12-2003

Social Disorganization, Disorder, Social Cohesion, Informal Controls, and Crime: A Reformulation and Test of Systemic Social Disorganization Theory

Gayle M. Rhineberger
Western Michigan University

SOCIAL DISORGANIZATION, DISORDER, SOCIAL COHESION, INFORMAL CONTROLS, AND CRIME: A REFORMULATION AND TEST OF SYSTEMIC SOCIAL DISORGANIZATION THEORY

by

Gayle M. Rhineberger

A Dissertation
Submitted to the
Faculty of The Graduate College
in partial fulfillment of the
requirements for the
Degree of Doctor of Philosophy
Department of Sociology

Western Michigan University
Kalamazoo, Michigan
December 2003

ACKNOWLEDGMENTS

Acknowledging those who have helped me develop and prosper as a scholar and person is perhaps more difficult than writing some sections of the dissertation itself. I have been extremely fortunate to have fantastic friends, incredible mentors, and collegial colleagues throughout my entire graduate school experience. Western Michigan University, the Kercher Center for Social Research, and select sociology faculty and staff, provided me with an excellent graduate education, teaching skills, practical applied experience, and unending friendship–for all of this I am truly indebted. These elements form the foundation of my academic career, as well as provided the clay that has molded me into the individual I have become both personally and professionally.

Of course it is always necessary to express gratitude to specific individuals. First and foremost, this dissertation in its final form would not have been possible without the unending support and devotion of my dissertation chair, Dr. Susan M. Carlson, who more than once went above and beyond the call of duty. Many summer afternoons and evenings were spent working with data and statistical tools that proved more than a little difficult at times. But we made it! Thank you for being a true mentor and friend.

The other two cornerstones of support throughout this process were Dr. David J. Hartmann and Dr. Thomas L. Van Valey. I cannot begin to thank you enough for all of your guidance and support. I am forever indebted to you for providing me with many opportunities to grow as a researcher, scholar, and teacher. I am fortunate to have worked

with both of you, as have shaped my career in ways too numerous to count.

Many thanks to Dr. Victoria Ross, who, from the kindness of her heart, took on the task of being my outside departmental member even though she was already inundated with other theses and dissertations to support. Thank you for taking me in!

My heartfelt thanks goes out to Susan Standish, Sharon Myers, Judy Peppel, and Amy Doxtater. I truly appreciate your friendships.

I must also thank my family for all of their support and for understanding when I could not make it home for a visit because of my schedule. An extra special thanks to my mother for always being willing to listen to me rant and rave and cry as needed. You are more than a mother, you are also a friend.

And last, but most definitely not least, I need to express my unending appreciation and love to my closest friends, for without them I am fairly certain I would not have made it through the last five years! Sheila, Yaschica, Megan, Kristi, Kelly, Craig, and Carl–thanks for the good times. You are true friends. My best friend Sheila deserves an extra dose of thanks for always being willing to listen, for more than once providing her shoulder to cry on, for the laughter, and for always providing the security of true friendship. You are the sister I never had.

Gayle M. Rhineberger

TABLE OF CONTENTS

Table of Contents–Continued

Table of Contents–Continued

LIST OF TABLES

List of Tables–Continued

LIST OF FIGURES

CHAPTER I

INTRODUCTION

Crime and explanations for its occurrence have become increasingly popular topics, both in academia and in popular culture. Prevailing theoretical perspectives on crime have varied throughout history. Before the eighteenth century, explanations for criminal behavior were largely deterministic. Criminals were born, not made. With the Enlightenment, explanations of criminal behavior became more individualistic in nature, focusing on rational choice. People either chose to be criminal, or they chose to conform to social norms and values. Then came the Industrial Revolution and the onslaught of rapid social change. This particular period of history is of great importance to the field of sociology and the development of criminological theory. It was during this time that criminal explanations took yet another turn. Crime was largely considered to be a social product--criminals were made (by society), not born.

Chicago School sociologists, drawing on Durkheim's ideas of social change, social control, cultural norms, and crime, developed several theories to explain the increase in crime following the Industrial Revolution. One particular criminological theory that grew out of the vast sociological literature produced after the Industrial Revolution was social disorganization theory. In simplest terms, social disorganization theory postulates that certain structural and geographical characteristics of a community--

such as economic disadvantage, residential stability, and racial/ethnic heterogeneity--influence the ability of a community to regulate the behavior of its members through the use of informal social controls, thereby generating and perpetuating norm-violating behaviors such as crime and delinquency. Although momentarily popular, the theory quickly faded into the background as a testable explanation of crime and delinquency. For many, the theory was too socially deterministic–it did not account for individual criminal behavior.

Even with its brief disappearance, many scholars have maintained that the theory has never lost its viability at its most basic level, and that it is clearly viable as an explanation of neighborhood crime and delinquency rates. However, many scholars have pointed out that certain modifications were necessary in order for it to regain its status as a testable and relevant theory of crime causation in modern society. Several modifications have been made to social disorganization theory over the past two decades. However, these modifications have not been fully integrated to create a testable comprehensive model of systemic social disorganization theory.

One concept that has not yet been fully incorporated into systemic social disorganization theory is disorder. Skogan (1990) suggests that disorder affects the social organization of a community, creating a perpetual cycle of urban decay and increased crime and delinquency. However, only a handful of studies have attempted to test disorder as a mediating force between social disorganization and crime and delinquency. Studies that do incorporate disorder assume it is a one-dimensional construct, although it is routinely discussed in terms of having both visible social (e.g., prostitution and public

drinking) and physical (e.g., abandoned buildings and trash) components. No study has yet tested whether or not disorder is a one-dimensional concept, and whether or not it mediates the effects of social disorganization on crime.

Another concept that has recently been incorporated into the social disorganization literature is informal control. Several scholars have pointed out that social disorganization creates an environment that prevents positive social interaction among community residents, particularly as it relates to the use of informal social control. Studies that have incorporated informal control into systemic disorganization theory generally treat it as a one-dimensional concept. However, Bursik and Grasmick (1993), have discussed three unique levels of informal social control related to crime and delinquency. To date, no study has fully incorporated measures of these three levels of control into a comprehensive test of systemic disorganization theory, thereby creating yet another gap in the existing literature.

Sampson et al. (1997:918) point out that social disorganization prevents the formation of collective efficacy, which they define as "social cohesion among neighbors combined with their willingness to intervene on behalf of the common good." Essentially, social disorganization prevents residents from bonding with each other, which leads to their unwillingness to utilize informal social controls. However, Sampson et al. (1997) do not adequately justify the measurement of collective efficacy, nor do they seek to test the existence and impact of Bursik and Grasmick's three levels of informal social control. Additionally, they do not add disorder as a part of the model, thereby offering an incomplete test of systemic disorganization theory.

What is clearly missing in the existing social disorganization literature is a comprehensive, testable model that ties these modifications of the theory together. As such, this dissertation seeks to create this comprehensive model, and test the impact that social disorganization has on crime at the neighborhood level through the mediating concepts of disorder, social cohesion, and informal control.

To accomplish this goal, I address several specific objectives related to the three modifications discussed above. First, as disorder is clearly a disorganization-related variable, I test whether it is a one-dimensional construct as opposed to containing distinct social and physical dimensions. Additionally, I empirically examine whether disorder mediates the impact of social disorganization on crime. Secondly, in this study I evaluate the concepts of social cohesion and collective efficacy. Specifically, I test whether or not Sampson et al. (1997) were justified in their creation of collective efficacy by combining social cohesion and informal control. I hypothesize that the two constructs of social cohesion and informal control have differential effects on crime, and that social cohesion mediates the effects of social disorganization on informal control, and therefore these should remain as separate variables in the analysis. Lastly, I examine informal control as a variable in the systemic social disorganization model. I test whether or not it is a separate concept distinct from informal control, as well as testing its direct effect on crime. Additionally, as informal control has not been adequately studied thus far in the existing social disorganization literature, I test whether or not it is three-dimensional, and if so, whether or not these three dimensions have differential impacts on crime at the neighborhood level.

By addressing these research questions, I am incorporating the recent key modifications of the theory that will allow me to create a more theoretically sound, comprehensive model of systemic social disorganization, one that examines the impact that social disorganization, through the mediating concepts of disorder, social cohesion, and informal control, has on crime at the neighborhood level.

Several steps need to be taken in order to accomplish this goal. First, in Chapter II, I review the historical development of systemic social disorganization theory. This review focuses on the literature that has contributed to the development of the theory itself. Then, in Chapter III, I review the empirical literature on social disorganization. This chapter focuses on studies that have added new concepts to the social disorganization model and that have tested variations of this model. As the literature on social disorganization is vast and deep, Chapter III is limited to those studies that concentrate on social disorganization at the neighborhood or small community level of analysis. Chapter IV presents the research design and analytical strategy, including a discussion of the theoretical model I test in this study. The data sources are discussed, as is the measurement of each concept in the systemic social disorganization model. Next, Chapter V presents the findings of the confirmatory factor analyses and the hierarchical linear and nonlinear models. The findings are discussed in the context of the objectives and hypotheses outlined in Chapter IV. Lastly, Chapter VI presents a detailed discussion of the findings presented in Chapter V. I also discuss the limitations of the study, directions for future systemic social disorganization research, and policy implications.

CHAPTER II

SOCIAL DISORGANIZATION AND SYSTEMIC THEORIES

INTRODUCTION

This chapter will review the impetus and development of social disorganization theory. Specifically, the foundation for the original social disorganization model will be described, followed by a review of the literature that has contributed to the evolution of the social disorganization perspective.

EARLY CHICAGO SCHOOL CONCEPTIONS

The Industrial Revolution played a significant role in the development of criminological theory. It created massive, rapid social changes that reverberated throughout the nation's largest cities, causing turmoil in the daily lives of the individuals who resided within their boundaries. With the Industrial Revolution came the influx of immigrants, along with the migration of individuals from the outlying agricultural areas, all into these urban areas. It was this combination of massive, rapid, social and technological change, with rapid population growth, that set the stage for the development of criminological theory.

During the 1920s, the city of Chicago, like other large U.S. cities, was beginning to experience the effects of industrialization. Sociologists at the University of Chicago

became interested in industrialization and its effects on the city itself as well as urban life. W. I. Thomas and Florian Znaniecki were interested in how immigrants responded to these changes, and the effects that living in mixed communities with other immigrants (in a strange country, with new and different values, beliefs, and norms) had on them. In their study of Polish immigrants, they developed the concept of social disorganization. Thomas and Znaniecki ([1918] 1975:35) defined social disorganization as "a decrease of the influence of existing social rules of behavior upon individual members of the group." In turn, they argued that the reduced influence of these rules on individuals has implications for the larger community of interest, because cases of individual norm violation "exercise some disorganizing influence on group institutions and, if not counteracted, are apt to multiply and to lead to a complete decay of the latter" (Thomas and Znaniecki [1918] 1975:35). Thus, social disorganization appears to be a process that results in an increase in norm-violating behavior. What Thomas and Znaniecki alluded to is the presence of a reciprocal effect, such that an increase in this norm-violating behavior leads to social organizations and institutions being less effective in controlling behavior, which will ultimately lead to a continuing increase in such behavior. This feedback loop feature was not discussed as such by Thomas and Znanieck. However, it was important to later social disorganization theorists as they continued to clarify and expand the theory.

Park ([1925] 1974) built on Thomas and Znaniecki's ([1918] 1975) original concept of social disorganization. Also reacting to the social changes occurring in

Chicago at the time, Park ([1925] 1974:107) suggested that in the process of social change,

> any form of change that brings any measurable alteration in the routine of social life tends to break up habits; and in breaking up the habits upon which the existing social organization rests, destroys that organization itself.

Thus, social change results in the destruction of existing norms, which are the very foundation of social institutions (i.e., the church, school, and the courts), such that the ability of these formal social institutions to enforce and reinforce normative behavior are undermined, leading the community to experience a general sense of social disorganization. Park further suggested that the presence of delinquency in a community is evidence that these social institutions have lost their ability to control the behavior of individuals, resulting in increasing levels of norm-violating behavior. In other words, delinquency occurs as a result of a community's social disorganization. What Park added to Thomas and Znaniecki's concept is the importance of the breakdown of *formal* social controls as part of social disorganization, and delinquency as an indicator of such social disorganization.

SHAW AND MCKAY'S MODEL OF SOCIAL DISORGANIZATION

Shaw and McKay (1942) extended Park's emphasis on delinquency within the framework of social disorganization theory. Like Park and Burgess, they focused on how the structural characteristics of a community impact the occurrence of delinquency within neighborhood boundaries. They applied Park and Burgess's concentric zone theory to

several cities: Chicago, Boston, Cincinnati, Cleveland, Richmond, Columbus, and Birmingham. Their primary purpose was to study the association between the geographic distribution of juvenile delinquency rates with corresponding economic and social characteristics of these areas within each city. For each city, they traced a brief history of its development (physical, economic, and social), followed by a discussion of the areas within the city that were identified for the purpose of their analysis, and the corresponding delinquency rates for each area. They also compared five other variables with the delinquency rates for each area within the city: school truancy rates, young adult offender rates, infant mortality rates, tuberculosis rates, and mental disorder rates. The addition of these variables underscores Shaw and McKay's emphasis on explaining how community characteristics impact delinquency rates. Although Shaw and McKay compared these specific variables to delinquency rates, their primary hypothesis was more limited in scope. They were specifically concerned with the effects of four structural conditions on delinquency rates: low economic status, ethnic heterogeneity, residential mobility, and, to a lesser degree, family disruption. The existence of these conditions, particularly the last four, represents a state of social disorganization. For Shaw and McKay, social disorganization leads to increased delinquency rates by way of a delicate process of spiraling community deterioration.

Expanding on Thomas and Znaniecki's original conceptualization of social disorganization, Shaw and McKay's theory suggests that social disorganization decreases a community's ability to regulate itself through informal social controls. Disorganization weakens a community's ability to maintain conventional norms and values that at one

time were common to this particular community, as the characteristics indicative of disorganization result in the presence of norms and values that are not common to the community as a whole. Using the city of Chicago as a reference, Shaw and McKay (1942:164) suggested the following:

> In general, the more subtle difference between types of communities in Chicago may be encompassed within the general proposition that in the areas of low rates of delinquents there is more or less uniformity, consistency, and universality of conventional values and attitudes with respect to child care, conformity to law, and related matters, whereas in the high-rate areas systems of competing and conflicting moral values have developed.

They believed that a wide range of norms and values exist in areas with high poverty rates, racial/ethnic heterogeneity, high rates of family disruption as represented by a percentage of female headed households, and high rates of residential mobility, with residents constantly moving in and out of the community. These conflicting values lead to a community where residents are not familiar with each other and are therefore not willing to intervene to reinforce conventional norms and values. As a result, delinquency occurs more frequently in these areas. As delinquency increases, the conflicting norms and values evolve into a situation where delinquency and deviancy are more or less allowed to continue, leading to what Shaw and McKay referred to as a criminal value system. Increasing delinquency will further serve to undermine any remaining conventional norms and values, which results in a continuing cycle of decay and increasing delinquency within the community.

Shaw and McKay (1942) found that delinquency rates corresponded closely with the other variables they examined (school truancy, youth offenders, infant mortality,

tuberculosis, mental health, economic status, racial/ethnic heterogeneity, residential mobility, and family disruption). Areas with high delinquency rates have similar social and economic characteristics that differ from those in areas with low delinquency rates. Shaw and McKay (1942) suggested that as various aspects of community structure deteriorate, communities become increasingly disorganized, leading to increases in delinquency and crime (also see Reiss 1986; Sampson and Groves 1989). They further pointed out that in order to understand why differences in economic, social, and delinquency rates exist within a city, and how criminal value systems develop, we must study the process by which a city grows and changes. Specifically, they believed that attention must focus on the concentration of industry and commerce within the city, in conjunction with the social and economic characteristics of the populations in neighborhoods within the city.

Although Shaw and McKay's work was an important contribution to criminological theory that was popular during its time, very little expansion of social disorganization theory itself took place from the late 1950s to the mid-1980s. There are several possible explanations for the theory's virtual disappearance from the literature. One possibility concerns the particular method they used to study delinquency. The methods used by Shaw and McKay were costly and time consuming, thereby prohibiting much replication of their empirical study. Statistical techniques were not as elaborate as they are today, nor were the methods with which the data itself could be compiled. Advances in data management systems as well as statistical software have significantly impacted the ways in which we can study the spatial distribution of crime and

delinquency. Additionally, it was during this time period that a paradigm shift within the field of criminology occurred, such that the theoretical focus moved from explanations focusing strictly on contextual and geographic factors, to those accounting for individual behavior. Shaw and McKay's social disorganization theory ignored the role of individuals completely. They were not concerned with individual responses to disorganization. They were only concerned with aggregated responses to disorganization, at the community level. Social disorganization theory assumes that if the social, economic, and physical conditions are right, any individual will become criminal. This negates the role of human agency, as it assumes that individuals cannot rise above their social environment. When it became clear that not all of the juveniles living in the disorganized areas Shaw and McKay studied engaged in deviance or crime, one of the theory's many flaws was revealed. It has limited utility in predicting individual criminality (Bursik1988). It could not account for why certain *individuals* did not engage in such behaviors. Theories that built on the contextual factors discussed by Shaw and McKay, but which included individual agency eclipsed the original concept of social disorganization. Popular theories following Shaw and McKay's social disorganization include, but are not limited to, Reckless's (1956) containment theory, Merton's (1938) strain and anomie theory, Hirschi's (1969) social control theory, and Cohen and Felson's (1979) routine activities theory. These theories took into account both the contextual factors outside of an individual's control, along with his/her role in the criminal process.

KORNHAUSER'S CLARIFICATION OF THE SHAW AND MCKAY MODEL

Two of the most commonly noted criticisms of Shaw and McKay's (1942) version of social disorganization theory–lack of a formal definition of "social disorganization" and circular reasoning–were discussed by Kornhauser in *Social Sources of Delinquency* (1978). She attempted to flesh out the specific assumptions, similarities and differences among popular delinquency theories. Specifically, she focused on cultural deviance theories and social control theories. She spent a significant amount of time discussing Shaw and McKay's social disorganization theory, separating the cultural deviance part of their theory from the social control portion. For Kornhauser, the social control part of the original theory is more important in explaining delinquency than is cultural deviance. She more clearly defined the concept of social disorganization, as well as the effects of informal and formal controls within the development and persistence of a community's social disorganization. Shaw and McKay's explication of social disorganization theory is somewhat unclear and ill defined. Nowhere in the text do Shaw and McKay provide an official definition of social disorganization. Kornhauser more clearly defines social disorganization, its causes and consequences, and as a result, opened up the field of criminological theory to once again embrace the viability of social disorganization theory.

According to Kornhauser's (1978:120) interpretation of Shaw and McKay, social disorganization is defined as "the inability [of a community] to realize common values." Social disorganization exists when particular community structural characteristics are present, such as increased poverty, racial/ethnic heterogeneity, and high levels of

residential mobility (as described by Shaw and McKay). These characteristics (indicators of social disorganization) weaken social bonds, which results in weakened internal and external social control such that individuals no longer are constrained from engaging in delinquent or criminal activity (Kornhauser 1978). Delinquency and crime result as less supervision and intervention occurs in such circumstances. Specifically,

> [s]ocial disorganization produces weak institutional controls, which loosen the constraints on deviating from conventional values. Social disorganization also results in defective socialization, when conventional values have not been adequately internalized (Kornhauser 1978:31).

The presence of these disorganizing characteristics inhibits "proper" socialization to conventional norms and values. This creates diverse norms and values, thereby weakening social controls, making it easier for individuals to deviate from them. This rendering more clearly specifies the causal ordering of social disorganization theory. As Kornhauser points out, one of the most critical shortcomings of Shaw and McKay's social disorganization theory is that it suffers from circular reasoning, such that delinquency is both a result of social disorganization, as well as a preexisting condition for its presence. However, she suggests that this criticism, in the context of their mixed model of cultural deviance and social control, is "trivial, for all nonrecursive theories are circular" (Kornhauser 1978:118).

She then goes on to suggest that Shaw and McKay's basic model–that social disorganization is caused by the presence of certain conditions (poverty, racial/ethnic heterogeneity, and residential mobility) and that this in turn causes delinquency–does not suggest a causal structure. Rather, because Shaw and McKay did not specify such a

causal ordering, their theory has been misunderstood as being circular. Instead, Kornhauser (1978:69) suggests the following causal process:

> Social disorganization means the ineffective articulation of values within and between culture and social structure; it does not include the delinquent or criminal system. According to this model, all effects flow through weak controls. Organized adult crime begins and persists because of weak controls. The concentration of juvenile offenders and adult professional criminals is given by the community context.

Kornhauser has distinguished more clearly the elements associated with Shaw and McKay's theory of social disorganization, articulating the explanatory nature of the theory. Her work is valuable in that by peeling away the multiple layers of the theory, she has made the intricate processes by which social disorganization theory works more visible and more clearly defined. Her definition and explanations of the social disorganization process have been cited heavily in the literature.

Combined with Kornhauser's (1978) articulation of social disorganization theory, there were many other factors that may have contributed to the revitalization of the theory during the 1980s. With advances in technology, it became easier to replicate Shaw and McKay's original study and to conduct more sophisticated analyses of the data. Additionally, community-level research became popular during this time, opening up further options for extending the theory. In conjunction with community studies, crime research arose in popularity, focusing on the social, economic, and physical characteristics of particular communities. Additionally, there are three primary works (Byrne and Sampson 1986; Reiss and Tonry 1986; and Stark 1987) that were published in the mid-1980s that breathed life back into the social disorganization perspective (Bursik

1988). These three works were empirical in nature and, while important, contributed little to the social disorganization theoretical model.

SKOGAN'S CONTRIBUTION: SOCIAL DISORDER

As discussed above, during the 1980s social disorganization theory was revitalized with the publication of three key empirical works. Subsequently, several theorists made significant contributions to the social disorganization model, although not all of them identify themselves as social disorganization theorists. Skogan (1986) was one of the first to connect local residents' fear of crime to neighborhood characteristics. Although Skogan does not frame his work on disorder and crime in the context of social disorganization theory, nor does he make any direct attempt to critique Shaw and McKay's work, his original contribution implies his identification with the theory, and clearly has vital implications for extending the social disorganization framework. He more fully articulated the idea of how changes in a neighborhood's stability and its social and physical structure can result in a feedback loop that leads to continuing disorganization and decline in the neighborhood. As negative and destructive changes occur within the neighborhood (e.g., increasing disorder and crime rates, changes in land-use, etc.), residents' fear of crime increases. Skogan (1986:203) suggests the following:

> Increasing fear of crime may cause individuals to withdraw physically and psychologically from community life. This weakens informal processes of social control that inhibit crime and disorder, and it produces a decline in the organizational life and the mobilization capacity of a neighborhood.

As residents' fear of crime increases, their participation in neighborhood activities decreases, leading to a decrease in the use of informal controls among neighborhood residents. When informal controls are operating normally within the neighborhood system, their use prevents crime and disorder from increasing. When residents withdraw from community life, they take with them their ability and willingness to supervise local youth, to intervene in delinquent or criminal activity, as well as their ability to form social networks with other residents. The loss of informal controls causes further disruption to the neighborhood's stability, leading to further disorganization and decline.

Skogan expands on these concepts and causal connections beyond the fear of crime in his 1990 publication, *Disorder and Decline: Crime and the Spiral of Decay in American Neighborhoods*. Skogan (1990) examines the impact of disorder on neighborhood crime rates. In particular, he argues that disorder affects neighborhood residents' willingness to engage in neighborhood activities and to participate in the processes that maintain the stability of the neighborhood. For Skogan, disorder exists at two levels: the physical and the social. Physical disorder is defined as signs of neglect and decay (i.e., abandoned buildings, broken lights and windows, and the presence of trash) that exist in a neighborhood. While the activities that result in this type of disorder are rarely seen by residents (e.g., they may not witness the littering or the decisions by business owners to pack up and leave the area), the end result, the visible presence of physical disorder, nonetheless impacts residents. Residents see this decay as a "sign of crime," which ultimately raises their fear of crime (Skogan 1990:47-48).

Skogan defines social disorder as behaviors that residents of a neighborhood can see or experience (i.e., public drinking, graffiti, and prostitution). As with physical disorder, the presence of social disorder has consequences for neighborhood life, such that "visible social disorder provides direct, behavioral evidence of community disorganization" (Skogan 1990:21). Social disorder affects residents' connection with their neighbors as well as their attachment to the neighborhood itself, most likely as a result of the direct involvement of the same people (their neighbors) with whom they occupy a shared space–that of the neighborhood. Whereas physical disorder is a continual aspect of residents' daily life, social disorder tends to involve specific events, activities, or individuals (Skogan 1990:36). People see these activities as they occur and attribute them to particular individuals living in their neighborhood, thereby increasing the residents' fear of those individuals, as well as generalizing that fear to other neighborhood residents.

Disorder and crime play a key role in the decline of neighborhood organization and stability for Skogan (1990). As indicated earlier, Skogan's ideas mirror those of social disorganization theory. However, he also applies elements of another theory in his discussion of the connection between disorder and crime. He relies quite heavily on Wilson and Kelling's (1982) broken windows theory, which essentially sees crime as a result of the visual presence of disorder. According to Wilson and Kelling, a broken window in an abandoned building is a sign of disorder and this will increase crime as residents begin to believe that no one cares about the condition of the neighborhood. This will cause more individuals to believe that there is no risk or repercussion for engaging in

disorderly and/or criminal behavior. Skogan suggests that Wilson and Kelling's theory cannot be overlooked, as no research to date has found areas that are characterized by the high presence of disorder but low crime rates.

Skogan (1990) expands on the relationship between disorder and crime. He suggests that their presence in any given neighborhood results in anger, demoralization, fear, and more disorder. Residents become angered at being forced to stay away from neighborhood parks and off the streets. They become demoralized as a result of the continual presence of disorder and criminal activity. They come to believe that other residents do not care about the conditions of the neighborhood. This results in residents developing a sense of hopelessness about the condition of their neighborhood (Skogan 1990). Fear and hopelessness increase as residents cognitively connect the increase in disorder with the increased potential for criminal activity. Disorder is a short step away from criminal activity, and in some cases (i.e., drug use, vandalism, and prostitution), overlaps with officially defined criminal activities. As residents' increasing fear of crime results in their withdrawing from community life, more disorder ensues, as fewer individuals are able and willing to intervene and prevent its occurrence. The end result is such that "an increase in disorder and crime reflects the declining strength of informal control in urban neighborhoods that are caught in the cycle of decline" (Skogan 1990:16).

This statement by Skogan reflects quite clearly the causal connection between disorganization, disorder, weakened social controls, and crime as a continuing cycle that leads a community further and further into a state of deterioration. Contextual effects add an important dimension to any theory. Skogan's addition of disorder to social

disorganization theory may add further explanation for the nonrecursiveness of social disorganization models, as discussed above. Disorder affects the ability of neighborhood residents to utilize informal controls, resulting in more crime. This increase in disorder and crime will lead to further disorder and crime as residents continue to withdraw from the neighborhood as they become increasingly fearful of these visual signs of disorder and crime. Withdrawal may occur at two levels. Residents may withdraw by avoiding community activities or by becoming unwilling to intervene when they witness crime or delinquent activities, or they may withdraw by moving out of the community. Unless these residents are replaced by more permanent residents, both types of withdrawal may lead to further disorder, leading to increased crime rates.

BURSIK AND GRASMICK: A THEORETICAL INTEGRATION

Perhaps one of the most important contributions to social disorganization theory was made by Bursik and Grasmick (1993), who believe in the explanatory power of social disorganization theory, particularly focusing on community dynamics. In discussing Shaw and McKay's (1942) social disorganization theory, they state that

> the most fully developed aspects of their model, which focused on the internal dynamics of local communities and the capacity of local residents to regulate the behavior of their fellow neighbors, continue to be significantly related to neighborhood variations in crime rates (Bursik and Grasmick 1993:x).

However, they believe that changes to the theory are necessary, particularly in light of recent theoretical developments focusing on networks among individuals within neighborhoods. Specifically, Bursik and Grasmick argue that Shaw and McKay ignored

the importance that external resources and relationships that residents form with individuals, institutions, and agencies outside of the neighborhood have on the internal structure and stability of the neighborhood. They suggest that the ability of a neighborhood to regulate itself is not only influenced by internal factors, such as poverty, stability, and general connectedness to neighbors, but that it is also influenced by political and economic conditions outside of the neighborhood, as neighborhoods must compete with other neighborhoods and local agencies for resources (e.g., public monies for programs). Bursik and Grasmick suggest that neighborhoods with strong external public ties are better able to establish successful crime control policies and programs.

In addition to neglecting individuals and their external networks, Bursik and Grasmick argue that Shaw and McKay also ignored individuals and their networks with each other, and with local neighborhood institutions. Shaw and McKay's theory discussed community dynamics, but all individual action was subsumed under the umbrella of "community." They were not concerned with the actions of individuals within the community itself, rather, they assumed that a community itself was capable of action. Bursik and Grasmick suggest that in order to understand how structural conditions affect crime rates, we first need to understand how individuals within the neighborhood are both formally and informally connected to each other, to local institutions, and to external resources.

Bursik and Grasmick's (1993:x) modification places social disorganization theory within a systemic theory of neighborhood organization and social control, which "emphasizes how neighborhood life is shaped by the structure of formal and informal

networks of association." To construct this theory, they first adopt Kasarda and Janowitz's (1974) systemic model of community attachment, which views the local community as a "complex system of friendship and kinship networks and formal and informal associational ties rooted in family life and on-going socialization processes" (Kasarda and Janowitz 1974:329). They then use this theory to help explain crime rates in neighborhoods. In their view, a neighborhood operates as a system that fosters both informal and formal attachment networks among individuals within the community, as well as without, such that residents are both able and willing to control neighborhood operations through informal and formal social controls (Bursik and Grasmick 1993). Community attachment is therefore associated with increased residential stability, such that if residents feel a sense of attachment and affinity with their local community, they will be less likely to pick up and move out of the area. This process minimizes the opportunity for crime, because individuals who are attached to others and to a sense of community will be more likely to follow conventional norms and values, as well as more willing to intervene, both on the informal and formal level, to prevent activity that violates these shared norms and values. Additionally, long-term residency in a neighborhood leads to increased familiarity with other residents and an increased willingness to utilize informal controls.

