensions.

Evenness “refers to the differential distribution of two social groups among areal units in a city” (Massey and Denton, 1988: 284). Furthermore:

Evenness is maximized and segregation minimized when all units have the same relative number of minority and majority members as the city as a whole. Conversely, evenness is minimized, and segregation maximized, when no minority and majority members share a common area of residence. (Massey and Denton, 1988: 285)

This study uses the most common measure of evenness (and segregation in general) the index of dissimilarity. The index of dissimilarity ranges from 0 (complete integration) to 1 (complete segregation) and captures the “percentage of a group’s population that would have to change residence for each neighborhood to have the same percent of that group as the metropolitan area overall” (Iceland et al, 2002). The index of dissimilarity (D) is generated by:

$$D = (1/2) \sum \left| \frac{B_i}{B} - \frac{W_i}{W} \right|$$

Where:

B = the metropolitan black population

B<sub>i</sub> = the black population of tract *i*

W = the metropolitan white population

W<sub>i</sub> = the white population of tract *i*

The second measure of segregation is exposure, which is measured by the interaction index. The interaction index – one index of a group termed P\* - refers to the extent to which minority members are exposed to members of the majority group as the minority-weighted average of the majority proportion of the population in each areal unit (Iceland et al., 2002). The interaction index (P\*) is calculated using the following formula:

$$P^* = \sum \left( \frac{B_i}{B} \right) \left( \frac{Y_i}{T_i} \right)$$

Where:

B = the metropolitan black population

B<sub>i</sub> = the black population of tract *i*

Y<sub>i</sub> = the white population of tract *i*.

T<sub>i</sub> = the total population of tract *i*

In order to analyze change from 1990 to 2000, change scores are created and represent the dependent variables. These are generated for both the index of dissimilarity and exposure by:

$$D\%change = ((D2000 - D1990)/D1990)$$

$$P^* \%change = ((P^*2000 - P^*1990)/P^*1990)$$

Positive change scores for the dissimilarity index indicate increases in segregation and positive change scores for the interaction index indicate decreases in segregation.

### **Independent variables**

From the review of literature, several variables are considered to influence patterns of residential racial segregation between blacks and whites. This study is primarily interested in extending evidence on the influences of segregation shifts by examining the extent they are associated with incarceration trends. In addition to including measures of incarceration, variables that indicate regional characteristics, population size and changes, growth of minority

groups, racial differences in economic status, and suburbanization are included within this research design. The measure of attitudes and preferences are not available at the metropolitan area level so they are not included in this analysis.

The independent variable of most importance to the current study concerns *black incarceration trends*. Black incarceration trends are expected to indicate the extent to which formal and informal mechanisms work to stigmatize blacks across metropolitan areas. To the extent stigmatization occurs, incarceration leads to further housing discrimination, economic disparities, and housing preferences that maintain racial residential segregation across metropolitan areas.

This study is the first to utilize the NCRP data in this fashion. Not only is this the first to test the association between incarceration and segregation using these data, but it is also the first to aggregate the prison data to the metropolitan area. Noting the unique quality and importance of the NCRP data in this analysis, it is important to carefully detail the aggregation and data management process.

The NCRP data were aggregated through a multi-stage process to create rates of incarceration at the metropolitan area level, and in the end, black incarceration trend variables. From Inter-University Consortium for Political and Social Research (ICPSR) annual NCRP data were gathered from publicly available files. These individual-level data contained information on offender characteristics such as offense type, sex, race, date of birth and offense with longest sentence length. Information that identified the county where the sentence was imposed allow for aggregation to the county-level. Counts of incarceration disaggregated by sex, offense type,

and race are then made possible as well.<sup>1</sup> For this particular analysis, black incarceration counts were the only cases used however future analyses could disaggregate by sex or offense type.

After county-level incarceration counts were created for each year, it was then possible to create counts for metropolitan areas. All county-level data from 1988 to 2000 were merged into one data file. In this file, each county that participated in the NCRP at least for one year was included and annual counts were available for all years in which each individual county provided incarceration data to the NCRP. The next step then was to aggregate these county level data to the metropolitan area.

Using a “crosswalk” program provided by MABLE/GEOCORR (Missouri Census Data Center 2009), each county was given its MSA identifier – a number that identified which MSA it belonged to in 2000.<sup>2</sup> Before aggregation to the metropolitan area took place, it was necessary that counties with only complete data for all 13 years between 1988 and 2000 be identified and in turn included in aggregation. If an MSA had a county with missing data for a particular year, that year was excluded for that county. In the end, a MSA was included if it had two or less years of missing data. Therefore, for some metropolitan areas, the trend variable only included eleven years for the 1988-2000 trend, ten years for the 1989-2000 trend, and nine years for the 1990 trend.<sup>3</sup> This strategy was used to exclude inaccurate counts for the entire MSA due to one or more counties missing data for that year. For instance, if a large county in an MSA was missing for one year, it would considerably reduce the total count of incarceration for the MSA.

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<sup>1</sup> Offenders were sometimes given multiple sentences and were then included as two separate cases within the individual level file. Since this study is concerned with the number of people incarcerated and not the total number of sentences imposed, these duplicate cases were found and deleted prior to aggregation.

<sup>2</sup> Some counties FIPS codes – the identification number used by the Census and MABLE/GEOCORR - changed from 1990 to 2000. A notable example is Miami-Dade County. The NCRP used the older codes; throughout, these were manually changed in SPSS in order to merge the MABLE/GEOCORR file to the NCRP file.

<sup>3</sup> This was further reduced for only a few MSAs due to the exclusion of outlying years in the linear trend.

It was useful to keep those MSA with two or less years of incomplete data due to the increase in sample size that resulted. In the 1988-2000 trend there were 197 MSAs with zero years of incomplete, 236 with one or less years of incomplete data, and 255 with two or less years. In the 1989-2000 trend there were 204 MSAs with zero years of incomplete data, 236 with one or fewer years of incomplete data, and 258 with two or fewer years. In the 1990-2000 trend there were 224 MSAs with zero years of incomplete data, 237 with one or fewer years of incomplete data, and 268 with two or fewer years. Therefore in the 1988-2000 trend the samples size was increased by 58 by including those with two or less years of incomplete data, in the 1989-2000 trend 54, and in the 1990-2000 trend there was an increase of forty-four.<sup>4</sup>

Another issue in the aggregation process involved counties whose boundaries straddled metropolitan areas. That is, part of one county may be in one metropolitan area and another part in another metropolitan area. Also, some counties may be partially within a metropolitan area and partially in a non-metropolitan area. In total, across the US there are 33 such counties and they all fall within the New England region. Here a decision had to be made in regards to including these straddling counties or exclude them. The GEOCORR file provides the percentage of a county that falls within a certain MSA; thus we can identify those that do not have 100% of their boundaries within a single MSA. The criterion for inclusion into a metropolitan area was that a county had to have 75% or more of its space within a metropolitan area to be included. This presents missing data issues since a county with 74% of its areal coverage would be excluded from this analysis. Therefore, incarceration data in these metropolitan areas with excluded straddling counties may be underestimated.

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<sup>4</sup> These numbers reflect the sample before those with small black population were excluded.

From this aggregation process, racially disaggregated counts of black incarceration admissions were calculated for metropolitan areas. The file containing metropolitan area counts of incarceration admissions was merged with a file of census data that contained population size information. From this merged file black incarceration rates were generated as:

$$\text{Annual black admission rate} = (\text{total black admissions}/(\text{total black pop}/1000))$$

After annual rates were calculated for each year included within this study it was possible to generate trend variables for the black incarceration rate. In the current study, trend variables are used to indicate the extent to which metropolitan areas have experienced black incarceration across three time periods: 1988 to 2000, 1989 to 2000, and 1990 to 2000.

*Linear trends in black incarceration rates* for metropolitan areas were created using procedures outlined by Singer and Willett (2003:28-33). Essentially, this consisted of creating slope estimates for change in black incarceration rates across each of the three time periods used in these analyses, and in addition an intercept estimate was produced. The primary justification for the use of black incarceration trends as an independent variable is that it provides an intuitive representation of change in black incarceration. Other change trajectories such as quadratic and cubic were considered but these did not produce an optimal variance/covariance structure. In addition, after visually exploring the trends for individual MSAs by plotting them on a graph many trends displayed a relatively linear pattern, yet there was no clear trend that was common across all or most MSAs. Therefore, the decision was to use the linear trend to indicate change in black incarceration rates.

To estimate the within-MSA regression model for each MSA in the data set I regressed black incarceration rate on time for each individual MSA. In this model, the fitted slope estimates the annual rate of change in the black incarceration rate and is clearly the parameter of

most interest as it is the most substantively important independent variable used in the final regression analysis. This model also produced an intercept which indicates the estimated *initial status of black incarceration rate* at the first year of the trend - either 1988, 1989 or 1990 since there are three different trends used in this research design. The initial status variable is included in regression models since the linear trend and the initial status were significantly and negatively related – this indicates that the lower the incarceration rate at the beginning of the time period the more it increased across this span.

Since some annual black incarceration rates may have an influence on the parameter estimates described above, detection of outliers was also conducted. Outlying years for each metropolitan area were defined as those who showed a standardized DFBeta value of 2.0 or greater. These outlying years were deleted (ten metro areas had a year deleted for the 1990-2000 trend, nine metro areas had a year deleted for the 1989-2000 trend, and nine metro areas had a year deleted for the 1988-2000 trend) and subsequent analyses were ran to create new slope and intercept coefficients for MSAs with outlying years and these coefficients were used in the OLS analysis.

### **Control variables**

Regional differences in segregation are expected since previous work illustrates such patterns (Logan et al. 2004; Farley and Frey 1994; Krivo and Kaufman 1999; Massey and Gross 1991). In the Midwest and Northeast segregation has been more pronounced largely due to local governments. The cities of Midwest and Northeast states are generally more surrounded by suburbs that have maintained segregation through local policies and systematic arrangements during the expansion of suburbia (Farley, Danziger and Holzer 2000). In order to assess regional differences, dummy variables were created to distinguish four regions: Northeast, Midwest, South, and West (see U.S. Census Bureau, 2000).

