

The Pennsylvania State University

The Graduate School

Department of Sociology

DETAILING CHANGES IN STATE PRISONS, 1974 –2000,
AND EXPLAINING SOCIAL UNREST AS A FUNCTION OF
SOCIAL STRUCTURE, INSTITUTIONAL
CHARACTERISTICS, AND POLITICAL CONTEXT

A Thesis in

Sociology

by

Nicole Richards

© 2007 Nicole Richards

Submitted in Partial Fulfillment
of the Requirements
for the Degree of

Doctor of Philosophy

May 2007

The thesis of Nicole Richards was reviewed and approved* by the following:

John D. McCarthy
Professor of Sociology
Head of the Department of Sociology
Thesis Adviser
Chair of Committee

Lee Ann Banaszak
Associate Professor of Political Science

Roger Finke
Professor of Sociology and Religious Studies

D. Wayne Osgood
Professor of Crime, Law, and Justice and Sociology

*Signatures on file in the Graduate School.

ABSTRACT

Motivated by the growing prevalence of incarceration in America in recent decades, this comprehensive study of prison institutions focuses on interpersonal and collective unrest in prisons; social structure of prison populations; living conditions in prisons, and the political context in which these institutions are nested. Data on some 700 state prisons from 1974 to 1995 is employed to answer the two central research questions: 1) how have the social structure, institutional characteristics, and the political context of prisons, as well as interpersonal and collective unrest inside these institutions changed over the past several decades and 2) how do social structure, institutional characteristics, and political context affect prison interpersonal and collective unrest. The theoretical strategy employed involves synthesizing dominant theoretical approaches in criminology literatures with approaches in sociology literatures in order to develop explanations of two dimensions of prison social unrest, interpersonal conflict between individual inmates and prison staff and collective action by groups of inmates. To explain prison interpersonal conflict, I draw upon the importation, deprivation and social disorganization theories. I integrate inmate-balance, administrative-control, breakdown and state-centered theories to explain collective unrest. As a consequence, I identify the social structure of a prison population and the institutional characteristics of a prison as predictors of interpersonal conflict. For collective conflict, social structure, institutional characteristics and political context were identified as predictors. I utilized both descriptive analyses and multilevel growth curve models to account for interpersonal and collective unrest in prisons. I conclude that interpersonal conflict worsened for inmates as individual prisons have become increasingly unable to protect those being confined in these institutions from being sexually and physically assaulted or even murdered. According to the longitudinal data, individual prisons have changed significantly in their mean rates of disturbances and fires but not in their probabilities of a riot. Despite record numbers of inmates being housed in state prisons and expanding costs, a number of inmate programs continue to operate in these institutions. Inconsistent trends exist in both the median earning of guards relative to the median income of families in a state and the stability of the executive leadership of state prison systems. In describing the political context within which prisons are nested, I found that the mean number of groups in a state that are organized around issues relating to prisons has remained relatively stable from 1984 to 1995, despite the substantial increase in both the number of inmates and prisons. Also, as may be expected state total expenditures for prisons have increased steadily. When accounting for prison violence, the findings indicate that models that include both predictors of social structure of the prison population and characteristics of institutions best explains interpersonal conflict between inmate and staff and among inmates. Similarly, composite models that include predictors of social structure, institutional characteristics and the political context within which prisons are nested are identified as the most salient explanation of collective conflict within prisons.

Table of Contents

List of Tables	v
List of Figures	vi
Introduction	1
Chapter 1: Developing an Integrated Approach to Prison Interpersonal Conflict	7
Theoretical Framework	8
Hypotheses	14
Chapter 2: Trends and Explanations of Prison Interpersonal Conflict, 1974-1995	20
Data	20
Measures	21
Analyses	29
Findings	31
Summary	66
Conclusion	76
Chapter 3: A Theoretical Framework for Studying Prison Collective Conflict	83
Theoretical Framework	84
Hypotheses	103
Chapter 4: Trends and Explanations of Prison Collective Conflict, 1984-1995	114
Data	114
Measures	116
Analyses	126
Findings	127
Summary	168
Conclusion	173
Chapter 5: Concluding Thoughts	179
References:	191
Appendix A: Court Order Scales' Items and Reliability Measures.	197

List of Tables

Table 2.1. Trends in Prison Interpersonal Conflict, Social Structure and Institutional Characteristics, 1974-1995	198
Table 2.2. Coefficients and Variance Components for Trends in Prison Interpersonal Conflict: Unconditional Poisson Models, 1984-1995	203
Table 2.3. Poisson Regression Models Testing Importation Predictors of Interpersonal Conflict, 1984-1995	204
Table 2.4. Poisson Regression Models Testing Deprivation Predictors of Interpersonal Conflict, 1984-1995	205
Table 2.5. Poisson Regression Models Testing Importation and Deprivation Predictors of Interpersonal Conflict, 1984-1995	206
Table 2.6. Poisson Regression Models Testing Social Disorganization Predictors of Interpersonal Conflict, 1984-1995	208
Table 2.7. Poisson Regression Models Testing Social Disorganization and Deprivation Predictors of Interpersonal Conflict, 1984-1995	209
Table 2.8. Poisson Regression Models Testing Social Disorganization Interactions as Predictors of Interpersonal Conflict, 1984-1995	211
Table 2.9. Poisson Regression Models Testing Staff Heterogeneity and Inmate Programs Interactions as Predictors of Interpersonal Conflict, 1984-1995	217
Table 2.10. Summary of Findings for Prison Interpersonal Conflict	221
Table 4.1. Trends in Prison Collective Unrest, Social Structure, Institutional Characteristics and Political Context, 1984-1995	224
Table 4.2. Logistic Regression Models Predicting Riots by Social Structure, Institutional Characteristics and Political Context, 1984-1995	228
Table 4.3. Unconditional Models for Prison Riots, Disturbances and Fires	232
Table 4.4. Poisson Regression Models Predicting Prison Disturbances by Social Structure, Institutional Characteristics and Political Context, 1984-1995	234
Table 4.5. Poisson Regression Models Predicting Prison Fires by Social Structure, Institutional Characteristics and Political Context, 1984-1995	238
Table 4.6. Summary of Findings for Prison Collective Conflict	242

List of Figures

Figure 2.1. Trends in Interpersonal Prison Violence, 1984-1995	200
Figure 2.2. Inmate Populations of State Prisons, 1974-1995	201
Figure 2.3. Populations of State Prisons, 1974-1995	202
Figure 2.4. Inmate Racial Heterogeneity and Work Industry Program Interaction and Main Effects on Inmate-on-Staff Assaults	213
Figure 2.5. Inmate Racial Heterogeneity Interaction and Work Industry Program Main Effects on Inmate-on-Staff Assaults	214
Figure 2.6. Inmate Racial Heterogeneity and Education and Counseling Programs Interactions and Main Effects on Inmate-on-Inmate Assaults	215
Figure 2.7. Inmate Racial Heterogeneity and Education and Counseling Programs Interactions and Main Effects on Inmate-on-Inmate Assaults	216
Figure 2.8. Staff Racial Heterogeneity Interaction and Employment Program Main Effects on Inmate-on-Inmate Assaults	219
Figure 2.9. Staff Racial Heterogeneity and Education Program Interaction and Main Effects on Inmate-on-Inmate Assaults	220
Figure 3.1. Inmate-Balance Theory	222
Figure 3.2. Administrative-Control Theory	222
Figure 3.3. Breakdown Model	223
Figure 3.4. State-Centered Theory	223
Figure 4.1. Trends in Prison Riots, 1984-1995	225
Figure 4.2. Trends in Prison Disturbances and Fires, 1984-1995	226
Figure 4.3. The Relationship Between the Racial Difference Between the Inmate Population and Staff Population and Prison Riots	227

Introduction

The American penal system has undergone unprecedented changes in recent decades. Notably, the number of individuals being held under confinement by federal and state authorities has risen sharply. According to the Bureau of Justice Statistics, the number of individuals incarcerated in state and federal institutions grew from 216,000 in 1974 to 1,319,000 in 2001 (Bonczar 2003). Over this same time period, the number of individuals who had ever been to prison rose from 1,603,000 to 4,299,000 (Bonczar 2003). Of equal concern has been the disproportionate effect of incarceration on Black and Latino communities. It is projected that 1 in every 3 black males and 1 in every 6 Latino males will go to prison during their lifetime. The expected rates of incarceration for whites are substantially lower, as 1 in 17 males is predicted to be imprisoned (Bonczar 2003).

Paralleling the sharp rise in rates of incarceration has been an equally astonishing growth in the population of prison institutions. From 1974 to 2000, the number of state and prisons grew from 592 to 1,375, which represents a 132% increase. These statistics clearly indicate that not only have record number of individuals been incarcerated but also that record numbers are expected to enter prisons in the future. Therefore, I argue that studying these institutions where so many have and will spend some portion of their lives is critically important.

To date, scholars have given considerable attention to what Austin and Irwin call, “The Incarceration Binge” 2001. A number of scholars have focused on the passage of state and federal legislation, such as guidelines for minimum and mandatory sentencing, that in part account for rising incarceration rates. Others have examined how

discretionary sentencing by judges has resulted in Blacks and Latinos being incarcerated at higher rates and for longer periods than Whites. Noticeably missing from this research, particularly among sociologists, has been an examination of what is happening with prisons in light of this incarceration binge. Understanding how prisons have changed in recent years is the central objective of this research.

Specifically, I am interested in providing a systematic account of how the *social structure* of the prison population and *institutional characteristics* of prisons have been changed, as well as how the *political context* of these institutions has been altered. Moreover, I give special attention to detailing how *interpersonal and collective unrest* inside prisons among the large number of incarcerated individuals has changed *and* how this social unrest has been affected by social structure, institutional characteristics and political context. Consequently, this research is motivated by two questions:

1. How have the social structure, institutional characteristics, and the political context of prisons, as well as interpersonal and collective unrest inside these institutions changed over the past several decades?
2. How do social structure, institutional characteristics, and political context affected prison interpersonal and collective unrest?

CONTRIBUTIONS OF THE STUDY

The current research is distinct from what has been done previously in this area in several respects. First, I synthesize dominant theoretical approaches in criminology literatures with approaches in sociology literatures in order to develop explanations of two dimensions of prison social unrest, interpersonal conflict between individual inmates and prison staff and collective action by groups of inmates. Scholars have previously tested the theories in these literatures as competing explanations of unrest. I argue that

there is great benefit in their synthesis. By doing this, I identify the similarities that make them complimentary, as well as the important differences that make each distinct.

Second, I move beyond past and contemporary case studies to examine a more comprehensive and diverse population of prison institutions, which includes some 700 minimum, medium and maximum-security state prisons. This quantitative data permits a systematic analysis of prisons, which allows me to rigorously test the theoretical arguments found in the literature explaining prison interpersonal and collective conflict.

Third, I employ both cross-sectional and longitudinal information on state prisons. The longitudinal data set is constructed from three censuses of prisons, which were conducted by the U.S. Department of Justice in 1984, 1990 and 1995. Including both cross-sectional and longitudinal data in this study allows me to not only assess shifts in the trends for the population of prisons but also detail how individual institutions have changed over time.

Fourth, I utilize multilevel analysis to study interpersonal conflict and collective action in prisons. The advantage of multilevel analysis is that it handles the hierarchical nature of data. In this particular longitudinal study, I account for social unrest in state prisons at three levels in the data. Level 1 is individual prisons over time; level 2 is prisons within states and level 3 is prisons across states. Again, time at level 1 allows me to determine how individual prisons have changed. Level 2 and level 3 address the concern that prisons within states are similar to each other in particular ways and different from prisons in other states in other ways. Furthermore, multilevel analysis allows me to include characteristics of states as predictors of social unrest.

Having presented the contributions of this study, I now clarify the phenomena of interest in this research, prison social unrest. Following this discussion, I describe the outline of the dissertation and preview each chapter.

PRISON SOCIAL UNREST

The phenomenon of interest in this research is prison social unrest, which I define as any event, involving single individuals or a collective that disrupts the day-to-day activities of the prison. Therefore, prison social unrest is a two-dimensional concept: 1) interpersonal conflict and 2) collective conflict. The inclusion of interpersonal conflict in the definition of unrest makes this research distinct in the social movement literature, which I draw upon. Actions taken by single individuals against other individuals, especially those outside the power structure, have been deemed apolitical and have been ignored by social movement scholars (Oberschall 1993). However, this distinction is much more difficult to make when studying the dynamics of social unrest, as it can be argued that inmates can use interpersonal conflict politically (Fox 1971; Irwin 1980). In addition, I believe that these individual acts of social unrest have important theoretical implications for the occurrence of collective conflict, which are not specifically explored in this research but should not be ignored.

On the other hand, criminology scholars have traditionally studied individual and collective conflict as connected phenomena. However, they have tended to conceive and, therefore, conflate both dimensions of prison conflict (Cohen et. al. 1976). This approach also overemphasizes the conflict involved in individual acts and underestimates their potential collective aspect. Therefore, I employ the term unrest to describe both types of

disruptive events. Doing so permits an analysis of their interdependence. At the same time, I maintain the distinction between unrest attributed to sole individuals from that produced by collectives in order to determine if their causes differ. I now describe how this study is organized.

ROADMAP

This study is divided into two major sections. The first section is dedicated to the explaining interpersonal conflict in prisons. The second section is concerned with explaining collective conflict in prisons.

The first section includes Chapter one and Chapter two. In Chapter one, I review the two dominant explanations of prison interpersonal conflict, importation and deprivation theories, found in the literature. In addition to these two commonly applied theories, I argue for the applicability of the social disorganization theory for studying interpersonal conflict in prisons. This chapter also includes a set of nine hypotheses detailing the expected relationships between each theory and interpersonal conflict in prison.

In Chapter two, I describe data from the Justice Department used in this study and the specified dependent variables, inmate-on-staff assaults, inmate-on-inmate assaults and inmate-on-inmate homicides, and two sets of independent variables, social structure and institutional characteristics. I also explain the multilevel analysis employed to model interpersonal conflict in prisons. Finally, I present and discuss the findings, which include trends from the cross-sectional data and results from the multilevel growth-curve

models predicting interpersonal conflict by social structure and institutional characteristics.

The second section includes Chapter three and Chapter four. In Chapter three, I review the dominant criminal justice and social movements theories, inmate-balance, administrative-control, breakdown and state-centered, that scholars have used to explain collective conflict in prisons. I identify the important similarities in these theories, which include a focus on social structure, institutional characteristics and political context, and synthesize them into one conceptual model. After reviewing the empirical research, I offer a set of seventeen hypotheses that detail relationships between collective conflict and social structure, institutional characteristics, and political context.

Chapter four includes a description of the primary data sources from the U.S. Department of Justice and the diverse collection of supplemental data employed to study collective conflict. In this chapter, I detail the set of dependent variables, riots, disturbances and fires, and three sets of independent variables. After explaining the analytical strategy, I present the findings for both trends in the cross-sectional data and the multilevel growth curve models predicting collective conflict in prisons.

Lastly, in Chapter five, I offer a concluding discussion of the implications of the study. I review the important findings. I also address the limitations of the study and offer suggestions for future projects.

Chapter 1: Developing an Integrated Approach to Prison Interpersonal Conflict

i was young and yes i was weak. My weight was only 120 lbs, the first few months i was raped and beat up many times. i would always Fight back, i wanted my attackers to know i was not a Willing Subject for their evilness. i went to Guards for help and was told there was nothing that could be done, that i would have to stand up like a Man and Take Care of my own troubles (Human Rights Watch, 140: 2001).

Prisons are violent places where both staff and inmates are victimized, which has been the subject of many ethnographic studies (Abbott 1981; Braswell, Montgomery, and Lombardo 1994, 1985; Irwin 1980, Jacobs 1977; Silverman 1995). According to the latest report from the Bureau of Justice Statistics on its survey of prisons conducted in 2000, some 34,000 inmates and 18,000 staff members were assaulted either physically or sexually in prison facilities (2003). These numbers indicate a rise in prison violence over the past 15 years. In the present and following chapter, I focus on explaining why interpersonal conflict, the first dimension of the social unrest, happens in particular prisons. With the benefit of the quantitative longitudinal data, this research moves beyond previous research that has depended primarily upon cross-sectional data on a small sample of prisons (Cao et. al. 1997; Dine 1998; DiIulio 1987; Ellis et. al. 1974; Irwin 1980; Patrick 1998; Reisig 1998; Useem 1985; Walters 1999; Wooldredge et. al. 2001).

In this chapter, I discuss the two dominant theories, importation and deprivation, that scholars have employed as competing explanations of interpersonal conflict. The importation theory, described as an argument for culture, supposes that particular individuals are more likely than others to engage in violence. The deprivation theory, labeled a structural argument, preferences characteristics of institutions over those of individuals as salient predictors of such conflict. Building on past research that supports both explanations, I argue for a more integrated approach that identifies *both* social structure and institutional characteristics together along with their interactions as important predictors of levels of interpersonal conflict. I go on to propose the social disorganization theory as a viable alternative approach. As an underpinning to my argument for the applicability of the social disorganization model in the present study, I compare prisons to residential communities theoretically on a number of dimensions. Finally, I conclude the chapter by proposing a set of hypotheses to explain the relationships between the social structure of prisons and characteristics of these institutions and their levels of interpersonal conflict.

THEORETICAL FRAMEWORK

Deprivation Theory

Scholars studying prison violence have typically argued for the importance of aspects of the social structure over characteristics of prison institutions (or the reverse) in explaining interpersonal prison conflict. The deprivation and importation theories represent these two competing arguments. According to the deprivation theory,

characteristics of prison organizations are the salient predictors of interpersonal conflict (Clemmer 1940; Light 1991; Sykes 1958). Drawing upon traditional sociological models, Miles Harer and Darryl Steffensmeier describe the deprivation theory as an argument for structure (1996). They write, “The deprivation model provides a functionalist or structuralist explanation that views inmate behavior as a response to problems of adjustment posed by the deprivations or "pains" of imprisonment. Inmate violence is due largely to the influence of prison-specific variables” (329:1996).

In his classic work, Gresham Sykes describes the “pains of imprisonment” as limited services, security and liberty (1956). He writes,

“Imprisonment, then, is painful. The pains of imprisonment, however, cannot be viewed as being limited to the loss of physical liberty. The significant hurts lie in the frustrations or deprivations which attend the withdrawal of freedom, such as heterosexual relationships, isolation from the free community, the withholding of goods and services and so on. And however painful these frustrations or deprivations may be in the immediate terms of thwarted goals, discomfort, boredom, and loneliness, they carry a more profound hurt as a set of threats or attacks which are directed against the very foundations of the prisoner’s being” (1958:79).

As inmates feel the “profound hurt” over limited services, liberty and security, interpersonal conflict is argued to ensue as a reaction to this profound hurt they feel under these conditions. Crowding, quality of food and services, and degree of security are examples of the specific conditions that have been tested as predictors of conflict. Moreover, several studies have provided support that these particular conditions affect conflict (Ellis et. al. 1974; Colvin 1982; Gaes and McGuire 1985; Eckland-Olson et. al. 1983; MacKenzie 1987).

Importation Theory

In contrast, the importation theory implies that social structure of the prison, as opposed to characteristics of the institution, are the most salient predictors of conflict (Cao et. al. 1980; Ellis 1974; Irwin and Cressey 1962; Irwin 1980; Harer and Steffensmeier 1996). The theory is based on the assumption that individual inmates “import” into prisons a set of characteristics and values, which heavily influence their behavior in these institutions (Irwin and Cressey 1962; Irwin 1980). Directly challenging the work of Sykes, John Irwin and Donald Cressey argued that inmates who enter prison with certain characteristics are most likely to engage in interpersonal conflict (1962). Drawing upon another sociological model, Harer and Steffensmeier (1996) describe the importation theory as an argument for culture. They write, “The importation model or cultural model. . . attributes inmate behavior to the preprison attitudes, identities, and experiences of inmates” (329: 1996). Therefore, interpersonal conflict in prisons is not a function of the characteristics of the organization but rather the characteristics of individuals who enter these institutions.

Scholars testing the importation theory have posited that the race and age of inmates are key predictors. Younger rather than older inmates are proposed to have a more difficult time adjusting to prison and thus have more confrontations with other inmates and with correctional staff. Also, younger inmates may view violence as an appropriate response to conflicts. This proposition has been tested and confirmed in a number of studies (Adams 1981; Ellis et. al. 1974; Flanagan 1983; MacKenzie 1987; Toch and Adams 1986).

As for race, Black inmates, as opposed to Whites, are argued to be more likely to be associated with interpersonal conflict. This is based on the reasoning that Blacks often enter prison from impoverished communities with higher rates of violent crime. Thus, they bring into prison with them cultural norms that condone violent behavior. This race or culture argument has been heavily debated and contested in the literature (Wooldredge 2001; Ellis et. al. 1974; Hewitt, Poole and Regoli 1984; Toch, Adams and Greene 1987; Harer and Steffensmeier 1996; Wolfgang 1961). However, Harer and Steffensmeier find strong support for this argument in their study, and they conclude, “We interpret the racial effect on violent misconduct as evidence of subgroup differences in the support or tolerance of violence and as support for the importation view of inmate responses to prison life” (345:1996).

Social Disorganization Model

While scholars have typically tested the importation and deprivation theories as competing explanations of interpersonal conflict in prison (Gaes and McGuire 1985), a few scholars urge their integration (Akers et. al. 1977; Goetting and Howsen 1986; Thomas 1977), and such an integrated approach seems appropriate given the empirical support for both theories found in the literature (Wooldredge 1991). Therefore, I argue the approaches can be integrated parsimoniously within the social disorganization model. I now detail the model and then provide an argument for its applicability to the study of interpersonal conflict in prisons.

Clifford Shaw and Henry McKay (1942) originally proposed the model as an explanation of delinquency rates. Shaw and McKay argued that communities are prone

to higher crime when social control becomes ineffective, which is largely a function of relationships among residents (*ibid.*). Crime becomes pervasive when ties cannot be formed or are become tenuous for some reason. Scholars testing the model have specified both social structure, such as the ethnic composition of a community (Kasarda and Janowitz 1942; Sampson and Groves 1989), and organizational characteristics, such as the number of volunteer groups (Kornhauser 1978; Sampson and Groves 1989), as obstacles to forming relationships. To further explain, ethnically diverse populations lack the trust necessary establish salient ties with one another (Kasarda and Janowitz 1942; Sampson and Groves 1989). Formal groups are important because they offer opportunities for community residents to form relationships with one another and also serve as socializing mechanisms.

While I acknowledge that prisons of inmates are different in particular ways from communities of residents, I argue that the social disorganization model is relevant for understanding why violence occurs in these institutions. The social disorganization model was originally specified to explain juvenile delinquency in communities of residents. While inmates are different in many respects from juveniles, scholars have long argued based on rich ethnographic studies that prisons are particular types of communities, admittedly peculiar, but communities nonetheless (Clemmer 1958; Cloward 1960; Goffman 1961; Sykes 1958; Sykes and Messinger 1960). Furthermore, the unequal power and antagonism in relationships are fundamental similarities between both types of communities. Neither residential communities nor prisons share power equitably with youth or inmates and thus tensions develops. Shaw and McKay write about the emergences of this tension in residential communities,

“Even though in the latter situation [community] conventional traditions and institutions are dominant, delinquency has developed as powerful competing way of life. It derives its impelling force in the boy’s life from the fact that it provides a means of securing economic gain, prestige, and other human satisfactions and is embodied in delinquent groups and criminal organizations, many of which have great influence, power, and prestige” (164:1942).

The authors’ comments illustrate the contentious dynamics between a community and its youth and are akin to the descriptions given by Clemmer (1958) and Sykes (1958) regarding prison authorities constant attempts to subvert a range of inmate behaviors deemed intolerable.

The quote from Shaw and McKay also suggests another similarity that exists between residential communities and prisons. Not unlike inmates, youth are said to more likely to establish ties among themselves than with adults. These ties often lead to the formation of networks or groups that exclude adults or authorities. McKay and Shaw remark, “. . .most delinquent acts are committed by boys in groups, that the techniques for specific offenses are transmitted through delinquent groups organization, and that in his officially proscribed activity the boy is supported and sustained by the delinquent groups to which he belongs” (177:1942). The authors indicate that these groups are seen as primary sources of deviance and typically labeled as “gangs” and suppressed by both residential and prison communities. While I have focused exclusively on youth, residential communities often exercise authority over many subgroups they deem threatening, such as vagrants.

While prisons communities are different in particular ways from those of residential ones, both contain imbalanced and antagonistic social relationships among those who reside within them. Again, social relationships are central to the social disorganization theory because of their ability to produce both informal and formal social

control of crime. Based on this reasoning, I propose the social disorganization as an integrated approach of the importation and deprivation theories, to explain levels of interpersonal conflict in prisons.

In the previous section, I have detailed the two dominant theories, importation and deprivation, explaining levels of interpersonal prison conflict and proposed the social disorganization model as a more integrated approach to studying. I, now, propose a set of hypotheses to guide my analyses. I begin with premises about the relationships between the social structure and institutional characteristics of prisons and interpersonal conflict that are developed from the importation and deprivation theories. I conclude the section by modifying these hypotheses and offering additional ones according to the social disorganization.

HYPOTHESES

The importation, deprivation and social disorganization theories offer implicit premises about the determinants of interpersonal conflict. Importation preferences social structure, deprivation posits institutional characteristics and social disorganization proposes both structure and institution. In this section, I detail nine hypotheses to test how well each theory explains variant levels of interpersonal conflict for state male prisons included in this research. I begin with hypotheses developed from the importation theory.

Importation Theory and Interpersonal Prison Violence

Importation theory assumes that Blacks and youths are more likely to engage in interpersonal violence indifferent of characteristics of prison institutions. That is characteristics of prison institutions are unimportant in predicting interpersonal violence when aspects of the social structure are considered. Extending this individual level argument, I expect that levels of interpersonal violence, all things being equal, are higher in prisons where minorities and youth are more heavily represented. As the importation theory is predicated on a cultural argument about the permissiveness of violence among minorities, I propose that interpersonal conflict is also more pronounced among minority staff.

Hypothesis 1: Rates of interpersonal violence in a prison *increase* as the percentage of younger inmates *increases* in a population controlling for characteristics of an institution.

Hypothesis 2a: Rates of interpersonal violence in a prison *increase* as the percentage of minority inmates *increases* in a population controlling for characteristics of an institution.

Hypothesis 2b: Rates of interpersonal conflict in a prison *increase* as the percentage of minority staff *increases* in a population controlling for characteristics of an institution.

Deprivation Theory and Interpersonal Prison Conflict

Alternatively, the deprivation theory proposes that the “pains of imprisonment” are the most significant predictors of conflict. While the theory is accurately described as a structural explanation, it is important to draw attention to the fact that early scholars (Donald Clemmer 1940 and Sykes 1958, who made argument did not deny the possibility that inmates enter prisons with certain cultural norms more or less permissive of violence. Instead, these scholars proposed that the unique experience of imprisonment caused

inmates extreme stress and frustration, which leads to violence or aggression against other inmates and staff. Specifically, the loss of services, liberty and security are conditions of confinement that agitate inmates the most. Therefore, the characteristics of prison institutions diminish or outweigh the social structure of prisons in predicting interpersonal conflict.

Having clarified this point, I now offer hypotheses about the relationship between characteristics of prison institutions and interpersonal conflict in these institutions. Specifically, these premises address the effect of services, liberty and security on interpersonal prison conflict.

Hypothesis 3: Rates of interpersonal conflict *increase* in a prison as services for inmates *decrease*.

Hypothesis 4: Rates of interpersonal conflict *increase* in a prison as liberty for inmates *decreases*.

Hypothesis 5: Rates of interpersonal conflict *increase* in a prison as security for inmates *decreases*.

Social Disorganization and Interpersonal Prison Conflict

The social disorganization model suggests that both the social structure of prisons and the characteristics of these institutions are each important predictors of interpersonal conflict. However, to test the social disorganization model the hypotheses proposed from the importation and deprivation theories must be modified and extended. Beginning with the social structure of prisons, according to both importation theory and the social disorganization model, race is an important predictor of interpersonal conflict. However, the critical distinction between the two explanations is that the former assumes that the subculture of Blacks is responsible for this conflict. The later assumes that violence

occurs as a result of deficient relationships created by heterogeneity in the population, specifically related to the diverse racial backgrounds of individuals. Again, heterogeneous populations or different groups of individuals lack the trust necessary to establish relationships, which serve as control against crime (Shaw and McKay 1942; Kasarda and Janowitz 1974; Sampson and Groves 1989). The racial composition of a population, therefore, is not important because certain people are more inclined to violence but because a diverse population is inhibited in producing informal control that prevents interpersonal conflict. Based on the distinction between the social disorganization model and the importation theory, I assert:

Hypothesis 6: Rates of interpersonal conflict in a prison *increases* as the racial heterogeneity of inmates *increases*.

Bringing community back into the social disorganization model, I identify another important set of relationships in prisons. These are ties among prison staff and between staff and inmates. In traditional communities, police departments are identified as vital sources of control against crime (Hunter 1986). Conflict becomes pervasive if this control becomes ineffective, which happens if relationships within a police department or between a department and residents are contentious. Prison staff perform a role similar to police. On behalf of the state, prison staff members employ control in the way of force, coercion and even violence to maintain order. Extending the social disorganization model to prisons, I argue that, like residential communities, control becomes ineffective if relationships among prison staff are inhibited for any reasons.

Hypothesis 7: Rates of interpersonal conflict increase in a prison as racial heterogeneity among prison staff *increases*.

The social disorganization model not only indicates how characteristics of prison institutions affect interpersonal conflict, but it also indicates how such characteristics may interact with social structure to predict such violence. As with the importation theory, social disorganization differs from the deprivation theory in its assumptions about why the same set of premises still matter for explaining interpersonal conflict. The deprivation argues that characteristics of prisons are important as indicators of conditions of imprisonment, which inmates react to with violence against others. Conversely, characteristics are important in the social disorganization model because they either enhance or inhibit social relationships among a population. Again, in the model relationships are sources of control against violence.

Despite the clear distinction in why structure matters for predicting rates of conflict, scholars of both the social disorganization model and the deprivation theory have tested common characteristics as predictors of conflict, such as formal groups and population density. Therefore, I contend that the benefit of employing the disorganization model in this study is not in the identification of additional structural variables but in the specification of how institutional characteristics interact with social structure to affect prison violence.

A few scholars have tested not only the main effects of prison demographic and characteristics of prison institutions on interpersonal conflict, but also their interaction effects (Gaes and McGuire 1985; MacKenzie 1987; Wooldredge 2001). How age interacts with certain characteristics of prison institutions, particularly conditions of overcrowding, has been of particular interest. However, research examining other interaction effects has been limited. In this research, I consider how institutional

characteristics moderate the effects of social structure on prison interpersonal conflict. Drawing upon the empirical work testing the social disorganization theory, I consider interactions between heterogeneity and formal prison groups (Sampson and Groves 1989). Again, these groups are argued to offer community residents an opportunity to build social relationships, which reduces crime (Sampson and Groves). To guide this analysis, I present the following hypotheses:

Hypothesis 8: The interaction effect of inmate racial heterogeneity and formal inmate groups *decreases* rates of interpersonal conflict in a prison.

Hypothesis 9: The interaction effect of staff racial heterogeneity and formal inmate groups *decreases* rates of interpersonal conflict in a prison.

In this chapter I have outlined the theoretical framework in this current study of interpersonal prison conflict, which includes the importation, deprivation and social disorganization explanations. I, also, have offered a set of nine hypotheses that detail the relationships between each theory and interpersonal prison conflict. In Chapter three, I describe the quantitative data, measures and statistical analysis employed in this study. Furthermore, I describe the trends in interpersonal prison conflict from 1984 to 1990 and empirically test how well each theory explains levels of violence in these institutions.

Chapter 2: Trends and Explanations of Prison Interpersonal Conflict, 1974-1995

This chapter is concerned with answering two questions: 1) how have the social structure and institutional characteristics of prisons changed; and 2) how well do both social structure and institutional characteristics account for interpersonal conflict in prison. To answer these questions, I exploit information on more than 700 state minimum, medium and maximum male adult prisons from 1974 to 1995. I employ multilevel growth curve models to analyze the impact of both social structure of prison populations and the changing institutional characteristics of prisons on levels of interpersonal conflict.

I begin with a description of the data and research methods for this research. Next, I present findings from the analysis of the cross-sectional data that describe trends prison interpersonal conflict, the social structure of prisons and characteristics of these institutions. I then present results of the multilevel models that examine how well measures of the social structure and institutional characteristics of prisons, as detailed in the importation, deprivation, and social disorganization theories, explain interpersonal prison conflict. Finally, I discuss the findings and consider the implications of this study.

DATA

The U.S. Department of Justice censuses of adult prisons for the years 1974, 1979, 1984, 1990 and 1995 are the main data source for this research. The 1974 census is based on the reporting period July 1, 1973 to June 30, 1974. The 1979 census is based on the reporting period July 1, 1978 to June 30, 1979. The 1984 census is based on the

reporting period July 1, 1983 to June 30, 1984. The 1990 census is based on the reporting period July 1, 1989 to June 30, 1990. The 1995 census is based on the reporting period July 1994 to June 20, 1995. Each census includes information on federal prisons, youth, women and men state institutions, medical facilities, drug and alcohol centers, boot camps, work camps, and community correctional facilities. Information for censuses was collected by mailing surveys to each institution. The response rate for each year was 100%. For this research, each of the three datasets was restricted to include minimum, medium and maximum-security state operated facilities for the general confinement of adult males.

What is especially important to note about the data is the fact that these prisons are regulated and managed by different correctional agencies in each state, in contrast to federal prisons that are controlled by one central body, the Federal Bureau of Corrections. The political and bureaucratic nesting of the prisons within states means that prisons located in the same state may be expected to be systematically similar to one another in a variety of ways. This can be described as a dependency problem in the data, which affects the predictors and analysis employed in this research. Multilevel analysis is exploited to handle this problem, which is discussed in detail following the description of the set of dependent and independent variables.

MEASURES

Dependent Variables

Prison interpersonal conflict is the phenomenon to be explained in this analysis. Interpersonal conflict is measured by three variables: 1) the mean rate of inmate-on-

inmate assaults per prison; 2) the mean rate of inmate-on-staff assaults per prison and 3) the mean rate of homicides per prison. These incidents exclude “ ‘tickets¹,’ official warnings, and other minor incidents (U.S. Department of Justice 1995).” The Department of Justice made these exclusions during the initial data collection. Rapes and other sexually motivated attacks are not differentiated from other physical assaults.

The nature of prisons places inmates, the captives, and staff, the captors, in a perpetual antagonistic relationship with one another. Therefore, assaults on prison staff by inmates are a constant concern for prison authorities. In a study of prison violence, Lee Bowker divides inmate-on-staff assaults into two categories: 1) patterned spontaneous attacks and 2) unexpected attacks. Patterned spontaneous attacks are identified as incidents that happen when prison staff are placed in dangerous situations, such as intervening in inmate conflicts. Staff are unlikely to be the original targets of these incidents. Unexpected attacks are incidents that happen without warning or apparent cause. In these incidents, staff are clear targets. To provide a clearer understanding of inmate-on-staff assaults, I discuss Stephen Light’s descriptive study of some 694 incidents of staff assaults by inmates that occurred in thirty-one New York State prisons in 1983 (1994).

In this study, Light found that inmates assaulted staff in various locations inside the prison (1994). However, approximately 50% of them took place in the cell block or housing area, where many inmates spend the majority of their time. Also, more than 90% of staff assaults involve only one inmate (Light 1994). Light describes a particular incident that involved an inmate first throwing urine in the face of a staff person and then

¹ Tickets refer to citations that are written by prison staff for inmate violations’ of prison regulations.

attempting to hit him with a broom and glass jar, when he was checking that the inmate's cell door was locked during rounds.

Light also found that some 77% of the incidents included in the study did not involve a weapon other than the inmate's personal body, and 11% involved dangerous weapons, such as knives and blackjacks (1994). Only 3% of the assaults caused serious injury involving significant loss of blood, unconsciousness or injuries requiring emergency treatment. An example of a serious incident described in the study involved an inmate first punching a guard in the face and then slashing his face with a razor as the guard was subduing the inmate in the cafeteria.

One unique feature of prisons is their sanctioned violence. Staff are authorized to use violence against inmates in a wide variety of situations. It may also be argued that violence among inmates is expected and even condoned. While there may be disagreement on this latter point, inmate-on-inmate interpersonal conflict is an indisputable feature of prisons. In comparison with inmate-on-staff assaults, assaults among inmates are more likely to be under reported (Cooley 1993). As with attacks on staff, inmates are assaulted by other inmates in various locations in the prison. The two most common areas include those poorly supervised, such as cells and showers, and those densely populated, such as recreation rooms and dining areas (Wortley 2002). In the majority of inmate-on-inmate assaults weapons are not used, but when weapons are used they range from homemade knives to any loose object in the prison, such as eating utensils, writing implements, and exercise equipment (Atlas 1983; Wortley 2002). Also similar to inmate-on-staff assaults, most inmates are assaulted by a single inmate (Wortley 2002). Unlike inmate assaults on staff by inmates, however, inmates-on-inmate

assaults are more likely to involve sexually violence. This violence ranges from forced oral, anal sex, or fondling (Struckman-Johnson et. al. 1996).

Homicides are the most extreme and rarest form of interpersonal conflict in prisons. Unlike inmate-on-staff or inmate-on-inmate assaults, inmate-on-inmate homicides are more likely to involve a weapon, typically a knife or other sharp object. Inmates are usually killed as a consequence of a pre-existent conflict (Wortley 2002). These incidents are also likely to involve more than one inmate and may be part of a larger collective conflict, such as a riot. The data used for this study does not permit me to determine if an inmate has been killed by another inmate in the course of a collective conflict.

Independent Variables

Social Structure of the Prison Population

Prison is the unit of analysis in this paper. Therefore, each cluster of independent variables, the measures of *social structure* and the measures of *institutional characteristics*, are aggregated for each prison. Seven aggregate measures of prison social structure are specified to test the importation theory reflected in hypotheses 1 and 2. The first set of variables are measures of the racial composition of the inmate population and include 1) the percentage of black inmates; 2) the percentage of other inmates, which includes the combined total of inmates identified as Hispanic, Asian or Native American; and 2) the percentage of white inmates. The second set of variables are measures of the racial composition of the prison staff population and include 1) the percentage of black correctional officers; 2) the combined percentage of Hispanic, Asian

and Native American correctional officers and 3) the percentage of white correctional officers. Third is the youthful inmate measure, which is specified as the percentage of inmates who are age 17 and under.

Four variables are specified to test the social disorganization model and hypotheses 6 through 9. The first two variables are measures of the racial heterogeneity among the inmate populations and the prison staff population. These heterogeneity measures are computed using the index of concentration or CON measure (Ray and Singer 1973). The index is represented as:

$$1 - \sqrt{\frac{\sum P_i^2 - 1/N}{1 - 1/N}}$$

where P_i represents each group's proportion in the total population and N represents the number of groups. The index ranges from 0 to 1. The more heterogeneous a population is the closer the index approaches a value of 1.

I have borrowed the index of concentration from scholars interested in determining how wealth or political power is distributed in a system. Similar to these scholars, I am interesting in the distribution of the inmate and staff in racial categories, or the racial heterogeneity, in a prison population (Fox 1971; Irwin 1980). Taking examples from the data used in this study, there are three racial groups, Black, White and Latino, Asian and Native American, in a state prison in Arizona that is included in the analyses. The distribution of inmates in each racial group within that prison is relatively even with Blacks representing 23%, Latinos, Asians and Native American inmates representing 38% and Whites representing 35%. Utilizing the formula above, the CON measure indicates that the racial heterogeneity in this particular prison is 0.90, which indicates

extreme diversity. Contrast this institution with another state prison in Virginia where the distribution of inmates in racial groups is more highly skewed. In this prison, there are only two racial groups, where 2% of the inmates are Black and 98% are White. The inmate racial heterogeneity of this institution is extremely low at 0.03. I suspect that relationships will be much more contentious in the Arizona prison than the Virginia prison because of there are more racial groups which are more evenly represented in the inmate population.

Institutional Characteristics of Prisons

The deprivation theory and hypotheses 3 through 5 and hypotheses 8 and 9 are tested with a set of five measures of a prison's institutional characteristics. Based on the information provided in the data, I construct both direct and indirect measures of services, liberty and security in prisons, which relate to hypotheses 3 through 5. Indirect measures are constructed from information about specific court orders, which have resulted in federal supervision. These orders and decrees are subdivided into three groups, which include inmate services, prison practices and living conditions. Two scales are created from court orders regarding inmate services and prisons practices. (The specific items included in each scale and coefficients of reliability for each are included in Appendix 1.)

The first scale includes court orders for 1) education/training programs; 2) recreation; 3) counseling; 4) medical services; and 5) food service/nutrition. This scale represents a measure of services and ranges from 0 to 5 and tests hypothesis 3. The higher the value of the scale the lower the level of inmate services. Consequently, the lower the value of the scale the higher the level of inmate services. Again, according to

hypothesis 3 rates of interpersonal conflict increased in prisons where levels of services are low.

The second scale is composed of orders or decrees for 1) administrative segregation practices; 2) staff related-issues; and 3) disciplinary policies. This scale represents a measure of security, ranging from 0 to 3, and tests hypothesis 5. I suggest that problems with the practices of a prison are an indication of inefficiency by administration and staff, which negatively affects the security of both inmates and staff. Therefore, when prisons are under such court orders interpersonal conflict is exacerbated.

Two dummy variables were constructed from court orders or decrees for inmate crowding and fire hazards. A value of 1 for each of these variables indicates that a prison is currently under such an order or decree and a value of 0 indicates that no such orders or decrees exist. The fire hazards variable is a measure security and tests hypothesis 5. When such orders exist, interpersonal conflict is positively affected. Unlike the other measures of security that I construct, inmate safety is not threatened by other inmates but by the prison institution.

The crowding court order dummy variable is an indirect measure of both liberty and security, which is used to test hypotheses 4 and 5. I contend that mobility in a prison is reduced when the number of inmates increase beyond the designated population that the building was designed to occupy. Not only do crowded prisons limit the ability of inmates to move about in the general population of an institution, but such conditions also affect living arrangements in cells as well as opportunities to participate in programs. Furthermore, it is plausible to assume that crowded institutions make it difficult for staff to supervise the activities of the inmate population and thus negatively impact the feeling

of individual security. Again, these orders expected to positively affect interpersonal conflict.

The actual level of crowding in a prison is used as an additional measure of both inmate *liberty* as well as *security*. Inmate crowding is operationalized by dividing the total number of inmates being housed in a prison by to the number of inmates each prison was designed to house. A score of more than one indicates overcrowding.

A final measure of *security* was created by computing the ratio of the number of inmates to the number of prison staff in a prison. I expect that security is negatively affected as the number of inmates more extensively exceeds the number of staff in a prison.

The final set of institutional variables includes measures of the existence of inmate programs for testing the social disorganization model and deprivation theory, specifically hypotheses 3, 8 and 9. Inmate programs are measures of services, as well as formal prison groups. Unlike other inmate groups, such as gangs and some religious sects, prison authorities sanction inmate programs. As in communities, I propose that these sanctioned groups offer inmates an opportunity to interact with each another in one of the most conducive and safest of environments. Five measures of inmate programs are included in this analysis: 1) education, 2) prison work industry, 3) prison work-release, 4) employment and 5) counseling. Dummy variables are created and given a value of 1 to indicate if a program exists in a prison and 0 to indicate that it does not for each year.

Interaction variables were constructed to test hypotheses 8 and 9. Each of the two heterogeneity measures is multiplied by the five inmate program variables. The first set of combinations includes inmate racial heterogeneity multiplied by 1) education program;

2) prison work industry program; 3) prison work-release program; 4) employment program and 5) counseling program. The second set of combinations includes staff racial heterogeneity multiplied by 1) education program; 2) prison work industry program; 3) prison work-release program; 4) employment program and 5) counseling program. Values of zero for these measures are an indication of a racially homogeneous inmate population and/or a prison without a specified program. Increasing values of these measures indicate racially heterogeneous populations where inmate programs are present.

ANALYSES

Recall that in this research, I seek to answer two broad questions: 1) how the social structure of the prison population and the institutional characteristics of these institutions changed over time and 2) how social structure and institutional characteristics account for variation in rates of interpersonal conflict. Statistics that describe how prisons have changed over the 1974 to 1995 period are presented in Table 2.1, including the three dependent variables and the twenty-five independent variables.

To answer to the second question, I use overdispersed, multilevel Poisson models with prison-specific inmate population sizes as an index of variable exposure. Poisson regression is chosen to handle the fact that the data is heavily skewed to the left or rather that many prisons have a value of zero for many of the dependent variables. Multilevel analysis is employed to handle the dependence problem in the data, the fact that prisons are nested in states, and makes it possible to account for changes in the dependent variables across time. As Bryk and Raudenbush observe, "... behavioral and social data commonly have a nested structure, including, for example, repeated observations nested

within persons. These persons also may be nested within organizational units such as schools. Furthermore, the organizational units themselves may be nested within communities, within states, and even within countries” (4: 1992). However, traditional statistical analyses have been unable to represent these levels in data (Bryk and Raudenbush 1992). In accurately modeling the structure in the data, the analysis also provides an estimation of the effects of social context on outcome variables, which too has posed problems for researchers (DiPrete and Forristal 1994).

Formally, the nesting in the data is handled in the analyses by permitting the effects of predictors to vary randomly across the levels in the data. For example, in our research the effects of the prison demographics and institutional characteristics of prisons on interpersonal conflict are not constrained to be the same for prisons located in different states. Similarly, change in conflict during the observed 11-year time period can be allowed to vary across prisons.

What this means for the analysis is the specification of distinct models that partition the variance in the dependent variables into components for each level of the analysis. Again, for the present research this means a model for variation within the set of prisons, across the states and finally across the years or waves. Therefore, the multilevel model I use to study how prisons have changed and how these changes account for interpersonal conflict estimates equations at three different levels of analysis. Level 1 addresses the change in interpersonal conflict in prisons over time in a number of dimensions. Level 2 represents the variation in this change in interpersonal conflict among prisons within states. Lastly, the level 3 model reflects the variation among prisons between states. Therefore, whereas ordinary least squares regression involves

specifying a single equation to explain a certain predictor, the multilevel regression models used here are represented by an equation at each of the three levels.