Bursik and Grasmick (1993) are concerned with a neighborhood's ability to exert social control in order to maintain the integrity of the neighborhood system. As such, social control "represents the effort of the community to regulate itself and the behavior of residents and visitors to the neighborhood to achieve this specific goal" (Bursik and

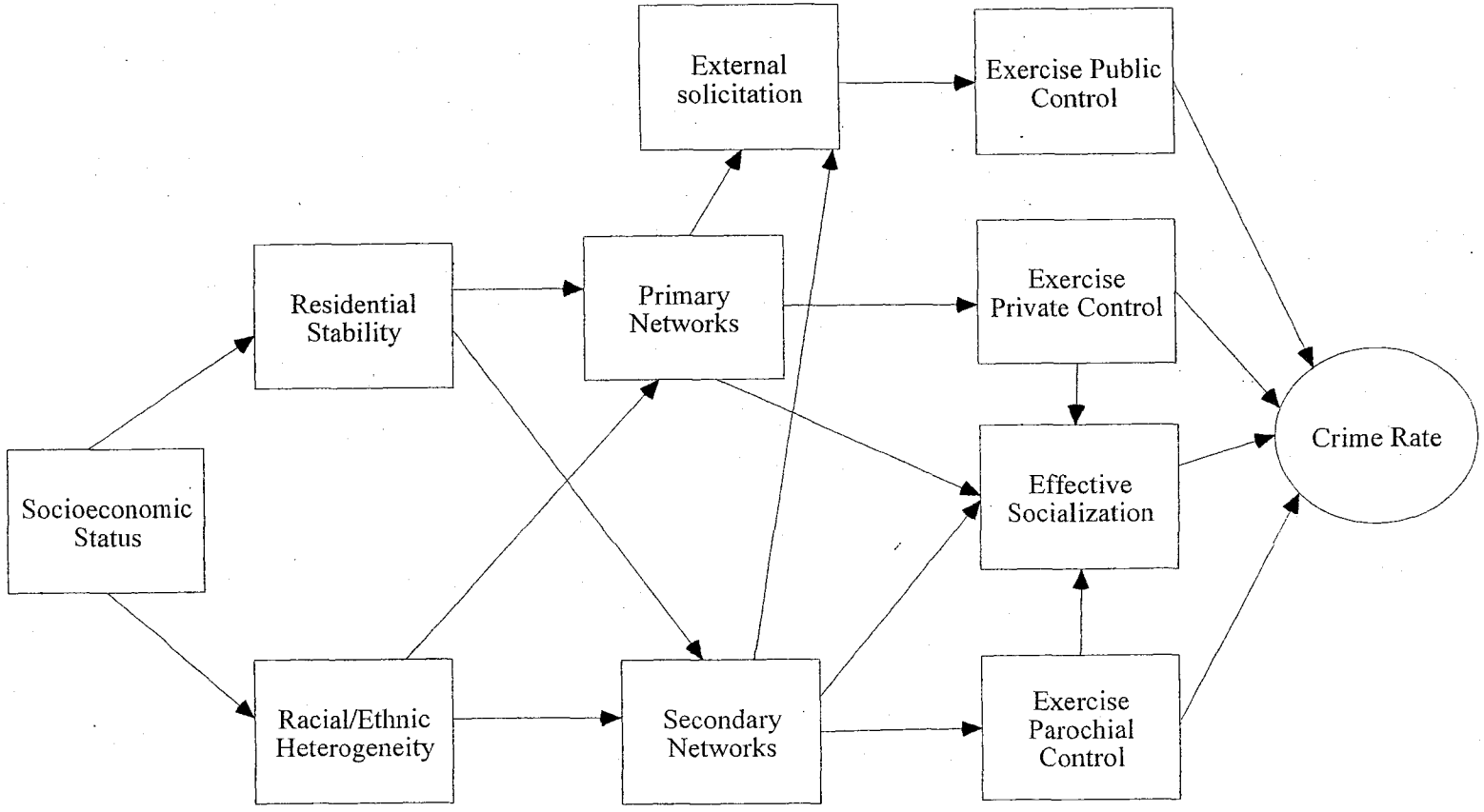
Grasmick 1993:15). They emphasize the effect of formal and informal networks of control on crime and delinquency at the neighborhood level. Therefore, they provide a better understanding of the factors that emphasize both the creation and the control through prevention of crime and delinquency. To do so, they integrate Hunter's (1985) three levels of social control–private, parochial, and public–with social disorganization theory. Relying on Hunter's definitions, Bursik and Grasmick (1993:16) define the private level of control as generated from "intimate informal primary groups that exist in the area." It is control that comes from family members, friends, and peer groups. The parochial level of control is somewhat less intimate in nature and involves more formal institutions and relationships, from neighbors to local institutions (e.g., schools, stores, local organizations, etc.). The public level of control is control grounded outside of the neighborhood. This includes the relationships residents and/or neighborhood organizations have with local law enforcement agencies, local financial and housing agencies, as well as various municipal agencies, such as garbage collection (Bursik and Grasmick 1993). All three levels of control are the most important mediating factor between social disorganization and crime rates, such that a neighborhood's ability to regulate itself depends on the extent to which relationships between residents and local institutions that support the use of these controls exist at these three levels.

In addition to expanding on Shaw and McKay's original disorganization theory, Bursik and Grasmick (1993) also acknowledge Skogan's (1990) incorporation of disorder as a precursor to increased neighborhood crime rates. Like Skogan, Bursik and Grasmick suggest that disorder impacts crime rates. However, they add that disorder impacts crime

rates through its influence on the development of informal and formal networks at all three levels of control (private, parochial, and public). Following Skogan (1990), Bursik and Grasmick argue that disorder increases residents' fear of crime and sense of hopelessness, resulting in their withdrawl from community life (Skogan 1990). When residents withdraw from neighborhood activity, the informal and formal networks disintegrate, resulting in weakened connections between residents. This results in increased levels of crime and delinquency, as resident withdrawal results in less supervision, less intervention, and decreased adherence to conventional norms and values.

The basic systemic model developed by Bursik and Grasmick (1993) is shown in Figure 2.1. Following traditional social disorganization theory, the three primary exogenous variables are socioeconomic composition, residential stability, and racial/ethnic heterogeneity. These factors influence the *development* of relationships among individuals at the private level, among individuals and local institutions at the parochial level, and among individuals and external individuals, agencies, and institutions. The development of these networks then influences the actual use of such control, as well as the effectiveness of socialization. The ability of residents to adequately exercise informal and formal controls affects the crime rate. When neighborhood conditions support the development of networks, then it is more likely that residents will be able to utilize these connections in the form of informal and formal control activity, leading to lower crime rates.

Figure 2.1 Bursik and Grasmick's Systemic Model



While this model clearly shows the addition of the three networks of control, there are a few other relationships in the model worth noting. For example, socioeconomic composition does not have a direct effect on the development of networks. It has only an indirect effect through its influence on the other endogenous variables. This, however, has very important implications. It suggests that socioeconomic status is the catalyst in the development of crime and delinquency via its impact on formal and informal control.

The element of socialization is important as well, as it brings us back to the idea of cultural transmission and shared norms and values. This suggests that as social bonds weaken, so does the ability of both families (at the private level) and neighbors (at the parochial level) to adequately socialize children to conventional norms and values.

Missing from the model is the concept of disorder. Bursik and Grasmick (1993) spend a significant amount of time discussing its impact on the development of networks and its resulting impact on social control, yet it is not included in the basic systemic model. The reason for its omission is not entirely clear. However, one possibility is that Bursik and Grasmick's purpose is largely to discuss recent theoretical developments related to social disorganization theory and apply them in the context of the systemic approach. For example, they discuss the application of routine activities theory and fear of crime literature, yet these elements are not included in the model. As will be discussed in the next chapter, disorder has been added to subsequent variations of systemic social disorganization theory, and is an important element in the present study as well.

SAMPSON, RAUDENBUSH, AND EARLS: THE CONCEPT OF COLLECTIVE EFFICACY

Sampson et al. (1997) provide yet another extension of Shaw and McKay's (1942) original social disorganization model. Sampson et al. (1997) bring social disorganization theory to the level of individual interaction resulting in community-wide intervention. Shaw and McKay were not concerned with the actions of individual neighborhood residents. Their focus was on explaining how structural and demographic characteristics impacted crime and delinquency rates at the neighborhood level. Sampson et al. (1997), on the other hand, are concerned with explaining differential rates of violent crime at the neighborhood level. Specifically, they focus on why some neighborhoods experience higher rates of violent crime, while some are able to utilize informal social controls to regulate and maintain neighborhood stability and public order for the common good of local neighborhood residents.

In addition to adding to the original Shaw and McKay (1942) model, Sampson et al. (1997) expand on Bursik and Grasmick's (1993) addition of the importance of informal controls in mediating the effects of social disorganization. Like Bursik and Grasmick, Sampson et al. (1997:918) are concerned more with the neighborhood itself, such that "social and organizational characteristics of neighborhoods explain variations in crime rates that are not solely attributable to the aggregated demographic characteristics of individuals." They believe that in order to understand how neighborhoods become disorganized and how this disorganization affects the neighborhood as a social system, leading to a cycle of continuing deteriorate and disorganization, we must go deeper into

the social processes that exist within the neighborhood itself. In order to explain why some neighorhoods become disorganized and have higher rates of violence, while others that suffer from similar structural characteristics do not, one must look at the interaction among the neighborhood residents. While Bursik and Grasmick (1993) discussed three levels of informal controls, they focused on the exclusion of external neighborhood resources from previous disorganization studies. Sampson et al. (1997) focus on the interaction among neighborhood residents. Although they do not frame their work in this context, Sampson et al. (1997) are essentially contributing to Bursik and Grasmick's concept of parochial control (i.e., control that exists among neighbors as well as among residents and local institutions).

Sampson et al. (1997) postulate that the key to the variation in neighborhood crime rates lies in the ability of neighborhoods to act collectively to maintain social order through the effective use of informal social controls. This is achieved when collective efficacy is present in the neighborhood. Sampson et al. (1997:918) define collective efficacy as "social cohesion among neighbors combined with their willingness to intervene on behalf of the common good." The intended effect of neighborhood action is to realize the common goal of living in a safe environment. Sampson and Raudenbush (1999:603) further extend the definition of collective efficacy to include "shared expectations for the social control of public spaces." Essentially, collective efficacy refers to the informal bonds among residents in a particular neighborhood that gives them the ability to act as a group to fight against crime. In order for neighborhood residents to be willing and able to exert control over one another, there must first exist a sense of

collective responsibility and attachment to one's neighborhood.

Collective efficacy, then, becomes one component that mediates the structural effects of social disorganization, while at the same time prohibiting its intensity within the neighborhood. According to Sampson et al. (1997:919),

> it follows that collective efficacy of residents is a critical means by which urban neighborhoods inhibit the occurrence of personal violence, without regard to the demographic composition of the population.

This can be extended beyond the issue of violence. Regardless of whether or not disorganization indicators are present within a neighborhood, crime and delinquency rates should be lower when collective efficacy is present. If collective efficacy is present, neighbors may be more willing to intervene when they witness neighborhood youth engaging in delinquent or deviant behavior. Likewise, they may be more willing to look out for their neighbors' property, resulting in lower property crime rates.

Sampson et al.'s (1997) concept of collective efficacy is problematic because it confounds two separate concepts that have been central to systemic social disorganization theory–social cohesion (the relational networks in Bursik and Grasmick's theory) and informal control, specifically parochial control. These two concepts are distinct in that the existence of social cohesion and attachment provides only the *potential* for the *exercise* of various types of informal control, it does not necessitate it. As we will see in the next chapter, Sampson and his colleagues (1997) combined these two concepts on empirical grounds. I believe it is important to treat them as distinct concepts and to assess their relative influence on neighborhood crime and victimization rates. Moreover, it is important to keep the theoretically-delineated types of control distinct as they may

have different effects on crime and victimization.

Sampson and Raudenbush (1999) build on Sampson et al.'s (1997) construction of social disorganization theory. Specifically, they extend the concept of collective efficacy as well as Skogan's (1990) concept of disorder. Their purpose is to uncover the social sources of disorder, rather than simply to measure residents' perceptions of its existence. Additionally, they seek to test the effect that collective efficacy has on the presence and the perception of disorder within the neighborhood. Sampson and Raudenbush suggest that perception of disorder may vary at the level of the face-block, not just at the level of a larger census tract or neighborhood cluster (combination of census tracts).

In addition to adding the concept of actual disorder and its connection to perceived disorder and collective efficacy, Sampson and Raudenbush (1999) argue that a feedback loop exists between collective efficacy, disorder, and crime. They suggest that while there is a negative association between collective efficacy and social disorder, and collective efficacy and crime (specifically, crimes of homicide and robbery), that the occurrence of disorder and/or crime themselves may serve to undermine collective efficacy, resulting in more crime and disorder. While the existence of collective efficacy may in part prevent the occurrence of disorder and crime alike, it is possible that "simultaneous causation" exists (Sampson and Raudenbush 1999:636). When disorder or violent crime occurs, it serves to undermine the relationships, trust, and cohesion among neighborhood residents. When these relationships become compromised, social controls are weakened, leading to increased disorder and crime.

The establishment of a feedback loop brings social disorganization theory full circle. As Kornhauser suggests, Shaw and McKay's theory was criticized as being circular in reasoning, yet the circularity, when interpreted in the context of a feedback loop, appears to make sense. Granted, Sampson and Raudenbush (1999) are looking at somewhat different issues than Shaw and McKay, yet their ideas are still framed within the context of social disorganization theory. The nonrecursiveness of social disorganization theory is perhaps their most important contribution to the theory itself. Although others, such as Kornhauser (1978), have suggested the presence of a feedback loop, it has not as yet been fully incorporated into the existing literature.

CONCLUSION

This chapter has outlined the development of social disorganization theory from its first usage in the criminological literature to the current formulation in the context of systemic social disorganization theory. As the above discussion indicates, systemic social disorganization theory has traveled a windy path. Table 2.1 outlines the primary theoretical contributions reviewed in this chapter and summarizes key contributions of each work. It began with Thomas and Znaniecki's study of immigrant adaptation to life in America within the context of mixed-immigrant neighborhoods. They coined the phrase "social disorganization," referring to the failure of existing norms to influence individual conformity. Park expanded on this idea to include the role of formal social institutions. Like Thomas and Znaniecki, Park found that social disorganization developed as a result of social change within a community, resulting in the inability of

Table 2.1 Summary of Theoretical Contributions

Study	Key Contribution(s)
Thomas and Znaniecki ([1918] 1975)	Coined and developed first definition of social disorganization.
Park ([1925] 1974)	Added to the concept of the breakdown of formal social controls and delinquency as an indicator of social disorganization.
Shaw and McKay (1942)	Emphasized the effect of structural characteristics on delinquency rates. Identified three primary indicators of social disorganization: racial/ethnic heterogeneity, socioeconomic status, and residential stability.
Kornhauser (1978)	Separated the social control elements of social disorganization theory from the cultural deviance aspects.
Skogan (1986 and 1990)	Discussed the impact of neighborhood characteristics on fear of crime. Added physical and social disorder as important variables impacting informal control and neighborhood crime rates.
Bursik and Grasmick (1993)	More fully articulated the systemic theory of disorganization. Added three dimensions to informal controls (private, parochial, and public) and their impact on crime rates.
Sampson et al. (1997)	Added importance of neighborhood residents' interaction with each other, particularly in the form of collective efficacy as an intervening mechanism.
Sampson and Raudenbush (1999)	Extend concept of collective efficacy. Added a measure of observed and perceived disorder and their impact on neighborhood residents' perception of crime and the presence of collective efficacy.

social institutions to effectively utilize social control mechanisms that would normally prevent crime and delinquency.

Shaw and McKay (1942) extended these ideas even further in the 1940s, resulting in what most of us would consider to be traditional social disorganization theory. Shaw and McKay examined more fully the extent to which social structural characteristics influence delinquency rates within a community context. They focused on the impact these characteristics have on the capacity of the community to regulate itself through the use of social control. Additionally, Shaw and McKay were the first to specify the key variables that indicate the existence of social disorganization within a community. Although Shaw and McKay demonstrated the theory's applicability and viability as an explanation of urban crime and delinquency rates, the theory was relatively absent from the literature until the 1980s.

Although the theory faded into the background as a testable explanation of crime and delinquency shortly after its appearance in the literature, many of the scholars reviewed above have maintained that the theory has never lost its viability at its most basic level, and that it is clearly viable as an explanation of neighborhood crime and delinquency rates in the contemporary period. However, as many have pointed out, revisions were necessary in order for its viability to be apparent.

The theory was transformed with Sampson and Groves' application of Kasarda and Janowitz's (1974) systemic theory of community approach. Sampson and Groves were the first to mesh these two theories. This new version, systemic social disorganization theory, was then further extended by Bursik and Grasmick's application

of Hunter's three levels of informal control to explain differences in crime rates at the neighborhood level, emphasizing the importance of informal networks between individuals at the private, parochial, and public levels. This resulted in a systemic social disorganization theory that more clearly integrated the individual level processes among neighborhood residents with the effects of the macro-level neighborhood contextual effects, thereby resolving one of the previous criticisms of social disorganization theory. Sampson et al. (1997) built on Bursik and Grasmick's conceptualization of social networks by creating the concept of "collective efficacy." Lastly, Sampson and Raudenbush pulled together most of the elements of systemic social disorganization theory discussed above. They incorporated the traditional model with the added concepts of disorder and collective efficacy, combined with an emphasis on the nonrecursiveness of the model itself.

What is missing from this last model is an incorporation of Bursik and Grasmick's theory of networks and social control. Sampson and Raudenbush have incorporated the other key extensions of the theory, with this one exception. It is perhaps likely that with the addition of collective efficacy they assume they have adequately accounted for all of the various types of control relevant to neighborhood attachment. While the concept of collective efficacy accounts for much of the parochial level of Bursik and Grasmick's theory, it does not delineate the impact of private controls, nor does it account for the external control networks that Bursik and Grasmick believe are so vital for the reduction of crime at the neighborhood level.

What is missing in the theoretical history of social disorganization is a model that ties all of the various pieces together. As such, this dissertation seeks to incorporate these key dimensions into systemic social disorganization theory. While Sampson et al. (1997) and Sampson and Raudenbush (1999) have added collective efficacy to the model, as argued above, I believe it is important to treat the components of collective efficacy–social cohesion and informal control–as distinct concepts. Moreover, it is important to maintain the distinction between the levels of informal control operating within a neighborhood. Informal control is a vital component of the social disorganization model, and distinguishing between its three levels may increase the power of the theory in explaining variation in crime rates both within and between neighborhoods. In addition, assessing the relative importance of each level will prove useful in developing effective crime prevention and control policies.

The model to be tested in the present study will incorporate and test a modified version of these various social disorganization and systemic theories, simply called systemic social disorganization theory. It will include the three traditional disorganization variables (racial/ethnic heterogeneity, residential stability, socioeconomic status, and family status) as exogenous variables. In an attempt to integrate Bursik and Grasmick's (1993) theoretical model with Skogan's (1990), Sampson et al.'s (1997) and Sampson and Raudenbush's (1999) models, it will include disorder and a new variable, social cohesion, as intervening variables. This variable is designed to integrate neighborhood residents' attachment to each other and their community. It is one component of the collective efficacy variable. The other aspect of collective efficacy,

informal control, will be included in the context of three additional intervening variables that measure the exercise of informal control at the private, parochial, and public levels as described by Bursik and Grasmick. This modified version of systemic social disorganization theory outlined here continues to build on the integration of individual level interaction with larger social forces operating at the neighborhood level (contextual effects).

The next chapter contains a discussion of the empirical social disorganization literature. I review the studies that have tested the original social disorganization model, the revised models, as well as those that have attempted to test various aspects of the model in conjunction with other related concepts but that may not test the theory itself.

CHAPTER III

EMPIRICAL EVIDENCE

INTRODUCTION

Numerous tests of social disorganization theory have appeared in the literature, particularly since the theory's revitalization in the 1980s. Although recent research includes the key concepts developed by Shaw and McKay (1942), they also provide significant and worthwhile revisions and modifications of the theory from its original form. Social disorganization theory has been tested in a wide variety of milieus and with several units of analysis. These tests tend to be extremely diverse in variables, methods, and measurement constructs used. The research ranges from comparing communities and neighborhoods within one city (e.g., Shaw and McKay 1942; Taylor and Covington 1988), to comparisons made across cities (e.g., Miethe et al. 1991), and across Standard Metropolitan Statistical Area (SMSA) counties (e.g., Petee et al. 1994). Recent research has attempted to broaden the explanatory scope of the theory by applying it to rural youth violence (e.g., Osgood and Chambers 2000), violence and mental illness (e.g., Silver 2000), and individual religiosity and drug use (e.g., Jang and Johnson 2001). It has also been tested in conjunction with other theories, in an attempt to decipher whether social disorganization or other theories have better predictive and explanatory value.

While these tests provide important evidence as to the strength of the theory, they are not all relevant for this dissertation. Therefore, this chapter provides a review of the empirical literature testing social disorganization theory and is limited to those studies that concentrate on the neighborhood or small community level of analysis. Within this context, literature focusing on the various indicators of social disorganization will be discussed.

KASARDA AND JANOWITZ'S STUDY OF COMMUNITY ATTACHMENT

Kasarda and Janowitz (1974) reanalyzed data from a 1967 survey conducted by Research Services, Ltd. in England. While the original purpose of the survey was to assist in making recommendations for restructuring local government units, Kasarda and Janowitz used the same data to analyze local community participation and residents' attachment to their local community. Their objective was to test the resilience of what they term the systemic model over that of the linear development model of local community attachment. The linear development model, as defined by Kasarda and Janowitz, is concerned with the effects of population size and density on community participation and attachment. In the systemic model, on the other hand, the primary variable of interest is length of residence in the community, and how it influences the extent of friendship and kinship ties as well as formal and informal ties among residents. Kasarda and Janowitz (1974:329) define community organization as follows:

> [It is] an essential aspect of mass society. It is a structure which has ecological, institutional, and normative dimensions. The local community is viewed as a complex system of friendship and kinship networks and

> formal and informal associational ties rooted in family life and on-going socialization processes. At the same time it is fashioned by the large scale institution of mass society. Indeed, it is a generic structure of mass society, whose form, content, and effectiveness vary widely and whose defects and disarticulations reflect the social problems of the contemporary period.

This definition combines social-psychological influences (socialization processes and family interaction) with more environmental and structural influences, such that a community itself is influenced by both factors. They are in effect seeking to explain how local community dynamics affect ties among residents, which in turn affects individuals' attachment to their community, further impacting their decision to remain in that community.

Kasarda and Janowitz (1974) examined two intervening variables of interest: 1) community attitudes and sentiments, and 2) local social bonds. They used three items to assess community attitudes and sentiments. Residents were asked if they felt they "belonged" or "felt at home" in the area they were living. They were asked how interested they were in what was happening in their community. Lastly, they were asked "how sorry or pleased" they would be if they had to move out of the community they were currently living in. Items measuring local social bonds focused on residents' interaction with other residents. Respondents were asked how many people they knew in the community, how many adult friends lived within ten minutes from their (the respondent's) home, the proportion of their friends and the proportion of their relatives who lived in the same community, to what extent they participated in various types of organizations (e.g., political, educational, and charitable), and to what extent they

engaged in informal participation (e.g., going to the cinema, theater, concerts, and sporting events) and whether or not this participation occurred within or outside of their local community. Independent variables included population size of the respondent's local community, population density (persons per acre in the respondent's local community), length of residence (consisting of six categories ranging from one to over twenty years), socioeconomic position (consisting of six categories ranging from unskilled to professional), and life-cycle (an age measure consisting of five stages, from twenty-one to twenty-nine up to sixty-five and older).

To test the relative strength of the systemic and linear development models in explaining local community attachment, Kasarda and Janowitz (1974) used the Goodman modified multiple regression method. Contrary to the linear development model, they found that population size and density were not consistently related to all measures of local social bonds, nor were the significant relationships strong. Additionally, local social bonds were not consistently influenced by social class and age. As expected, though, they found that those from a higher social class had fewer friends and relatives living in the same community and that involvement declined with age. However, the effects of social class and age were not as strong as the effects of length of residence. Thus, consistent with the systemic model, length of residence had the most powerful and the most consistent effects on all variables in the model, with one exception. It did not have any effect on residents' informal participation in social activities. They concluded that length of residence is the most significant factor influencing local social bonds, as it facilitates the development and maintenance of social bonds, consistent with the systemic model of

community attachment. Length of residence also significantly influenced residents' sense of community, interest in community, and their feelings about leaving the community.

While Kasarda and Janowitz (1974) were not concerned with the application of systemic theory to crime and delinquency, it is certainly relevant. Their research essentially sets the foundation for systemic social disorganization approaches to the study of crime and delinquency (e.g., Bursik and Grasmick 1993 and Sampson et al. 1999). Although Kasarda and Janowitz do not discuss social disorganization per se, in fact they limit their discussion to community "organization," their conceptualization of community, their focus on informal and formal social control and its impact on community attachment, and their acknowledgment that communities can exhibit the conditions of social problems, suggests that local communities experience "disorganization," but that this can be mediated by such factors as strong social bonds and interaction among residents.

RONCEK'S STUDY OF CRIME AT THE BLOCK LEVEL

Roncek (1981) was concerned with the differential spatial distribution of crime within cities. He hypothesized that structural characteristics of different places within a city account for the differences in crime rates between these areas. To test this hypothesis, he studied crime patterns in 1970 within two cities, Cleveland and San Diego, using city blocks as the unit of analysis. The dependent variables were the number of property crimes (burglaries, grand thefts, and auto thefts) and violent crimes (murders, rapes, assaults, and robberies) known to police, measured as the number of each crime

occurring on each block. Roncek examined the effects of three sets of independent variables on the number of property and violent crimes: social composition, residential environment, and vulnerability of blocks. Social composition was measured with four variables: percentage of primary individuals (representing lack of family households), value of owned housing, percentage Black, and percentage Spanish. Roncek included five variables that tap residential environment: population density (persons per acre), overcrowding (percentage of households with more than 1 person per room), block population, percentage of units containing ten or more units within the unit structure, and population potential (persons per mile). Block vulnerability consisted of two variables: percentage over age 60 and vacancy rates.

Roncek (1981) used multiple regression techniques to test his hypothesis. He found that family status was associated with both property and violent crimes in both Cleveland and San Diego. In support of his model as well as the traditional social disorganization model, Roncek found that all of the control variables (percentage Black, percentage Spanish, percentage over age 60 and vacancy rates) were significantly related to property crime and violent crime in Cleveland (with the exception of percentage over age 60, which was not significantly associated with violent crimes). For San Diego, both crime types were positively related to percentage Black, which supports both his model and the traditional disorganization model. Violent crime was negatively associated with percentage Spanish and positively related to vacancy rate, which also provides support for social disorganization theory. As expected by Roncek, and in support of social disorganization theory, property crime was significantly and negatively associated with

percentage over age 60, and percentage overcrowded was significantly and positively associated only with violent crimes in Cleveland. Population density was significant and negatively related to property and violent crime for Cleveland, but only property crime in San Diego. Block population was significant and positively related to both crime types for both cities, as was the percentage of those living in apartments and population potential.

Although Roncek (1981) did not discuss, nor did he attempt to test, social disorganization theory in any form, his study provides important insight into the differences that exist at the city block level of analysis, as well as providing support for social disorganization theory. For example, the finding that block population and the percentage of residents living in apartments are important predictors of both types of crime suggests the need for more research at the block level of analysis. Much of the existing literature tests these variables in the context of larger units of analysis, such as census tracts or SMSAs. However, it is reasonable to suggest that aggregating such structural conditions to these larger units of analysis may result in the loss of significant social interaction effects among residents of these areas and the impact the structural conditions have on local residents. Roncek himself suggests this possibility.

> The results are consistent with linking the features of residential areas to crime through anonymity. Each of the variables which is central to the research hypotheses can affect the amount and type of contact in residential areas. For example, the activity patterns of primary individuals and the lack of children in these households are likely to decrease residents' knowledge of, and interaction with, and concern for each other as the concentration of these households in areas increases low levels of knowledge, interaction, and affect are consistent with the anonymity interpretation (Roncek 1981:88).

Again, Roncek's research suggests the need for further analysis that tests the effect that these various structural conditions have on the existing relationships between individuals, and how this in turn affects the distribution of crime at the block level.

Overall, Roncek's (1981) study of Cleveland and San Diego provides significant support for the traditional social disorganization theory. Additionally, it provides evidence that the theory can be applied to smaller units of analysis, such as city blocks, rather than larger community areas within a city.

SAMPSON'S STUDY OF NEIGHBORHOOD VICTIMIZATION RATES

Sampson (1985) studied the effects of neighborhood structural characteristics on victimization rates. His primary purpose in this research was to fill a gap in the literature. According to Sampson (1985), previous literature had neglected certain dimensions of community structure, as most studies tended to focus on racial and economic factors. His model included additional indicators of relative deprivation, family disorganization as a measure of community integration, and criminal opportunity measures. The specific independent variables were unemployment, income inequality, racial composition, residential mobility, structural density, and family structure. Unemployment was measured as the percentage of population over age 15 who were unemployed, and the indicator of income inequality was the Gini Index of income concentration. Racial composition was measured as the percentage of the population that was African American. The measure of residential mobility was the percentage of persons 5 years of age and older living in different homes from five years ago. Structural density is

measured as the percentage of units within structures containing 5 or more units. Family structure was a combined measure of the percentage of female-headed households and percentage divorced or separated. Dependent variables were personal theft, measured by robbery and larceny with contact, and violence, measured by rape, aggravated assault, and simple assault.

The data used in this study were derived from the National Crime Surveys (NCS) from 1973 to 1975. The NCS is a random household telephone survey of approximately 136,000 individuals living in roughly 60,000 households. Sampson's final sample consisted of about 400,000 respondents. In order to approximate the context of a "neighborhood," he used 1970 Census data as a reference to combine households with similar neighborhood characteristics. Each neighborhood characteristic is categorized as low, medium, or high.

Using three separate analysis of variance (un-weighted, case-weighted, and cell-weighted) procedures, Sampson (1985) estimated the effects of the neighborhood characteristics on victimization rates. In the first main effects model, as expected, percentage African American, residential mobility, and structural density were all significantly and positively related to personal victimization. However, contrary to theoretical expectations, economic inequality was not significant in any of the three analysis of variance models. Using ratios, he computed the pattern of effects of each variable on the dependent variable. Again, income inequality had almost no effect on victimization rates. Sampson found that the main effects of both poverty and income inequality on victimization rates were weak.

Sampson (1985) also estimated the effects of racial composition on victimization rates. He found that racial composition, independent of income inequality, affects victimization. However, it had less of an effect than structural density and mobility. In addition, in support of social disorganization theory, female-headed families, structural density, and residential mobility all had significant and positive effects on personal victimization, with theft victimization being most influenced by female-headed families and structural density, while violent crime victimization was influenced most strongly by residential mobility.

Sampson's (1985) results clearly indicate that the relationship between neighborhood structural characteristics and crime rates are complex, and that further research is needed to test the effects of structural characteristics on victimization and crime rates. While the results show support for social disorganization theory in the sense that the traditional disorganization variables of racial/ethnic heterogeneity and residential mobility significantly affect victimization rates, other results are inconsistent with previous research. He does not find support for relative deprivation variables, which contradicts the findings of Shaw and McKay's (1942) research. His addition of structural density and family structure indicates a need for future tests of social disorganization theory that incorporate some comparable measures of each concept.

SAMPSON AND GROVES: A TEST OF SOCIAL DISORGANIZATION THEORY

Sampson and Groves (1989) extended and tested Shaw and McKay's (1942) social disorganization theory. Their model included the original disorganization variables

of socioeconomic status, residential stability, ethnic heterogeneity, and family disruption. They included Shaw and McKay's fundamental intervening variable of a community's ability to supervise youth groups in the model, although they added additional variables that expanded the scope and direction of social disorganization theory. Specifically, they applied Kasarda and Janowitz's (1974) systemic theory of community attachment to the explanation of crime and delinquency within a community. Sampson and Groves (1989) hypothesized that informal local friendship networks and residents' formal participation in local voluntary organizations, committees, clubs, and other activities, are indicators of a community's social organization. This implies that measures of disorganization (e.g., residential stability, socioeconomic status, etc.) impact the ability of these intervening variables to exert informal social control, resulting in higher crime and delinquency rates. Sampson and Groves hypothesized that in communities where friendship networks are small or nonexistent, and where participation is low, victimization and delinquency rates are likely to be high (Sampson and Groves 1989).

To test this extension of social disorganization theory, they surveyed residents in 238 out of 552 officially defined community areas (parlimentary constituencies) in England and Wales in 1982. They selected 60 addresses within each of these community areas. With an 80% response rate, their final sample consisted of 10,905 residents. To measure the extent of local friendship networks, they asked respondents to indicate the number of friends they had within a 15-minute walk from their home. Organizational participation was measured by asking respondents about the types of leisure activities they engaged in each night of the week. Supervision of teenage gangs was measured by

asking residents about typical youth group behavior in the neighborhood and the extent to which youth groups were seen in public and made "nuisances" of themselves.