The size of the black population has shown to influence segregation – larger black populations increase the extent of segregation (Logan et al., 2004). Black population size was measured as the percentage of black residents.

$$\%Black = (\# \text{ of black residents} / \text{total population}) * 100$$

In relation, the growth rate of blacks relative to the growth of whites is likely to increase segregation (Logan et al., 2004). The racial threat hypothesis predicts that as minority group populations increase forms of social control such as segregation will increase as a mechanism to combat the perceived social threat (Blalock 1967). The growth rate of blacks less than the growth of whites is generated by:

$$\text{Growth rate of blacks} = (\%black_{2000} - \%black_{1990}) - (\%white_{2000} - \%white_{1990})$$

Black suburbanization is also taken into account as changes in the rate of black in suburban areas may influence segregation across the metropolitan area in general. This influence appears complex; however, it is uncertain whether blacks moving into suburban areas leads to increased integration with white suburban residents or whether clusters of black suburban enclaves develop to maintain or perhaps increase metropolitan segregation. Changes in black suburbanization were generated as 2000 values less the 1990 values.

$$\%Black \text{ Suburb Growth} = (2000\% \text{ of blacks in sub} - 1990\% \text{ of blacks in sub})$$

Percent of new housing is measured to account for differences in housing development across metropolitan areas. Farley (1996) notes new housing across many metropolitan areas may be increasing integration. As more black residents become able to obtain their own home and new housing districts without a history of racial hostility develop, blacks and whites presumably become more mixed into new neighborhoods.

$$\text{Percent New Housing} = (\# \text{ of houses built since 1990}) / \text{total \# of houses}$$

The type of housing may matter here too. That is, to what extent is the new housing low- or middle income? The extent to which new housing is subsidized would be an important figure to include. However, data from the Census do not offer this information.

The change in black income is also included. Past analyses indicate the economic shifts by black residents influence residential segregation patterns (Krivo and Kaufman, 1999). Change in black income is measured as the change in the percentage of black families with middle-income from 1990 to 2000.

$$\text{Change in black income} = (\% \text{ of black families with mid-income in 2000} / \% \text{ of black families with mid-income in 2000})$$

Age of metropolis is also included as Logan and colleagues (2004:13) state that “in older metropolises, many neighborhoods were established when brokers and lenders strictly enforced racist policies, and racial segregation has been the norm for decades. In younger locations, most of the population growth occurred after the Open Housing Law prohibited discrimination.” Many metropolitan areas included in this analysis experienced considerable growth after civil rights laws were passed thus it is important to control for the age of the metropolitan area. Following past research the age of a metropolis was determined by the decade in which the largest central city first reached 50,000 people. Areas were categorized in one of the following: 1900 and before, 1910 to 1940, 1950 to 1960, or 1970 and after (those that do not include a city of 50,000 people or more were placed into the 1970 and after group which was also the reference group).

Population size is also connected to segregation patterns. Specifically, evidence suggests that larger metropolises experience more segregation, although this relationship is not linear.

Here population size is measured as the log of the total number of residents within a metropolitan area in 1990

The functional specialization of a metropolitan area influences the type of people living there, where they live, and varieties of housing available. The economic base that creates and maintains a metropolis varies across areas. For instance, metropolises that include a state capital or an army base will substantially differ from an area that relies heavily on a manufacturing economic base. In order to be categorized into a functional specialization the metropolitan area had to be one or more standard deviations above the national average for 2000. Metropolitan areas above one standard deviation for more than one specialization were placed into the specialization which they had the higher score. Dummy variables were created for each specialization and for those areas that have no specialization (which was the reference group).

Functional specialization was categorized as follows:

*Manufacturing = % of employed workers in manufacturing industry in 2000*

*Government = % of employed workers in local, state or federal government in 2000*

*Military = % of population between 18 and 64 in the armed forces in 2000*

*Retirement = % of population 65 years of age and older in 2000*

*Education = % of population 15 or older enrolled in college in 2000*

Although it might also seem apparent to control for crime rates, this analysis is primarily concerned with the number of people extracted from the community – indicating a measure of stigmatization – regardless of the amount of crime. Thus, in order to create parsimonious models, it is not equally concerned about the rates of crime occurring in these areas.

### **Limitations of the incarceration data**

One important limitation to the NCRP data is that some cases do not include information of the race of the individual admitted to prison. This clearly has implications since the black

admission rate may be over- or underestimated. Appendix B shows the average percent of total cases per MSA that did not offer race information. At the maximum 6% of cases were missing race information for one year while at the minimum .05% of cases were missing race information. Perhaps more importantly, I assessed whether missing race information was correlated with black incarceration rate across MSA per year. I ran correlations for each year for MSA black incarceration rate and found that between 1988 and 2000, in three years MSA black incarceration rate and the MSA percent of race missing were positively and significantly related. In all the other years, there was no significant correlation (see Appendix C). Therefore, in 1995, 1998 and 1999 the higher the black incarceration rate the higher the percent of race information missing per MSA. Noting this significant relationship in these three years these correlations suggest that the black incarceration rate might be misestimated for many metropolitan areas.

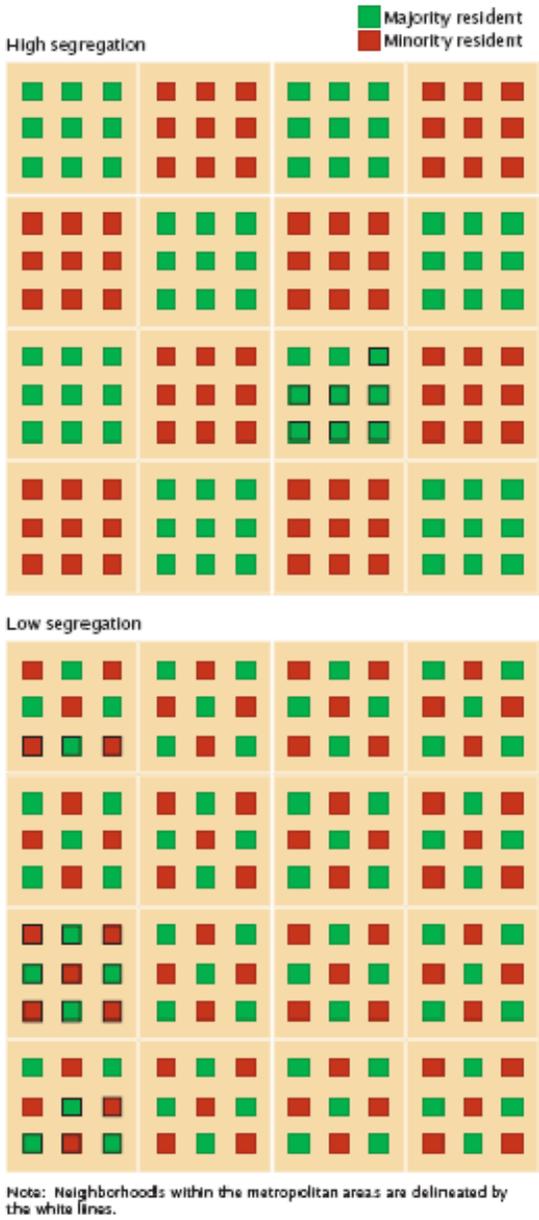


Figure 4-1. Distribution of households within one hypothetical metropolitan area with high segregation and one with low segregation: Dissimilarity index (evenness). Adopted from Iceland et al. 2002.

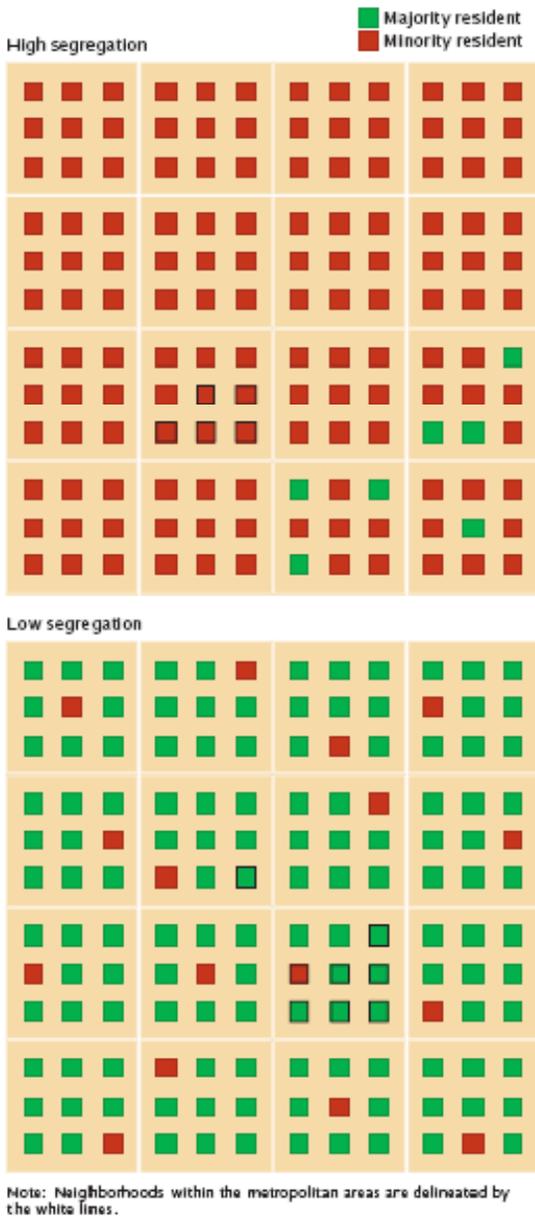


Figure 4-2. Distribution of households within one hypothetical metropolitan area with high segregation and one with low segregation: Interaction index (exposure). Adopted from Iceland et al. 2002.

## CHAPTER 5 DESCRIPTIVE STATISTICS

### **Introduction**

This chapter provides descriptive statistics of the dependent and independent variables. It also describes data for the individual years used in the NCRP data. In the regression analyses that follow, there were three trends used as the main independent variable. Trends from 1990 to 2000, from 1989 to 2000, and from 1988 to 2000 were all used to indicate changes in black incarceration rates. The amount of MSAs with valid data varies, which leads to differences in sample sizes used across the different models. The sample size for the 1990 to 2000 is 222, while the sample size for the 1989 to 2000 and 1988 to 2000 trends are 214 and 213, respectively. The descriptive statistics (in Tables 5-4 and 5-5) below are calculated using the sample used for the 1990 to 2000 trend, the largest sample. Subsequent analyses showed that no substantial differences for the descriptive statistics for the other two samples; therefore they are not shown to guard against redundancy.

### **Descriptive Statistics**

Table 5-1 shows the mean annual rate of black incarceration across the MSAs with complete data for each year. The rates increase across the time period from 1988 to 2000 with a minimum of 5.85 in 1988 to a maximum of 10.15 in 2000. Figure 5-1 also reflects this trend. These descriptive statistics coincide with other research on incarceration trends and tell us that black incarceration rates were increasing fairly consistently across this time span.