FINDINGS

Prison Interpersonal Conflict

The mean rates and standard deviations of staff-on-inmate assaults, inmate-on-inmate assaults and inmate-on-inmate homicides in state prisons from 1984 to 1995 are presented in Table 2.1. These means represent the average number of staff assaulted by inmates, inmate assaulted by other inmates, as well as inmates killed by other inmates in a particular year. As the Justice Department only began collecting information on levels of interpersonal conflict in each state prison for the final waves of data, statistics on the dependent variables are only available for 1984, 1990 and 1995.

Table 2.1 and Figure 2.1 indicate that the mean prison rate of inmate-on-inmate assaults was consistently the highest of the three variables in each wave across the 11-year period. Figure 2.1 shows that both inmate-on-staff assaults and inmate-on-inmate assaults increased steadily across time. Mean prison rate of inmate-on-inmate homicides declined between 1984 and 1990 before increasing from 1990 and 1995.

----- Figure 2.1 about here -----

Social Structure of Prison Population

Inmate Population

As evidenced by the increasing mean inmate populations and total inmate populations reported in Table 2.1, the number of individuals confined in state minimum,

medium and maximum closed² facilities has grown at an astonishing rate over the past two decades. This trend in the inmate population of state prisons is displayed in Figure 2.2, which shows that the number of male inmates increased 455% from 1974 to 1995. We see that the sharpest increase happened between the years of 1990 and 1995, when the number of inmates more than doubles in five years.

----- Figure 2.2 about here -----

Changes in the racial composition of prisons have been of great interest to both researchers and the general public and are also related to several theories about interpersonal conflict in prisons. In Table 2.1, note the proportions of Black and White inmates in state prisons in 1984 when the former comprised .44 and the latter .46. The representation of the two racial groups was close to even. However, in the years following the proportion of White inmates in the prison population decreased as the number of Black inmates increased. By 1995, Blacks compose .51 of the total inmate population in state prisons compared to whites who composed only .37. Also, notable is the increase in other non-white inmates, Latinos, Asians, and Native Americans from 1974 to 1995. With Latinos comprising the largest proportion of this group, the percentage of other inmates increased 500% in this 21-year period.

Also of interest has been the number of youthful offenders being confined in state prisons, which is measured in these analyses as male inmates 17 and younger. As this information is only available in the last three datasets, the findings indicate that the

² A closed facility is defined as an institution where more than 50% of the population is restricted from leaving the facility.

proportion of youthful inmates has remained relatively low, as well as having decreased over time. In 1984 some .01 of the inmate population was 17 and younger. This percentage dropped below .01 in 1990 and continued to decline in 1995. Throughout the 11-year time period, I find that individuals below the age of 17 comprise a very small proportion of the total population of state male prisons.

Staff Population

As might be expected, the demographics of the prison staff have also experienced some changes over the past two decades. Focusing on correctional staff, the trend in the growth of the officers' population parallels that for inmates (Table 2.1). The number of correctional officers increased steadily from 1974 to 1995. Again, the largest increase occurs between the years of 1990 and 1995.

Juxtaposing the growth in the inmate population to that of correctional staff, the later outpaces the former. The ratio of inmates-to-officers decreased from 1974 to 1990 time period. However, the ratio began to rise between 1990 and 1995 as the growth in the inmate population outpaced that of the prison staff.

Comparing the racial composition of staff to inmates, we notice a divergence in the two trends. Although Blacks became the new majority in the inmate population, Whites continued to be the dominant group among prison staff. They represent some .74 of the total population in 1995. In comparison, the proportion of other non-white staff surpassed the percentage of non-white inmates in 1995. They comprise some .12 of the staff population compared to only .06 of the inmate population.

Institutional Characteristics

The growth in the inmate population has corresponded with a growth in the size of the population of prison institutions themselves. Figure 2.3 shows that in the two decades observed the number of institutions has more than double with an increase of 162%.

----- Figure 2.3 about here -----

In order to examine the growing prison population in the context of the expanding population of prison institutions, the analyst must consider the issue of prison crowding. The mean levels of the two measures of crowding are displayed in Table 2.1. The design capacity measure is computed by dividing the number of inmates specified by the architects that a facility was designed to house to the number of inmates being housed at the time of the survey. The rated capacity measure is computed by dividing the number of inmates (as specified a state official) by the number of inmates being housed at the time of the survey. The design capacity measure of crowding is consistently greater than the rated capacity. Despite the difference in how each is computed, both measures indicate that crowding has grown worse over time. There is a 0.53 correlation between the two variables, which is significant at the .01 level.

Trends in court orders for inmate services, prison practices and living conditions are also reported in Table 2.1. With the exception of fire court orders, the mean for each category of court orders peaked in 1984 and declined in each subsequent data wave. From 1984 to 1995, the mean number of prisons under court orders for issues relating to

prison practices, such as segregation and discipline, declined some 41%. During this same 11-year period, the mean number of prisons under court orders for inmate services, such as medical, recreation, food and inmate programs, also declined 41%. The number of institutions under court orders for fire hazards declined 46%.

Crowding court orders, a measure of living conditions, are the exception to this trend. Instead of declining, these court orders have increased in each of the three waves of data. From 1984 to 1995, the mean number of prisons under court orders for crowding rose from .12 to .21, which corresponds to a 75% increase. This rise in crowding court orders makes sense considering the, previously discussed, finding that levels of crowding in prisons have also risen over this same time period.

However, the finding that three of four categories of court orders have steadily declined is particularly interesting in consideration of the Prison Litigation Reform Act passed in 1995. The purpose of the legislation was to reduce the number of frivolous lawsuits that inmates filed against prisons. Some key provisions include a 90-day deadline for a federal judge to consider a state official's request to end court monitoring and supervision of prison conditions. If the judge does not comply with the deadline, the court order is automatically suspended and monitoring of that institution ends. Also, the legislation makes it difficult for inmates to file lawsuits in the first place in federal courts to invoke legal action against prisons.

Examining the impact of the Prison Litigation Reform Act, the Justice Department found that the rate of civil rights petitions filed by federal and state inmates declined from 37 per 1,000 inmates in 1995 to 19 per 1,000 inmates in 2000 (Scalia

2002). The legislation is expected to dramatically affect court orders; therefore, will be of great interest to examine the trend in prison court orders in subsequent years.

Considering the rapid growth in the prison population, many have questioned the ability and willingness of these institutions to provide services for inmates, particularly programs. The trends in the mean number of prisons operating inmate educational, psychological counseling and substance abuse programs from 1974 to 1995 are found in Table 2.1. The three programs follow a similar pattern of decline and growth. The proportion of prisons having each program declined from 1974 and 1979 and grew between 1984 and 1995, with counseling programs available in the fewest institutions. These declines can be attributed to the abandonment of the rehabilitation model during the late 1970s, which sought to reform prisoners through primarily through education and psychological treatment (Gebelein 2000; Irwin 1980).

What is interesting is the prevalence of in programs starting in 1984 and continuing in 1995. This is striking considering how much has been said about the reduction of programs in prisons. Richard Gebelein attributes this rise to a newfound focus on drug treatment for the increasing numbers of inmates who were drug offenders. He writes about these changes,

“By the mid-1970s, the effectiveness of rehabilitative programs (and consequently the rationale for indeterminate sentencing) began to be questioned, and by the 1980s, they were widely considered a failure. . . .It did not appear that the rehabilitation was alive or respected anymore. But that perception was wrong. Particularly for the drug-involved offenders, the groundwork was being laid for reviving rehabilitation” (2:2000).

Gebelein’s explanation seems plausible considering that alcohol/drug programs were present in over 90% of prisons in 1995. While concern has been expressed over prison authorities’ willingness to provide inmates with programs, the evidence indicates that, to

the contrary, the presence of educational, counseling and drug/alcohol programs are on the increase.

Also, in Table 2.1 are the trends for prison work industry programs, prison work-release programs and employment programs. In comparison to education, psychological counseling and substance abuse programs, these programs have been much less prevalent in prisons and have experienced steeper declines over time. Moreover, between 1974 and 1995 there has been a major shift in the trend of these three programs. In 1974, employment programs were the most common with such a program existing in nearly 80% of prisons. In this same year, prison work industry programs were the least common and were in fewer than 40% of institutions. Some 20 years later in 1995, prison work industry programs were present in as many as 94% of prisons. Work-release programs were available in only 17% of prisons in 1995 as opposed to being available in as many as 49% of prisons in 1974.

Multilevel Poisson Regression Models

Unconditional Models

It is customary in multilevel regression analysis to begin with the specification of an unconditional model, which excludes the predictor variables. This model provides information on how much variation exists in the dependent variables at each level of the data. Again, the three levels of this analysis are time at level 1, prisons at level 2 and states at level 3. Furthermore, with growth curve models time variables are added in order to model the trends in inmate assaults, staff assaults and inmate homicides. These variables include a measure of linear time (T), as well as a quadratic term (T²). The

quadratic term allows us to determine if the change in the dependent over time is curvilinear. Again, the utility of multilevel analysis is the ability to allow for differences in the average rates of conflict across not only prisons but also states. Furthermore, the relationship between time and conflict can also be allowed to vary across prisons and states. However, the analysis lacks the power necessary to include additional random effects³. Therefore, unconditional random intercept growth curve models are specified to describe general patterns of conflict across state prisons.

Unconditional models provide a baseline for further analyses. In these initial findings, the quadratic term was non-significant in both the inmate-on-staff assaults and the inmate-on-inmate assaults. As a result, the models for these two dependent were reduced to exclude the term. A best model test confirmed these findings and the reduced model was retained. The final unconditional models fitting the raw time trends for each dependent variable are displayed in Table 2.2.

----- Table 2.2 about here -----

The coefficient of the intercept in the null model represents the average rate of conflict when time is zero. In specifying a growth curve model for each of the dependent variables, I have coded the three time points as 2.2 for 1984, 1 for 1990 and -1 for 1995. Therefore, zero falls between 1990 and 1995. Based on this coding, the coefficient of the intercept is interpreted as the mean prison rate of conflict around 1993. Again, the linear

³ It is my hope that this problem can be corrected in future analyses. These models will be rerun in an updated version of HLM that Dr. Stephen Raudenbush generously provided.

time coefficient is the mean rate of change in conflict and time-squared is the mean acceleration of change or curvature of the line.

The coefficients for the model for inmate-on-staff assaults appear in Table 2.2 and are labeled Model 1. The coefficient of the intercept is -4.67 and indicates that in 1993 the average rate of assaults on staff was 9 per 1,000 ($e^{-4.67}$). The coefficient for the time variable is 0.00 and indicates that there has not been a significant change in the mean rate of inmate-on-staff assaults during the three waves of data. Comparing this finding to Figure 2.1 and the means reported in Table 2.1, the growth curve model indicates that the increase in inmate-on-staff assaults, as indicated in the cross-sectional analysis, is not significant over the 11-year period.

According to Model 2, the mean rate of inmate-on-inmate assaults for 1993 was 27 per 1,000 inmates ($e^{-3.60}$) and also increased on average 8% percent each time period. Returning to Figure 2.1 and Table 2.1, the findings for the growth curve model does indicate that the increase in the mean rate of inmate-on-inmate assaults, as indicated in the cross-sectional analysis, is significant from 1984 to 1995.

The third interpersonal conflict measure is inmate-on-inmate homicides. According to Model 3, the average rate of inmate-on-inmate homicides for 1993 was 1 per 100,000 inmates ($e^{-11.74}$). The findings indicate that the average rate of inmate-on-inmate homicides decreased some 5% ($e^{-11.74}$) between 1984 and 1990. However, the model indicates that in 1993 the mean rate is accelerating moderately at 27% (e^{24}). In other words, initially the mean rate of inmate-on-inmate homicides decreased but had increased at the midpoint between 1990 and 1995. Again, returning to Table and Figure 2.1, this finding that the change in inmate-on-inmate homicides is curvilinear is

consistent with the findings from the cross-sectional analysis. As reported in Table 2.1, the mean number of inmate-on-inmate homicides increased significantly from 1990 and 1995.

Overall, these findings indicate that the average rate of inmate-on-inmate assaults in prisons have increased significantly in the 11-year time period from 1984 to 1995. Prisons have experienced both an increase and decrease in their mean rate of inmate-on-inmate homicides over this same time period. Conversely, there was no significant change in the mean rate of inmate-on-staff assaults.

The variance components for the three dependent variables appear in the lower panel of Table 2.2. Chi-square statistic tests the hypothesis that the variability is homogenous at a given level. The χ^2 for level 2 tests whether the several measures of interpersonal conflict vary significantly across prisons within states. The level 3 χ^2 tests indicate whether interpersonal conflict varies significantly across states. There is significant variability at each of these levels for all three measures with the single exception of inmate homicides, which is non-significant at level 3. This indicates that mean rate for inmate homicides do not vary significantly across states. Thus, states are more similar in their mean rate of homicides than dislike in contrast to staff and inmate assaults, which vary considerable both across prisons and across states.

The variance components also allow us to assess how much variability exists at each level of the data. To do this, the level 1, level 2 and level 3 variance components are added and then divide by the sum. The results indicate that the vast majority of the variation in inmate-on-staff assaults occurs within prisons (86%). In other words, the mean rate of inmate-on-staff assaults of individual prisons has changed considerable

across time. Some 10% of the variance is at level 2, which indicates how much prisons vary from each other in their mean rate of inmate-on-staff assaults. Only 4% of the variability occurs at level 3 or between prisons in different states. The corresponding χ^2 statistics for level 2 and level 3 variance components indicate that although the percentages are small significant variation exist both in the mean rate of inmate-on-staff assaults among prisons and between states.

The variation at each level of the analysis for inmate-on-inmate assaults is also skewed. Some 95% exist within prisons over time, while only 3% is across prisons and 2% between states. The corresponding χ^2 tests for the level 2 and level 3 variance components are significant. Again, the mean rate of inmate-on-inmate assaults differs significantly among prisons, as well as between prisons in different states.

Decomposing the variance for inmate-on-inmate homicides, I find that unlike inmate and staff assaults the majority of the variability (93%) in the mean rate is among prisons at level 2. Only 2% of the variance exists within prisons over time. Therefore, individual prisons have changed relatively little in their homicide rate, while the real differences exist among prisons. Some 5% of the variance is between prisons; however, the corresponding χ^2 indicates that the difference is not statically significant. Building upon these baseline models, I now specify conditional models, which include theoretical clusters of predictors of the interpersonal outcome variables.

Fully Condition Models

The current analysis involves testing three theoretical explanations of interpersonal conflict in prisons. These include the importation, deprivation and social

disorganization theories, which suggest social structure and institutional characteristics as predictors of interpersonal conflict. Initially, a set of partial models was specified to assess the relationships between each set of predictors and each of the three dependent variables, inmate-on-staff assaults, inmate-on-inmate assaults and inmate-on-inmate homicides. Next, a set of full models containing both social structure and institutional characteristics predictors was specified for the three outcome variables.

The first cluster of models specified tested the importation theory and included measures of the social structure of the prison population as predictors. The findings for these models are in Table 2.3. The second set of models tested the deprivation theory and included institutional characteristics of prisons as predictors. These findings are reported in Table 2.4. The third set of models included both social structure and institutional characteristics' predictors to test importation and deprivation theories as competing explanations of interpersonal conflict. These findings are presented in Table 2.5.

The fourth cluster of models was an initial test of the social disorganization theory as the models only included measures of racial heterogeneity in the prison population. These findings are reported in Table 2.6. The fifth cluster of models included both measures of population racial heterogeneity and characteristics of the prison institution to test the social disorganization theory. These findings are reported in Table 2.7. Finally, the sixth and seventh set of models included interaction variables to test the moderating effects of heterogeneity and inmate programs upon interpersonal conflict. In Table 2.8, I present the findings for the set of models that include interactions between inmate racial heterogeneity and inmate programs. In the final Table 2.9 are the findings for the cluster of models that include interactions between staff racial heterogeneity and inmate

programs. Finally, Table 2.19 summarizes how well the findings support the set hypotheses presented in Chapter one regarding the relationships between both social structure and institutional characteristics and levels of interpersonal conflict in prisons.

Social Structure of Prison Population. In this section, I discuss the findings for cluster of models that include predictors of the social structure of the prison population, which test the importation theory. Table 2.3 displays a set of models predicting each measure of interpersonal conflict with characteristics of prison inmate and staff social structure. These predictors include the percentage of Black and other non-white inmates and staff, as well as the percentage of young inmates. Starting with effect of the social structure of the inmate populations on inmate-on-staff assaults (Model 1), I find that only percent Black inmates is a significant predictor. The transformation of the coefficient indicates that each percent increase in the percent Black inmates multiplies the mean rate of inmate-on-staff assaults by 6.62. The percentage of other inmates and the percentage of inmates below the age of 17 in a prison are not significantly related to inmate-on-staff assaults. Additionally, the two measures of the social structure of the staff population, the percentage of Black and other staff, are not statistically significant in Model 1.

----- Table 2.3 about here -----

In Model 2, I find that none of the measures of the inmate social structure are significant predictors of the mean rate of inmate-on-inmate assaults. The staff social

structure measures are also non-significant. Similarly, Model 3 indicates that neither set of the social structure predictors is significantly related to inmate-on-inmate homicides.

Across the three models, only the *percentage of Black inmates* in a prison has a significant effect on the institution's mean rate of *inmate-on-staff assaults*. The remaining four measures of social structure of both the inmate and staff population are unrelated to inmate-on-inmate assaults, inmate-on-inmate assaults or inmate-on-inmate homicides.

Also, two control variables are included in each of the three models. These variables control for the different levels of security of the inmates housed in a facility, which include minimum, medium and maximum. Two dummy coded variables are specified in these and the subsequent analyses. Maximum-security prisons are the reference group. These variables are significant in each model, and the direction of the coefficient of each of these variables indicates that the mean rates of interpersonal conflict are higher in maximum-security prisons than it is in a medium or minimum-security prison, as expected.

Institutional Characteristics of Prisons. In this section, I present and discuss the findings for the cluster of models that include institutional characteristics of prison institutions as predictors of interpersonal conflict. The effects of prison institutional characteristics on rates of interpersonal conflict are included in the next set of models, reported in Table 2.4. In Model 1, the first set of predictors consists of dummy variables indicating the presence of a variety of inmate programs, which are measures of inmate services. Of the five types of programs, prison work-release program, employment

program and psychological counseling program are significant predictors of inmate-on-staff assaults. With the exception of counseling program, the directions of the coefficients are consistent with hypothesis 3 and indicate that the existence of these programs decreases the mean rate of inmate-on-staff assaults. Rather than decreasing the rate of this form of interpersonal conflict, however, the existence of a counseling program actually increases inmate-on-staff assaults by 55% in a prison.

----- Table 2.4 about here -----

Measures of prison security and liberty are the next set of predictors included in Model 1. They are level of crowding, total staff, and inmate-to-staff ratio. These predictors test hypotheses 4 and 5. Only inmate-to-staff ratio and crowding are significant predictors of inmate-on-staff assaults, and the effect of each on the dependent variable is negative. As the ratio of inmates-to-staff and level of crowding in an institution increases, inmate-on-staff assaults increase accordingly, which indicates that security for staff does not appear to be negatively affected under these two conditions. Instead, a one-unit increase in both the ratio of inmate-to-staff and crowding decreases inmate-on-staff assaults by 13%⁴ and 19% respectively, which may suggest that safety actually improves for staff.

Also, the court order variables included in Model 1 test hypotheses 3 through 5. The predictors test the premise the rates of interpersonal conflict increase in prisons with limited services, liberty and security. Of the four court order variables, crowding and

⁴ This percentage is computed by transforming the logit coefficient by $100(e^b - 1)$, where b is the untransformed coefficient of the predictor (Allison 1999).

services are significantly related to the mean rate of inmate-on-staff assaults. The negative coefficient for the crowding court order variable indicates that when a prison is under such an order inmate-on-staff assaults decline some 19%. In contrast, inmate-on-staff assaults increase when a prison is under an order for inmate services. Because this variable is a scale, each court order for services increases the mean rate of inmate-on-staff assaults by 7%. Prisons seem to do better in terms of inmate-on-staff conflict when under the scrutiny of the courts for crowding, while institutions do worse when the issue is inmate services. Therefore, these findings support hypothesis 3 but contradict hypothesis 5.

In Model 2, the same set of institutional characteristics is used to predict inmate-on-inmate assaults. Of the five program variables, education, prison work industry and psychology counseling programs are significant and positively related to the dependent variable. When either of these programs is present in a prison, the mean rate of inmate-on-inmate assaults increases. The existence of an education program has the largest affect on the mean rate of assaults, increasing it some 70%. Prison work industry program increases the mean 36%, followed by prison work-release program at 8%. These findings are counter to hypothesis 3, which suggested that that such program would negatively rather than positively affect inmate-on-inmate assaults.

The crowding and total staff measures are non-significant. However, unlike Model 1 inmate-to-staff ratio has a positive effect on inmate-on-inmate assaults as proposed in hypothesis 5. As the ratio of inmates-to-staff increases, the mean rate of inmate-on-inmate assaults increases by 5%, which may suggest a decline in safety.

Among the set of four court order variables, the only significant predictor in Model 2 is inmate services. It is negatively related to inmate-on-inmate assaults, which contradicts hypothesis 3. Each court order for such services decreases the mean rate of inmate-on-inmate assaults some 10%.

The relationship between the institutional characteristics' predictors and inmate-on-inmate homicides is tested in Model 3 and reported in Table 2.4. Testing hypothesis 3, the findings for Model 3 indicates that education, prison work industry programs, employment and psychological counseling are the significant predictors among the set of program variables. The nature of these relationships is mixed. Education and employment programs confirm hypothesis 3, as the existence of these programs corresponds to a decrease in rate of homicides. Education programs have the largest negative effect. When such a program functions in a prison, the mean rate of inmate-on-inmate homicides decreases 87%. The existence of an employment program decreases the mean rate 20%.

Conversely, inmate-on-inmate homicide rates increase in prisons where prison work industry and counseling programs are present. Counseling program increases the rate of inmate-on-inmate homicides 93%, and prison work industry program increases the rate some 86%.

Level of crowding and inmate-to-staff ratio are also both significant predictors of inmate-on-inmate homicides. The coefficient for the crowding variable is negative, which is counter to hypotheses 4 and 5. The direction of the effect indicates that inmate-on-inmate homicides actually decrease as a prison becomes over populated. The coefficient for both the inmate-to-staff ratio is positive, as anticipated. A one-unit

increase in the inmate-to-staff ratio increases the mean rate of inmate-on-inmate homicides 54%, which supports hypothesis 5.

Finally, three of the four court orders are significant predictors of the mean rate of inmate-on-inmate homicides. As predicted, inmate services and fire hazards court orders significantly increase the mean rate of homicides and support hypotheses 3 and 5.

Contrary to hypotheses 4 and 5, crowding order significantly decreases the mean rate of inmate-on-inmate homicides. I note that the practices court order measure barely missing being the statistical significant at the 0.05 level.

To briefly review the relationship between institutional characteristics and interpersonal prison conflict, I find inconsistent support for hypothesis 3, as well as contradictory results. Of the five inmate programs, psychological counseling is the only significant predictor of all three of the dependent variables. While according to hypothesis 3 it was expected that such a program would decrease interpersonal conflict, the effect is positive in each model. Similarly, prison work industry programs are significant and positively related to inmate-on-inmate assaults and homicides. However, the relationship is significant and negative in the model predicting inmate-on-staff assaults. The effect of education is also mixed. Such programs decrease mean rate of inmate-on-inmate homicides, while increasing rate of inmate-on-inmate assaults. Supporting the hypothesis 3, employment programs are significant and negative in the models predicting inmate-on-staff assaults and inmate-on-inmate homicides. These programs decrease mean rates of conflict as asserted. The findings indicate that some kinds of inmate programs, not all specified in the analysis, are significant predictors of interpersonal conflict. Furthermore, the nature of the relationship between those

programs that are significant predictors is not consistent across the three dependent variables.

Also, partial and contradictory support was found for hypotheses 4 and 5. Although the level of crowding measure is only significant in the model predicting inmate-on-inmate homicides, it is negative rather than positive in all three of the models. The inmate-to-staff ratio is positive and significant in Models 2 and 3 and thus supports hypothesis 5 that interpersonal conflict worsens when the number of inmates exceeds the number of staff. It, however, is a significant and negative predictor in Model 1 and counters the hypothesis.

Of the court order measures, the inmate services variable is the only consistent predictor of all three measures of interpersonal conflict. As proposed, the direction of the coefficient is positive in the inmate-on-staff assaults' and inmate-on-inmate homicides' models. Conversely, it has a negative effect on inmate-on-inmate assaults. The crowding court order measure is significant in Models 1 and 3. As with the measure of level of crowding, the effect is negative and counters hypotheses 4 and 5. The measure of fire hazards orders does support hypothesis 5, as it is a positive significant predictor of inmate-on-inmate. As with inmate programs, some kinds of court orders matter and some do not for predicting interpersonal conflict. Furthermore, the direction of the effects is not uniform across the set of predictors.

Social Structure and Institutional Characteristics. In this section, I discuss a set of full models that include both the social structure of prison populations and institutional characteristics of prison institutions. These models test the competing explanations of

prison interpersonal conflict proposed in the importation and deprivation theories, which are detailed in hypotheses 1 and 2. The findings from these models are presented in Table 2.5 and are compared to the findings in Tables 2.3 and 2.4.

Beginning with Model 1, I find that the previous relationship between percent Black inmate-on-staff assaults remains significant when controlling for institutional characteristics of a prison. Furthermore, percent other inmates, young inmates and percent Black staff are also now significant. The coefficients for both inmate variables are positive and large. Every percent increase in Black and other inmates multiplies the mean rate of inmate-on-inmate assaults by 9.03 and 6.68 respectively. The coefficient for each percent increase in Black staff corresponds to a 44% decrease in inmate-on-staff assaults.

----- Table 2.5 about here -----

With the exception of the crowding variable, the relationships between the institutional characteristic predictors and inmate-on-staff assaults in Table 2.4 remain unchanged in this full model. Controlling for structural characteristics of the prison population, the level of crowding in a prison now has a significant negative affect on these assaults. As the ratio of the actual number of inmates in an institution to the number inmate the institution is designed to hold one unit, the mean rate of inmate-on-staff assaults is reduced 32%.

Controlling for institutional characteristics does not change any of the relationships between structural characteristics and inmate-on-inmate assaults. All of the variables remain non-significant. Also, including social structure predictors does not

appreciably change any of the coefficients between institutional characteristics and inmate-on-inmate assaults.

According to the models presented in Table 2.5, when institutional characteristics of a prison are controlled the five social structure measures continue to be non-significant predictors of inmate-on-inmate homicides. In this full model, the percentage of black and other inmates and staff, as well as those inmates 17 and younger, are not significantly related to the mean rate of homicides. Therefore, Model 3 does not support hypotheses 1 and 2.

I now consider the relationship between the institutional characteristics of prisons and inmate-on-inmate homicides controlling for social structure measures. As for the inmate program variables, I find that all the relationships found to be significant in the partial model hold with the exception of the prison work industry program variable. In Model 3 of Table 2.4, prison work industry program has a significant positive effect on inmate-on-inmate homicides. However, in Model 3 of Table 2.5 this program no longer significantly predicts the mean rate of homicides when social structure measures are included. Of the set of institutional variables, this is the only relationship that is affected when social structure is controlled.

To summarize the findings in Table 2.5, among the three interpersonal conflict measures the model predicting the mean rate of inmate-on-staff assaults is affected the most when both institutional characteristics and social structure measures are controlled. Also, the social structure measures are impacted the most in the full model. Specifically, the social structure measures of the percentage of other inmates, young inmates and black staff become significant when institutional characteristics are controlled. These findings

challenge the importation theory and hypotheses 1 and 2, which assert that social structure measures are significant despite the institutional characteristics of a prison institution. In fact, the relationship between percent other inmates, young inmates and black staff and inmate-on-staff assaults only become evident when institution characteristics are controlled.

Among the institutional characteristic variables, only the level of crowding predictor in the inmate-on-inmate assaults model and the prison work industry predictor in the inmate-on-inmate homicide model are affected by the inclusion of the social structure measures. Crowding in the full model is a significant predictor, while the existence of a prison work industry program is now non-significant in these models.

In the bottom panel of the Table 2.5, I report χ^2 statistics that test if each set of independent variables significant predict each dependent variable, above and beyond the other set of independent variables included in the models. The χ^2 in the row labeled importation predictors test if, together, the set of social structure measures, significantly predicts the mean rate of each of the dependent variables above and beyond the institutional characteristics' measures also included in each model. The χ^2 for Model 1 is highly significant and indicates that the combined set of social structure measures significantly predicts inmate-on-staff assaults, above and beyond the measures of institutional characteristics also included in the model. The χ^2 for Model 2 and 3 is non-significant and indicates that the combined set of social structure measure does not significantly predict inmate-on-inmate assaults and inmate-in-inmate homicides, above and beyond the measures of institutional characteristics also included in each model.

The χ^2 in the row labeled deprivation predictors test if, together, the set of institutional characteristics' measures, significantly predicts the mean rate of each of the dependent variables above and beyond the importation measures of social structure also included in each model. The χ^2 for Model 1, 2 and 3 is highly significant and indicates that the combined set of institutional characteristics' measures do significantly predict inmate-on-staff assaults, inmate-on-inmate assaults and inmate-in-inmate homicides, above and beyond the social structure measures also included in each model.

Social Disorganization. The models specified to test the impact of the social disorganization predictors are reported in Table 2.6. These models include two measures of social structure, inmate racial heterogeneity and staff racial heterogeneity. According to Model 1, inmate heterogeneity has a large *negative* effect on inmate-on-staff assaults. As the inmate population becomes more racially diverse, the mean rate of inmate-on-staff assaults decreases 98%. This negative relationship is the opposite of what is proposed in hypothesis 6. In Model 1, no support is found for hypothesis 7, as staff racial heterogeneity is not significantly related to inmate-on-staff assaults.

----- Table 2.6 about here -----

Model 2 tests the relationship between the heterogeneity measures and inmate-on-inmate assaults. Of the two heterogeneity measures, only inmate racial heterogeneity is significantly related to inmate-on-inmate assaults. A one-unit increase in the racial

heterogeneity of the inmate population decreases the mean rate of inmate-on-inmate assaults by 13%. Again, this finding contradicts hypothesis 6.

Model 3 examines the relationship between heterogeneity and inmate-on-inmate homicides. Similar to the findings for inmate-on-staff assaults and inmate-on-inmate assaults, inmate racial heterogeneity is a significant negative predictor of inmate-on-inmate homicides. As racial heterogeneity in the inmate population increases, the mean rate of inmate-on-inmate homicides decreases. However, a significant negative relationship is also found between inmate-on-inmate homicides and the racial heterogeneity of staff population. A one-unit increase in the racial diversity of the inmate population corresponds to an 88% decline in the mean rate of inmate-on-inmate homicides.

Institutional characteristics are added to these models and the results are presented in Table 2.7. The findings examine if the existing relationships between the heterogeneity predictors and interpersonal conflict hold with the inclusion of institutional characteristics. Similarly, these findings indicate if the existing relationships between the institutional characteristics, as found in Table 2.4, hold with the inclusion of the heterogeneity predictors.

----- Table 2.7 about here -----

Social Disorganization and Institutional Characteristics. As reported in Model 1, inmate racial heterogeneity remains a significant predictor of the mean rate of inmate-on-staff assaults, when institutional characteristics are controlled. The size of the effect

actually increases slightly. Similarly, the same set of institutional characteristic predictors found to be significant in the previous partial model is also significant in this full model. These include prison work-release, employment and counseling programs. Prison work-release and education programs continue to have a negative effect on the mean rate of inmate-on-staff assaults, while counseling programs increase the rates of these assaults.

The crowding and inmate-to-staff ratio measures remain significant and negative in Model 1. The relationships between the court order variables and inmate-on-staff assaults are also unchanged. Conditions of crowding and inadequate services also significantly predict the mean rate of staff assaults. The former decreases the rate and the latter increases it.

In Model 2, I find that inmate racial heterogeneity remains a significant predictor of inmate-on-inmate assaults when controlling for institutional characteristics. As racial heterogeneity in the inmate population increases the mean rate of inmate assaults decreases. However, only one of the three previously significant inmate programs, counseling, continues to be significantly effect inmate-on-inmate assaults in this full model. Education and prison work industry programs are no longer statistically significant, while counseling continues to have a significant positive relationship with inmate-on-inmate assaults. I note that the prison work industry program variable is nearly significant at the 0.05 level.

Inmate-staff ratio remains the only liberty and security measure that is a significant predictor of inmate-on-inmate assaults, controlling for heterogeneity. As the inmate population increases beyond that of the staff, the mean rate of the inmate-on-

inmate assaults increases. In this full model, the size of the coefficient is reduced. Finally, as in the previous model reported in Table 2.4 service court orders have a negative effect on inmate-on-inmate assaults.

Model 3 indicates that inmate racial heterogeneity and staff racial heterogeneity continue to negatively affect inmate-on-inmate homicides when institutional characteristics are controlled. Consistent with Model 3 in Table 2.6, the coefficients for the two heterogeneity measures are still both negative, which indicates that as the racial diversity among inmates and staff increases the mean rate of inmate-on-inmate homicides decreases.

Regarding the relationship between the institutional characteristics and inmate-on-inmate homicides when controlling for heterogeneity, the relationships between the set of inmate program predictors and inmate homicides in this full model do not correspond with those presented in Table 2.4. The significance and direction of the effects of education, employment and counseling programs remain the same. The existence of education and employment programs negatively affects inmate-on-inmate homicides, while the existence of a counseling program has a positive effect. However, in this full model that includes measures of racial heterogeneity of the prison population, the presence of a prison work industry program is no longer a significant positive predictor of homicides.

The relationship between the liberty and security predictors and inmate-on-inmate homicides remain the same in this full model, as in the partial model that were presented in Table 2.4. Controlling for social disorganization measures of racial heterogeneity, increasing levels of crowding positively affect inmate-on-inmate homicides and an

increasing inmate-to-staff ratio negatively affects homicides. Of the court order predictors, fire hazards and inmate services remain significant positive predictors of inmate-on-inmate homicides, as crowding and staff practices continue to have significant negative effects. When social structure is controlled in this model, the practices court order measure becomes a significant predictor of inmate-on-inmate homicides.

Therefore, I find that the relationships between the social disorganization measures of social structure and interpersonal conflict in general hold when controlling for institutional characteristics. However, when controlling for the racial heterogeneity of a prison population the relationships between institutional characteristics and interpersonal conflict are less stable. The effects of the existence of inmate prison programs on interpersonal conflict are the variables most affected in the full models. The existence of an education program ceases to be a significant predictor of inmate-on-inmate assaults. Also, having a prison work industry program is no longer significantly related to the mean rate of inmate-on-inmate assaults or homicides. The additional measures of institutional characteristics remain unchanged or become stronger predictors of interpersonal conflict when inmate and staff racial heterogeneity are controlled.

In the bottom panel of the Table 2.7, I report χ^2 statistics that test if each set of independent variables significant predict each dependent variable, above and beyond the other set of independent variables included in the models. The χ^2 in the row labeled social disorganization predictors test if, together, the set of social structure measures, significantly predicts the mean rate of each of the dependent variables above and beyond the institutional characteristics' measures also included in each model. The χ^2 for Model 1, 2 and 3 is significant and indicates that the combined set of social structure measures

significantly predicts inmate-on-staff assaults, inmate-on-inmate assaults and inmate-on-inmate homicides above and beyond the measures of institutional characteristics also included in each model. I note that the χ^2 for Model 1 is significant at the .05 level, while the χ^2 for Models 2 and 3 are significant at the .001 level.

The χ^2 in the row labeled deprivation predictors test if, together, the set of institutional characteristics' measures, significantly predicts the mean rate of each of the dependent variables above and beyond the social disorganization measures of social structure also included in each model. The χ^2 for Model 1, 2 and 3 is highly significant and indicates that the combined set of institutional characteristics' measures do significantly predict inmate-on-staff assaults, inmate-on-inmate assaults and inmate-in-inmate homicides, above and beyond the social structure measures also included in each model.

Inmate Programs and Heterogeneity Interactions. The next set of models discussed includes interaction variables between the five inmate programs and inmate racial heterogeneity, which are designed to test hypothesis 8. The findings for these models are reported in Table 2.8. Focusing on the effects of these independent variables on inmate-on-staff assaults in Model 1, I find that the interaction effect of inmate racial heterogeneity and prison work industry program is the *sole* significant predictor. This negative moderating effect indicates that as the inmate population becomes more racially diverse in a prison where a work industry program is present, the average rate of inmate-on-staff assaults decrease in that institution. This finding confirms hypothesis 8.

----- Table 2.8 about here -----

To better understanding this finding, I have graphed this interaction effect in Figure 2.4 and 2.5. The graphs compares the main effects of inmate racial heterogeneity and prison work industry and the interaction between heterogeneity and prison work industry program in maximum security prisons⁵ with a mean level of crowding and inmate-to-staff ratio. Figure 2.4 indicates that as heterogeneity increases one standard deviation above its mean in such a prison *with* a prison work industry program, the mean rate of inmate-on-staff assaults decreases less than 1%. However, in the same type of prison *without* a prison work industry program, the mean rate of assaults increases 48% as inmate racial heterogeneity increases. While the moderating effect is not large, it is substantively important considering the large positive effect of inmate racial heterogeneity on inmate-on-staff assaults in the model that excludes the interaction predictor. Furthermore, the findings for this model challenges those for Model 1 reported in Table 2.7. In this earlier model that excluded interaction effects, increasing inmate racial heterogeneity decreases the mean rate of inmate-on-staff. Juxtaposing the two models show how, inmate programs, specifically, work industry, moderates the negative effect of inmate heterogeneity on inmate-on-staff assaults.

----- Figure 2.4 about here -----

⁵ The equation includes measures of security-level, crowding and the inmate-to-staff ratio because all are significant predictors in the model. Other significant predictors were given a value of zero and thus dropped out of the model.

Figure 2.5 graphs the main effect for prison work industry program and the interaction effect of prison work industry and inmate racial heterogeneity on inmate-on-staff assaults in maximum security prisons⁶ with a mean level of crowding and inmate-to-staff ratio. Again, the interaction effect reduces the mean rate of inmate-on-staff assaults a modest 1%. However, the mean rate of assaults is 183% higher in a prison *with* a work industry program and *mean level* inmate racial heterogeneity⁷ than in a prison *without* such a program and *mean level* inmate racial heterogeneity.

----- Figure 2.5 about here -----

The four remaining interaction variables are not statistically significant in Model 1. This finding confirms the relationships between these inmate programs and inmate-on-staff assaults reported in Tables 2.5 and 2.7. Therefore, prison work-release and employment programs negatively affect staff assaults and counseling programs positively affect assaults despite levels of inmate racial heterogeneity. The existence of an education program is not a significant predictor of inmate-on-staff assaults.

In Model 2 of Table 2.8, three of the interactions are significantly related to the dependent variable, inmate-on-inmate assaults. These significant predictors include the interaction between inmate racial heterogeneity and education, employment and counseling programs. In a prison maximum security prison⁸ with education and

⁶ The equation includes measures of security-level, crowding and the inmate-to-staff ratio because all are significant predictors in the model. Other significant predictors were given a value of zero and thus dropped out of the model.

⁷ Inmate racial heterogeneity has been centered in all interaction variables.

⁸ The equation includes a measure of security-level because it is a significant predictor in the model. Other significant predictors were given a value of zero and thus dropped out of the model.

employment programs, the mean rate of inmate-on-inmate assaults decreases as inmate racial heterogeneity increases one unit above the average. These findings indicate a moderating effect of education, employment and counseling programs and inmate racial heterogeneity on inmate-on-inmate assaults.

To better understand both these negative and positive moderating effects, I have graphed the finding for the interaction between heterogeneity and education and counseling programs in Figures 2.6 and 2.7.

----- Figure 2.6 about here -----

Figure 2.6 illustrates that the mean rate of inmate-on-inmate assaults decreases some 12% in maximum security prisons *with* an education program as the inmate racial heterogeneity increases one standard deviation above its mean. In contrast, inmate-on-inmate assaults decrease only 3% in such a prison *without* an education program a one standard deviation increase in heterogeneity. Figure 2.7 indicates that inmate-on-inmate assaults increase some 148% in such a prison *with* an education program and *mean level* inmate racial heterogeneity in comparison to an institution *without* such a program and *mean level* heterogeneity. This positive moderating effect supports hypothesis 8.

----- Figure 2.7 about here -----

Antithetically, Model 2 indicates that as inmate racial heterogeneity increases above the mean in a prison with a counseling program, inmate-on-inmate assaults are

positively affected, which is also graphed in Figure 2.6. The mean rate of inmate-on-inmate assaults increases some 9% in maximum security prisons *with* a counseling program as the inmate racial heterogeneity increases one standard deviation above its mean. Again, this is in comparison to a prison *without* a counseling program, where the mean rate of inmate-on-inmate assaults increases only 3% as the inmate racial heterogeneity increases one standard deviation above its mean. Also, Figure 2.7 indicates that the mean rate of inmate-on-inmate assaults decreases 2% in a prison *with* a counseling program and *mean level* inmate racial heterogeneity as compared to an institution *without* such a program and *mean level* heterogeneity. While the findings indicate a significant moderating effect of counseling program and inmate racial heterogeneity on inmate-on-inmate assaults, the direction of the effect is positive rather than negative as expected. This negative relationship counters hypothesis 8.

The interactions between inmate racial heterogeneity and prison work-release and employment programs are not significant in the model. As reported in Table 2.5, work industry program is a significant positive predictor of inmate-on-inmate assaults, despite levels of inmate racial heterogeneity. Table 2.5 and 2.7 indicate that work release program is not a significant predictor of inmate-on-inmate assaults.

Model 3 in Table 2.8 indicates that not one of the five interaction variables is significantly related to inmate-on-inmate homicides. The non-significant interactions validate the previous findings in Tables 2.5 and 2.7 that education and employment programs negatively affect inmate-on-inmate homicides, while counseling programs positively affect mean rates of homicides. In Table 2.7, work release program is a significant positive predictor. Both sets of relationships hold despite the level of inmate

racial heterogeneity in a prison. Lastly, the findings confirm that the significant negative effect of inmate racial heterogeneity on inmate-on-inmate homicides holds despite the presence of inmate programs, as reported in Table 2.7.

In the bottom panel of the Table 2.8, I report the χ^2 statistics testing if, together, the set of interactions between inmate racial heterogeneity and inmate programs, significantly predicts the mean rate of each of the dependent variables, above and beyond the other social structure and institutional characteristics predictors included in each model. The χ^2 for Model 1 is highly significant at the .001 level and indicates that the combined group of interactions do significantly predict inmate-on-staff assaults in prisons, above and beyond the other predictors also included in the model. The χ^2 for Model 2 is significant, at the .05 level, and indicates that the combined group of interactions do significantly predict inmate-on-inmate assaults in prisons, above and beyond the other predictors also included in the model. The χ^2 for Model 3 is non-significant and indicates that the combined group of interactions do not significantly predict inmate-on-inmate homicides in prisons, above and beyond the other predictors also included in the model.

The final set of models presented in Table 2.9 test hypothesis 9, which propose a moderating effect of inmate programs and staff racial heterogeneity and interpersonal conflict. Adding these interaction variables to Model 1 to predict inmate-on-staff assaults, I find that none of the five moderating effects are significant. Thus, no support for hypothesis 9 is found in this analysis. I conclude, with respect to the moderating effect between inmate programs and staff racial heterogeneity, that the relationships between each main effects and inmate-on-staff assaults are constant in this more complex

model. As reported in Table 3.7, education and work industry programs are non-significant predictors despite levels of staff racial heterogeneity in an institution. Work release and employment programs are significant negative predictors, and counseling program is a significant positive predictor of inmate-on-staff assaults. Lastly, staff racial heterogeneity does not significantly affect staff assaults regardless of the presence of inmate program in a prison.

----- Table 2.9 about here -----

In Model 2 of Table 2.9, the interaction effect of employment program and staff racial heterogeneity is only the significant predictor of inmate-on-inmate assaults. This moderating effect is positive, which does not support hypothesis 9. I have graphed the main effect of prison employment program and the interaction effect of staff racial heterogeneity and employment program on inmate-on-inmate assaults in Figures 2.8 and 2.9.

----- Figure 2.8 about here -----

The results displayed in the graph illustrate that as the staff racial heterogeneity increases one standard deviation above its average the mean rate of inmate-on-inmate assaults increases 7% *with* an employment program in a maximum security prison with an average inmate-to-staff ratio. Conversely, the mean rate of inmate-on-inmate assaults

decreases 5% *without* an employment program in the same such a prison as the staff racial heterogeneity increases a standard deviation. Figure 2.9 indicates that the mean rate of inmate-on-inmate assaults is decreased 27% in a prison *with* an employment program and *mean level* staff racial heterogeneity, as opposed to a prison *without* an employment program and *mean level* staff racial heterogeneity. Again, the positive effect of the interaction variable on inmate-on-inmate assaults does not support hypothesis 9.

----- Figure 2.9 about here -----

The remaining four interaction variables are not significant in Model 2 of Table 2.9, which indicates that the relationships between these inmate programs and inmate-on-inmate assaults hold as reported in Table 2.7. Prison work industry and work release programs are non-significant predictors of inmate-on-inmate assaults despite levels of staff racial heterogeneity.

In Model 3 of Table 2.9, the relationships between the set of interactions and inmate-on-inmate homicides are tested. Not one of the five interaction variables are significant predictors in the model. These findings confirm the relationships between program variables and staff racial heterogeneity reported previously in Table 2.7. Staff racial heterogeneity is a significant negative predictor of inmate-on-inmate homicides despite the presence of inmate programs in a prison. Education and employment programs are significant negative predictors despite levels of staff racial heterogeneity. Finally, work release and counseling programs are significant positive predictors despite staff racial heterogeneity.

In the bottom panel of the Table 2.9, I report the χ^2 statistics testing if, together, the set of interactions between staff racial heterogeneity and inmate programs, significantly predicts the mean rate of each of the dependent variables, above and beyond the other social structure and institutional characteristics predictors included in each model. Of the three dependent variables, only the χ^2 for Model 2 is significant and indicates that the combined group of interactions does significantly predict inmate-on-inmate assaults in prisons, above and beyond the other predictors also included in the model. The χ^2 for Model 1 and Model 3 is not significant and indicates that the combined group of interactions do not significantly predict inmate-on-staff assaults or inmate-on-inmate homicides in prisons, above and beyond the other predictors also included in the model.