The exogenous variables in the model were also constructed from survey data. Socioeconomic status was constructed by summing z-scores for education level, occupation, and income, and residential stability was measured by the extent to which residents were raised within a 15 minute walk of their current home. To assess ethnic heterogeneity, they asked respondents to choose one of five categories: white, West Indian/African Black, Pakistani/ Bangladeshi Indian, other nonwhite, and mixed. Then they calculated the index of diversity, $D = 1 - \Sigma p_i^2$, where p_i is the proportion of group I in the neighborhood. The index takes a value of 0 when all residents fall into a single racial/ethnic group and a maximum value of 0.80 (i.e., (k-1)/k where k is the number of racial/ethnic categories) when residents are evenly distributed across the five categories. Family disruption was constructed by summing the z-scores for the proportion of respondents who indicated they were divorced and separated and the percentage who indicated they were single parents with children. To assess the affect of urbanization, a dummy variable coded one was assigned to all communities located within a central-city.

To assess the impact of community structure and social disorganization on crime, as measured by rates of victimization, Sampson and Groves (1989) constructed three separate measures of victimization: mugging and street robbery, stranger violence (rape and assault), and total victimization. Sampson and Groves overcame one important criticism of social disorganization theory by constructing all three measures of victimization from self-report data on criminal offending and victimization, rather than

relying on problematic official crime statistics. The mugging/street robbery variable was based on respondents' perception of how prevalent these two crimes were in their community area. Stranger violence and total victimization were based on respondents' self-report of their being victims of rape and assault, as well as all other types of victimization.

Sampson and Groves (1989) began by testing the independent effects of the exogenous variables on the intervening variables. Based on weighted least squares regression analysis, Sampson and Groves (1989) found that, as expected, both residential stability and urbanization affected local friendship ties. Residential stability had a positive effect, while urbanization had a smaller, negative impact on local friendship networks. In support of social disorganization theory, Sampson and Groves found that all exogenous variables were significantly related to unsupervised peer groups, with socioeconomic status having the strongest effect as well as being the only variable having a negative effect. However, residential stability was significant only at $p<0.10$. The only variable associated with organizational participation was socioeconomic status, which had a modest, positive effect.

Consistent with Shaw and McKay's (1942) findings, Sampson and Groves (1989) found that unsupervised peer groups had the most powerful and the most consistent effect on all three measures of victimization. Neither socioeconomic status nor residential stability had significant direct effects on victimization. However, the total effect of socioeconomic status was quite substantial. Sampson and Groves (1989:789) found that "80% of the total effect of SES on mugging and street robbery is mediated by the

indicator of unsupervised teenage youth." The effect of residential stability, though, was largely mediated by local social networks (Sampson and Groves 1989). Additionally, local friendship networks had a moderate negative effect on both mugging/street robbery and total victimization, and organizational participation had a small negative effect on all three victimization variables. Sampson and Groves (1989:799) concluded that:

> [C]ommunities characterized by sparse friendship networks, unsupervised teenage peer groups, and low organizational participation had disproportionately high rates of crime and delinquency. Moreover, variations in these dimensions of community social disorganization were shown to mediate in large part the effects of community structural characteristics.

The results of Sampson and Groves' (1989) study provide support for their incorporation of systemic theory into social disorganization theory, as well as the overall ability of social disorganization theory to explain victimization rates. Essentially, their findings support the key elements of both systemic and social disorganization theory, such that local friendship networks and resident participation mediate the effects of social disorganization, resulting in lower victimization rates, while the presence of unsupervised peer groups has a very strong impact on victimization rates. By incorporating systemic theory into their social disorganization theory, Sampson and Groves (1989) changed the nature of the theory itself, fostering the addition of new dimensions in later research.

ROUNTREE, LAND, AND MIETHE: A TEST OF SOCIAL DISORGANIZATION IN SEATTLE

Rountree et al. (1994) tested the effects of neighborhood characteristics on interaction among local neighborhood residents, and how this in turn impacts

victimization rates. Their primary purpose was to extend previous research examining the impact of structural conditions on victimization rates by integrating the structural effects with the individual effects through the use of hierarchical linear modeling. Specifically, they were concerned with neighborhood residents' risk of victimization, influenced by both individual routine and lifestyle opportunity factors, as well as by the structural conditions characteristic of social disorganization.

Rountree et al. (1994) included three neighborhood-level variables: ethnic heterogeneity, neighborhood incivilities, and population density. Only one of the these was a traditional social disorganization variable, racial/ethnic heterogeneity. It was measured by the product of the percentage of non-white residents and the percentage of white residents, with a value of 0 representing complete homogeneity and 0.25 maximum heterogeneity. Two additional structural variables, neighborhood incivilities and population density, were also included as exogenous variables. Neighborhood incivilities, or disorder, a relatively new addition to the systemic approach to social disorganization theory, was measured by asking residents about problems occurring within four blocks of their home. An average was then computed for each of the following five problems: 1) teenagers "hanging out" on the street, 2) litter and garbage on the street, 3) abandoned houses and buildings, 4) poor street lighting, and 5) vandalism (e.g., broken windows, graffiti). Population density, which they also referred to as neighborhood density, was measured by first asking residents to indicate "the number of places available for public activity within three blocks of each respondent's home (schools, convenience stores, bars, fast food restaurants, office buildings, parks or

playgrounds, shopping malls, hotels, bus stops)" (Rountree et al. 1994:397). Then an average of these values was computed for each neighborhood and a new variable, "busy places," was created.

Rountree et al. (1994) also incorporated several individual-level variables to test the routine activities and personal lifestyle portions of their model. Besides the standard variables of age, gender, race, and family income, they also included the following variables representing criminal opportunity: home unoccupied, dangerous places, expensive goods, carried valuables, safety precautions, and living alone. Home unoccupied was measured by asking residents how many evenings in the past week their home was unoccupied at night. This variable was hypothesized to increase potential burglaries. Dangerous places, hypothesized to increase the potential for violent crime, was measured by asking residents about the number of the following activities they engaged in: 1) going to bars or nightclubs, 2) visiting public places where teenagers hang out, and 3) taking public transit. Two variables were used to predict residential burglary: family income and expensive goods. Family income was measured by asking residents to indicate the category that best fit their household income. Expensive goods was measured by the residents' ownership of expensive household items, including: portable color TV, VCR, 35 mm camera, home computer, bicycle, or motorcycle. Carry valuables, a variable hypothesized to affect violent crime, was measured by asking residents to indicate the average number of times per month they carried $50.00 or more in cash, or wore $100.00 or more in jewelry when out in public. In accordance with routine activities theory, Rountree et al. (1994) created a measure of guardianship to

predict burglary and violent victimization, which they called safety precautions. This variable was measured by asking residents about the various safety precautions they took to prevent crime including locking doors, leaving lights on, using extra locks, belonging to a crime prevention program, owning a burglar alarm, owning a dog, having neighbors watch their home, and owning a weapon. Lastly, residents were asked if they lived alone, which is a measure of lack of guardianship.

Rountree et al. (1994) included two different dependent variables to measure victimization: burglary and violent crime. Burglary was measured by asking residents if their home had been burglarized at any time during the past two years. Violent crime was measured by asking residents if they had been a victim of violent crime committed by a stranger within a four block vicinity of their home during this same time period. Violence was defined as being physically attacked or threatened, or being robbed by force.

To test this combined model integrating neighborhood characteristics with individual criminal opportunity and their impact on victimization, Rountree et al. (1994) used survey data originally collected from 5,302 adults who lived on 600 city blocks in 100 out of 121 census tracts, and who were part of a longitudinal study of crime in Seattle. Due to missing data, only 5,090 cases were included in this study. Rountree et al. (1994) first stratified the sample by census tract, then three pairs of city blocks were selected per census tract. One block in each pair had a reported burglary during 1989, while the second was adjacent to this block. Rountree et al. (1994:394) then combined

each pair of blocks to represent a neighborhood, as each pair was "contiguous and cover[ed] a small physical area," resulting in a total of 300 neighborhoods.

Rountree et al. (1994) used hierarchical linear modeling to test their hypothesized model. This technique provides the opportunity to analyze individual level data (e.g., survey responses) with neighborhood contextual data (e.g., neighborhood characteristics), taking into account the fact that individuals nested within neighborhoods will be more similar in their characteristics than those between neighborhoods, and the resulting correlated residuals. This allows us to gain a better understanding of how the larger social environment impacts individuals within that environment in a way that produces effect estimates with good statistical properties. A minimum of two levels of data are required. For Rountree et al., level-1 data are specified as the individual, or micro, level model. This level applies to the individual survey data, (age, race, gender, family income, home unoccupied, expensive goods, safety precautions, and live alone). Level-2 is the contextual level (busy places, incivilities, and ethnic heterogeneity), focusing on variation between neighborhoods.

In their initial random coefficient regression model for violent crime victimization, Rountree et al. (1994) found that, as expected, violent victimization differs between neighborhoods. They found that dangerous activity significantly and positively impacted violent crime victimization, such that an increase in dangerous activities increased one's risk of violent victimization by 43 percent. This provides support for routine activities theory. No other individual variables were statistically significant in regards to violent crime victimization. However, they also found that the effects of race

and safety precautions on violent crime victimization varied across neighborhoods, leading to the possibility that neighborhood characteristics may impact these relationships.

Next Rountree et al. (1994) examined burglary victimization. They found that an individual's risk of being burglarized varied significantly across neighborhoods. They found that age, race, and safety precautions significantly and negatively affected one's risk of being burglarized, while home unoccupied, family income and expensive goods significantly and positively impacted burglary risk. As with violent victimization, the effect of two other variables, family income and expensive goods, on burglary victimization varied across neighborhoods.

Rountree et al. (1994) also found that neighborhood contextual effects impacted individuals directly as well as indirectly. They found that neighborhood density (measured as the number of busy places) and neighborhood incivilities both had significant and positive effects on violent victimization. Ethnic heterogeneity was not significantly related to violent victimization directly. However, it did have an impact on the relationship between race and violent victimization across neighborhoods. Specifically, nonwhites were twenty times more likely than whites to be victims of violent crime. However, nonwhites living in ethnically heterogeneous neighborhoods had a decreased probability of violent victimization. Busy places (population density) and incivilities also increased violent victimization risk, with busy places increasing victimization by 32 percent, and incivilities by 216 percent.

Neighborhood contextual effects also impacted burglary victimization. Specifically, incivilities and ethnic heterogeneity significantly and positively impacted mean neighborhood burglary victimization. Additionally, age, race (being nonwhite), and safety precautions were significant and negatively related to burglary victimization, while home unoccupied was positively related to burglary victimization.

Although Rountree et al. (1994) do not test the full model, their results provide support for social disorganization theory. Their results emphasize the importance of ethnic heterogeneity, as well as socioeconomic status and the "newer" concept of disorder in explaining crime victimization. Additionally, their results demonstrate the appropriateness of using hierarchical linear modeling to test the social disorganization model that links individual level data with neighborhood contextual characteristics.

One problem with the Rountree et al. (1994) study is their operational definition of "neighborhood." First, their empirical definition of a "neighborhood" consists of two adjacent city blocks. This is a relatively small geographic area to label as a neighborhood. Second, one of the blocks in the pair had to have experienced a burglary, while the other block had to border that particular block. This, too, is problematic. It means that every neighborhood has experienced victimization within a given time period. This may very well lead to an unrealistic depiction of neighborhood crime. It leaves out the possibility that a neighborhood could experience no victimization during that time frame. It essentially imposes victimization on the definition of a neighborhood, thereby leaving out the randomness of neighborhood selection. This may ultimately have influenced the results of their study. Additionally, future research on neighborhoods will

need to address the appropriate definition of neighborhoods in order to provide some standard of comparison across research studies.

BELLAIR: A TEST OF SOCIAL INTERACTION AND INFORMAL CONTROL

Bellair (1997) built on the systemic elements of social disorganization theory. He suggested that previous systemic and social disorganization research simply *assumed* that it is frequent interaction among neighborhood residents that promotes the use of informal control mechanisms. His primary concern was with testing this widely-held assumption. Specifically, Bellair suggested that frequency of interaction may be less important than the degree and type of interaction that takes place when residents get together, such that infrequent interaction, if it promotes the building of larger neighborhood networks, may be just as important as the frequency with which neighbors interact. To test this hypothesis, he constructed ten alternative measures of social interaction. The first set consisted of simple percentages of different interaction types: every day, once a week, several times a month, once a month, and once a year. The second set consisted of cumulative percentages for the same five interaction types. Additionally, he constructed a variable representing each neighborhood and the mean level of interaction within that neighborhood. Burglary, motor vehicle theft, and robbery rates were regressed on these eleven measures of social interaction. These three dependent variables were constructed from the victimization survey. In regards to exogenous variables, Bellair followed the traditional disorganization model and included measures of socioeconomic status, racial/ethnic heterogeneity, and residential stability. The socioeconomic status scale was

constructed from a principal components analysis which included a weighted combination of the percentage with earnings below $5,000, the percentage of college educated individuals, and median family income. Heterogeneity was divided into categories of white, black, Latino, Native American, and other. Residential stability was measured by the mean number of years the respondent had lived in their current neighborhood. Additionally, he followed recent research and added a measure of family disruption (measured by the percentage of single-parent households), and youth concentration (percentage aged 15-24). He also included dummy variables for regional location of the neighborhood (South, Midwest, West, and East as the reference category).

To test the importance of degree and frequency of interaction, Bellair used data from a 1977 Police Services Study, originally designed to assess residents' satisfaction with police services in their neighborhoods. This study examined 60 urban neighborhoods from three SMSAs representing medium-sized cities. Neighborhoods in this study represented police beats, averaging about two square miles containing an average population of 9,500 residents per neighborhood. Households within these neighborhoods were randomly selected from the telephone directory, resulting in a total sample of 12,019 households, with an average sample of 200 households per neighborhood.

Bellair (1997) regressed two measures of each crime type on the exogenous variables. In the first equation, the dependent variables were regressed on the exogenous variables only. In the second equation, social interaction also was included in the analysis. Additionally, he tested the relationships between the exogenous variables and

the social interaction variable itself. Results of the regression analyses supported some of the indicators of social disorganization as well as for the important mediating effect of social interaction. Social interaction had a significant, negative effect on all three crime types. Socioeconomic status was weakly and negatively related to motor vehicle theft and robbery. However, when social interaction was controlled, socioeconomic status was no longer significant. Heterogeneity was significantly and positively related to burglary before controlling for social interaction, but it failed to be significant once social interaction was controlled. The effect of racial/ethnic heterogeneity on motor vehicle theft was negative and significant only after controlling for social interaction. Family had a positive and significant effect on burglary which dropped to nonsignificance once the effects of social interaction were controlled. The concentration of youth in the neighborhood was significant and positively related to burglary, both before and after controlling for social interaction.

Bellair's (1997) results suggest that how often residents interact with each other is more important for some types of crime than others. The percentage of those who got together once a week had a significant negative effect on burglary, while the percentage of residents who got together once a month had a negative effect on motor vehicle theft. None of the individual percentage social interaction measures were significant for robbery. However, each of the cumulative percentage measures was significant and negative for robbery. None of the cumulative measures were significant for motor vehicle theft, although for burglary the cumulative percentages related to interaction once

a month and once a year or more were both significant and negative. Mean level of social interaction was only significantly related to robbery.

Bellair's (1997) findings provide additional support for social disorganization theory. The results indicate that many of the exogenous variables were significantly related to higher crime rates. Additionally, the study shows the important mediating effects of social interaction on crime rates. Although Bellair's findings counter the assumption within social disorganization theory that it is frequent interaction which increases residents' attachment to each other such that they are willing to exercise informal social controls, the importance of the type of interaction itself on crime rates is supported. Interaction, even if infrequent, is likely to increase the social networks within the neighborhood, leading to stronger exercise of informal controls, resulting in lower crime and delinquency rates (Bellair 1997). Even infrequent interaction is likely to raise residents' awareness of each other and provide opportunities to establish recognition of each other as "neighbors."

TAYLOR: A TEST OF DISORDER, FEAR OF CRIME, AND INFORMAL CONTROL

Taylor (1997) linked the concepts of disorder and fear of crime with the parochial level of informal control, as defined by Bursik and Grasmick (1993), in an attempt to further understand how local social control processes work within a neighborhood. Whereas Bursik and Grasmick define parochial control as control that exists at the level of local neighborhood networks and local institutions, Taylor believed that the parochial level of control needs further differentiation. Drawing on environmental and social

psychological concepts, he suggested that the "street block" is a separate behavioral setting within the neighborhood that acts as a mediating construct, such that differences in both perceptions of disorder and social control exist between the various street blocks within a single neighborhood. According to Taylor (1997:120-121), a street block:

> is physically bounded by the fronts of houses, or the alleys or fences behind the houses, and cross-streets. What happens one block over or behind the street block has much less impact on the block than do activities occurring right there.

Individuals living on the same street block are more likely to know each other than they are to know individuals living on the other side of the neighborhood. There are expected role obligations (e.g., neighborliness) and expected normative behavior at this level, and each street block has its own specific pattern of activity, which evolves over time (Taylor 1997:120). Street blocks, although separate units, are also connected to the broader neighborhood context. As a mediating construct, "the street block helps us connect individuals and face-to-face groups with broader neighborhood conditions and changes" (Taylor 1997:115). Street blocks may provide a reference setting for neighborhood residents in regards to disorder, fear of crime, and perceptions of criminal and delinquent activity within the broader neighborhood context.

Taylor (1997) used data from a 1982 telephone survey of 870 Minneapolis-St. Paul residents who lived close to 24 small commercial centers. Residents were asked questions on territorial cognition across three types of territory (on the block, down the block, and in commercial areas). The primary exogenous variable was a measure of neighborhood stability as being high, medium, or low. Respondents were placed in one of these categories based on the percentage of residential unit turnover in their

neighborhood between 1976 and 1978. Territorial cognition was measured by three dimensions, each with two parts. The first dimension was responsibility and consisted of residents' perceptions of "having a lot of say about what goes on [in each of the three territories] and feeling personally responsible for what goes on." The second dimension, social recognition, consisted of knowledge of outsiders and "people who belong." Lastly, control-related problems consisted of measures related to street hassles and keeping people out of the neighborhood. Taylor analyzed the dimension of responsibility within the context of territory type and by length of residence in the neighborhood. He found that individuals felt more responsible and that they have more say in what happens in the territory near their home, and the least amount of responsibility and say in what happens in the commercial centers. Additionally, residents who had lived in the neighborhood for four years or more generally felt they had more say as well as more responsibility. As length of residence increased, residents generally had less of a feeling of responsibility for what happens in the commercial centers. Taylor found that as neighborhood stability decreased, residents' feelings of responsibility decreased, as did their ability to differentiate between strangers and those who belong. Overall, this supports the social disorganization model, emphasizing the importance of residential stability and its impact on residents' use of informal controls.

While Taylor (1997) was not directly testing systemic measures of social disorganization, he did add to the concept of parochial control. The fact that residents conceptualized their street block as different from other parts of the neighborhood suggests that variation in informal control exists across spatial locations within the

neighborhood. This suggests that future studies which incorporate Bursik and Grasmick's (1993) three levels of informal control need to incorporate the concept of street block as an important mediator of neighborhood structural conditions, which may in turn impact residents' perceptions and use of informal control mechanisms.

SAMPSON, RAUDENBUSH AND EARLS: A TEST OF SYSTEMIC SOCIAL DISORGANIZATION THEORY

Sampson et al. (1997) introduced the concept of collective efficacy and included it in their social disorganization model. They defined collective efficacy as the "social cohesion among neighbors combined with their willingness to intervene on behalf of the common good" (Sampson et al. 1997:918). They were largely concerned with identifying the factors that influence the degree of collective efficacy in a neighborhood, as well as how it in turn affects crime rates in these areas. They suggested that the exogenous variables associated with social disorganization impact the ability of collective efficacy to develop within a neighborhood. Lack of collective efficacy means that neighbors have few connections with each other, which ultimately impacts residents' willingness to utilize informal social controls when necessary to prevent crime and delinquency from occurring within the neighborhood. When the use of informal social controls deteriorates, it is more likely that crime and delinquency will increase.

Sampson et al. (1997) used data from the Project on Human Development in Chicago Neighborhoods (PHDCN), which included interviews with neighborhood residents as well as information from the 1990 census. Sampson et al. (1997) combined 847 census tracts in Chicago to create 343 neighborhood clusters that are designed to be

representative of neighborhoods. Each cluster represents approximately 8,000 people (Sampson et al. 1997).

Using the 1990 census data, Sampson et al. (1997) used factor analysis (alpha extraction with oblique rotation) to develop three measures of social disorganization: concentrated disadvantage, immigrant concentration, and residential stability. Concentrated disadvantage included the percentage of the population living below the poverty line, the percentage receiving public assistance, the percentage female-headed families, the percentage unemployed, the percentage under age 18, and the percentage Black. Immigrant concentration included the percentage Latino and the percentage foreign-born, while residential stability was measured by the percentage living in the same house as in 1985 and the percentage owner-occupied.

Face-to-face interviews were conducted with 8,782 Chicago residents in their homes from the 343 neighborhood clusters included in the study. In addition to basic demographic characteristics (age, race, sex, marital status, mobility, years of residency in the neighborhood, and socioeconomic status), these interviews yielded data on three primary variables: informal social control, social cohesion and trust, and violence. To measure the mediating variable of informal social control, Sampson et al. (1997) used several five-point Likert scale items. Residents were asked how likely they believed their neighbors could be counted on to intervene in such situations as children hanging out on the street while skipping school, children engaged in acts of graffiti, children being disrespectful, a fight in front of their house, and the threat of budget cuts to their local fire station. These items were aggregated to the neighborhood cluster level.

"Social cohesion and trust" was measured by five related questions, based on a five point scale of agreement. Residents were asked how willing people in the neighborhood were to help their neighbors, how strongly they believed the neighborhood was close-knit, how strongly they believed their neighbors could be trusted, if the people in their neighborhood generally got along with each other, and how strongly they agreed that neighborhood residents do not share the same values. These items were aggregated to the neighborhood cluster level.

In their initial analysis, Sampson et al. (1997) found that the informal social control and social cohesion and trust measures were strongly related ®=0.80), suggesting that the scales tapped the same latent construct. Therefore, they combined the two measures and labeled the resulting variable "collective efficacy."

Lastly, the dependent variable, violence, was measured in three ways. First, residents were asked to recount how often five specific types of crimes (a fight with a weapon, a violent argument between neighbors, a gang fight, robbery or mugging, and sexual assault or rape) had occurred in their neighborhood within the past 6 months. Second, residents were asked if they had ever been victims of violence during the time they had lived in the neighborhood. Finally, they compared the information obtained from the survey with officially recorded incidents of homicide. The homicide data were aggregated to the level of the neighborhood cluster.

To test their hypothesized model, Sampson et al. (1997) utilized hierarchical linear modeling to compare variations within individuals, variation between individuals within neighborhoods, and variation across neighborhoods. Individual-level variables

included: sex, marital status (married, separated/divorced, single), homeowner, Latino, Black, mobility, age, years in the neighborhood, and socioeconomic status. Neighborhood-level predictors included concentrated disadvantage, immigrant concentration, and residential stability.

As expected, and in support of the systemic model, Sampson et al. (1997) found that differences in collective efficacy existed between neighborhoods. Of the total variation in collective efficacy, 21% was between neighborhoods. As expected, collective efficacy was negatively affected by high concentrated disadvantage and immigrant concentration, and was positively associated with high residential stability. Collective efficacy was more likely to be present in neighborhoods where there was less movement of residents in and out of the neighborhood. Friendships and recognition of neighbors was more likely to develop and foster a sense of common unity, making it much more likely that residents would utilize informal social controls. Together, these three variables explained 70.3 percent of the variation in collective efficacy between neighborhoods.

Sampson et al. (1997) also found, as expected, that individual characteristics affected perceptions of collective efficacy. Socioeconomic status, age, and home ownership were positively associated with collective efficacy, while residential mobility negatively impacted collective efficacy. However, gender, ethnicity, marital status, and length of residency in the neighborhood did not have statistically significant effects on collective efficacy. Taken together, these variables explain 3.2 percent of the variation within neighborhoods.

Sampson et al. (1997) also tested the influence of both individual characteristics and collective efficacy on the perception of violence in the neighborhood. They found that those who were separated or divorced, were white or Black (but not Latino), were younger, and those who had lived in the neighborhood longer reported more violence being present in the neighborhood. Consistent with their theory, at the neighborhood level, they found that higher levels of violence were reported in neighborhoods with higher concentrated disadvantage and immigrant concentration, while residential stability was negatively associated with reported violence. When collective efficacy was added to the model at the neighborhood level, Sampson et al. (1997) found that it had a strong negative effect on levels of violence. Additionally, the presence of collective efficacy appears to mediate the factors associated with neighborhood social disorganization and violence. For example, while concentrated disadvantage and residential stability were still statistically significant, they had less of an impact than before controlling for collective efficacy. Immigrant concentration, however, was no longer statistically significant once collective efficacy was added to the model. Overall, the model explained 77.8 percent of the variation in perceived violence between neighborhoods.

Similar results were found when victimization data gathered from the interviews was analyzed. Concentrated disadvantage and immigrant concentration were positively and significantly related to reported victimization, while residential stability was negatively related to reported victimization. However, residential stability was only significant at the $p=0.05$ level. When collective efficacy was added to the model, concentrated disadvantage and residential stability were no longer statistically significant.

Immigrant concentration was still positive and significant, but the impact was weaker. Collective efficacy was negatively related to reported victimization. Overall the model accounted for 44.4 percent of the variation between neighborhoods.

The last analysis conducted by Sampson et al. (1997) was in relation to the objective homicide measure that was aggregated to the level of neighborhood cluster. The purpose of this analysis was to provide an assessment of the model with data that were not dependent on the subjective nature of the individual surveys. Sampson et al. found that concentrated disadvantage and residential stability were both positively related to homicide, although residential stability was only weakly and positively related. Immigrant concentration was not significantly related to homicide. Collective efficacy was negatively related to the homicide variable, and its presence mediated the effects of concentrated disadvantage. The model explained 61.7 percent of the variation in homicides across neighborhoods.

The research of Sampson and his colleagues provides support for their hypothesized model. However, several of the measures they used are not consistent with Shaw and McKay's (1942) original social disorganization theory, and Bursik and Grasmick's (1993) systemic elaboration of the theory. First, in their index of socioeconomic status ("collective disadvantage"), they used several indicators that have been used in past research (poverty, unemployment, and public assistance) along with several variables that have been used to tap other concepts within social disorganization theory–percentage of female headed families that others have used to measure family disruption (e.g., Bellair 1997), percentage Black which served as a measure of racial-

ethnic heterogeneity in many studies (e.g., Sampson 1985), and percentage under 18 which has been used to tap youth concentration in past research (e.g., Bellair 1997). Thus, Sampson et al.'s (1997) measure of concentrated disadvantage seriously confounds concepts that are viewed as distinct within social disorganization theory.

Second, Sampson and his colleagues used a measure of immigration concentration–a combination of percentage foreign born and percentage Hispanic–in place of racial-ethnic heterogeneity. Such a measure is inconsistent with systemic social disorganization theory which posits that neighborhoods that contain a mixture of racial/ethnic groups will have lower social cohesion and trust, and hence, less of an ability to exercise informal social control. A more consistent measure would assess the degree of group heterogeneity within neighborhoods, not merely the percentage of foreign born and Hispanics.

Third, Sampson et al.'s (1997) measure of collective efficacy is problematic. This measure combined indicators of two distinct concepts–social cohesion and trust, and informal social control– in order to "create a more parsimonious and readily interpretable measure of 'collective efficacy' with strong theoretical connections to disorder reduction," based on a zero-order correlation of 0.80 between measures of the two concepts. There are two problems with this process. First, a correlation of .80 indicates that the measures of the two concepts share 64 percent of their variation in common, while 36 percent of the variation is unique. Bursik and Grasmick's (1993) systemic social disorganization theory suggests that the concepts of social cohesion and trust, and informal control, should be positively and significantly correlated with one another, but

they are distinct concepts. The existence of high levels of social cohesion and trust within a neighborhood provides the *potential* for the community to *exercise* informal control over its members, however it does not necessitate such action. A finding of a correlation of 0.80 between measures of the two concepts is consistent with this theoretical argument. Hence, contrary to the claims of Sampson and his colleagues, such a finding establishes discriminant validity between the two measures, not that they are tapping the same concept. Additionally, by combining these two concepts, we lose the distinction of the various levels of informal control as described by Bursik and Grasmick (1993). If we keep social cohesion and trust separate from informal social control, we will be better able to determine the extent to which social cohesion impacts informal control at the intimate familial level, the broader neighborhood level, and the public level.

VEYSEY AND MESSNER: A REANALYSIS OF SAMPSON AND GROVES

Veysey and Messner (1999) reanalyzed Sampson and Groves's (1989) study of 238 community areas in England and Wales. They used all of the same exogenous and intervening variables; however, the only dependent variable they used was the total victimization rate. The key difference lies in the techniques of analysis. Whereas Sampson and Groves used weighted least squares regression analysis, Veysey and Messner used structural equation modeling with maximum likelihood estimation to analyze the data. Their primary purpose in reanalyzing the data was to take advantage of new structural equation modeling techniques to provide a more detailed analysis of Sampson and Groves's (1989) test of social disorganization theory.

Veysey and Messner (1999) first compared the unstandardized coefficients between Sampson and Groves's (1989) weighted least squares model and their structural equation model. They found that although the structural equation model did not fit the data well, with a goodness of fit index (GFI) equal to 0.733 and an adjusted goodness of fit index (AGFI) of 0.571, there was little difference in terms of the unstandardized coefficients between their model and Sampson and Groves' baseline model. Next, Veysey and Messner tested the effects of the exogenous variables on crime, both including and excluding the intervening variables. They found that when the intervening variables [local friendship networks, unsupervised peer groups, and organization participation] were added to the model, socioeconomic status and ethnic heterogeneity were no longer significant, and the effects of family disruption and urbanization were reduced. Residential stability continued to be nonsignificant. Additionally, they found that all three intervening variables were statistically significant. They concluded that "these data do, in fact, confirm Sampson and Grove's (1989) argument regarding the important mediating effect of social disorganization variables on crime" (Veysey and Messner 1999:165).

Veysey and Messner (1999) then compared a structural equation model from Sampson and Groves's integrated theory with a structural equation model representing their version of the social disorganization model. Essentially, Veysey and Messner added direct paths from each of the five exogenous variables to the dependent variable, crime. The resulting AGFI increases from 0.856 for Sampson and Groves's (1989) integrated model to 0.939 for Veysey and Messner's final model. This model, incorporating both

direct and indirect effects, better fit the data than Sampson and Groves' direct effects model which had an AGFI of 0.733. They found that the variable with the strongest direct effect on crime is the measure of unsupervised peer groups, followed by family disruption and urbanization. In addition, they concluded that most of the indirect paths in the model were influenced by unsupervised peer groups. Moderate total effects on crime were found for all of the variables in the model, with the exception of residential stability which was not statistically significant.

Veysey and Messner (1999:170) concluded that their study lends partial support for Sampson and Grove's (1989) findings.

> The magnitude of the indirect effects reveals that a portion of the variance in crime accounted for by the exogenous variables can be attributed to the mediators [and that] the indicators of social disorganization do not mediate the effects of urbanization and family disruption, as demonstrated by the large direct effects of these variables on the crime rate.

Essentially, Veysey and Messner are arguing that not enough attention is given to the direct effects of the exogenous variables on the total variation in the crime rate, and that social disorganization is not a single construct that fully intervenes and mediates the effects of the exogenous variables. As such, it is clear that more research is needed that takes into account the complexity of the theory by focusing on alternative intervening variables that affect crime and victimization rates, but which are also influenced by structural characteristics.