Table 5-2 shows the descriptive statistics for each of the three trends and the coinciding initial status variable – the intercept of the linear trend equation - that are independent variables in the regression analyses that follow. The linear trends become steeper as the trend goes back in time. The 1988 to 2000 trend has a mean of .27, while the 1989 to 2000 and the 1990 to 2000

trends have means of .22 and .19, respectively. Similar to descriptive statistics in Table 5-1, the trends show that black incarceration rates were increasing during these time periods. As the minimum values of the linear trends show, in this period of increasing black incarceration there were MSAs that experienced decreasing trends as well. Table 5-3 shows that most areas experienced increases in black incarceration rates. That is, the first three quartiles all averaged an increase in black incarceration, with the fourth quartile of MSAs experiencing an average declining trend.

As the descriptive statistics in Table 5-4 indicate changes were occurring from 1990 to 2000 in terms of economic measures, housing, growth rates of black populations, and residential segregation between blacks and whites. Referring to the dependent variable first, on average segregation decreased across these metropolitan areas. This is similar to other research on segregation during this time period that used a full sample of all MSAs<sup>1</sup> (Logan et al., 2004). The mean dissimilarity index dropped about 4% from 59.17 to 55.18 from 1990 to 2000, showing that areas became more integrated. In addition, the change in the interaction index (p\*) from 7.59 to 8.73 indicates that whites became less isolated from blacks. The average reduction in segregation across this set of metropolitan areas is important to consider when considering that we might expect increases (or smaller reductions) as black incarceration increases. Again, the positive changes in the interaction index and negative changes in the dissimilarity index indicate reductions in segregation.

The rate of black population rose 6.7% on average and the percentage of black residents in suburban areas rose by .64%. The initial black population size measured in 1990 ranged from

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<sup>1</sup> Logan and colleagues (2004) found that the decreases in segregation from 1990 to 2000 were much smaller than those from 1980 to 1990. These statistics show us that, on average, black incarceration was increasing while segregation was decreasing. This may lead to the inference that black incarceration and segregation could possibly have a negative association. The regression analyses that follow will allow an estimate of the association within individual units while taking into account other ecological variables.

.9% to 45.6%. The change in the percentage of black residents with middle incomes also had a mean increase of .25%, although some areas experienced a substantial decrease on this measure. The 1990 population size of this sample ranged from 68,956 to over 8.8 million. These changes have theoretical importance in light of research on segregation which expects that growing black populations often lead to increased efforts to maintain segregation.

This study includes various dummy variables in order to account for variation in the age of metropolitan areas, the functional specialization, and regional differences. In Table 5-5 information regarding the dummy variables is presented. As it shows about one-fifth of MSAs developed before the turn of the twentieth century and half developed after 1970 or never accumulated a large central city. Also, over half of the areas do not have an economic functional specialization, while there are between 6 and 9% of metropolitan areas with manufacturing, government, military, retirement, or education specializations. Slightly over half (51%) of MSAs in this sample are in the South, 20% are in the Midwest, 15% in the West, and 14% in the Northeast.

### **Conclusion**

The descriptive statistics for the dependent variable, independent variables, and control variables show important details about changes in residential segregation, black incarceration rates, and other metropolitan characteristics. There is variation in the change in segregation across this sample of metropolitan areas. On average most areas experienced a reduction in black-to-white segregation. In addition, metropolitan areas experienced varying levels of black incarceration trends. The overall trend (Figure 5-1) for this sample shows that black incarceration rates increased continually from 1988 to 2000. The next chapter will discuss the multivariate results in order to determine whether trends in black incarceration rates are

associated with changes in racial residential segregation while controlling for other ecological variables.

Table 5-1. Annual rate of black prison incarceration per 100,000 black residents across metropolitan areas with 2,500 black residents.

Year	N	Rate
1988	211	5.85
1989	202	7.02
1990	214	7.81
1991	214	8.10
1992	222	8.47
1993	222	8.41
1994	222	8.73
1995	222	9.16
1996	222	8.85
1997	214	9.32
1998	222	9.83
1999	200	10.00
2000	201	10.15

Table 5-2. Estimated linear trends and initial status of black incarceration rates.

	N	Min	Max	Mean	St Dev
Estimated initial status 88-00		-0.46	30.35	6.97	4.28
Estimated linear trend 88-00	213	-1.46	3.61	0.27	0.64
Estimated initial status 89-00		0.59	29.76	7.55	4.23
Estimated linear trend 89-00	214	-1.69	3.60	0.22	0.67
Estimated initial status 90-00		0.55	29.24	7.93	4.14
Estimated linear trend 90-00	222	-2.15	3.61	0.19	0.69

Table 5-3. Linear trend from 1990-2000 categorized into quartiles.

Linear trend	Min	Max	Mean
1 <sup>st</sup> quartile	.52	3.61	.8977
2 <sup>nd</sup> quartile	.16	.52	.2923
3 <sup>rd</sup> quartile	-.13	.16	.0217
4 <sup>th</sup> quartile	-2.15	-.14	-.5507

Table 5-4. Descriptive statistics for dependent and control variables

	Minimum	Maximum	Mean	Std. Deviation
Dissimilarity change 90-00	-25.52	9.70	-6.79	5.61
<i>Dissimilarity w/b 1990</i>	26.13	87.48	59.17	12.20
<i>Dissimilarity w/b 2000</i>	23.21	84.72	55.18	11.96
P star change 90-00	-0.26	0.95	0.21	0.18
<i>p star w/b 90</i>	0.80	30.93	7.59	6.19
<i>p star w/b 00</i>	1.18	35.02	8.73	6.78
Black suburbanization 90-00	-11.36	7.30	0.64	1.59
Population 1990	68,956	8,862,948	707,496	1,157,242
Percent black 1990	0.9	45.60	12.74	10.40
Black growth rate 90-00	-3.51	23.55	6.70	3.45
Change in % black with mid-income	-20.68	8.47	0.25	3.97
Percent New Housing 90-00	4.45	40.42	17.95	6.96

N=222

Table 5-5. Descriptives of dummy variables.

Variable	Percent of MSAs
1900 and before	21%
1910-1940	29
1950-1960	14
1970 and after	46
Manufacturing	16
Government	9
Military	6
Retire	9
Education	8
No function specialization	51
Northeast	14
Midwest	20
South	51
West	15

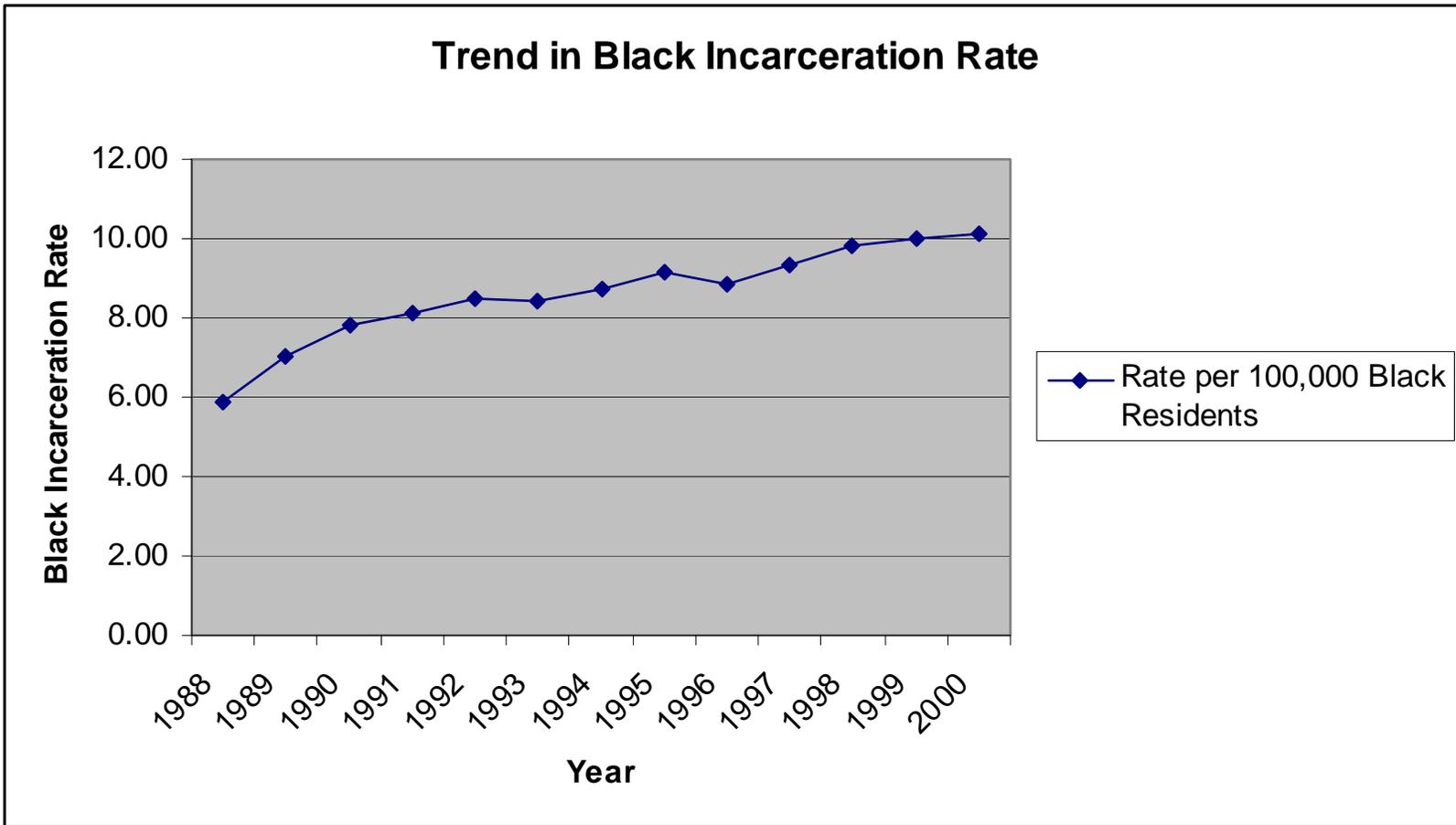


Figure 5-1. Trend for black incarceration rate.