SUMMARY

In this analysis, I have answered two broad questions: 1) how the social structure of the prison population, the institutional characteristics and interpersonal conflict of these institutions have changed over time and 2) how well the social structure of the prison population and institutional characteristics account for rates of interpersonal conflict in prisons. Three theoretical arguments, importation, deprivation, and social disorganization and a body of empirical findings motivated the second question.

I concentrated first on the trends in interpersonal conflict. As seen in the descriptive analysis, I found that the mean prison rates of inmate-on-staff, inmate-on-inmate assaults and inmate-on-inmate homicides each rose from 1984 to 1995. However, the findings for the multilevel growth curve models indicate that only inmate-on-inmate

assaults and inmate-on-inmate homicides have risen *significantly*. On average the mean rate of inmate-on-inmate assaults increased 8% in between each wave in the data.

Modeling the trend for inmate-on-inmate homicides, I found a curvilinear pattern. While inmate-on-inmate homicides were declining between the first and second wave of the data, 1984 and 1990, as of 1993 these homicides were increasing at an acceleration of 26%.

In terms of the trends of the social structure of prisons, I found that from 1974 to 1995 the inmate population shifted from majority white to majority non-white. As of 1995, Black inmates represented the highest percentage of the state prison population at 51%. The increase in other non-white inmates was also notable. The percentage of Latino, Asian and Native American inmates increased from 2% in 1974 to 12% in 1995. Therefore, 63% of the total inmate population was non-white in this final wave of the data.

While the findings indicate that the inmate population had undergone major changes, the racial composition of the staff population had not experienced a similar change in demographics. In 1974, Whites comprised 88% of the total staff population. Some 21 years later in 1995, they remained a clear majority at 74%.

Information on the institutional characteristics of prisons allowed me to assess how these organizations had changed in the context of the shifts in the social structure of their populations. One clear change was that the number of prison institutions grew from 275 in 1974 to 721 in 1995, which corresponds to a 162% increase. The conditions of prisons were also of particular interest. The findings indicate that from 1984 to 1995 there was steady decline in the number of prisons that were under court orders for both

inmate services and prison practices. For example, 81% of prisons were under a court order for inmate services in 1984. As of 1995, less than half of prisons, 48%, were under such court orders. Concurrently, court orders in effect for living conditions, specifically crowding, rose during this period.

In addition to this indirect measure of crowding conditions in prisons, I computed two direct measures of crowding, which both indicated that prison institutions had become increasingly overpopulated. The first measure, design-capacity crowding, was computed by dividing the number of inmates specified by the architects that a facility was designed to house by the actual number of inmates being held in a prison institution. The mean of the crowding design capacity measure rose from .88 in 1974 to 1.28 in 1995, which indicates that on average prisons have become 45% more crowded. The second measure, state-rated crowding, divides the number of inmates (as specified a state official) by the actual inmate population in a prison. The mean of this measure, first available in the third data wave, increased from .97 in 1984 to 1.05 in 1995, which corresponds to an 8% increase in crowding.

With the growing number of individuals being incarcerated, concern has been expressed over the functioning of inmate programs in state prisons. These findings indicate that despite record numbers of inmates being housed in state prisons, a number of inmate programs had continued to function in many of these institutions. In particular, alcohol and drug, counseling and education programs existed in no fewer than 60% of state prisons from 1974 to 1995. I also note that all five types of inmate programs examined declined from 1974 to 1979 and an increased from 1990 to 1995. The findings also reveal that across the time period prison work industry and alcohol and drug

programs became increasingly more popular in recent years, while prison work-release and education programs became less popular.

I employed multilevel growth curve models to assess how the social structure of a prison population and characteristics of prison institutions affect levels of interpersonal conflict as specified by the importation, deprivation and social disorganization theory. Based on my theoretical framework that draws upon both the importation and social disorganization theory, I included two distinct sets of social structure measures. The findings indicate that social structure and institutional characteristics had differential affects on the three dependent variables. I have summarized these findings in Table 2.10. For each hypothesis I have indicated if the findings for the three dependent variables provided: 1) support that was consistent with the proposed relationship (+); 2) support that was inconsistent with the proposed relationship (-); 3) support that was both consistent and inconsistent with the proposed relationships (+/-) or 4) no support, consistent or inconsistent, for the proposed relationship.

Support for the importation theory was only found in the model predicting inmate-on-staff assaults. The percentages of black, other and young inmates each had a positive significant relationship with the mean rate of inmate-on-staff assaults in a prison. Although the significant positive relationship between these predictors and inmate-on-staff assaults was consistent with the importation theory, percent of other inmates, Latino, Asian and Native American, and percent of young inmates were *only* significant in the model that also controlled for institutional characteristics of prisons. Therefore, only the relationship between percent black inmates and inmate-on-staff assaults supported hypothesis 2a, which supposes that interpersonal conflict is higher in a prison with

increasingly minority inmates regardless of the characteristics of the institution. These findings are summarized in Table 2.10.

Also, percentage black staff had a significant negative effect on inmate-on-staff assaults. The nature of this relationship was inconsistent with hypothesis 2b, which supposed that interpersonal conflict increases as the number of minority staff in a prison increases. I conclude that these findings provided only limited support for the importation theory. Moreover, the significant effects of percent other Latino, Native American and Asian inmates and young inmates in the model controlling for institutional characteristics indicate that both set of predictors are important for understanding interpersonal conflict. Finally, the fact that these importation predictors only significantly affected inmate-on-staff assaults draws attention to the possible ways that the three interpersonal conflict measures are distinct from each other.

I now turn my attention to the specific characteristics of institutions that significantly predicted measures of interpersonal conflict designed to test the deprivation theory. As with the importation theory predictors, the findings were not uniform for each of the three dependent variables. Also, several of the findings contradicted the hypothesized relationships between institutional characteristics and interpersonal conflict. Furthermore, these relationships changed depending on which of the two sets of social structure predictors, importation or social disorganization, were controlled in the models.

Inmate programs are the first set of institutional characteristics that I discuss. These predictors were of particular interest to this research and tested hypothesis 3, which proposes that the presence of these programs lowers the levels of interpersonal conflict in prisons. The programs were also used to test hypotheses 8 and 9, which supposes that

both inmate and staff racial heterogeneity interact with inmate programs to moderate interpersonal conflict. The models excluding the interactions indicated that several of the inmate program variables were significantly related to each of the three dependent variables. Several of the predictors, however, were *positively* rather *negatively* related to collective unrest, which countered expectations. Furthermore, these relationships varied across the models, as different inmate program variables were significant depending on which set of social structure measures, importation or social disorganization, were included as predictors. Finally, several of the interaction variables were significant predictors and not all of these relationships were positive as was expected.

Briefly reviewing the finding for the institutional characteristics' predictors, I first, summarize the relationships between inmate programs and interpersonal conflict. I found that the existence of an employment program had a significant negative effect on inmate-on-staff assaults and inmate-on-inmate homicides, which is the most consistent *negative* program predictor. The existence of a prison work-release program had a significant negative effect on inmate-on-staff homicides, and the existence of an education program was a significant negative predictor of inmate-on-inmate homicides. However, the relationship was only significant for inmate-on-inmate homicides when the importation predictors of social structure were controlled and was not when the social disorganization measures were included in the model.

While these negative relationships supported hypothesis 3, the positive relationship between the existence of a counseling program and *each* of the three measures of interpersonal conflict contradicted the hypothesis. The presence of this program in a prison had a significant *positive* effect of inmate-on-inmate assaults, inmate-

on-inmate assaults and inmate-on-inmate homicides. Additionally, education and prison work industry programs were significant positive predictors of inmate-on-inmate assaults, as prison work-release program was a significant positive predictor of inmate-on-inmate homicides. However, these relationships did not hold across both sets of social structure measures.

Finally, I examined if the group of five inmate program predictors and the set of two racial heterogeneity predictors moderated each other's relationships with the three measures of interpersonal conflict. These interactions were included in the analyses to provide a clearer understanding of the relationship between both sets of these predictors and the three dependent variables. For example, how does the presence of a particular inmate program affect the relationship between inmate or staff racial heterogeneity and levels of interpersonal conflict?

The findings indicated significant negative effects between both interactions of education and employment programs and inmate racial heterogeneity and the dependent variable of inmate-on-inmate assaults. These negative relationships supported hypothesis 8. When either of these programs were present in a prison and the racial diversity of the inmate populations increased, inmate-on-inmate assaults decreased. A similar finding held for the moderating effect of prison work industry program and inmate racial heterogeneity on inmate-on-staff assaults. These findings are particularly meaningful because none of these program variables were significant predictors in the models excluding interaction effects. Therefore, understanding the social structure of the prison population must be considered to adequately understand the affect of these programs on rates of interpersonal conflict.

Inconsistent with hypothesis 8 was the positive interaction effect between inmate racial heterogeneity and counseling program on inmate-on-inmate assaults. As inmate heterogeneity increased one mean in a prison with counseling program, inmate assaults increased. The positive interaction effect between staff racial heterogeneity and employment program on inmate-on-inmate assaults was also inconsistent with hypothesis 9.

Another unexpected finding among the institutional characteristics was the relationship between crowding and interpersonal conflict. The effect of crowding not only differed for the three dependent variables, but it also contradicted hypothesis 4 and 5. These hypotheses proposed that interpersonal conflict in prison increases as liberty and security for inmates decreases. Crowding was found to have a significant *negative* rather than *positive* effect on inmate-on-staff assaults and inmate-on-inmate homicides. While the effect was not significant in the model predicting inmate-on-inmate assaults, the direction of the effect was positive. The dampening effect of crowding on staff assaults and inmate homicides may indicate that prison authorities take additional measures to guard against interpersonal conflict, such as confining inmates to their cells to limit their movement in a crowded institution, when inmate populations become overly crowded. Thus, while crowding may result in a reduction of liberty for inmates, the increased likelihood of locking inmates down would be expected to effectively suppress interpersonal conflict.

The findings indicated conflicting effects of inmate-to-staff ratio on the three interpersonal conflict dependent variables, designed to also test hypothesis 5. This predictor was significant and negatively related to the inmate-on-staff assaults, which

countered the argument that decreasing security positively affects interpersonal conflict in a prison. However, inmate-to-staff ratio was a positive and significant predictor of inmate-on-inmate assaults and homicides, which supported hypothesis 5. Similar to the effect of crowding, prison staff may take additional measures to control inmates as they become more greatly outnumbered in an institution.

The three categories of court orders, living conditions, staff practices and inmate services, had inconsistent affects on the three dependent variables. As with the direct measure of crowding, the crowding court order variable was an indirect measure of living conditions. A crowding court order was found to be a significant negative predictor of inmate-on-staff assaults and inmate-on-inmate homicides, which countered the expectation that interpersonal conflict is positively affected by declining liberty proposed in hypothesis 4.

Also, the effect of an inmates' services court order on interpersonal conflict was not consistent for the three dependent variables. The predictor was significant and positively related to inmate-on-staff assaults and homicides, which supported hypothesis 3. However, it was significant and negatively related to inmate-on-inmate assaults, which was inconsistent with the hypothesis. Lastly, practices court order was only a significant predictor of inmate-on-inmate homicides, and its negative effect was also inconsistent with hypothesis 3.

These inconsistent relationships between court orders and the three measures of interpersonal conflict suggest that court orders cannot be treated as uniform predictors. Furthermore, these differing effects are another indication that inmate-on-staff assaults,

inmate-on-inmate assaults and inmate-on-inmate homicides are distinct in particular ways.

Finally, I assess how well the findings supported the proposed relationships between social disorganization measures of social structure and interpersonal conflict. Of the social disorganization measures, inmate racial heterogeneity had a significant negative effect on all three dependent variables. As the inmate population becomes more racially heterogeneous, levels of interpersonal conflict decrease. Staff racial heterogeneity was found to be a negative significant predictor of inmate-on-inmate homicides, as well. This finding strikingly contradicted hypotheses 6 and 7 that suppose that heterogeneity increases levels of interpersonal conflict. Therefore, the negative relationships between inmate and staff heterogeneity and the dependent variables indicate that racially homogeneous, not heterogeneous, prison populations are more of a concern with respect to interpersonal conflict. While these findings do not support the proposed hypotheses, they do indicate that racial heterogeneity among inmates and staff is important in explaining interpersonal conflict in prison.

Summarizing the findings, I stress four central points. First, both the descriptive analyses and growth-curve models indicate that prison institutions have undergone a number of changes from 1974 to 1995 in interpersonal conflict, social structure and institutional characteristics. Second, the findings indicate that to fully understand interpersonal conflict in prisons *both* the social structure of the population and characteristics of these institutions must be considered. Third, the lack of consistency in the findings regarding the nature and significance of the relationships between social structure and institutional characteristics indicate that inmate-on-staff assaults, inmate-

on-inmate assaults and inmate-on-inmate homicides are distinct forms of interpersonal conflict. Therefore, they are predicted by different aspects of the social structure and institutional characteristics of a prison.

In the final section of this chapter I explore four important findings, which contribute significantly to current explanations of prison interpersonal conflict. The first is the negative effects of inmate and staff racial heterogeneity on interpersonal conflict. The second is the significant effects of both sets of social structure predictors, importation and social disorganization. The third finding is the conflicting positive and negative effects of inmate programs on inmate-on-staff assaults, inmate-on-inmate assaults and inmate-on-inmate homicides. The fourth is the strong evidence that the three dependent variables are distinct measures of interpersonal violence. I begin with the unexpected effects of racial heterogeneity on interpersonal conflict.

CONCLUSION

The negative relationship between both inmate and staff heterogeneity and interpersonal conflict is an important finding that needs to be discussed further. In Chapter one I argued that prisons and neighborhoods share several important similarities. However, heterogeneity's *negative* rather than positive effect on interpersonal conflict is a reminder of the differences between prisons and neighborhoods, as a central finding in the past empirical research on neighborhoods has been a positive relationship between heterogeneity and crime. While I have stressed the similarities between prisons of inmates and communities of residents, their central difference may offer a plausible

explanation for the contrasting findings. I identify this difference as “intrinsic antagonism” in prisons between captives and captors and among captives.

I first attempt to explain the negative effect of staff racial heterogeneity on interpersonal conflict. Unlike most residents of neighborhoods, inmates live in prisons by force and not consent, and the primary role of staff in prisons becomes ensuring their continuing captivity. According to scholars and the demands of inmates involved in the prison movement of the 1970s, racial imbalance, at least between inmates and staff, exacerbates this antagonism and increases the likelihood of violent confrontations (Irwin 1980; Jacobs 1990, 1993). Resembling arguments made about police departments, racially diverse inmate populations maybe more responsive to racially diverse staff. Therefore, this tenuous “racial solidarity” may serve to moderate the antagonism between inmates and staff, thereby reduces conflict between inmates and staff.

Similarly, I propose that inmate racial heterogeneity also creates a form of racial solidarity that counters antagonism among *inmates* serving to reduce interpersonal conflict. Racial groups may be more likely to form alliances among themselves as a defense against other racial groups. In other words, an “us against them” philosophy develops, which may be particularly true when other visible racial groups are present in an institution. Inmates of a particular racial group may be motivated to suppress conflict with others inmates who belong to the same racial group based on a perceived threat from inmates of other racial groups. As a result, while conflicts between racial groups may be high in such situations (something that the present data does not allow me to assess) lower rates of within group conflict mean lower rates of overall inmate-on-inmate interpersonal conflict.

As I discussed in Chapter one, the introduction of social disorganization measures of social structure, in addition to the importation predictors, is a unique contribution of this research. The findings indicated support for both sets of predictors. The social disorganization heterogeneity measures were significant predictors of all three dependent variables. However, the importation measures, percent black, other and young inmates and percent black staff, were only significant predictors of inmate-on-staff assaults.

Furthermore, the effects of the inmate programs on interpersonal conflict changed depending on which set of social structure predictors were controlled in the models. Controlling for importation predictors, such as percent black and young inmates, two inmate programs, education and work industry, were significant and positive related to inmate-on-inmate assaults. In the model controlling for racial heterogeneity of staff and inmates, neither program significantly affected inmate assaults. Similarly, work release program was significantly positively related to inmate-on-inmate homicides when controlling for racial heterogeneity. This relationship was non-significant in the model controlling for importation predictors of social structure.

I argue that these findings provide strong evidence that the importation and social disorganization predictors measure distinct, but equally important, aspects of the social structure of prison populations. Again, the social disorganization measures of heterogeneity are indexes that capture the racial diversity in the inmate and staff population, while the importation measures describe the racial composition of the populations.

I also suggest that these findings indicate that social structure affects inmates and staff in different ways. This point is supported best by the fact that the importation

measures were *only* significant predictors of inmate-on-staff assaults. The positive effects of both black and other inmates and the negative effect of black staff on inmate-on-staff assaults suggest that there is a possible racial dynamic to these incidents.

The conflicting and inconsistent effects of inmate programs on prison interpersonal conflict are also notable findings. In Chapter one, I proposed that the existence of these programs would have negative affects. However, this was not true for all inmate programs. Having a counseling program, in particular, was the most consistent positive predictor of the three dependent variables.

The different reasons for inmate participation in prison programs may explain these conflicting results. Inmates participate in programs not only to satisfy themselves but to also satisfy the desires of prison staff. Furthermore, inmates are more strongly encouraged to participate in certain programs rather than others. For example, inmates are often assigned to counseling programs based on in-take evaluations. Refusal to participate may result in an inmate being placed in segregation or being given written warnings. Also, in some states participation in work industry programs is mandatory, and only those inmates who are physically incapable of working are exempt. Refusal to participate in work assignments can result in being placed on restriction, which includes the loss of library or recreation privileges. Unlike counseling and work industry programs, inmates often feel much less pressure to participate in education or employment programs and are subjected to fewer negative consequences if they refuse to participate. Therefore, I argue that coerced participation in a program may inhibit the building of social relationships, which produce social control against conflict. As a consequence, the existence of these programs exacerbates tensions and increases

interpersonal conflict. In support of this argument, I draw attention to the positive effect of the interaction of inmate racial heterogeneity and counseling program. Again, inmate-on-inmate assaults increase as heterogeneity increases in an institution with a counseling program, which evidences the problems of this particular program.

Finally, the findings for the relationships between both social structure and institutional characteristics and each of the three dependent variables diverged in several regards, as summarized in Table 2.10. These differences strongly suggest that the three dependent variables are distinct forms of interpersonal conflict and should be analyzed as such, as I have done in this study. In particular, I argue that the findings most strongly suggest a distinction between the processes that drive inmate-on-staff assaults and those that drive inmate-on-inmate assaults. I review these divergent findings and offer explanations of them.

While several of the predictors constructed to test the importation theory account for inmate-on-staff assaults, they were inadequate in predicting inmate-on-inmate assaults or inmate-on-inmate homicides. Only inmate-on-staff assaults are positively affected by increasing minority inmates and young inmates in the prison population. I suggest that relationships between inmates and staff may be susceptible to these changes in the composition of the inmate population in ways that the relationships among inmates are not. The negative effect of increasing inmate racial heterogeneity on inmate-on-inmate assaults and homicides supports this argument. Therefore, I contend that the influx of young and minority inmates into a prison makes interactions between staff and inmates more tenuous, which increase interpersonal conflict between the two.

Finally, related to the deprivation theory, Table 2.10 indicates that there is only one common finding for inmate-on-staff assaults and inmate-on-inmate assaults, which is the conflicting effect of inmate programs. Two of the findings are the same for the dependent variable inmate-on-inmate homicides and both staff assaults and inmate assaults. One particular divergent finding is the *negative* effect of the ratio of inmate-to-staff on inmate-on-staff assaults and the *positive* effect of the predictor on both inmate-on-inmate assaults and homicides. Therefore, the negative effect supported my hypothesis that interpersonal conflict increases as the total number of inmates increasingly exceeds the total number of prison staff, while the negative affect did not. I suggest that this divergent effect indicates that when a limited number of staff are available in an institution with a growing inmate population the living conditions for inmates adversely affected, which increases interpersonal conflict among them.

One plausible example is that inmates have more opportunities to assault and kill one another when inmates outnumber prison staff considerably. I have also suggested that prison staff may take certain measures to control situations when the inmate population increasingly outnumbers the staff population, such as locking inmate down in their cells or restricting them to their individual units or cell blocks. The measures would increase the chances of physical contact among inmates, while decreasing the chances of contact between inmates and staff.

In this chapter, I have detailed the trends in the social structure, institutional characteristics and interpersonal conflict of prisons. I have also empirically evaluated the relationships between both social structure and institutional characteristics and

occurrences of interpersonal conflict. In Chapter three, I turn my attention to collective conflict in prisons.

Chapter 3: A Theoretical Framework for Studying Prison Collective Conflict

As discussed in the introduction, the purpose of this dissertation is to describe the trend of prison social unrest, a two-dimensional concept, and determine its predictors. While the first and second chapters were concerned with the first dimension of social unrest, interpersonal violence, this and the following chapter focus on the second dimension, collective unrest. Again, collective unrest refers to events involving groups of inmates, which disrupt the day-to-day activities of an institution.

Riots are the most commonly known and studied forms of collective unrest that occur in prison institutions. These often-violent events grabbed the attention of the public and scholars, alike, first in the 1950s and then again in the 1970s, when widespread rioting occurred in American prisons. In wake of these newsworthy events, a flurry of research emerged concerned with both understanding and preventing riots. As a consequence, an extensive body of literature exists that includes theoretical explanations of riots and tests of these explanations. However, the bulk of this empirical research is dated and involves case studies, which only examine a single prison or a small subset of prisons. Despite how rapid the population of prisons has grown in the past two decades, contemporary quantitative studies that include a representative sample of prisons have failed to engage the topic. The next two chapters address this void in the literature on collective unrest in prisons.

In this current chapter, I review the dominant criminal justice and social movement theories that scholars have used to explain collective unrest in prisons. Scholars have previously tested these two sets of theories as competing explanations of

unrest. I argue that there is greater benefit in combining these theories. Therefore, I attempt to synthesize the major theories found in the criminal justice literature with those found in the social movement literature to develop a comprehensive explanation of prison collective unrest. To accomplish this, I identify their similarities, as well as their important differences. Finally, I give a brief chronology of the research in this area and discuss significant findings. I begin by reviewing the dominant theories in the criminology literature.

THEORETICAL FRAMEWORK

Criminology Perspectives

Criminology scholars have developed two central theories to explain collective unrest inside prisons, the inmate-balance theory and administrative-control theory (Useem 1999). The former posits that unrest results when the social contract between prisoners and prison officials is broken. This contract permits inmates to engage in certain illegal activities, such as gambling and sexual intercourse. In exchange, inmates “police each other” to ensure that the prison is free of any major disruptions. Unrest occurs, however, when prison officials break their unspoken social contract with the inmates by cracking down on once permitted illegal activities. With their incentive to maintain order gone, inmates are more likely to riot.

The administrative-control theory, in contrast, argues that unrest results from the poor management of correctional facilities. Poor management has three central dimensions in prisons: 1) inadequate conditions; 2) lax security; and 3) emergence of

group formations among inmates. Consequently, organized and dissatisfied inmates are able to engage in unrest because the prison is inadequately secured.

While it may be clear how the inmate-balance and the administrative-control approaches are different, it is worthwhile noting their similarities. Both explain riots as responses by inmates to some changes in the behavior of prison authorities. According to the inmate-balance theory, the shift by authorities from permissive to restrictive control strategies is the catalysis for social unrest. For the administrative-control theory, unrest is an indirect function of authorities neglect rather than vigilance. Another similarity in the theories is that these changes affect prison conditions, which creates discontent among inmates. Also, both theories specify changes in the social structure, specifically relations within the organizations, as a factor in understanding the likelihood of prison unrest.

The differences in the theories include what relationships are affected and the nature of the effects. In the inmate-balance theory it is the relationship between inmates and authorities that disintegrates. In contrast, according to the administrative-control theory relationships among inmates become strengthened. Another important distinction is that unrest in the inmate-balance theory is a direction reaction to the administration. However, according to administrative-control theory it simply occurs because the administration does not prevent it.

Now that the two dominant perspectives of criminology scholars have been reviewed, I now discuss social movement explanations of prison unrest. Again after each theory is detailed, similarities among them are discussed. Then social movement theories are juxtaposed to the criminology perspectives.

Social Movement Perspectives

Social movement scholars have pretty much ignored social unrest in prisons when compared to criminology scholars. In what has been done, a breakdown model of collective action and state-centered theories have been employed to explain social unrest in prisons. According to the breakdown model, collective action arises as a result of social disorganization that breaks social ties among people. This disorganization in turn produces unbearable discontent and “frees individuals from the regulatory mechanisms that inhere in social organization” (Useem 23:1985). Bert Useem employed this model to explain the New Mexico riot of 1980 (1985). He argues that the celebrated riot occurred mainly because inmates faced extreme deprivation due to the severe reduction of prison programs. Useem writes,

“The New Mexico riot appears to have been (in part) a response to the prison disorganization that began dramatically around 1975. The riot was a product of the termination of inmate programs, crowding, idleness, and a generally poorly-administered prison system” (31:1985).

In more recent research, Goldstone and Useem (1999) suggest that prison collective unrest can best be explained using the tools of state-centered theories of revolution. State-centered theories posit that revolutions or collective action occur as a result of the “vulnerability of particular states to revolutionary conflicts” (992:1999). Central to these theories is the idea that what is happening within the state is equally or even more important in accounting for collective action than what is happening among collective actors. Therefore, the occurrence of unrest is not so much a factor of what

collective actors do but the capability of the state to respond to collective action.

Juxtaposing prisons to states, Goldstone and Useem write,

“Given the great similarity between the sociopolitical structures of prisons and the early modern monarchial/imperial states, it seems quite reasonable to explore whether the state-centered theory of revolutions- developed to account for instability in this kind of state- can also be applied to prison riots” (988:1999).

Although Goldstone and Useem stress the differences between social movement theories and the criminology theories described earlier, they fail to note the theories’ common predictors of unrest. Referencing Figures 3.1 through 3.4, I observe the following similarities in the four theories: 1) inmate discontent at prison conditions; 2) altered relationships within the social system, and 3) an initial sudden or gradual change that disrupts the organization. Noticeable differences among them include whether discontent is a direct or indirect effect, what particular relationships are disrupted and the nature of the changes that act as catalysts in the theories. The administrative control and the state-centered theory each identifies the ineffectiveness of prison authorities as important intervening variables. Three of the four theories specify authorities’ ineffectiveness and changes in prison conditions. The former is excluded in the inmate-balance theory and the later is omitted from the state-centered theory. I have detailed these similarities to support our argument of the necessity for incorporating each of these theories from both disciplines in our current study. As a basis for selecting measures of these several broad concepts, I review specific studies that have employed the four theories in various forms to explain prison unrest. Although a number of these studies precede the clear articulation of the theories, they made important contributions to their development, which are discussed.

Early Literature

Criminologists have conducted much of the research on prison social unrest. However, the origin of this work was very much sociological as it emerged from the Chicago school with the classic ethnographic studies first done by Donald Clemmer (1958) and subsequently by Gresham Sykes (1960). Both Clemmer and Sykes described prisons as societies and communities. Arguing this point, Clemmer writes,

“Reference has been made to the prison as a community. To be sure, it is a unique community since it is held together by walls and guns, laws and rules, yet in it regardless of the reasons for its existence, there are social relations, communication which makes the relations possible, and other social processes” (1958:83).

Sykes makes a similar argument in saying,

“.. custody is many individuals bound together for long intervals. Such aggregates enduring through time must inevitably give rise to a social system— . . . the social order which grows up more informally as men interact in meeting the problems posed by their particular environment . . we must see prison life as something more than a matter of walls and bars, of cells and locks. We must see the prison as a society within a society” (1960:xii).

While the works of Clemmer and Sykes are recognized as classics in the study of prisons, each has been criticized on a number of accounts.

Clemmer based his theoretical perspectives toward prisons on a series of studies conducted at Menard, a maximum-security prison located in southern Illinois. From these studies conducted in 1930s, Clemmer presented his comprehensive description of Menard as representative of all prisons. His central argument was that prisons produce a culture and social system unique to themselves that are best characterized by the extreme deprivation that inmates experience. While the deprivations of prison have been

acknowledged as contributing to the uniqueness of this class of organizations, scholars have countered that individuals do not enter prisons as empty vessels but bring with them cultural norms that contribute to the social systems within the prison (Irwin 1980; Jacobs 1983). The implication of this critique is that the features of the social system of inmates and authorities mirror in part what is happening in the surrounding society. Along the same lines, Clemmer was criticized for not recognizing that prisons were constantly being affected by external factors. One important consequence was that prison authorities could not be assumed to be virtuous by default (Sykes 1958; Sykes and Messinger 1960; Irwin 1980).

Sykes based his theoretical perspectives on a study conducted at a New Jersey state prison during the mid-1950s. He also collaborated with Sheldon Messinger on research based in this prison. Not unlike Clemmer, Sykes posited that prisons produced a social system that was distinct from society best characterized by the deprivations experienced by inmates (1958). However, prison authorities were also seen as active agents as they attempted to maintain control over inmates, consumed by the desire to ease the discomforts of incarceration. The result was the establishment of a social contract between inmates and authorities that permitted the former to engage in illicit activities, such as the flow of contraband, gambling and sexual activities, in exchange for assurances of calm to authorities (Sykes and Messinger 1958). Speaking directly to the occurrence of social unrest, Sykes argued that inmates rioted when authorities decided to “crack down” on these once openly permitted activities. His work marked the birth of the inmate-imbalance theory.

However, Sykes' work did not withstand criticism. His argument that inmates were so degraded and demoralized upon entering prisons and that they were stripped almost completely of the vestiges of their former selves was challenged. Again, scholars countered that inmates incorporated norms from their lives before prison into their social interactions during imprisonment (Irwin 1980; Jacobs 1983). Finally, the theoretical perspectives of both Clemmer and Sykes were thought to be in need of revisions to account for the dramatic ways prisons were changing in form and content by the end of the 1950s when both authors' research was published.

Despite the criticisms presented, Clemmer and Sykes' core concept of prisons being symbolic communities composed of a social system gained permanence in the study of prison unrest along with Sykes' inmate-balance theory. The administrative-control theory emerged much later in the literature, as did empirical studies systematically testing any one of the four theories specified in Figures 4.1 through 4.4. However, unlike the research concerning interpersonal violence in prisons, no body of quantitative research studying collective unrest exists. Therefore, this research is timely.

Early Development of Prison Unrest Research

Erving Goffman also made an important, and sometimes forgotten, contribution to literature on the social structure of prisons and unrest in his comparative study of prisons, mental hospitals and military organizations, which he described as "total institutions" (1961). Goffman argued that a reciprocal relationship existed between these institutions and their members, with each exerting influence upon the other. Also, he also contented that total institutions were susceptible to change as a function of societal forces.

Much of the empirical research examining prison unrest was conducted during the 1970s after these previously relatively calm organizations seemed to erupt in unrest at the end of the 1960s and into the 1970s (Wortley 2002). Scholars were challenged with studying a phenomenon that they found both uncommon and unfamiliar. Writing about this situation, Richard Wilsnack remarked,

“The basic problem with theories of collective violence in prisons is that there are no theories. . . no one has yet offered a general explanation of collective violence in prisons that applies unambiguously to observable events, and that has been tested systematically against history or the experience of a large number of prisons. In fact, there is a scarcity of comparative or numerical information about prison disturbances that could be used to test a theory” (61:1976).

In an attempt to lay the groundwork for a theoretical framework for explaining collective unrest in prisons, Wilsnack⁹ collected quantitative data by surveying the largest state prison in each state. The approach to the problem was theoretically significant in that he did not conceptualize unrest in prisons as different from unrest in other social settings. Wilsnack writes, “Our understanding of prison violence does not have to come only from prisons, if events there are similar to violent episodes in other institutional settings” (64:1976). Drawing upon research about collective action in mental institutions, on college campuses and in cities, Wilsnack gathered information on the occurrence of unrest, distinguished as rioting and nonriot resistance; the structural characteristics and conditions within each prison; and the presence of pressure on a prison from external entities.

The analysis focused on determining the distinct and common preconditions for both collective and individual unrest. The general findings was that the preconditions for riots were distinct from “other forms of collective resistance,” which were only described

as including among other things hunger and work strikes (67:1976). Yet, Wilsnack concludes,

“Prisons that have riots seem to differ from prisons that have collective resistance without any rioting. However, all the prisons surveyed that had riots also had some other forms of collective resistance before or after the rioting. This suggests that the characteristics of prisons with only nonriot resistance are not essential for that kind of resistance but rather inhibit rioting or make it seem unnecessary (73:1976)

In terms of the specific findings, riots were predicted by three kinds of factors: 1) social disorganization measured by the number of assaults on staff and inmates by inmates and population heterogeneity in terms variation in the age and offences of the inmates; 2) administrative instability and conflict internal conflict among authorities 3) external pressure from state legislatures and organized groups, as well as media coverage.

Predictors of nonriot resistance included: 1) social disorganization measured as population influxes and racial and offense heterogeneity among inmates; and 2) staff weaknesses as a function of lack of training and educational requirements for correctional officers and scarcity in staff. Wilsnack drew particular attention to the important role inmates played in collective social unrest. In prisons where inmates were organized among themselves, particularly those associated with the Nation of Islam and the Black Panther Party, nonriot resistance rather than riots were more common. By focusing both upon the social disorganization of prisons and the presence of organized inmates, the study is pioneering in that it combines themes from both the criminology and social movements theories.

John Irwin’s *Prisons in Turmoil* (1980) represents an important step forward. Reminiscent of the rich ethnographies of Cressey and Gresham, it is based on

⁹ Although Wilsnack is the sole author of the article, he cites Lloyd Olin as a co-principal researcher and

observations of California prisons. Irwin focused attention not only on the social unrest of the late 1960s and 1970s but also what he described as the “turmoil” in its aftermath. Irwin argued that this turmoil of rampant senseless violence was a culmination of three sequential factors. These included: 1) the politicization of Black inmates during the social movements of the 1960s; 2) the emergence of the Prison Movement in the early 1970s; and 3) prison authorities’ repression of the inmates involved in this movement. I address each factor in turn, which builds in great detail on Wilsnack’s findings.

Irwin argues that the social movements of the 1960s, particularly the Black Power Movement, sparked the spread of political consciousness. Black inmates were challenged to recognize their subordination within the prison social system. Furthermore, the actions of blacks in these movements on the outside encouraged inmates to stand up against the injustices they faced in prisons. Irwin discusses two notable individuals who embody this transformation. The first is Malcolm X who entered prison as a hardened criminal but emerged articulate and well versed enough to become an internationally recognized spokesman for the Nation of Islam. The second example is George Jackson, who used his new political knowledge to speak to the realities of blacks within prison and organize resistance against those conditions. Just as the challenges of blacks in the society at large disrupted the wider social order it did the same within prisons.

As black inmates began to wage collective resistance, namely in the form of strikes, social movement organizations on the outside became more involved in what was happening in prisons. Irwin argues that the result was the birth of the Prison Movement in early to mid 1970s, which he identifies as the second contributing factor to the subsequent turmoil. This movement brought together inmates, prison self-help groups,

refers to him often.

prisoner rights groups, and radical organizations. With the benefit of knowledgeable and organized inmates combined with the resources of external groups, the movement waged struggles for change both within and outside of prisons. Outside struggles consisted of trials contesting the legal system, lawsuits challenging prison conditions, and conferences that served to educate and recruit new activists for the cause. Again, struggles inside took the form of strikes and sometimes demonstrations. However, most memorable of this period were the individual and collective violent confrontations between inmates and authorities. Irwin is careful to stress that a significant proportion of the inmate activities, even those involving violence, were highly organized. He supports this claim with the elaborate manifestoes and detailed list of demands prepared by inmates; the involvement of inmates of various ethnic groups; and coordinated protests by inmates in various prisons.

However, he contends that, not unlike other struggles of the 1960s and 1970s, the prison movement on the outside became fractionalized and weakened by internal dissent among activists. At the same time on the inside, prison authorities increased their repression of inmates involved in the movement. This repression is cited as the third factor accounting for the subsequent prison turmoil. Irwin writes of its unintended effects,

“ . . . the authorities stopped more than the random attacks on guards and other prison employees and the subversive activities perpetrated by some political activities were not threatening violence or subverting the prison. Most were working in an open fashion toward the cessation of blatantly cruel, unfair, and racist practices in the prison and toward the establishment of a human and equitable system of incarceration. The repression of these efforts was unnecessary, but more importantly, it was very detrimental in an unanticipated manner. During this period of rapid changes in the prison population and prisoner relationships, in which the old informal systems of order were demolished, the administrators stopped the development of alternative group structures that could

have prevented the rise of hoodlum gangs involved in rackets, formed on racial lines, and engaged in extreme forms of prisoner-to-prisoner violence” (151: 1980).

As prison authorities repressed inmates to prevent them from organizing themselves, the already fragile social system within prisons experienced a number of changes. One significant change, identified by Irwin, was the increasing heterogeneity in the inmate population, resulting from: 1) more black and Latino inmates; 2) more younger inmates; 3) more inmates with gang affiliations; and 4) more inmates serving time in prisons for nonviolent crimes or less serious offenses. At the same time, the organizational goals of many prisons were being altered with the advent of the “community corrections” approach. Community corrections was based on the idea that treating, as well as controlling, inmates was not the responsibility of prison authorities alone. Instead partnerships between prison authorities and those outside of these institutions were necessary for successful rehabilitation. However, Irwin contends that the failure of community corrections had the ultimate effect of extending the scope of the authorities’ repression to the general inmate population.

In conclusion, about the turmoil in prisons Irwin suggested, “The violent, hostile, and rapacious situation will probably continue until all prisoners are held in very small institutions of less than one or two hundred or completely isolated (both at astronomical costs) or until administrations begin to pull them together on issues that are important to them as a class” (213:1976).

The wave of research on prison unrest that Wilsnack called for never materialized. However, a few studies focusing on unrest in one or a few prisons followed Irwin’s book. Bert Useem’s case study of the New Mexico Prison Riot of 1980 was

undoubtedly one of the most significant (1985). It was important because it brought the study of prison unrest back into the sociological discourse and stimulated research in other disciplines. Also, it marked the first time prison collective action was explicitly addressed from social movement perspective. Again, Useem concluded that New Mexico inmates rioted in response to the discontent they felt at the disorganization of the prison. As evidence of the utility of the breakdown theory, Useem concluded that the increasing discontent was based indirectly on the following: 1) reduction of inmate programs; 2) elimination of services and amenities; 3) inmates' perceptions that prison authorities were negligent in providing security and overly punitive and 4) proliferation of violence by inmates on other inmates and staff.

John DiIulio published another important study that has been credited as providing the conceptual foundation for the administrative-control theory (1987). In this work, DiIulio sharply criticized the existing literature on prison unrest. He said, "Whatever its other merits, the sociological view of prisons does not seem to yield insights that are useful to those interested in improving the quality of prison life. Sociological knowledge about prisons does not yet amount to a body of policy-oriented knowledge about them" (46:1987).

In contrast, DiIulio argues that a "governmental perspective," is more relevant, one which he characterizes as centered on the view that social order in prisons can be best achieved almost exclusively through formal control. Detailing this argument he writes,

"From this perspective, the key actors in any prison setting are the prison administrators, from the director to the warden to the most junior correctional officer in the cellblock. They are the government of the prisons, and it is assumed that the quality of prison life will depend mainly, if not solely, on what they do or fail to do. It is the government of keepers, not the society of captives, that is of primary importance" (47:1987).

DiIulio tested this perspective in a study employing secondary quantitative data from numerous sources that spanned roughly the 1973 to 1983 period. This data was combined with three case studies of state prisons in Texas, California and Michigan. His analysis focused on predicting social order by the levels of amenity and services in prisons. Order was conceptualized as the absence of prison violence, specified as “rapes, assaults, riots, homicides and so on” (50:1987). DiIulio provided a far less clear description of his measures of amenities and services, which he had argued should be measured objectively and subjectively. Expanding only on services, DiIulio specified objective measures that included how many inmates participated in prison programs and how many hours they spent in these programs. Subjective measures included the atmosphere of these programs and the quality of the program staff.

DiIulio’s analysis was confined to descriptive statistics and was severely restricted by incongruent information on the prisons in the three states. He argued that his findings provided little or no evidence to support existing explanations of social unrest. DiIulio dismissed the following factors: 1) characteristics of the inmate population; 2) level of expenditures; 3) level of crowding; 4) inmate-to-staff ratios; 5) level of formal training; 6) architecture; 7) inmate social system; 8) level of inmate treatment; 9) inmate-staff race relations; and 10) repressive measures. DiIulio instead concluded based on the qualitative data he collected that social order is predicted best by the quality of prison management. Of the nature and effects of this management, he writes, “A paramilitary prison bureaucracy, led by able institutional managers and steered by a talented executive, may be the best administrative response to the problem of

establishing and maintaining higher-custody prisons in which inmates and staff lead a calm, peaceful, and productive round of daily life” (256:1987).

Useem and Kimball made a similar argument about the role administrative management of prisons plays in social unrest (1989). They conducted case studies of fifteen large-scale prison riots occurring from 1971 to 1991. Based on detailed information about each riot, they argued that more lax administrative control preceded the outbreak of inmate collective unrest in a prison. This lapse in administrative control of institutions counters the argument made in the inmate-balance theory that supposes a security crackdown. Here, security in prisons becomes extremely ineffective as a result of prison administrators’ negligence.

Useem and Kimball identified the emergence of informal groups also as having an important indirect effect upon collective unrest in prisons. Informal groups such as gangs were found to be more likely to emerge because of lax security in the prisons. They made an important distinction, however, between these groups and those sanctioned by the prisons, such as various sponsored inmate programs. These formal groups were actually found to inhibit riots. Also, significant was the observation that inmate crowding was not a critical precondition for the riots. In sum, Useem and Kimball made a strong argument that degenerating management made prison extremely susceptible to unrest. However, they disagreed with DiIulio, who argued that the control of unrest is solely dependent on prison administrators and can be ensured regardless of the actions of inmates. Useem and Kimball argued that inmates were central in either facilitating or inhibiting unrest through their involvement in informal groups.

Another of Useem's contributions to the research on prison unrest is his study with Jack Goldstone, which involved a broader sociological approach to the topic. Instead of the breakdown theory, Goldstone and Useem (1999) employed the state-centered theory from the social movement literature to explain the occurrence of 13 major prison riots occurring from 1952 to 1993. As a basis for employing explanation, they argued that prisons were strikingly similar to the nation-states in their early stages. The key similarity between prisons and nation-states was seen as susceptibility of both to political pressure, especially legislatures, courts and executives. Scholars studying prison collective unrest previously had largely ignored these external influences by focusing primarily upon internal dynamics within institutions.

Based on their findings, Goldstone and Useem proposed five conditions that produce a "revolutionary" situation inside prisons that create the conditions that give rise to riots. These included 1) an ineffective prison administration caused by external influences; 2) contentious relationships between prison administrators and staff because of either external political pressures or internal disagreements in policies; 3) inmate grievances against the ineffectiveness of authorities; 4) political consciousness among inmates and 5) prison authorities' repression of inmates. These findings are strikingly similar to those presented by Irwin, who also identified the important factors in unrest to be 1) the political conscious raising of inmates; 2) outside influence of social movement groups and 3) authorities' attempt to repress inmates to prevent their involvement in the prison movement. An important difference between the findings of Irwin and those of Goldstone and Useem is the latter's strong argument against the necessity of organizing mechanisms among inmates as a predictor of collective social unrest.

Reaching the end of this chronology of recent scholarship on prison unrest, there have been only two studies conducted that have attempted to test various aspects of all four theories of unrest (McCorkle et. al. 1995 and Useem and Reisig 1999). As well, these studies are distinct in that they are the only ones to include representative samples of prisons (McCorkle et. al. 1995 and Useem and Reisig 1999). The study by McCorkle and his colleagues employed data from two of the surveys to be used in this research, derived from U.S. Department's of Justice's 1984 and 1990 censuses of adult prisons. They examined the effect of inmate deprivation, prison management and the external environment upon prison disorder, specified as incidents of inmate and staff assaults and riots. To test these accounts, they relied almost exclusively on information in the data sets from which they constructed five measures of inmate deprivation and quality of prison management. The deprivation measures included 1) prison crowding; 2) court orders or decrees for crowding or conditions; 3) increasing in crowding; 4) increases in orders and decrees and 5) improvement in security specified by increases in the guard-inmate ratios. The management measures included: 1) guard-inmate ratio; 2) guard turnover, which were taken from the Source book of Criminal Justice Statistics; 3) ratio of White-Black correctional officers; 4) ratio of inmates involved in prison programs and 5) size of the inmate population. Finally, they employed measures of the external environment, including White-Black per capita income ratio reported by the 1990 U.S. Census and state unemployment rate for 1990 taken from the U.S. Department of Labor sources.

Employing multiple regression models, McCorkle and his colleagues found none of the inmate deprivation or prison condition measures to be significant predictors of

individual or collective violence. However, White-to-Black guard ratios and ratio of inmates involved in prison programs did predict inmate and staff assaults, with the later having a negative effect and the former a positive effect. As well, unemployment rates had a significant negative affect on inmate assaults. While their study provides an excellent use of quantitative data to examine prison unrest, the findings did not provide a definitive test of the viability of these several theories of prison unrest. The use of ordinary least squares regression (OLS) analysis rather than multilevel regression is problematic due to the nature of the data, which is discussed at length in the data and methods section. Simply, OLS regression is inappropriate for analyzing prisons that are likely to be similar in certain respect to prisons within the same state and dissimilar from prisons in different states in other respects.

Useem and Reisig (1999) subsequent study was based upon quantitative data they collected on 317 adult maximum and minimum-security state prisons. They designed the study to test the inmate-balance and administrative-control theories against one another in accounting for the occurrence of riots, disturbances and nonviolent protest in prisons. Predictors appropriate to the administrative-control theory included: 1) level of tensions between prison staff and administrators; 2) level of officer morale; 3) availability of paid employment for inmates; 4) percentage of inmates involved in informal groups and 5) number of administrative sanctions against inmates. Measures appropriate for testing the inmate-balance theory included changes in the following policies: 1) cell assignments; 2) inmate movement; 3) inmate personal property and 4) inmate work assignments. In addition, a global scale was created from these inmate-balance predictors to determine if collective unrest resulted from a cumulative “administrative crackdown” on inmates in a

prison. The percentage of inmates involved in formal groups and the extent of inmate crowding were also included as possible predictors, which were identified in either of the two theories being tested.