SAMPSON AND RAUDENBUSH: A TEST OF DISORDER, COLLECTIVE EFFICACY AND CRIME

Using Sampson et al.'s (1997) concept of collective efficacy, Sampson and Raudenbush (1999) developed a theory linking collective efficacy and the presence and perception of public disorder in the context of neighborhood structures. Their objective was to test the effects of neighborhood collective efficacy on the presence of social and physical disorder in the community, and the corresponding association with crime rates. They suggested that the structural characteristics of the neighborhood impact the presence of disorder as well as local residents' perceptions of the extent to which disorder existed within their neighborhood. They hypothesized that collective efficacy reduces both, as collective efficacy mediates the forces that produce them (Sampson and Raudenbush 1999).

Sampson and Raudenbush (1999) used data from the Project on Human Development in Chicago Neighborhoods (PHDCN). Specifically, they sampled 80 neighborhood clusters from the 343 clusters that Sampson et al. (1997) developed from the PHDCN. However, the units analyzed by Sampson and Raudenbush (1999) were the 196 census tracts within the sample of 80 neighborhood clusters. They relied on several different data sources: systematic social observation to assess disorder, census data (at the tract level) to assess structural context, survey data to assess the extent of collective efficacy in the neighborhood and perceptions of disorder, and official police department data to assess the crime rate.

To determine the actual presence of disorder in the neighborhood, they systematically videotaped 2300 street segments in 196 census tracts in Chicago between the hours of 7:00am and 7:00pm. Each segment was then coded for the presence of various physical and social disorder indicators. These data were linked to individual level survey data measuring the perception of disorder and the presence of collective efficacy. By systematically collecting observable disorder data, they were able to assess how residents' perceptions of disorder are mediated by the presence of collective efficacy among neighbors.

Sampson and Raudenbush (1999) incorporated measures of both physical and social disorder in their model. The actual presence of physical disorder was measured as a dichotomous variable (either present or absent), and specific behaviors included the observed presence of cigarettes/cigars in the street, garbage or litter on the street/sidewalk, graffiti painted over, gang graffiti, abandoned cars, condoms on the sidewalk, needles/syringes on the sidewalk, and political message graffiti. The presence of social disorder, also measured as a dichotomous variable, included the following items: adults loitering or congregating, drinking alcohol in public, peer group with gang indicators, public intoxication, adults fighting or arguing in a hostile manner, selling drugs, and prostitutes on the street. Additionally, perceptions of disorder were measured by asking residents to rate on a three-point scale how much of a problem the presence of each type of social and physical disorder was in their neighborhood.

Collective efficacy was defined as "social cohesion among neighbors combined with their willingness to intervene on behalf of the common good" Sampson et al.

(1997:918). To assess the degree of collective efficacy in the neighborhood, Sampson and Raudenbush used two different constructs, social cohesion and control, from the survey data. Social cohesion was measured by asking residents to assess their relationships with others in the neighborhood (e.g. "people around here are willing to help their neighbors"). To assess "shared expectations for informal social control," residents were asked to indicate how likely they believed their neighbors could be counted to take action in different scenarios (e.g., "if children were skipping school and hanging out on the street"). These two measures were combined to create the collective efficacy variable.

Concentrated disadvantage, concentrated immigration, and residential stability were also constructed to represent "neighborhood structural differentiation." Using 1990 census tract data and factor analysis procedures, Sampson and Raudenbush (1999) created a measure of concentrated disadvantage that included poverty, public assistance, unemployment, percentage black residents, and percentage female-headed households in racially-segregated neighborhoods (but not the percentage under 18 as in the Sampson et al. [1997] study). Concentrated immigration was created from high loadings on the following dimensions: percentage Latino, percentage foreign-born, and density of children (between ages 6 and 15). Residential stability was created based on high factor loadings on two variables: the percentage of residents who had lived in the same house for at least five years and the percentage of home-ownership. Sampson and Raudenbush added two additional measures in their effort to incorporate routine activities theory into the model. They controlled for both density and land use. Density referred to the number of persons per square kilometer in the census tract, and land use was measured by the

percentage of face blocks that contained both residential and commercial activity within the census tract. The dependent variable, crime, was measured by official Chicago Police Department statistics from 1993 and 1995 on the incidence of homicide, robbery, and burglary.

Using weighted least squares regression, Sampson and Raudenbush (1999) found that residents' perceptions of both social and physical disorder was significantly correlated with the observed measures of disorder r = 0.56 and r = 0.55, respectively). They limited the remainder of their analysis to the observed measures of social and physical disorder. They found that concentrated disadvantage, immigrant concentration, mixed land use, and collective efficacy were all significantly related to both observed physical and social disorder, with the relationship with collective efficacy being negative. Collective efficacy was also significantly and negatively related to self-reported victimization (both personal violence and burglary). Mixed land use was negatively related to personal violence, while immigrant concentration was significantly and positively related to burglary. Additionally, collective efficacy was positively associated with all three of the police-recorded measures of crime (homicide, robbery, and burglary), as was concentrated disadvantage. Residential stability was only associated, positively, with homicide, while immigrant concentration was negatively associated with robbery, and population density was negatively associated with both robbery and burglary. Mixed land use was not significantly related to any of the crime measures.

Sampson and Raudenbush (1999) hypothesized that a feedback loop exists between collective efficacy, disorder, and crime. Using structural equation modeling with

maximum-likelihood estimation, they tested the possibility that while collective efficacy influences crime and disorder, it may simultaneously be negatively impacted by them as well. To test the possibility of a feedback loop, they included measures typically associated with systemic social disorganization theory, attachment and friendship/kinship networks, as well as a measure of local exchange. They operationalized local exchange as how often respondents exchanged goods, services, or information with other residents, how often they visited and had parties in each others' homes, and how often they watched each others' homes. This variable was combined with local networks to create one variable. Homicide rate was also included as a variable in the model. This measure incorporated incidents that occurred outside of the neighborhood. They found strong support for the hypothesized feedback loop between collective efficacy and the homicide rate. Additionally, collective efficacy, as an endogenous variable, was negatively associated with concentrated disadvantage, immigrant concentration, population density, and positively associated with residential stability, social ties and exchange, attachment, and prior homicide. Additionally, collective efficacy was negatively associated with observed disorder and the homicide rate. Concentrated disadvantage, immigrant concentration, and mixed land use were all significant, positive predictors of observed disorder, while residential stability, prior homicide, and collective efficacy had significant effects on the homicide rate. One of the structural equation models estimated included collective efficacy, disorder, and robbery. Collective efficacy negatively impacted observed disorder ($\beta = -0.15$). Disorder was significantly and positively related to robbery ($\beta = 0.18$), which in turn was negatively related to collective efficacy ($\beta = -0.26$).

Sampson and Raudenbush also retested the model using local ties/exchange as the only measure of collective efficacy. The new model incorporated lagged indicators of homicide victimization while controlling for perceived disorder on collective efficacy. They did not provide information on effect size. However, they concluded that "the results indicated that observed disorder increases perceived disorder, which in turn reduces collective efficacy" (Sampson and Raudenbush 1999:636). Their results suggest the need for additional research on the effects of a feedback loop in the context of the systemic social disorganization framework.

Sampson and Raudenbush (1999) used hierarchical linear modeling to test the impact of structural conditions, official crime rates, and observed disorder on local residents' perceptions of disorder and crime. The three nested levels are: 1) individual survey data within face blocks, 2) face-blocks, and 3) census tracts.

Although Sampson and Raudenbush (1999) did not estimate the associations between perceptions of disorder, collective efficacy, official crime incidents and reported victimization, their results show that the observed measures of disorder are correlated with the survey perception measures. Thus, we can reasonably expect that perceived disorder may also be correlated with these same measures. Collective efficacy appears to be a salient factor in the presence of disorder and crime within census tracts. However, their results are not clear as to whether or not collective efficacy is an indicator of disorder, or if it is a consequence of the magnitude of disorder in the neighborhood. They found that collective efficacy is a predictor of the presence of observed disorder (Sampson and Raudenbush 1999:637). The results of the structural equation model,

however, suggest that it is entirely possible that the degree of collective efficacy in a neighborhood could be a direct result of the presence of disorder and the effects that this presence has on residents' perceptions of disorder, which may increase fear of crime (Skogan 1990), reducing residents' willingness to interact with other neighborhood residents, effectively reducing collective efficacy and other informal controls as described by Bursik and Grasmick (1993).

In addition to the above problem, Sampson and Raudenbush (1999) framed their analysis in the context of "neighborhoods." However, their results are aggregated to the census tract level. It seems probable that census tracts, while constructed on the basis of homogeneity, are simply too large to adequately study residents' perceptions of disorder and crime. As Taylor (1997) suggests, residents feel more engaged in what happens on their street blocks than what happens in other areas of the neighborhood. As such, estimating collective efficacy, local friendship/kinship networks, exchange, and attachment and perceptions of disorder at the block level, rather than census tract, may lead to different conclusions.

MORENOFF, SAMPSON AND RAUDENBUSH: A TEST OF COLLECTIVE EFFICACY AND HOMICIDE

Morenoff et al. (2001) elaborated Sampson and Raudenbush's (1999) theory of collective efficacy and contributed to the literature on systemic social disorganization theory. They were specifically concerned with the impact of collective efficacy on homicide rates. Morenoff et al. (2001) included measures of social capital and informal

and institutional neighborhood processes and their impact on collective efficacy. Morenoff et al. (2001) relied on the survey data used by Sampson et al. (1997), using all 343 neighborhood clusters in their analysis. Additionally, they used and defined concentrated disadvantage and residential stability in the same manner as Sampson and Raudenbush (1999). They more clearly defined the third exogenous variable in the model which they referred to as concentrated Latino immigration. This variable included the percentage Latino residents and the percentage foreign born. Other variables included adults per child in the home and population density. They also added the index of concentration at the extremes (ICE) which they constructed by subtracting the number of families with income below the poverty line (poor families) from the number of families with income over $50,000 (affluent families). Intervening variables included collective efficacy, as defined by Sampson et al. (1997), which included residents' shared expectations for social control and social cohesion and trust. In addition to the collective efficacy variable, Morenoff et al. added organizations, voluntary associations, and social ties/networks. Organizations measured the number of organizations and programs (e.g., block group, mental health center, etc.) in the neighborhood as reported in the survey, while voluntary associations tapped the residents' involvement in these neighborhood organizations and programs. Social ties/networks was the extent to which residents have both friends and relatives living in the same neighborhood. Two measures of homicide were included in the analysis–the official homicide rate as reported by the Chicago Police Department for two three-year time periods: 1991 to 1993 and 1996 to 1998, and the homicide victimization rate based on the 1996 death-record information for Chicago.

Morenoff et al. (2001) presented a spatial typology of the relationship between homicide and collective efficacy. They found that neighborhoods with high levels of collective efficacy had low homicide rates. Additionally, neighborhoods surrounding the high collective efficacy neighborhoods also experienced lower rates of homicide.

Using OLS and maximum likelihood estimation, Morenoff et al. (2001) regressed homicide rates and homicide victimization, separately, on the exogenous and intervening variables. They found that concentrated disadvantage was significant and positively related to both homicide and homicide victimization, while the index of the concentration of extremes (ICE) and collective efficacy were consistently significant and negatively related to both homicide and homicide victimization rates. Other variables were not consistently related to homicide and homicide victimization rates. For example, residential stability was significant and positively related to homicide rates in the two OLS models, but was not significant in the maximum likelihood models. Additionally, residential stability was not significantly related to homicide victimization in the OLS or the maximum likelihood models. More importantly, the variables believed to be associated with collective efficacy (voluntary associations, organization, and kinship/friendship ties) were not significantly related to either homicide or homicide victimization rates. Morenoff et al. provided some additional analyses of these variables and their spatial relationship to homicide which are not relevant, for the most part, to this dissertation. However, it is important to note that their additional analysis of how collective efficacy was influenced by social ties and the institutional variables.

Using maximum likelihood estimation, they found, as they expected, that voluntary associations, organizations, and kinship/friendship ties were all significantly and positively related to collective efficacy, while concentrated disadvantage, index of the concentration of extremes, and population density were significantly and negatively related to collective efficacy. Concentrated immigration was also significant in all but one of the models. While the intervening variables were not independently related to homicide, they were significant predictors of the degree of collective efficacy in the neighborhood.

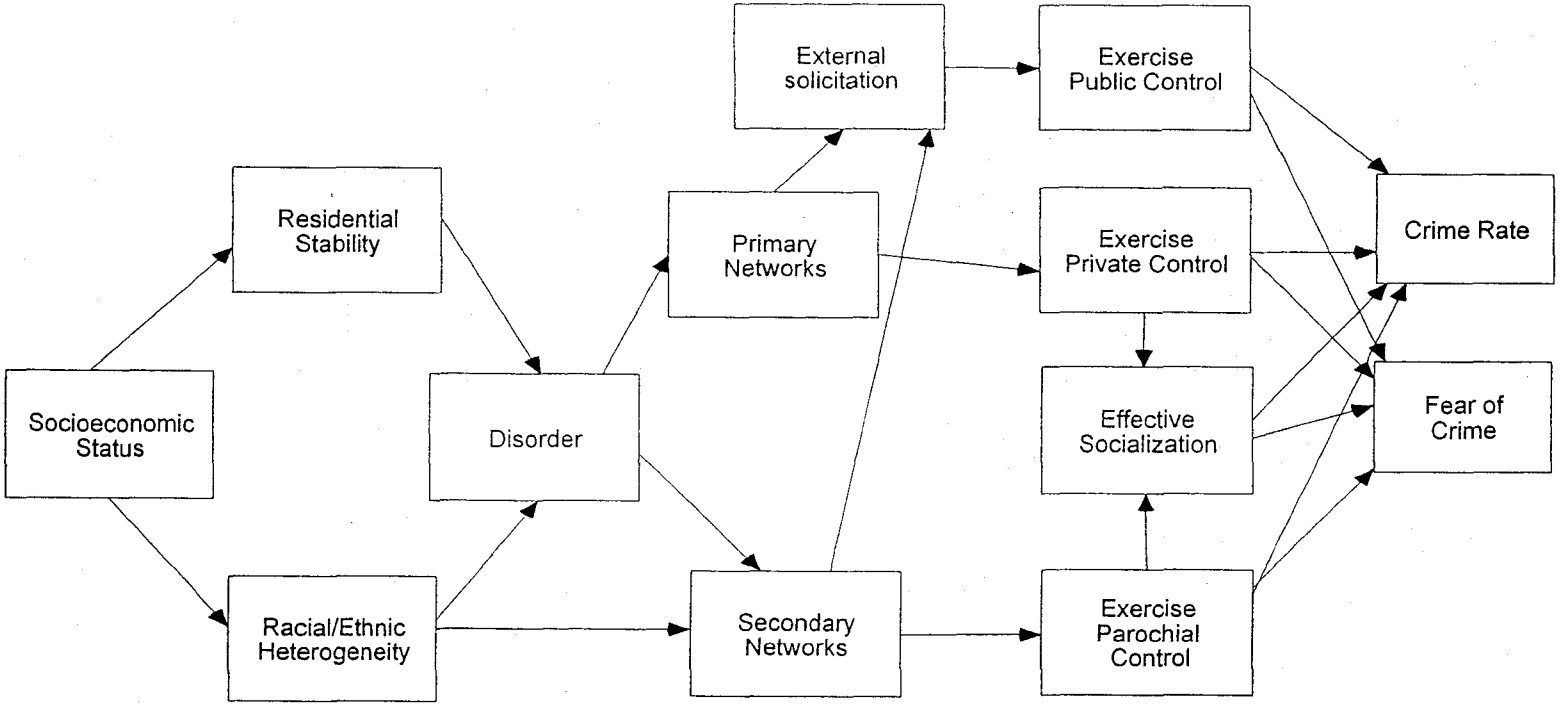
Morenoff et al.'s (2001) study provides further support for systemic social disorganization theory by establishing that existing neighborhood structural conditions affect the interaction processes occurring at the neighborhood level, and that these processes in turn influence crime in the neighborhood. Their results also suggest that further examination and specification of possible predictors of collective efficacy is needed, as is their effect on other measures of crime. Morenoff et al. limit their analysis to homicide rates, which tends to differ in motivation and situation from other violent and property crimes. Therefore, further exploration is needed to better understand the impact of collective efficacy and its predictors on crime rates at the neighborhood level. Morenoff et al.'s study also suffers from the same affliction as other studies discussed in this dissertation. That is, their conceptualization and construction of neighborhoods is problematic. The "neighborhoods clusters" they used are constructed by combining 865 census tracts into 343 neighborhoods with approximately 8,000 people each. This is still a rather large number of people to constitute a neighborhood. I suggest that systemic

social disorganization theory calls for the study of intervening social processes within smaller units of analysis. Currently, the smallest available unit is that of the census block group. The argument could be made that face blocks are in fact the smallest unit available, but face blocks may be too small to assess what is happening in the neighborhood. Face blocks exist within the context of block groups as well as the overall neighborhood, and are therefore an important component to study. However, crime statistics indicate that crime is concentrated within larger geographic boundaries than a simple face block or even a city block. Therefore, simply studying face blocks and aggregating to the neighborhood level may not adequately represent the nature and extent of the social processes existing in either the block group or the neighborhood itself.

SNELL: A TEST OF SYSTEMIC SOCIAL DISORGANIZATION THEORY

Snell (2001) tested Bursik and Grasmick's (1993) theory of informal control, incorporating elements of perceived disorder and fear of crime and their effects on informal controls, as well as their effects on crime rates as mediated by these informal controls. Figure 3.1 depicts the theoretical modifications Snell made to Bursik and Grasmick's theory. To test this theory, Snell used data collected by Taylor (1998). The study involved the use of census, crime rates, and survey data. Snell indicated that the census and crime rate data were at the block level. However, this study is plagued with inconsistencies, most important of which involves the lack of clarification on block versus neighborhood level data. For example, Snell indicated that the crime and census data were at the block level. However, he later stated that crime rate data were provided

Figure 3.1 Snell's Modification of Bursik and Grasmick's Systemic Model



Source: Adapted from Snell, Clete. 2001. *Neighborhood Structure, Crime, and Fear of Crime: Testing Bursik and Grasmick's Neighborhood Control Theory*. New York: LFB Scholarly Publishing, p 9.

by the Baltimore Police Department, for "all of Baltimore's 236 ecologically defined neighborhoods" (Snell 2001:61). Furthermore, all of the regression analyses were conducted at the neighborhood level. Additionally, there was no discussion of the size of these neighborhoods, which would at the very least provide context for the definitions of both blocks and neighborhoods. Thus, it remains unclear as to the nature of the blocks contained within this study.

The survey data were collected in two stages by Taylor (1998), first in 1981-1982 and again in 1994. The 1981-1982 study focused on neighborhood residents' responses to perceived disorder, while the 1994 survey was designed to study if and how reactions to crime had changed from 1982 to 1994. In 1981, 66 of Baltimore's 236 officially defined neighborhoods were randomly selected for further block-level analysis. Using multistage random sampling, individual households from the blocks located within these 66 neighborhoods were selected for the resident survey conducted in 1982. Lastly, using stratified sampling, 30 of the 66 neighborhoods were selected in 1994 for the follow up survey. Snell's analysis was limited to data from the 1,622 cases within the 66 neighborhoods included in the 1982 survey.

Due to missing data for some survey items, as well as to the lack of appropriate survey measures for some variables in the Taylor (1998) study, Snell (2001) was not able to test the full model shown in Figure 3.1. However, he was able to test several of the key concepts. Figure 3.2 presents Snell's research model. To test Bursik and Grasmick's (1993) theory, Snell used the three traditional independent variables associated with disorganization theory (socioeconomic status, residential stability, and racial/ethnic

heterogeneity). These variables were constructed for each of the 66 neighborhoods. All three measures were based on 1980 census data. Socioeconomic status was constructed using three variables: percentage of home ownership, percentage living at or below the poverty line, and the percentage of residents without a high school education. Residential stability was operationalized as the percentage change in the population from 1970 to 1980. Racial/ethnic heterogeneity was measured as the percentage African American.

Consistent with Bursik and Grasmick's (1993) theory, the intervening variables included measures of perceived disorder, primary relationships, secondary relationships, parochial control, and public control. Disorder was constructed by averaging residents' responses to the question of how big a problem certain elements of incivilities were in their neighborhood including vandalism, vacant housing, poor upkeep of property, people insulting other people, litter in streets, vacant lots with trash, groups of teens loitering, amount of noise, bad elements moving in, and people fighting and arguing. A measure of primary relationships was constructed by averaging residents' responses to questions related to how many relatives and how many friends they had living in their neighborhood. Secondary relationship networks was measured by averaging residents' responses to sixteen questions, all pertaining to neighborhood interaction, responsibility, and trust among residents. For example, some items were related to whether or not a resident had watched a neighbor's home while they were away, if they had borrowed something from a neighbor, or if they had a sense of community with other residents of the neighborhood.

The next two intervening variables, parochial control and public control, were created from the same set of questions, due to missing data problems. Snell (2001) indicated that due to the large percent of missing data on these related items, they were not included as part of Taylor's (1998) publically released data set, which is Snell's source of data. However, using the items that were available, he was able to use several variables measuring these two concepts. Parochial control was measured by averaging responses to survey questions related to resident perceptions of their neighbors' use of social control mechanisms. For example, one question asked residents if they believed their neighbors would intervene if they saw kids spray painting a building on their street.

Public control was defined as residents' connections with resources outside of the neighborhood. Snell (2001) indicated that as a result of data insufficiency, only one measure of public control could be analyzed–an item which asked whether or not residents believed the police would respond to three specific resident complaints: teen vandalism (spray painting), teen disturbances at night, and suspicious persons trying to break into a neighbor's home (i.e., burglary). Due to the lack of data, Snell constructed a combined parochial and public control variable that included neighbors' willingness to call police and perceptions of police response to complaints about specific teen vandalism and disturbance and attempted burglary.

The dependent variables in Snell's (2001) study were crime rates and residents' fear of crime. Crime rates were constructed separately, averaging each neighborhood's official rate of homicide, rape, robbery, assault, larceny, burglary, and auto theft. Fear of crime was measured by averaging residents' responses to how safe they felt in four

different circumstances, in either their neighborhood or their block, including being alone in the neighborhood at night, being alone during the day in the neighborhood, being alone on their block during the day, and being out alone at night on their block.

Snell (2001) tested two distinct models, one focusing on crime rates and the other focusing on fear of crime as the dependent variables. He used both ordinary least squares (OLS) regression to test both models, as well as hierarchical linear modeling (HLM) to test the fear of crime model. Snell acknowledged that victimization was not adequately measured in the survey data, which by necessity resulted in the hierarchical linear modeling being restricted to the fear of crime model. As this dissertation is only concerned with crimes rates as the dependent variable, the fear of crime results will not be discussed here.

Snell (2001) conducted a variety of multivariate analyses measuring total, indirect, and direct effects of social disorganization variables on crime rates. The first multivariate regression model included stability, socioeconomic status, and combined disorder/secondary relationships on crime rates. The results indicated that stability and socioeconomic status had moderate positive total and direct effects, while the combined disorder/secondary relationship variable had a moderate positive direct effect on crime rates. No indirect effects were statistically significant. When the model included heterogeneity and excluded socioeconomic status, residential stability and heterogeneity had significant positive total effects on crime rates, and residential stability and disorder/secondary relationships had direct positive effects on crime rates. No indirect effects were statistically significant.

There are three variables from the original Bursik and Grasmick (1993) model that are missing from Snell's (2001) study: solicitation of external resources, exercise of private control, and effective socialization. Snell indicated that these three variables were not included because the original study by Taylor (1998) did not include any appropriate questions that could be used to measure these concepts. Additionally, Snell noted a second problem with the data set. According to Bursik and Grasmick, (1993) the exogenous variable of socioeconomic composition is expected to have a direct causal effect on both residential stability and racial/ethnic heterogeneity. However, Taylor's Baltimore data do not allow for the testing of the temporal order of these variables.

Snell's (2001) study is problematic largely for the reasons mentioned earlier. It does not test the full systemic social disorganization model outlined by Bursik and Grasmick (1993), which supposedly is the intent of Snell's study. He excluded variables that are key to the overall systemic model. While he justified these omissions as a result of missing data and an incomplete data set, it does not negate the fact that these key variables are missing from the model, and hence, the model is misspecified. Thus, the problem remains that Bursik and Grasmick's full model has not been fully and adequately tested.

A final criticism of Snell's (2001) study is that he failed to use hierarchical linear modeling in the crime rates models. Instead, he aggregated the data to the neighborhood level resulting in loss of information and statistical power (Hox 2002:3). Moreover, it does not allow him to control for possible response biases and measurement error at the individual level (Raudenbush and Bryk 2002). Again, this is most likely a result of the

limitations of the data. Taylor's (1998) study did not include enough victimization and crime questions, which means Snell was forced to use official crime data, which he admits is a weakness of the study. However, he could have estimated measurement models of the intervening variables using the individual-level data and then used these results to construct the neighborhood level constructs.

Although Snell's (2001) study contains multiple problems and lacks clarity in defining the block versus the neighborhood level data, he has provided some convincing evidence of the strength and applicability of Bursik and Grasmick's (1993) systemic social disorganization theory. It is the first test of systemic social disorganization that attempts to take into account all of the most recent modifications to the theory. However, there is still a need for further testing of the theory with recent data and with data collected at smaller units of analysis, specifically the true neighborhood block and census block group levels.

CRITIQUE OF EXISTING RESEARCH

Table 3.1 provides a brief summary of the empirical research discussed in this chapter. The table outlines each study, the study site, the exogenous, intervening, and dependent variables, and whether or not hierarchical linear modeling (HLM) was used to analyze the data. The table also indicates how many indicators of each variable were used in the study in parentheses behind the variable name.

Table 3.1 indicates the various measures that have been used to test social disorganization model or, at the very least, some particular aspects of the model. One of

Table 3.1 Summary of Previous Empirical Research

Study	Study Site	Exogenous Variables	Intervening Variables	Dependent Variables	HLM
Shaw & McKay 1942	Chicago	SES Res. Mobility Heterogeneity	Informal Controls	Official Delinquency Rates	no
Kasarda & Janowitz 1974	England	Population Size Population Density Length of Residence SES Life-Cycle	Community Attitudes (3) Social Bonds (5)	Community Attachment Community Participation	no
Roncek 1981	Cleveland San Diego	Social Composition (4) Residential Environment (5) Block Vulnerability (2)	–	Official Crime (7)	no
Sampson 1985	National	Unemployment SES Heterogeneity Res. Mobility Structural Density Family Structure (2)	–	NCS Victimization (5)	no
Sampson & Groves 1989	England Wales	SES (3) Res. Moblity Heterogeneity Family Disruption (2) Urbanization	Unsupervised Teens (2) Friendship Networks Organizational Participation	Victimization Rates (6) Offending Rates (2)	no

Table 3.1– Continued

Study	Study Site	Exogenous Variables	Intervening Variables	Dependent Variables	HLM
Rountree et al. 1994	Seattle	Busy Places Ethnic Heterogeneity Neighborhood Incivilities (5) Home unoccupied Dangerous Activities (3) Expensive Goods Carried Valuables Safety Precautions Live alone Family Income	–	Victimization Rate (2)	yes
Bellair 1997	Rochester, NY St. Petersburg/ Tampa, FL St. Louis, MO	SES (3) Res. Stability Heterogeneity Family Disruption Youth Concentration Region	Interaction Type (10)	Victimization Rates (3)	no
Taylor 1997	Minneapolis/ St Paul, MN	Res. Stability Type of Territory	–	Responsibility (2) Control Problems (2) Recognition (2)	no
Sampson et al. 1997	Chicago	Res. Mobility (2) Concentrated Disadvantage (6) Immigrant Concentration (2)	Collective Efficacy (10)	Victimization Rate(6) Official Homicide Rate	yes
Sampson & Raudenbush 1999	Chicago	Concentrated Disadvantage (5) Concentrated Immigration (3) Residential Stability (2) Population Density Land Use Perceived Disorder Observed Social Disorder (7) Observed Physical Disorder (10)	Collective Efficacy (10)	Official Crime Rate (3) Victimization Rate (2)	yes

Table 3.1– Continued

Study	Study Site	Exogenous Variables	Intervening Variables	Dependent Variables	HLM
Veysey & Messner 1999	England Wales	SES (3) Res. Stability Heterogeneity Family Disruption (2) Urbanization	Unsupervised Teens (2) Friendship Networks Organizational Participation	Total Victimization Rate	no
Morenoff et al. 2001	Chicago	Concentrated Extremes (2) Latino Immigration (2) Concentrated Disadvantage (5) Res. Stability (2) Adults per Child Ratio (2)	Collective Efficacy (10) Organizations (6) Voluntary Associations (6) Social Ties/Networks (2)	Official Homicide Rate (2)	yes
Snell 2001	Baltimore	SES (3) Res. Mobility Heterogeneity	Primary Networks (2) Secondary Networks (13) Exercise Parochial Control (9) Exercise Public Control (3) Perceived Disorder	Official Crime Rates (7) Fear of Crime (4)	yes

the problems associated with all types of variables (exogenous, intervening, and dependent) is that of a lack of consistency in measurement. Few studies have used the same measures for the same concepts.

Beginning with indicators of the exogenous social disorganization measures, socioeconomic status is not measured the same way in all studies. Kasarda and Janowitz's (1974) measure of socioeconomic status consisted of six categories ranging from unskilled to professional. Sampson and Groves (1989) constructed socioeconomic status by summing z-scores for education level, occupation, and income, while Sampson and Raudenbush (1999) developed a new measure of socioeconomic status they call concentrated disadvantage which combined the percentage of the population living below the poverty line, the percentage receiving public assistance, the percentage female-headed families, the percentage unemployed, the percentage under age 18, and the percentage Black.

More problematic is the measurement of racial/ethnic heterogeneity. Dating from Shaw and McKay's (1942) original theory, this concept has been viewed as creating cultural, social, and communication barriers to the exercise of informal social control within the neighborhood, and hence, causing higher crime rates. Like socioeconomic status, racial/ethnic heterogeneity has been operationalized in different ways across studies. The most widely-used approach has been to use the percentage of various minority groups in the neighborhood, typically based on census data (e.g., Roncek 1981; Sampson 1985; Bellair 1997; Veysey and Messner 1999; and Snell 2001). The problem with this approach is that both low and high values indicate racial/ethnic *homogeneity*.

For example, if a given neighborhood is 100 percent African American, or 100 percent Hispanic, it is a homogeneous neighborhood that should, according to social disorganization theory, experience lower crime rates. Moreover, studies that limit the operationalization of racial/ethnic heterogeneity to percent Black fail to capture possible ethnic heterogeneity that may exist within neighborhoods.

A second approach to measuring racial/ethnic heterogeneity was used by Sampson and his colleagues (Sampson, Raudenbush and Earls, 1997; Sampson and Raudenbush 1999; and Moreoff, Sampson and Raudenbush 2001). They created an index of concentrated immigration based on the percentages foreign born and Hispanic. In addition to the problem with both low and high values representing homogeneity (as noted above), this measure captures ethnic but not racial heterogeneity. Sampson and his colleagues include percentage Black in their measure of concentrated disadvantage, thus confounding two important concepts in social disorganization theory–racial/ethnic heterogeneity and socioeconomic status. This results from their measures being based on empirical rather than theoretical criteria.

In a third approach, Rountree and her colleagues (1994) come closer to measuring heterogeneity by using the product of percentage white and nonwhite. This measure takes a value of zero when the neighborhood is 100 percent white or 100 percent nonwhite (perfect homogeneity), and 0.25 when there is a 50/50 split, which they define as maximum heterogeneity. However, there is an important shortcoming in this measure–it fails to tap ethnic heterogeneity.