## CHAPTER 6 MULTIVARIATE ANALYSIS

### **Introduction**

The primary analytic strategy used in this study will be ordinary least squares (OLS) regression. Following similar analyses of residential segregation using ecological predictor variables at the metropolitan area-level, OLS allows an examination of multiple influences on patterns of segregation. To test the hypothesis that black incarceration rates are associated with segregation changes I regress residential segregation change scores on black incarceration trends controlling for the ecological measures described above.

Models are weighted by the percentage of the residents that are black, thus making areas with higher percentages of black populations more heavily weighted. According to Logan, Stults and Farley:

The index of dissimilarity is statistically independent of the relative size of the two groups used in its composition (Zoloth 1976). Thus, indexes of dissimilarity for metropolises with small black populations may be compared to those for locations with many blacks. However, if mean indexes of black-white segregation are intended to describe the typical extent of segregation for blacks, these indexes should be weighted by the relative size of the black population. (2004: 6)

Again, those MSAs with less than 2% black in 2000 were excluded. For instance, Bismarck, ND was excluded because it had only a small number of black residents amounting to less than 1% of its population.

Finally, I emphasize that the extent to which we can claim causal effects remains limited due to the reciprocal nature of relationships between variables included in models that predict segregation. For instance, there is strong evidence that as racial residential segregation increases crime rates increase, which in turn could impact incarceration rates (Peterson and Krivo, 1999; Madden, 2001). The incarceration of large numbers of black residents could also lead to the coercive mobility of black families out of areas where gentrification is taking hold. Noting the

reciprocal characteristics of the black incarceration-segregation relationship, the results of this analysis are to be interpreted as correlational in nature.

### **Examining Regression Assumptions**

#### **Detecting Outliers**

In order to examine whether there were influential outlying cases, distance measures and influence statistics were obtained. An examination of leverage measured the difference between each case's value on X relative to the difference between the rest of the cases' values on X and the mean of X. The analysis of leverage showed no outliers. The studentized residuals were also examined in order to measure the size of the standardized residuals when removing case *i* from the denominator of the t-ratio. The assessment of studentized residuals also revealed no outliers. A Cook's distance measure was also created to find the overall change in the regression coefficients when case *i* is omitted from the analysis. This analysis showed no outliers as well. The DFBETA influence statistics measured the impact of individual cases on the regression results and showed that the slope coefficient for the black incarceration linear trend was affected by two MSAs: Binghamton and Honolulu. Models were ran without these two cases and the coefficient for black incarceration only changed by .002 and significant levels were only marginally changed. Due to these rather small changes and the substantive interest of including these cases, they were kept in the final analyses.

#### **Multicollinearity and Heteroskedasticity**

In macro-level research such as this multicollinearity is fairly common. In order to assess the extent of the OLS regression assumption that independent variables are uncorrelated, multicollinearity diagnostics were performed. Collinearity was found to exist among a number of independent variables.

The variance inflation factor (VIF) for each independent variable was found in order to examine the extent of variance inflation as a result of multicollinearity. Here, VIF values of 2.50 are problematic (Allison, 1999). In addition, tolerance (TOL) scores were examined to show the unique variance in each independent variable that is not shared with the other independent variables in the model. Allison (1999) suggests that tolerance scores of .40 and below are problematic.

For the 1990 to 2000 trend model (Model 1), the logged population size control variable was excluded from the reported model due to significant levels of multicollinearity caused primarily by the inclusion of logged population size – logged population had a tolerance score of .299 and the metropolitan age pre-1900 dummy variable had a tolerance of .284. Importantly, the inclusion of logged population size reduced the black incarceration trend coefficient to non-significance. While collinearity remained among the 1990 index of dissimilarity (VIF=2.78; TOL=.36) and percent black (VIF=2.60; TOL=.38) these important control variables were included to ensure appropriate model specification. In addition, when these two variables were excluded in a subsequent model, the coefficient for the black incarceration slope only changed marginally from -.633 to -.681.

Similar to Model 1, for the 1989 to 2000 trend model (Model 2) the logged population size control variable was excluded from the reported model due to significant levels of multicollinearity caused primarily by the inclusion of logged population size – logged population had a tolerance score of .289 and the metropolitan age pre-1900 dummy variable had a tolerance of .273. Again, the inclusion of logged population size reduced the black incarceration trend coefficient to non-significance. While collinearity remained among the 1990 index of dissimilarity (VIF=2.80; TOL=.36), pre-1900 dummy variable (VIF=.38; TOL=2.61) and

percent black (VIF=2.62; TOL=.38) these important control variables were included to ensure appropriate model specification. In addition, when these variables were excluded in a subsequent model the coefficient for the black incarceration slope only changed marginally. In Model 3, similar outcomes occurred when collinearity was assessed. Therefore, the reported model does not include logged population. While this is an important variable to think about when examining influences of segregation, the inclusion of the age of metropolitan area is highly correlated to population size – the older an area is generally leads to a larger population size.<sup>1</sup>

Heteroskedasticity tests were performed to examine the assumption of constant error variance. In OLS regression it is important to test the extent to which the size of the residuals increase or decrease systematically with the value of one or more of the independent variables. A White's test was conducted and results indicate that there was not a significant level of heteroskedasticity (McClendon, 1994:178-195).

### **Accounting for Change in the Dissimilarity Index from 1990-2000**

In Table 6-1 the results of a zero-order correlation are presented. For two of the three black incarceration trends there is a positive relationship with changes in dissimilarity index. This indicates that as black incarceration trends increase, dissimilarity index scores also increase, or that segregation between blacks and whites increase. This is in the direction that would be expected. However, to examine the relationship further control variables must also be taken into account.

Models 1 through 3 in Table 6-2 present the unstandardized coefficients and standard errors for the black incarceration trend and control variables. Negative coefficients show that the

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<sup>1</sup> The results of colliearity are in regards to the model using the dissimilarity index. Those for the interaction index had very similar results when collinearity diagnostics were evaluated. The decision to exclude log population was made to guard against severe influence of collinearity.

variable was associated with decreases in segregation. Model 1 uses the incarceration data from 1990 to 2000, model 2 uses incarceration data from 1989 to 2000, and model 3 uses data from 1988 to 2000. After examining the hypothesis that the black incarceration trend would have a positive association with residential segregation it is clear that this hypothesis is not supported. For models 1 through 3, while controlling for the initial level of black incarceration and other ecological variables, it was found that as the trend in black incarceration rate accelerates residential segregation between blacks and whites decreases across this sample of metropolitan areas. Recall that positive relationship indicates more segregation. When examining each model separately, the unstandardized coefficients for the black incarceration trend are always negative and they become larger as the time period included more years. For Model 1 the unstandardized coefficient equals  $-.633$  ( $p < .01$ ), for Model 2 it is  $-.795$  ( $p < .01$ ) and for Model 3 it equals  $-1.062$  ( $p < .01$ ). These coefficients are in the opposite direction of the hypothesized relationship, yet they yield interesting results that will be discussed further in the following chapter. Meanwhile, the results regarding the control variables must be discussed to fully interpret the models.

As stated earlier, research suggests that many ecological variables may influence patterns of residential segregation across metropolitan areas. Therefore many control variables were included in the various models. (Since models 1 through 3 show consistent findings in regards to the coefficients for the control variables and the dependent variable this section will speak directly toward only model 1, unless otherwise stated, to avoid redundancy.) First, the initial status of black incarceration was included and has a negative and significant association ( $-.318$ ,  $p < .01$ ) with change in segregation. This shows that high initial levels of black incarceration were associated with larger reductions in segregation.

Beyond black incarceration trends and its initial status, other variables have associations with segregation change from 1990 to 2000. The percentage of black residents ( $B = .063$ ) was significantly and positively related to segregation change indicating that the more a metropolis is made up of black residents the less integration it experienced during this time period. This is consistent with previous research (Logan et al. 2004). Black suburbanization ( $B = .285$ ) also showed a significant and positive association. Somewhat surprisingly, as black suburbanization increases, residential segregation also increases. Although some research suggests that as blacks move to suburbs there will be reductions in segregation, others state that certain black enclaves will simply develop. This finding favors the latter. The increase in blacks with middle income had mixed findings between models. While in Model 1 the association was not significant, Models 2 and 3 indicate there was a positive and significant association between change in the percentage of blacks with middle income and segregation change ( $B = .112$  and  $B = .120$ , respectively). Much like the above finding in regards to black suburbanization, this finding suggests that changes in areas of housing and income levels may simply not reduce segregation but reproduce clusters of black neighborhoods seen in the central city or poorer areas. Similar to past research (Logan et al. 2004), the level of segregation in 1990 has a negative and significant relationship ( $B = -.045$ ) with changes in segregation. This suggests that there might be a pattern of regression toward the mean. The growth rate of blacks did not have significant association with segregation change in any of the models.

As stated above, past research has also suggested that amount of new housing may influence segregation patterns. The results show that the percent of new housing in a metropolitan area is significantly associated ( $B = -17.613$ ) with a reduction in residential segregation. Again this is similar to earlier research (Logan et al., 2004). The age of

metropolitan areas, the functional specialization and region also show associations with segregation changes. Areas which developed during the middle of the twentieth century from 1910 to 1960 experienced significantly fewer reductions in segregation compared with newer metropolitan areas. The oldest metropolises – those that developed before 1900 –also experienced fewer reductions in segregation, but this association was only statistically significant for model 1. Compared with metropolitan areas with no functional specialization (the reference category) those with manufacturing and government based economies, and retirement communities experienced larger reductions in segregation. Meanwhile, areas with larger educational communities and military personnel experienced significantly fewer reductions in segregation during this time period. Regional differences were also shown. In comparison with the South, Midwestern metropolitan areas experienced larger reductions in segregation, while there was no significant difference between the South (the reference category) and the West or Northeast. This finding is somewhat contrasting with earlier work by Logan and colleagues (2004).

Besides this last finding, many of the associations are similar in significance and direction when compared with research by Logan and others (2004) which examined segregation change from 1980 to 2000 as opposed to change from 1990 to 2000 as the current study did. Thus, we can be fairly confident that the results of this analysis which utilized a reduced sample of metropolitan areas are representative. The most interesting finding, of course, is the negative association between black incarceration trend and segregation change. This is the opposite of the hypothesis, but again, leads to interesting methodological and theoretical questions that are discussed further in the next chapter.