Specifying multivariate logistic analysis, Useem and Reisig found no significant relationships between the inmate-balance predictors and the three prison unrest outcome variables. Of the administrative-control theory predictors, higher morale among the officers lowered the probability that a prison experienced a riot. Administrative sanctions were negatively related to the occurrences of inmate disturbances. As the number of sanctions upheld by administrators increased, the probability of a disturbance decreased. Also, the increasing number of paid inmates increased the probability of a disturbance and decreased the probability of nonviolent protest. Higher percentages of inmates in informal groups increased the probability of a disturbance. Neither crowding nor inmate participation in formal prison groups were significant predictors of the forms of unrest.

Useem and Reisig draw an important conclusion in this study despite their weak findings. As a guide for future research on the topic, they write, “Finally, the possibility exists that administrative and inmate-balance theories are complimentary, rather than competing approaches” (755:1999). Based on the empirical research reviewed here, I agree with the authors’ conclusion and also suggest that the sociological social movement explanations of prison collective unrest are also congruent with criminological explanations in a number of important dimensions. Therefore, in this study I synthesize the four major theoretical explanations of prison collective unrest for a more comprehensive analysis of the phenomenon. This synthesis yields three categories factors of prison unrest: 1) *social structure* of prison populations; 2) *institutional*

characteristics of these organizations and 3) the *political context* of prisons. In the next section, I detail each of these and offer a set of hypotheses regarding their relationships with incidents of collective unrest in prisons.

HYPOTHESES

Social Structure

Social Relationships

The social movement and criminological theories discussed in this chapter suggest that social relationships within prisons have an important effect on collective social unrest. Similar to my analyses of individual prison unrest in the previous chapters, I argue that the demographics of a prison population affect the nature of relationships within that institution, which is supported with empirical evidence (Fox 1980, Irwin 1980, Jacobs 1993, 1996; Lin 2003; Wilsnack 1973). In particular, I focus on aspects of the prison social structure that impact relationships among inmates, among staff and between inmate and staff.

Both the administrative-control and breakdown theories identify social relationships among inmates as important contributing factors to the occurrence of collective unrest. According to administrative-control, when relationships among inmates are good, meaning that conflict is low and communication is high, collective unrest is more likely. Conversely, breakdown theory offers that collective unrest is more likely when dysfunctional relationships exist among inmates, meaning that conflict is high and communication is low. While breakdown theory is a social movement explanation of unrest, it challenges the assumption held by scholars that collective unrest

depends upon group solidarity, which is difficult to build if divisions or cleavages exist in a population (Fox 1980; Irwin 1980; Oberschall 1993; Zald 1962). The “intrinsic animosity” among those within prison, which I have discussed at some length, makes building inmate solidarity an even more difficult task. Before offering hypotheses based on the administrative-control and breakdown theories, I specify demographic factors that might create cleavages among inmates and thus affect their social relationships with each other.

Much has been said recently of the rise in the number of young black and Latinos in prisons. The influx of minorities and youth is said to have disturbed the dynamics within prisons (Austin and Irwin 2001; Jacobs 1993). Changes in the racial composition of the inmate population have affected the power hierarchy inside of prisons, which favored whites and largely depended upon racial segregation within these institutions (Irwin 1980). The growing numbers of minorities in prisons and court have challenged these segregation practices challenges. At the same time, youthful inmates are said to create problems in the inmate populations as they may experience difficulties adjusting inside the prison. As a consequence, they are more likely to be involved in conflicts with other inmates (Austin and Irwin 2001; Bennett 1975; Wooldredge et. al. 2001). Thus, I identify the racial and age composition of an inmate population as important dimensions of social structure, which are expect to influence the extent and form of relationships and thus indirectly affect collective unrest. Recognizing the conflicting arguments proposed in the administrative-control and breakdown theories about whether it is negative rather than positive social relationships among inmates that make collective unrest more likely,

I offer two hypotheses based on the former and two alternative hypotheses based on the later.

Hypothesis 1a: Collective social unrest is less likely as the composition of inmates in a prison becomes more racially diverse, which negatively affects relationships among the inmate population.

Hypothesis 1b: Collective social unrest is more likely as the composition of the inmates in a prison becomes more racially diverse, which negatively affects relationships among the inmate population.

Hypothesis 2a: Collective social unrest is less likely as the composition of the inmates in a prison becomes more diverse in age, which negatively affects relationships among the inmate population.

Hypothesis 2b: Collective social unrest is more likely as the composition of the inmates in a prison becomes more diverse in age, which negatively affects relationships among the inmate population.

The state-centered theory proposes that relationships among prison authorities have an influence upon collective unrest. According to this theory, unrest is more likely when relationships among authorities become contentious as security in the institution is adversely affected (Camp et. al. 2001; Lin 2001; Lombardo 1989; McCorkle et. al. 1995). Additionally, the inmate-balance theory identifies inmate and authority relationships as important predictors of collective unrest. When relationships between these two groups deteriorate, inmates are more apt to riot. In fact, racial tension between inmates and staff is cited as critical catalyst in the Attica Riot of 1971 (Jacobs 1990). Therefore, I argue that the racial composition of the staff is an important aspect of the social structure of a prison because of its implications for relationships among staff, as well as relations between them and inmates (Irwin 1980; Jacobs 1976; Lin 2001).

Hypothesis 3: Collective social unrest is more likely as the composition of the staff in a prison becomes more racially diverse, which negatively affects relationships among the staff population.

Hypothesis 4: Collective social unrest is more likely as the composition of the staff and inmates in a prison becomes more racially diverse, which negatively affects relationships between the inmate and staff populations.

Institutional Characteristics

Each of the four theories discussed identifies institutional characteristics as critical predictors of the likelihood of collective action in a prison. Based on these theories and empirical evidence, I identify and discuss three salient institutional characteristics for examination. They are 1) internal conditions, 2) security and 3) repression. In the following section, I describe each characteristic and offer a hypothesis regarding its relationship with prison collective unrest. I begin with prison conditions.

Prison Conditions

The state of conditions within prison institutions is implicated in the theoretical explanations of collective unrest. In particular, poor or changing conditions within prisons are seen as a catalyst for inmate discontent toward the institution. Again, as a result of inmate discontent at inadequate conditions collective unrest in a prison becomes more likely. I specify crowding, inmate programs, prison management, security and repression as particular conditions, which produce discontent among inmates.

Crowding. Crowding conditions are argued to be one of the most serious consequences of rising incarceration rates in recent decades. There, however, is a lack of evidence that crowding directly affects the likelihood of collective unrest (McCorkle et. al. 1995; Useem and Reisig 1999). Studies have instead found that crowding interacts with individual inmate characteristics to affect unrest (Eckland et. al 1983). These

characteristics include race and age (Eckland et. al 1983). This empirical evidence suggests the investigation of not only the sole impact of crowding on collective action, but also how such conditions interact with the social structure of a prison population.

Hypothesis 5: Collective social unrest is more likely as the level of crowding increases in a prison, which produces inmate discontent.

Hypothesis 6: Collective social unrest is more likely as the increasing level of crowding interacts with the increasing racial diversity of inmates in a prison, which produces inmate discontent.

Hypothesis 7: Collective social unrest is more likely as the level of crowding interacts with the increasing age diversity of inmates in a prison, which produces inmate discontent.

Inmate Programs. Inmate prison programs have been examined as important indicators of prison conditions. It has been argued that the absence of such programs fuels discontent among inmates, which makes collective unrest more likely in a prison (Useem 1985; McCorkle 1995). Beyond simply representing prison conditions, I also contend, as proposed earlier in my analyses of individual unrest, that the officially sponsored prison groups that form within formal prison programs affect social relationships within these institutions. They do so by providing a critical opportunity for inmates to interact with each other in a less hostile setting. As a consequence, group solidarity can emerge and the chance that inmates will organize around discontent is greater. Again, this assumes solidarity is necessary if inmates are to mobilize around discontent with prison conditions (Oberschall 1993). I suggest that inmate programs are most critical to mobilization in institutions where various poor conditions exist as sources of discontent.

Conflicting hypotheses emerge if inmate programs are treated as indicators of prison conditions and mobilizing mechanisms. If inmate programs are indicators of conditions, their *absence* makes collective unrest in a prison more likely. If inmate programs are mechanisms that allow inmates to mobilize around discontent, their *presence* makes collective unrest in a prison more likely. Based on these two inconsistent arguments, I offer two hypotheses regarding the relationship between inmate programs and prison collective unrest.

Hypothesis 8a: Collective unrest is more likely when inmate programs are absent in a prison.

Hypothesis 8b: Collective unrest is more likely when inmate programs are present in a prison with existing inadequate conditions, which produce inmate discontent.

Prison Management. According to the administrative-control, breakdown and state-centered theories, the quality of prison management is a central predictor of collective action. Each theory specifies that collective action occurs when an institution's leadership becomes ineffective for any number of reasons. I argue that instability in the leadership of a prison or a state correctional system affects the effectiveness of the administration institution. Beyond the transition period involved in leadership changes, problems may arise from the unpopular decisions or policies of new leaders (Lombardo 1989; McGee 1981; Useem 1985). For example, social relationships might become strained among prison authorities. Staff members may become less vigilant about security if they do not see justification for these changes (Lombardo 1989). Finally, I argue that growing inmate populations can pose a challenge for the effective management of prisons. These growing populations affect the security of an institution. This is especially true when the number of staff in a prison does not keep pace with the number of inmates. Based on these arguments, I offer three hypotheses regarding the relationship between prison management and collective unrest in a prison.

Hypothesis 9: Collective unrest is more likely when changes take place in the leadership of the state correctional system, which negatively affects the management of a prison.

Hypothesis 10: Collective unrest is more likely when changes take place in the leadership of the local institutions, which negatively affects the management of a prison.

Hypothesis 11: Collective unrest is more likely when security of a prison because ineffective.

I suggest that staff morale is, also, vital to the quality of security and overall effectiveness of a prison (Lombardo 1989; Useem and Reisig 1999). Prison staff may become lax in their responsibilities if dissatisfied with aspects of their job, such as understaffing and low wages (Cohen 1976; Conrad 1976 and McGee 1981). Therefore, I propose that staff morale has an indirect effect on prison collective unrest.

Hypothesis 12: Collective unrest is more likely as staff morale declines in a prison, which negatively affects security and effectiveness of a prison.

Repression. Increases in incarceration rates led the need to build new prisons as demonstrated in the findings presented in the previous chapter. These prisons differ from those built before them in their more sophisticated use of technology for social control (Austin and Irwin 2001; Fairweather and McConville 2000). Newer prisons are highly automated and make heavy use of electronic surveillance to monitor inmates. This technology is argued to tremendously increase formal control by authorities over inmates and therefore its presence should make collective unrest less likely (Fairweather and McConville 2000).

Hypothesis 13: Collective unrest is more likely in older prisons, which lack advanced technological security.

Political Context

Each the four theories place varying emphasis on the actions of administrators as determining factors of prison collective unrest. However, I argue that it is also necessary to recognize that prisons and their administrators do not operate autonomously. Instead, these institutions are each deeply embedded in state correctional systems. However, scholars have tended to treat these institutions as autonomous entities and thus ignored

external factors that may have serious implications for occurrences of collective unrest in prisons (Jacobs 1976, Farrington 1992; McCorkle et. al. 1995; McGee 1981). Addressing this issue directly in their study, McCorkle and his colleagues gave special attention to “the role of external cultural, economic, and political factors in prison disturbances” (320: 1995). Building on the work on of McCorkle and his colleagues, I also identify a number of external factors, which I propose are salient predictors of collective unrest in prisons. These include: 1) the number of external social movement groups organized around prison issues in a state; 2) political party control of state government; and 3) state fiscal concerns over prison costs. I argue that these external factors define the political context of prisons.

From a social movement perspective, inmates face a number of barriers in mobilizing themselves around issues that concern them (McAdam 1982; McCarthy and Zald 1977). Historically, external groups have played a central role in the mobilization of inmates in prisons (Berkman 1979; Irwin 1980; Jacobs 1977). Much of the success of the Prison Movement of the 1960s and early 1970s has been credited to the large number of social movement groups organized around prison issues. These groups provided necessary resources, such as money, organizing strategies, information and media access. Considering the growing limitations on inmates in recent decades as evidence by the recent Prison Litigation Reform Act, I argue that these groups remain critical for inmates. Therefore, I propose the following relationship between external social movement groups and prison collective unrest.

Hypothesis 14: Collective unrest is more likely as the number of groups organized around prison increases.

Crime and criminals have long served as a commodity in local, state and national political elections (Austin and Irwin 2001; McGee 1981). The victory of George Bush over Michael Dukakis in the presidential election of 1990 exemplified the pressure the “tough on crime” philosophy could place on a political candidate. Also, Dukakis’ defeat indicated the clear vulnerability of Democrats on crime issues. The landmark Crime Bill, passed by the democratic president Bill Clinton in 1995, is the best evidence of these political realities. This federal bill brought about sweeping changes for state prisons, specifically with the creation of mandatory sentencing guidelines.

Despite this unprecedented federal intervention, state prisons remain firmly under the supervision and control of state governments. Therefore, it is the decisions made in the executive and legislative branches of state government, which most affect these institutions. With crime being a highly valuable commodity in political elections, those who work daily in these institutions do not always view decisions affecting prisons that are made in state government as favorable. Regarding these realities, I argue that state political processes may place intense pressures upon prisons, which are most apparent when political leadership of state government changes or is vulnerable. Prison administrators and staff, who become resentful of decisions made by decisions of the “powerful outsiders,” may become lax in their responsibilities, which makes collective unrest more likely. Also, decisions made by state leaders may cause have a direct negative affect on the effectiveness of a prison. Therefore, I offer the following hypotheses regarding the relationship between state politics and collective unrest.

Hypothesis 15: Collective unrest is more likely following changes in state legislative and executive leaders.

Hypothesis 16: Collective unrest is more likely with the increasing the vulnerability of state political leaders.

Prisons have become an increasing fiscal burden on state governments as a consequence of the rapidly growing number of inmates and the number of institutions needed for their confinement (Austin and Irwin 2001). While state and federal politicians are responsible for these rising expenditures, prison administrators are constantly being asked to find ways to control costs (McGee 1980). One response to these pressures has been the reduction and elimination of inmate services. In addition to adversely affecting prison conditions, the increasing focus on controlling costs by any means creates resentment from staff who are responsible for carrying out such decisions that inmates also resent. Therefore, I offer the following hypotheses regarding the relationship between prison expenditures and collective action.

Hypothesis 17: Collective unrest is more likely as the cost of operating state prisons increases.

In this chapter, I outlined my theoretical framework for studying prison collective unrest, which involved synthesizing the two dominant criminal justice theories, inmate-balance and administrative control, with the two dominant social movement theories, breakdown and state-centered. Based on this synthesis and a review of empirical studies testing these theories of prison collective unrest, I identified three categories of predictors: 1) social structure; 2) institutional characteristics and 3) political context. Finally, I offered a set of hypotheses outlining the relationships between each category of predictors and collective unrest in prisons. In Chapter four, I test these hypotheses with a diverse and extensive data on some 700 total state prisons, which spans some several decades.

Chapter 4: Trends and Explanations of Prison Collective Conflict, 1984-1995

In this chapter, I empirically test the seventeen hypotheses presented in the third chapter that describe the relationships I anticipate between social structure, institutional characteristics and political context and occurrences of collective conflict in prisons. I begin by discussing the diverse sources of data exploited in these analyses. Included is information on state prisons for the years of 1984, 1990 and 1995 from the U.S. Justice Department. In addition, I rely on a number of supplemental data sources. Next, I describe the measures and research methods employed in the study. I then present the findings for both the cross-sectional data and the multilevel growth-curve models. Lastly, I discuss the implications of these findings.

DATA

The U.S. Department of Justice census of adult prisons for the years 1984, 1990 and 1995 are the main data sources for this research. The 1984 census is based on the reporting period July 1, 1983 to June 30, 1984. The 1990 census is based on the reporting period July 1, 1989 to June 30, 1990. The 1995 census is based on the reporting period July 1994 to June 20, 1995. Each census includes information on federal prisons, youth, women and men state institutions, medical facilities, drug and alcohol centers, boot camps, work camps, and community correctional facilities. To collect information, the Department of Justice mailed surveys to individual institutions. The response rate for each data wave was 100%. For this research, each of the three datasets

was restricted to only include minimum, medium and maximum-security state operated facilities for the general confinement of adult males.

To supplement the data from the Justice Department, information was collected from a number of secondary sources. One source was the *Directory of Juvenile and Adult Correctional Facilities* intermittently published by the American Correctional Association (ACA) for the years of 1982, 1984, 1987, 1990, 1993 and 1995. These directories provided information about leaders of state prison systems and local state prisons. Information on the salaries of correctional officers was collected from the *Correctional Statistics Directory* for the years of 1984, 1991, and 1994, which is also published by ACA. Information in both of these directories was collected from surveys that were mailed to all state prison departments and individual state prisons.

Two additional data sources were used to collect information on state groups organized around prison issues. The first source is the *National Prison Directory*, which is published by the Urban Information Interpreters. Groups included in the directory were identified from past and existing publications. These groups were then asked to identify other groups organized around prison issues. This directory was utilized for information on existing groups in 1984, which was the final year of the publication. The second source is *The Prisoners' Assistance Directory*, which is published by the American Civil Liberties Union. Groups were also identified from past and existing publications and were also asked to identify other groups. Directories published for the years of 1990 and 1996 were utilized in this research.

State-level data on budget expenditures was taken from the Expenditure and Employment Data for the Criminal Justice System for the years 1984, 1990 and 1995.

The data were collected by the U.S. Bureau of the Census for the Bureau of Justice Statistics. Included in each data set is information on employment, payroll, and expenditures is provided for police, courts, prosecutors' offices, and corrections agencies.

Finally, information on state politics comes from the State Legislative Partisanship Files, which was compiled by Carl Klarner. The data set provides information on Democrats, Republicans, non-major party legislators, vacancies, and total seats in the states from 1959 to 2000. Information comprised in the data set is collected from State Partisan Balance 1959-2000-SourceFiles, *Almanac of American Politics* and the *Book of the States* (Klarner 2003).

MEASURES

Dependent Variables

Prison collective conflict is the phenomenon to be explained in this analysis. Collective action is measured by three variables: 1) dummy variable indicating if a riot has occurred in a prison; 2) interval variable indicating the total number of disturbances in a prison and 3) interval variable indicating the total number of fires in a prison.

The first measure of collective conflict, riots, is operationalized “as incidents with five or more inmates participating, which required the intervention of additional or outside assistance and which resulted in serious injury and/or significant property damage (U.S. Department of Justice 1995)”. These exclude “ ‘tickets,’ official warnings, and other minor incidents (U.S. Department of Justice 1995).” The limitation of the Justice Department’s definition of a riot is that there is no way of distinguishing if any of these incidents escalated into a major riot (McCorkle et. al. 1995). By major riots, I refer to

incidents that involve inmates' taking complete or partial control of an institution; the death of inmates and/or staff or extensive property damage. The benefit of the definition used by the Department of Justice to define a riot is that the measure *all* riots, which includes both incidents that do and do not escalate into major events (Fox 1971).

Among all incidents of collective conflict in prisons, riots are the most notably for their violence and garner the most concern from prison authorities and the public. Braswell, Montgomery and Lombardo write of riots, "While war might be viewed as the failure of diplomacy, collective violence in prison periodically brings to the attention of the public and prison administrators the continuing failure of our prison systems" (1994:225).

In a descriptive study of collective unrest occurring from 1971 to 1983 in American prisons, Montgomery identified more than 260 incidents of collective conflict (1994). Approximately 38% of these incidents involved fewer than 100 inmates, while 8% involved 400 or more. The violence involved in these collective conflicts, resulted in the injury of 758 inmates and the death of 90 others. In one riot some 90 inmates were injured and in another incident 33 inmates were killed. For prison staff, 81 were injured, and seven were killed. In addition to the personal consequences paid by individuals, nearly half of these incidents caused property damage in the excess of \$5,000 with several resulting in property loss of a million dollars or more. These incidents lasted from less than an hour to several days, and force was used to end the vast majority of the conflicts.

The second measure of collective conflict, disturbances, is operationalized as "incidents of protests, food strikes, work slowdowns or strikes, etc. and excludes, riot,

escape, or fire (U.S. Department of Justice 1995).” These also “exclude ‘tickets,’ official warnings, and other minor incidents (ibid.).” Although the definition of a disturbance does not specify participation by a group of inmates, the events used to classify a disturbance imply collective involvement.

The central distinction between disturbances and riots is the absence of violence by inmates in the former. Also, these incidents of collective conflict are typically motivated by problems with the institution and its staff and not other inmates. Furthermore, they involve coordinated actions of inmates. An example of such a prison disturbance involved a 72-hour hunger strike by a group of inmates on Death Row at Pontiac Correctional Facility in Illinois (Beckless 2002). The strike was initiated to protest the suicide of a death row inmate, who inmates say was driven to kill himself because of the dire conditions, which involved the suspension of law and art classes, forced removal of inmates from their cells and prisoners being shackled and chained to their seats during visits (Beckless 2002).

In another disturbance, inmates at the House of Correction in Jessup in Maryland refused to leave their cells and initiated a work-stoppage (O’Hagan 2001). The inmates presented the prison authorities with a list of seventeen grievances, which included ending a ban on smoking, providing more inmate programs, increasing wages for prison labor, and improving the quality of the food. The work-stoppage lasted for approximately two days and involved almost all of the 1,200 inmates (O’Hagan 2001). A final example involves the attempt of inmates to stage a coordinated strike in prisons across New York State to protest, among other things, mandatory sentencing laws and the \$1.05 inmates earned in prison industry jobs (*New York Times* 2000). Some 85 inmates

were accused of being involved in planning the strike. These inmates were transferred, punished with a loss of privileges or placed in isolation. Also, inmates at several facilities were all locked down in their cells for almost two weeks in response to the strike. This planned strike illustrates the level of organization and coordination that may be involved in prison disturbances.

The third measure of collective conflict is fires. A fire is operationalized as an inmate-initiated incident that involves property damage in a facility of \$50 or more resulting from a fire. Of the three collective conflict measures, fires are the least explicitly collective in nature. However, I include them as a measure of collective conflict because they are sometimes used to disrupt the activities of the prison and sometimes include cooperation between more than one inmate.

Independent Variables

My analysis of collective conflict in prisons includes three groups of predictors. These are measures of the prison social structure, institutional characteristics of the prison and political context within which a prison is nested. The political context measures are the only predictors new to these analyses, as many of the social structure and institutional characteristics' measures were seen in my earlier analyses of interpersonal violence. Therefore, I only describe at length the political context predictors here. Refer back to Chapter three for more discussion of the previously employed measures of social structure and institutional characteristics.

Social Structure

To test hypotheses 1 through 4, I specify five measures of the social structure of each prison population. These include: 1) inmate racial diversity; 2) inmate age diversity;

3) staff racial diversity and 4) racial differences between the inmate population and staff population. The racial diversity measures of inmates and staff in a prison are computed by using the index of concentration or CON measure, which I employed in my analysis of interpersonal violence in Chapter two. Age diversity is measured as the percentage of inmates who are age 17 and under in a prison. Lastly, the racial differences between the inmate population and staff population is measured by computing the differences between the combined percentage of Black, Latino, Asian and Native American inmates and the percentage of White staff in prison.

Institutional Characteristics

To test hypotheses 5 through 12, I specify five measures of the institutional characteristics of each prison: 1) inmate crowding; 2) poor conditions 3) inmate programs; 4) stability in prison leadership; and 5) age of prison facility. Measures of inmate crowding, poor conditions and inmate programs are each taken directly from my analyses of interpersonal violence.

Inmate crowding is operationalized by dividing the total number of inmates being housed in a prison by the number of inmates each prison was designed to house. A score of more than one for this continuous variable indicates overcrowding. To test hypotheses 6 and 7, two interaction variables are created. The first interaction is constructed by multiplying the measure of crowding by the measure of inmate racial diversity. The second interaction is constructed by multiplying the crowding measure by the mean of age diversity.

Poor conditions in a prison are determined indirectly from five dichotomous inmate program variables: 1) education, 2) prison work industry, 3) prison work-release,

4) employment and 5) counseling. Dummy variables were created and given a value of 1 to indicate if a program exists in a prison and 0 to indicate that it does not for each year.

Preexisting poor conditions in a prison are measured from information about a set of eleven separate court orders for a range of issues, such as crowding, segregation practices, food, mail and disciplinary actions. These court order measures are used to specify the interactions for testing hypothesis 8b. A court order is issued when a judge decides that there is overwhelming evidence that a prison is negligent in one of its determined responsibilities. As a consequence, a prison is placed under federal supervision until it is determined that the prison has corrected the problem(s). After this determination is made, the court order is removed and federal supervision ends.

The set of eleven court orders are subdivided into three groups: 1) inmate services, 2) prison practices and 3) living conditions. Two scales are created from court orders regarding inmate services and prisons practices. (The specific items included in each scale and coefficients of reliability for each are included in Appendix 1.) Living conditions refer to court orders/decrees for institutional crowding and fire hazards, which are measured as two dummy variables. If an institution was under a court sanction for crowding or fire hazards, the variable is coded 1 and 0 if such an order has not been issued.

To test hypothesis 8b, I multiplied each of five program predictors and each of the four court order predictors to create a total of twenty interactions. These interactions include: 1) education program and services order; 2) education program and practices order; 3) education program and crowding order; 4) education program and fire order; 5) work industry program and services order; 6) work industry program and practices order;

7) work industry program and crowding order; 8) work industry program and fire order; 9) work release program and services order; 10) work release program and practices order; 11) work release program and crowding order; 12) work release program and fire order; 13) employment program and services order; 14) employment program and practices order; 15) employment program and crowding order; 16) employment program and fire order; 17) counseling program and services order; 18) counseling program and practices order; 19) counseling program and crowding order; and 20) counseling program and fire order.

Two variables are specified to measure the stability of prison leadership from 1984 to 1995. The two predictors are dummy variables indicating *if the leader of each state prison system has changed* from one wave to the next. The set of predictors includes two measures of 1) early leadership change and 2) recent leadership change.

I collected information on each of the fifty-one state prison systems to create the early and recent leadership change measures. Ideally for the study, information was needed on the exact year that a change in leadership took place. However, it was not feasible to code each year of the *Directory of Juvenile and Adult Correctional Facilities* from 1984 to 1995. Alternatively, I created a coding process to determine if a change in leadership had taken place at any undetermined time before each data wave. To accomplish this, I, first, identified leaders of state systems and individual prisons approximately five years prior to a data wave. This year coincided with the previous U.S. Department of Justice census of prison institutions. Therefore, I identified leaders in 1979 for 1984; leaders in 1984 for the 1990; and leaders in 1990 for the 1995. Second, I identified leaders at the midpoint before the data wave, which was approximately three

years prior. Thus, I identified leaders in 1981 for 1984; 1987 for 1990 and 1993 for 1995. Third, I identified leaders in the year of each wave, which meant leaders in 1984; 1990 and 1995. The process yielded information on leaders for two time points before each data wave. Again, the first time point was approximately five years before the data wave, and the second time point was approximately three years before the data wave. This information was then used to create two measures of leadership change, early and recent, for both state prison systems and individual state prison institutions.

To specify early change, I compared information on leaders approximately five years prior to information on leaders approximately three years prior. A change in the leader of a state prison system was coded 1 and no change was coded 0. For example, the measure of early change for 1984 was specified by comparing information on leaders in the years of 1979 to information for 1982.

To specify recent change, I compared information collected on leaders approximately three years prior to information collected for the year of the wave. For example, the measure of recent for 1984 was specified by comparing information on leaders in the years of 1982 to information for 1984. If a leader had changed between the two time periods, the recent change variables for that state prison system was assigned a value of 1 and a value of 0 if no change occurred. Again, a value of 1 was assigned if a change had occurred and a value of 0 was assigned if no change had occurred.

Security and staff morale are also measured indirectly. The first indirect measure of security was specified by dividing the total number of inmates in a prison by the number of staff in that prison. As the ratio increases, I propose that security in a prison declines. The second indirect measure of security is the total number of staff in a prison.

As the number of staff increases, I propose that security in a prison increases. Median guard staff salaries serve as an indirect measure of staff morale. Because guard salaries are set at the state level, earnings are uniform across prisons within a state. The measure is specified by dividing the median guard earnings for each state by the median family income of that state. The higher the value of this continuous variable, the closer the mean staff income is to the state median family income. Therefore, I expect that staff moral is positively affected as the ratio of staff income to state family income increases.

Finally, the year that a prison was constructed, which is a continuous variable, serves as an indirect measure of effective social control. As stated before, I argue that more recently built institutions are equipped with technological advances that increase the ability of prison staff to repress inmates. Therefore, I propose repression is more effective in the newly built institutions.

Political Context

The first political context measure counts the number of external groups in each state that is organized around issues related to prisons. The measure of external prison groups is a continuous variable that specifies the exact number of groups found to exist in that state. Total number of groups in a state was determined by coding information on each group listed in *National Prison Directory* and *The Prisoners' Assistance Directory*.

The second set of measures of political context address the stability of state political leaders. Recognizing how power is subdivided in state government, I measure leadership stability in both the executive and legislative branches. Stability in the leadership of the executive branch is measured as any change in the political party of the governor in a period of approximately five years before each of the three data waves.

The variable is dummy coded as 1 if a change has occurred and 0 if no change has occurred. Stability in the legislative branch of state government is measured as two variables. The first variable is the number of times that the political party controlling the upper house of the state legislature has changed. The second variable is the number of times the political party controlling the lower house of the state legislature has changed. Control for both variables is specified as a 51% majority of any political party.

The third set of political context predictors concern the vulnerability of state political leaders. Again, I argue that the more politically vulnerable leadership is the greater the likelihood that the issue of crime is to be a commodity in political contests. Vulnerability refers to the threat of being defeated for re-election or a political party losing its majority control. I also contend that historically Democrats have been more vulnerable on crime than Republicans. Therefore, political vulnerability is measured by a total of four variables: 1) if the governor is a democrat; 2) the percentage of Democrats in the upper house of the state legislature; 3) the percentage of Democrats in the lower house of the state legislature; 4) if the total percentage of representatives for any political party is between 49% and 51%. The first measure is a dummy variable that is coded 1 if the governor is a democrat and 0 otherwise. The second and third measures are continuous variables indicating the percentage of Democrats in each house of the state legislature. The fourth measure is a dummy variable that is coded 1 if combined percentage of a political party is between 49% and 51% and 0 otherwise.

The final political context measure is the natural log of the dollar amount of expenditures for prisons in each state. Expenditures include two categories of expenses: 1) direct current operations and 2) capital outlay. Direct current operations include

expenses related to salaries, wages, fee and commissions, purchase of supplies, materials and contractual services. Capital outlay includes expenses for building construction, equipment, land and existing structures. Again, I expect that pressure on prison administrators from state leaders to control costs will increase as the amount expenditures rise.

ANALYSES

Again, the two broad questions to be answered in this chapter are: how have prisons changed and how do these changes account for prison social unrest? To answer the first question, I provide a description of trends in 1) the three measures of collective conflict, riots, disturbances and fires; 2) measures of social structure and institutional characteristics of prisons (not presented previously in the third chapter) and 3) measures of the political context of these institutions. To answer the second question, I employ a set of three-level overdispersed logistic and Poisson growth-curve regression models to access the relationship between each of the three measures of collective conflict and the predictors of social structure, institutional characteristics and political context. The Poisson regression models are variably exposed to prison-specific inmate population sizes.

As in Chapter two, multilevel analysis is employed to account for the three levels in the data, which includes time at level 1, prisons within states at level 2 and prisons across states at level 3. In growth-curve multilevel models, predictors that vary across time are specified at level 1. Predictors that are invariant are specified at level 2. Aggregate measures, state measures in this study, are specified at level 3. With the

exception of the measures indicating the year that a prison was built and the security level of the institution, all of the predictors are specified at level 1. Because the state-level variables are not time invariant, they are also specified at level 1 and not level 3. These variables include: 1) early and recent changes in the leadership of the state prison system; 2) guard earnings; 3) groups organized around prison issues; 4) changes in the political party of the governor; 5) changes in upper and lower houses of the state legislature; 6) democratic governors; 7) percentage of Democrats in the upper and lower houses of the state legislature; 8) political competitiveness and 9) total prison expenditures.

Employing the cross-sectional data, I begin by describing how riots, disturbances and fires have changed from 1984 to 1995.

FINDINGS

Trends in Prisons

Prison Collective Conflict

The means and standard deviation of riots, disturbances and fires for the years 1984, 1990 and 1995 are presented in Table 4.1. The mean values for riots indicate the average number of prisons that experienced one such event in each reported year. The values for disturbances and fires indicate the average number of each event that occurred in a prison for each reported year.

Table 4.1 and Figure 4.1 indicate that the number of prisons experiencing a riot has increased over the 11-year period, with the steepest rise occurring between the last six years. Specifically, the mean number of prisons experiencing a riot increased 67%

from 1984 to 1990 and 20% from 1990 to 1995. This finding indicates that the collective conflict among inmates, at least in the form of riots, has risen over this time period.

Recalling the findings presented in Chapter two, this trend mirrors the increase in interpersonal conflict and coincides with a number of changes in the social structure of the prison population and institutional characteristics of prisons.

----- Figure 4.1 about here -----

Table 4.1 and Figure 4.2 indicate that the mean rate of disturbances first increased then declined over the 11-year period. From 1984 to 1990, the mean number of disturbances increased some 240% before declining some 31% from 1990 to 1995. The reported standard deviations for the period indicate that the variability in mean number of disturbances has increased sharply. This indicates that disturbances have become a marked problem for some prisons and not for others.

----- Figure 4.2 about here -----

Table 4.1 and Figure 4.2 indicate that there has been a decline in the mean rate of fires in prisons from 1984 to 1995. For the first six years, there was a modest decline of 11% and a more substantial decline of 56% for the last five years in the data. Also, the decreasing standard deviations indicate that there is less variability among prisons in mean number of fires from 1984 to 1995.

Social Structure of Prisons

Many of the predictors of social structure and institutional characteristics used in the analyses of collective conflict were presented in Chapter four. The one additional measure of social structure is the racial difference between the inmate population and staff population. Table 4.1 indicates that the difference in the percentage of white staff and non-white inmates has decreased steadily from 1984 to 1995. Across this 11-year period, inmate-staff heterogeneity has declined some 59%.

Institutional Characteristics of Prisons

Five new measures of institutional characteristics are reported in Table 4.1. The first two variables address changes in the leadership of state prison systems. To repeat, early and recent change for 1984 indicates stability in leadership from 1979 to 1984; early and recent change for 1990 indicates stability in leadership from 1984 to 1990 and early and recent change for 1995 indicates stability in leadership from 1990 to 1995. These two measures cover a 16-year time period.

The trend in the stability of leadership of state prison systems is inconsistent over this 16-year period. Between 1979 and 1987, leadership of state prison systems became more stable as the mean number of changes in leaders declined 31% from .59 to .41. From 1987 to 1995, leadership of state prison systems became less stable as the mean number of changes in leaders increased 29% from .41 to .53.

Guard earnings is the final institutional characteristic reported in Table 4.1. The median of earnings for prison guards in a state is divided by the median family income for that state. Therefore, the higher to value of the measure the greater the income

inequality between median guard earnings and family income in that state. The smaller the value of the measure the lower the income inequality between median guard earnings and median family income in that state. The trend for the means across the three waves is inconsistent. From 1984 to 1990, the median earnings of guards increased 51% from .51 to .77, which indicates that median family income was considerably higher than median guard earnings during these six years. In comparison to other occupations, guards did better between 1990 and 1995, as the difference in earnings declined some 26%. However, across the entire 11-year period, the mean of the measure is never lower than .51.

Political Context of Prisons

The first political context measure shown in Table 4.1 is the mean number of groups organized in each state around prison issues. From 1984 to 1995, the mean number of these groups remained relatively stable. While the average number of organized groups remained stable, it is important to remember that the number of prison institutions and inmates increased 146% and 236%, respectively, over this 11-year time period. Therefore, the apparently static population of prison groups has been forced to stretch their resources to address the needs of a considerably larger population of institutions and inmates.

The next two political context variables presented in Table 4.1 are measures of changes in the political party controlling the executive and legislative branches of state government. From 1984 to 1994, the mean proportion of changes in the political party of governors has risen consistently from 1984 to 1995. Across the 11-year period, the largest increase in proportion of changes, 61%, occurred between 1990 and 1995. Since

the leader of state prison systems are typically appointed by the state executive, the increased instability in this time period is consistent with increased instability for state prison leaders discussed previously from 1990 to 1993. Changes in prison leadership seem to coincide with changes in the political party of governors (McGee 1981).

Across the 11-year period, there has also been increasing instability in the political party controlling both the upper and lower houses of the state legislature. The mean number of changes increased 25% in the upper house and 49% in the lower house of the state legislature.

The next set of political context variables includes measures of political vulnerability. The first is the proportion of governors who were Democrats. While some .75 of governors belonged to the Democratic Party in 1984, this number fell to .38 in 1995. This represents a change of 49%. The second is the proportion of Democrats in the upper and lower houses of the state legislature. The trend in the mean proportion of Democrats is similar for both houses, with the number in each declining across the 11-year period. The mean proportion of Democrats in both houses was .70 in 1984; however, these proportions fell to a little above .50 in 1995. The third measure of vulnerability is political competitiveness, which refers to when the mean proportion of any political party in both houses of the state legislature is between .49 and .51. The competition in state legislatures has increased from only 1% in 1984 to 10% of 1995. The trend indicates that the number of states where any political party has a clear majority has declined over this 11-year period.

The final political context measure reported Table 4.1. is the trend in total expenditures for state prison institutions. The findings indicate that states are spending

more on prisons. Also, there is increasing variation in state spending on prison as the standard deviation exceeds the mean in 1990 and 1995. The highest increase of 142% in the mean of total expenditures occurred from 1984 to 1990. Average expenditures increased another 25% from 1990 to 1995; however, the variation in spending increased some 50% over these five years. To handle the large variation in the measure of total expenditures, the variable is log-transformed before being added as a predictor in the multilevel regression models

Having described the trends in collective conflict, social structure, institutional characteristics and political context of state prisons from the cross-sectional data, I now discuss the findings for multilevel growth-curve models specified to access the relationships between collective conflict and predictors of social structure, institutional characteristics and political context.

Multilevel Logistic and Poisson Models

Converting the three data waves into a longitudinal data, I specified a set of five three-level models for each of the three measures of collective conflict, riots, disturbances and fires. As explained early, level 1 refers to how prisons have changed in collective conflict over time. Level 2 refers to variation in collective conflict among prisons within states. Level 3 refers to variation in collective conflict between prison in different states.

The set of models includes four partial models and one full model. The initial partial model determines the time trend for each dependent variable. In the remaining three partial models, the dependent variables are predicted by each of the three sets of independent variables, social structure, institutional characteristics and political context.

Last, the full model includes the complete set of predictors. I discuss the set of models for each dependent variable separately, beginning with the findings for riots.

Riots

Null Model: It is customary in multilevel regression analysis to begin with the specification of an unconditional model, which excludes the predictor variables. When working with growth-curve models, this initial model provides information on the trends in the dependent variable for individual cases. In this particular analysis, the unconditional logistic regression model determines if individual prisons have changed significantly in their probabilities of riots from 1984 to 1995. To assess the pattern of change, a measure of linear time (T) and quadratic term (T²). While the linear time variable assesses if riots have decreased or increased, the quadratic term determines if the change in the dependent variables is curvilinear. Time is coded 2.20 for 1984; 1 for 1990; -1 for 1995; and 0 for 1993, which is the midpoint in the data.

The unconditional logistic regression model predicting riots is presented in Table 4.2 and is labeled Model 1. The coefficient for time is 0.00 and is non-significant. The coefficient for time-square is -0.07 and is also non-significant. These findings indicate that the odds of a riot occurring in a state prison have not changed significantly during the 11-year period. To further test the findings, I specified an additional unconditional model that excluded the quadratic time term that is not reported in Table 4.2. The coefficient for the time variable in that model was 0.06 and indicates an increase in the probabilities of riots for individual prisons, as found in the cross-sectional data. However, the p-value associated with the t-statistic for the coefficient is larger than .05, which confirms that the

probabilities of riots in individual prisons have not changed significantly between 1984 and 1995. Therefore, only the variable for linear time is retained in subsequent models predicting riots in prisons.

The unconditional model also provides information on the amount of variance at the different levels in the data and indicates if multilevel analysis is appropriate. Unlike multilevel linear models, the estimations of variance in non-linear models are less precise. However, these estimates provide a rough account of the distribution of variance in prison riots at each level in the data, which I report in Table 4.3. The percentage of variance at each level in the data is computed by dividing the variance for a particular level by the sum of variance at all three levels. According to the information reported in Table 4.3 for riots, the majority of the variance, 81%, in the dependent variables is at level 2 in data or across prisons within states (6.08/7.5). Considerable less variance, some 16%, is at level 3 in the data or between states (1.23/7.5). Lastly, very little variance, 3%, is at level 1 in the data or within prisons across time (0.19/7.5). The findings indicate that prisons within the same state differ considerably more from each other in incidents of riots than prisons in different states. Furthermore, the small amount of variance at level 1 indicates that individual prisons have remained relatively stable from 1984 to 1995 in their incidents of riots, as the coefficients of Model 1 indicated.

Finally, as seen in Table 4.3 each χ^2 reported for level 2 and level 3 variance components is significant. This finding indicates that a significant amount of variation exists at both levels in the data. Therefore, multilevel analysis is the appropriate statistical method for handling the nesting in the data.

Social Structure Partial Model. Model 2, reported in Table 4.2 includes the set of social structure predictors, as well as control variables for the security level of the prison and the size of the inmate population. The social structure predictors include the racial heterogeneity of the inmate population, the racial heterogeneity of the staff population, the racial difference between the inmate population and staff population, and the percentage of young inmates. Also, I have included a squared term of inmate and staff racial heterogeneity to in order test for a hypothesized curvilinear relationship between the predictor and prison riots.

Inmate racial heterogeneity is positive and significant in Model 2, which indicates that a riot is more likely as the racial diversity among the inmate population increases. Transforming the coefficient, every one-unit increase in inmate racial heterogeneity multiplies the odds of a riot by 5.53. This positive relationship supports hypothesis 1b, which proposes that collective conflict is more likely when the inmate population is racially diverse. Conversely, the finding counters the alternative hypothesis 1a. In Model 2, staff racial heterogeneity is negative and significant, which indicates that a riot is less likely as the racial diversity of among the staff populations increases. A one-unit increase in staff heterogeneity decreases the odds of a riot by 25%. This finding counters hypothesis 3, which proposes that collective conflict is more likely when the prison staff are more racially diverse. The racial difference between the inmate population and staff population is significant and negative, while inmate and staff racial heterogeneity squared is significant and positive. This indicates that the relationship between the racial difference between the inmate population and staff population and riots is significant but

curvilinear. To better understand this finding, I have graphed the relationship in Figure 4.3.

----- Figure 4.3 about here -----

The above figure is a graph of the change in the predicted odds of a riot occurring as the racial heterogeneity in the prison population of inmate and staff varies in a maximum security prison with the average level of inmate racial heterogeneity and the average level of staff racial heterogeneity. The negative values of the measure of racial differences between the inmate population and staff population indicate that the number of non-white inmates exceeds the number of white staff in a prison. The positive values of the measure indicate that the number of white staff exceeds the number of non-white inmates in a prison. The convex shape of the graph indicates that the odds of a riot increase at the extreme values of the distribution of the measure of racial differences between the inmate population and staff population. The graph also indicates that the odds are highest when non-white inmates outnumber non-white staff. This curvilinear relationship provides support for hypothesis 4, which indicates that collective conflict is more likely as the composition of the inmates and staff in a prison becomes racially diverse.

Three control variables are included in this and each of the partial model, as well as the final full model predicting riots. The variables control for the size of the inmate population and the security level of the prison. Total inmate population is an interval variable and medium and minimum-security are dummy variables with maximum-

security prisons as the reference category. Of the three variables, only the coefficient for minimum-security prisons is significant. The findings indicate that minimum-security prisons differ significantly from maximum security in the odds of a riot. However, medium-security prisons do not differ significantly from maximum-security prisons.

In the bottom panel of Table 4.2, I report the findings for the multiparameter tests for the partial model. The χ^2 indicates if the variables included in Model 2, as a set, significantly account for the odds of a prison riot, above and beyond the control variables. The findings indicate that the χ^2 for the model is 36.90 and highly significant ($p < .001$). Therefore, I conclude that the set of social structure variables do offer a reasonable good account of odds of a prison riot, above and beyond the controlling for the total inmate population and the security level of the institution.

Institutional Characteristics Partial Model. The third partial model, Model 3, includes the set of institutional characteristics of prisons and two main effects of social structure measures as predictors of a riot and is reported in Table 4.2. The first three predictors test how crowding and interactions between crowding and both inmate racial heterogeneity and percent young inmates affect the occurrence of a riot in a prison. The coefficients for crowding and the interaction between crowding and inmate heterogeneity are positive, while coefficient for the interaction between crowding and the percentage of young inmates is unexpectedly negative. However, not one of these coefficients is significant in this partial model. These findings fail to support hypotheses 5 through 7, which propose positive relationships between the three predictors and collective conflict.

Model 3 also includes five inmate program variables, education, work industry, work-release, employment and counseling. Of these five predictors, only work industry

program is significant in the model. When a work industry program is present in a prison, the odds of a riot occurring in a prison is multiplied by 22.42. The positive relationship between work industry program variable and the dependent variable riot is inconsistent with hypothesis 8a, which supposes that the presence of inmate programs in a prison makes collective conflict less likely. Of the four types of court orders included as predictors in the current model, only practices order is a significant. As described earlier, the practices order predictor is a scale of court orders for issues relating to actions of prison staff and procedures of the institution. Each such order increases the odds of a riot in a prison 86%.

Interactions between the five inmate programs and four court order variables, crowding, fire services and programs are also included in Model 3. Of the twenty interaction variables tested as predictors of riots, only three were significant and are reported in Table 4.3. These significant predictors include the interaction between work program and crowding order; employment program and fire order and counseling program and fire order. The coefficients for all three predictors are negative. Therefore, a riot is less likely when a prison is under these particular court orders *and* these certain programs are present in the institution. When a prison is under a court order for crowding and a work program exists, the odds of a riot are decreased 31%. When a prison is under a court order for fire hazards and an employment and counseling program are present in an institution, the odds of riot are decreased 16% and 20% respectively. These negative relationships counter hypothesis 8b, which supposes that a riot more likely when inmate programs are present in a prison with existing inadequate conditions, such as crowding and fire hazards.