Of all the measures of racial/ethnic heterogeneity used in the literature, the index of diversity used by Sampson and Groves is the only one that captures both racial and ethnic diversity in a way consistent with social disorganization theory. As noted earlier, the index of diversity–$D = \Sigma p_i^2$, where p_i is the proportion of group I in the neighborhood–takes on a value of zero when all residents in the neighborhood fall into a single racial/ethnic group, and a maximum value of (k-1)/k (where k is the number of racial/ethnic categories used) when groups are evenly distributed across categories (i.e., maximum heterogeneity).

Of the three exogenous social disorganization variables, residential stability has been the most consistently operationalized in the literature. Most studies use the percentage of residents living in the same house as they were five years prior to the census (residential stability), the percentage not living in the same house as five years before the census (residential mobility), or the percentage change in the population in the neighborhood between censuses (population change).

There are also problems with the operationalization of the three concepts that are hypothesized to mediate the effects of social disorganization on crime–social disorder, social cohesion/attachment, and informal control–each of which has been measured in different ways across studies. First, as noted earlier, to date there have been no studies that offer a complete test of all three of these intervening mechanisms. Second, some of the existing studies (e.g., Sampson et al. 1997 and Snell 2001) confound these mediating concepts by combining them together. A more reasonable approach would be to use confirmatory factor analysis to examine the convergent and discriminant validity of these

intervening concepts. Third, none of the studies offer a test of the dimensionality of these concepts specified in the theoretical literature–e.g., social versus physical disorder; private versus parochial versus public control. Again, confirmatory factor analysis could be used to examine whether these dimensions tap a single conceptual domain or, alternatively, they are distinctive concepts.

Turning to the endogenous variables, existing studies use different operationalizations of crime. Several studies have utilized official crime and official victimization rates, while others have created independent crime and victimization rates by asking survey respondents about crime in their neighborhood and whether or not they have been victimized. The level-1 data file obtained from ICPSR and the level-2 neighborhood file obtained from Robert Sampson did not contain official crime rates for the Chicago neighborhoods. Therefore, the present study will rely on the survey data for measures of neighborhood perceptions of crime and crime victimization.

Finally, as noted in Table 3.1, many of the studies that test some form of social disorganization theory were completed before the development of hierarchical linear modeling techniques which explicitly take into account the nested/hierarchical nature of the data. Instead, these earlier studies adopted one of two approaches. In many studies the data were aggregated to the neighborhood level prior to analysis, thereby losing information about within neighborhood variability (which in most studies could have been as high as 80 to 90 percent of the total variation). As a result, the relationships between variables is likely to be misleadingly high and the danger of committing the ecological fallacy is present. The second approach involved merging the neighborhood-

level data into the individual data file such that each respondent within the neighborhood would have the same value on these variables. This approach violates the assumption of independent observations necessary for making valid statistical inferences in two ways. First, as noted, individuals within neighborhoods have the same value for the level-2 variables. Second, the responses of individuals within neighborhoods are likely to be more similar than responses across neighborhoods. Hierarchical linear modeling overcomes these problems and allows for making more reliable and valid statistical inferences.

CONCLUSION

Based on my reviews of the theoretical and empirical literatures, the purpose of the present dissertation is threefold. First, my goal is to develop more rigorous and theoretically-sound measures of social disorganization. Second, I will use confirmatory factor analysis to address the conceptual issues raised in previous studies by explicitly examining the convergent and discriminant validity of the key concepts that mediate the relationship between social disorganization and crime in systemic social disorganization theory, including the issue of their theoretically-specified dimensions. Finally, this dissertation will offer a more comprehensive test of systemic social disorganization theory than what exists in prior research. Chapter IV elaborates on these points and presents the research design of the study.

CHAPTER IV

THE PRESENT STUDY

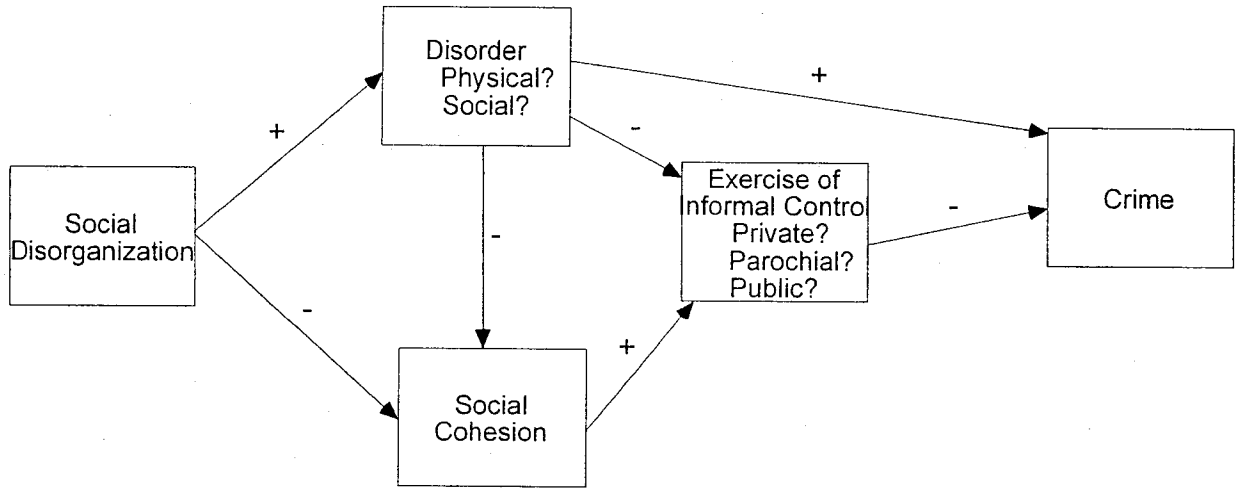
INTRODUCTION

As noted at the end of Chapter III, this dissertation has a threefold purpose: (1) to develop more rigorous and theoretically-sound measures of social disorganization; (2) to examine the convergent and discriminant validity of the concepts hypothesized to mediate the relationship between social disorganization and crime; and (3) to offer a more comprehensive test of systemic social disorganization theory. This chapter discusses how I accomplished this threefold purpose. The first section presents the theoretical model that was tested in this study. This is followed by a description of the data used, operationalization of the concepts in the model, and the analytical strategy.

THEORETICAL MODEL

Figure 4.1 displays the modified systemic social disorganization model tested in this study. The expected direction of the relationships among the concepts is indicated by plus signs for positive relationships and minus signs for negative relationships. Past literature supports the hypothesis that neighborhoods characterized by social disorganization have higher rates of crime and victimization. The model tested here seeks to assess both the direct and indirect effects that social disorganization has on

Figure 4.1 Modified Systemic Social Disorganization Model



crime. Based on prior research, it is expected that the effect of social disorganization on crime will be mediated by disorder, social cohesion, and informal control. The primary difference between the model tested here and other social disorganization models discussed in Chapter III is the inclusion of all three intervening variables of disorder, social cohesion, and the three levels of informal control. Figure 4.1 also indicates two concepts that are tested in this study to determine whether or not they are multidimensional. Specifically, the concept of disorder is empirically tested to determine if this concept was unidimensional, or if there are in fact two independent dimensions, social and physical, as suggested in the theoretical literature (Skogan 1990). Likewise, informal control is tested to see whether it has three dimensions–private, parochial, and public–as discussed by Bursik and Grasmick (1993).

As depicted in Figure 4.1, I hypothesize that part of the total causal effect of social disorganization on crime will be mediated by disorder. I also expect that the direct effects of social disorganization on disorder, as well as the indirect effects of it on social cohesion, informal control, and crime through the mediating disorder variable will be statistically significant. Specifically, I hypothesize that social disorganization will have a statistically significant direct positive effect on disorder, as supported in the previous research of Bursik and Grasmick (1993), Skogan (1990), Sampson and Raudenbush (1999) and Snell (2001). Social disorganization creates an environment that fosters the visible physical and social decline of a neighborhood in the form of disorder. Neighborhoods experiencing social disorganization will tend to draw more prostitution, visible drug use and sales, as these activities can be used to obtain extra income or to

provide momentary euphoric escape. Additionally, past literature suggests that there are more unsupervised youth and teen groups in socially disorganized neighborhoods, which can lead to an increase in vandalism, graffiti, and groups of youth causing trouble in the neighborhood.

Social cohesion is hypothesized to be both indirectly and directly impacted by social disorganization. Both of these relationships are expected to be statistically significant and negative in direction. As discussed somewhat by Kasarda and Janowitz (1974), Skogan (1990), Sampson et al. (1997), Sampson and Raudenbush (1999), and Morenoff et al. (2001), social cohesion is directly impacted by the amount of social and physical disorder in a neighborhood, as well as indirectly impacted by the conditions representing social disorganization. This past literature suggests that the presence of disorder creates an atmosphere in which residents believe that no one cares about the condition of the neighborhood, which results in residents becoming increasingly suspicious of their neighbors. This in turn increases their fear of crime and their fear of being victimized, which leads them to withdraw from neighborhood life. Residents become increasingly less willing to interact with their neighbors and other neighborhood residents, resulting in reduced social cohesion. This withdrawal leads to reduced informal control, which leads to increased levels of crime in the neighborhood. Residents become increasingly unwilling to engage in either individual efforts or coordinated neighborhood efforts to intervene to prevent crime from occurring in the neighborhood.

It is also expected that the effects of the social disorganization variables will remain for social cohesion even after controlling for disorder. Although the effects of

social disorganization on social cohesion itself have not been tested in the literature, this study hypothesizes, based on the assumptions of social disorganization theory itself, that the conditions created by social disorganization will have a statistically significant negative effect on social cohesion. Neighborhoods experiencing social disorganization tend to have lower income housing and a high percentage of rental properties, leading to high turnover of residents, combined with local homeless shelters, and other services provided to transients, the homeless, and the impoverished. These conditions create for residents a visible presence of strangers wandering in and out of the neighborhood, which is likely to inhibit their identification of outsiders versus neighborhood residents. This unidentifiable mix of strangers and residents, particularly when the resident turnover rate is so high, makes it harder for residents to develop relationships with each other. These particular characteristics are not conducive to either building or maintaining residents' attachment to each other or to their neighborhood as a place to live. The fewer relationships that are built and maintained, the more likely it is that residents will decrease their use of informal controls to prevent crime from occurring, resulting in higher neighborhood crime rates.

Both disorder and social cohesion are expected to have direct effects on the exercise of informal control. Additionally, disorder is hypothesized to have an indirect effect through its impact on social cohesion. Likewise, social disorganization is expected to have only indirect effects through the intervening variables of disorder and social cohesion.

Disorder is hypothesized to have a direct, statistically significant negative effect on the exercise of informal controls. The presence of disorder is expected to prohibit neighborhood residents' ability to utilize informal controls. Past literature, particularly Skogan (1990), suggests that disorder leaves neighborhood residents feeling as if no one cares about the condition of the neighborhood. This includes other neighborhood residents as well as public officials and agencies. Residents begin to develop an attitude that if no one else cares about the neighborhood, why should they care and why should they take on the work of others to clean up and maintain a well-kept environment in the neighborhood? This change in attitude results in their unwillingness to utilize informal controls.

Social cohesion is hypothesized to have a statistically significant direct positive impact on the exercise of informal control. As social cohesion increases, the use of informal controls should increase as well. This relationship has not yet been tested in the literature. However, Bursik and Grasmick (1993) allude to the existence of such a relationship in their discussion of primary and secondary relational networks. Additionally, Skogan (1990) suggests that resident withdrawal from community life leads to decreased usage of informal controls. The more attached neighborhood residents are to each other and to their neighborhood as a place to live and raise a family, the more likely they are to be able and willing to utilize informal controls in order to preserve the safety of the neighborhood. When residents are not connected to each other, and if they do not view their neighborhood as a good, safe, and permanent place to live, the less likely they are to be active in preventing crime and delinquency.

The exercise of informal control is also expected to be indirectly impacted by social disorganization, through the mediation of both disorder and social cohesion, as suggested by Bursik and Grasmick (1993). As discussed previously, neighborhoods characterized by social disorganization tend to have higher rates of disorder and lower rates of social cohesion. These in turn inhibit the use of informal control. Therefore, it is expected that neighborhoods with higher levels of social disorganization will have higher disorder rates and lower levels of social cohesion, resulting in the decreased exercise of informal controls.

It is hypothesized that crime is directly impacted by the exercise of informal control, as well as directly by disorder. Additionally, it is indirectly affected by social disorganization, disorder, and social cohesion and their impact on the exercise of informal controls. Skogan (1990), in his discussion of disorder and crime, alludes to the reduced ability of neighborhood residents to use informal controls due to the high levels of disorder they experience in their neighborhood. Additionally, Bursik and Grasmick (1993) discuss the direct impact of informal control on crime, however, they have not tested this relationship empirically. Relying on these theoretical discussions, as very little relevant research has conducted separate tests of the exercise of informal control, this study expects that the exercise of informal control on crime will have a direct, statistically significant negative effect. As the use of informal controls increases, there should be a decrease in the level of neighborhood crime. Neighborhood residents use informal controls by looking out for each other and each others' property, by intervening to prevent

crime from occurring, and by calling the police when they see something suspicious or when they see strangers lurking around the neighborhood.

Informal control is largely influenced by the mediating effect of social cohesion. Therefore, this study did not expect to find a statistically significant direct relationship between social cohesion and crime. This relationship has not yet been tested fully in the literature. However, it is reasonable to expect this relationships to exist based on the traditional social disorganization literature, as well as the theoretical discussions by Skogan (1990) and Bursik and Grasmick (1993). When residents have formed close bonds with each other and have become attached to their neighborhood, they are more willing to take action in the form of informal controls. They become more willing to call the police when crime and/or delinquency are occurring in the neighborhood. An approaching police car is likely to scare perpetrators away from their illegal activity. Additionally, when residents have formed these attachments, they are more likely to be aware of strangers in the neighborhood, which may increase their tendency to call the police or to take extra precautions in securing their own home or their persons (e.g., run to a neighbor's house if they are being followed suspiciously by a stranger) from criminal activity.

Disorder is also expected to have a statistically significant relationship with crime. This relationship is predicted to be positive in nature, such that as the level of disorder increases, crime also increases. Crime and disorder are closely tied together. Some disorder is criminal in nature, but disorder also tends to include largely public order or victimless crimes. However, the mere presence of disorder can lead to an increase in

some types of crime. For example, in neighborhoods where disorder is high, it is already probably the case that the police pay less attention to calls for service, or at a minimum do not respond as quickly to these neighborhoods as they do to other, more prestigious neighborhoods. Additionally, abandoned cars and trucks, vacant buildings, and unattended shrubs, bushes, and trees make convenient hiding places for muggers and burglars, as well as providing places for groups of teenagers to congregate and create trouble, all leading to an increase in criminal activity due to convenience.

Social disorganization itself is not hypothesized to have a direct effect on crime, nor is it expected to directly impact the intervening informal control variable. Although Shaw and McKay's research tested and found support for these direct effects, later studies (particularly Sampson and Groves 1989 and Sampson et al. 1997) have shown that most of the effects are mediated by disorder and social cohesion, such that once the mediating factors are added, the direct effects either lose some of their explanatory power, or, alternatively, become nonsignificant.

Likewise, social cohesion is not expected to directly impact crime. Although this relationship has not been directly tested in the literature, theoretical discussions by Kasarda and Janowitz (1974), Skogan (1990), and Bursik and Grasmick (1993) support this conclusion. It is hypothesized that the effects of social cohesion on crime are mediated by the exercise of informal controls. Social cohesion is important, but most likely its importance is due entirely to its impact on social control mechanisms.

THE DATA

The data used in the present study come from the Project on Human Development in Chicago Neighborhoods (PHDCN; Earls 1999), the same data file analyzed by Sampson et al. (1997), and Sampson and Raudenbush (1999), and Morenoff et al. (2001). Chicago has 77 established community areas, with an average size of 40,000 residents (Sampson et al. 1997). However, these areas are too large to fully encapsulate the context of a "neighborhood." In order to more fully approximate local "neighborhoods," Chicago's 847 census tracts were combined to create 343 "neighborhood clusters" (Sampson et al. 1997). Each cluster contained census tracts that were both adjacent to each other and demographically homogenous (Earls 1999 and Sampson et al. 1997). A random sample of 80 of these clusters was drawn for inclusion in the longitudinal part of the study, while the remaining 263 were included only in the cross-sectional study. A random sample of respondents was drawn in three stages for the neighborhood clusters included in the cross-sectional sample. First, nine census blocks within each neighborhood cluster were sampled with the probability proportional to the population size. Then, three dwelling units were selected at random within each of the selected census blocks. Lastly, one adult resident 18 years of age and older from each of the dwelling units was selected at random and administered the survey. In the 80 neighborhood clusters included in the longitudinal study, the same procedures were followed, but residents in these neighborhood clusters were oversampled. This resulted in a final sample of 8782 completed face-to-face interviews, a 75 percent response rate.

The primary purpose of the project was to study the effects of structural and organizational neighborhood characteristics on both juvenile and adult crime, as well as substance abuse. Specifically, one objective of the PHDCN study was to gain a better understanding of people's experiences in their neighborhoods, particularly relating to both adult and juvenile crime, and substance abuse. Additionally, "it is a study of children's social and psychological development from birth to young adulthood in urban neighborhoods" (Earls 1999:3). The study was designed to be a longitudinal study, spanning an eight year period. The data used in the present study come from the initial community survey conducted in 1994–1995.

The user guide, codebook and data collection instrument were available through the Inter-university Consortium for Political and Social Research (ICPSR). However, the data were not publically available. Permission for access and use of PHDCN the data was obtained from the National Archive of Criminal Justice Data (NACJD) at the ICPSR.

As the present study aimed to assess the causes of crime and victimization differences across neighborhoods, as done by Sampson et al. (1997), various census measures were needed to measure social disorganization. The PHDCN file did not contain census tract variables. For reasons of confidentiality, PHDCN cannot release the census tracts corresponding to the 343 neighborhood clusters. However, Robert Sampson kindly provided the ten census measures he and his colleagues used in their original article (Sampson et al. 1997).

I elected to use the PHDCN data for several reasons. First, it is the only secondary data available that has measures of all the key concepts in my theoretical

model. Second, many of the variables in the data set that I used were not used in past studies. Third, I was able to use the same variables as Sampson and his colleagues (1997) to test whether social cohesion and informal control should be combined into a single concept, collective efficacy, as they contend, or, if instead, these variables measure two separate, distinct concepts of social cohesion and informal control as I claim is more consistent with theoretical arguments.

MEASUREMENT AND VARIABLES

This section describes and justifies variables used to measure the concepts in the theoretical model tested in the present study. A brief discussion of each of the concepts and the general items used to measure them is included. The specific questions used to measure each variable are listed in Appendix A.

Social Disorganization

As noted above, one of the goals of the present study was to develop more rigorous and theoretically-sound measures of social disorganization. There were four social disorganization variables included in the model to be tested: residential stability, racial heterogeneity, ethnic heterogeneity, and economic disadvantage. These variables represent two of the original social disorganization variables created by Shaw and McKay (1942), in addition to a new variable that measures ethnic heterogeneity separately from racial heterogeneity. In this study, measurement of these concepts was limited to the ten variables from the 1990 U.S. Census, as provided by Robert Sampson.

Residential stability was measured with the following census variables: percentage owner occupied and percentage living in the same house as five years ago. This was consistent with the previous research on disorganization theory, particularly Sampson (1985), Sampson et al. (1997), Sampson and Raudenbush (1999), and Morenoff et al. (2001), who used the same data source. A principal components analysis confirmed the appropriateness of measuring residential stability with the percentage of owner occupied and the percentage living in the same house as five years ago. Both measures loaded on a single factor with loadings of 0.895, and had a Chronbach's alpha of 0.669 demonstrating an acceptable level of reliability.

As discussed previously, racial and ethnic heterogeneity has not been measured consistently across studies, nor have past operationalizations adequately addressed both racial heterogeneity *and* ethnic heterogeneity. Although this study was limited to the census variables used by Sampson et al. (1997), the construction of these two variables differed from those used in previous studies based on the PHDCN data. Sampson et al. (1997), followed by Sampson and Raudenbush (1999), and Morenoff et al. (2001), used a variable they called "immigrant concentration" based on percentage Hispanic and percentage foreign born. However, as observed in Chapter III, this variable did not tap racial heterogeneity. Instead, Sampson and his colleagues included percentage Black, a measure of racial heterogeneity, in their measure of concentrated disadvantage, thus confounding two social disorganization measures–socioeconomic status and racial/ethnic heterogeneity.

The current study relies on an alternative measure of racial/ethnic heterogeneity, in an attempt to better approximate the important dimensions represented by this variable within the context of social disorganization theory. Specifically, building on Sampson and Groves' (1989) work, indexes of diversity were computed for three census variables: percentage Black, percentage Hispanic, and percentage foreign born using the following formula: $D = 1 - \Sigma p_i^2$, where p is the proportion in group i. The index of diversity measured the chance that two individuals drawn at random from the neighborhood will come from different racial/ethnic groups. Thus, the first index measured the chance that two randomly-selected individuals would come from different race groups (Black versus not Black), the second the chance that two individuals would come from different ethnic groups (Hispanic versus not Hispanic), and the third the chance that the two individuals would come from different national origins (foreign born versus not foreign born). Each index takes on a value of 0 when all individuals in the neighborhood come from the same group, and a value of 0.50 when 50 percent fall in each group (i.e., maximum heterogeneity).

A principal components analysis of the resulting indexes revealed that all three measures loaded on a single dimension. However, the factor loading for Black diversity was considerably lower than those for foreign born and Hispanic diversity (0.471 versus 0.893 and 0.926, respectively). Based on these results, a principal components analysis of the foreign born and Hispanic diversity indexes was performed. The resulting factor loadings were 0.938, and the factor scores from the analysis were used to measure ethnic diversity. The Black diversity index was used to measure racial diversity.

These two measures are superior to operationalizations of racial/ethnic heterogeneity used in most past studies since they tap both racial and ethnic heterogeneity. However, I would have preferred to use a variable with multiple racial/ethnic categories to compute a single index of diversity that would be more sensitive to the racial/ethnic diversity of the city of Chicago. Due to data limitations, I was unable to do so.

Economic disadvantage was also constructed from 1990 census variables in the Sampson file–percentage unemployed, percentage receiving public assistance, and percentage of the population living below the poverty line. While much of the social disorganization literature incorporates a variable representing "socioeconomic status," the measures available for this study did not measure the typical dimensions of socioeconomic status–e.g., neighborhood values for occupational prestige, income, and education. Rather, the items available in the Sampson file measured neighborhood differences in economic hardship.

A principle components analysis revealed that the three census variables–percentage unemployed, percentage receiving public assistance, and percentage of the population living below the poverty line–represented one dimension with factor loadings of 0.974, 0.984, and 0.963, respectively. The Chronbach's alpha for these three items was 0.943, showing a very high level of reliability. The factor scores derived from the principal components analyses were used to measure economic disadvantage.

Family disruption has often been included in tests of social disorganization theory. Like racial/ethnic heterogeneity, it has not been measured consistently across studies.

Sampson (1985) used the percentage of female-headed households combined with the percentage divorced or separated. Sampson and Groves (1989) used similar measures–the percentage divorced or separated combined with the percentage of single parents with children. Similarly, Bellair (1997) used the number of single-parent households. Sampson et al. (1997) and Sampson and Raudenbush (1999) included family disruption as one of the indicators of concentrated disadvantage. As with the racial/ethnic heterogeneity variable, family disruption may in fact be a component of disadvantage, but this does not necessarily mean that it should be combined with the other variables. Family disruption itself may incorporate other elements not necessarily related to economic disadvantage. For example, family disruption does not automatically result in economic hardship. It could, however, lead to less available supervision of children in the home. It is for these reasons that family disruption is considered to be a separate measure of social disorganization related to, but distinct from, economic disadvantage.

The measurement of family disruption in this study was severely limited by the census measures available in the Sampson file. The only available census item was percentage of female-headed families. This is not an ideal measure of "family disruption." Instead, I would have preferred to include additional measures to tap different forms of family structure–e.g., children living with relatives other than their biological parents, families with stepchildren, etc. Despite its limitations, I contend that it is a better measure than lumping it together with economic and race variables to create a single measure of "concentrated disadvantage," as done by Sampson and colleagues.

When the percentage of female-headed families was included in a regression model with the other measures of social disorganization, the result was an unacceptably high level of multicollinearity. The female-headed families variable had the highest variance inflation factor (10.0) and lowest tolerance (0.10). The variance inflation factor indicates that the variance of the parameter estimate for this variable is 10 times higher than it would be if multicollinearity did not exist, which in turn means that the standard error estimates would be inflated making it difficult to reject the null hypothesis. The tolerance shows that female-headed families shares 90 percent of its variance with the other social disorganization measures, and is providing very little unique information. Based on this analysis, female-headed families was not used in subsequent analyses. When it was dropped from the model, the variance inflation factors for the remaining social disorganization measures was substantially less than 2, indicating that multicollinearity was no longer a problem.

Disorder

Disorder was another recent addition to social disorganization theory. As discussed in Chapter II, Skogan (1986, 1990) conceptualized disorder as having two distinct dimensions: physical and social. Thus far, however, no study has empirically verified two separate dimensions of disorder. This study attempted such an empirical verification. The PHDCN data used in this study contain a wealth of disorder-related variables. The specific survey items were chosen based on their fit with Skogan's (1990) definition of each type of disorder, in conjunction with their use by Sampson and

Raudenbush (1999) and Snell's (2001) utilization of similar items from Taylor's (1998) Baltimore data.

Social disorder was measured by using the items that asked respondents to identify how much of a problem various behaviors were in their neighborhood using a three-point Likert scale (a big problem, somewhat of a problem, not a problem). These included drinking in public, people selling or using drugs, graffiti on buildings and walls, groups of teenagers or adults hanging out in the neighborhood and causing trouble, and different social groups who do not get along with each other.

Physical disorder was measured by using the survey items that asked respondents to indicate how much of a problem various conditions were in their neighborhood using the same three-point Likert scale. The items included litter, broken glass or trash on sidewalks and streets, and vacant or deserted houses or storefronts. An additional item asked respondents how strongly they agreed or disagreed with the following statement on a five-point Likert scale: "The equipment and buildings in the park or playground that is closest to where I live are well kept."

Social Cohesion

Social cohesion is a relatively new concept associated with social disorganization theory. Very few studies have yet incorporated it into the systemic social disorganization model. Although Bursik and Grasmick (1993) did not add a social cohesion variable to their model, they discussed three levels of relational networks that correspond to three levels of informal control (private, parochial, and public). These relational networks

suggest a sense of cohesion among residents that leads to the potential for exercising informal controls. This study has treated these networks as a part of what constitutes social cohesion.

Other studies that incorporated a dimension of social cohesion are Sampson et al. (1997), Sampson and Raudenbush (1999), Morenoff et al. (2001), and Snell (2001). However, the first three of these studies combined social cohesion with measures of informal control to form a variable they called "collective efficacy," as discussed previously. Snell attempted to test Bursik and Grasmick's systemic model, but he included social cohesion items along with others that tap the networks themselves in his measures of the three levels of relational networks. Thus, social cohesion as a separate mediating concept in the systemic social disorganization model has not been tested.

In the present study, social cohesion was defined as neighborhood residents' attachment to their neighborhood as well as their relationships with their neighbors and other neighborhood residents. Several of the items used measured the number of relationships respondents had in the neighborhood by asking residents to indicate how many of their relatives or in-laws lived in the neighborhood, how many of their friends lived in the neighborhood, and how many of their friends lived outside of the neighborhood, and general questions about how many families in the neighborhood knew each other. Two other survey items tapped respondents' attachment to their neighborhood–one that asked residents how much they liked their neighborhood, using a four-point Likert scale, and one that asked residents how much they would miss the neighborhood if they had to move out of it, based on a four-point Likert scale.

There were several other general social cohesion variables included in the model. These included items that asked residents how strongly they agreed with a series of questions about the neighborhood and people in the neighborhood on a five-point Likert scale of strongly agree to strongly disagree: 1) this is a close-knit neighborhood, 2) people don't get along, 3) people do not share the same values, and 4) people can be trusted.

Informal Control

Informal control has recently become an important component of systemic social disorganization theory. As discussed in Chapter II, Bursik and Grasmick (1993) suggested that informal control operates at three levels–private, parochial and public. However, to date, there have been no studies that test whether the three levels of control represent distinct concepts with independent effects on crime, or, alternatively, whether they all tap the same conceptual domain. The present study incorporated measures of the three levels of informal control and attempted such a test.

The specific items used to construct each type of control was limited to those included in the PHDCN data. However, the study included many items not used in past studies that can be used to measure the three levels of control. The specific survey items chosen were selected based on how consistent they were with Bursik and Grasmick's (1993) definition of each level of control, in addition to the items used by Snell (2001) in his partial test of Bursik and Grasmick's version of social disorganization theory. Additionally, a few specific items were chosen because they had been used in previous

studies (Sampson et al. 1997; Sampson and Raudenbush 1999; and Morenoff et al. 2001), that also used the PHDCN data to measure the informal control part of collective efficacy.

The present study tested all three levels of informal control. Private control refers to the exercise of control within families and among close friends and neighbors. It was measured using four questions. Residents were asked three questions related to how often (on a four-point Likert scale) neighbors did things for each other in their neighborhood including: 1) how often they and people in their neighborhood did favors for each other; 2) how often they and their neighbors watched over others' property when they are away from home; and 3) how often they asked each other advice about personal things such as child rearing or job openings. A fourth question that asked residents if they or any household member had talked to a person or group causing a problem in the neighborhood was also included.

Parochial control refers to the use of control among neighborhood residents, where there is not the same degree of intimacy as in private control, and residents' participation in institutions within the community. Residents were asked a series of questions on their perceptions of how likely their neighbors were to act in particular circumstances (using a four-point Likert scale): 1) neighborhood children were skipping school and hanging out on a street corner; 2) children were spray-painting graffiti on a local building; 3) a child was showing disrespect to an adult; 4) a well known neighbor was short of cash to start a business in the area and needed to borrow money from people in this neighborhood; and 5) a fight in front of their house and someone was being beaten or threatened. Residents were also asked how strongly (on a five-point Likert scale) they

agreed that people in the neighborhood would get together to deal with a neighborhood problem. Residents were asked if they had ever attended local meetings or groups about a neighborhood problem or improvement. Specifically, residents were asked if: 1) they had attended a block or neighborhood group; 2) they had talked with a local religious leader; and 3) they had gotten together with neighbors to do something about a problem or organize a neighborhood improvement. Additionally, residents were asked how often (on a four-point Likert scale) they interacted with other residents in particular circumstances. These included: 1) having parties or other get-togethers where other people in the neighborhood were invited, and 2) visited in each others' homes or on the street. Lastly, residents were asked how likely (on a five-point Likert scale) it was that neighborhood residents would organize to prevent the local fire station from closing due to budget cuts.

Public control refers to

> ...regulatory capacities that may develop as a result of the networks among neighborhoods and between neighborhoods and public/private agencies... Formally, this dimension refers to the ability to secure public and private goods and services that are allocated by groups and agencies located outside of the neighborhood." (Bursik and Grasmick 1995:118).

Several items to measure public control were available in the PHDCN data. Residents were asked questions about their involvement with organizations and activities that connect them with citizens and resources beyond their own neighborhood, if specific public services were located in their neighborhood, as well as their views about police activity in their neighborhood. Specifically, residents were asked if they belonged to a business or civic group and if they had spoken to a local politician about a neighborhood

problem. Residents were asked to indicate if the following services were available in their neighborhood: alcohol or drug treatment program, mental health center, youth center for children or adolescents, recreation programs other than those offered in school, mentoring or counseling services, mental health services for children and adolescents, and crisis intervention services for children and adolescents. They were asked how strongly they agreed that the police were doing a good job preventing neighborhood crime and if the police did a good job in responding to crime victims in the neighborhood.