### **Accounting for Change in the Interaction Index from 1990-2000**

In Table 6-1 the results of a zero-order correlation are presented. For two of the three black incarceration trends there is a positive relationship with changes in interaction index. This indicates that as black incarceration trends increase, interaction index scores also increase, or that segregation between blacks and whites decrease. This is in the opposite direction that was expected. In addition, this signals different findings that were found in the zero-order correlations that included the dissimilarity index. This finding suggests that the two measures of segregation change indicate two different processes. The multivariate results discussed below detail findings when other control variables were included.

Table 6-3 presents coefficients and standard errors which are the results of models when the change in the interaction index was regressed on black incarceration trends and the control variables. These models were included in this study to examine the extent to which black incarceration trends are associated with segregation, and to see if there were different outcomes when another measure of segregation was used. The interaction index measures the extent to which whites are exposed to black residents across metropolitan areas. An increase indicates more integration, thus positive coefficients indicate that the variable was associated with a decrease in segregation. Similar to the previous models using the dissimilarity index, the results show that increasing black incarceration trends are significantly associated with decreases in residential segregation. More specifically, in those areas experiencing steeper increases in black incarceration white residents became more exposed to black residents. Once again, this is in direct contrast to expectations and the theoretical importance of this finding will be discussed in the following sections.

The models also show similar results in regards to most of the control variables. For instance, in areas with high percentages of blacks there was an increase in segregation. Also, the percent of new housing had a significant association with change in segregation. That is, increases in new housing were associated with decreases in segregation. In these models with change in exposure as the dependent variable some of the dummy variables that indicated functional specialization showed consistent finding compared with the previous models that used dissimilarity index. Manufacturing, government, and retirement areas show significantly more integration compared with those with no functional specialization.

When examining differences between models using the dissimilarity index and interaction index, some of the relationships changed. The initial status of black incarceration no longer is significantly associated in the interaction index models. This indicates that the black incarceration rates at the beginning of the period are not related to the extent to which segregation changed from 1990 to 2000. In addition, the age of the metropolitan area was significant but in the opposite direction as before. Older areas tended to experience increases in exposure between whites and blacks compared with the younger areas.

Table 6-1. Zero-order correlations for segregation change and incarceration trends.

	1988-00	1989-00	1990-00
Change in dissimilarity	.03	.05*	.06**
Change in p star	.10**	.10**	.12**

Notes: \* $p < .05$ , \*\* $p < .01$

Table 6-2. Regression estimates for change in residential segregation (dissimilarity) on three trends in black incarceration rates and control variables.

Variables	Model 1		Model 2		Model 3	
	B	SE	B	SE	B	SE
Black incar trend	-.633**	.193	-.795**	.220	-1.062**	.243
Black incar initial status	-.318**	.029	-.335**	.031	-.351**	.032
Black growth rate 90-00	.022	.029	.012	.031	.015	.031
Percent Black	.063**	.011	.068**	.012	.065**	.012
Black suburbanization	.285**	.049	.254**	.053	.255**	.053
Change in mid-inc blacks	.054	.034	.112**	.035	.120**	.036
% new housing 90-00	-17.613**	1.685	-18.931**	1.898	-19.331**	1.902
Dissimilarity 1990	-.045**	.011	-.048**	.011	-.047**	.011
1900 and before	.853**	.316	.365	.338	.397	.345
1910-1940	.924**	.244	1.048**	.262	1.035**	.263
1950-1960	1.668**	.272	1.804**	.296	1.785**	.297
1970 and after	***		***		***	
Manufacturing	-1.286**	.268	-1.822**	.282	-1.834	.283
Government	-.674*	.291	-1.541**	.317	-1.526**	.318
Military	1.821**	.384	1.132**	.397	1.097**	.398
Retirement	-2.685**	.449	-2.597**	.468	-2.568**	.468
Education	1.745**	.360	1.150**	.370	1.191**	.372
No functional specialization	***		***		***	
Northeast	-.226	.393	-.213	.421	-.370	.428
Midwest	-1.026**	.357	-.958*	.378	-1.057**	.383
West	-.478	.474	-.243	.485	-.269	.488
South	***		***		***	
Constant	1.074	.883	1.881*	.926	1.969*	.929
Adjusted R <sup>2</sup>	.221		.218		.219	
N	222		214		213	

Notes: \* $p < .05$ , \*\* $p < .01$

Table 6-3. Regression estimates for change in residential segregation (interaction) on three trends in black incarceration rates and control variables.

Variables	Model 1		Model 2		Model 3	
	B	SE	B	SE	B	SE
Black incar trend	.026**	.004	.023**	.005	.024*	.006
Black incar initial status	-.001	.001	-.001	.001	-.002**	.001
Black growth rate 90-00	.012**	.001	.013**	.001	.013**	.001
Percent Black	-.001*	.001	-.001*	.001	-.001*	.001
Black suburbanization	.004**	.001	.004**	.001	.004**	.001
Change in mid-inc blacks	.003**	.001	.002*	.001	.002**	.001
% new housing 90-00	.110**	.001	.191**	.043	.182**	.043
Interaction 1990	-.001*	.001	-.001	.001	-.002	.001
1900 and before	.003	.007	.020**	.001	.021**	.008
1910-1940	.019**	.005	.024**	.006	.024**	.006
1950-1960	.023**	.006	.024**	.007	.024**	.007
1970 and after	***		***		***	
Manufacturing	.003	.006	.016*	.007	.016*	.007
Government	.037**	.007	.045**	.007	.045**	.007
Military	-.005	.008	.009	.009	.008	.009
Retirement	.147**	.010	.158**	.011	.158**	.011
Education	-.013	.008	-.001	.008	.000	.008
No functional specialization	***		***		***	
Northeast	.070**	.009	.074**	.010	.071**	.010
Midwest	.129**	.008	.134**	.008	.132**	.009
West	-.027*	.011	-.027*	.011	-.028*	.011
South	***		***		***	
Constant	.050**	.012	.017	.014	.020	.014
Adjusted R <sup>2</sup>	.394		.399		.398	
N	222		214		213	

Notes: \* $p < .05$ , \*\* $p < .01$

## CHAPTER 7 DISCUSSION OF STATISTICAL RESULTS

The results described above show that black incarceration trends are negatively associated with racial residential segregation while controlling for the initial level of black incarceration and other ecological variables. That is, the more that black incarceration was increasing during the nineties the more segregation dropped, or the more integration took hold. However, the zero-order correlation – using the dissimilarity index – shows a complex relationship between incarceration trends and segregation change. Even though increases in segregation were occurring alongside increasing black incarceration across metropolitan areas, there were other factors that affected the nature of this relationship.

After reviewing these results, I propose a few potential ways to interpret these interesting findings. At the macro-level, a primary difficulty which researchers face is trying to empirically disentangle all the possible social forces that lead to certain outcomes. Here, I offer theoretical interpretations of the associations found in the results above. These interpretations may help identify additional variables that should be incorporated into future research.

First, I argue that concentrated black incarceration is related to gentrification of urban areas. The gentrification-crime control relationship discussed sporadically across studies (Freeman, 2006), but often goes unrecognized in criminological research. Gentrification presents a different form of segregation compared with traditional measures of segregation such as those utilized in this study. Gentrification occurs when an area in the central city has experienced disinvestment over a fairly long period of time then experiences a period of reinvestment along with the in-migration of a new group of

residents into a low-income neighborhood. Generally, gentrification includes neighborhoods and commercial areas that cater to a group of largely white residents with a higher level of affluence than the established minority residents of the neighborhood. Just as black residents may relocate suburban enclaves, certain groups of whites have shifted to central city locations.

The ability of a metropolitan area to gentrify neighborhoods might be seen as the product of the power of a social class to enforce its ability to transform neighborhoods to fit its commercial and residential needs (Wacquant, 2008; Sanchez-Geraci, 2009). In order for many urban areas to be gentrified and revitalized – i.e. the in-migration of young, mostly white, middle-class residents – during the 1990s, strong crime control strategies may have often been a necessary condition. According to the popular theory of the “Creative Class” developed by Richard Florida, many old urban areas have been revitalized by a growth of gentrified neighborhoods that attract the Creative Class, the new class of people employed in research, art, and technology who have revitalized urban areas by residing in bohemian-friendly areas. Seattle, Portland, and San Francisco make up a few of the exemplar cities in this movement (Florida, 2002).

In preliminary investigations, most of these metropolitan areas that attract the creative class have some of the highest black incarceration trends throughout the 1990s. Using the same NCRP dataset, creative class cities Seattle, San Francisco, and Albany had black incarceration rates well above the mean during the 1990s. Meanwhile, metropolitan areas that have failed to develop much urban revitalization during the 1990s, such as Buffalo and Detroit, have well below-average black incarceration rates

during this time period. Perhaps, arresting and incarcerating black populations in these areas are necessary conditions for many urban areas to experience a “revitalized image.”

Second, since the association between crime control and residential segregation is a reciprocal one, integration could be leading to more punitive control than first expected. While the 1980s and 1990s consisted of residential integration between whites and blacks, there were also dramatic increases in prison admissions. The racial threat theory of race relations expects that when minority groups acquire power and dominant groups perceive a loss of privilege, more severe control and punishment toward minority groups will follow (Blalock, 1967; Hawkins, 1987). The analysis above was unable to tease out temporal ordering to directly examine the effect of black incarceration on residential segregation, thus we must also consider the forces that residential integration might have on crime control. In light of these findings, future research on the regional or macro-level influences of incarceration patterns should take shifts in segregation of blacks and whites into account.

Third, these contradictory findings could have occurred due to mismeasurement of key variables. Both the measurement of the dependent variable and black incarceration trend independent variable are in need of further examination. In regards to the dependent variable, change in segregation, the measurement of segregation change is measured in the standard and appropriate way. However, upon further thought, the extent to which it reflects the reproduction of the extremely poor, isolated and concentrated black neighborhoods is not as clear. In his theoretical statements, Wacquant (2009) details the severe marginalization of poor, black urban communities as a result of mass incarceration. The measures of segregation used here simply provide an estimate in

regards to the overall racial residential segregation that happens across entire metropolitan areas. More refined measures of the segregation of this marginalized group is likely necessary in order to provide an adequate quantitative analysis of hypotheses that emerge from this theoretical perspective on punishment and society. Future research should attempt to explore how the concentration and isolation of such neighborhoods may change as a result of incarceration trends. .

In addition, the utility of NCRP data to indicate incarceration estimates needs to be examined further. As stated in earlier sections, there are limitations. This initial use of an incarceration measurement at the metropolitan area-level attempted to push this area of research further and similar to many other new methodological tools its validity must be further explored. For instance, the use of a linear trend may create complications due to the evidence that not all MSAs experienced a linear trend of black incarceration during this period. More discussion of these issues follows in the next chapter.