In Model 3, measures of changes in prison leadership are the next group of institutional characteristics' predictors. Both early and recent state leadership changes are significant predictors in the model; however, the signs of the coefficients of the two variables differ. The coefficient for early leadership change in the state leadership of a prison system is positive and indicates that the odds of a riot increase some 112% for prison in that state¹⁰, when such a change occurred between approximately three and five years prior to the data wave. The coefficient for recent change in state leadership is negative and indicates that the odds of a riot decrease some 50%, when such a change occurred between approximately two years prior and the year of the data wave. These preliminary findings suggest that the negative effect of late change on riots may indicate that prison staff initially respond favorable to new leaders, and thus a riot is less likely. The positive effect of early change on riots may indicate that over time this response becomes less favorable, and thus a riot is more likely.

Model 3, also, includes two indirect measures of security, total number of staff and the inmate-to-staff ratio. The findings indicate that total staff does not significantly affect the likelihood of an occurrence of a riot, while inmate-to-staff ratio is a significant negative predictor in the model. A one-unit increase above the mean inmate-to-staff ratio decreases the odds of a riot approximately 32%. In other words, riots are less likely as the number of inmates outpaces the number of staff in a prison. This relationship is inconsistent with hypothesis 11, which supposes that riots are more likely as security is adversely affected by a limited number of prison staff.

¹⁰ As described in the analysis section in this chapter, this variable is measured at the state-level, which means that it has the same value for all prisons in a state. Because it is time varying, however, I specified it at level 2 in the model.

The measure of the ratio of median guard earnings to median family incomes is positive and significant in Model 3. Every dollar increase above the median of guard earnings decreases the odds of a riot for prisons in a state¹¹ by 8%. This finding supports hypothesis 12, which supposes that riots are less likely as staff morale is positively affected by increasing salaries. Finally, the measure of the year that a prison institution was built, age of a prison, is not a significant predictor in the model. This finding fails to support hypothesis 13, which proposes that riots are less likely in newer institutions that are assumed to have more advanced technology to repress inmates.

Reported at the bottom panel of Table 4.2 is the χ^2 testing if, together, the set of institutional characteristic variables significantly predicts the odds of a prison riot, above and beyond the control variables also included in the model. The χ^2 for the model is 319.27 and is highly significant ($p < .001$). I conclude, therefore, that the set of institutional characteristic variables do significantly account for the odds of a prison riot, above and beyond controlling for the security level of the prison.

Political Context Partial Model. The fourth model includes a set of eight political context measures as predictors of the likelihood of a riot occurring in a prison. This model, Model 4, is reported in Table 4.2. The first variable, prison issue groups, is not a significant predictor. This finding fails to support hypothesis 14 that the number of groups in a state should make collective conflict in prisons in that state more likely. A change in the political party of state governors is significant and negative. A change occurring in the party of the governor of a state decreases the odds of a riot 57% in prison in that state. This relationship is inconsistent with hypothesis 15, which supposes that such a change makes collective conflict in prisons more likely.

¹¹ Again, this is a state-level predictor.

Conversely, changes in both the upper and lower houses of the state legislature are significant positive predictors. For each change in the upper house of a state legislature, the odds of a riot increase 42% in prison in that state, while each change in the lower house increases the odds 62%. These significant positive relationships support hypothesis 15. Democratic governors or the percentage of Democrats in the upper or lower houses of state legislatures are not significant predictors in Model 3. Also, political competitiveness is not significant in the model. This set of findings provides no support for hypothesis 16, which supposes that political vulnerability makes collective conflict in a prison more likely.

Finally, the measure of total expenditures for prison institutions is a positive significant predictor in the model. Multiplying total expenditures of a state by 2.72 (the unit of increase in the natural log) multiplies the likelihood of a riot in prisons in that state by 1.16. This finding supports hypothesis 17, which supposes that increasing expenditures make collective conflict in a prison more likely.

The χ^2 testing if, together, the set of political context variables significantly predict the odds of a prison riot is reported at the bottom of Table 4.2. The χ^2 for Model 4 is 191.78 and is highly significant ($p < .001$). I conclude that the set of political context variables do significantly predict the odds of a prison riot.

Full Model. Reported in Table 4.2 is the final model, Model 5, specified to include all three sets of measures: 1) social structure of the prison population, 2) institutional characteristics and 3) political context of prisons as predictors of a riot. The findings for this model are compared to the findings for each of the three partial models

that include either social structure, institutional characteristics or political context variables as predictors of the likelihood of a prison riot.

Beginning with the set of social structure predictors reported in Model 5, I find that the significant relations found in Model 1 hold when controlling for institutional characteristics and political context. Inmate racial heterogeneity becomes an even stronger positive predictor, as each unit increase multiplies the odds of a riot by 13.87, controlling for institutional characteristics and political context. Also, staff racial heterogeneity becomes a stronger *negative* predictor in the full model. Each unit increase decreases the odds of riot 90%, controlling for institutional characteristics and political context. The coefficients of both the linear and squared terms of the racial differences between the inmate population and staff population decrease slightly but remain significant predictors of a prison riot. As in Model 1, percentage of young inmates is not a significant predictor in Model 5.

Model 5 provides varying support for hypotheses 1a through 4, regarding the relationships between the social structure of a prison population collective conflict in prisons. I found that inmate racial heterogeneity *increases* rather than *decreases* the odds of a riot, which supports hypothesis 1b and is inconsistent with hypothesis 1a. The finding that increasing racial heterogeneity among staff *decreases* the odds of riot does not support hypothesis 3. Finally, hypothesis 4 is supported by the findings that increasing racial differences between the inmate population and staff population *increases* the likelihood of a riot.

Institutional characteristics of prisons are the next set of predictors reported in Model 5. Because the interactions between crowding and inmate racial heterogeneity and

percent young inmates were not significant in Model 3, there were excluded included from this full model. Comparing Model 3 and Model 5, many, if not all, of the findings of the partial model are consistent with those of the full model. Crowding continues to be an insignificant predictor. Work industry program continues to be the *only* significant predictor among the set of five inmate program variables. The relationship remains strong and positive, as the presence of work industry program in a prison multiplies the odds of a riot by 23.34, controlling for social structure and political context.

Comparing the two models, the relationships between court orders and the occurrence of a riot are not congruent. In Model 3, a prison under a court order for practices of prison staff has increased odds of a riot. In Model 5, practices order is non-significant, controlling for social structure and political context. However, a court order for crowding becomes a significant negative predictor in Model 5. Therefore, controlling for social structure and political context, the odds of a riot are decreased 67% when a prison is under a court order for conditions of crowding.

The three interaction variables between court orders and inmate programs continue to be significant and negative in Model 5. When a work industry inmate program is present in a prison that is under a court order for crowding conditions, the odds of a riot are decreased 72%, controlling for social structure and political context. When an employment program and a counseling program for inmates are present in a prison that is under a court order for conditions that create fire hazards, the odds of a riot are decreased 83% and 80% respectively. Again, these relationships are consistent with those found in Model 3.

In the partial model, both measures of change in leadership of state prisons were significant. However, only early change remains significant in this full model that controls for social structure and political context. When the state leaders of prisons changes in the three and five year period prior to the collection of the data, the odds of a riot increase 72% in prisons in that state. The size of the effect is reduced in Model 5.

In this full model, the relationships between the final four institutional characteristic variables and the occurrence of a riot are consistent with those found in the partial model. Total number of staff and year that a prison was built continue to be non-significant predictors. The ratio of inmate-to-staff and guard earnings continue to be negative and significant predictors, controlling for the social structure of the prison population and political context of the institution. In Model 5, the effect size of both predictors decreases. Every unit increase above the mean inmate-to-staff ratio decreases the odds of a riot by 32%, while each dollar increase above the median of guard earnings reduces the odds by 87%.

I now summarize how well the findings support hypotheses 5 through 13 regarding the relationship between institutional characteristics and prison collective conflict. Model 5 only supports two of those hypotheses. I find no support for hypothesis 5 through 7. Increasing levels of crowding in institutions with or without increasing inmate racial heterogeneity or age diversity do not create discontent, which makes the occurrence of a riot more likely. Also, Model 5 does not provide any support for hypothesis 8a or 8b. The one significant relationship between inmate programs and the occurrence of a riot is positive rather than negative.

The findings do support hypothesis 9. The odds of a riot in prisons in a state are increased if the chief executive of a state prison system changes three to five years prior to the data wave. Model 5, however, is inconsistent with hypothesis 11. While total correctional staff is not a significant predictor, the ratio of the number of inmates in a prison to the total staff in that institution and the occurrence of a riot is negative rather than positive, as expected. However, the findings do support hypothesis 12. Increases in median guard earnings do seem to positively affect staff morale and thus decrease the odds of a riot. Lastly, Model 5 does not support hypothesis 13. The odds of a riot in newer prisons, assumed to have more technological capabilities to exercise social control over inmates, are not lower than those in older facilities.

Political context measures are the final set of predictors discussed for Model 5. As with the institutional characteristic predictors, the findings for Model 5 and Model 4 differ somewhat. As found in the partial model, the number of groups organized around prison issues in a state remains insignificant in this full model. In Model 3, a change in the political party of the state governor was significant and negative. In Model 5, the variable remains negative but is no longer a significant predictor of a riot. Changes in the political party controlling the upper and lower houses of the state legislature remain positive significant predictors. When controlling for social structure and institutional characteristics, the size of the effects of both variables increase. Each political party change in the upper house of the state legislature increases the odds of a riot 49% in prisons in that state, while each political party change in the lower house increases the odds 73%.

Consistent with Model 3, a democratic governor or the percentage of Democrats in either the upper or lower houses is a non-significant predictor in Model 5. However, the measure of political competitiveness is now a significant predictor in the full model, controlling for social structure and institutional characteristics. Inconsistent with hypothesis 16, however, the odds of a riot decrease 30% in prisons of a state when the proportion of any political party in both houses of the state legislature is between .49 and .51. Finally, as in the partial model, total expenditures for prison institutions remain a positive significant predictor in the full model. The size of the effect increases slightly as multiplying total expenditures of a state by 2.72 (the unit of increase in the natural log) multiplies the likelihood of a riot in prisons in that state by 1.20.

Among hypotheses 14 through 17 regarding the relationship between political context and the occurrence of a prison riot, Model 5 provided support for three hypotheses. No evidence was provided for the proposed positive effect of the number of groups organized in a state on the occurrence of a riot in prisons in that state, as detailed in hypothesis 14. However, support was found for hypothesis 15. Model 5 indicated that changes in political party control of both houses of the state legislature had positive effects on the occurrence of a riot. Hypothesis 16 was not supported as none of the four measures of political vulnerability increased the odds of a riot. The one significant variable, the measure of political competitiveness, was a significant *negative*, rather than *positive*, predictor in the full model. Lastly, hypothesis 17 regarding the positive relationship between expenditures and collective conflict was supported by the findings.

Reported at the bottom panel of Table 4.2 is the χ^2 testing if, together, the three sets of variables, social structure, institutional characteristics and political context,

significantly predict the odds of a prison riot. The χ^2 for Model 5 is 587.78, the largest of all four models that include predictors, and is highly significant ($p < .001$). I conclude that the combined group of social structure, institutional characteristics and political context variables do significantly predict the odds of a prison riot.

Disturbances

Null Model: The next findings discussed include the set of five models predicting disturbances in prisons, which includes incidents such as protests, food strikes and work strikes. Four partial and one full Poisson multilevel regression models are reported in Table 4.4. The Poisson regression unconditional model predicting mean rate of disturbances is labeled Model 1. Both linear time and quadratic time are significant in the model. Time is coded 2.20 for 1984; 1 for 1990; -1 for 1995; and 0 for 1993, which is the midpoint in the data. The model indicates that the mean rate of disturbances in state prisons initially increased between 1984 and 1990 before decreasing between 1990 and 1995. The negative coefficient for time-squared indicates that in 1993 the mean rate of prison disturbances had decreased 41%. The unconditional growth-curve model indicates a trend consistent with that discussed in the cross-sectional data for prison disturbances.

Information on the variance in disturbances at level 1, level 2 and level 3 in the data is reported in Table 4.3. Similar to prison riots, the majority of variance in the data, 52%, is at level 2. This indicates the most variability in the data is across individual prisons within states. However, unlike riots, a modest amount of variance, 34%, exists at level 1 in the data. This indicates that individual prisons have been to some degree

unstable in their mean rate of disturbances over time. Approximately 14% of the variance is at level 3 in the data, which indicates the amount of variability in disturbances in prisons between states.

Also, reported in Table 4.3, is the χ^2 associated with level 2 and level 3 variance components for the null model. Both statistics indicate that significant variation exists at both levels in the data. Mean rate of disturbances vary significantly across prisons within states, as the χ^2 for level 2 is highly significant. Also, the significant χ^2 for level 3 indicates that the mean rate of disturbances vary significantly between states. Therefore, I conclude that multilevel analysis is appropriate for the analysis of data on prison disturbances in this study.

Social Structure Partial Model. Model 2 includes measures of the social structure of the prison population as predictors of disturbances. In this Poisson regression model and the remaining two partial and full models, the mean rate of disturbances is variably exposed for the total population of each prison. This model is reported in Table 4.4. Only one of the five measures, percent young, is a significant predictor in the partial model. The predictor has a large positive effect as each percent increase multiplies the mean rate of disturbances in a prison by approximately 50¹². This finding supports hypothesis 2b, which supposes that increasing age diversity among the inmate population makes collective more likely. The alternative hypothesis, 2a, was not supported by the finding.

The findings do not support hypothesis 1a, hypothesis 1b or hypothesis 3, which propose relationships between inmate and staff racial diversity and collective conflict.

Inmate racial heterogeneity and staff racial heterogeneity are negative but non-significant predictors of prison disturbances. The linear and quadratic measures of racial differences between inmate population and staff population are also not significant in the model.

Therefore, hypothesis 4 is not supported, which supposes the increasing racial differences between inmate populations and staff populations makes collective conflict more likely.

Reported at the bottom panel of Table 4.4 is the χ^2 testing if, together, the set of social structure variables, significantly predicts the mean rate of prison disturbances, above and beyond the control variables also included in the model. The χ^2 for Model 2 is 55.16 and is highly significant ($p < .001$). I conclude that the combined group of social structure variables does significantly predict prison disturbances, above and beyond controlling for the security level of the institution.

Institutional Characteristics Partial Model. Model 3 includes measures of the institutional characteristics of prisons as predictors of disturbances and is reported in Table 4.4. The first group of predictors reported for the model include measures of crowding and interactions between crowding and both inmate racial heterogeneity and percent young inmates. Of the three predictors, only the interaction of crowding and inmate racial heterogeneity is significant in the model. As the level of crowding and inmate racial heterogeneity increase in a prison the mean rate of disturbances in that institution is negatively affected. The size of the effect, however, is relatively small. While this interaction between crowding and inmate heterogeneity is significant in the model, the direction of effect counters hypothesis 6 that proposes that such an interaction

¹²While the size of the effect is large, the variance of the predictor is not. Some 67% of prisons have no inmates who are 17 and younger. At the opposite end of the distribution of the measures, only 2% of prisons had between 8% and 21% inmates 17 and younger.

makes collective conflict more likely. Therefore, these findings provided no support for hypotheses 5 through 7.

Five inmate program variables, education, work industry, work release, employment and counseling, are included in Model 3. Of the five programs, only work release program is a non-significant predictor of prison disturbances. The coefficients for education and work programs are positive, while the coefficients for employment and counseling programs are negative. When an education program for inmates is present in a prison, the mean rate of disturbances is multiplied by 4.31 in that institution. When a work industry program is present, the mean rate is multiplied by 2.72. The positive effect of education and work industry programs on disturbances provides counters hypothesis 8a. However, the model indicates that the effect of employment and counseling program on disturbances is negative, which supports hypothesis 8a. The presence of employment program in a prison decreases the mean rate of disturbances 62%, while a counseling program decreases the mean 60% in a prison.

Model 3 includes four measures of court orders for specific conditions, which include crowding, fire hazards, inmate services and staff practices. Crowding and fire court orders are not significant predictors in the model. Both services and practices orders are significant predictors. Each measure is a composite scale of individual orders (See Appendix A for list of variables composing each scale). Therefore, for every court order that a prison institution has been issued for problems relating to inmate services the mean rate of disturbances decreases 58%. Every court order for issues relating to staff practices multiplies the mean rate of disturbances by 2.01.

To test hypothesis 8b, the set of twenty interactions between each of the five inmate program variables and each of the four court order variables, described in the earlier in the methods section, were included in the model. Only one of these interaction variables, inmate employment program multiplied with inmate services court order, proved to be a significant predictor of prison disturbances. Consequently, this variable is reported in Model 4. The mean rate of prison disturbances is decreased 20% when an employment program is present in an institution that is under a court order for problems relating to inmate services. This finding counters hypothesis 8b, which supposes that an interaction between inmate programs and existing poor prison conditions would positively affect collective conflict.

Model 3 includes two measures of leadership change. The coefficients for both early and recent leadership change are positive. However, only the coefficient for the early change predictor is significant. When there is a change in the leadership of the state prison system between approximately three to five years prior to the data wave, the mean rate of disturbances increases 48% in prisons in that state. This finding supports hypothesis 9, which supposes that changes in the leadership of prison make collective conflict more likely. Both indirect measures of the effectiveness of prison security, total staff and inmate-to-staff ratio, are not significant predictors in the model. Therefore, Model 3 provides no support for hypothesis 10, which proposes that collective conflict is more likely as security becomes ineffective. The final measure of institutional characteristics, median guard earnings, is also not a significant predictor of disturbances in the model. This finding indicates that hypothesis 11 is not supported, which proposes

that collective conflict is affected by staff morale as measured indirectly by guard earnings.

Reported at the bottom panel of Table 4.4 is the χ^2 testing if, together, the set of institutional variables significantly predicts the mean rate of prison disturbances, above and beyond the control variables also included in the model. The χ^2 for Model 3 is 223.00 and is highly significant ($p < .001$). I conclude that the combined group of institutional characteristic variables does significantly predict prison disturbances, above and beyond controlling for the security level of the institution.

Political Context Partial Model. Model 4 includes nine measures of the political context of prisons as predictors of disturbances and is reported in Table 4.4. The findings indicate the total number of groups organized around prison issues in a state is not a significant predictor in the model. This finding fails to support hypothesis 14, which proposes that such groups increase the likelihood of prison disturbances.

The next three variables reported in the Model 4 are measures of changes in state political leaders. All three measures are significant predictors of prison disturbances, but the directions of the effects differ. A change in the political party of the governor has a positive effect on disturbances in prisons in that state. The mean rate of disturbances increases 68% when such a change happens. Changes in the political party controlling the upper house of state legislatures also have a positive effect on disturbances in prisons in that state. Every change corresponds to a 26% increase in the mean rate of disturbances in prisons in that state. However, the effect of changes in political party controlling the lower house of state legislatures is negative. Every such change in the lower house of the state legislature decreases the mean rate of disturbances some 20% in

prisons in that state. The positive effects of both a change in the political party of the governor and changes in the political party controlling the upper house of the state legislature support hypothesis 15, which proposes a positive relationship between such changes and collective conflict. However, the negative effect of political party changes in the lower house counters the hypothesis.

The next four variables, reported in Table 4.4, are measures of the political vulnerability of state political leaders. The first variable, democratic governors, has a positive effect on prison disturbances. When the state governor is a democrat, as opposed to a member of another political party, the mean rate of disturbances is multiplied by 2.01 for prisons in that state. Not one of the remaining three political vulnerability measures is a significant predictor of prison disturbances. Increasing percentages of Democrats in either the upper or lower houses of the state legislature do not have a significant positive effect of disturbances in prison in that state. Political competitiveness, also, is insignificant in Model 4. The significant effect of democratic governors supports hypothesis 16, which supposes collective conflict is more likely when politicians are viewed as vulnerable on crime, as I have argue is the case for Democrats in contrast to Republicans.

The final political context measure, total expenditures for prison institutions, is not a significant predictor in Model 4. As it does not positively affect prison disturbances, the finding does not support hypothesis 17.

Reported at the bottom panel of Table 4.4 is the χ^2 testing if, together, the set of political context variables, significantly predicts the mean rate of prison disturbances, above and beyond the control variables also included in the model. The χ^2 for Model 4 is

52.92 and is highly significant ($p < .001$). I conclude that the combined group of political context variables does significantly predict the prison disturbances, above and beyond controlling for the security level of a prison.

Full Model. Model 5 is the final model reported Table 4.4 and includes all three sets of measures, social structure, institutional characteristics and political context, as predictors of prison disturbances. I compare the findings of this full model to findings for each of the three partial models that include one of the three sets of predictors.

Comparing Model 2 and Model 5, only one relationship among the social structure predictors change when controlling for institutional characteristics and political context.

As in the partial model, inmate and staff racial heterogeneity are non-significant predictors of disturbances. Percent young is a strong, positive significant predictor in both the partial and full models. When controlling for institutional characteristics and political context, the mean rate of prison disturbances is multiplied by 23.34.

In addition to this significant relationship, the quadratic term of the racial differences in the inmate population and staff population and disturbances remains significant in the full model. The variable has a significant negative effect on the mean rate of disturbances and indicates that the relationship between the racial differences in the inmate population and staff population and prison disturbances is curvilinear. The relationship between this quadratic variable and prison disturbances is similar to the relationship graphed in Figure 4.3.

I now assess how well the findings for Model 5 support the set of six hypotheses detailing the proposed relationships between measures of social structure of a prison population and collective conflict. Two of the six hypotheses are supported in the full

model, which controls for institutional characteristics and political context. As proposed in hypothesis 2b, collective conflict is positively affected by increasing age diversity in the inmate population. The findings also support hypothesis 8, which predicts that increasing racial differences between the inmate population and staff population positively affects the likelihood collective conflict.

Comparing the significant relationships between institutional characteristics and prison disturbances in the partial and full models, I observe that the findings for Model 3 and Model 5 differ in a number of respects. Crowding remains non-significant in both models. While significant in the partial model, the interaction between crowding and inmate racial heterogeneity is not significant in the full model. Controlling for social structure and political context, education, work industry and counseling programs are significant predictors of disturbances, as reported in Model 3. The existence of education and work industry programs continue to be significant positive predictors and increase the mean rate of prison disturbances, 169% and 75% respectively. Controlling for social structure and political context, counseling program remains a negative predictor. When such a program is present, the mean rate of disturbances is decreased 59% in that institution. However, the existence of an employment program is no longer a significant predictor as reported in Model 3. The existence of a work-release program is non-significant predictor in both models.

Comparing Model 3 and Model 5, I observe that the findings for the relationships between the set of court order variables and prison disturbances differ in a number of respects. Court orders for services and practices were both significant predictors in the partial model but are non-significant in the full model, which controls for social structure

and political context. Also, when controlling for social structure and political context, the interaction between employment program and services court orders is not a significant predictor of disturbances. One significant relationship does emerge in the full model, which was not found in the partial model. Controlling for social structure and political context, crowding court order becomes a significant negative predictor in Model 5.

When a prison is under a court order for crowding conditions, the mean rate of disturbances is decreased 69% in that institution. Both models indicate that a court order for conditions relating to fire hazards is not significantly related to prison disturbances.

In Model 3, only one of the two measures of change in the leader of the state prison system is significant. However, controlling for social structure and political context, both measures are now significant predictors of prison disturbances. While non-significant in the partial model, early change is now a significant positive predictor of disturbances. If the leader of the state prison system changes between approximately three and five years prior to the data wave, the mean rate of disturbances increases 88% in prisons in that state. While recent change is significant in Model 3, the direction of the coefficient is positive. In Model 5, recent change is also significant, but it is a *negative* predictor controlling for social structure and political context. Such a change decreases the mean rate of disturbances 48% in prisons a state.

Both measures of security, total staff and inmate-to-staff ratio, were non-significant predictors in the partial model. However, controlling for social structure and political context, total staff is now a significant negative predictor of disturbances in Model 5. Each additional staff member decreases the mean rate of disturbances 1%. In both models, median guard earnings is not a significant predictor. While the year a

prison was built was a non-significant predictor in Model 3, it has a significant positive affect on disturbances. Controlling social structure and political context, multiplying total expenditures of a state by 2.72 (a one-unit increase in the natural log) multiplies the mean rate of disturbances for prisons in that state by 1.54.

Model 5 provides varying and conflicting support for hypotheses 5 through 13, regarding the relationships between institutional characteristics and collective conflict. Hypotheses 5 through 7 were not supported as level of crowding and the interactions between crowding and social structure were not found to be significant predictors. The positive and negative significant effects of inmate programs on disturbances both supported and countered hypothesis 8a, which supposes that programs negatively affect collective conflict in prisons. Similarly, the positive and negative significant effects of a change in the leadership of the state prison system both supports and counters hypothesis 9, which proposes that such change makes collective conflict in prisons more likely. The negative effect of total staff on prison disturbances supports hypothesis 11, which proposes that collective conflict is more likely when security becomes ineffective. I proposed that the increasing number of prison staff inversely affects security in an institution. The relationship between the ratio of median guard earnings to median family incomes is not a significant predictor in the model, which provides no supporting evidence for hypothesis 12. While the year of prison construction measure was a significant predictor, it was negative, rather than positive as expected. This finding, thus, does not support hypothesis 14 that proposes that newer prisons have the technology means to more efficiently repress inmates, which makes collective conflict less likely.

Measures of political context are the final set of predictors reported for Model 5. Comparing Model 4 and Model 5, several relationships between the political context predictors and prison disturbances differ in the two models. Groups organized around prison issues is a non-significant predictor in the partial and full models. While the three measures of change in state politics were significant in Model 4, not one is a significant predictor of disturbances in Model 5, which controls for social structure and institutional characteristics. The mean rate of disturbances is higher when a governor is a democrat, as opposed to a member of another political party. The mean rate of disturbances is multiplied by 3.42 for prisons in a state when the governor is a democrat, controlling for social structure and institutional characteristics.

In Model 4, the percentages of Democrats in the upper and lower houses of the state legislature are both non-significant predictors of prison disturbances. In Model 5, however, both measures have a significant effect. Controlling for social structure and institutional characteristics, as the percentage of democrats in the upper house of a state legislature increases one unit the mean rate of disturbances for prisons in that state is multiplied by 50.40. Conversely, percent democrat in the lower house of a state legislature has a large negative effect on disturbances in prisons in that state. Controlling for social structure and institutional characteristics, the mean rate of disturbances is decreased some 99% in the full model as the percentage of democrats increases one unit. Political competitiveness is non-significant in both models. However, the measure of total expenditures for prison institutions has a significant positive effect in Model 5. Controlling for social structure and institutional characteristics, a one-unit, multiplying

total expenditures of a state by 2.72 (the unit of increase in the natural log) multiplies the likelihood of a riot in prisons in that state by 1.54.

Model 5 indicates varying support for hypotheses 14 through 17. The findings do not support hypotheses 14 and 15, which propose positive relationships between both the total groups organized around prison issues in a state and changes in the leadership of the state prison system and collective conflict in prisons in that state. As expected, increased prison disturbances were associated with democratic governors and increasing percentages of Democrats in the upper house of the state legislature. These findings support hypothesis 16. This hypothesis proposes that democratic elected officials are more politically vulnerable on crime, which pressures them to take legislative actions that challenge this image. I assert that collective conflict is more likely when administrators and staff interpret these actions as making their jobs more difficult. However, the negative effect of total Democrats in the lower house of the state legislature counters hypothesis 16. Finally, hypothesis 17 is supported by the findings as increasing expenditures have a positive effect on prison disturbances.

Reported at the bottom panel of Table 4.4 is the χ^2 testing if, together, the three sets of variables, social structure, institutional characteristics and political context, significantly predict the mean rate of prison disturbances, above and beyond the control variables also included in the model. The χ^2 for Model 5 is 537.68, the largest of all four models that include predictors, and is highly significant ($p < .001$). I conclude that the combined set of predictors, social structure, institutional characteristics and political context variables, do significantly predict the prison disturbances, above and beyond controlling for the security level of the institution.

Fires

Null Model. The Poisson regression null model predicting the mean rate of prison fires is labeled Model 1 and reported in Table 4.5. As described earlier, fires are inmate-initiated incidents that cause at least \$50 of damage in an institution. According to the model, the coefficient for linear time is significant, while the coefficient for quadratic time is non-significant. As the quadratic term is not significant, it is excluded from future models predicting prison fires. The coefficient for linear time indicates that the mean rate of fires for individual prisons have on average doubled in each wave of the data. Again, the findings from the cross-section data indicate that the mean number of fires for the total population of prisons has declined across from 1984 to 1995. However, the unconditional growth-curve Poisson model indicates that over this 11-year period individual prisons have increased in their mean number of fires.

The findings for this unconditional growth-curve regression model indicate a trend in fires that initial may seem inconsistent with the descriptions of the cross-sectional data. However, there is an important distinction between the two analyses. The cross-sectional data provides information on the average number of fires for institutions in each of the three years. These means are averaged across the population of institutions for a given year. The growth-curve model for the longitudinal data provides information on the systematic pattern of change for *individual prisons* in their mean rates of fires. These means are averaged cross the population of individual prisons existing in two given years, such as 1984 and 1990 or 1990 and 1995.

To further investigate the finding for the longitudinal data, I created two subsets of the cross-sectional data. The first subset included only prisons that were in the data for

both the years 1984 and 1990. The second subset included only prisons that were in the data for the years 1990 and 1995. The mean for fires for prisons in the first subset is 1, and the mean in the second subset is 3. Therefore, these subset data verify that individual prisons have increased in their mean number of fires over time.

The variance components for the model verify this finding. According to Table 4.3, the majority, 66%, of the variance in fires in the data is at level 1, which represents how much individual prisons have change in the dependent variable across time. Some 33% of the variance is at level 2, which represents differences among prisons within states in mean number of fires. Only, a modest 1% of the variance in fires is between states. The χ^2 for level 2 and level 3 is significant and indicates that significant variation exists at both levels in the data. Therefore, the use of multilevel regression is justified.

Social Structure Partial Model. The next model specified includes the set of social structure measures as predictors of prison fires. This model is labeled Model 2 and reported in Table 4.5. In this Poisson regression model and the remaining two partial and one full models, the mean rate of fires is variably exposed for the total population of each prison. The findings for this partial model test hypotheses 1a through 4. Among the four predictors, only the squared term of racial differences between the inmate population and staff population and percent young inmates have significant effects on the mean rate of prison fires. The quadratic measure of inmate and staff racial differences has a significant positive effect on the mean rate of fires. This relationship supports hypothesis 4, which proposes that such differences make collective conflict more likely in prisons. Percent youth has a large positive effect on prison fires: each percent increase multiplies the mean rate of fires by 10.38. This relationship supports hypothesis 2b, which supposes

that increasing age diversity among inmates makes collective conflict more likely in prisons.

Reported at the bottom panel of Table 4.5 is the χ^2 testing if, together, the set of social structure variables, significantly predicts the mean rate of prison fires, above and beyond the control variables also included in the model. The χ^2 for Model 4 is 42.00 and is highly significant ($p < .001$). I conclude that together the social structure variables do significantly predict the prison fires, above and beyond the controls for the security level of the institution.

Institutional Characteristics Partial Model. Model 3, reported in Table 4.5, includes the set of institutional characteristics as predictors of prison fires. This partial model provides a preliminary test of hypotheses 5 through 12. Level of crowding in a prison is significantly related to fires. However, the direction of the effect is inconsistent with hypothesis 5, which supposes that crowding positively affects collective conflict. Instead of positively affecting the mean rate of fires, each unit increase in crowding reduces the mean rate of fires 42% in prisons. The interactions between crowding and inmate racial heterogeneity and percent young inmates are not significant predictors in the model. Therefore, the findings provided no support for hypotheses 5 through 7.

Among the five inmate program variables, only one, education program, is a significant predictor of fires. The presence of an education program in a prison multiplies the mean rate of fires by 3.29. The direction of this relationship counters hypothesis 8a, which supposes that the presence of inmate programs makes collective conflict less likely in prisons. Two of the four court orders are significant predictors of fires. A court order for conditions related to crowding has a positive effect on fires.

When a prison is under such an order, the mean rate of fires increases some 99%.

Conversely, the effect of a service court order is negative. When a prison is under a court order for issues relating to inmate services, the mean rate of fires in the institution decreases 61%.

To test hypothesis 8b, the twenty interactions between the five inmate programs and the four court orders, describe earlier in the methods section, were included in the model. Of these twenty variables, two were found to be significant and are reported in Model 3. These significant variables include interactions between counseling program and services court order and counseling program and practices court order. The counseling program and services court order interaction has a significant positive effect on fires. When a counseling program exists in a prison that is under a court order for issues relating to inmate services, the mean rate of fires is multiplied by 2.72. This relationship is consistent with hypothesis 8b, which proposes that collective conflict is more likely when inmate programs are present in prisons with existing poor conditions. Conversely, the counseling program and practices court order interaction has a negative effect on fires. When a counseling program exists in a prison that is under a court order for issues relating to staff practices, there is 75% decrease in the mean rate of fires. This negative relationship counters hypothesis 8b.

Model 4 indicates that neither an early nor a recent change in state leadership significantly affects the mean rate of fires in prison in that state. Thus, hypothesis 9 is not supported. However, the significant negative relationship between total staff and fires supports hypothesis 11, which proposes that collective conflict is more likely when security is ineffective in a prison. Again, I argue that increasing total staff makes security

more effect. Every additional staff member is associated with a 1% decrease in the mean rate of prison fires. The ratio of inmate-to-staff is non-significant in the model. Also, guard earnings and the year that the facility was constructed are not significantly related to fires in the partial model, which indicates a lack of support for hypotheses 12 and 13.

Reported at the bottom panel of Table 4.5 is the χ^2 testing if, together, the set of institutional characteristic variables, significantly predicts the mean rate of prison fires, above and beyond the control variables also included in the model. The χ^2 for Model 4 is 133.86 and is highly significant ($p < .001$). I conclude that together the institutional variables do significantly predict the prison fires, above and beyond controlling for the security level of the institution.

Political Context Partial Model. Model 4 includes political context measures as predictors of prison fires. This partial model is reported in Table 4.5. The first of these measures, total number of groups in a state organized around prison issues, is positive and significant in the model. This relationship supports hypothesis 14, which proposes that such groups make collective conflict more likely as they provide inmates with necessary resources. Every group organized in a state increases the mean rate of fires 3% in prisons in that state.

Model 4 also includes three measures of political change in the executive and legislature branches of state government. A change in the political party of the governor and the political party in control of the upper house are both non-significant predictors. However, a change in the political party in control of the lower house of the legislature is a significant positive predictor of fires. Every such change in a state increases the mean rate of fires 55% in prisons in that state. This relationship supports hypothesis 15 that

suggests such changes make collective conflict more likely in prisons. Democratic governors and percent of Democrats in the upper or lower houses of the state legislature are all non-significant predictors in the model. Political competitiveness, also, does not significantly affect fires. These non-significant relationships indicate that Model 4 provides no support for hypothesis 16, which suggest a positive relationship between political vulnerability and collective conflict in prisons. Finally, total expenditures do not significantly affect prison fires, which does not support hypothesis 17, which asserts a positive relationship between expenditures for prisons and collective conflict in these institutions.

Reported at the bottom panel of Table 4.5 is the χ^2 testing if, together, the set of political context variables, significantly predicts the mean rate of prison fires, above and beyond the control variables also included in the model. The χ^2 for Model 4 is 27.10 and is highly significant ($p < .001$). I conclude that the combined group of collective context variables does significantly predict prison fires, above and beyond controlling for the security-level of the institution.

Full Model. Model 5 includes the all three sets of measures, social structure, institutional characteristics and political context, as predictors of prison fires. This final model is reported in Table 4.5. This full model is compared to the findings of each of the partial models reported in the table. Comparing Model 2 and Model 5, I find that one relationship has changed. In Model 2, the squared term of racial differences in the inmate population and staff population is positive and significant. In this full model, it is no longer significantly related to prison fires, when controlling for institutional characteristics and political context. Therefore, percent youth is now the only significant

predictor in the full model. It continues to have a large positive effect on the mean rate of prison fires. The mean rate of the dependent variable is multiplied by 6.62 for each one-unit increase in the measure, controlling for social structure and political context. Therefore, among hypotheses 1 through 4, Model 5 only provides support for hypothesis 2b, which indicates that collective conflict is more likely as the age diversity of the inmate population increases.

Comparing Model 3 and Model 5, I determine what relationships hold between institutional characteristics and prison fires, when controlling for social structure and political context. Because the interactions between crowding and inmate racial heterogeneity and percent young inmates were non-significant in the partial model, they were not included in the final full model. Several of the significant relationships found in Model 3 do not hold in Model 5. The first is the relationship between level of crowding and prison fires. While significant and negative in the partial model, level of crowding does not have a significant effect on fires in the full model, which controls for social structure and political context. Among the five inmate program variables, education program remains the only significant predictor in the full model. The size and strength of the variable both increase in Model 5. Controlling for social structure and political context, the mean rate of fires are multiplied by 4.48 in a prison that has an existing education program for inmates.

In Model 3, court orders for crowding conditions and inmate services are significant predictors of prison fires. However, these predictors do not significantly affect prison fires in Model 5, which controls for social structure and political context. Also, the interactions between counseling program and services court order and

counseling program and practices court order are both significant in Model 3. They fail to significantly predict the mean rate of prison fires in the full model.

The findings of Model 3 and Model 5 for the remaining institutional predictors differ in some respects. Changes in the leadership of the state prison system are non-significant predictors in both models. The relationship between total prison staff and remains significant and negative predictor. Each additional staff member reduces the mean rate of fires 1%, controlling for social structure and political context. The ratio of inmate-to-staff, guard earnings and year that prison was built remain non-significant predictors of prison fires in the full model.

As Model 5 considers the relationship between the set of institutional characteristic predictors and fires, it is a more rigorous test of hypotheses 5 through 12. The findings for this full model indicate support for only one of these hypotheses. While education program is a significant predictor of prison fires, the negative effect of this predictor is inconsistent with hypothesis 8a, which supposes that the existence of inmate programs make collective conflict less likely. The negative significant relationship between total prison staff, a measure of security, and fires is consistent with hypothesis 11. Recall that I argue that collective conflict is more likely when security is ineffective in an institution. However, I propose that as the number of prison staff increase the effectiveness of security in an institution also increases.

Reported at the bottom panel of Table 4.5 is the χ^2 testing if, together, the three sets of variables, social structure, institutional characteristics and political context, significantly predict the mean rate of prison fires, above and beyond the control variables also included in the model. The χ^2 for Model 5 is 149.58 and is highly significant ($p <$

.001). I conclude that the combined group of social structure, institutional characteristics and political context variables do significantly predict the prison fires, controlling for the security level of the institution.

Lastly, I compare the findings of Model 5 with those of Model 4. When controlling for social structure and institutional characteristics, only one relationship, the one between the political context predictors and prison fires changes. In the full model, the total number of groups organized around prison issues in a state is no longer a significant positive predictor. Therefore, number of changes in the lower house of the state legislature is the only remaining significant predictor in the model. Each time there is a change in the political party controlling the lower house in a state the mean rate of fires in prisons in that state increases 84%, controlling for social structure and institutional characteristics. Of hypotheses 13 through 17, Model 5 only supports hypothesis 16.

SUMMARY

Thus far, I have discussed the empirical findings for each of the three dependent variables, separately. In this concluding discussion, I compare the findings across Table 4.2 to Table 4.5 to summarize the trends in prison collective conflict and assess how well each set of independent variables predicted collective conflict. I begin by reviewing the trends in collective conflict, as indicated in the multilevel models and cross-sectional descriptions.

The descriptive analysis of the cross-sectional data indicated that mean number of prisons experiencing a riot has increased steadily from 1984 to 1995. Additionally, the

unconditional growth curve model also indicated that the probabilities of a riot in individual prisons had increased over this period of time. However, the model indicated that the change is not significant. Analyzing the cross-sectional data, I found that the mean number of disturbances in prisons increased sharply between 1984 and 1990 before declining between 1990 and 1995. Similarly, the unconditional growth curve model indicated a curvilinear trend where as of 1993 the mean rate of disturbances in state prisons had declined 59%. Finally, my initial analysis of the cross-sectional data indicated that the mean number of fires in prisons had declined from 1984 to 1990. Conversely, the growth-curve model indicated that individual prisons had actually increased in their mean rates of fires. Further analyses of the cross-sectional data revealed a trend of increasing fires, which is consistent with the findings found for the longitudinal data.

I now turn my attention to the relationships between the set of social structure predictors and the three measures of collective conflict. In Table 4.6, I summarize how well the findings for the full model predicting each of the three dependent variables supported the set of twenty hypotheses regarding the proposed relationships between social structure, institutional characteristics and political context and collective conflict in prisons. As explained in Chapter two, for each hypothesis I have indicated if the findings for the three dependent variables provided 1) support that was consistent with the proposed relationship (+); 2) support that was inconsistent with the proposed relationship (-); 3) support that was both consistent and inconsistent with the proposed relationships (+/-) or 4) no support, consistent or inconsistent, for the proposed relationship.

Of the three dependent variables, the findings indicated that the social structure variables best predicted riots, as three of the four predictors were significant in Model 5 of Table 4.1. The significant predictors included inmate racial heterogeneity, staff racial heterogeneity and the racial difference between the inmate population and staff population. The positive effect of inmate racial heterogeneity and the negative effect of staff racial heterogeneity on the likelihood of a riot in a prison were inconsistent with my proposed hypotheses. As expected, the racial difference between the inmate and staff population was negatively related to the odds of a riot. Furthermore, the findings indicated a curvilinear relationship, where the likelihood of a riot was highest at the extreme values of the measure and particularly when non-white inmates outnumbered white prison staff. Of the social structure predictors, percent young inmates was the only non-significant variable.

Conversely, percent young was the only significant social structure predictor of prison disturbances and fires in the full models in Tables 4.4 and 4.5. As expected, increasing numbers of inmates younger than 17 increased the mean rates of both prison disturbances and fires.

Of the measures of collective conflict, institutional characteristics best predicted disturbances and riots, as a number of the predictors were significant in the two full models in Table 4.2 and 4.4. Beginning with the inmate program measures, three of five of these predictors were significant predictors of disturbances. These inmate programs included education, work industry and counseling. Inconsistent with hypothesis 8a, the existence of education and work industry inmate programs in a prison positively affected disturbances. However, the effect of counseling program was negative, which supports

hypothesis 8a. Regarding prison riots and fires, the full models in Tables 4.2 and 4.5 indicated that only education program was a significant predictor, and the effect was expectantly positive.

Also, three of the interaction variables between inmate programs and court orders were significant predictors of riots, while not one had a significant affect on disturbances or fires. These significant variables included work industry program and crowding order; employment program and fire order; and employment program and crowding order. However, all three interactions negatively, rather than positively, affected the likelihood of a riot in a prison.

Changes in the leadership of the state prison system were significant predictors of both prison riots and disturbances. Early change significantly affected riots, while recent change was significantly related to disturbances. As expected, a change in leadership approximately three to five years prior makes a prison riot more likely. However, a change that happens between approximately two years prior and the year of the data wave negatively affects disturbances. As I suggested in my discussion of the findings, the negative effect of late change might indicate that those working in prisons respond positively to such changes, which makes a riot less likely. However, the positive effect of early change may indicate that over time the response of prison staff to these new leaders becomes less favorable, possibly because of unpopular decisions and policies, and a riot become more likely.

Total staff, an indirect measure of security, was significant in the full models predicting disturbances and fires. The second indirect measure of security, inmate-to-staff ratio, was only significant in the full model predicting riots. While total staff had a

negative effect as expected, inmate-to-staff ratio was positively related to the likelihood of prison riot. As inmates increasingly outnumber staff in an institution, I have suggested that staff may be more likely to use repressive measures to control the inmate population, which makes a riot less likely. Such measures include locking down inmates, placing them in segregation or placing restrictions on their movements.

The ratio of median guard earnings to median family income in a state was also only significant in the full model predicting riots. As expected, the likelihood of a riot decreased as the ratio increased, which indicates a decline in the inequality between guard earnings and family income. Finally, the year that an institution was built was only significant in the full model predicting disturbances. The mean rate of disturbances increased in newer prisons. This finding was not expected and may be explained by the fact that recently built prisons are more likely to be privately owned than are those institutions built earlier. I suspect that private institutions experiences higher rates of collective conflict.

Political context best predicts prison riots and disturbances as several of these measures were significant in the two full models in Tables 4.2 and 4.4. Changes in the political party controlling both the upper and lower houses of the state legislature were significant positive predictors of the likelihood of a riot, as expected. The measure of changes in the lower house was only a significant predictor of fires and increased these incidents as proposed.

Several of the measures of political vulnerability were significant predictors of disturbances. The presence of a Democratic governor, as opposed to one belonging to another political party, was positive and significantly related to disturbances. As

proposed, these governors increased the mean rate of disturbances. The percentages of Democrats in the upper and lower houses were also significant in the full model predicting disturbances. However, the measures had opposing effects. Democrats in the upper house increased the mean rate of disturbances, as expected. However, Democrats in the lower house decreased disturbances. Political competitiveness was only significant in the full model predicting riots; however, it was unexpectedly negative rather than positive.

Finally, the measure of total expenditures was a positive significant predictor in both full models predicting riots and disturbances. Rising costs of prisons increased the odds of a riot and increase the mean rate of disturbances in the full models. In conclusion, comparing the findings across the three dependent variables, I determine that social structure is a better predictor of riots than of disturbances and fires, and institutional characteristics and political context are better predictors of riots and disturbances than fires.

In my closing discussion, I offer a more in-depth discuss of several of the findings. First, I consider the stability in probabilities of a riot in individual prisons over the 11-year period, as well as the decline in prison disturbances from 1990 to 1995. Second, I discuss the effects of both inmate and racial heterogeneity on collective conflict in prisons. Third, I consider the unexpected positive effects of several of the inmate programs on collective conflict.