Crime

There were two separate measures of neighborhood crime included in this study– personal or household victimization and perception of crime in the neighborhood. Victimization was measured by items that asked residents if, while they had been living in their neighborhood, they or any member of their household had ever been a victim of violence, such as in a mugging, fight, or sexual assault; if their home had ever been broken into; if anything had been stolen from their yard, porch, garage, or elsewhere on their property; and if they had property damage (to vehicles, the outside of the home, or other personal property). Respondents were also asked if each of these victimizations had occurred within the past six months. Perception of neighborhood crime was measured by questions that asked residents how often various criminal activities had occurred in their neighborhood within the past six months including a fight with a weapon, a violent argument between neighbors, gang fights, sexual assault or rape, and robbery or mugging. The use of both the criminal victimization variables and the perception of neighborhood

crime variables was based primarily on the availability of survey items from the PHDCN survey. However, the survey items available were collected for the purpose of explaining neighborhood-level phenomena, such as crime and victimization. That purpose was consistent with the focus of the current study. Additionally, previous research has suggested that the use of victimization data to measure criminal activity at the neighborhood level is appropriate when testing systemic social disorganization theory. As discussed in Chapter III, Sampson (1985) used the following victimization items in his test of social disorganization theory: personal experiences with robbery and larceny with contact, rape, aggravated assault, and simple assault. Likewise, Sampson and Groves (1989) added perceived neighborhood violence to their test of social disorganization theory, along with personal victimization variables. Perceived crime was measured by respondents' perception of how prevalent mugging and street robbery were in their neighborhood. Personal victimization was measured by asking respondents about their personal victimization of such crimes as rape and assault. Rountree et al. (1994) limited their dependent victimization variables to burglary and violent crime. Unlike previous studies, violent crime was not limited to specific crimes. Rather, it was defined ambiguously as being physically attacked or threatened or being robbed by force. Bellair (1997) also used victimization data to test social disorganization concepts. He limited victimization to burglary, motor vehicle theft, and robbery.

As Sampson et al. (1997), Sampson and Raudenbush (1999), and Morenoff et al. (2001) used the PHDCN data as well, measurement of these variables was also consistent with their use of the survey data. Sampson et al. (1997) discussed criminal victimization

and perceived neighborhood crime, but limited their analysis to violent victimization and perceived neighborhood violence. The measure of perceived neighborhood violence in this study was constructed with the same survey items used by Sampson et al. (1997). However, their focus on violence resulted in violent victimization being limited to one measure in which residents were asked if anyone had ever used violence against them or any member of their household while they had lived in their current neighborhood. While it is appropriate to limit an analysis to violent victimization and perceptions of violence, the current study takes into account property crime as well. The purpose of the current study is to examine how social disorganization impacts crime through an intricate web of intervening forces (i.e., disorder, social cohesion, and informal control). The informal control variables in this study include items related to neighbors watching out for each others' property. Therefore, neighborhood differences in property crime may also be explained by the use of informal control.

Individual-Level Control Variables

In survey research, the responses of survey participants often vary by social and demographic background variables. Following Sampson et al. (1997), I therefore included the following thirteen social and demographic variables constructed from the PHDCN data to control for response bias: dummy variables for female, married, separated/divorced, single (compared to those who are widowed and those in domestic partnerships), homeowner and home renter (compared to those who live in Chicago Public Housing), Latino, and Black; age, education level, years of residence in the

neighborhood, mobility (number of times moved in past five years) and household income.

ANALYTICAL STRATEGY

The first step of the data analysis was data preparation. This involved reflecting some item scales such that all variables that tap the same theoretical concept are measured in the same direction.

Multiple Imputation of Missing Data

The next step in the data analysis process was to make decisions about how to handle missing data. The codebook for the PHDCN data showed that many of the variables used in this study had missing data. Although there are many methods of dealing with missing data, one particular method, multiple imputation, is becoming increasingly popular. In simplest form, multiple imputation requires substituting imputed values for each missing value. Using the PROC SAS MI, a program within the Statistical Analysis Software (SAS) package, multiple iterations are then run to produce several completed data sets. According to Allison (2002), five completed data sets is generally acceptable, even if up to 50 percent of the data are missing. The analysis then proceeds using the multiply-imputed data sets (Allison 2002). Thus, when there are five multiply-imputed data sets, five separate analyses are run and five sets of results obtained. These results are then combined by averaging coefficients and computing standard error estimates using the following formula:

$$s.e.(\bar{r}) = \sqrt{\frac{1}{M}\sum_k s_k^2 + \left(1+\frac{1}{M}\right)\left(\frac{1}{M-1}\right)\sum_k \left(r_k - \bar{r}\right)^2}$$

where M is the number of multiply-imputed data sets, and r_k is any parameter estimated by multiple imputation in imputed data set k (Allison 2002:30).

Multiple imputation has several advantages over other methods for handling missing data, such as listwise deletion, pairwise deletion, dummy variable adjustment, and maximum likelihood. One of the primary advantages of multiple imputation is that it allows for the use of all cases in the data set; no cases are thrown out as is the case with listwise and pairwise deletion. This becomes increasingly important when the percentage of missing cases is high. Secondly, multiple imputation "produces estimates that are consistent, asymptotically efficient, and asymptotically normal" (Allison 2002:27). This means that in large samples, the estimates are unbiased, do not produce over- or under-estimated standard errors, and are approximately normally distributed (Allison 2002).

The primary disadvantage of using multiple imputation is that it computes different values for the missing data across imputations, meaning that other researchers wishing to replicate the analysis will get different results (Allison 2002). However, this disadvantage does not affect the estimates and does not result in the violation of any assumptions associated with multiple regression. In addition, if researchers select the same random seed when doing the multiple imputation, they will obtain the same values. Another disadvantage is that the results of the analysis must be combined. Some

programs, like HLM 5.0 used in the present study, automatically combine the results obtained using multiply-imputed data sets, thereby alleviating this problem. Therefore, given that its advantages outweighs its disadvantages, multiple imputation provides a better alternative for handling missing data and was used in the present study.

While multiple-imputation was an appropriate method for handling missing data for the confirmatory factor analysis portion of this study, it was not appropriate for the hierarchical linear modeling. As discussed above, multiple imputation of the data takes into account all available information in the data set. However, the process fails to take into account the hierarchical structure of the data. This would have resulted in the attentuation of the variance in the level-2 and level-3 models, leaving very little or no variation across neighborhoods.

In order to address the issue of missing data for the hierarchical linear modeling, I adopted the same strategy used by Sampson et. al (1997), who used hierarchical linear modeling with the same data set (PHDCN). This strategy involved recoding the "don't know" responses on the survey items included in the analysis. For the items with an odd-number likert-scale, "don't know" responses were recoded to the middle category of the scale (either "neither likely nor unlikely" or "neither agree nor disagree"). For the even-number likert-scale items, the "don't know" responses were coded as the average of the two middle choices. For example, the survey item asking residents how much they would miss their neighborhood if they had to move, the likert-scale choices were: very much somewhat, not much, or not at all. The "don't know" responses were coded with a numerical value of 2.5, which represents the average of "somewhat" and "not much". For

a two-item Likert scale (with yes/no answer choices), the "don't know" responses were recoded to a value of 1.5.

All of the "refused" responses for the question items used to measured the theoretical concepts in the systemic social disorganization model were recoded to be system missing. Then, three-level hierarchical linear models were used which include the multiple indicators nested within individual respondents as the level-1 model. Such a strategy allows for some of the items to be missing, thus using all of the information in the data while not dropping the cases unless they are missing on all items.

Missing data in the individual-level control variables (that will be included in the level-2 models) were handled somewhat differently. The dummy variables were recoded to the modal category. For example, the data set contains more female than male respondents. Therefore, as female is the modal category, the "don't know" responses were recoded to female. For the continuous variables (e.g., age, education, income, number of years lived in neighborhood, and how many times respondent has moved in the past 5 years), the missing responses were assigned to the median value because these variables had skewed responses.

Confirmatory Factor Analysis

As discussed in Chapters II and III, the theoretical and empirical social disorganization literature raises three conceptual issues concerning the causal processes that mediate the effects of social disorganization on crime. One of the purposes of this dissertation was to address each of these issues.

First, Skogan (1990) specifies that disorder contains two separate dimensions, physical and social. However, there are no studies that address the issue of whether disorder is unidimensional or multidimensional, and, if the latter, whether the two dimensions have differential effects on social cohesion, the exercise of informal control, and crime.

Second, Bursik and Grasmick (1993) suggest that the exercise of informal control exists at three levels–private, parochial, and public. Yet, there are no studies that address the issue of whether informal control is unidimensional or multidimensional, and, if the latter, whether the three dimensions have differential effects on crime–i.e., which form of control is the most effective in preventing crime.

The third issue concerns the distinctiveness of the concepts that systemic social disorganization theory posits as mediating the effects of social disorganization on crime. For example, are social cohesion and informal control two distinct concepts? As discussed in Chapter II, this study considered social cohesion and informal control to be two unique concepts. Social cohesion was defined as the attachment neighborhood residents have to their neighborhood as well as their attachment to their neighbors and other neighborhood residents. The cohesion that develops as a result of these attachments creates the potential for the use of informal control. It does not simultaneously account for the potential action that residents might take to prevent criminal activity in the neighborhood. Rather, "informal control" refers to the neighborhood residents' perceptions of their own and their neighbors' willingness to take action to prevent crime and delinquency. Combining these two concepts into the one variable of collective

efficacy, as done by Sampson et al. (1997), Sampson and Raudenbush (1999), and Morenoff et al. (2001), means we cannot distinguish between the attachment residents have to each other from their potential willingness to take specific action to prevent crime. Additionally, this arbitrary combination makes it impossible to ascertain whether exercise of informal control mediates the relationship between social cohesion and crime.

Confirmatory factor analysis allowed me to address the conceptual issues concerning convergent and discriminant validity. In general, confirmatory factor analysis involves estimating a measurement model which specifies latent ("unmeasured") variables corresponding to the theoretical concepts in the model with multiple empirical indicators linked to each latent variable. Correlations are specified between latent variables. Convergent validity is established when each indicator has a high factor loading on the theoretically-specified latent variable and no relationship with the other latent variables in the model. When squared, standardized factor loadings give the proportion of the variance the indicator shares with the latent variable. A general rule of thumb is that factor loadings of above 0.70 (i.e., shared variance of 50 percent or more) are preferred (Kline 1998). Discriminant validity is established when the correlations between latent variables exist but are not excessively high, thus showing them to be distinct concepts or dimensions of concepts. Kline (1998:60) suggests correlations between latent variables of less than 0.85 as a criterion, which indicates that the concepts share less than 72 percent of their variance in common.

The analysis to address the three conceptual issues above proceeded in a series of steps. In each case, a separate analysis was conducted using the pooled within

variance/covariance matrix (which partitions out the between neighborhood variance) for each imputed data set. Joop Hox's SPLIT2 program was used to obtain these matrices (Hox 2002). The multiple group feature available in Amos 4.0 was used to simultaneously analyze the variance/covariance matrices from the five imputed data sets. The standardized and unstandardized factor loadings were averaged across the five sets of results, and the standard error estimates were combined using the computational formula from Allison (2002:30) presented above.

The first step in the analysis was to assess the dimensionality of disorder by comparing a unidimensional model with one that distinguishes physical from social disorder. Factor loadings were examined to ascertain the model with the highest convergent validity. Since these models were not nested, difference in model chi-square tests could not be used to ascertain whether there was a statistically significant difference in model fit. Therefore, information-theoretic measures (i.e., Akaike information criterion or AIC, Browne-Cudeck criterion or BCC, and Bozdogan information criterion or CAIC) were compared to assess which model provides the best fit for the data, with the model with the lowest values on each of these measures indicating a better fit (see Arbuckle and Wothke 1999:404-405 and Kline 1998:137-138) . Where the two factor model was the best fitting model, discriminant validity was determined by examining the correlation between the two latent variables.

The second step in the analysis was to use the same procedures to assess the dimensionality of informal control. Here a model with a single dimension was compared with one with three dimensions representing the private, parochial, and public forms of

control. Model fit and convergent and discriminant validity were determined as discussed above.

The final step was to test for discriminant validity between the intervening concepts by combining the measurement models of the three concepts and their dimensions–disorder, social cohesion, and informal control–and specifying correlations between all concepts/dimensions. As noted above, correlations below 0.85 established discriminant validity.

Hierarchical Linear and Nonlinear Models

As noted in Chapter III, many of the studies that test some form of social disorganization theory were completed before the development of hierarchical linear and nonlinear modeling techniques which explicitly take into account the nested/hierarchical nature of the data. Instead, these earlier studies adopted one of two approaches. In many studies the data were aggregated to the neighborhood level prior to analysis, thereby losing information about within neighborhood variability (which in most studies could have been as high as 80 to 90 percent of the total variation). As a result, the relationships between variables is likely to be misleadingly high and the danger of committing the ecological fallacy is present.

The second approach involves merging the neighborhood-level data into the individual data file such that each respondent within the neighborhood would have the same value on these variables. This approach violates the assumption of independent observations necessary for making valid statistical inferences in two ways. First, as

noted, individuals within neighborhoods have the same value for the level-2 variables. Second, the responses of individuals within neighborhoods are likely to be more similar than responses across neighborhoods. Hierarchical linear modeling overcomes these problems and allows for making more reliable and valid statistical inferences.

Three-Level Hierarchical Linear Models

The present study estimated three-level hierarchical linear models for the mediating factors in the systemic social disorganization model–disorder, social cohesion, and informal forms of control–and crime perception. The level-1 model contains the multiple indicators of the latent variables nested within individual respondents:

$$Y_{ijk} = \pi_{ijk} + e_{ijk},$$

where π_{ijk} is the latent variable true score for respondent j in neighborhood k; and e_{ijk} is an error assumed to be normally distributed with a mean of 0 and a variance σ^2.

The level-2 model estimates the distribution of the latent variable true scores across individuals within neighborhoods:

$$\pi_{ijk} = \beta_{0k} + \sum_{p=1}^{13} \beta_{pk} X_{pjk} + r_{jk},$$

where X_{pjk} is the set of 13 individual-level social and demographic variables used to control for response bias.

Finally, in the level-3 model, neighborhood adjusted means of the latent variable were modeled as a function of level-3 predictors in sequential causal order:

$$\beta_{0k} = \gamma_{00} + \sum_{q=1}^{Q} \gamma_{0q} W_{qk} + u_{0k},$$

where the W_{qk} are the measures of social disorganization, disorder, social cohesion, and informal control.

Three-level models were estimated for each endogenous variable in the model using the HLM 5.0 software package for hierarchical linear and nonlinear modeling (Raudenbush et al. 2001). In each case, the first model estimated was the unconditional means model (also called the one-way random effects ANOVA model, or the fully unconditional model) which contained only the random intercept. This model allowed for the calculation of the intraclass correlation coefficients for the level-2 and level-3 models (ρ) which measure the proportion of the total variation in the endogenous variable that exists at level 2 and level 3. The computational formula for the intraclass correlation coefficient which shows the proportion of the variation that exists between neighborhoods is as follows:

$$\rho = \tau_{00} / (\sigma^2 + \tau_{00})$$

where τ_{00} is the level-3 variance component and σ^2 is the level-2 variance component.

Following estimation of the unconditional means model, the next model included only the level-2 predictors, the individual-level social and demographic variables, to control for response bias. The predicted value for the intercept and the residual term from this model were added together to obtain each respondent's score on the latent variable net of differences due to social and individual characteristics. These scores were subsequently aggregated to the neighborhood level to be included as level-3 predictors in modeling the remaining endogenous variables.

Then, level-3 models with the exogenous variables (economic disadvantage, ethnic heterogeneity, racial heterogeneity, and residential stability) were estimated to obtain the total causal effect of the social disorganization variables. Then, a level-3 model in each case with the exogenous variables and the first intervening variable was estimated. Subsequent models added the remaining intervening variables in the causal order specified in Figure 4.1.

Two-Level Hierarchical Nonlinear Models

Two-level nonlinear models were estimated for the eight crime victimization variables. Logistic regression was used because the crime victimization items are dichotomous variables. Dichotomous dependent variables violate the assumptions of normality and linearity that underlie hierarchical linear modeling. Logistic regression is the appropriate technique for analyzing dichotomous dependent variables (see Menard

2002 and Pampel 2000). In HLM 5.0 this was accomplished by selecting the nonlinear Bernoulli option with a correction for overdispersion.

Two-level hierarchical path models were estimated to test the systemic social disorganization model discussed above for each of the eight crime victimization variables. The level-1, individual-level model controls for response bias based on the 13 social and demographic characteristics of respondents in the PHDCN community survey. These level-1 models take the following form:

$$\eta_{ij} = \beta_{0j} + \sum_{p=1}^{13} \beta_{pj} X_{pij} + r_{ij},$$

where η_{ij} is the log odds of crime victimization.

The level-2, neighborhood-level model predicts the neighborhood log odds of crime victimization using social disorganization, disorder, social cohesion, and informal control variables, entered in the causal ordering specified in Figure 4.1. These models have the following form:

$$\beta_{0j} = \gamma_{q0} + \sum_{s=1}^{Sq} \gamma_{qs} W_{sj} + u_{qj},$$

where the W_{sj}'s are the level-2 predictors.

Two-level models were estimated for each endogenous variable in the model using the HLM 5.0 software package for hierarchical linear and nonlinear modeling (Raudenbush et al. 2001). In each case, the first model estimated was the unconditional

means model which contains only the random intercept. This model allows calculation of the intraclass correlation coefficients for the level-1 and level-2 models (ρ) which measure the proportion of the total variation in the endogenous variable that exists at level 1 and level 2.

Following estimation of the unconditional means model, in each case, the next model estimated included only the level-1 predictors and the exogenous variables to obtain the total causal effects of the social disorganization variables. Then, a model with the exogenous variables and the first intervening variable was estimated. Subsequent models added the other intervening variables in the causal order specified in Figure 4.1.

CONCLUSION

This chapter has described the theoretical model, the data and variables, and the analytical strategy used to test my modified version of systemic social disorganization theory (as depicted in Figure 4.1). Chapter V will present the findings of my empirical research, while Chapter VI discusses the findings, reassesses the modified theory, notes the limitations of the present study, suggests directions for future research, and details policy implications.

CHAPTER V

FINDINGS

INTRODUCTION

As discussed in previous chapters, a full systemic social disorganization model has not yet been tested. Several studies have begun to incorporate measures of disorder and measures of informal social control, but none have fully incorporated and tested Bursik and Grasmick's (1993) three levels of informal control that are expected to reduce crime. The theoretical model tested in the present study has incorporated the original social disorganization concepts, disorder, social cohesion, attachment, and private, parochial and public levels of informal social control. This chapter presents the results of the confirmatory factor analyses and the hierarchical linear and nonlinear models. A brief discussion of each factor analysis model is followed by a discussion of each of the hierarchical linear modeling results.

LATENT CONSTRUCTS

Disorder

Tables 5.1 through 5.5 display the results of the confirmatory factor analyses based on multiply-imputed missing data for each of the latent constructs in the systemic

social disorganization model tested in this study. As discussed in Chapter IV, multiple imputation creates five separate data sets for each measurement model in the analysis. The factor loadings and standard errors in each table are results from the multiply-imputed data sets combined using the formulas in Chapter IV. The goodness of fit measures are presented at the bottom of each table.

The first latent construct in the model is disorder. As discussed in Chapter IV, one objective in this study was to determine if disorder is one-dimensional or if, as is commonly discussed in the literature, it is two separate dimensions (physical versus social). Confirmatory factor analysis was used to test this hypothesis. All disorder-related variables were included in the original one-factor model. Two of the items expected to represent disorder had factor loadings less than 0.50 and were excluded from the analysis. These items included the question asking about the condition of the equipment and buildings in the park or playground closest to where the respondent lives and the question asking respondents to indicate how many people in the neighborhood they believed made part or all of their income from selling drugs.

When the model containing the two dimensions of social disorder and physical disorder was estimated, the correlation between the two concepts was 0.82. However, when the individual responses were aggregated to the neighborhood level, the correlation between the two concepts was 0.95. This indicates that the two dimensions lack discriminant validity–they are measuring the same concept. Additionally, the assigning of disorder-related survey items to either physical or social disorder was based largely on Skogan's (1990) discussion of disorder. However, one item, graffiti, loaded higher on the

physical disorder dimension while Skogan had viewed it as an indicator of social disorder. While graffiti may be defined as a social act, the act itself is generally unobserved by neighborhood residents; only its final product is visible, much like that of vacant or abandoned buildings, houses, and storefronts. This further underscores the difficulty of separating disorder into two dimensions. While the model fit better with graffiti as an indicator of physical disorder, the overall fit was much better when the model contained one overarching dimension of disorder.

As shown in Table 5.1, the results of the confirmatory factor analysis support disorder as being one-dimensional. All factor loadings are above 0.50, and the p-values are significant at less than 0.001. Additionally, the goodness of fit measures indicate that this model fits the data well. The minimum acceptable discrepancy, divided by the degrees of freedom (CMIN/DF) is 1.950, where a value less than three is acceptable (Arbuckle 1997). The Goodness of Fit Index (GFI) is 1.0, indicating a perfect fit (Arbuckle 1997), whereas the Adjusted Goodness of Fit Index (AGFI) is 0.998, where a

Table 5.1: Confirmatory Factor Analysis for Disorder

SURVEY ITEM	FACTOR LOADINGS	SE	DF	T-TEST	P-VALUE
Litter, glass, trash	0.659	0.008	1607.628	62.578	0.000
Vacant/deserted	0.602	0.008	904.216	52.608	0.000
Graffiti	0.587	0.008	1178.084	53.325	0.000
Drinking in public	0.826	0.009	174.982	74.971	0.000
Selling/using drugs	0.786	0.009	152.670	74.224	0.000
Groups of	0.722	0.009	123.583	64.433	0.000

Model Fit: Model χ^2 =29.25 Df=15 p-value= 0.015 CMIN/df=1.950 GFI=1.000

maximum value of 1.0 indicates a perfect fit (Arubckle 1997); and the Root-Mean Squared Error of Approximation (RMSEA) is 0.005, where a value less than 0.05 indicates a good fit (Browne and Cudek 1993, as cited in Arbuckle 1997).

Collective Efficacy

Another objective of the present study was to analyze Sampson et al.'s (1997) construct of collective efficacy. As discussed in previous chapters, Sampson et al. (1997) combined 5 items representing social cohesion and trust with 5 items representing informal control, based on a correlation of 0.80 between the two dimensions at the neighborhood level. Table 5.2 displays the results of the confirmatory factor analysis of the data after multiple imputation of missing data. The table consists of two parts: one with the unidimensional collective efficacy model, and second with the two-factor model which separates the measures of cohesion and trust from those tapping informal control. Two of the items, people in this neighborhood do not share the same values and people don't get along, do not fit the full collective efficacy model well, as the factor loadings for both items are 0.366 and 0.380, respectively, well below the ususal standard of 0.50. Additionally, the goodness of fit measures indicate the model does not fit the data very well. However, when the two dimensions are separated, the model fits much better. All factor loadings improve, although the same two items are still slightly below 0.50. Additionally, the correlation between the two dimensions is 0.64, indicating that the two dimensions are not measuring the same construct.

Table 5.2: Confirmatory Factor Analysis for Sampson et al.'s Collective Efficacy Model

1-FACTOR MODEL		2-FACTOR MODEL (r= 0.64)			
COLLECTIVE EFFICACY	**FACTOR LOADINGS**	**SOCIAL COHESION**	**FACTOR LOADINGS**	**INFORMAL CONTROL**	**FACTOR LOADINGS**
Skipping school	0.668	People can be trusted	0.685	Skipping school	0.727
Fight in front of	0.587	People do not share same	0.434	Fight in front of house	0.613
Child disrespecting	0.602	People don't get along	0.458	Child disrespecting an	0.643
Spray-painting	0.727	This is a close-knit	0.665	Spray-painting graffiti	0.770
Organize if budge	0.569	People willing to help	0.738	Organize if budge cuts	0.577
People can be	0.569				
People do not	0.366				
People don't get	0.380				
This is a close-knit	0.576				
People willing to	0.586				
CMIN/df	116.146		24.910		
GFI	0.890		0.980		
AGFI	0.827		0.968		
RMSEA	0.115		0.052		
Model χ^2 =	4065.108		846.940		
df	35		34		
p-value	0.000		0.000		

The difference in the correlation between the two studies is due to several factors. First, the missing data in this study were multiply-imputed; Sampson et al. (1997) used a different strategy to deal with missing data. Second, the data in this section of the analysis are at the individual level; when the data are aggregated to the neighborhood level, the correlation between social cohesion and informal control is 0.89. Third, Sampson and his colleagues used additive scales which fail to take into account measurement error–unique variance in each item not shared with the latent variable.

Based on these results, social cohesion and informal control will be treated as separate constructs in the analysis that follows. This will allow us to see whether social cohesion and informal social controls have different effects on crime.

Social Cohesion and Attachment

As discussed in Chapter IV, social cohesion is believed to impact crime through its effect on the utilization of informal social controls. Social cohesion is defined as the neighborhood residents' relationships with other neighborhood residents and their attachment to their neighborhood as a place to live. The original confirmatory factor analysis included eleven items related to residents' perceptions of their neighbors and their neighborhood, as well as items related to potential social networks residents had in the neighborhood (e.g., number of relatives and in-laws living in the neighborhood). Many of the factor loadings for these variables were less than the standard acceptable 0.50 value. Additionally, it became clear that social cohesion was not a one-dimensional construct. In fact, the confirmatory factor analysis revealed two distinct dimensions:

social cohesion and attachment, with a correlation of 0.70 between the two factors. The social cohesion variables focus on residents' perceptions of their neighbors and their neighborhood, while attachment focuses on the neighborhood itself as a place to live. Table 5.3 presents the results of the final factor model for social cohesion and attachment. All of the factor loadings are well above 0.50, and are statistically significant at the $p<0.001$ level. The CMIN/DF is 2.786. The GFI is 1.00 and the AGFI is 0.998. The RMSEA is 0.006. These goodness of fit measures all provide strong evidence that the model fits the data well.

Table 5.3: Confirmatory Factor Analysis for Social Cohesion and Attachment

SURVEY ITEM	FACTOR LOADINGS	SE	DF	T-TEST	P-VALUE
SOCIAL COHESION					
Close-knit	0.711	0.016	80.109	49.285	0.000
Trust other residents	0.702	0.020	12.227	34.193	0.000
People willing to help	0.721	0.014	37.967	49.088	0.000
ATTACHMENT					
Like/dislike	0.727	0.010	198.240	51.821	0.000
Miss if had to move	0.648	0.013	7233.098	50.359	0.000

Model Fit: Model χ^2 =22.285 Df=8 p-value= 0.004 CMIN/df=2.786 GFI=1.000 AGFI=0.998 RMSEA=0.006 r=0.70

Informal Social Control

The next latent construct in the systemic social disorganization model tested in this study was informal social control. While others have attempted to add elements of social control to systemic disorganization theory, none have explicitly tested the existence of multiple levels of informal control as described by Bursik and Grasmick (1993). One

objective in this current study was to test whether or not informal social control exists at one level or three levels (as described by Bursik and Grasmick). A secondary objective was to test whether or not the three levels of informal control differentially impacted reported victimization and residents' perception of crime in their neighborhoods.

As with the other latent constructs in this study, the original confirmatory factor model for informal social control included all 28 informal control items discussed in Chapter IV (see the Appendix for a list of the survey items). As expected, with this large number of indicators, very few items had factor loadings above 0.50. In an attempt to fully test the model as unidimensional, items with factor loadings of 0.50 or less were deleted until the model reached acceptable goodness of fit measures. This model contained three related items on how likely residents believed their neighbors would do something if 1) kids were skipping school and hanging out on the street corner; 2) spray-painting graffiti on a local building; and 3) showing disrespect to an adult. While these three items were consistent with three out of the five informal control items used by Sampson et al. (1997) to construct collective efficacy, one objective of this study was to test if three dimensions of informal control exist. Therefore, a three-factor model was also tested.

Table 5.4 presents the final results of the three-factor confirmatory factor analysis for informal social control. Although the one-factor model fits the data relatively well, the overall best fitting model was a three dimensional model. Additionally, it is interesting to note that one item used by Sampson et al. (1997) to measure informal

Table 5.4: Confirmatory Factor Analysis for Informal Social Controls

SURVEY ITEM	FACTOR LOADINGS	SE	DF	T-TEST	P-VALUE
PRIVATE					
Do favors for each	0.815	0.010	313.141	74.434	0.000
Watch others' homes	0.693	0.010	348.444	66.852	0.000
Ask others' advice	0.613	0.012	465.666	52.788	0.000
PAROCHIAL					
Do something skip	0.803	0.017	25.721	54.788	0.000
Do something graffiti	0.724	0.011	2391.134	66.363	0.000
Scold disrespectful	0.622	0.016	20.609	43.132	0.000
Do something if see	0.712	0.016	114.641	48.183	0.000
PUBLIC					
Youth center	0.718	0.010	7.044	34.830	0.000
Youth recreation	0.850	0.009	9.300	46.604	0.000
Youth after-school	0.615	0.006	67.550	49.200	0.000

Model Fit: Model χ^2 =220.693 df=105 p-value= 0.000 CMIN/df=2.102 GFI=0.999 AGFI=0.997 RMSEA=0.005 private/parochial r=0.45 private/public r=.09 parochial/public r=0.08

control and that later became part of their collective efficacy variable– the item on how likely residents would be to organize to try to stop the fire station from being closed due to budge cuts– was deleted from the analysis for having a factor loading less than the standard of 0.50. This variable did not fit in the original factor model, nor did it fit with the subsequent three-factor model.

The individual-level correlation between the constructs is presented at the bottom of the table, along with the goodness of fit measures. The individual-level correlation between the private and parochial control constructs is 0.45, while the correlation between private and public controls is 0.09 and 0.08 between parochial and public

controls. All of the factor loadings are well above the standard of 0.50, and all are statistically significant at the $p<0.001$ level. Additionally, all of the goodness of fit measures indicate the model fit the data well. The CMIN/DF is 2.102, while the GFI and the AGFI are 0.999 and 0.997, respectively. The RMSEA is 0.005, well below the standard 0.05 acceptable level.

When the data are aggregated to the neighborhood level, the correlations between constructs increases. The correlation between private control and parochial control is 0.68. The correlation between private control and public control the correlation is 0.36, while the correlation between parochial and public increases to 0.42. These correlations indicate that these three factors have discriminant validity– they are measuring different concepts. This further underscores the necessity of a three-factor social control model. Additionally, it supports the need for better understanding the impact that each of these three levels of informal control have on crime, as well as how each of these three levels may be differentially impacted by social disorganization, disorder, social cohesion, and attachment.

Crime

The data set used in this study, the Project on Human Development in Chicago Neighborhoods (PHDCN), contained many items representing crime victimization and neighborhood residents' perceptions of crime in their neighborhoods. The original confirmatory factor analysis model in this study contained eight items on personal/household victimization and five items measuring perceptions of neighborhood

crime. Four of the victimization items asked respondents if they or any member of their household had been a victim of violence, had their home broken into, had anything stolen from their property (outside of the home), and had property damaged. The remaining four victimization questions asked respondents who had been victimized to indicate if their victimization for each type of crime had occurred within the past six months. The perceptions of neighborhood crime items asked residents to indicate how often six specific criminal activities had taken place in their neighborhood during the past six months. The criminal activities were 1) fight with a weapon; 2) violent argument between neighbors; 3) gang fights; 4) sexual assault or rape; and 5) robbery or mugging.