The empirical results show interesting findings that direct this line of research to further investigate the nature of the relationship between residential segregation and incarceration trends. For a long time, theoretical arguments have stated the connections between social control and race relations. Currently, we now see an upward trend in incarceration that is over three decades long; meanwhile we experience a complex state of race relations. In order to understand race relations in the US, we must understand its connections with crime control, and to understand crime control we must understand race relations.

CHAPTER 8  
LOOKING BACK AT METHODOLOGICAL SHORTCOMINGS

**Assessment of the National Corrections Reporting Program Data**

In Chapter 4, the process of creating the incarceration trend variables was outlined. In addition to testing the theoretical relationship between segregation and incarceration a primary contribution of this study was to advance the area of research on macro-criminology, particularly research on causes and consequences of incarceration trends across metropolitan areas. In this chapter, I underline the contributions, shortcomings, and potential of these data.

The newly developed aggregation to the metropolitan area level is advancement over previous work which typically used state- or county-level measures of incarceration. Many criminological studies analyze relationships across metro areas since they are often considered a unit of communities that share many common experiences. Research has clearly illustrated the importance of community-level consequences of mass incarceration on family life and poverty (Clear, 2007). Yet, at the macro-level, many hypotheses from this research remain untested. As incarceration measures develop further, they can be used to test relationships between incarceration and poverty, family variables (i.e. female-headed households), and other housing patterns such as gentrification. For instance, these macro-level data could be disaggregated by gender to examine if there were unique patterns across female incarceration. Also, data can be disaggregated by offense type to examine whether drug admissions are determined by different social factors compared with admissions for violent or property offenses.

Another quality of these data is their national representation. While not all states participated and the earlier years of this dataset do not include as many states as later

years, most states did participate and we can gain valuable estimates across regions of the United States.

At the end of this project, a collection of problematic methodological issues were gathered in regards to the NCRP data on prison admissions. Although the aggregation of these data is a contribution that offers researchers a new methodological tool, there are some issues that need to be recognized in future studies. As stated in Chapter 4, the unavailability of race information for many cases limits the validity of our racially disaggregated admissions variables, and importantly these are correlated with black incarceration rates (see Chapter 4). There are other methodological issues that arise in the NCRP that future studies will have to consider. Since the NCRP data are little-used in this way, I now offer descriptions of a few pointed issues and suggestions for future research.

The analyses above suggest that the hypothesis that black incarceration increases racial inequalities in housing is not supported. Upon further reflection, one of my primary interpretations of the results is that the methodological tools used in this initial analysis need improvement. First, the measure of change in incarceration is a difficult one to conceptualize. Which time frame of incarceration may have had a larger effect - the 1980s, the 1990s, both? Future analyses must explore how incarceration rates during different periods may have associations with changes in segregation. Although the linear trend variable provided a general indication of change, it included weakness largely because the change was not linear for many of the metropolitan areas. For instance, curvilinear trends are seen in many areas of North Carolina which experienced dramatic

increases in the early half of the 1990s but then saw severe declines after 1994 following changes in sentencing law.

In addition, some prison admission cases do not include information regarding the county of admission which disallows this study to include these cases since aggregation to the MSA is not possible without a county identifier. As Table 8-1 indicates, in the earlier years from 1988 to 1991 there were around 9% of cases for each year that did not have a county identifier which disallowed aggregation and thus inclusion into this analysis. In the middle of the range of years from 1992 to 1998, the percent of those missing a county identifier substantially dropped to around 3.5 per year to as low as 1.37. However, in 1999 and 2000 this percentage increased to around 7% of cases without a county identifier. This appears to have the potential to have serious implications upon the measure of black incarceration trends. Clearly, the trend could be misestimated if the rate of incarceration was artificially low in the early years, fairly accurate during the middle years, and again was artificially low during the end of the trend.

Another limitation is that there are fewer states that provide data in the 1980s – when incarceration rates were increasing largely due to drug control. This study initially examined rates during this earlier period and it was decided that the reduction in sample size was substantial enough to only examine change from 1988 to 2000. This has important theoretical implications since the imprisonment rates began their upward trend in the 1970s and became increasingly racially disparate in the 1980s. Therefore, perhaps many of the racialized effects of mass incarceration were already experienced prior to the 1990s.

## Measuring Housing Changes

The measurement of changes in housing patterns must also be explored further. This study hypothesized that at the metropolitan area-level residential segregation between blacks and whites would increase as black incarceration rates increased. Residential segregation – measured by the dissimilarity index and the interaction index – was meant to be an indicator of racial inequality. While it remains an indicator of racial inequality, it may not be measuring the exact type of housing patterns that result from permeating crime control that we observe within changing urban areas.

I offer two suggestions for other indicators of residential changes. First, gentrification might also be a part of the equation here. One potential reason the hypothesis was not supported could be related to the neighborhood integration that occurs during periods of gentrification. While gentrification also entails social inequalities across racial and ethnic lines, it is likely to be associated with lower segregation scores as they are measured in the current study. Recent research has utilized measures of gentrification using data from the Neighborhood Change Database across metropolitan areas (Sanchez-Geraci, 2009). This database could be a fruitful addition to this line of research.

Second, segregation of extremely poor, black neighborhoods could also be included. The measures included in this analysis did not take the isolation of poor, black communities into account. The inclusion of economic measures alongside race in order to account for the intersectionality of race and class could provide a more nuanced measure of the extremely isolated communities that Wacquant has theorized on. Perhaps the influence of incarceration is unique when analyzing segregation of this specific group.

Table 8-1. Percentage of cases without county identification per year.

<u>Year</u>	<u>%</u>
2000	6.50
1999	7.27
1998	2.41
1997	2.58
1996	1.53
1995	1.37
1994	3.55
1993	3.34
1992	3.13
1991	9.03
1990	8.56
1989	9.12
1988	9.83

CHAPTER 9  
DISCUSSION OF THE RECIPROCAL NATURE OF THE CRIME CONTROL-  
RACIAL INEQUALITY RELATIONSHIP

**Introduction**

The results from the methodological approach used above did not support the hypothesis that larger increases in black incarceration rates were positively associated with racial residential segregation. Therefore we must theoretically examine these results and try to explain the finding that racial integration was actually associated with black incarceration trends. The hypothesis was based primarily on the premise that imprisonment of large numbers of the black population leads to stigmatization- through both informal (i.e. neighborhood perceptions of crime) and formal social mechanisms (i.e. loss of employment rights). In response to the opposite findings the argument could be made that imprisonment has lessened stigma and allowed for more opportunities among black Americans as a whole. This is difficult to believe in light of research that states otherwise (Pager, 2007; Western, 2006).

My argument is that the system of mass incarceration has been influenced by and an influencing force upon patterns of racial inequalities across metropolises of the U.S. The test of the segregation-incarceration association at the metropolitan-area level is a difficult one to examine. Some neighborhoods may become more highly black and poor due to crime control while others become gentrified. The findings suggest a complex set of reciprocal interactions between imprisonment and housing patterns when accounting for other characteristics of metropolitan areas that must be examined further. Therefore, in future analyses, we must recognize that residential mobility is a likely influential factor in explaining changes in crime control, especially upon minority populations. In relation, different patterns of residential transitions such as gentrification may be manifesting in a

different qualitative fashion in comparison to traditional types of segregation – all the while maintaining racial stratification albeit in new forms.

In the following, I try to place the reciprocal nature of crime control and racial inequalities into perspective. If the results of this study are tentatively viewed as either 1) suggesting that gentrification may have played a role in the association between incarceration and segregation or 2) that incarceration was increasing due to integration, or both of these, then the processes of the reciprocal relationship must be explained. Further, contemporary sources of racial formation must be outlined. Therefore, below I discuss the durable importance of race, reasons why black Americans experienced increased social control, and the consequences of increased social control and punishment.

### **New Sources of Racial Formation**

In the U.S., race is one basis of stratification. Race refers to “a concept that signifies and symbolizes sociopolitical conflicts and interests in reference to different types of human bodies” (Winant, 2000:172) It is a socially constructed concept, influenced more by mechanisms that shape social perceptions of categorization than connection to genetic or actual biological differences. Omi and Winant (1986:68) claim “race must be seen as an unstable and decentered complex of social meanings constantly being transformed by political struggles.”

Many scholars have begun to argue that the significance of race is in decline (Wilson, 1978). The election of Barack Obama provides a clear example of a meaningful event that upholds the saliency of this conclusion. However, the idiosyncrasy of Obama’s election and other individual crystallizing moments of racial progression do not provide analogous portrayals of race relations on the aggregate. Racial inequality is now

observed in a subtle, covert form (Bonilla-Silva, 2003; Bobo, Kluegel, and Smith, 1997; Kinder and Sears, 1981).

Racial dynamics in the U.S. continue to be constructed through political, economic and social processes. Likewise, U.S. politics have been shaped by the changing racial dynamics. Race is everywhere, and although the role of race is often complex and covert, it influences politics, individual identities, and culture. It is a fundamental organizing principle across sectors of society (Omi and Winant, 1986). Distinguishable from class relations, we cannot fail to see the discrete and unique forces that race exerts upon material, symbolic and emotional resources if we are to understand current patterns of durable racial inequality.

An examination of contemporary racial inequality must not focus simply on individual bigotry, personal responsibility, or explicit acts of racism. This view is fundamentally flawed, both theoretically and empirically (Brown et al., 2003). Instead, it is more useful to understand durable racial inequality as a result of historical processes of white “accumulation” and black “disaccumulation” (Brown et al, 2003). The history of disaccumulation of social, economic, and cultural wealth – usually small deficits that add up over time - has resulted in unreasonable outcomes for black communities. One of the clearest examples of disaccumulation is the deindustrialization of urban areas in the U.S. While affecting all races, the economic impact the movement of industry has been more deeply experienced by black Americans and communities that had come to rely on decent work opportunities.

The administration of law is another source of disaccumulation that maintains racial divisions. Across the era of mass incarceration, blacks have been

disproportionately controlled which has led to many unequal outcomes detailed throughout the literature. Since we currently experience appalling racial inequalities across our social institutions, it is necessary to understand the trajectory of racial ordering and the processes that guide it.

### **Use of Criminal Law to Maintain Racial Order**

Although the state has been concerned with race since the beginning of American history, during previous eras racial conflict largely took place through informal mechanisms. Social control of slave uprisings, black population growth, and residential integration was not carried out through democratic processes but instead these conflicts were confronted with informal control mechanisms. For example, lynchings in the American South were used to control perceived racial uprisings, miscegenation and other acts that threatened the dominant racial order.