CONCLUSION

According to the growth curve models, individual prisons have not changed significantly in their probabilities of a riot from 1984 to 1995, and the mean rate of disturbances declined between 1990 and 1995. These findings are somewhat unexpected, considering changes in the social structure of prison populations, characteristics of the institutions, and the political context surrounding prisons. For some this may suggest that prison administrators and staff have become more effective in preventing such events from happening, despite the ways these institutions have changed. For others it may suggest that these changes have failed to prompt a collective response for inmates, at least in the form of rioting. While a definitive answer to the question of why riots and disturbances have not become more prevalent in recent decades is beyond the scope of this research, I do note that both explanations are plausible.

Writing about the surge of unrest in prisons in the 1970s, John Irwin concluded that repression of inmates by prison authorities was instrumental in the decline of inmate conflict (1980). According to Irwin, conflict waned as authorities punished not only individual inmates for their involvement but also marginalized or completely eliminated inmate groups (1980). It is possible that prisons have become more adept at keeping inmates from engaging in collective conflict. Recalling the findings regarding the variation in the data for both riots and disturbances reported in Table 4.3, the majority of variability for both dependent variables was at level 2 or between prisons within states from 1984 to 1995. This finding does indicate that collective conflict is more of a problem for some prisons than for others during this time period.

While it is possible that the lack of increase in collective conflict is due to the actions of prison authorities, it is also probable that the finding can be explained by inmates' lack of agency. Scholars have argued that the surge of collective conflict in prisons during the 1970s was a direct result of the broader contention and political consciousness that was visibly present among blacks in American society beginning with the emergence of the civil rights movement in 1950s (Berkman 1979; Irwin 1980; Jacobs 1980; Johnson 1975). The success of black inmates, who were members of the Nation of Islam, in spurring a movement that secured an unprecedented number of rights for prisoners through litigation in federal courts was an example of how what was happening on the outside of these institutions politically affected what was happening inside of prisons (Berkman 1979; Jacob 1980; Smith 1993). Also, the influx of activists into prisons who were involved in the Black Power Movement of the 1970s, particularly the Black Panther Party, is also credited with fueling a fire of collective conflict by inmates (Cummins 1994; Irwin 1980). Contrasting the political climate then with the 1980s and 1990s, I argue that lack of collective conflict in prisons that as seen in the findings of this study may be explained by decline in activism in American society around the rights of minorities, particularly prisoners, after the 1970s. Consequently, inmates may lack the motivation, encouragement and political consciousness to engage in collective activism inside of prisons.

Considering the unexpected finding for the relationship between inmate and staff racial heterogeneity and interpersonal violence, I consider the effect of that measure on collective unrest. In Chapter three, I presented two hypotheses regarding the proposed relationship between inmate racial heterogeneity and collective conflict. The first

hypothesis proposed that collective social unrest is less likely as the composition of inmates in a prison becomes racially diverse, which negatively affects relationships among the inmate population. The second hypothesis proposed that collective social unrest is more likely as the composition of the inmates in a prison becomes racially diverse, which negatively affects relationships among the inmate population. The findings supported the later hypothesis as inmate racial heterogeneity had a positive effect on the likelihood of a prison riot. However, the explanation that collective unrest is more likely because racial heterogeneity makes relationships among inmates more tenuous seems unlikely considering the findings for interpersonal conflict. In the analyses in Chapter two, inmate racial heterogeneity was negatively related to all three measures of interpersonal conflict. I contend that if racial conflicts were the root cause of the observed prison riots one would suspect that interpersonal conflict would also be associated with increasing inmate racial heterogeneity. Unfortunately, this argument cannot be confirmed as the data does not provide information on the causes of each riot.

An alternative explanation of the findings is that this observed collective conflict involves instead racial contention between inmates and staff. This seems plausible considering the finding that increasing racial differences between the inmate population and the staff population increases the likelihood of a riot. The negative relationship between increasing staff racial heterogeneity and the likelihood of a riot also supports this explanation. Together, these findings suggest that, similar to the riots that took place in prisons during the 1970s, racial disparities between captors and captives continue to ignite collective conflict in these institutions.

Finally, I consider the unexpected positive effect of inmate programs on collective conflict. With the exception of the positive relationship between counseling program and disturbances, inmate programs increase, rather than decrease, collective conflict in prison, contrary to expectations. In particular, the existence of a work industry program in a prison increased the likelihood of a riot and increased the mean rates of disturbances, and the existence of an education program in a prison increased the mean rates of both disturbances and fires. In Chapter three, I proposed that the presence of inmate programs improves the conditions of prisons, which is expected to reduce inmate discontent and consequently make collective conflict less likely. However, this hypothesis assumes that all inmate programs function in similar ways in an institution, which improve prison conditions for inmates and staff. The findings challenge both assumptions.

Unfortunately, the data does not provide detailed information on inmate programs other than whether or not one is present in an institution. However, I speculate that the negative effect of work industry and education programs may indicate that these programs serve in some way as mobilizing mechanisms for collective conflict, while other programs inhibit inmate organizing. Specifically, I suggest that the former programs provide inmates an opportunity to communicate with each other. This may be particularly true of work industry programs, which significantly positively predict both disturbances and riots. Work industry programs are unique in that they permit inmates to move around the institution as they perform different tasks. This mobility allows inmates to communicate with inmates who they would likely not come in contact with otherwise. This communication may permit inmates to exchange information and coordinate collective unrest, particularly in the form of work slowdowns or food strikes.

In contrast to these programs that may serve as mobilizing mechanism for collective unrest, I suggest that some programs, particularly counseling programs, inhibit inmate organizing. Again, of the five inmate programs, only counseling had a significant negative effect of collective unrest, which highlights the point I made in Chapter two regarding the different reasons why inmates participate in different programs. Again, participation in some programs is more voluntary than in others. Participation in counseling programs is typically mandatory, which might make inmates who participate in them more resentful and hostile. Furthermore, counseling programs bring together inmates with various psychological problems, which may inhibit communication necessary for effective collective conflict.

Chapter 5: Concluding Thoughts

Three years after the turn of the 20th century America lead the world in rates of incarceration, with 715 inmates per 100,000 U.S. residents, which meant that 1 out of every 143 people were under confinement (Harrison and Karberg 2004). For minorities the picture was even bleaker, as 12% of black males in their twenties were incarcerated (Harrison and Karberg 2004). Motivated by the growing prevalence of incarceration in America in recent decades, I have undertaken a comprehensive study of prison institutions where such substantial numbers of people will spend some duration of their lives. In particular, I have focused on interpersonal and collective unrest in prisons; social structure of prison populations; living conditions in prisons, and the political context in which these institutions are nested. In this final chapter, I offer some concluding thoughts on this study. I begin by first reviewing the two research questions posed and describing the methodological strategy used to answer these questions. Second, I summarize the major findings of the study. Third, I discuss the limitations of these findings.

Two central questions have been answered in this study: 1) how have the social structure, institutional characteristics, and the political context of prisons, as well as interpersonal and collective unrest inside these institutions changed over the past several decades and 2) how do social structure, institutional characteristics, and political context affect prison interpersonal and collective unrest. The theoretical strategy employed involved synthesizing dominant theoretical approaches in criminology literatures with approaches in sociology literatures in order to develop explanations of two dimensions of prison social unrest, interpersonal conflict between individual inmates and prison staff

and collective action by groups of inmates. To explain prison interpersonal conflict, I drew upon the importation, deprivation and social disorganization theories. I integrated inmate-balance, administrative-control, breakdown and state-centered theories to explain collective unrest. As a consequence, I identified the social structure of a prison population and the institutional characteristics of a prison as predictors of interpersonal conflict. For collective conflict, social structure, institutional characteristics and political context were identified as predictors. I utilized both descriptive analyses and multilevel growth curve models to exploit quantitative data on some 700 state prisons from 1974 to 1995 to answer the two research questions posed in this study.

The multilevel growth curve models offered several important advantages in both describing changes in interpersonal and collective conflict and determining the effects of social structure, institutional characteristics and political context on prison conflict. . The first is that the models permitted me to describe how individual prisons had changed in their levels of interpersonal and collective conflict over time. The second advantage is that these models accounted for the hierarchical structure of the data, which included prisons across time, prisons within states and prisons between states. Furthermore, I was able to specify predictors at the different levels in the data to account for interpersonal and collective unrest.

Concentrating first on the findings of the descriptive analyses of interpersonal conflict, I found that inmate-on-staff, inmate-on-inmate assaults and inmate-on-inmate homicides in state prisons rose from 1984 to 1995. Of the collective unrest measures, these analyses indicated that the mean number of prisons experiencing a riot had

increased from 1984 to 1995. Disturbances in prisons increased from 1984 to 1990 and then declined from 1990 to 1995, while fires declined across the 11-year period.

Exploiting the longitudinal data to determine how individual prisons have changed in their levels of interpersonal and collective unrest, the multilevel growth curve models indicated significant change in these institutions' mean rates of inmate-on-inmate assaults and inmate-on-inmate homicides. From 1984 to 1995, there had been a significant increase in inmate assaults. A curvilinear trend was found for inmate-on-inmate homicides. While the mean rate had declined from 1984 to 1990, inmate homicides had increased between 1990 and 1995. However, individual prisons did not change significantly in their rates of inmate-on-staff assaults over the observed time period. I conclude that interpersonal conflict had worsened for inmates as individual prisons had become increasingly unable to protect those being confined in these institutions from being sexually and physically assaulted or even murdered.

According to the longitudinal data, individual prisons have changed significantly in their mean rates of disturbances and fires but not in their probabilities of having a riot. The multilevel growth curve models indicated a curvilinear trend for disturbances, where the mean rate first increased significantly from 1984 to 1990 before declining between 1990 and 1995. Individual prisons experienced significant increases in their mean rates of fires over the 11-year period. The finding, however, indicated that individual prisons have not changed significantly in their probabilities of a riot. In summary, individual prisons have done a better job of controlling collective conflict than they have of preventing interpersonal conflict, as their rates of disturbances are down and probabilities of a riot are unchanged and inmate-on-inmate assaults and homicides have risen

The descriptive analyses of the cross-sectional data indicate that the trends in the social structure, institutional characteristics and political context of prisons have changed in some respects and remained stable in others. A striking change has been an increase in the number of individuals incarcerated in state prisons, as well a shift in the racial composition of the inmate population. The inmate population grew some 455% from 1974 to 1995. Although White inmates were the dominate racial group in prisons in 1974, Black inmates represented the highest percentage in the population some 21 years later in 1995. While the inmate population has undergone major changes, the racial composition of the staff population has not, as Whites remained the majority among prison staff.

Information on the institutional characteristics of prisons allowed me to assess how these organizations have changed in the context of the shifts in the social structure of their populations. One clear change is in the number of prison institutions, which grew from 275 in 1974 to 721 in 1995. This indicates a 162% increase in the population of state prisons. Regarding the conditions of prisons, the findings indicate that from 1984 to 1995 there was steady decline in the number of prisons that are under court orders for issues relating to inadequate services for inmates and problems with practices of institutions regarding such things as the segregation and disciplinary procedures. Concurrently, court orders for crowding conditions rose.

The findings indicate that despite record numbers of inmates being housed in state prisons and expanding costs, a number of inmate programs continue to exist in these institutions. In particular, alcohol and drug, counseling and education programs existed in no fewer than 60% of state prisons from 1974 to 1995. However, there have been

some shifts in the prevalence of certain programs. The findings reveal that prison work industry and alcohol and drug programs have become increasingly more popular in recent years, while work release and education programs have become less prevalent.

Other institutional characteristics examined include changes in the earnings of guards and stability in the leadership of state prison systems. The findings indicate inconsistent trends in both the median earning of guards relative to the median income of families in a state and the stability of the executive leadership of state prison systems. The disparity between guard earnings and family income grew from 1984 to 1990 but declined from 1990 to 1995. In terms of stability in executive leadership, turnover in leadership fell from the mid-1970s until the late 1980s when it began to increase again.

In describing the political context within which prisons are nested, I found that the mean number of groups in a state that are organized around issues relating to prisons has remained relatively stable from 1984 to 1995, despite the substantial increase in both the number of inmates and prisons. Also, as may be expected state total expenditures for prisons have increased steadily over this 11-year period with costs rising some 142% from 1984 to 1990.

Beyond describing the trends of prisons, two sets of theories were tested as explanations of interpersonal conflict and collective conflict. Of the three explanations of interpersonal conflict, the institutional characteristic predictors relevant to the deprivation theory and the social structure predictors relevant to the social disorganization theory accounted, in part, for all three dependent variables, inmate-on-staff assaults, inmate-on-inmate assaults and inmate-on-inmate homicides. Therefore, the findings strongly supported the argument that interpersonal violence is more adequately explained by

models that pay attention to both the social structure of the prison population and the characteristics of the institutions than either of them separately.

Unlike the social disorganization and deprivation theory, the importation theory predictors of social structure only accounted for one of the three dependent variables, inmate-on-staff assaults. The findings suggest two important points. The first is that the importation and social disorganization predictors measure distinct aspects of the social structure of a prison population. Importation predictors measure the age and racial composition of the prison population, while social disorganization measures are indexes of that capture the racial diversity of the population. The latter measures only account for inmate-on-staff assaults, which the former accounts for all three forms of interpersonal conflict. The second point is that the differential effects of two sets of social structure variables on the dependent variables indicate that inmate-on-inmate assaults and inmate-on-inmate homicides are distinct forms of interpersonal conflict. This point is also supported by the fact that the relationships between the dependent variables changed based on which set of social structure predictors were included in the model. For example, the existence of both education and work programs in a prison increased inmate-on-inmate assaults when controlling for the importation predictors. However, neither program significantly affected inmate assaults when controlling for social disorganization predictors.

The findings also strongly challenge several of my hypothesized relationships between social structure and institutional characteristics and interpersonal conflict. One such finding was the significant negative effect of both inmate and staff racial heterogeneity on interpersonal conflict. Based on the long-standing argument in the

literature on communities that crime is positively affected by heterogeneity, I proposed that increasing racial heterogeneity would increase interpersonal violence. However, I found that inmate racial heterogeneity decreased inmate-on-inmate assaults, inmate-on-staff assaults and inmate-on-homicides, while staff racial heterogeneity decreased inmate-in-inmate homicides. I have argued that this finding may suggest that increasing racial heterogeneity among inmates generates an attitude of “us against them”, which encourages racial groups to form alliances among themselves as a defense against other racial groups in a prison. As a result, conflicts among inmates of the same racial groups may lower rates of overall inmate-on-inmate interpersonal conflict.

Another unexpected finding was the relationship between inmate programs and interpersonal conflict. I proposed that inmate programs decreased interpersonal violence, as the existence of such programs improved prison conditions and reduced inmate discontent. I found, however, that some inmate programs had *positive* and others *negative* effects on the three dependent variables. The existence of a counseling program increased inmate-on-staff assaults, inmate-on-inmate assaults and inmate-on-inmate homicides in prisons. Conversely, work industry programs decreased inmate-on-staff assaults but increased inmate-on-inmate assaults. Furthermore, I found moderating effects of both inmate and staff heterogeneity and inmate programs. For example, inmate-on-staff assaults increased as inmate heterogeneity increased in prisons with work industry programs did not exist. Staff assaults by inmates, however, decreased in prisons with work programs as inmate heterogeneity increased. Also, inmate-on-inmate homicides were not significantly affected by these programs.

Based on these findings, I have argued that the five inmate programs, education, prison work industry, work releases, employment and education programs are distinct in important ways. One difference that I have proposed is the varying motivations behind inmate participation in one or another prison programs. Under the threat of losing privileges or being given disciplinary citations, inmates are compelled to participate in certain programs, such as counseling and work industry programs as opposed to employment and work release programs. Furthermore, these divergent effects of inmate programs again suggest that inmate-on-staff assaults, inmate-on-inmate assaults and inmate-on-inmate homicides are distinct forms of interpersonal violence, and thus are differentially affected by social structure and institutional characteristics.

My final set of analyses tested the how well social structure, institutional characteristics and political context predictors of the inmate-balance, administrative-control, breakdown and state-centered models account for collective conflict in prisons. The findings provided varying support for all four of the theories. Therefore, as with interpersonal conflict, I strongly argue that collective conflict in prisons is best explained by composite models that included predictors of the social structure of the prison population, the characteristics of the institutions and the political context in which prisons are nested. However, according to Table 4.6 the predictors did a better job accounting for prison riots and disturbances than they did fires, which suggests that similar to interpersonal conflict these dependent variables may represent distinct forms of collective conflict.

These analyses also challenged several of my hypothesized relationships between social structure, institutional characteristics and political context and collective conflict.

While several of the predictors of social structure were significant predictors of the likelihood of a prison riot, only the percentage of young inmates significantly affected disturbances and fires. Among the significant predictors of a riot were the unexpected positive effects of inmate racial heterogeneity and negative effects of staff racial heterogeneity. Based on the empirical studies in the literature, I had proposed that increasing heterogeneity makes relationships among inmates more tenuous, which increases the likelihood of a riot (Irwin 1980; Mahan 1994; Montgomery 1994). The findings did not support this hypothesis. The negative effect of heterogeneity on prison riots is an important finding considering the immense concern given to racial tensions among inmates as a central cause of collective conflict in prisons. This unexpected finding might be explained by the fact that inmate racial heterogeneity reduces levels of interpersonal conflict. I suggest that relationships among inmates are positively affected as inmate-on-inmate assaults and inmate-on-homicides are reduced. Less tenuous relationships facilitate building solidarity among inmates, which I suggest increases the likelihood of collective unrest.

I also proposed that increasing staff racial heterogeneity made relationships among staff more tenuous, which negatively affected security and made collective unrest more likely. The findings indicated, however, that increasing staff heterogeneity decreased the likelihood of a riot. In light of these finding, I contend, instead, that increasing staff racial heterogeneity may improve relationships between inmates and staff. This may especially be true considering the finding in the descriptive statistics that minorities have increasingly become the majority in the inmate population, while prison staff population has remained overwhelming white. This argument is further supported

by the finding that increasing racial differences between the inmate and staff population increase the likelihood of collective conflict. Therefore, levels of staff heterogeneity may be more consequential for relationships between inmate and staff in a prison than for those among staff.

As in the analyses of interpersonal conflict, inmate programs unexpectedly had both *positive* and *negative* effects on collective unrest. I had proposed that the existence of inmate programs in a prison would decrease inmate discontent, which would make collective unrest less likely. However, while five of the programs were significant predictors only one had a negative effect. Having a work industry program was a significant positive predictor of the likelihood of a riot in a prison, while having an education program was a significant positive predictor of fires in a prison. Prison disturbances were predicted by three inmate program variables, education, work industry and counseling. The existence of an education or work industry program increased disturbances, while a counseling program decreased such collective conflict. Again, I argue that these divergent effects strongly suggest that inmate programs are different from one another in important ways.

To summarize my discussion of the empirical findings of this study, I offer four final observations. The first is that interpersonal conflict between inmate and staff and among inmates is best explained by models that include both predictors of social structure of the prison population and characteristics of institutions. Similarly, collective conflict within prisons is best explained by composite models that include predictors of social structure, institutional characteristics and the political context within which prisons are nested. Second, is that the dependent variables contained in the sets of measures of

interpersonal and collective conflict represent somewhat distinct outcomes and thus are accounted for by different aspects of social structure, institutional characteristics and political context of prisons. Closely related is the third observation that the importation and social disorganization theories specify distinctive aspects social structure as predictors of interpersonal and collective unrest.

This study of prisons substantially contributes to understanding both the current trends in prisons and the research on interpersonal and collective conflict. However, the data upon which the study depends has a number of limitations that must be considered. One important limitation is that the study included information exclusively on prison institutions or aggregate-level data. Consequently, the data lacked individual-level data, particularly regarding interpersonal and collective conflict. For example, while I know that increasing racial differences between the inmate population and staff population make collective conflict more likely I was unable to determine which inmate-on-staff assaults involve individuals of different racial groups. Therefore, I was limited in my ability to make statements about causal relationships between social structure, institutional characteristics, political context and interpersonal and collective conflict.

The aggregate data on prisons also provided limited information on the actions of the prison staff. For example, I suggested that prison staff may take particular measures to handle inmate crowding and issues of understaffing, which would explain why interpersonal conflict or collective conflict are not more likely when both problems exist in an institution. This argument could have been explored with information on number of inmates staff placed in disciplinary segregation or the number of disciplinary tickets given to by staff, but, unfortunately, such data is unavailable.

Finally, while the quantitative the data on all state prisons exploited in this research is a substantial contribution to the literature that is dominated by studies involving small subsets of prisons, the data provided limited information on some important measures. For example, beyond simply knowing if a program existed in a prison it would have been helpful to know what percentage of a prison's inmate population that had participated in programs available in that prison. This information would have provided a better indicator of the effect of inmate programs on conditions in a prison. The data on court orders was also limited. Beyond knowing if a prison was under a particular court order, it would have been useful to know the date that prison was placed under federal supervision. Knowing this would have allowed me to determine how long a particular issue warranting federal intervention had been a problem in an institution.

In closing I maintain that despite the limitations of this study the descriptive findings of the trends of interpersonal and collective conflict in prisons and the empirical findings regarding the relationships between social structure, institutional characteristics and political context and conflict in prisons makes a substantial contribute to what we know about these institutions, which have grown in their dominance in American society.

References

- Abbott, J. 1981. *In the Belly of the Beast*. New York, NY: Random House.
- Adams K. 1981. "Former Mental Patients in a Prison and Parole System: A Study of Socially Disruptive Behavior." *Criminal Justice and Behavior* 10: 358-84.
- Atlas, Randy, 1983. "Crime Site Selection for Assaults In Four Florida Prisons." *Prison Journal*, 63:59-73.
- Austin, James and John Irwin. 2001. *It's About Time: America's Imprisonment Binge, Third Edition*. Belmont, CA: Wadsworth.
- Beckless, Ferman. 2002, September 12. "Inmates Strike After Death Row Inmate Commits Suicide." *Chicago Defender*, p. 4.
- Bennett, L.A. 1975. "The Study of Violence in California Prisons: A Review with Policy Implications." In *Prison Violence* eds. Cohen et. al. Lexington: Lexington Books.
- Berk, Bernard. 1966. "Organizational Goals and Inmate Organization." *American Journal of Sociology*, (71):522-534.
- Berkman, Ronald. 1979. *Opening the Gates: The Rise of the Prisoners' Movement*. Lexington, Mass: Lexington Books.
- Bonczar, Thomas. 2003. "Prevalence of Imprisonment in the U.S. Population, 1974-2001." Washington, DC: U.S. Department of Justice, Bureau of Justice Statistics.
- Bowker, Lee. 1980. *Prison Victimization*. New York, NY: Elsevier.
- Braswell, Michael, Reid Montgomery, Jr. and Lucien Lombardo (eds.). 1994. *Prison Violence in America*. Cincinnati, OH: Anderson Publishing.
- Bryk, Anthony S. and Stephen W. Raudenbush. 1992. *Hierarchical Linear Models: Applications and Data Analysis Methods*. Newbury Park: Sage Publications.
- Camp, Scott, William Saylor and Kevin Wright. 2001. "Racial Diversity of Correctional Workers and Inmates: Organizational Commitment, Teamwork, and Workers' Efficacy in Prisons." *Justice Quarterly* 18: 411-427.
- Cao, Liqun, Jihong Zhao, and Steve Van Dine. 1997. "Prison Disciplinary Tickets: A Test of The Deprivation and Importation Models." *Journal of Criminal Justice*, 25: 103-114.

- Clemmer, Donald. 1958. *The Prison Community*. New York: Hold, Rinehart and Winston.
- Cloward, Richard. 1960. "Social Control in the Prison." In *Theoretical Studies in Social Organization of the Prison*, 20-41. United States: The Social Science Research Council.
- Colvin, Mark. 1982. "The New Mexico Prison Riot." *Social Problems*, 29: 449-463.
- Cohen, A.K., George F. Cole and R.G. Bailey (eds.). 1976. *Prison Violence*. Lexington, MA: Lexington Books.
- Cooley, Dennis. 1993. "Criminal Victimization in Male Federal Prisons." *Canadian Journal of Criminology*. 35: 479-95.
- Cummins, Eric. 1974. *The Rise and Fall of California's Radical Prison Movement*. Stanford California, Stanford University Press.
- "Despite Inmate Strike Threat, No Disruptions." 2000, January 4. *New York Times*, p. B.5.
- DiIulio, J.J. Jr. 1987. *Governing Prisons*. New York, NY: The Free Press.
- DiPrete, Thomas A. and Jerry D. Forristal. 1994. "Multilevel Models: Methods and Substance." *Annual Review of Sociology*, 20: 331-357
- Eckland-Olsan, S.,D. Barrick and L.E. Cohen. 1983. "Prison Overcrowding and Disciplinary Problems: An Analysis of the Texas Prison System." *Journal of Applied Behavioral Science*, 19: 163-176.
- Ellis, Desmond, Harold Grasmick, and Bernard Gilman. 1974. "Violence in Prisons: A Sociological Analysis." *American Journal of Sociology*, 80:16-43.
- Fairweather, Leslie and Seán McConville (eds.). *Prison Architecture: Policy, Design, and Experience*. Great Britain: Oxford Boston Architectural Press.
- Farrington, Keith. 1992. "The Modern Prison as Total Institution? Public Perception Versus Objective Reality." *Crime and Delinquency* 38: 6-26.
- Flanagan, Timothy J. 1983. "Correlates of Institutional Misconduct Among State Prisoners: A Research Note." *Criminology*, 21: 29-40.
- Fox, Vernon. 1971. "Why Prisoners Riot." *Federal Probation*, 35: 9-14.

- Fox, J.G. 1982. *Organizational and Racial Conflict in Maximum-Security Prisons*. Lexington, MA: Lexington Press.
- Gaes, G.G. and W.J. McGuire. 1985. "Prison Violence: The Contribution of Crowding Versus Other Determinants of Prison Assault Rates." *Journal of Research on Crime and Delinquency*, 22: 41-65.
- Gebelein, Richard S. 2000. "The Rebirth of Rehabilitation: Promise and Perils of Drug Courts." Papers from the Executive Sessions on Sentencing and Corrections (NCJ 181412). Washington, DC: U.S. Department of Justice, National Institute of Justice.
- Goldstone, Jack and Bert Useem. 1999. "Prison Riots as Microrevolutions: An Extension of State-Centered Theories of Revolution." *American Journal of Sociology*, 104:985-1029.
- Goetting, Ann, and Roy Michael Howsen, Roy Michael. 1983. "Women in Prison: A Profile." *The Prison Journal*, 63: 27-65.
- Goffman, Erving. 1961. *Asylums*. Garden City, NY: Anchor Books.
- Harrison, Paige and Jennifer Karberg. 2003. "Prison and Jail Inmates at Mid-2003." Washington, DC: U.S. Department of Justice, Bureau of Justice Statistics.
- Harer, Miles and Darryl Steffensmeier. 1996. "Race and Prison Violence." *Criminology*, 34: 323-55.
- Hewitt, John, Eric Poole, and Robert Regoli. 1984. "Self-Reported and Observed Rule Breaking in Prison: A Look at Disciplinary Response." *Justice Quarterly*, 1: 434-47.
- Irwin, John. 1970. *Prisons in Turmoil*. Boston: Little, Brown.
- Jacobs, James B. 1977. *Stateville: The Penitentiary in Mass Society*. Chicago: University of Chicago Press.
- _____. 1980. "The Prisoners' Movement Rights and Its Impacts, 1960-1980." In N. Morris and M. Tonry (eds.). *Crime and Justice*, Vol. 2,. Chicago: University of Chicago Press.
- _____. 1983. *The New Perspectives on Prisons and Imprisonment*. Ithaca, NY: Cornell University Press.
- Johnson, Roberta Ann. 1975. "The Prison Birth of Black Power." *Journal of Black Studies*, 5: 395-414.

- Kasarda, John and Morris Janowitz. 1974. "Community Attachment in Mass Society." *American Sociological Review*, 52:713-31.
- Klarner, Carl. 2003. "The Measurement of the Partisan Balance of State Government" *State Politics and Policy Quarterly*, 3: 309-319.
- Kornhauser, Ruth. 1978. *Social Sources of Delinquency: An Appraisal of Analytic Models*. Chicago, IL: University of Chicago Press.
- Lin, Ann Chih. 2000. *Reform in the Making: The Implementation of Social Policy in Prison*. Princeton, N.J.: Princeton University Press.
- Light, Stephen C. 1994. "Assaults on Prison Officers: Interactional Themes." *Justice Quarterly*, 8: 243-261.
- Lombardo, Lucien. 1989. *Guards Imprisoned: Correctional Officers at Work*. Cincinnati, OH: Anderson Publishing Company.
- MacKenzie D. 1987. "Age and Adjustment to Prison." *Criminal Justice and Behavior*, 14: 427-47.
- Mahan, Sue. 1994. "An 'Orgy of Brutality' at Attica and the 'Killing Ground' at Santa Fe: A Comparison of Prison Riots." In Braswell, Michael, Reid Montgomery, Jr. and Lucien Lombardo (eds.). *Prison Violence in America*. Cincinnati, OH: Anderson Publishing.
- McAdam, Doug. 1982. *Political Process and the Development of Black Insurgency, 1930-1970*. Chicago: University of Chicago Press.
- McCarthy, John D. and Mayer N. Zald. 1977. "Resource Mobilization and Social Movements: A Partial Theory." *American Journal of Sociology*, 82: 1212-1241.
- McCorkle, Richard, Terrance Miethe and Kriss Drass. "The Roots of Prison Violence: A Test of Deprivation, Management, and "Not-So-Total Institution Models." *Crime and Delinquency*, 41: 317-331.
- McGee, Richard. 1981. *Prisons and Politics*. Lexington, MA: Lexington Books.
- Montgomery, Reid. 1994. "American Prison Riots: 1774-1991." In Braswell, Michael, Reid Montgomery, Jr. and Lucien Lombardo (eds.). *Prison Violence in America*. Cincinnati, OH: Anderson Publishing.
- O'Hagan, Maureen. 2001, July 27. "Inmate Strike Wanes at Jessup Prison; Officials Negotiate Over 17 Grievances, Including Smoking Ban, Low Pay." *The Washington Post*, p. B.05.

- Oberschall, Anthony. 1993. *Social Movements: Ideologies, Interests, and Identities*. New Brunswick: Transaction Publishers.
- Patrick S. 1998. "Differences in Inmate-Inmate and Inmate-Staff Altercations: Examples from a Medium Security Prison." *Social Science Journal*, 35: 253-63.
- Ray, James Lee and J. David Singer. 1973. "Measuring the Concentration of Power in International Systems." *Sociological Methods and Research*, 1: 403-437.
- Reisig, Michael. 1998. "Rates of Disorder in Higher-Custody State Prisons: A Comparative Analysis of Managerial Practices." *Crime and Delinquency*, 44: 229-45.
- Sampson, Robert and W. Byron Groves. 1989. "Community Structure and Crime: Test Social-Disorganization Theory." *American Journal of Sociology* 94:774-802.
- Scalia, John. 2002. "*Prisoner Petitions Filed in U.S. District Courts, 2000, with Trends 1980 - 2000.*" Bureau of Justice Statistics.
- Shaw, Clifford and Henry McKay. 1942. *Juvenile Delinquency and Urban Areas*. Chicago: University of Chicago Press.
- Smith, Christopher. 1993. "Black Muslims and the Development of Prisoners' Rights." *Journal of Black Studies*, 24:131-146.
- Struckman-Johnson, Cindy, David Struckman-Johnson, Lila Rucker, Kurt Bumby, and Stephen Donaldson 1996. "Sexual Coercion Reported By Men and Women in Prison." *The Journal of Sex Research*, 33: 67-77.
- Sykes, Gresham. 1958. *The Society of Captives*. Princeton, N.J.: Princeton University Press.
- Sykes, Gresham and Sheldon Messinger. 1960. "The Inmate Social System." In *Theoretical Studies in Social Organization of the Prison*, 20-41. United States: The Social Science Research Council.
- Thomas, C.W. and Cage, R.J. 1977. "Correlates of prison drug use: An Evaluation of Two Conceptual Models." *Criminology* 15: 193-210.
- Toch, H. and K. Adams 1986. "Pathology and Disruptiveness Among Prison Inmates." *Journal of Research in Crime and Delinquency*, 23: 7-21.
- Useem, Bert. 1985. "Disorganization and the New Mexico Prison Riot of 1980." *American Sociological Review*, 50:677-688.

- Useem, Bert and Jack Goldstone. 2002. "Forging Social Order and Its Breakdown: Riot and Reform in U.S. Prisons." *American Sociological Review* 67: 499-525.
- Useem, Bert and Peter Kimball. 1989. *States of Siege: U.S. Prison Riots, 1971-1986*. New York: Oxford University Press.
- Useem, Bert and Michael Reisig. 1999. "Collective Action in Prisons: Protests, Disturbances and Riots." *Criminology* 37: 735-759.
- Walters, Glenn. 1999. "Short-Term Outcome of Inmates Participating in the Lifestyle Change Program." *Criminal Justice and Behavior*, 26: 322-37.
- Wilsnack, Richard. 1976. "Explaining Collective Violence in Prisons: Problems and Possibilities." In *Prison Violence* eds. Cohen et. al. Lexington: Lexington Books.
- Wolfgang, Marvin. 1961. "Quantitative Analysis of Adjustment to the Prison Community." *Journal of Criminal Justice*, 22: 367-81.
- Wooldredge, John, Timothy Griffin and Travis Pratt. 2001. "Considering Hierarchical Models for Research On Inmate Behavior: Predicting Misconduct with Multilevel Data." *Justice Quarterly*, 18: 203-321.
- Wortley, Richard. 2002. *Situational Prison Control: Crime Prevention in Correctional Institutions*. New York, NY: Cambridge University.

Appendix A. Court Order Scales' Items and Reliability Measures

	1984	1990	1995
	<i>alpha</i>	<i>alpha</i>	<i>alpha</i>
Living Conditions			
crowding			
fire hazards			
	0.95	0.87	0.55
Prison Practices			
segregation			
discipline			
staffing			
	0.94	0.88	0.96
Inmate Services			
medical			
recreation			
mail			
education			
counsel			
food			
	0.96	0.96	0.83

Table 2.1. Trends in Prison Interpersonal Conflict, Social Structure and Institutional Characteristics, 1974-1995

	1974		1979		1984		1990		1995	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
<i>Interpersonal Conflict</i>										
Inmate-on-Staff Assaults					9.21	25.17	10.27	26.85	13.61	30.26
Inmate-on-Inmate Assaults					22.94	88.78	22.21	49.04	27.05	60.98
Inmate-on-Inmate Homicides					0.16	0.62	0.06	0.3	0.08	0.37
<i>Social Structure</i>										
Total Inmate Population	428.93	586.55	487.06	643.84	522.97	657.54	658.4	662.92	956.66	924.36
Proportion Black Inmates	0.47	0.50	0.47	0.20	0.44	0.20	0.49	0.19	0.51	0.21
Proportion Other Inmates	0.02	0.13	0.07	0.11	0.10	0.13	0.12	0.14	0.12	0.14
Proportion White Inmates	0.51	0.50	0.47	0.18	0.46	0.46	0.39	0.18	0.37	0.18
Inmate Racial Heterogeneity					0.60	0.20	0.59	0.18	0.55	0.19
Proportion Inmates 17 and under					0.01	0.06	0.008	0.04	0.004	0.01
Total Correctional Staff	89.16	116.15	103.75	136.60	129.35	161.45	164.62	162.69	214.44	188.03
Proportion Black Staff	0.12	0.12	0.14	0.15	0.14	0.16	0.19	0.21	0.20	0.21
Proportion Other Staff	0.06	0.11	0.03	0.09	0.05	0.1	0.04	0.08	0.06	0.12
Proportion White Staff	0.88	0.15	0.80	0.23	0.81	0.17	0.71	0.23	0.74	0.23
Staff Racial Heterogeneity					0.27	0.22	0.32	0.24	0.31	0.23

continued Table 2.1. Trends in Prison Interpersonal Conflict, Social Structure and Institutional Characteristics, 1974-1995

	1974		1979		1984		1990		1995	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
<i>Institutional Characteristics</i>										
Crowding Design Capacity	0.88	0.27	1.01	0.23	1.08	0.29	1.18	0.34	1.28	0.43
Crowding State Rated					0.97	0.16	1.02	0.19	1.05	0.25
Inmate-to-Staff Ratio	5.70	6.80	5.60	3.80	5.10	3.30	5.30	3.30	5.70	2.50
Education Programs	0.79	0.41	0.87	0.33	0.84	0.37	0.87	0.34	0.88	0.33
Counseling Programs	0.88	0.33	0.64	0.48	0.64	0.48	0.62	0.49	0.78	0.41
Substance Abuse Programs	0.79	0.41	0.73	0.45			0.67	0.47	0.93	0.26
Prison Work Industry Programs	0.39	0.49			0.79	0.41	0.58	0.49	0.94	0.24
Prison Work Release Programs	0.49	0.50	0.33	0.47	0.11	0.32	0.06	0.23	0.17	0.38
Employment Programs	0.71	0.46	0.29	0.45	0.21	0.41	0.36	0.48	0.58	0.49
Prison Practices Court Orders					0.41	0.97	0.36	0.86	0.24	0.71
Inmate Services Court Orders					0.81	1.87	0.72	1.78	0.48	1.39
Crowd Court Orders					0.12	0.33	0.17	0.37	0.21	0.41
Fire Court Orders					0.13	0.33	0.11	0.32	0.07	0.25
N	275		321		392		487		721	

Figure 2.1. Trends in Interpersonal Prison Conflict, 1984-1995

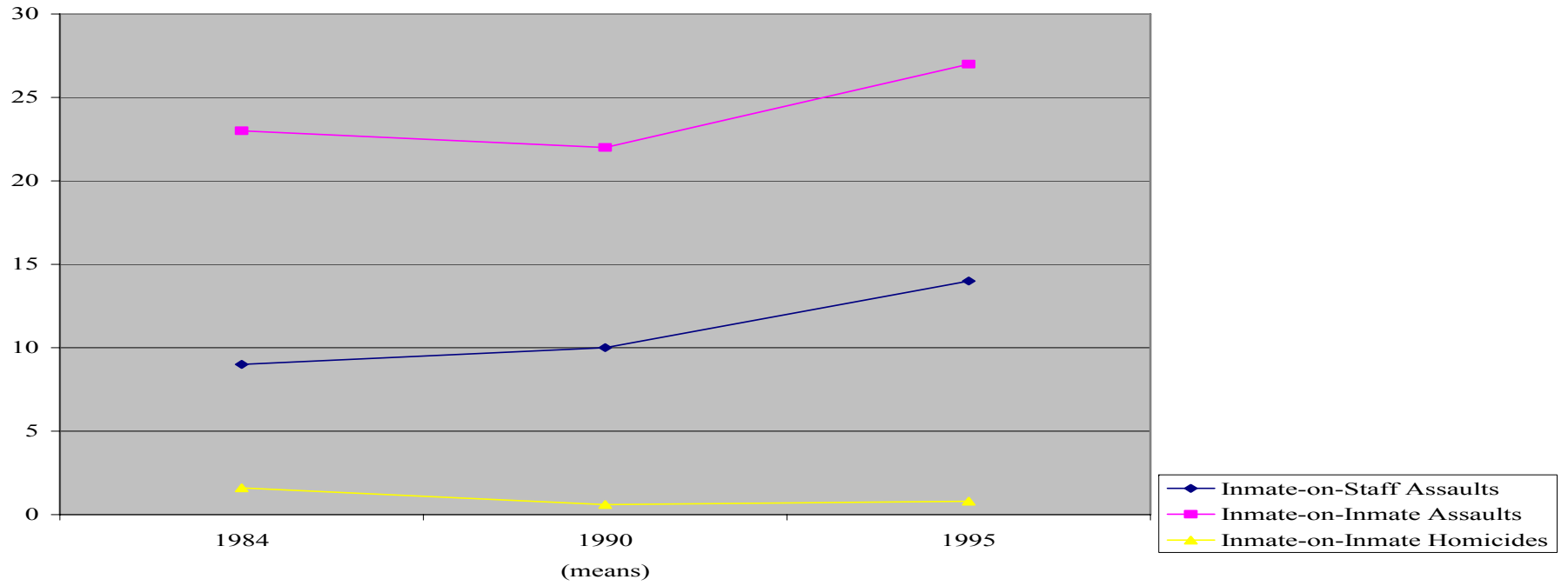


Figure 2.2. Inmate Populations of State Prisons, 1974-1995

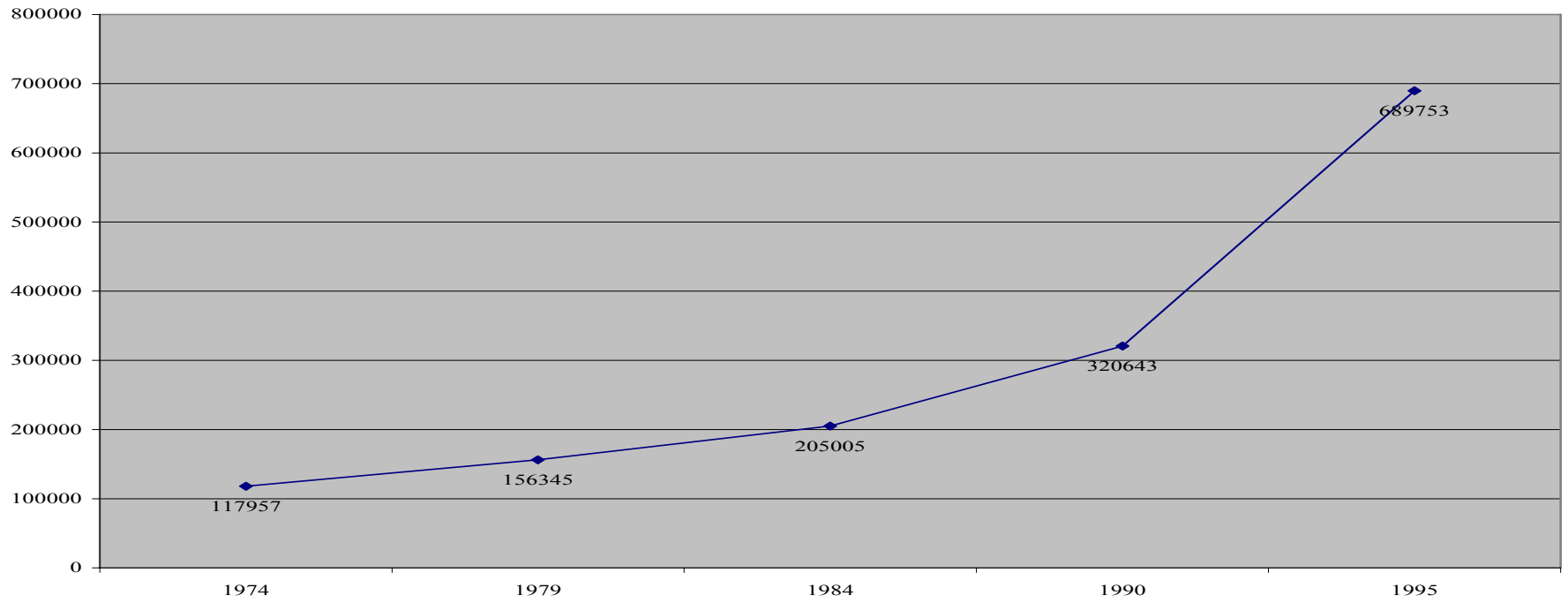


Figure 2.3. The Population of State Prisons, 1974-1995

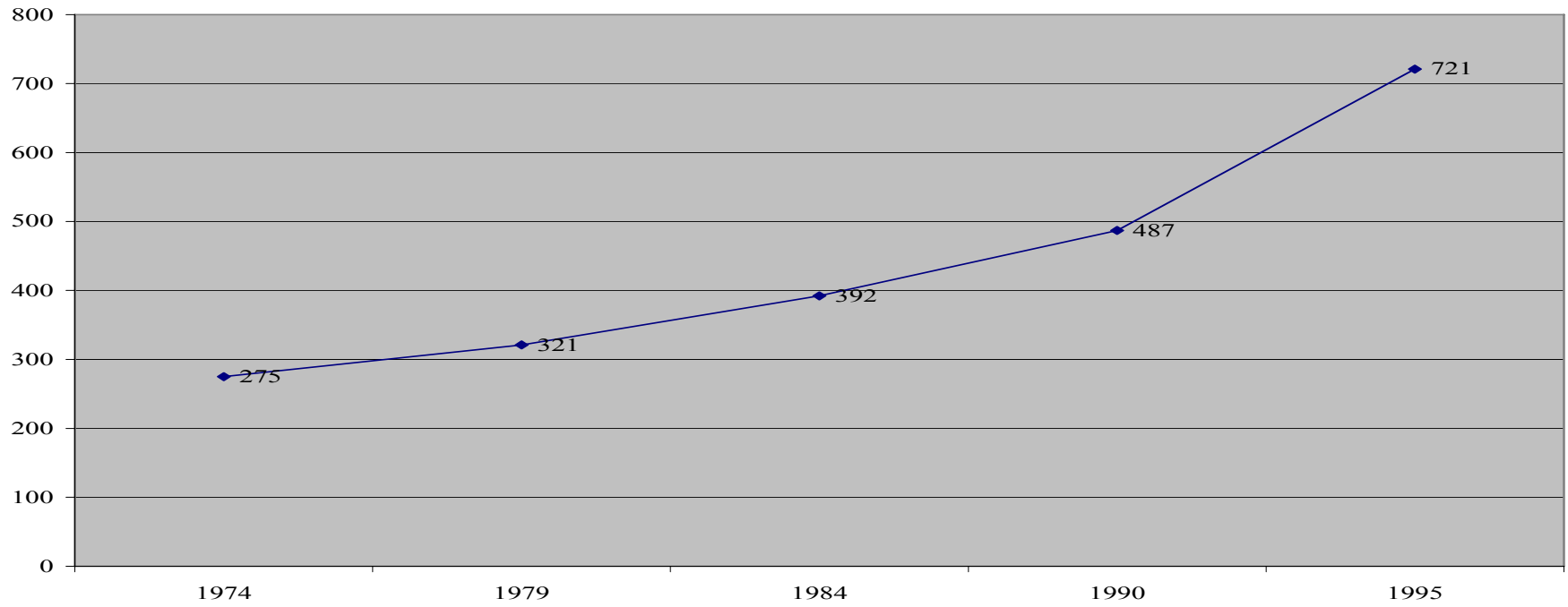


Table 2.2. Coefficients and Variance Components for Trends in Prison Interpersonal Conflict: Unconditional Poisson Models, 1984-1995