When the model contained all thirteen crime items, none of the eight victimization items had factor loadings greater than 0.50. When the model contained two factors, victimization and perception of neighborhood crime, only two of the victimization items had factor loadings greater than 0.50–victim of property damage and victim of property damage in the past six months. All of the perception items had factor loadings greater than 0.50.

Additional attempts were made to determine the place of the victimization items in the model. For example, four two-factor models were created, with each pair of victimization items (had they been a victim and had this victimization occurred within the past 6 months) added to the model separately, keeping perception of crime consistent across all four models. This resulted in factor loadings greater than 0.50 for each pair. However, theoretically these models did not make sense. One possible explanation for these results is that the victimization variables are dichotomous, with the majority of

respondents reporting no victimization. Given the skewed distribution of responses on these items, combined with the lack of fit in the model, it was decided to leave these eight variables out of the measurement modeling process and instead to use them individually as dependent variables in hierarchical logistic regression models.

Table 5.5 displays the results of the confirmatory factor analysis for perception of crime in the neighborhood. The first confirmatory factor model for crime perception contained the five perception items discussed previously. The results of this model indicated that two dimensions exist for the perception of neighborhood crime. One survey item, violent arguments between neighbors, was excluded from the model. Although the item had a relatively high factor loading, the model fit the data better when this item was excluded from the analysis. As shown in Table 5.5, all factor loadings are over 0.50, and the goodness of fit measures indicate a perfect fit–the observed and the expected variance and covariance matrices do not differ.

Table 5.5: Confirmatory Factor Analysis for Crime

SURVEY ITEM	FACTOR LOADINGS	SE	DF	T-TEST	P-VALUE
VIOLENT STREET					
Sexual assault/rape	0.691	0.009	67.265	55.565	0.000
Robbery/mugging	0.798	0.013	104.237	61.170	0.000
VIOLENT FIGHTS					
Fight with weapon	0.837	0.012	96.962	69.808	0.000
Gang fight	0.859	0.015	20.381	62.338	0.000

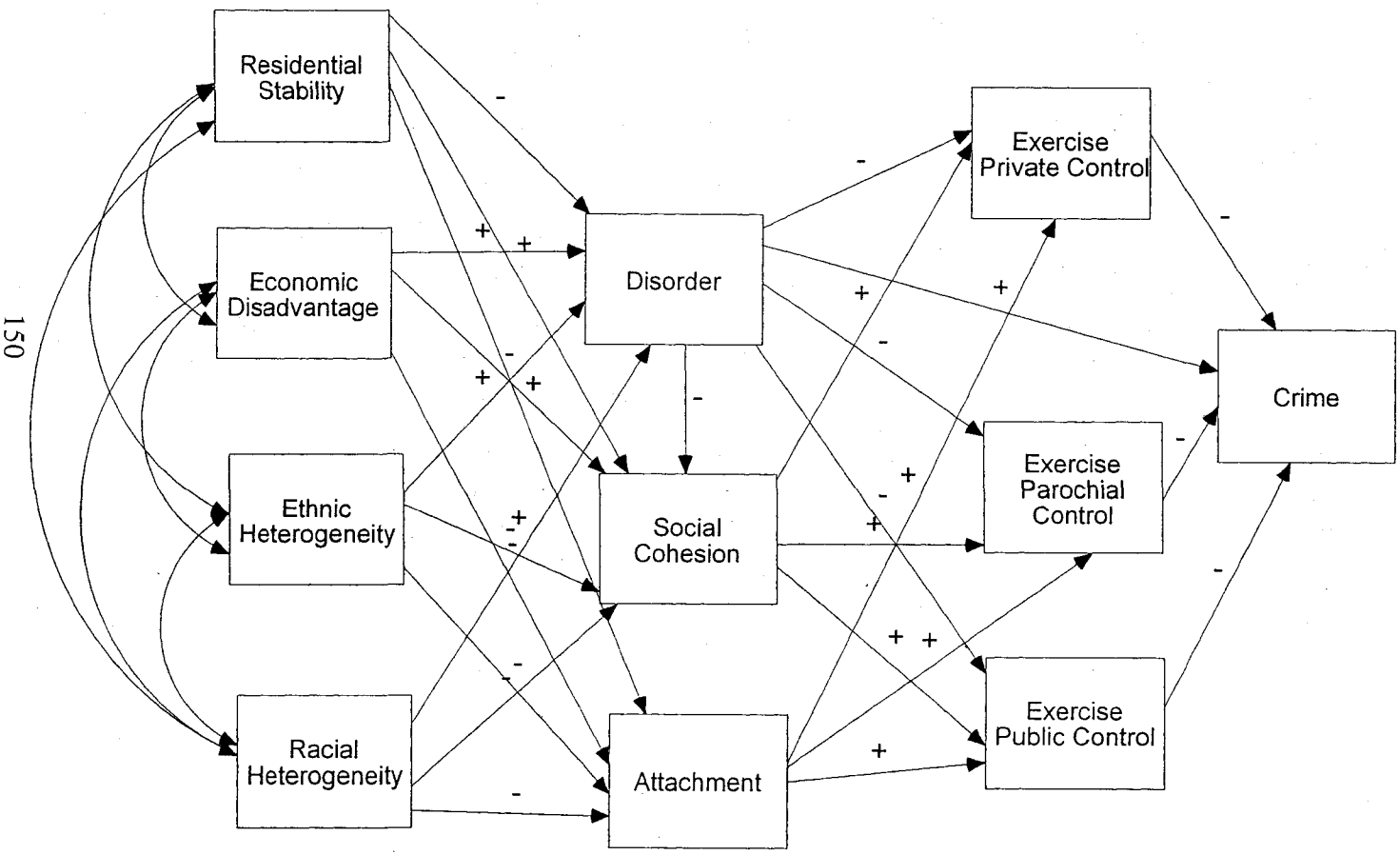
Model Fit: Model χ^2 =0.000 Df=0 p-value=not computed CMIN/df= not computed GFI=1.000 AGFI= not computed RMEA=0.226 r=0.77

The individual-level correlation between violent street crime and violent fights was 0.77, indicating some degree of discriminant validity between the two constructs. When the items were aggregated to the neighborhood level, the correlation between violent street crime and violent fights increased to 0.84. While this is a relatively high correlation between factors, the factor loadings were higher and the goodness of fit measures better for the two-factor model at both the individual and the aggregate levels.

SUMMARY

The systemic social disorganization model presented in Figure 4.1 was revised to take into account the results of the confirmatory factor analysis discussed above. Figure 5.1 presents the final systemic social disorganization model tested in this study. The expected direction of the relationships among the concepts is indicated by plus signs for positive relationships and minus signs for negative relationships. The final model contains four indicators of social disorganization: residential stability, economic disadvantage, ethnic heterogeneity, and racial heterogeneity. Racial and ethnic heterogeneity were separated to form two distinct variables. Family disruption was dropped as an indicator of social disorganization due to high multicollinearity with the measures of economic disadvantage. These indicators are hypothesized to directly affect the unidimensional concept of disorder. I also hypothesize that social disorganization will directly affect social cohesion and social attachment. As social cohesion and attachment are two dimensions of a single concept, there is no hypothesized relationship between the two concepts.

Figure 5.1 Final Systemic Social Disorganization Model



The confirmatory factor analysis also revealed that, as expected, there are three dimensions of informal social control: private, parochial, and public. Therefore, all three types of control have been added to the model. It is hypothesized that disorder, social cohesion, and attachment will directly impact the exercise of private, parochial, and public control. Lastly, based on Bursik and Grasmick's (1993) discussion of informal social control, all three levels of control are hypothesized to directly impact neighborhood crime.

HIERARCHICAL LINEAR AND NONLINEAR MODELING RESULTS

The next step in the data analysis process was to complete and analyze the hierarchical linear and nonlinear modeling results. As noted in Chapter IV, the multiply-imputed data could not be used in this phase of the analysis because the multiple imputation process removed nearly all of the cross-neighborhood variation. Therefore, I followed the same strategy for handling missing data as used by Sampson and his colleagues (1997). The "don't know" answer choice for all the survey items in the final confirmatory factor analysis was recoded to the middle Likert-scale category. Responses from those who refused to answer these question items were recoded as system missing. Then three-level hierarchical models were estimated where the multiple items for each theoretical construct at level-1 were nested within individuals. This method allows for respondents to be included in the analysis even if they did not respond to all items making up the construct. Missing data on individual-level social and demographic variables was recoded to the median (when continuous) or the modal category (when categorical).

One objective of this study was to analyze the direct and indirect impact of each of the constructs contained in the systemic social disorganization model being tested in this study. In order to fulfill this objective, each construct was added sequentially in the order specified in the theoretical model presented in Chapter IV. Each model contains the individual-level variables at level-2 which control for response bias. However, the tables include only results for the level-3 variables as these are of primary theoretical interest.

Social Disorder

The unconditional means model indicates that 63.4 percent of the variance in disorder is between neighborhoods, while approximately 36.6 percent is within neighborhoods. This indicates that there is a substantial amount of variation in disorder across neighborhoods. Results of the level-2 model indicate that individual-level characteristics influence neighborhood residents' perceptions of disorder in their neighborhoods. Of the thirteen individual-level variables added to the model, seven were statistically significant at $p<0.05$, and were in the expected direction. Higher levels of neighborhood disorder were reported by those who were younger, had higher levels of education, with greater household incomes, and those who had lived longer in their neighborhoods. Homeowners and renters were less likely to report disorder than those who lived in Chicago Housing Authority properties. Additionally, those who were separated or divorced reported higher levels of disorder than those who were married, never married, widowed, or living with a domestic partner. These individual variables explain 21.3 percent of the variation in disorder across neighborhoods.

Based on the literature reviewed in Chapters III and IV, neighborhoods characterized by higher levels of social disorganization are expected to experience higher levels of disorder. Disorder in turn is expected to influence other mediating constructs in the systemic social disorganization model tested in this study.

Table 5.6 displays the results for disorder. In this level-3 model, the four social disorganization variables were the only other variables included in the model. As shown in the table, three of the four social disorganization variables are statistically significant at the $p<0.05$ level–economic disadvantage, ethnic heterogeneity, and residential stability. All three relationships are in the expected direction, with increased economic disadvantage and ethnic heterogeneity increasing residents' perceptions of disorder in their neighborhoods, while increased residential stability decreased residents' reports of disorder. These level-3 results explain 75.4 percent of the variation in disorder across neighborhoods.

Table 5.6: HLM Results for Disorder
Social Disorganization

Variable	Coefficient	SE	T-Test	p-value
Economic Disadvantage	0.276	0.015	18.624	0.000
Ethnic Heterogeneity	0.070	0.015	4.554	0.000
Racial Heterogeneity	0.149	0.087	1.710	0.087
Residential Stability	-0.035	0.014	-2.407	0.016
Variance Components				
Within Neighborhood	*0.20304*			
Between	*0.02942*			
Explained Variance				
Within	*2.1%*			
Between	*75.4%*			

Contrary to expectations based on the existing social disorganization literature, racial heterogeneity did not have a significant influence on disorder. However, ethnic heterogeneity increased residents' perceptions of neighborhood disorder. One possible explanation for this finding is that this study incorporates a measure of racial heterogeneity, the index of diversity, rather than the percentage of minority residents (e.g., percentage Black, percentage Latino), a measure that taps homogeneity at both extremes. In addition, the present study uses measures that distinguish between racial and ethnic heterogeneity.

Social Cohesion

The unconditional means model of social cohesion shows that 19.2 percent of the variance in social cohesion is between neighborhoods, while 80.8 percent is within neighborhoods. This indicates that there is a substantial amount of variation in social cohesion across neighborhoods. Findings from the level-2 model reveal that individual-level characteristics influenced neighborhood residents' reports of social cohesion. Of the thirteen individual-level variables added to the model, seven were statistically significant at $p<0.05$, and were in the expected direction. Higher levels of social cohesion were reported by those who were older, more highly educated, and with higher income levels. Those who owned their own homes or were renters reported higher levels of social cohesion than those who lived in Chicago Housing Authority properties. Likewise, those who had lived in the neighborhood longer reported more social cohesion, while those who had moved more frequently in the past five years reported less social cohesion.

Additionally, black residents reported less social cohesion than people from other races. These individual variables explain 44.7 percent of the variation in social cohesion across neighborhoods.

As discussed in previous chapters, the degree to which neighborhood residents are able to bond with each other is expected to be affected by the presence of both social disorganization and disorder in the neighborhood, with disorder mediating the impact of social disorganization on social cohesion. To test this hypothesis, social disorganization and disorder were added sequentially to the level-3 model.

The effects of each of the social disorganization variables and disorder on cohesion are displayed in Table 5.7. In the social disorganization model, three of the four measures of social disorganization are statistically significant–economic disadvantage, ethnic heterogeneity, and residential stability. As expected, economic disadvantage and ethnic heterogeneity decrease the level of social cohesion, while residential stability increases social cohesion in the neighborhood. This supports the hypothesis that social disorganization impacts the ability of neighborhood residents to bond with each other.

Contrary to expectations based on the existing social disorganization literature, racial heterogeneity did not have a significant influence on social cohesion. Ethnic heterogeneity decreases social cohesion while racial heterogeneity has no statistically significant effect. One possible explanation for this finding is that the this study incorporates a measure of racial heterogeneity, the index of diversity, rather than the percentage of minority residents (e.g., percentage Black, percentage Latino), a measure

Table 5.7: HLM Results for Cohesion

	Social Disorganization				Social Disorganization and Disorder			
Variable	**Coeffi.**	**SE**	**T-Test**	**p-value**	**Coeff.**	**SE**	**T-Test**	**p-value**
Econ. Disadv.	-0.132	0.018	-7.371	0.000	0.010	0.024	0.421	0.673
Ethnic Het.	-0.040	0.018	-2.143	0.032	0.004	0.018	0.238	0.812
Racial Het.	-0.088	0.100	-0.876	0.381	-0.052	0.092	-0.563	0.573
Res. Stability	0.069	0.017	4.088	0.000	0.053	0.016	3.350	0.001
Disorder					-0.491	0.060	-8.144	0.000
Var. Comp.								
Within	.35345				.35269			
Between	.02957				.02189			
Exp. Variance								
Within	5.2%				5.4%			
Between	66.7%				75.4%			

that taps homogeneity at both extremes. In addition, the present study uses measures that distinguish between racial and ethnic heterogeneity.

It is also hypothesized that disorder mediates the effects of social disorganization on social cohesion. When disorder is added to the model, controlling for individual characteristics, the only significant disorganization variable is residential stability. Social cohesion is higher in neighborhoods that have higher residential stability. Disorder is also statistically significant at the $p<0.001$ level, indicating that it mediates the effects of ethnic heterogeneity and economic disadvantage on social cohesion. Thus, while social disorganization has an important influence on social cohesion, its effects are felt via its significant positive impact on the presence of disorder in the neighborhood. The model accounts for 75.4 percent of the variance in social cohesion across neighborhoods.

Attachment

One original objective of this study was to determine if social cohesion has an impact on neighborhood residents' willingness to use informal social controls, thereby impacting crime through this relationship. Based on the confirmatory factor analysis for the original social cohesion variables, a new construct, attachment, was created. Attachment refers to the feelings residents have about their neighborhood as a place to live. With the addition of attachment, a new objective of this study is to test the impact attachment has on neighborhood residents' willingness to use informal controls, and whether or not it has an impact on reducing crime. Additionally, the study is concerned with determining the effect that social disorganization and disorder have on residents' attachment to their neighborhood as a place to live. As no causal relationship is expected between cohesion and attachment, combined with their similarity in purpose, both variables are added to subsequent models at the stage in the causal process (i.e., as intervening between disorder and informal control).

The unconditional means model of attachment shows that 22.5 percent of the variance in attachment is between neighborhoods and 77.5 percent of the variance is within neighborhoods. This again indicates that a substantial amount of variation in attachment is between neighborhoods.

As with social cohesion, the level-2 model indicates that individual-level characteristics impact residents' reports of their attachment to their neighborhoods. Seven of the individual-level variables are statistically significant at $p<0.001$. Residents

who were older and had higher incomes indicated more attachment to their neighborhoods than those who were younger and had lower household incomes. Similar to the results for social cohesion, homeowners and renters indicated more attachment to their neighborhoods than residents who lived in Chicago Housing Authority properties. Additionally, those who reported living more years in the same neighborhood and those who reported moving less frequently in the past five years reported being more attached to their neighborhood. This level-2 model explains 45.1 percent of the variation in attachment across neighborhoods.

The level-3 model for attachment is again similar to the results for social cohesion, as expected, and explains 66.3 percent of the variation in attachment across neighborhoods. The first level-3 model includes only the social disorganization variables (Table 5.8). As with social cohesion, only three of the four disorganization variables are significant: economic disadvantage, ethnic heterogeneity, and residential stability. However, residential stability is not in the expected direction. The results indicate that as residential stability decreases, attachment to the neighborhood increases, which is contrary to the existing literature on social disorganization. One possible explanation for this anomalous finding is the changing nature of neighborhoods themselves. Neighborhoods with high residential stability may have changed over time from being thriving and cohesive to being run down and deserted by businesses and other local services. Many residents may have continued to live in these neighborhoods out of convenience or economic necessity, however they may no longer have positive feelings about the neighborhood as a place to live.

Table 5.8: HLM Results for Attachment

	Social Disorganization				Social Disorganization and Disorder			
Variable	**Coeff.**	**SE**	**T-Test**	**p-value**	**Coeff.**	**SE**	**T-Test**	**p-value**
Econ. Disadv.	-0.195	0.017	-11.277	0.000	-0.031	0.024	-1.298	0.194
Ethnic Het.	-0.089	0.018	-4.975	0.000	-0.041	0.017	-2.369	0.180
Racial Het.	-0.166	0.097	-1.705	0.088	-1.114	0.087	-1.306	0.192
Res. Stability	-0.047	0.016	-2.881	0.004	-0.066	0.015	-4.371	0.000
Disorder					-0.549	0.059	-9.293	0.000
Var. Comp.								
Within	*0.27047*				*0.26980*			
Between	*0.02904*				*0.01964*			
Exp. Variance								
Within	*8.8%*				*9.0%*			
Between	*66.3%*				*77.2%*			

When disorder is added to the model, the only social disorganization variable that remains statistically significant is residential stability, and it is not in the expected direction (Table 5.8). As noted, this is probably due to neighborhood deterioration.

Disorder also has a statistically significant impact on attachment in this level-3 model, and the effect is in the expected direction. Neighborhoods with higher disorder had lower levels of resident attachment to the neighborhood as a place to live. This level-3 model explains 77.2 percent of the variation in attachment across neighborhoods.

Private Control

As discussed in previous chapters, no study has fully incorporated Bursik and Grasmick's (1993) three levels of informal control into tests of systemic social disorganization theory. One objective of the current study was to test whether or not

these levels of informal social control have different influences on reported victimization and residents' perceptions of crime in their neighborhoods. Additionally, the study seeks to determine the influence that social disorganization, disorder, and social cohesion and attachment have on residents' perceptions of their neighbors' willingness to use informal social controls in their neighborhoods. One model was created for each of the three levels of control, adding social disorganization, disorder, and social cohesion and attachment separately to each model.

The unconditional means model indicates that 13.4 percent of the variance in private control is between neighborhoods, while 86.6 percent of the variance is within neighborhoods. This indicates that a considerable amount of variation exists between neighborhoods.

The level-2 model indicates that individual-level characteristics influence residents' perceptions of their neighbors' willingness to use informal social control. Eight individual-level characteristics are statistically significant, at the $p<0.05$ level of significance. Residents who had higher levels of education and higher household incomes reported higher potential use of private-level informal controls by their neighbors than those with lower levels of education and incomes. Black residents reported greater potential use of private-level controls than residents of any other race, as did male residents. Additionally, those who were married reported greater potential use of private controls by other neighborhood residents than those of any other marital status. Those who rented their homes reported their neighbors to be less likely to use private controls. Additionally, those who reported living in the neighborhood longer reported

greater potential use of private-level controls, while those who reported moving more frequently in the past five years reported their neighbors to be less likely to use private-level controls. This level-2 model explains approximately 40.5 percent of the variation in private-level control across neighborhoods.

Table 5.9 presents the results of the level-3 models for private control. In the first level-3 model, two of the social disorganization variables are statistically significant. As expected, as economic disadvantage increases, private control decreases and as residential stability increases, so does the potential for exercising private-level control in the neighborhood. As previously discussed, the lack of statistically significant effects for racial heterogeneity and ethnic heterogeneity may be due to differences in the measures used in the present study compared with those in past research. These measures tap heterogeneity in the racial ethnic composition of the neighborhood rather than the measures in other studies that tend to be better indicators of homogeneity (e.g., percentage Black). Although only two of the social disorganization variables are significant in this model, the model explains 61.4 percent of the variation in private control across neighborhoods.

The second level-3 model adds the disorder variable to the social disorganization variables (Table 5.9). Consistent with the other models discussed thus far, residential stability and disorder are the two remaining statistically significant variables. Both are in the expected direction, with residential stability increasing potential use of private-level controls within the neighborhood, while disorder decreases such potential. This indicates that disorder mediates the effects of social disorganization on private-level control, as

Table 5.9: HLM Results for Private Control

	Social Disorganization				Social Disorganization and Disorder				Social Disorganization, Disorder, Cohesion and Attachment			
Variable	**Coeff.**	**SE**	**T-Test**	**p-value**	**Coeff.**	**SE**	**T-Test**	**p-value**	**Coeff.**	**SE**	**T-Test**	**p-value**
Econ. Disadv.	-0.048	0.017	-2.864	0.005	0.009	0.025	0.361	0.718	0.022	0.021	1.030	0.303
Ethnic Het.	0.001	0.017	0.062	0.951	0.018	0.018	1.003	0.316	0.020	0.016	1.258	0.209
Racial Het.	0.069	0.092	0.749	0.454	0.084	0.091	0.927	0.354	0.121	0.076	1.596	0.110
Res. Stability	0.106	0.016	6.714	0.000	0.100	0.016	6.295	0.000	0.052	0.015	3.548	0.001
Disorder					-0.190	0.062	-3.074	0.003	0.117	0.058	1.995	0.046
Cohesion									0.561	0.060	9.402	0.000
Attachment									0.090	0.063	1.443	0.149
Var.												
Within	*0.34185*				*0.34176*				*0.34051*			
Between	*0.02185*				*0.02087*				*0.00807*			
Exp. Variance												
Within	*6.5%*				*6.5%*				*6.9%*			
Between	*61.4%*				*63.2%*				*85.8%*			

hypothesized in this study. This level-3 model accounts for 63.2 percent of the variation in private control across neighborhoods.

The final level-3 model of private control adds the variables of cohesion and attachment to social disorganization and disorder. When social cohesion and attachment are added, residential stability and disorder remain statistically significant and in the expected direction. Additionally, social cohesion is statistically significant. Neighborhoods with higher social cohesion have higher potential use of private controls. Attachment, however, is not statistically significant. This model explains 85.8 percent of the variation in private-level control across neighborhoods. Clearly the addition of the social cohesion and attachment variables increases the amount of explained variation in private control that exists between neighborhoods.

Parochial Control

The unconditional means model for parochial control shows that 14.9 percent of the variance in parochial control is between neighborhoods, while 85.1 percent is within neighborhoods. This indicates that a considerable amount of variance exists in parochial control across neighborhoods.

As with private control, five of the individual-level variables in the level-2 model influence residents' reported perceptions of other neighborhood residents' willingness to use parochial-level controls. Residents with higher household incomes reported higher levels of parochial control in their neighborhoods. Residents who were black reported the lowest levels of parochial control of any race. Homeowners and renters were more likely

to report higher levels of parochial control than those who lived in Chicago Housing Authority properties. Additionally, those who reported having moved more frequently in the past five years reported lower levels of parochial control. The level-1 model explains 30.2 percent of the variation in parochial control.

The first level-3 model contains the social disorganization variables. As shown in Table 5.10, three of the four social disorganization variables are statistically significant and in the expected direction. As economic disadvantage and ethnic heterogeneity increase, parochial control decreases. As residential stability increases, parochial control increases as well. This model explains 61.8 percent of the variation in parochial control across neighborhoods.

The second level-3 model contains the social disorganization and disorder variables. Similar to the level-3 model results for private control, residential stability is the only statistically significant social disorganization variable remaining after disorder is added to the model. Disorder is also statistically significant, and in the expected direction. As discussed previously, these results indicate that disorder is mediating the effects of social disorganization on parochial control. This model explains 77.0 percent of the variation in parochial control across neighborhoods.

The final level-3 model for parochial control includes the social disorganization, disorder, social cohesion, and attachment variables. In this model, economic disadvantage is statistically significant, but is not in the expected direction. The results indicate that as economic disadvantage increases, parochial control increases. Additionally, disorder and cohesion are statistically significant and in the expected

Table 5.10: HLM Results for Parochial Control

	Social Disorganization				Social Disorganization and Disorder				Social Disorganization, Disorder, Cohesion and Attachment			
Variable	**Coeff.**	**SE**	**T-Test**	**p-value**	**Coeff.**	**SE**	**T-Test**	**p-value**	**Coeff.**	**SE**	**T-Test**	**p-value**
Econ. Disadv.	-0.170	0.022	-7.719	0.000	0.057	0.030	1.910	0.056	0.068	0.027	2.520	0.012
Ethnic Het.	-0.060	0.023	-2.602	0.010	0.008	0.022	0.350	0.726	0.010	0.020	0.458	0.647
Racial Het.	-0.013	0.123	-0.108	0.915	0.056	0.108	0.513	0.607	0.100	0.100	1.042	0.298
Res. Stability	0.100	0.021	4.802	0.000	0.075	0.019	3.996	0.000	0.025	0.018	1.381	0.167
Disorder					-0.751	0.074	-10.186	0.000	-0.435	0.074	-5.887	0.000
Cohesion									0.583	0.075	7.729	0.000
Attachment									0.082	0.080	1.032	0.302
Var. Comp.												
Within	*0.65408*				*0.65243*				*0.65048*			
Between	*0.04443*				*0.02674*				*0.01400*			
Exp. Variance												
Within	*1.6%*				*1.9%*				*2.2%*			
Between	*61.8%*				*77.0%*				*88.0%*			

direction. As disorder increases, parochial control decreases, and as cohesion increases, parochial control increases. The model explains a full 88.0 percent of the variation in parochial control across neighborhoods, indicating a strong explanatory model.

One possible explanation for the change in direction for economic disadvantage is that residents in economically disadvantaged neighborhoods have more friends and relatives living in the same neighborhood. Therefore, they may be more likely to perceive others, particularly their friends and relatives, as willing to utilize parochial-level informal controls. Additionally, these neighborhoods may have more residents who spend quite a bit of their time outside in the neighborhood. Neighborhood residents may consequently perceive themselves as knowing more neighborhood residents and their children, and may therefore believe that other residents would also be willing to intervene and use informal controls because they know many of the residents and their children.

Public Control

The unconditional means model for public control shows that, consistent with both private and parochial control, 15.9 percent of the variance in public control is between neighborhoods, while 84.1 percent of the variance is within neighborhoods. Again, this indicates that a considerable amount of variation exists across Chicago neighborhoods.

The level-2 model indicates that several individual-level variables impact residents' responses to public control items. Eight of the thirteen individual-level variables are statistically significant at the $p<0.05$ level of significance, and are in the

expected direction. Residents who were older were probably less likely to live in neighborhoods with a youth center, youth recreation programs, and after-school youth programs if their children were grown adults. Additionally, those with higher education levels and higher household incomes were more likely to report that these programs were in their neighborhood, as were female neighborhood residents. Those who were separated or divorced were more likely to report that these public control programs were in their neighborhood than those from any other marital status. Additionally, homeowners and renters were less likely than Chicago Housing Authority residents to report the presence of these public control programs. Lastly, those who reported living longer in the neighborhood were more likely to indicate that these public control programs were in their neighborhood. The individual model for public control explains 14.3 percent of the variation in public control across neighborhoods.

Results of the level-3 models for public control are shown in Table 5.11. The first level-3 model with social disorganization shows that two variables are statistically significant– economic disadvantage and residential stability. Economic disadvantage is in the expected direction. As economic disadvantage increases, so does the presence of public control. Residential stability, however is not in the expected direction. The results indicate that as residential stability increases, it is less likely that public control exists in the neighborhood. One explanation for this unexpected direction may be a result of the three survey items used to measure public control. The three survey items asked residents if there was 1) a neighborhood youth center, 2) youth recreation programs, and 3) after-school programs for youth in their neighborhood. There are several federal, state and

Table 5.11: HLM Results for Public Control

	Social Disorganization				Social Disorganization and Disorder				Social Disorganization, Disorder, Cohesion and Attachment			
Variable	**Coeff.**	**SE**	**T-Test**	**p-value**	**Coeff.**	**SE**	**T-Test**	**p-value**	**Coeff.**	**SE**	**T-Test**	**p-value**
Econ. Disadv.	-0.041	0.008	-4.906	0.000	-0.004	0.013	-0.319	0.750	0.003	0.012	0.225	0.822
Ethnic Het.	-0.015	0.009	-1.689	0.091	-0.003	0.009	-0.377	0.705	-0.001	0.009	-0.159	0.874
Racial Het.	-0.011	0.049	-0.226	0.821	0.002	0.048	0.035	0.972	0.018	0.046	0.397	0.691
Res. Stability	-0.016	0.008	-2.016	0.043	-0.020	0.008	-2.537	0.011	-0.026	0.008	-3.146	0.002
Disorder					-0.125	0.032	-3.906	0.000	-0.039	0.035	-1.113	0.266
Cohesion									0.080	0.035	2.274	0.023
Attachment									0.098	0.037	2.674	0.008
Var. Comp.												
Within	*0.0562*				*0.05621*				*0.05620*			
Between	*0.0087*				*0.00838*				*0.00749*			
Exp. Variance												
Within	*2.7%*				*2.8%*				*2.8%*			
Between	*19.7%*				*23.3%*				*31.5%*			

local level agencies that fund programs like these specifically for economically disadvantaged communities. Therefore, we would expect more of these programs to exist in economically disadvantaged neighborhoods, where residential stability tends to be lower. While these programs operate as elements of public control because they bring in resources outside the community, it is also likely that there are more of these types of youth-related programs in neighborhoods that suffer from lower residential stability. This model explains only 19.7 percent of the variation in public control across neighborhoods.

The second level-3 model includes disorder as an intervening variable. Consistent with other results discussed in this study, residential stability and disorder are statistically significant, but the effect of residential stability is negative rather than positive. It indicates that disorder mediates the effect of social disorganization on public control. This level-3 model explains 23.3 percent of the variance in public control across neighborhoods.

The final level-3 three model of public control includes social disorganization, disorder, social cohesion, and attachment. Residential stability is the only statistically significant disorganization variable, and it maintains its negative direction, while both cohesion and attachment, as expected, are statistically significant and positively related to public control. Unlike the two other informal control models, disorder does not have a statistically significant effect on public control once social cohesion and attachment are controlled. This model explains 31.5 percent of the variation in public control across neighborhoods.

Perceptions of Violent Street Crime

The unconditional means model of perceptions of violent street crime indicates that a substantial amount of variance exists across Chicago neighborhoods. Approximately 29.5 percent of the variance in perceptions of violent street crime exists across neighborhoods, while 70.5 percent of variance is within neighborhoods.