Beginning during the post-war era, in the U.S. the state became the central context where racial conflict could be confronted (Kennedy, 1997). Clearly, the civil rights movement can be labeled an instance of state intervention upon racial formation. As the civil rights movement brought anti-discrimination policies, backlash against these reforms soon followed through state action. Therefore, the state is not merely changed by racial dynamics but it intervenes upon the racial order.

The criminal justice system has historically been one institution used to control black populations following periods of reform (Hawkins, 1987). Manza and Uggen (2007) put forth an appealing description of the formation and application of felon disenfranchisement laws across the U.S. They argue that the history of racial politics has been involved in the development of felon disenfranchisement. Their claims are parallel with contemporary statements about the institutionalization of processes that maintain

racial stratification. Instituting this practice appears race-neutral – all individuals convicted of felonies must concede to the same penalties – and defenders of felon disenfranchisement herald the ‘color-blindness’ of these provisions. However, after examining its development and its outcomes any explanation of the vastness of felon disenfranchisement must view it as a product of racialized politics (Manza and Uggen, 2007).

Following a period of significant gains by the civil rights movements, the criminal justice system has been one institution that has resisted movements toward equality and its implications stretch well beyond the system itself. That is, the racially disparate outcomes within the criminal justice system affect opportunities across other social institutions. Criminal justice policies throughout the post-civil rights era have resisted the egalitarian and anti-discrimination reforms in other state institutions as well as its own.

In an era where decision-makers are legally restricted not to discriminate solely on the basis of race following several civil rights advances, the history of a criminal record has become an even more important “negative credential” (Pager, 2007). Thus, it is not necessarily discriminatory attitudes or actions due to stereotyping by individuals that creates discrimination. The stigma of a criminal record has affected the structure around individuals with such an experience, often followed by the unwelcome consequences that accompany the stigma (Link and Phelan, 2001). Obvious forms of conscious discrimination are not necessarily occurring. The use of observable discriminatory practices has become ideologically difficult, in turn making more sophisticated forms of discrimination become adopted in place of the antiquated forms.

Here it is a structural discrimination process where the stigma of race and a criminal record interact to uphold structural inequalities observed across many of life's important outcomes.

An important insight included in Pager's work points toward the "negative credential" that a criminal record imposes. As sociologist Randall Collins claims, within the U.S. credentials have become increasingly important toward categorizing people into distinct groups based on formal merits (Collins, 1979). The structural arrangements produce circumstances where official credentials – negative or positive - determine life outcomes. For instance, to obtain employment we increasingly rely on official positive credentials such as college diplomas or training certificates. In instances of defining people as criminal, individuals acquire a negative credential. In this sense the criminal record is serving as a legitimate mechanism that formally categorizes individuals as less worthy or less trustworthy.

Stigma from being both a black male and having a criminal record clearly has a detrimental impact on chances to get hired, obtain loans, and other credential-based entitlements. Once we consider the frequency of these types of interactions that entail stigma from a criminal record compounded by racial stigma, the damaging effects upon the collective of black Americans across the U.S. become compelling. As Pager argues, the effects of stigma go well beyond the domain of employment and the categorical exclusion of blacks stretches across a wide range of contexts. The stigma arising from a multitude of individual-level interactions accumulates to further disadvantage for blacks to gain opportunity within many social institutions. As she thoughtfully states, "[f]or blacks, everyday life achievements take longer, require more effort, and impose greater

financial and psychic costs” (Pager, 2007:149). While this is not a uniquely new observation, evidence of the exacerbation of inequalities through mass incarceration becomes a strikingly important contribution.

In his theoretical explanation of the transcendence of social control beyond the prison walls, Loic Wacquant (2001, 2009) illustrates the connections between the ghetto and the prison in contemporary U.S. - they have become a functionally equivalent symbiosis that marginalizes poor black communities through separation and stigmatization. He claims the emerging system of incarceration “enforces and perpetuates the socioeconomic marginality of urban blacks...it also plays a role in the remaking of ‘race’ and the redefinition of the citizenry via the production of a racialized public culture of vilification of criminals” (Wacquant, 2001:97). Mass incarceration has regulated race and poverty in the post-civil rights era since forms of informal control from past decades were responded to by constitutional protections and legal initiatives to protect individual rights of minorities. According to Wacquant, mass incarceration is the fourth “peculiar institution” to develop to control blacks. Eras of slavery, Jim Crow, and the black ghetto preceded the development of mass incarceration. The movement toward mass incarceration must now be considered a major institutional arrangement within American society. Its effects disseminate across communities and place stigmatizing labels on the general population of young, poor black males.

Many of Wacquant’s conceptions are parallel to work by Rose and Clear (1998) who argue that mass incarceration has led to community disorganization and social exclusion when it becomes highly concentrated. By extracting then releasing a highly concentrated population of incarcerated individuals into areas of concentrated

disadvantage neighborhoods become further strained by increased fear of crime from within and outside of the neighborhood, detached family relations, and a general sense of social exclusion from institutions such as education and a lack of justice by the legal system. He argues that such hyper-segregated areas of extreme disadvantage have reproduced prison atmospheres with high levels of surveillance and a state of constant fear of crime and distrust among citizens.

The relationships shown in this study suggest that there are complex influences between mass incarceration of black populations and residential segregation. Increasing incarceration may lead to the movement of white residents into certain parts of central cities. While this shift may indicate integration as measured in this analysis, new forms of segregation may also be materializing. Gentrification, while oftentimes resulting in increased interactions between different groups, is a form of housing inequality – one that necessitates disinvestment or “disaccumulation” for substantial periods of time. Incarcerating large portions of a neighborhood is one powerful mechanism of disaccumulation.

Overall, Wacquant theorizes that the confluence of segregation of the ghetto and mass incarceration work together in functional relationship to uphold racial stratification. Neutralization of blacks, both materially and symbolically, thus becomes apparent. Materially, neutralization occurs by disallowing employment, welfare benefits, and educational funding for felony convictions. Symbolically, neutralization occurs by thwarting social mobility by a portion of the black population through the reification of the stigmatization of the poor, black population as criminal and deficient. This is what is meant by institutionalized, covert racism.

## **Conclusion**

The racially disparate results of many social policies remain neglected by the general public as a result of the racial stigma generalized across the black population of the United States. Mass incarceration is one striking example of the administration of social policy that disproportionately affects poor, black Americans. This study attempted to bring more evidence on the collateral consequences of mass incarceration. It brought together theoretical insights and empirical evidence from various fields of study surrounding race relations and criminal justice. The results of the empirical analysis entail complex interpretations and future empirical work in this area needs to clarify the dynamic interrelations between crime control and race relations.

APPENDIX A  
METROPOLITAN AREAS IN MAJOR ANALYSIS

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Abilene, TX MSA  
Akron, OH PMSA  
Albany, GA MSA  
Albany-Schenectady-Troy, NY MSA  
**Albuquerque, NM MSA**  
Alexandria, LA MSA  
Allentown-Bethlehem-Easton, PA MSA  
**Altoona, PA MSA**  
Amarillo, TX MSA  
**Anchorage, AK MSA**  
Ann Arbor, MI PMSA  
Anniston, AL MSA  
**Appleton-Oshkosh-Neenah, WI MSA**  
Asheville, NC MSA  
Athens, GA MSA  
Atlanta, GA MSA  
Atlantic-Cape May, NJ PMSA  
Auburn-Opelika, AL MSA  
Augusta-Aiken, GA-SC MSA  
Austin-San Marcos, TX MSA  
Bakersfield, CA MSA  
Baltimore, MD PMSA  
**Bangor, ME MSA**  
**Barnstable-Yarmouth, MA MSA**  
Baton Rouge, LA MSA  
Beaumont-Port Arthur, TX MSA  
**Bellingham, WA MSA**  
Benton Harbor, MI MSA  
Bergen-Passaic, NJ PMSA  
**Billings, MT MSA**  
Biloxi-Gulfport-Pascagoula, MS MSA  
Binghamton, NY MSA  
Birmingham, AL MSA  
**Bismarck, ND MSA**  
**Bloomington, IN MSA**  
Bloomington-Normal, IL MSA  
**Boise City, ID MSA**  
**Boston, MA-NH PMSA**  
**Boulder-Longmont, CO PMSA**  
Brazoria, TX PMSA  
Bremerton, WA PMSA  
**Bridgeport, CT PMSA**  
**Brockton, MA PMSA**  
Brownsville-Harlingen-San Benito, TX MSA  
Bryan-College Station, TX MSA  
Buffalo-Niagara Falls, NY MSA  
**Burlington, VT MSA**

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Canton-Massillon, OH MSA  
**Casper, WY MSA**  
Cedar Rapids, IA MSA  
Champaign-Urbana, IL MSA  
Charleston-North Charleston, SC MSA  
Charleston, WV MSA  
Charlotte-Gastonia-Rock Hill, NC-SC MSA  
Charlottesville, VA MSA  
Chattanooga, TN-GA MSA  
**Cheyenne, WY MSA**  
Chicago, IL PMSA  
**Chico-Paradise, CA MSA**  
Cincinnati, OH-KY-IN PMSA  
Clarksville-Hopkinsville, TN-KY MSA  
Cleveland-Lorain-Elyria, OH PMSA  
Colorado Springs, CO MSA  
Columbia, MO MSA  
Columbia, SC MSA  
Columbus, GA-AL MSA  
Columbus, OH MSA  
Corpus Christi, TX MSA  
**Corvallis, OR MSA**  
**Cumberland, MD-WV MSA**  
Dallas, TX PMSA  
**Danbury, CT PMSA**  
Danville, VA MSA  
Davenport-Moline-Rock Island, IA-IL MSA  
Dayton-Springfield, OH MSA  
Daytona Beach, FL MSA  
Decatur, AL MSA  
Decatur, IL MSA  
Denver, CO PMSA  
Des Moines, IA MSA  
Detroit, MI PMSA  
Dothan, AL MSA  
**Dover, DE MSA**  
**Dubuque, IA MSA**  
**Duluth-Superior, MN-WI MSA**  
Dutchess County, NY PMSA  
**Eau Claire, WI MSA**  
El Paso, TX MSA  
**Elkhart-Goshen, IN MSA**  
Elmira, NY MSA  
**Enid, OK MSA**  
Erie, PA MSA  
**Eugene-Springfield, OR MSA**  
**Evansville-Henderson, IN-KY MSA**  
**Fargo-Moorhead, ND-MN MSA**  
Fayetteville, NC MSA  
**Fayetteville-Springdale-Rogers, AR MSA**