	<i>Model 1</i>			<i>Model 2</i>			<i>Model 3</i>		
	Inmate-on-Staff Assaults			Inmate-on-Inmate Assaults			Inmate-on-Inmate Homicides		
	Coefficient	SE	Exp(B)	Coefficient	SE	Exp(B)	Coefficient	SE	Exp(B)
Intercept	-4.67**	0.09	0.09	-3.60**	0.19	0.03	-11.74**	0.17	0.00
<i>Trend Variables</i>									
Time	0.00	0.02	1.00	0.08*	0.02	1.08	-0.05	0.04	0.95
Time Squared							0.24**	0.03	0.27
<i>Variance Components</i>									
	Variance	SD	χ^2	Variance	SD	χ^2	Variance	SD	χ^2
Level-1	6.17	2.48		14.68	3.83		0.09	0.30	
Level-2	0.73**	0.85	1512.29**	0.36	0.60	960.23**	4.95**	2.23	4176.58**
Level-3	0.23	0.48	164.73**	0.26	0.51	260.91**	0.26	0.51	55.25

** .001 * .01 + .05

Table 2.3. Poisson Regression Models Testing Importation Predictors of Interpersonal Conflict, 1984-1995

	<i>Model 1</i>			<i>Model 2</i>			<i>Model 3</i>		
	Inmate-on-Staff Assaults			Inmate-on-Inmate Assaults			Inmate-on-Inmate Homicides		
	Coefficient	SE	Exp(B)	Coefficient	SE	Exp(B)	Coefficient	SE	Exp(B)
Intercept	-5.68**	0.22	0.00	-3.74**	0.19	0.02	-11.91**	1.19	1.00
<i>Trend Variables</i>									
Time	0.04 ⁺	0.02	0.04	0.09**	0.02	1.09	0.04	0.14	1.15
Time Squared							0.17	0.12	1.19
<i>Social Structure</i>									
% Black Inmates	1.89*	0.38	6.62	0.19	0.32	1.21	3.19	2.45	24.29
% Other Inmates	0.85	0.59	2.33	0.05	0.56	1.05	0.58	2.66	1.79
% Young Inmates	0.32	0.48	1.38	-0.3	0.65	0.74	2.01	1.26	7.46
% Black Staff	-0.11	0.28	0.89	0.00	0.24	1.00	-1.87	2.32	0.15
% Other Staff	0.78	0.57	2.18	0.76	0.51	2.14	1.33	3.46	3.78
<i>Control Variables</i>									
Minimum Security	-1.71**	0.13	0.18	-0.72**	0.11	0.49	-1.96**	0.34	0.14
Medium Security	-1.02**	0.09	0.36	-0.47**	0.08	0.63	-2.03**	0.47	0.13

** .001 * .01 + .05

Table 2.4. Poisson Regression Models Testing Deprivation Predictors of Interpersonal Conflict, 1984-1995

	<i>Model 1</i>			<i>Model 2</i>			<i>Model 3</i>		
	Inmate-on-Staff Assaults			Inmate-on-Inmate Assaults			Inmate-on-Inmate Homicides		
	Coefficient	SE	Exp(B)	Coefficient	SE	Exp(B)	Coefficient	SE	Exp(B)
Intercept	-3.86**	0.22	0.02	-4.36	0.22	0.01	-10.09*	0.36	0.00
<i>Time Trends</i>									
Time	0.02	0.08	1.02	0.10**	0.02	1.11	0.23**	0.04	1.26
Time Squared							0.07*	0.03	1.07
<i>Institutional Characteristics</i>									
Education Program	0.27	0.38	1.31	0.53*	0.16	1.70	-2.06**	0.20	0.13
Work Industry Program	-0.11	0.10	0.89	0.31*	0.09	1.36	0.62*	0.19	1.86
Work Release Program	-0.31 ⁺	0.13	0.73	0.08	0.10	1.08	0.03	0.21	1.00
Employment Program	-0.23**	0.06	0.79	-0.03	0.06	0.97	-0.22*	0.08	0.80
Counseling Program	0.44**	0.09	1.55	0.46**	0.08	1.58	0.66**	0.11	1.93
Crowding ^a	-0.17	0.10	0.84	0.02	0.11	1.02	-0.88**	0.13	0.41
Total Staff ^a	0.00	0.00	1.00	0.00	0.00	1.00	0.01*	0.00	1.00
Inmate-Staff Ratio ^a	-0.12**	0.03	0.87	0.05 ⁺	0.03	1.05	0.43**	0.04	1.54
Crowding Order	-0.21 ⁺	0.10	0.81	0.11	0.09	1.12	-0.88**	0.13	0.41
Fire Order	-0.18	0.14	0.84	0.10	0.62	1.11	0.87**	0.14	2.39
Practices Order	0.05	0.06	1.05	0.09	0.08	1.09	-0.15	0.08	0.86
Services Order	0.07 ⁺	0.03	1.07	-0.10*	0.05	0.90	0.21**	0.04	1.23
Year Built ^a	0.00	0.06	1.00	0.00	0.00	1.00	-0.01	0.00	0.99
<i>Control Variables</i>									
Minimum Security	-1.49**	0.13	0.23	-0.55**	0.11	0.58	-5.70**	0.98	0.00
Medium Security	-0.91**	0.09	0.40	-0.42**	0.09	0.66	-2.05**	0.52	0.13

** .001 * .01 + .05

^a group mean centered

Table 2.5. Poisson Regression Models Testing Importation and Deprivation Predictors of Interpersonal Conflict, 1984-1995

	<i>Model 1</i>			<i>Model 2</i>			<i>Model 3</i>		
	Inmate-on-Staff Assaults			Inmate-on-Inmate Assaults			Inmate-on-Inmate Homicides		
	Coefficient	SE	Exp(B)	Coefficient	SE	Exp(B)	Coefficient	SE	Exp(B)
Intercept	-5.06**	0.22	0.02	-4.52	0.22	0.01	-11.01**	0.65	0.00
<i>Time Trends</i>									
Time	0.05 ⁺	0.03	1.05	0.11**	0.02	1.12	0.26**	0.05	1.30
Time Squared							0.04	0.03	1.04
<i>Social Structure</i>									
% Black Inmates	2.20**	0.38	9.03	0.29	0.33	1.34	2.27	2.42	9.68
% Other Inmates	1.90*	0.61	6.68	0.10	0.56	1.11	-0.18	1.29	0.84
% Young Inmates	0.95 ⁺	0.47	2.59	-0.27	0.61	0.76	3.26	2.75	26.05
% Black Staff	-0.58 ⁺	0.26	0.56	-0.17	0.24	0.84	-0.73	0.71	0.48
% Other Staff	0.43	0.56	1.54	0.77	0.51	2.01	1.27	1.35	3.56
<i>Institutional Characteristics</i>									
Education Program	0.23	0.15	1.26	0.54*	0.16	1.72	-1.81*	0.58	0.16
Work Industry Program	-0.10	0.10	0.90	0.31*	0.09	1.36	0.34	0.80	1.40
Work Release Program	-0.35*	0.13	0.70	0.08	0.10	1.08	0.08	0.73	1.08
Employment Program	-0.24**	0.06	0.79	-0.03	0.06	0.97	-0.35**	0.09	0.70
Counseling Program	0.48**	0.09	1.62	0.46**	0.08	1.58	0.65**	0.12	1.92
Crowding ^a	-0.39*	0.14	0.68	0.07	0.11	1.07	-1.38**	0.23	0.25
Total Staff ^a	-0.00 ⁺	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00
Inmate-Staff Ratio ^a	-0.12**	0.03	0.87	0.06 ⁺	0.03	1.06	0.58*	0.06	1.79
Crowding Order	-0.27*	0.10	0.76	0.11	0.09	1.12	-1.55**	0.87	0.21
Fire Order	-0.18	0.14	0.84	0.11	0.15	1.12	0.88**	0.24	2.41
Practices Order	0.06	0.07	1.06	0.10	0.08	1.11	-0.20*	0.08	0.82
Services Order	0.07 ⁺	0.03	1.07	-0.10*	0.04	0.90	0.23**	0.03	1.26
Year Built ^a	-0.00 ⁺	0.00	1.00	0.00	0.00	1.00	-0.01 ⁺	0.00	0.99

continued Table 2.5. Poisson Regression Models Testing Importation and Deprivation Predictors of Interpersonal Conflict, 1984-1995

	<i>Model 1</i>			<i>Model 2</i>			<i>Model 3</i>		
	Inmate-on-Staff Assaults			Inmate-on-Inmate Assaults			Inmate-on-Inmate Homicides		
<i>Control Variables</i>									
Minimum Security	-1.48**	0.13	0.22	-0.55**	0.11	0.58	-5.48**	0.98	0.00
Medium Security	-0.88**	0.09	0.41	-0.42**	0.09	0.66	-2.08**	0.56	0.12
<i>Model Statistics</i>									
		χ^2			χ^2			χ^2	
Importation Predictors		39.57**			5.18			8.87	
(df)		(5)			(5)			(5)	
Deprivation Predictors		115.11**			70.91**			229.38**	
(df)		(12)			(12)			(12)	

** .001 * .01 + .05

^agroup mean centered

Table 2.6. Poisson Regression Models Testing Social Disorganization Predictors of Interpersonal Conflict, 1984-1995

	<i>Model 1</i>			<i>Model 2</i>			<i>Model 3</i>		
	Inmate-on-Staff Assaults			Inmate-on-Inmate Assaults			Inmate-on-Inmate Homicides		
	Coefficient	SE	Exp(B)	Coefficient	SE	Exp(B)	Coefficient	SE	Exp(B)
Intercept	-4.24**	0.32	0.01	-2.99**	0.27	0.05	-9.94**	0.30	1.00
<i>Time Trends</i>									
Time	0.03 ⁺	0.02	1.03	0.09**	0.02	1.09	0.01	0.04	1.00
Time Squared							0.17**	0.03	1.19
<i>Social Structure</i>									
Inmate Heterogeneity	-3.81**	0.92	0.02	-1.91*	0.87	0.14	-1.25*	0.39	0.29
Staff Heterogeneity	-0.01	0.28	0.99	-0.06	0.26	0.94	-2.11**	0.96	0.12
<i>Control Variables</i>									
Minimum Security	-1.70**	0.13	0.18	-0.75**	0.11	0.47	-2.05**	0.47	0.13
Medium Security	-1.01**	0.09	0.36	-0.47	0.08	0.63	1.98**	0.34	0.14

** .001 * .01 + .05

Table 2.7. Poisson Regression Models Testing Social Disorganization and Deprivation Predictors of Interpersonal Conflict, 1984-1995

	<i>Model 1</i>			<i>Model 2</i>			<i>Model 3</i>		
	Inmate-on-Staff Assaults			Inmate-on-Inmate Assaults			Inmate-on-Inmate Homicides		
	Coefficient	SE	Exp(B)	Coefficient	SE	Exp(B)	Coefficient	SE	Exp(B)
Intercept	-4.06*	0.21	0.02	-3.98**	0.19	0.02	-8.33**	0.50	1.00
<i>Time Trends</i>									
Time	-0.06	0.02	0.94	0.11**	0.02	1.12	0.30**	0.05	1.35
Time Squared							0.05	0.04	1.05
<i>Social Structure</i>									
Inmate Heterogeneity	-0.93*	0.28	0.39	-0.90*	0.31	0.41	-0.89 ⁺	0.37	0.41
Staff Heterogeneity	-0.10	0.21	0.90	-0.02	0.18	0.98	-2.62**	0.52	0.07
<i>Institutional Characteristics</i>									
Education Program	0.08	0.14	1.08	0.18	0.13	1.20	-2.04**	0.21	0.13
Work Industry Program	-0.11	0.09	0.90	0.17	0.09	1.19	0.14	0.20	1.15
Work Release Program	-0.33*	0.13	0.72	0.09	0.10	1.09	0.47 ⁺	0.21	1.60
Employment Program	-0.25**	0.06	0.78	-0.03	0.06	0.97	-0.22 ⁺	0.09	0.80
Counseling Program	0.42**	0.09	1.52	0.49**	0.08	1.63	0.42*	0.13	1.52
Crowding ^a	-0.36**	0.10	0.70	0.09	0.11	1.09	-1.53**	0.22	0.22
Total Staff ^a	0.00	0.00	1.00	0.00	0.00	1.00	0.00 ⁺	0.00	1.00
Inmate-Staff Ratio ^a	-0.13**	0.03	0.88	0.05 ⁺	0.03	1.05	0.56**	0.05	1.75
Crowding Order	-0.27*	0.09	0.76	0.10	0.09	1.11	-0.84**	0.13	0.43
Fire Order	-0.16	0.14	0.85	0.12	0.15	1.13	1.01**	0.14	2.75
Practices Order	0.05	0.06	1.05	0.11	0.08	1.12	-0.29*	0.08	0.75
Services Order	0.07 ⁺	0.03	1.07	-0.10*	0.04	0.90	0.25**	0.04	1.28
Year Built ^a	0.00	0.00	1.00	0.00	0.00	1.00	-0.01 ⁺	0.00	0.99
<i>Control Variables</i>									
Minimum Security	-1.60**	0.13	0.20	-0.50**	0.12	0.61	-2.06**	0.57	0.13
Medium Security	-1.00**	0.09	0.37	-0.41**	0.09	0.66	-1.89**	0.41	0.15

continued Table 2.7. Poisson Regression Models Testing Social Disorganization and Deprivation Predictors of Interpersonal Conflict, 1984-1995

	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>
	Inmate-on-Staff Assaults	Inmate-on-Inmate Assaults	Inmate-on-Inmate Homicides
<i>Model Statistics</i>	χ^2	χ^2	χ^2
Social Disorganization Predictors (df)	9.15+ (2)	48.60** (2)	64.72** (2)
Deprivation Predictors (df)	112.23** (12)	71.02** (12)	164.19** (12)

** .001 * .01 + .05 ^agroup mean centered

Table 2.8. Poisson Regression Models Testing Social Disorganization Interactions as Predictors of Interpersonal Conflict, 1984-1995

	<i>Model 1</i>			<i>Model 2</i>			<i>Model 3</i>		
	Inmate-on-Staff Assaults			Inmate-on-Inmate Assaults			Inmate-on-Inmate Homicides		
	Coefficient	SE	Exp(B)	Coefficient	SE	Exp(B)	Coefficient	SE	Exp(B)
Intercept	-5.20**	0.51	0.01	-3.97**	0.44	0.02	-7.64**	1.45	1.00
<i>Time Trends</i>									
Time	-0.06 ⁺	0.02	0.94	0.12**	0.02	1.13	0.09	0.22	1.09
Time Squared							0.14	0.13	1.15
<i>Social Structure</i>									
Inmate Heterogeneity	1.41 ⁺	0.68	4.10	-0.10	0.64	0.90	-1.43	1.74	0.24
Staff Heterogeneity	-0.08	0.21	0.92	-0.01	0.18	0.99	-2.82	1.44	0.06
<i>Institutional Characteristics</i>									
Education Program	0.58	0.42	1.79	0.91 ⁺	0.38	2.48	-2.49**	0.66	0.08
Work Industry Program	1.04*	0.35	2.83	0.10	0.29	1.11	-0.87	0.99	0.42
Work Release Prgm.	-0.83	0.45	0.44	0.18	0.33	1.20	-0.81	0.79	0.44
Employment Program	-0.01	0.20	0.99	-0.36	0.18	0.70	-0.37	0.46	0.69
Counseling Program	0.33	0.30	1.39	-0.15	0.25	0.86	0.17	0.62	1.19
<i>Inmate Heterogeneity*</i>									
Education Program	-0.51	0.63	0.60	-1.18 ⁺	0.60	0.33	-0.86	1.14	0.42
Work Industry Program	-1.81*	0.53	0.16	0.13	0.46	1.14	1.84	1.06	6.30
Work Release Program	0.87	0.79	2.39	-0.20	0.58	0.82	0.67	0.77	1.95
Employment Program	-0.41	0.33	0.66	-0.60 ⁺	0.30	0.55	0.63	0.79	1.88
Counseling Program	0.10	0.45	1.11	1.01*	0.39	2.75	0.87	0.96	2.39
Crowding ^a	-0.41*	0.13	0.66	0.10	0.12	1.11	-1.78**	0.22	0.17
Total Staff ^a	0.00	0.00	1.00	0.00	0.00	1.00	0.00*	0.00	1.00
Inmate-Staff Ratio ^a	-0.13**	0.03	0.88	0.05	0.03	1.05	0.55**	0.05	1.73
Crowding Order	-0.26*	0.10	0.77	0.07	0.09	1.07	-1.03**	0.12	0.36
Fire Order	-0.22	0.14	0.80	0.00	0.15	1.00	0.99**	0.14	2.69
Practices Order	0.02	0.06	1.02	0.11	0.08	1.12	-0.35**	0.08	0.70
Services Order	0.08 ⁺	0.03	1.08	-0.10*	0.04	0.90	0.32**	0.04	1.38

continued Table 2.8. Poisson Regression Models Testing Social Disorganization Interactions as Predictors of Interpersonal Conflict, 1984-1995

	<i>Model 1</i>			<i>Model 2</i>			<i>Model 3</i>		
	Inmate-on-Staff Assaults			Inmate-on-Inmate Assaults			Inmate-on-Inmate Homicides		
	Coefficient	SE	Exp(B)	Coefficient	SE	Exp(B)	Coefficient	SE	Exp(B)
Year Built ^a	0.00	0.00	1.00	0.00	0.00	1.00	-0.01 ⁺	0.00	0.99
<i>Control Variables</i>									
Minimum Security	-1.50**	0.13	0.22	-0.62**	0.11	0.54	-3.51**	0.64	0.03
Medium Security	-0.93**	0.09	0.39	-.045**	0.09	0.64	-2.42**	0.46	0.09
<i>Model Statistics</i>									
		χ^2			χ^2			χ^2	
Interaction Predictors		20.43**			14.86 ⁺			0.87	
		(5)			(5)			(5)	

** .001 * .01 + .05

^a group mean centered (df)

Figure 2.4. Inmate Racial Heterogeneity and Work Industry Program Interaction and Main Effects on Inmate-on-Staff Assaults

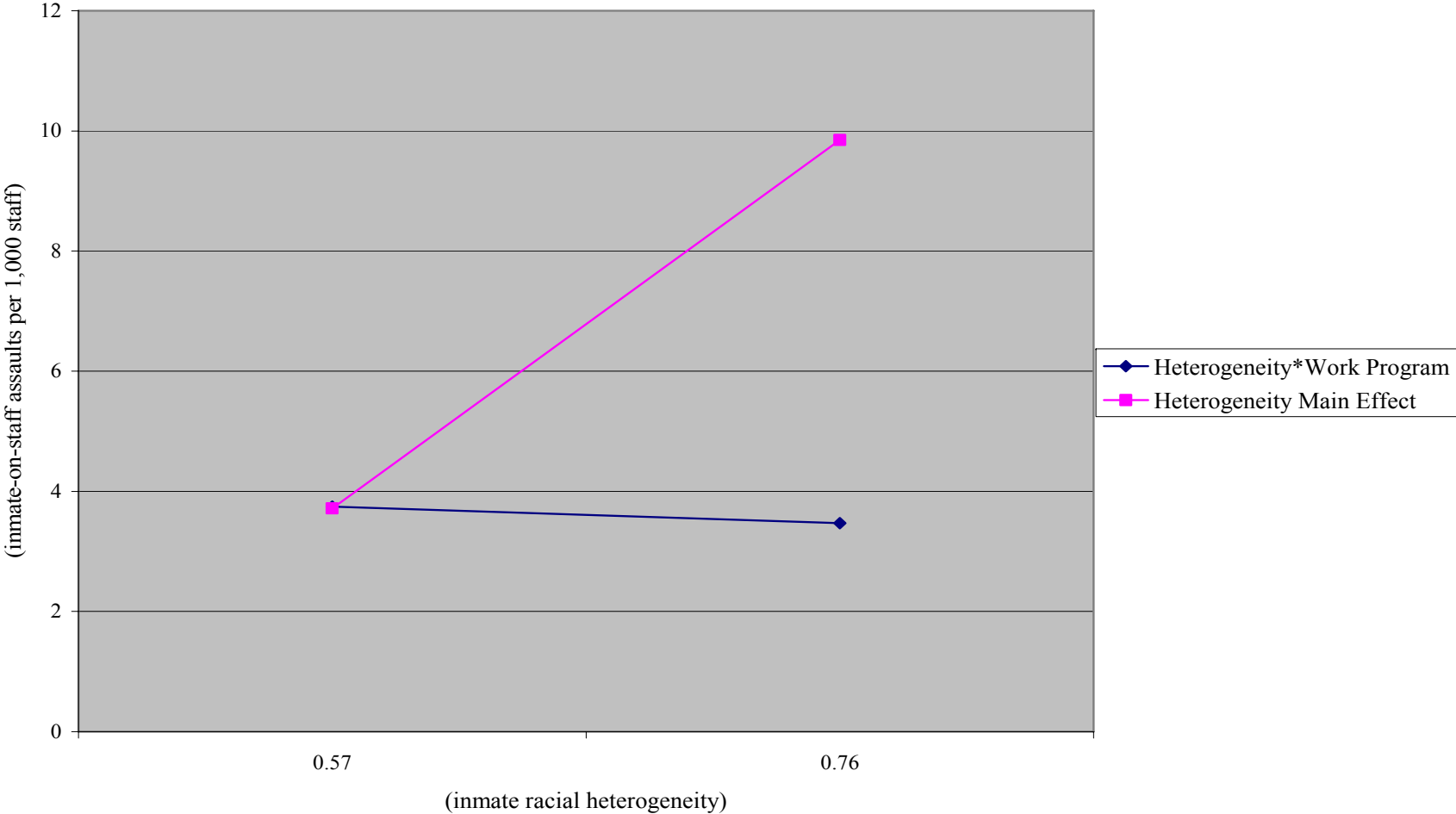


Figure 2.5. Inmate Racial Heterogeneity Interaction and Work Industry Program Main Effects on Inmate-on-Staff Assaults

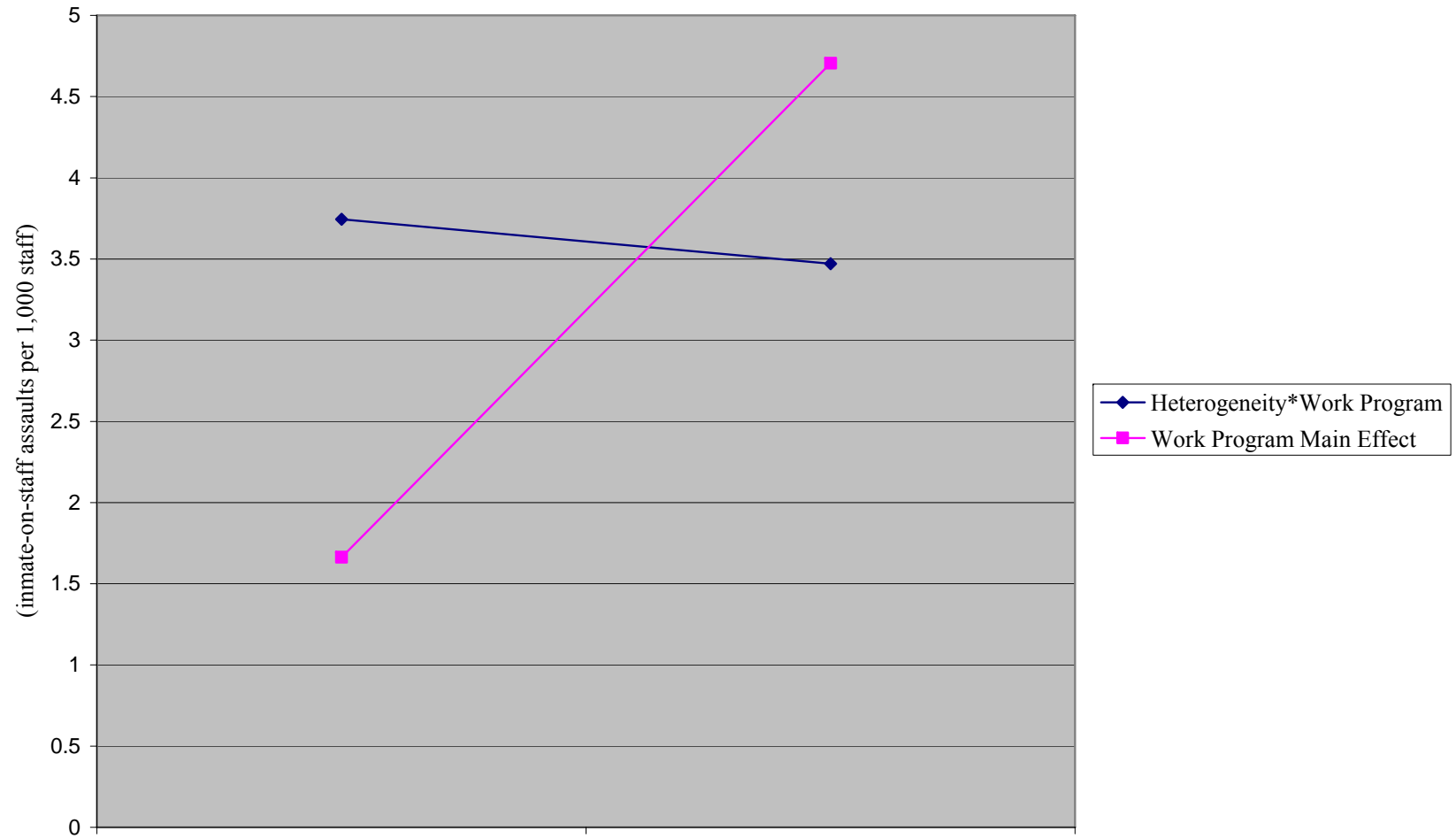


Figure 2.6. Inmate Racial Heterogeneity and Education and Counseling Programs Interactions and Main Effects on Inmate-on-Inmate Assaults

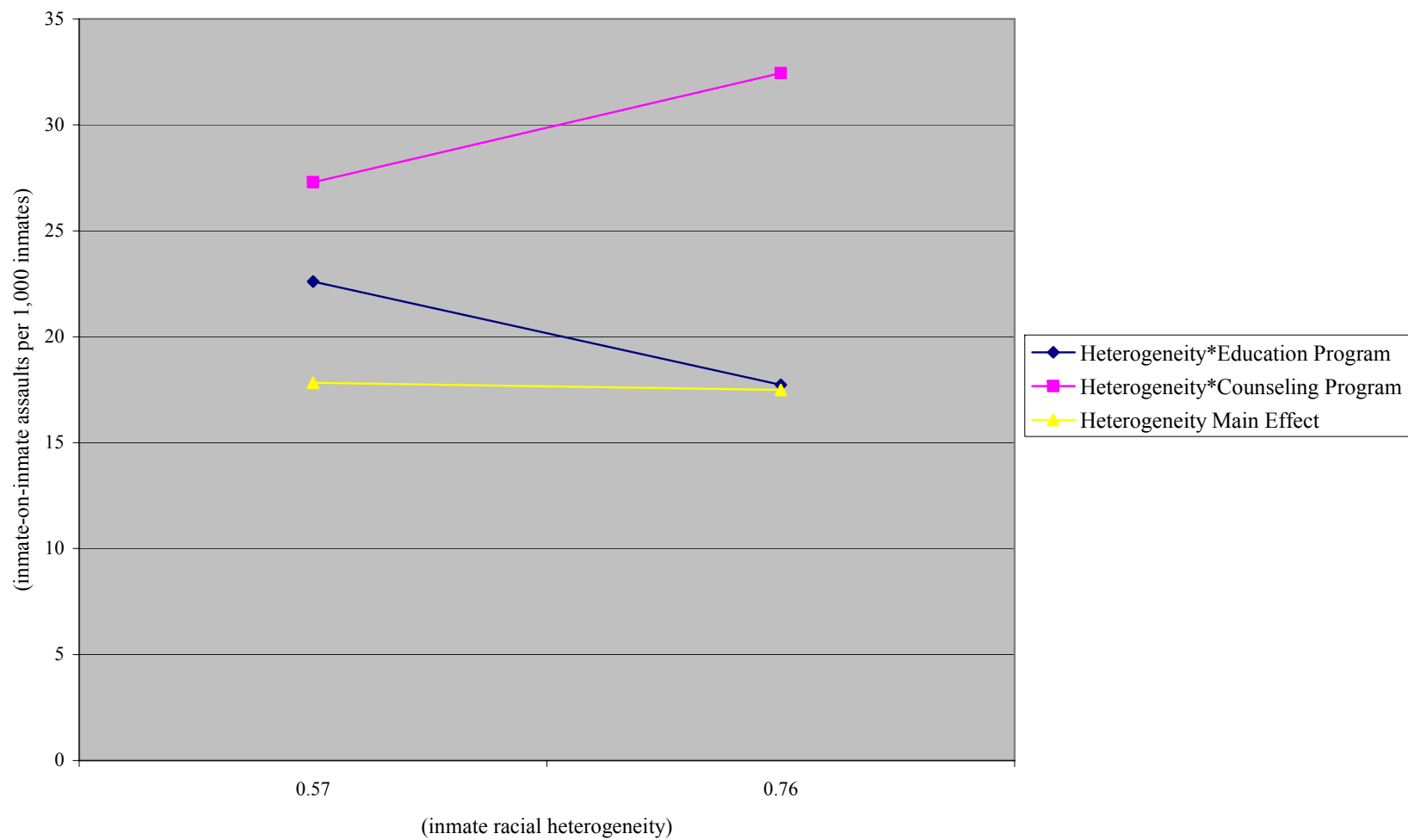


Figure 2.7. Inmate Racial Heterogeneity and Education and Counseling Programs Interactions and Main Effects on Inmate-on-Inmate Assaults

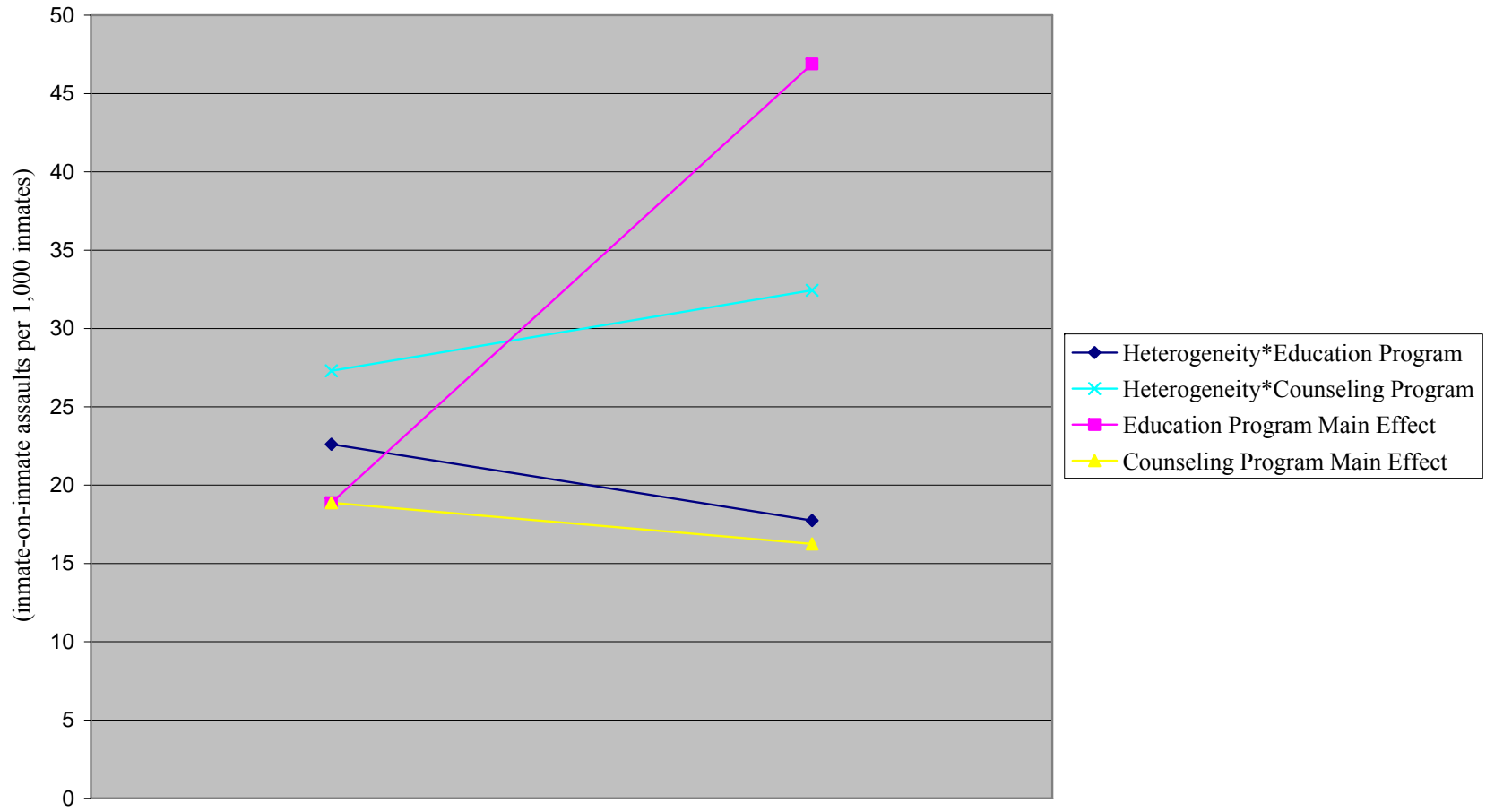


Table 2.9. Poisson Regression Models Testing Staff Heterogeneity and Inmate Programs Interactions as Predictors of Interpersonal Conflict, 1984-1995

	<i>Model 1</i>			<i>Model 2</i>			<i>Model 3</i>		
	Inmate-on-Staff Assaults			Inmate-on-Inmate Assaults			Inmate-on-Inmate Homicides		
	Coefficient	SE	Exp(B)	Coefficient	SE	Exp(B)	Coefficient	SE	Exp(B)
Intercept	-3.53**	0.31	0.03	-3.61**	0.30	0.03	- 8.49**	1.36	1.00
<i>Time Trends</i>									
Time	-0.06*	0.02	0.94	0.10**	0.02	1.11	0.16	0.16	1.17
Time Squared							0.12	0.12	1.13
<i>Social Disorganization</i>									
Inmate Heterogeneity	-0.67*	0.23	0.51	-0.55 ⁺	0.22	0.58	-0.93 ⁺	0.39	0.39
Staff Heterogeneity	-0.90	0.64	0.41	-0.45	0.55	0.64	-1.57*	0.54	0.21
<i>Institutional Characteristics</i>									
Education Program	0.05 ⁺	0.21	1.05	0.32	0.21	1.38	-1.60**	0.34	0.20
Work Industry Program	-0.18	0.15	0.84	0.07	0.15	1.07	0.87*	0.37	2.39
Work Release Prgm.	-0.43*	0.12	0.65	0.04	0.09	1.04	0.05	0.23	1.05
Employment Program	-0.19 ⁺	0.09	0.83	-0.31*	0.09	0.73	0.27 ⁺	0.13	1.31
Counseling Program	0.25	0.15	1.28	0.56**	0.13	1.75	0.42 ⁺	0.42	1.52
<i>Staff Heterogeneity*</i>									
Education Program	0.06	0.55	1.06	-0.31	0.45	0.73	-1.67	0.98	0.19
Work Industry Program	0.49	0.90	1.63	-0.12	0.84	0.89	-0.79	0.70	0.45
Work Release Program	-0.77	1.39	0.46	0.71	1.32	2.03	-0.78	0.51	0.46
Employment Program	-0.01	0.23	0.99	1.03**	0.23	2.80	-2.50	1.27	0.08
Counseling Program	0.76	0.40	2.14	-0.16	0.34	0.85	-1.10	0.99	0.33
Crowding ^a	-0.38*	0.13	0.68	0.05	0.11	1.05	-1.71**	0.23	0.18
Total Staff ^a	0.00	0.00	1.00	0.00	0.00	1.00	0.00*	0.00	1.00
Inmate-Staff Ratio ^a	-0.12	0.03	0.89	0.06*	0.03	0.94	0.59**	0.05	1.80
Crowding Order	-0.27*	0.10	0.76	0.04	0.10	1.04	-0.63**	0.13	0.53
Fire Order	-0.21	0.14	0.81	0.08	0.15	1.08	1.29**	0.15	3.63
Practices Order	0.05	0.06	1.05	0.12	0.07	1.13	-0.45**	0.08	0.64
Services Order	0.07*	0.03	1.07	-0.10 ⁺	0.04	0.90	0.18**	0.04	1.20

continued Table 2.9. Poisson Regression Models Testing Staff Heterogeneity and Inmate Programs Interactions as Predictors of Interpersonal Conflict, 1984-1995

	<i>Model 1</i>			<i>Model 2</i>			<i>Model 3</i>		
	Inmate-on-Staff Assaults			Inmate-on-Inmate Assaults			Inmate-on-Inmate Homicides		
	Coefficient	SE	Exp(B)	Coefficient	SE	Exp(B)	Coefficient	SE	Exp(B)
Year Built ^a	0.00	0.00	1.00	0.00	0.00	1.00	-0.01 ⁺	0.00	0.99
<i>Control Variables</i>									
Minimum Security	-1.57**	0.14	0.21	-0.60**	0.11	0.55	-2.84**	0.52	0.06
Medium Security	-0.92**	0.09	0.40	-0.43**	0.08	0.65	-2.10**	0.95	0.12
<i>Model Statistics</i>									
Interaction Predictors		χ^2			χ^2			χ^2	
		6.81			23.90**			8.69	
		(5)			(5)			(5)	
** .001 * .01 + .05	^a group mean centered		(df)						

Figure 2.8. Staff Racial Heterogeneity Interaction and Employment Program Main Effects on Inmate-on-Inmate Assaults

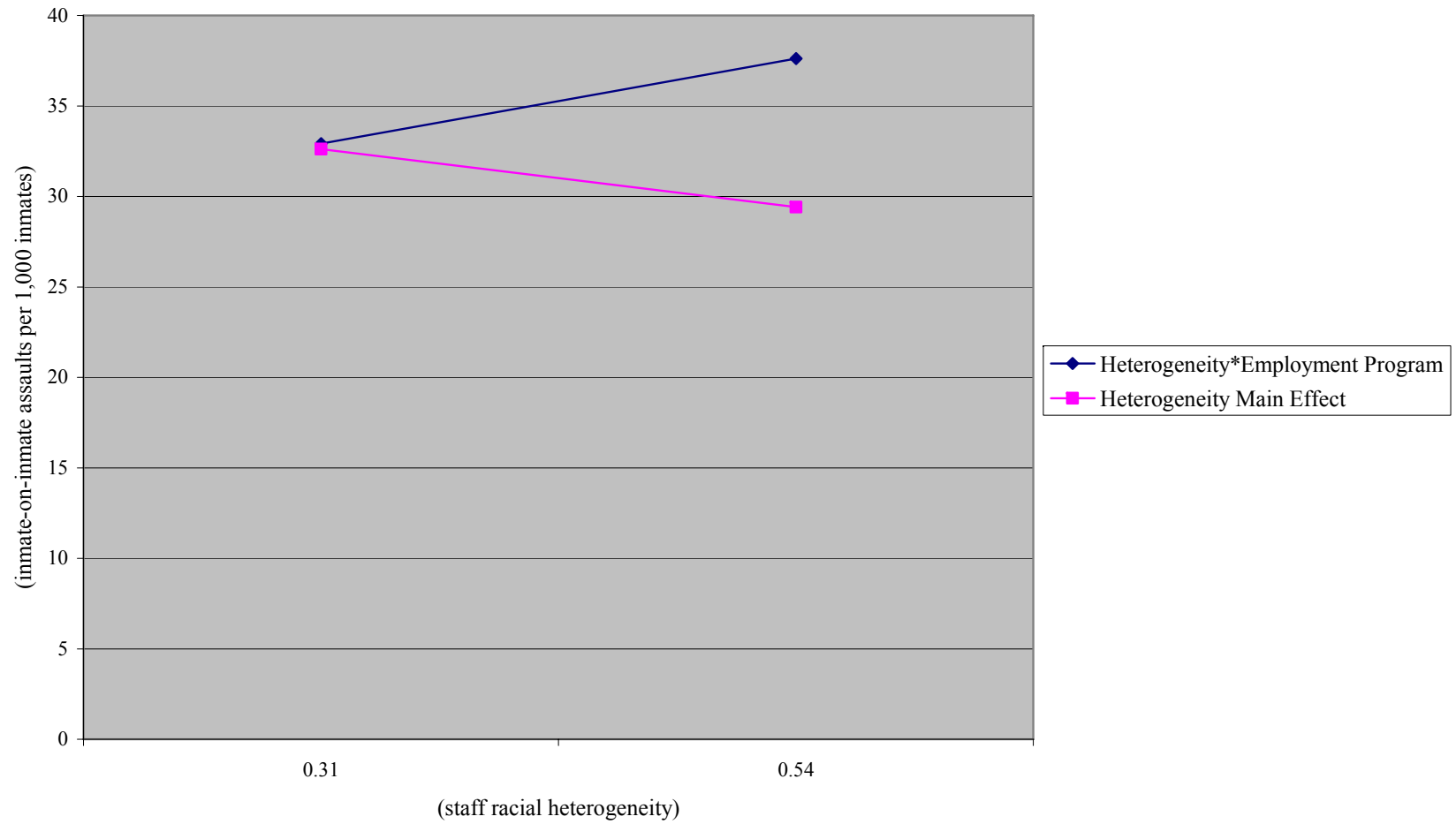


Figure 2.9. Staff Racial Heterogeneity and Employment Program Interaction and Main Effects on Inmate-on-Inmate Assaults

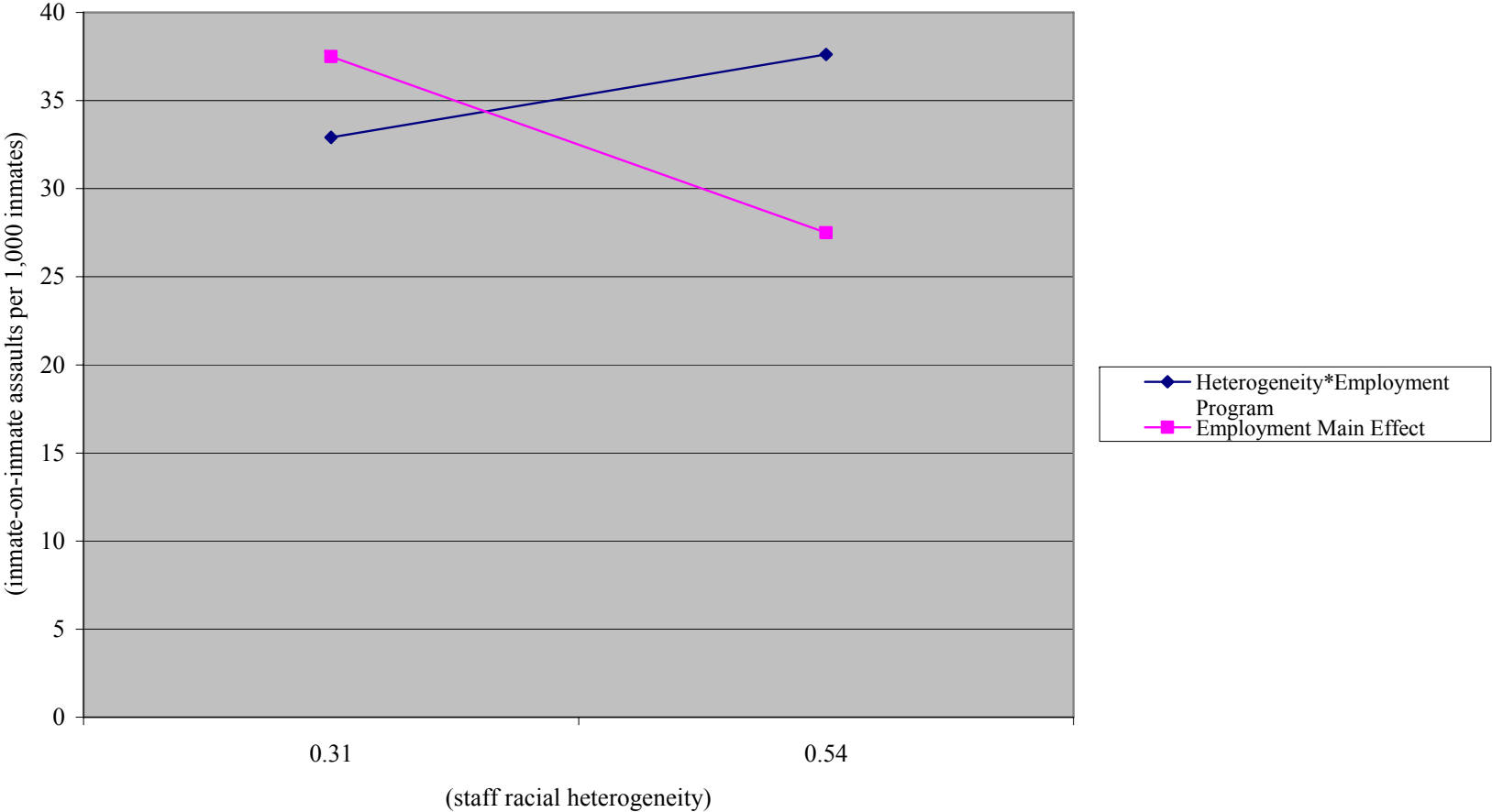


Table 2.10. Summary of Findings for Prison Interpersonal Conflict

	Inmate-on-Staff Assaults	Inmate-on-Inmate Assaults	Inmate-on-Inmate Homicides
<i>Importation Theory</i>			
Hypothesis 1	+	n.e.	n.e.
Hypothesis 2a	+	n.e.	n.e.
Hypothesis 2b	-	n.e.	n.e.
<i>Deprivation Theory</i>			
Hypothesis 3	+/-	+/-	+/-
Hypothesis 4	-	n.e.	-
Hypothesis 5	-	+	+
<i>Social Disorganization Theory</i>			
Hypothesis 6	-	-	-
Hypothesis 7	n.e.	n.e.	-
Hypothesis 8	+	+/-	n.e.
Hypothesis 9	n.e.	-	n.e.