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**Fitchburg-Leominster, MA PMSA**  
**Flagstaff, AZ-UT MSA**  
Flint, MI PMSA  
Florence, AL MSA  
Florence, SC MSA  
**Fort Collins-Loveland, CO MSA**  
Fort Lauderdale, FL PMSA  
Fort Myers-Cape Coral, FL MSA  
Fort Pierce-Port St. Lucie, FL MSA  
Fort Smith, AR-OK MSA  
Fort Walton Beach, FL MSA  
**Fort Wayne, IN MSA**  
Fort Worth-Arlington, TX PMSA  
Fresno, CA MSA  
Gadsden, AL MSA  
Gainesville, FL MSA  
Galveston-Texas City, TX PMSA  
**Gary, IN PMSA**  
**Glens Falls, NY MSA**  
Goldsboro, NC MSA  
**Grand Forks, ND-MN MSA**  
**Grand Junction, CO MSA**  
Grand Rapids-Muskegon-Holland, MI MSA  
**Great Falls, MT MSA**  
**Greeley, CO PMSA**  
**Green Bay, WI MSA**  
Greensboro--Winston-Salem--High Point, NC MSA  
Greenville, NC MSA  
Greenville-Spartanburg-Anderson, SC MSA  
Hagerstown, MD PMSA  
Hamilton-Middletown, OH PMSA  
Harrisburg-Lebanon-Carlisle, PA MSA  
**Hartford, CT MSA**  
Hattiesburg, MS MSA  
Hickory-Morganton-Lenoir, NC MSA  
Honolulu, HI MSA  
Houma, LA MSA  
Houston, TX PMSA  
Huntington-Ashland, WV-KY-OH MSA  
Huntsville, AL MSA  
**Indianapolis, IN MSA**  
**Iowa City, IA MSA**  
Jackson, MI MSA  
Jackson, MS MSA  
Jackson, TN MSA  
Jacksonville, FL MSA  
Jacksonville, NC MSA  
**Jamestown, NY MSA**  
Janesville-Beloit, WI MSA  
Jersey City, NJ PMSA

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Johnson City-Kingsport-Bristol, TN-VA MSA  
Johnstown, PA MSA  
Jonesboro, AR MSA  
**Joplin, MO MSA**  
Kalamazoo-Battle Creek, MI MSA  
Kankakee, IL PMSA  
**Kansas City, MO-KS MSA**  
Kenosha, WI PMSA  
Killeen-Temple, TX MSA  
Knoxville, TN MSA  
**Kokomo, IN MSA**  
**La Crosse, WI-MN MSA**  
Lafayette, LA MSA  
**Lafayette, IN MSA**  
Lake Charles, LA MSA  
Lakeland-Winter Haven, FL MSA  
Lancaster, PA MSA  
Lansing-East Lansing, MI MSA  
**Laredo, TX MSA**  
**Las Cruces, NM MSA**  
**Las Vegas, NV-AZ MSA**  
**Lawrence, KS MSA**  
**Lawrence, MA-NH PMSA**  
Lawton, OK MSA  
**Lewiston-Auburn, ME MSA**  
Lexington, KY MSA  
Lima, OH MSA  
Lincoln, NE MSA  
Little Rock-North Little Rock, AR MSA  
Longview-Marshall, TX MSA  
Los Angeles-Long Beach, CA PMSA  
**Louisville, KY-IN MSA**  
**Lowell, MA-NH PMSA**  
Lubbock, TX MSA  
Lynchburg, VA MSA  
Macon, GA MSA  
Madison, WI MSA  
**Manchester, NH PMSA**  
Mansfield, OH MSA  
**McAllen-Edinburg-Mission, TX MSA**  
**Medford-Ashland, OR MSA**  
Melbourne-Titusville-Palm Bay, FL MSA  
Memphis, TN-AR-MS MSA  
Merced, CA MSA  
Miami, FL PMSA  
Middlesex-Somerset-Hunterdon, NJ PMSA  
Milwaukee-Waukesha, WI PMSA  
Minneapolis-St. Paul, MN-WI MSA  
**Missoula, MT MSA**  
Mobile, AL MSA

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Modesto, CA MSA  
Monmouth-Ocean, NJ PMSA  
Monroe, LA MSA  
Montgomery, AL MSA  
**Muncie, IN MSA**  
Myrtle Beach, SC MSA  
Naples, FL MSA  
**Nashua, NH PMSA**  
Nashville, TN MSA  
Nassau-Suffolk, NY PMSA  
**New Bedford, MA PMSA**  
**New Haven-Meriden, CT PMSA**  
**New London-Norwich, CT-RI MSA**  
New Orleans, LA MSA  
New York, NY PMSA  
Newark, NJ PMSA  
Newburgh, NY-PA PMSA  
Norfolk-Virginia Beach-Newport News, VA-NC  
MSA  
Oakland, CA PMSA  
Ocala, FL MSA  
Odessa-Midland, TX MSA  
Oklahoma City, OK MSA  
Olympia, WA PMSA  
Omaha, NE-IA MSA  
Orange County, CA PMSA  
Orlando, FL MSA  
Owensboro, KY MSA  
Panama City, FL MSA  
**Parkersburg-Marietta, WV-OH MSA**  
Pensacola, FL MSA  
Peoria-Pekin, IL MSA  
Philadelphia, PA-NJ PMSA  
**Phoenix-Mesa, AZ MSA**  
Pine Bluff, AR MSA  
Pittsburgh, PA MSA  
**Pittsfield, MA MSA**  
**Pocatello, ID MSA**  
**Portland, ME MSA**  
Portland-Vancouver, OR-WA PMSA  
**Portsmouth-Rochester, NH-ME PMSA**  
**Providence-Fall River-Warwick, RI-MA MSA**  
**Provo-Orem, UT MSA**  
**Pueblo, CO MSA**  
Punta Gorda, FL MSA  
Racine, WI PMSA  
Raleigh-Durham-Chapel Hill, NC MSA  
**Rapid City, SD MSA**  
Reading, PA MSA  
**Redding, CA MSA**

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Reno, NV MSA  
Richland-Kennewick-Pasco, WA MSA  
**Richmond-Petersburg, VA MSA**  
Riverside-San Bernardino, CA PMSA  
Roanoke, VA MSA  
**Rochester, MN MSA**  
Rochester, NY MSA  
Rockford, IL MSA  
Rocky Mount, NC MSA  
Sacramento, CA PMSA  
Saginaw-Bay City-Midland, MI MSA  
**St. Cloud, MN MSA**  
St. Joseph, MO MSA  
St. Louis, MO-IL MSA  
**Salem, OR PMSA**  
Salinas, CA MSA  
Salt Lake City-Ogden, UT MSA  
San Angelo, TX MSA  
San Antonio, TX MSA  
San Diego, CA MSA  
San Francisco, CA PMSA  
San Jose, CA PMSA  
San Luis Obispo-Atascadero-Paso Robles, CA MSA  
Santa Barbara-Santa Maria-Lompoc, CA MSA  
**Santa Cruz-Watsonville, CA PMSA**  
**Santa Fe, NM MSA**  
Santa Rosa, CA PMSA  
Sarasota-Bradenton, FL MSA  
Savannah, GA MSA  
Scranton--Wilkes-Barre--Hazleton, PA MSA  
Seattle-Bellevue-Everett, WA PMSA  
Sharon, PA MSA  
**Sheboygan, WI MSA**  
Sherman-Denison, TX MSA  
Shreveport-Bossier City, LA MSA  
**Sioux City, IA-NE MSA**  
**Sioux Falls, SD MSA**  
**South Bend, IN MSA**  
Spokane, WA MSA  
Springfield, IL MSA  
Springfield, MO MSA  
**Springfield, MA MSA**  
**Stamford-Norwalk, CT PMSA**  
State College, PA MSA  
Steubenville-Weirton, OH-WV MSA  
Stockton-Lodi, CA MSA  
Sumter, SC MSA  
Syracuse, NY MSA  
Tacoma, WA PMSA  
Tallahassee, FL MSA

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Tampa-St. Petersburg-Clearwater, FL MSA  
**Terre Haute, IN MSA**  
Texarkana, TX-Texarkana, AR MSA  
Toledo, OH MSA  
**Topeka, KS MSA**  
Trenton, NJ PMSA  
**Tucson, AZ MSA**  
Tulsa, OK MSA  
Tuscaloosa, AL MSA  
Tyler, TX MSA  
Utica-Rome, NY MSA  
Vallejo-Fairfield-Napa, CA PMSA  
Ventura, CA PMSA  
Victoria, TX MSA  
**Vineland-Millville-Bridgeton, NJ PMSA**  
Visalia-Tulare-Porterville, CA MSA  
Waco, TX MSA  
Washington, DC-MD-VA-WV PMSA  
**Waterbury, CT PMSA**  
Waterloo-Cedar Falls, IA MSA  
**Wausau, WI MSA**  
West Palm Beach-Boca Raton, FL MSA  
Wheeling, WV-OH MSA  
**Wichita, KS MSA**  
Wichita Falls, TX MSA  
Williamsport, PA MSA  
**Wilmington-Newark, DE-MD PMSA**  
Wilmington, NC MSA  
**Worcester, MA-CT PMSA**  
**Yakima, WA MSA**  
Yolo, CA PMSA  
York, PA MSA  
Youngstown-Warren, OH MSA  
Yuba City, CA MSA  
**Yuma, AZ MSA**

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Note: Bolded MSAs were excluded.

APPENDIX B  
MEAN PERCENT MISSING RACE DATA

Year	% missing
1988	4.62
1989	.05
1990	4.84
1991	4.64
1992	4.79
1993	5.06
1994	5.30
1995	5.29
1996	5.94
1997	6.22
1998	5.68
1999	6.02
2000	4.02

APPENDIX C  
CORRELATION BETWEEN PERCENT RACE MISSING AND BLACK  
INCARCERATION RATE

Year	Correlation
1988	-0.04
1989	-0.06
1990	-0.03
1991	-0.06
1992	-0.08
1993	-0.06
1994	-0.01
1995	0.16*
1996	0.04
1997	0.11
1998	0.14*
1999	0.15*
2000	-0.08

Notes: \* $p < .05$ , \*\* $p < .01$

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