+ supporting evidence - conflicting evidence +/- supporting and conflicting evidence n.e. no evidence

Figure 3.1. Inmate-Balance Theory

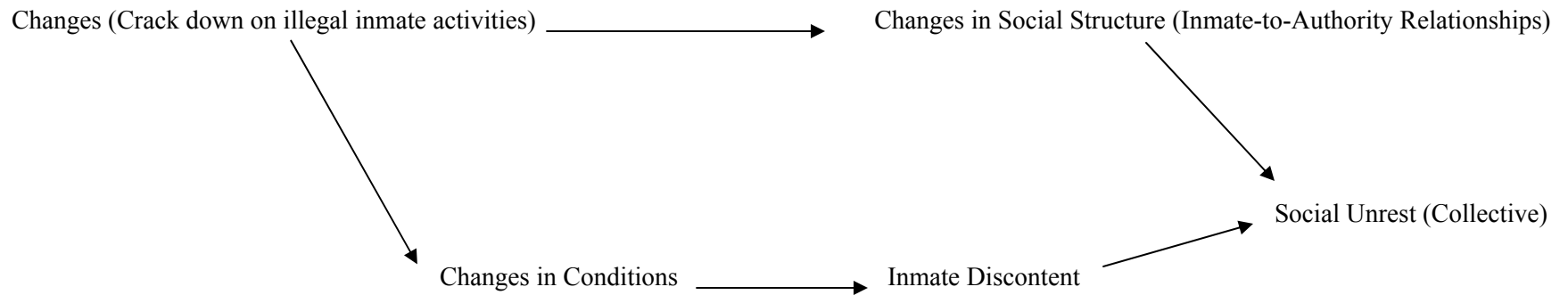


Figure 3.2. Administrative-Control Theory

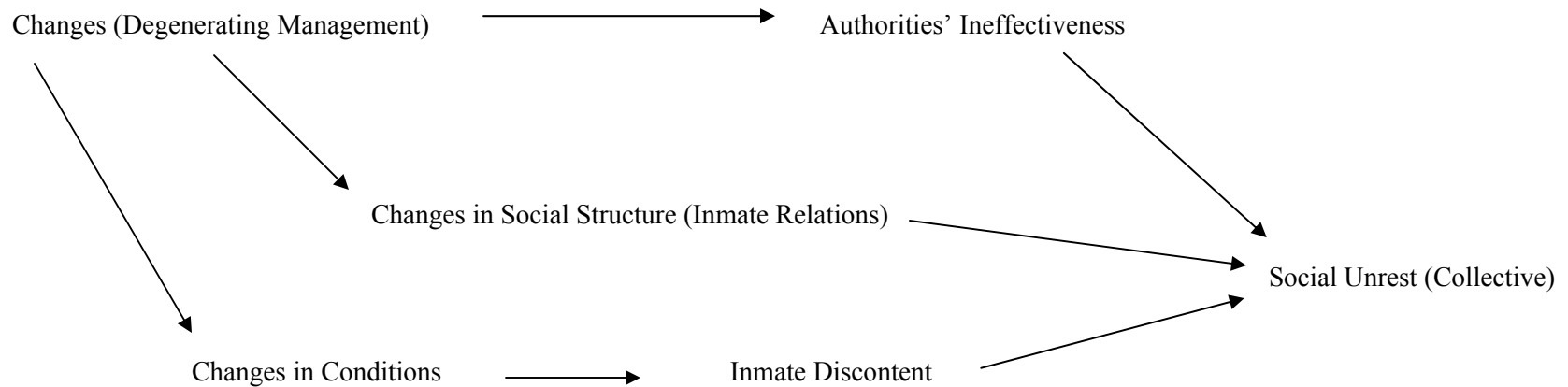


Figure 3.3. Breakdown Model

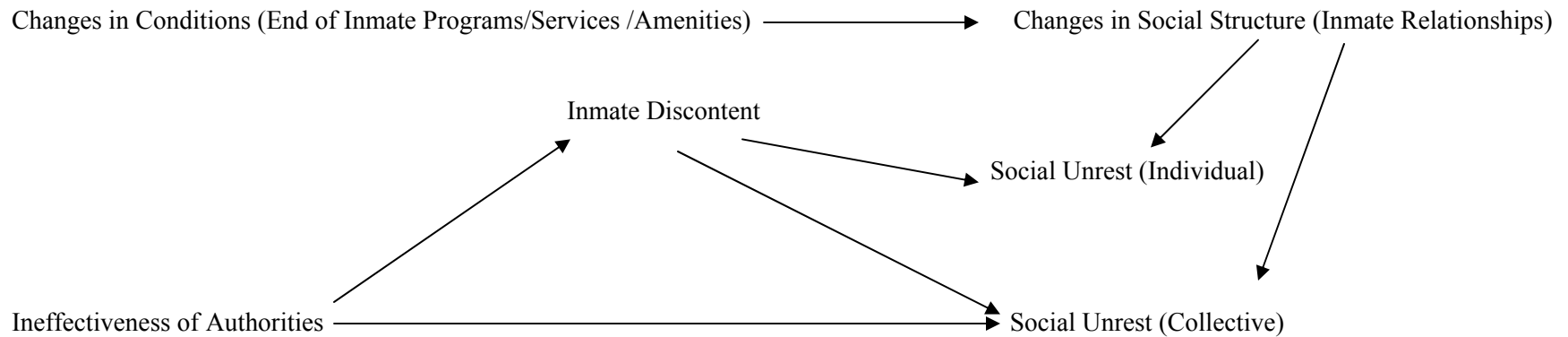


Figure 3.4. State-Centered Theory

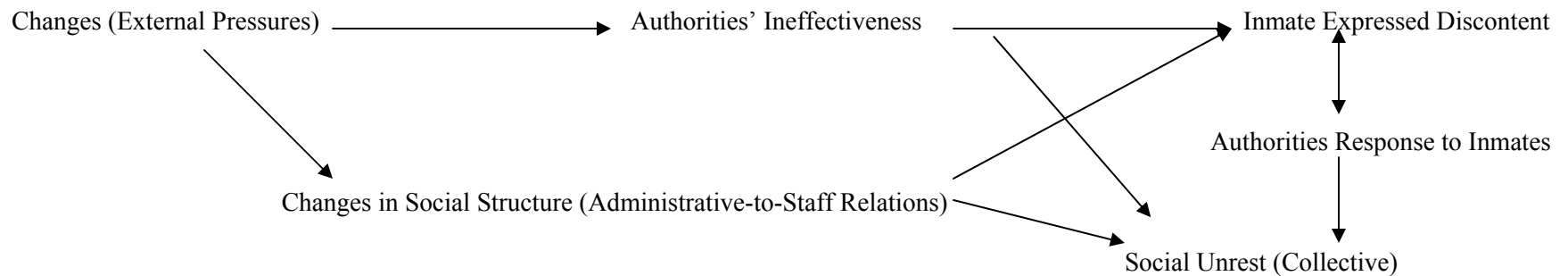


Table 4.1. Trends in Prison Collective Unrest, Social Structure, Institutional Characteristics and Political Context, 1984-1995

	1984		1990		1995	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
<i>Collective Unrest</i>						
Riots	0.06	0.24	0.10	0.30	0.12	0.32
Disturbances	1.00	2.67	3.43	14.63	2.38	32.38
Fires	2.54	9.75	2.27	12.68	1.00	5.18
<i>Social Structure</i>						
Inmate/Staff Racial Difference	0.27	0.31	0.15	0.31	0.11	0.35
<i>Institutional Characteristics</i>						
Early Local Leadership Change	0.49	0.50	0.52	0.50	0.53	0.50
Recent Local Leadership Change	0.32	0.47	0.50	0.47	0.43	0.50
Early State Leadership Change	0.59	0.49	0.41	0.49	0.73	0.44
Recent State Leadership Change	0.42	0.49	0.66	0.47	0.53	0.50
Guard Earnings/State Median Income	0.51	0.08	0.77	0.11	0.57	0.07
<i>Political Context</i>						
Organized Prison Issue Groups	12.92	10.38	11.38	9.63	12.12	11.46
Governor Political Party Change	0.41	0.49	0.44	0.49	0.71	0.45
Upper House Political Party Change	2.10	0.71	2.15	1.04	2.63	0.96
Lower House Political Party Change	2.07	0.78	3.01	0.86	3.09	0.78
Democratic Governors	0.75	0.43	0.55	0.50	0.38	0.49
Democrats in Upper House	0.68	0.17	0.62	0.16	0.52	0.11
Democrats in Lower House	0.67	0.14	0.63	0.10	0.53	0.12
Political Competitiveness	0.01	0.07	0.03	0.17	0.10	0.30
Prison Expenditures	233783.83	200251.75	567044.92	575481.09	711521.83	865461.73
N	392		487		721	

Figure 4.1. Trends in Prison Riots, 1984-1995

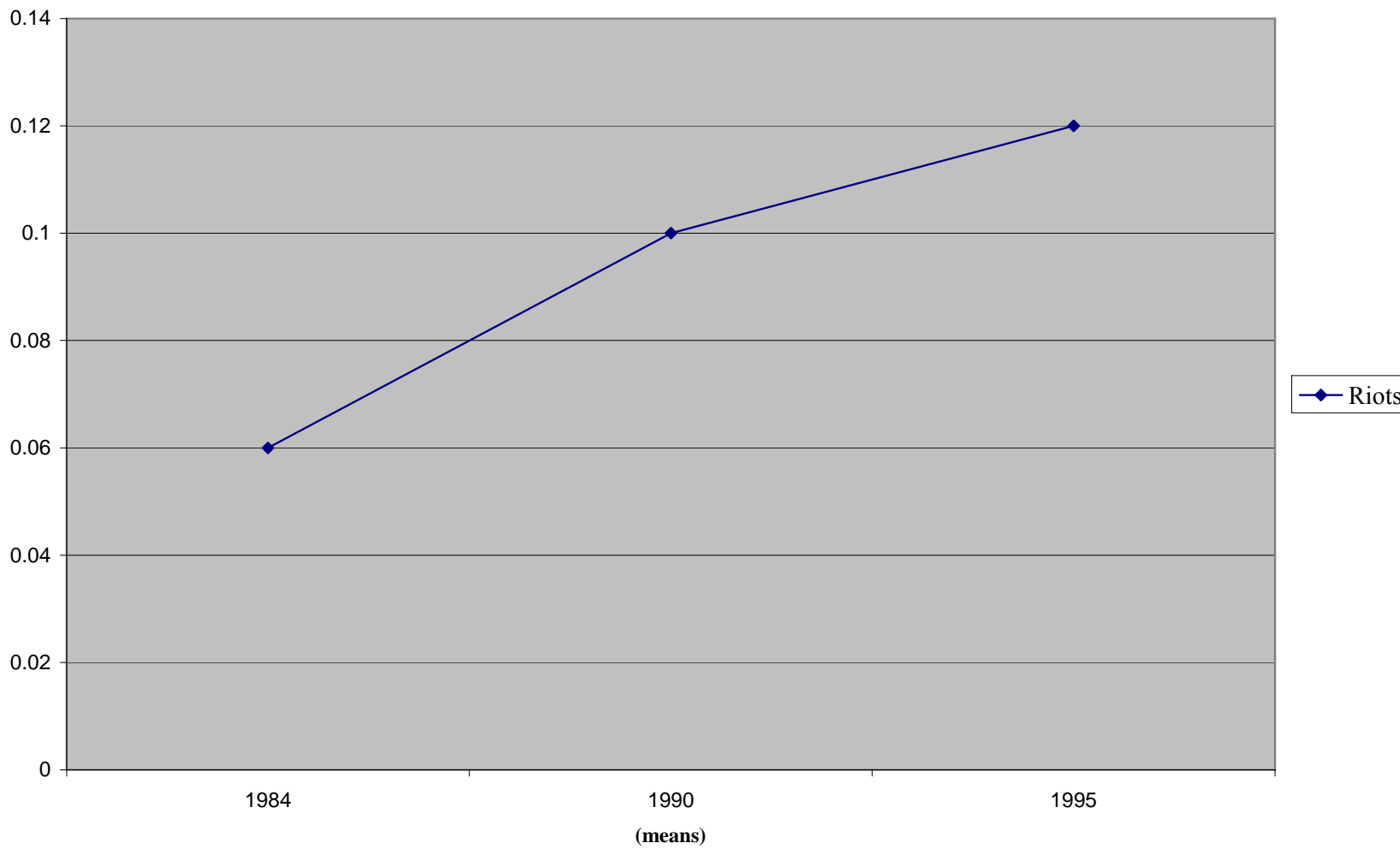


Figure 4.2. Trends in Prison Disturbances and Fires, 1984-1995

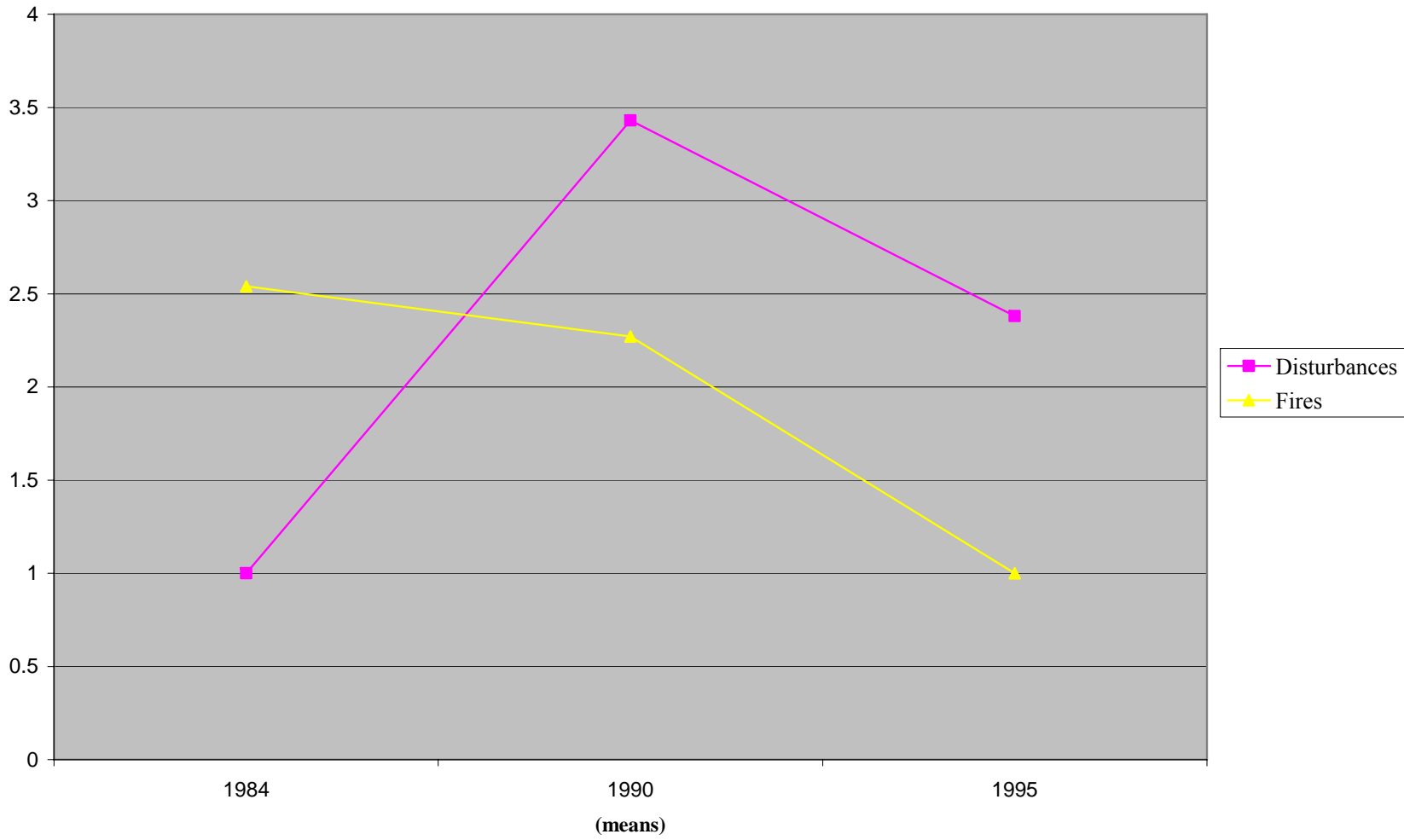


Figure 4.3. The Relationship Between the Racial Difference Between the Inmate Population and Staff Population and Prison Riots

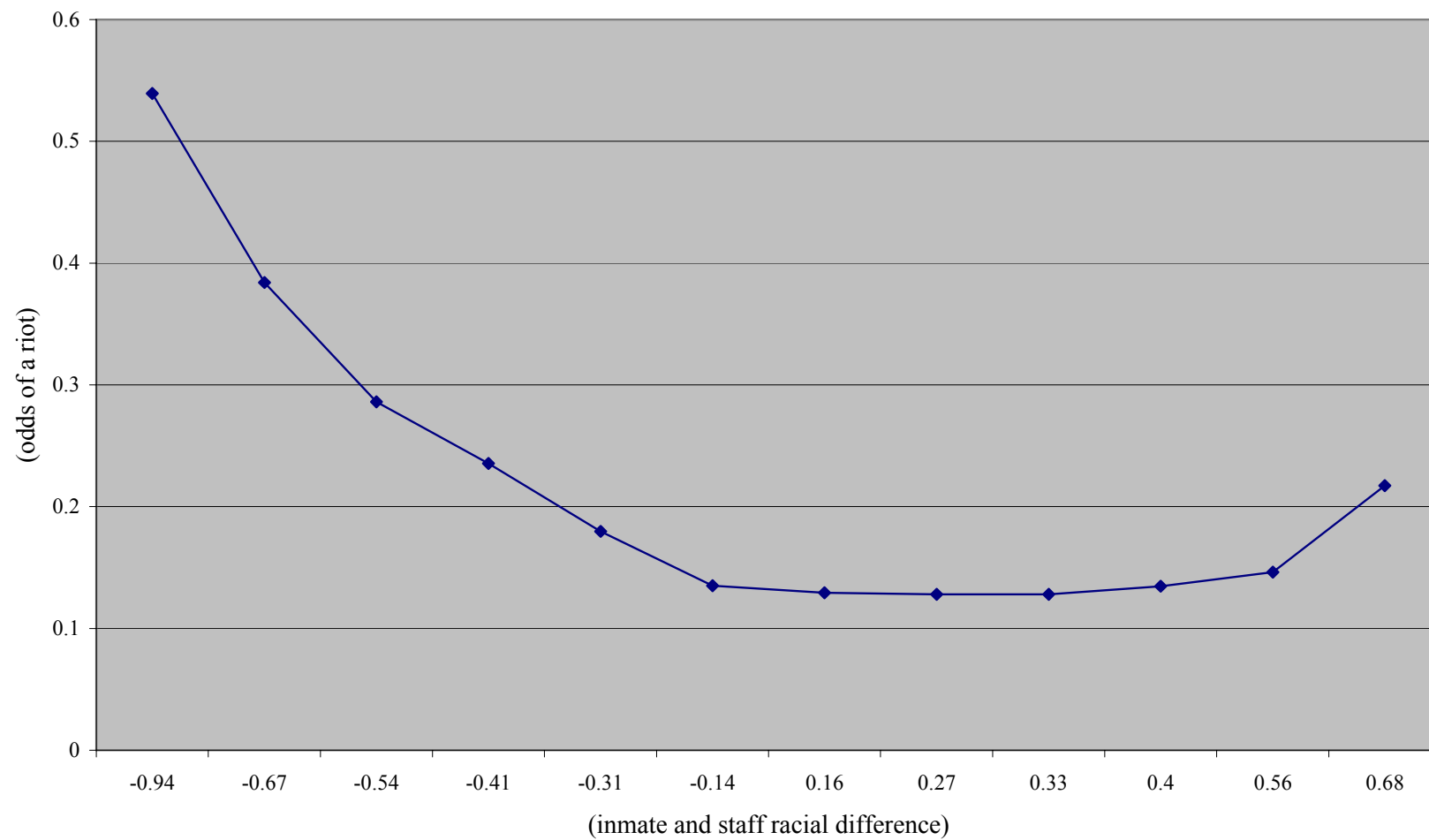


Table 4.2. Logistic Regression Models Predicting Riots by Social Structure, Institutional Characteristics and Political Context, 1984-1995

	Model 1			Model 2			Model 3		
	Coeff.	SE	Exp(B)	Coeff.	SE	Exp(B)	Coeff.	SE	Exp(B)
Intercept	-2.22**	0.20	0.11	-2.43**	0.64	0.01	-3.33**	0.85	0.04
<i>Trend Variables</i>									
Time	0.00	0.07	1.00	0.19 ⁺	0.08	1.21	0.39 ⁺	0.18	1.48
Time Squared	-0.07	0.05	0.93						
<i>Social Structure</i>									
Inmate Racial Hetero.				1.71*	0.51	5.53	1.25	0.73	3.49
Staff Racial Hetero.				-1.37*	0.50	0.25			
Inmt./Staff Rac. Differ.				-.98**	0.25	0.38			
Inmt./Staff Rac. Differ. Sq.				1.35 ⁺	0.59	3.86			
Percent Young Inmates				0.33	1.16	1.39	-1.02	2.47	0.36
<i>Institutional Characteristics</i>									
Crowding ^a							1.11	0.67	3.03
Crowd*Inmt. Rac. Hetero.							1.36	1.83	3.90
Crowd*Perc. Young Inmt.							-3.52	2.93	0.03
Education Program							0.30	0.37	1.35
Work Industry Program							3.11**	0.73	22.42
Work Release Program							-0.09	0.35	0.91
Employment Program							-0.10	0.24	0.90
Counseling Program							0.35	0.28	1.42
Crowding Order							-0.63	0.39	0.53
Fire Order							0.10	1.13	1.11
Services Order							0.07	0.20	1.07
Practices Order							0.62**	0.42	1.86
Wrk. Prg.*Crowd. Order							-1.16*	0.43	0.31
Employ. Prg.*Fire Order							-1.82**	0.70	0.16
Coun. Prg.*Fire Order							-1.63 ⁺	0.76	0.20

continued Table 4.2. Logistic Regression Models Predicting Prison Riots by Social Structure, Institutional Characteristics and Political Context, 1984-1995

	Model 1			Model 2			Model 3		
	Coeff.	SE	Exp(B)	Coeff.	SE	Exp(B)	Coeff.	SE	Exp(B)
Early State Leader. Chnge.							0.75*	0.26	2.12
Recent State Leader. Chnge.							-0.69*	0.25	0.50
Total Staff ^a							-0.00	0.00	1.00
Inmate-Staff Ratio ^a							-0.39**	0.10	0.68
Guard Salary (b)							-2.56+	1.25	0.08
Year Built ^a							-0.00	0.00	1.00
<i>Political Context</i>									
Prison Issue Groups									
Gov. Pol. Party Chnge.									
Upper Political Party Chnge.									
Lower Political Party Chnge.									
Democratic Governors									
Democrats in Upper House ^b									
Democrats in Lower House ^b									
Political Competitiveness									
Log-Prison Expenditures ^b									
<i>Control Variables</i>									
Total Inmate Population ^a				0.00	0.00	1.00	0.00	0.00	1.00
Medium				-0.38	0.34	0.68	-0.58	0.42	0.56
Minimum				-1.50**	0.39	0.22	-1.16+	0.53	0.22
<i>Model Statistics</i>									
χ^2									
(df)									

** .001 * .01 + .05

a group mean centered

b grand mean centered

continued Table 4.2. Logistic Regression Models Predicting Riots by Social Structure, Institutional Characteristics and Political Context, 1984-1995

	Model 4			Model 5		
	Coeff.	SE	Exp(B)	Coeff.	SE	Exp(B)
Intercept	-4.18**	0.61	0.02	-3.94**	0.88	0.02
<i>Trend Variables</i>	0.20*	0.08	1.22	-0.06	0.10	0.94
Time						
Time Squared						
<i>Social Structure</i>						
Inmate Racial Hetero.				3.02**	1.02	20.49
Staff Racial Hetero.				-3.08**	0.82	0.05
Inmt./Staff Rac. Differ.				-0.24 ⁺	0.12	0.79
Inmt./Staff Rac. Differ. Sq.				1.20*	0.39	3.32
Percent Young Inmates				-0.20	0.88	0.82
<i>Institutional Characteristics</i>						
Crowding ^a				0.99	0.57	2.69
Crowd*Inmt. Rac. Hetero.						
Crowd*Perc. Young Inmt.						
Education Program				0.44	0.27	1.55
Work Industry Program				3.15**	0.37	23.34
Work Release Program				-0.10	0.16	0.90
Employment Program				0.14	0.27	1.15
Counseling Program				0.36	0.37	1.43
Crowding Order				-1.10*	0.37	0.33
Fire Order				1.38	0.80	3.97
Services Order				0.13	0.21	1.14
Practices Order				0.37	0.10	1.45
Wrk. Prg.*Crowd. Order				-1.29**	0.35	0.28
Employ. Prg.*Fire Order				-1.76 ⁺	0.84	0.17
Coun. Prg.*Fire Order				-2.09 ⁺	0.97	0.12

continued Table 4.2. Logistic Regression Models Predicting Prison Riots by Social Structure, Institutional Characteristics and Political Context, 1984-1995

	Model 4			Model 5		
	Coeff.	SE	Exp(B)	Coeff.	SE	Exp(B)
Early State Leader. Chnge.				0.54 ⁺	0.22	1.72
Recent State Leader. Chnge.				-0.21	0.23	0.81
Total Staff ^a				-0.00	0.00	1.00
Inmate-Staff Ratio ^a				-0.38*	0.10	0.68
Guard Salary (b)				-2.01*	0.76	0.13
Year Built ^a				-0.00	0.00	1.00
<i>Political Context</i>						
Prison Issue Groups	0.01	0.01	1.01	-0.01	0.03	0.99
Gov. Pol. Party Chnge.	-0.57*	0.17	0.57	-0.07	0.26	0.93
Upper Political Party Chnge.	0.35*	0.10	1.42	0.40 ⁺	0.20	1.49
Lower Political Party Chnge.	0.48*	0.15	1.62	0.55*	0.18	1.73
Democratic Governors	0.05	0.21	1.05	0.49	0.43	1.63
Democrats in Upper House ^b	-2.03	1.40	0.13	-2.18	1.16	0.11
Democrats in Lower House ^b	1.62	1.21	5.05	1.65	1.16	5.21
Political Competitiveness	-0.28	0.18	0.76	-1.21 ⁺	0.55	0.30
Log-Prison Expenditures ^b	0.15 ⁺	0.07	1.16	0.18 ⁺	0.09	1.20
<i>Control Variables</i>						
Total Inmate Population ^a	-0.00	0.00	1.00	0.00	0.00	1.00
Medium	-0.34	0.19	0.71	-0.56	0.38	0.57
Minimum	-0.73*	0.34	0.48	-0.83	0.44	0.44
<i>Model Statistics</i>						
χ^2		191.78**			587.78**	
(df)		(9)			(32)	

** .001 * .01 + .05

a group mean centered

b grand mean centered

Table 4.3. Unconditional Models for Prison Riots, Disturbances and Fires

	Riots			Disturbances			Fires		
	Variance	SD	χ^2	Variance	SD	χ^2	Variance	SD	χ^2
Level-1	0.19	0.44		1.78	1.33		2.86	1.69	
Level-2	6.08	2.46	1918.75** (875)	2.70	1.64	1454.02** (875)	1.42	1.20	975.94** (875)
Level-3	1.23	1.11	194.18** (49)	0.70	0.83	127.58** (49)	0.55	0.74	149.75** (49)

Figure 4.3. The Relationship Between the Racial Difference Between the Inmate Population and Staff Population and Prison Riots

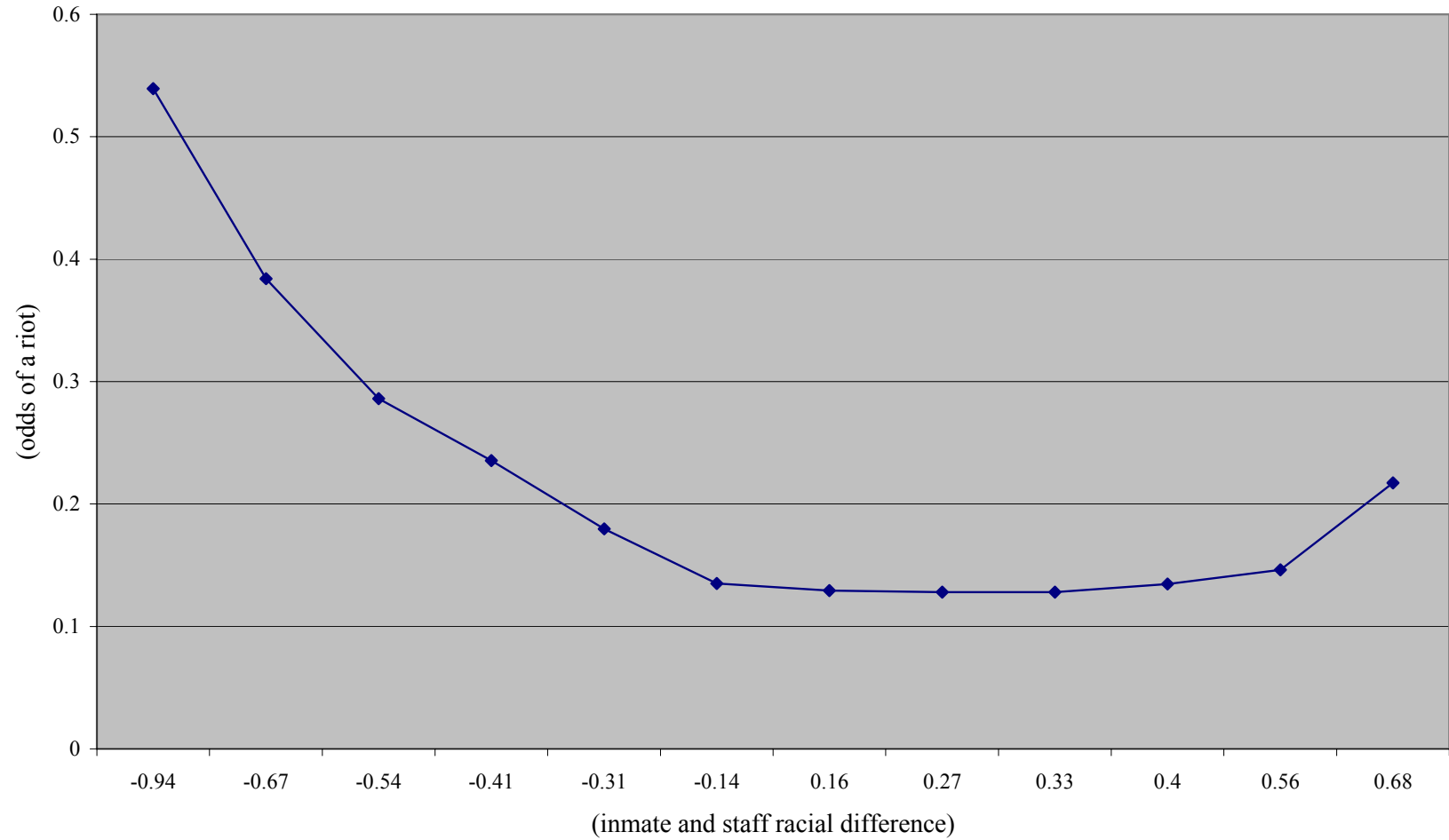


Table 4.4. Poisson Regression Models Predicting Prison Disturbances by Social Structure, Institutional Characteristics and Political Context, 1984-1995

	Model 1			Model 2			Model 3		
	Coeff.	SE	Exp(B)	Coeff.	SE	Exp(B)	Coeff.	SE	Exp(B)
Intercept	-6.68**	0.18	1.00	-5.90**	0.49	1.00	-7.51	1.95	1.00
<i>Trend Variables</i>									
Time	1.49**	0.06	4.44	1.55**	0.06	4.71	1.67**	0.44	5.31
Time Squared	-0.90*	0.05	0.41	-0.97**	0.04	0.38	-1.05**	0.13	0.35
<i>Social Structure</i>									
Inmate Racial Hetero.				-0.41	0.54	0.66	-0.80	0.64	0.45
Staff Racial Hetero.				-0.65	0.53	0.52			
Inmt./Staff Rac. Differ.				-0.50	0.40	0.61			
Inmt./Staff Rac. Differ. Sq.				1.14	0.68	3.13			
Percent Young Inmates				3.92**	1.06	50.40	3.72**	1.26	41.26
<i>Institutional Characteristics</i>									
Crowding ^a							0.59	0.35	1.80
Crowd*Inmt. Rac. Hetero.							-7.91**	2.76	1.00
Crowd*Perc. Young Inmt.							1.08	1.56	2.94
Education Program							1.46**	0.38	4.31
Work Industry Program							1.00**	0.24	2.72
Work Release Program							0.00	0.33	1.00
Employment Program							-0.96**	0.17	0.38
Counseling Program							-0.91**	0.19	0.40
Crowding Order							-0.55	0.31	0.58
Fire Order							0.35	0.49	1.42
Services Order							-0.23+	0.11	0.79
Practices Order							0.70*	0.20	2.01
Employ. Prg.*Srvc. Order							-0.22+	0.09	0.80

continued Table 4.4. Poisson Regression Models Predicting Prison Disturbances by Social Structure, Institutional Characteristics and Political Context, 1984-1995

	Model 1			Model 2			Model 3		
	Coeff.	SE	Exp(B)	Coeff.	SE	Exp(B)	Coeff.	SE	Exp(B)
Early State Leader. Chnge.							0.39+	0.18	1.48
Recent State Leader. Chnge.							0.01	0.18	1.01
Total Staff ^a							-0.00	0.00	1.00
Inmate-Staff Ratio ^a							-0.12	0.08	0.89
Guard Salary							3.38	2.43	29.37
Year Built ^a							0.01	0.01	1.01
<i>Political Context</i>									
Prison Issue Groups									
Gov. Pol. Party Chnge.									
Upper Political Party Chnge.									
Lower Political Party Chnge.									
Democratic Governors									
Democrats in Upper House ^b									
Democrats in Lower House ^b									
Political Competitiveness									
Log-Prison Expenditures ^b									
<i>Control Variables</i>									
Medium				-0.75*	0.23	0.47	-0.78**	0.31	0.46
Minimum				-0.68+	0.27	0.51	-0.74**	0.36	0.48
<i>Model Statistics</i>									
χ^2					55.16**			223.00**	
(df)					(5)			(21)	
** .001 * .01 + .05									
	a group mean centered			b grand mean centered					

continued Table 4.4. Poisson Regression Models Predicting Prison Disturbances by Social Structure, Institutional Characteristics and Political Context, 1984-1995

	Model 4			Model 5		
	Coeff.	SE	Exp(B)	Coeff.	SE	Exp(B)
Intercept	-6.98**	0.46	1.00	-6.86**	1.18	1.00
<i>Trend Variables</i>						
Time	1.60**	0.09	5.05	1.58+	0.21	4.85
Time Squared	-0.98**	0.04	0.38	-1.08**	0.10	0.36
<i>Social Structure</i>						
Inmate Racial Hetero.				-0.90	0.85	0.41
Staff Racial Hetero.				-0.94	0.75	0.39
Inmt./Staff Rac. Differ.				-0.65	0.30	0.52
Inmt./Staff Rac. Differ. Sq.				1.33+	0.56	3.78
Percent Young Inmates				3.15**	0.78	23.34
<i>Institutional Characteristics</i>						
Crowding ^a				0.75	0.52	2.12
Crowd*Inmt. Rac. Hetero.				-3.11	1.93	0.04
Crowd*Perc. Young Inmt.						
Education Program				0.99+	0.50	2.69
Work Industry Program				0.56+	0.28	1.75
Work Release Program				-0.08	0.42	0.92
Employment Program				-0.27	0.22	0.76
Counseling Program				-0.52+	0.25	0.59
Crowding Order				-1.18*	0.40	0.31
Fire Order				0.04	0.14	1.04
Services Order				-0.10	0.15	0.90
Practices Order				0.10	0.26	1.11
Employ. Prg.*Srvcs. Order				-0.13	0.12	0.88

continued Table 4.4. Poisson Regression Models Predicting Prison Disturbances by Social Structure, Institutional Characteristics and Political Context, 1984-1995

	Model 4			Model 5		
	Coeff.	SE	Exp(B)	Coeff.	SE	Exp(B)
Early State Leader. Chnge.				0.63+	0.26	1.88
Recent State Leader. Chnge.				-0.01+	0.00	0.99
Total Staff ^a				-0.01+	0.00	0.99
Inmate-Staff Ratio ^a				-0.12	0.11	0.89
Guard Salary				1.92	1.80	7.10
Year Built ^a				0.01+	0.00	1.01
<i>Political Context</i>						
Prison Issue Groups				0.02	0.02	1.02
Gov. Pol. Party Chnge.				0.52*	0.18	1.68
Upper Political Party Chnge.				0.23*	0.08	1.26
Lower Political Party Chnge.				-0.22+	0.10	0.80
Democratic Governors				0.74*	0.17	2.10
Democrats in Upper House ^b				1.30	0.99	3.67
Democrats in Lower House ^b				-1.40	1.05	0.25
Political Competitiveness				0.00	0.00	1.00
Log-Prison Expenditures ^b				0.13	0.08	1.14
<i>Control Variables</i>						
Medium				-0.67*	0.23	0.51
Minimum				-0.62+	0.26	0.54
<i>Model Statistics</i>						
χ^2		52.92**			537.68**	
(df)		(9)			(32)	

** .001 * .01 + .05

a group mean centered

b grand mean centered

Table 4.5. Poisson Regression Models Predicting Prison Fires by Social Structure, Institutional Characteristics and Political Context, 1984-1995

	Model 1			Model 2			Model 3		
	Coeff.	SE	Exp(B)	Coeff.	SE	Exp(B)	Coeff.	SE	Exp(B)
Intercept	-6.13**	0.16	1.00	-5.73**	0.44	1.00	-6.16**	1.06	1.00
<i>Trend Variables</i>									
Time	0.72**	0.06	2.03	0.63**	0.05	1.88	0.55**	0.07	1.73
Time Squared	-0.09	0.03	0.91						
<i>Social Structure</i>									
Inmate Racial Hetero.				0.37	0.63	1.45	0.17	0.56	1.19
Staff Racial Hetero.				-0.61	0.61	0.54	0.47	0.26	1.60
Inmt./Staff Rac. Differ.				-0.45	0.44	0.64			
Inmt./Staff Rac. Hetero. Sq.				1.07+	0.57	2.92			
Percent Young Inmates				2.34**	0.65	10.38	1.76 ⁺	0.29	
<i>Institutional Characteristics</i>									
Crowding ^a							-0.54+	0.27	0.58
Crowd*Inmt. Rac. Hetero.							2.44	1.39	11.47
Crowd*Perc. Young Inmt.							-3.59	2.42	0.03
Education Program							1.19*	0.44	3.29
Work Industry Program							-0.03	0.23	0.97
Work Release Program							0.00	0.43	1.00
Employment Program							-0.25	0.16	0.78
Counseling Program							-0.30	0.21	0.74
Crowding Order							0.69+	0.28	1.99
Fire Order							-0.09	0.47	0.91
Services Order							-0.95*	0.34	0.39
Practices Order							1.09	0.66	2.97
Coun. Prg.*Services Order							1.00*	0.34	2.72
Coun. Prg.*Practices Order							-1.39+	0.69	0.25

continued Table 4.5. Poisson Regression Models Predicting Prison Fires by Social Structure, Institutional Characteristics and Political Context, 1984-1995

	Model 1			Model 2			Model 3		
	Coeff.	SE	Exp(B)	Coeff.	SE	Exp(B)	Coeff.	SE	Exp(B)
Early State Leader. Chnge.							0.31	0.17	1.36
Recent State Leader. Chnge.							0.20	0.18	1.22
Total Staff ^a							-0.01**	0.00	0.99
Inmate-Staff Ratio ^a							-0.08	0.08	0.92
Guard Salary							-0.08	0.08	0.92
Year Built ^a							-0.00	0.00	1.00
<i>Political Context</i>									
Prison Issue Groups									
Gov. Pol. Party Chnge.									
Upper Political Party Chnge.									
Lower Political Party Chnge.									
Democratic Governors									
Democrats in Upper House ^b									
Democrats in Lower House ^b									
Political Competitiveness									
Log-Prison Expenditures ^b									
<i>Control Variables</i>									
Medium					0.22	0.36	-0.69*	0.22	0.50
Minimum					0.30	0.50	-0.66+	0.27	0.52
<i>Model Statistics</i>									
χ^2					42.00**			133.86*	
(df)					(5)			(21)	
** .001 * .01 + .05	a group mean centered			b grand mean centered					

continued Table 4.5. Poisson Regression Models Predicting Prison Fires by Social Structure, Institutional Characteristics and Political Context, 1984-1995

	Model 4			Model 5		
	Coeff.	SE	Exp(B)	Coeff.	SE	Exp(B)
Intercept	-7.75**	0.56	1.00	-8.33**	1.19	1.00
<i>Trend Variables</i>						
Time	0.55**	0.07	1.73	0.81*	0.23	2.25
Time Squared						
<i>Social Structure</i>						
Inmate Racial Hetero.				0.95	0.57	2.59
Staff Racial Hetero.				-1.41	1.29	0.24
Inmt./Staff Rac. Differ.				-1.89	1.54	0.15
Inmt./Staff Rac. Differ. Sq.				1.84	1.12	6.30
Percent Young Inmates				1.89*	0.72	6.62
<i>Institutional Characteristics</i>						
Crowding ^a				-0.52	0.38	0.59
Crowd*Inmt. Rac. Hetero.						
Crowd*Perc. Young Inmt.						
Education Program				1.50**	0.39	4.48
Work Industry Program				-0.05	0.31	0.95
Work Release Program				0.69	1.88	1.99
Employment Program				-0.18	0.17	0.84
Counseling Program				-0.26	0.32	0.77
Crowding Order				0.74	0.76	2.10
Fire Order				0.12	0.28	1.13
Services Order				-0.99	0.99	0.37
Practices Order				1.03	1.76	2.80
Coun. Prg.*Services Order				1.13	1.02	3.10

continued Table 4.5. Poisson Regression Models Predicting Prison Fires by Social Structure, Institutional Characteristics and Political Context, 1984-1995

	Model 4			Model 5		
	Coeff.	SE	Exp(B)	Coeff.	SE	Exp(B)
Coun. Prg.*Practices Order				-1.60	1.78	0.20
Recent State Leader. Chnge.				0.42	0.21	1.52
Total Staff ^a				-0.01*	0.00	0.99
Inmate-Staff Ratio ^a				-0.10	0.10	0.90
Guard Salary				-0.02	0.99	0.98
Year Built ^a				-0.00	0.00	1.00
<i>Political Context</i>						
Prison Issue Groups				0.03+	0.01	1.03
Gov. Pol. Party Chnge.				-0.48	0.26	0.62
Upper Political Party Chnge.				0.18	0.10	1.20
Lower Political Party Chnge.				0.44*	0.12	1.55
Democratic Governors				-0.00	0.16	1.00
Democrats in Upper House ^b				-3.66	1.29	0.03
Democrats in Lower House ^b				2.33	1.53	10.28
Political Competitiveness				0.13	0.43	1.14
Log-Prison Expenditures ^b				-0.12	0.05	0.89
<i>Control Variables</i>						
Medium				-0.96**	0.23	0.38
Minimum				-0.74+	0.29	0.75
<i>Model Statistics</i>						
χ^2		27.10**			149.58**	
(df)		(9)			(32)	
** .001 * .01 + .05	a group mean centered		b grand mean centered			

Table 4.6. Summary of Findings for Prison Collective Conflict

	Riot	Disturbances	Fires
<i>Social Structure</i>			
Hypothesis 1a	-	n.e.	n.e.
Hypothesis 1b	+	n.e.	n.e.
Hypothesis 2a	n.e.	-	-
Hypothesis 2b	n.e.	+	+
Hypothesis 3	-	n.e.	n.e.
Hypothesis 4	+	+	n.e.
<i>Institutional Characteristics</i>			
Hypothesis 5	n.e.	n.e.	n.e.
Hypothesis 6	n.e.	n.e.	n.e.
Hypothesis 7	n.e.	n.e.	n.e.
Hypothesis 8a	-	+/-	-
Hypothesis 8b	-	n.e.	n.e.
Hypothesis 9	+	+/-	n.e.
Hypothesis 10	n.e.	n.e.	n.e.
Hypothesis 11	-	+	+
Hypothesis 12	+	n.e.	n.e.
Hypothesis 13	n.e.	-	n.e.
<i>Political Context</i>			
Hypothesis 14	n.e.	n.e.	n.e.
Hypothesis 15	+	n.e.	n.e.
Hypothesis 16	-	+/-	+
Hypothesis 17	+	+	n.e.
+ supporting evidence - conflicting evidence +/- supporting and conflicting evidence n.e. no evidence			

Education: 2005, M.A. Sociology, The Pennsylvania State University
1998, B.S. Sociology, University of Houston, *cum laude*

Research and Teaching Interests: Social movements; Prisons; Research methods; Survey research; Organizational theory; Life course perspective; Quantitative methods and statistics

Forthcoming Publications

Martin, Andrew W., Assata Richards, and John D. McCarthy. "Getting the Youth Involved: Challenges and Possibilities for Youth Participation in Social Movements." In *Youth Activism: An Encyclopedia*. Edited by Sherrod, L.R., Flanagan, C., & Kassimir, R. Westport, CT: Greenwood Publishing Company.

Professional Papers and Presentations

Richards, Assata. 2003. "A Study of Trends in Prison and Levels of Social Unrest, 1984-1995." Paper to be presented at the annual meeting of the American Society of Criminology in Denver, CO (November).

Richards, Assata. 2002. "Social Movement Embeddedness: Employing Social Relations to Examining Dimensions of Activism." Paper presented at the annual meeting of the Sociological Association in Chicago, IL (August).

Richards, Assata. 2001. "Understanding Change: A Longitudinal Study of Prisons." Paper presented at the annual meeting of the American Society of Criminology in Atlanta, GA (November).

Richards, Assata. 2000. "Say It Loud, 'I'm Black and I'm Proud': Analyzing the Relationship between Afrocentricity and Black Volunteer Involvement." Paper presented at the annual meeting of the Association of Black Sociologists in Washington, DC (August).

Richards, Assata and John D. McCarthy. 1999. "The Bias in Newspaper Coverage of Protest Events: The Million Man March and the Promise Keepers Stand in the Gap Rally." Paper presented at the annual meeting of the Sociological Association in Chicago, IL (August).