The level-2 model indicates that individual-level characteristics influence residents' reports of street crime in their neighborhood. This model explains 23.9 percent of the variation in perceptions of violent street crime across neighborhoods. Four of the individual-level variables are statistically significant–age, education, Latino, and number of years lived in the neighborhood. Older residents were less likely to report higher levels of street crime. However, contrary to the assumptions associated with social disorganization theory, residents with higher education levels were more likely to report high levels of street crime. Additionally, those who had lived in the neighborhood longer were more likely to report higher levels of street crime in their neighborhoods, which is also contrary to the results found in the existing literature on social disorganization theory. Another surprising result it that Latinos are less likely than residents of other racial-ethnic groups to report higher levels of street crime in their neighborhood

The four level-3 models are presented in Table 5.12. The first level-3 model, with social disorganization, indicates that all four social disorganization variables are statistically significant at the $p<0.001$ level of significance. Three of the four social disorganization variables are in the expected direction. Economic disadvantage and racial heterogeneity increase perceptions of violent street crime in the neighborhood, while

Table 5.12: HLM Results for Perceptions of Violent Street Crime

	Social Disorganization				Social Disorganization and Disorder				Social Disorganization, Disorder, Cohesion and Attachment				Social Disorganization, Disorder, Cohesion, Attachment, and Private, Parochial, and Public Control			
Variable	**Coeff.**	**SE**	**T-Test**	**p-value**	**Coeff.**	**SE**	**T-Test**	**p-value**	**Coeff.**	**SE**	**T-Test**	**p-value**	**Coeff.**	**SE**	**T-Test**	**p-value**
Econ. Disadv.	0.100	0.018	5.437	0.000	-0.086	0.024	-3.505	0.001	-0.089	0.024	-3.646	0.000	-0.867	0.024	-3.566	0.001
Ethnic Het.	-0.062	0.019	-3.296	0.001	-0.117	0.018	-6.493	0.000	-0.117	0.018	-6.500	0.000	-0.114	0.018	-6.272	0.000
Racial Het.	0.380	0.102	3.710	0.000	0.319	0.090	3.539	0.001	0.306	0.089	3.445	0.001	0.311	0.089	3.482	0.001
Res. Stability	-0.121	0.017	-6.996	0.000	-0.100	0.016	-6.344	0.000	-0.084	0.017	-5.057	0.000	-0.070	0.018	-3.833	0.000
Disorder					0.627	0.061	10.241	0.000	0.536	0.068	7.929	0.000	0.560	0.070	7.976	0.000
Cohesion									-0.171	0.069	-2.488	0.013	-0.145	0.082	-1.766	0.077
Attachment									-0.021	0.072	-0.290	0.772	-0.033	0.072	-0.460	0.645
Private													-0.108	0.075	-1.435	0.151
Parochial													0.0211	0.056	0.377	0.707
Public													0.213	0.117	1.825	0.067
Var. Comp.																
Within	*0.3101*				*0.3092*				*0.3093*				*0.30945*			
Between	*0.0319*				*0.0198*				*0.0184*				*0.01758*			
Exp. Variance																
Within	*2.0%*				*2.3%*				*2.3%*				*2.2%*			
Between	*51.7%*				*70.0%*				*72.1%*				*73.4%*			

residential stability decreases perceptions of violent street crime. However, ethnic heterogeneity decreases perceptions of violent street crime. While this is an unexpected finding, it also underscores the importance of separating ethnic heterogeneity from racial heterogeneity, rather than assuming the two affect crime in the same manner or assuming that racial diversity explains more than ethnic diversity. This model explains 51.7 percent of the variation in perceptions of violent street crime across neighborhoods.

The second level-3 model adds disorder to the social disorganization variables. All four social disorganization variables and the disorder variable are statistically significant. Again, with the exception of ethnic heterogeneity, all relationships are in the expected direction. As economic disadvantage and racial heterogeneity increase, so do perceptions of violent street crimes. Residential stability decreases reported perceptions of violent street crime, and as does ethnic heterogeneity. This model accounts for 70.0 percent of the variation in perceptions of violent street crime. This nearly 20 percent increase in explained variation from the social disorganization model indicates that disorder makes an important contribution to the systemic social disorganization model.

The third level-3 model of perceptions of violent street crime adds social cohesion and attachment to the model. As shown in Table 5.12, all four social disorganization variables are statistically significant, as are disorder and cohesion. Attachment is the only non-significant variable in the model. The model explains 72.1 percent of the variation in perceptions of violent street crime across neighborhoods.

While economic disadvantage is statistically significant, it is not in the expected direction. In this model, economic disadvantage has a negative affect on perceptions of violent street crime, such that as economic disadvantage increases, violent crime decreases. According to the existing social disorganization literature, it is excepted that economic disadvantage increases crime. The fact that adding cohesion and attachment to the model changes the direction of its effect on perceptions of violent street crime indicates a complex relationship between the variables in the model. It is possible that some extremely economically disadvantaged neighborhoods also experience high cohesion rates based on their shared experiences, which may lower the crime rate for these neighborhoods. This would indicate that social cohesion mediates the effect of economic disadvantage on perceptions of violent crime.

The final level-3 model represents the full systemic social disorganization model, and includes social disorganization, disorder, social cohesion and attachment, and private, parochial, and public informal controls. As shown in Table 5.12, all social disorganization variables are still statistically significant, as is disorder. Neither social cohesion and attachment nor private, parochial, and public controls have a statistically significant impact on perceptions of violent street crime at the $p<0.05$ level. However, social cohesion and public informal control come close to being statistically significant ($p=0.077$ and $p=0.067$ for two-tailed tests, respectively). Social cohesion reduces perceptions of violent street crime, as expected, but public informal control increases these perceptions, contrary to expectations. This model explains 73.4 percent of the variation in perceptions of violent street crime across neighborhoods.

Perceptions of Violent Neighborhood Fights

The unconditional means model for perceptions of violent neighborhood fights shows that 17.3 percent of the variation in perceptions of violent neighborhood fights is between neighborhoods, while 82.7 percent is within neighborhoods. This indicates that a considerable about of variation exists in perceptions of violent neighborhood fights across Chicago neighborhoods.

The level-2 model of perceptions of violent fights indicates that eight of the individual-level characteristics influenced residents' reports of violent fights in their neighborhoods. As expected, older residents and residents with higher household incomes reported fewer violent fights in their neighborhoods. Additionally, black residents were more likely than residents of any other race to report higher levels of violent fights in their neighborhoods. Homeowners and renters reported fewer violent fights in their neighborhoods compared to Chicago Housing Authority residents. Residents who reported moving more frequently in the past five years were more likely to report higher levels of violent fights in their neighborhoods. One unexpected finding is that those who had lived longer in their neighborhoods were more likely to report more violent fights in their neighborhoods than those who had not lived in the neighborhood as long. One possible explanation for this anomalous finding is the cycle of neighborhood growth, stability, and deterioration. As previously noted in the discussion of residential stability's unexpected effect on attachment, neighborhoods with higher residential stability may have recently begun to suffer from deterioration and decay, leading to higher

disorder and crime rates. Rather than leave their homes, residents may have chosen to remain in the neighborhood, perhaps out of convenience or economic necessity. Taking this into consideration, we might expect residents who have lived longer in their neighborhood to report more violent fights than those who had not lived very long in the neighborhood. The level-2 model explains 23.9 percent of the variation in perceptions of violent street fights across neighborhoods.

The level-3 models are presented in Table 5.13. The first level-3 model contains the four social disorganization variables. Three of the four variables are statistically significant at the 0.05 level of significance, and all are in the expected direction. The results show that as economic disadvantage, ethnic heterogeneity, and racial heterogeneity increase, so do perceptions of violent fights in the neighborhood. This model explains 71.4 percent of the variance in perceptions of violent fights across neighborhoods.

When disorder is added to the model, two of the four disorganization variables are statistically significant, as is disorder. Racial heterogeneity increases perceptions of violent fights in the neighborhood. One unexpected finding is that ethnic heterogeneity decreases perceptions of violent fights in the neighborhood once disorder is controlled. Thus, disorder mediates the effect of ethnic heterogeneity on perceptions of violent street crime. It is possible that ethnic heterogeneity increases violent street crime only in neighborhoods characterized by high levels of social and physical disorder.

Based on the existing social disorganization literature, we would expect ethnic heterogeneity to be similar to racial heterogeneity in terms of its effect on crime. Clearly ethnic heterogeneity does not have the same effect. This finding again emphasizes the

Table 5.13: HLM Results for Perceptions of Violent Fights in Neighborhood

	Social Disorganization				Social Disorganization and Disorder				Social Disorganization, Disorder, Cohesion and Attachment				Social Disorganization, Disorder, Cohesion, Attachment, and Private, Parochial, and Public Control			
Variable	**Coeff.**	**SE**	**T-Test**	**p-value**	**Coeff.**	**SE**	**T-Test**	**p-value**	**Coeff.**	**SE**	**T-Test**	**p-value**	**Coeff.**	**SE**	**T-Test**	**p-value**
Econ. Disadv.	0.358	0.022	15.922	0.000	-0.007	0.024	-0.291	0.771	-0.015	0.024	-0.626	0.531	-0.011	0.024	-0.442	0.658
Ethnic Het.	0.064	0.023	2.746	0.006	-0.039	0.018	-2.196	0.028	-0.043	0.018	-2.420	0.016	-0.042	0.018	-2.365	0.018
Racial Het.	0.377	0.131	2.871	0.005	0.211	0.086	2.443	0.015	0.189	0.086	2.206	0.027	0.207	0.087	2.389	0.017
Res. Stability	-0.037	0.022	-1.690	0.091	0.003	0.015	0.195	0.846	0.009	0.016	0.537	0.591	0.021	0.018	1.126	0.261
Disorder					1.204	0.059	20.270	0.000	1.115	0.067	16.866	0.000	1.103	0.069	15.927	0.000
Cohesion									-0.750	0.067	-1.115	0.265	-0.005	0.081	-0.064	0.950
Attachment									-0.119	0.071	-1.689	0.091	-0.112	0.071	-1.568	0.117
Private													-0.084	0.074	-1.129	0.260
Parochial													-0.057	0.056	-1.020	0.308
Public													0.043	0.115	0.369	0.712
Var. Comp.																
Within	*0.5156*				*0.5145*				*0.5143*				*0.5142*			
Between	*0.0633*				*0.0131*				*0.0124*				*0.0122*			
Exp. Variance																
Within	*2.5%*				*2.7%*				*2.7%*				*2.7%*			
Between	*71.4%*				*94.0%*				*94.4%*				*94.5%*			

importance of separating and studying both racial and ethnic heterogeneity in social disorganization research. Additionally, the results indicate that disorder mediates the effects of social disorganization on perceptions of violent fights in the neighborhood. This level-3 model explains a full 94.0 percent of variation in perceptions of violent fights across neighborhoods. This increase in explained variation from 71.4 percent for the social disorganization model to the 94.0 percent for the social disorganization and disorder model indicates that disorder is a key mediating factor in the systemic social disorganization model.

In the next level-3 model, cohesion and attachment are added to the model (see Table 5.13). However, neither of the variables is statistically significant. The three statistically significant variables in this model are ethnic heterogeneity, racial heterogeneity, and disorder. Again, while racial heterogeneity and disorder are in the expected direction, ethnic heterogeneity has a negative association with perceptions of violent fights in this model. This model explains 94.4 percent of the variation in perceptions of violent fights across neighborhoods.

The final level-3 model contains the full systemic social disorganization model being tested in this study. However, the results indicate that only three variables are statistically significant–ethnic heterogeneity, racial heterogeneity, and disorder. Consistent with the previous level-3 models for perceptions of violent fights, ethnic heterogeneity is not in the expected direction. It has a statistically negative relationship with perceptions of violent fights. The clear difference in effects of racial heterogeneity compared to ethnic heterogeneity again underscores the importance of measuring these

two variables separately in the model. This final, complete level-3 model of violent crime explains 94.5 percent of the variation in perceptions of violent fights across neighborhoods.

CRIME VICTIMIZATION

This section of Chapter V discusses the results of the logistic regression of the eight victimization variables included in this study. Logistic regression was used because the crime victimization items are dichotomous variables. Dichotomous dependent variables violate the assumptions of normality and linearity that underlie hierarchical linear modeling. Logistic regression is the appropriate technique for analyzing dichotomous dependent variables (see Menard 2002 and Pampel 2000). As with the other hierarchical linear models discussed above, the results of the individual-level models (level-1 models for victimization) are discussed, but the results are not shown in the tables. Additionally, the victimization models are two-level models, rather than three-level models. The level-1 models for victimization contain the individual characteristics, and the level-2 models add each of the intervening constructs in the model sequentially.

Violent Crime Victimization

Violent crime victimization was measured by asking residents if they or any member of their household had ever been a victim of a mugging, fight, or sexual assault while they lived in their neighborhood. The unconditional means model indicates that 19.2 percent of the variance in violent crime victimization is between neighborhoods,

while 80.8 percent is within neighborhoods. This indicates a considerable amount of variation in violent crime victimization exists between neighborhoods.

The level-1 model indicates that individual-level characteristics influence residents' reports of victimization. Five of the individual-level variables were statistically significant at the $p<0.05$ level, and all were in the expected direction. Those who were older and those with higher incomes reported less victimization. Those who were never married and those who were separated or divorced reported being victims of violence more than any other marital status group. Those who lived in the neighborhood longer were more likely to report being a victim of violence than those who had not lived in the neighborhood as long. This individual-level model explains none of the variation in violent crime victimization across neighborhoods.

Table 5.14 displays the results of the four level-2 models for violent crime victimization. When social disorganization is in the model alone, economic disadvantage and residential stability are statistically significant and in the expected direction. The model, however, explains only 13.1 percent of the variation in violent crime victimization across neighborhoods.

When disorder is added to the model, it is the only statistically significant variable, which is relatively consistent with the other models discussed in this study. Disorder mediates the effects of economic disadvantage and residential stability on violent crime victimization. The proportion of explained variation in violent crime victimization across neighborhoods, however, increases to 40.7 percent. This indicates that disorder is an essential component of the systemic social disorganization model.

Table 5.14: HLM Results for Violent Crime Victimization

	Social Disorganization				Social Disorganization and Disorder				Social Disorganization, Disorder, Cohesion and Attachment				Social Disorganization, Disorder, Cohesion, Attachment, and Private, Parochial, and Public Control			
Variable	**Coeff.**	**SE**	**T-Test**	**p-value**	**Coeff.**	**SE**	**T-Test**	**p-value**	**Coeff.**	**SE**	**T-Test**	**p-value**	**Coeff.**	**SE**	**T-Test**	**p-value**
Econ. Disadv.	0.304	0.057	5.316	0.000	-0.080	0.080	-1.006	0.315	-0.096	0.080	-1.205	0.229	-0.082	0.080	-1.023	0.307
Ethnic Het.	0.024	0.062	0.396	0.692	-0.093	0.063	-1.488	0.137	-0.096	0.062	-1.534	0.125	-0.095	0.063	-1.507	0.132
Racial Het.	-0.166	0.317	-0.513	0.607	-0.304	0.303	-1.005	0.315	-0.389	0.299	-1.303	0.193	-0.334	0.303	-1.102	0.271
Res. Stability	-0.121	0.056	-2.168	0.030	-0.075	0.055	-1.367	0.172	-0.037	0.058	-0.626	0.530	-0.013	0.065	-0.198	0.843
Disorder					1.341	0.202	6.631	0.000	0.990	0.223	4.431	0.000	0.899	0.235	3.819	0.000
Cohesion									-0.442	0.229	-1.927	0.054	-0.226	0.275	0.819	0.413
Attachment									-0.302	0.245	-1.235	0.217	-0.260	0.247	-1.051	0.294
Private													-0.128	0.253	-0.504	0.614
Parochial													-0.262	0.189	-1.392	0.164
Public													-0.119	0.393	-0.303	0.762
Var. Comp.																
Within	*0.9103*				*0.9268*				*0.9334*				*0.9339*			
Between	*0.1894*				*0.1294*				*0.1085*				*0.1087*			
Exp. Variance																
Within	*0.70%*				*-1.1%*				*-1.8%*				*-1.9%*			
Between	*13.1%*				*40.7%*				*50.2%*				*50.1%*			

When cohesion and attachment are added to the model, disorder is the only statistically significant variable. However, social cohesion comes close to being statistically significant (p=0.054, two-tailed test) and has the expected negative effect on violent crime victimization. The model explains 50.2 percent of the variation in violent crime victimization across neighborhoods.

The final level-2 model of violent crime victimization incorporates social disorganization, disorder, cohesion and attachment, and private, parochial, and public controls. Again, the only statistically significant variable in the model is disorder, and it is in the expected direction. The model explains 50.1 percent of the variation in violent crime victimization across neighborhoods.

Recent Violent Crime Victimization

Recent violent crime victimization was measured by asking residents who answered yes to the violent crime victimization question if their victimization had occurred within the past 6 months. The unconditional means model indicates that 37.4 percent of the variance in recent violent crime victimization is between neighborhoods, while 62.6 percent is within neighborhoods. This indicates a substantial amount of variation in recent violent crime victimization exists across Chicago neighborhoods .

The level-1 model for recent violent crime victimization also indicates that several of the individual-level characteristics influenced residents' reports of recent victimization. As expected, lower levels of recent victimization were reported by those who were older and those with higher incomes. Those who were separated or divorced reported higher

recent victimization, as did residents who had moved more frequently in the past five years. Latinos also reported higher levels of recent victimization. The level-1 model explains 29.0 percent of the variation in recent violent crime victimization across neighborhoods.

The level-2 models are shown in Table 5.15. With social disorganization in the model alone, economic disadvantage and ethnic heterogeneity are statistically significant and in the expected direction–both increase recent violent crime victimization. The model explains 36.1 percent of the variation in recent violent crime victimization.

The second level-2 model adds disorder to the model. In this model, the only statistically significant variable is disorder, and it is in the expected positive direction. The addition of disorder raises the proportion of explained variation in recent violent crime victimization across neighborhoods to 45.8 percent.

When cohesion and attachment are added to the third level-2 model of recent violent crime victimization, three variables are statistically significant, and two are in the expected direction. As disorder increases, recent violent crime victimization increases, and as attachment increases, recent violent crime victimization decreases. However, contrary to expectations, racial heterogeneity has a negative effect on recent violent crime victimization. The model explains 55.6 percent of the variation in recent violent crime victimization across neighborhoods.

The last level-3 model incorporates all variables in the systemic social disorganization model tested in this study. The model explains 56.6 percent of the variation in recent violent crime victimization across neighborhoods. Two variables are

Table 5.15: HLM Results for Recent Violent Crime Victimization

	Social Disorganization				Social Disorganization and Disorder				Social Disorganization, Disorder, Cohesion and Attachment				Social Disorganization, Disorder, Cohesion, Attachment, and Private, Parochial, and Public Control			
Variable	**Coeff.**	**SE**	**T-Test**	**p-value**	**Coeff.**	**SE**	**T-Test**	**p-value**	**Coeff.**	**SE**	**T-Test**	**p-value**	**Coeff.**	**SE**	**T-Test**	**p-value**
Econ. Disadv.	0.363	0.077	4.740	0.000	-0.000	0.108	-0.001	0.999	-0.037	0.108	-0.343	0.731	-0.027	0.109	-0.248	0.804
Ethnic Het.	0.206	0.084	2.447	0.015	0.101	0.088	1.150	0.251	0.103	0.088	1.207	0.228	0.117	0.089	1.308	0.191
Racial Het.	-0.704	0.430	-1.638	0.101	-0.824	0.428	-1.928	0.053	-1.026	0.424	-2.423	0.016	-0.978	0.428	-2.286	0.022
Res. Stability	-0.024	0.079	-0.309	0.757	0.0312	0.081	0.392	0.694	0.081	0.086	0.938	0.349	0.108	0.095	1.133	0.258
Disorder					0.353	0.277	4.888	0.000	0.739	0.305	2.423	0.016	0.579	0.323	1.792	0.073
Cohesion									-0.577	0.323	-1.786	0.074	-0.344	0.382	-0.898	0.369
Attachment									-0.797	0.344	-2.318	0.020	-0.755	0.346	-2.179	0.029
Private													0.037	0.351	0.105	0.917
Parochial													-0.460	0.262	-1.759	0.078
Public													-0.015	0.550	-0.027	0.979
Var.																
Within	*0.8264*				*0.8453*				*0.8578*				*0.8606*			
Between	*0.3030*				*0.2572*				*0.2106*				*0.2057*			
Exp. Variance																
Within	*-4.1%*				*-6.5%*				*-8.1%*				*-8.5%*			
Between	*36.1%*				*45.8%*				*55.6%*				*56.6%*			

statistically significant. Racial heterogeneity is still statistically significant but negative, while attachment has the expected negative impact on violent crime victimization. Parochial control comes close to being statistically significant in the expected negative direction (p=0.078, two-tailed test), thus reducing neighborhood violent crime victimization. However, disorder is no longer significant. Thus, informal controls, although not individually significant at the 0.05 level, appear to mediate the effect of disorder on crime. This is one of the few models where disorder is not statistically significant in the full systemic social disorganization model.

Burglary Victimization

This type of victimization was measured by asking residents if their home had ever been broken into while they lived in the neighborhood. The unconditional means model indicates that 12.0 percent of the variation in burglary victimization is between neighborhoods, while 88.0 percent is within neighborhoods. This indicates a moderate amount of variation exists between neighborhoods.

The level-1 model indicates that individual-level characteristics influenced residents' reports of burglary victimization. Those with higher education levels reported higher levels of burglary victimization, as did those who were separated or divorced. Additionally, those who had lived in the neighborhood longer reported more burglary victimization than those who had lived for a shorter period of time in the neighborhood. Lastly, those who had moved frequently in the past 5 years reported less burglary victimization than those who had not moved as frequently. This individual model explains none of the variation in burglary victimization across neighborhoods.

The level-2 model results are presented in Table 5.16. Very few of the variables are statistically significant across any of the level-2 models. In the social disorganization model, economic disadvantage and residential stability are significant and in the expected direction–both increase burglary victimization. The model explains none of the variation in burglary victimization across neighborhoods.

When disorder is added to the model, it is the only statistically significant variable, which is relatively consistent with previous models discussed in this study. Disorder increases burglary victimization. This indicates that disorder mediates the effects of social disorganization on burglary victimization. The model explains 9.6 percent of the variation in burglary victimization across neighborhoods.

The next level-2 model adds cohesion and attachment. Both variables fail to be statistically significant. Disorder is the only significant variable, and it is in the expected direction. The model explains 9.1 percent of the variation in burglary victimization across neighborhoods.

Lastly, private, parochial and public control are added to the model, representing a full systemic social disorganization model. However, public control is the only informal control variable that is statistically significant and in the expected negative direction. The presence of public controls decreases burglary victimization. Disorder is the only other statistically significant variable in this model and the relationship is in the expected positive direction. Note that public control is measured by the presence of a youth center, youth recreation programs, and after-school programs. Although the model explains only 10.3 percent of the variation in burglary victimization across neighborhoods, the results

Table 5.16: HLM Results for Burglary Victimization

	Social Disorganization				Social Disorganization and Disorder				Social Disorganization, Disorder, Cohesion and Attachment				Social Disorganization, Disorder, Cohesion, Attachment, and Private, Parochial, and Public Control			
Variable	**Coeff.**	**SE**	**T-Test**	**p-value**	**Coeff.**	**SE**	**T-Test**	**p-value**	**Coeff.**	**SE**	**T-Test**	**p-value**	**Coeff.**	**SE**	**T-Test**	**p-value**
Econ. Disadv.	0.223	0.054	4.087	0.000	-0.062	0.078	-0.792	0.428	-0.078	0.079	-0.989	0.323	-0.075	0.080	-0939	0.348
Ethnic Het.	0.124	0.057	2.160	0.031	0.041	0.059	0.703	0.482	0.032	0.060	0.532	0.594	0.016	0.060	0.262	0.794
Racial Het.	-0.106	0.290	-0.364	0.715	-0.185	0.284	-0.651	0.515	-0.234	0.286	0.819	0.413	-0.205	0.290	-0.706	0.480
Res. Stability	-0.088	0.051	-1.722	0.085	-0.049	0.051	-0.955	0.340	-0.043	0.055	-0.769	0.442	-0.068	0.061	-1.107	0.269
Disorder					0.982	0.194	5.060	0.000	0.784	0.278	3.603	0.001	0.708	0.229	3.092	0.002
Cohesion									-0.087	0.222	-0.389	0.697	-0.032	0.269	-0.118	0.907
Attachment									-0.337	0.236	-1.426	0.154	-0.272	0.238	-1.142	0.254
Private													0.097	0.246	0.394	0.693
Parochial													-0.086	0.183	-0.471	0.637
Public													-0.787	0.378	-2.081	0.037
Var. Comp.																
Within	*0.9254*				*0.93050*				*0.9306*				*0.9305*			
Between	*0.1398*				*0.11650*				*0.1171*				*0.1156*			
Exp. Variance																
Within	*2.2%*				*1.6%*				*1.6%*				*1.6%*			
Between	*-8.5%*				*9.6%*				*9.1%*				*10.3%*			

indicate that in neighborhoods where these programs exist, even if they experience higher levels of disorder, residents experience less burglary victimization. Since burglary is mostly committed by young men, having programs like these that focus on the at-risk population in the neighborhood does indeed reduce this type of property crime.

Recent Burglary Victimization

This type of recent victimization was measured by asking residents who answered yes to ever having their home broken into while they lived in the neighborhood if their victimization had occurred within the past 6 months. The unconditional means model indicates that 34.1 percent of the variance in recent burglary victimization is between neighborhoods, while 65.9 percent is within neighborhoods. This indicates a substantial amount of variation in recent burglary victimization exists between neighborhoods.

The level-1 model indicates that few of the individual-level characteristics significantly impacted residents' reports of recent burglary victimization. Latinos reported higher levels of recent victimization. Residents who were married reported less burglary victimization than any other marital status group. Additionally, those who had moved more frequently in the past five years reported more recent burglary victimization than those who had not moved as frequently. This model explains 25 percent of the variation in recent burglary victimization.

Table 5.17 shows the results of the four level-2 models. The first level-2 model shows that economic disadvantage and residential stability are statistically significant, and in the expected direction. Economic disadvantage increases recent burglary

Table 5.17: HLM Results for Recent Burglary Victimization

	Social Disorganization				Social Disorganization and Disorder				Social Disorganization, Disorder, Cohesion and Attachment				Social Disorganization, Disorder, Cohesion, Attachment, and Private, Parochial, and Public Control			
Variable	**Coeff.**	**SE**	**T-Test**	**p-value**	**Coeff.**	**SE**	**T-Test**	**p-value**	**Coeff.**	**SE**	**T-Test**	**p-value**	**Coeff.**	**SE**	**T-Test**	**p-value**
Econ. Disadv.	0.306	0.085	3.585	0.001	-0.051	0.123	-0.419	0.675	-0.073	0.123	-0.588	0.556	-0.084	0.126	-0.665	0.506
Ethnic Het.	0.161	0.092	1.749	0.080	0.045	0.097	0.467	0.640	0.037	0.098	0.380	0.704	0.020	0.100	0.198	0.843
Racial Het.	-0.526	0.462	-1.139	0.255	0.647	0.461	1.405	0.160	-0.770	0.462	-1.667	0.095	-0.797	0.468	1.706	0.088
Res. Stability	-0.175	0.086	-2.043	0.041	-0.127	0.087	-1.452	0.146	-0.102	0.094	-1.082	0.280	-0.152	0.105	-1.444	0.149
Disorder					1.288	0.308	4.181	0.000	0.946	0.342	2.761	0.006	0.940	0.363	2.591	0.010
Cohesion									-0.304	0.361	-0.844	0.399	-0.404	0.430	-0.940	0.348
Attachment									-0.463	0.383	-1.209	0.227	-0.430	0.385	-1.117	0.265
Private													0.218	0.400	0.544	0.586
Parochial													0.100	0.291	0.340	0.734
Public													-0.856	0.627	-1.365	0.172
Var. Comp.																
Within	*0.8307*				*0.8447*				*0.8610*				*0.8695*			
Between	*0.2533*				*0.2070*				*0.1761*				*0.1657*			
Exp. Variance																
Within	*-7.1%*				*-8.9%*				-				-			
Between	*36.9%*				*48.4%*				*56.1%*				*58.7%*			

victimization, while residential stability decreases it. The model with social disorganization alone explains 36.9 percent of the variation in recent burglary victimization across neighborhoods in Chicago.

The second level-2 model adds disorder to social disorganization. In this model, disorder is the only statistically significant variable. It is significant at the $p<0.001$ level, and is in the expected direction–as disorder increases, so does recent burglary victimization. Additionally, this model explains 48.4 percent of the variation in recent burglary victimization across neighborhoods.

The third level-2 model adds cohesion and attachment to the model. Both variables fail to be statistically significant. Again, disorder is the only statistically significant variable. It is significant at the $p<0.05$ level, and is in the expected positive direction. The model explains 56.1 percent of the variation in recent burglary victimization.

Lastly, the full systemic social disorganization model with recent burglary victimization was estimated. All three types of informal control failed to be statistically significant. Disorder is again the only statistically significant variable. It is significant at the $p<0.50$ level, and is in the expected positive direction. The model explains 58.7 percent of the variation in recent burglary victimization across neighborhoods.

Larceny Theft Victimization

Larceny theft victimization was measured by asking residents if they or any member of their household had ever had anything stolen from the yard, porch, garage, or

elsewhere outside their home, but on the property. The unconditional means model indicates that 17.0 percent of the variance in larceny theft victimization is between neighborhoods, while 83.0 percent is within neighborhoods. This indicates that a moderate amount of variation exists between neighborhoods.

The level-1 model indicates that individual-level characteristics influenced residents' reports of larceny theft victimization. Eight of the thirteen individual-level characteristics were statistically significant. Residents who were older reported less larceny theft victimization, while those with higher incomes reported more larceny theft victimization. Residents who were black reported less larceny theft victimization than residents of any other race. Those who were married and those who were never married reported less stolen property than any other marital status group. Homeowners reported more larceny theft victimization than renters and those who lived in Chicago Housing Authority properties. Additionally, those who had lived longer in the neighborhood reported more larceny theft victimization than those who had recently moved into the neighborhood. Lastly, residents who indicated they moved frequently in the past five years reported less larceny theft victimization than those who had not moved as frequently. This individual-level model explains none of the variation in larceny theft victimization across neighborhoods.

Table 5.18 presents the results of the four level-2 models for larceny theft victimization. The first-level 2 model indicates that three of the four social disorganization variables are statistically significant at the $p<0.50$ level. Economic

Table 5.18: HLM Results for Larceny Theft Victimization

	Social Disorganization				Social Disorganization and Disorder				Social Disorganization, Disorder, Cohesion and Attachment				Social Disorganization, Disorder, Cohesion, Attachment, and Private, Parochial, and Public Control			
Variable	**Coeff.**	**SE**	**T-Test**	**p-value**	**Coeff.**	**SE**	**T-Test**	**p-value**	**Coeff.**	**SE**	**T-Test**	**p-value**	**Coeff.**	**SE**	**T-Test**	**p-value**
Econ. Disadv.	0.357	0.050	7.146	0.000	0.069	0.076	0.958	0.339	0.036	0.073	0.491	0.623	0.017	0.074	0.233	0.816
Ethni c Het.	0.174	0.051	3.401	0.001	0.092	0.052	1.751	0.079	0.070	0.053	1.327	0.185	0.076	0.053	1.430	0.153
Racial Het.	0.230	0.267	0.859	0.391	0.158	0.259	0.607	0.543	0.081	0.259	0.312	0.755	-0.008	0.262	-0.032	0.975
Res. Stability	0.128	0.046	2.756	0.006	0.164	0.046	3.579	0.001	0.137	0.049	2.777	0.006	0.094	0.055	1.707	0.087
Disorder					0.953	0.178	5.355	0.000	0.800	0.200	4.032	0.000	0.777	0.208	3.736	0.000
Cohesion									0.279	0.202	1.382	0.167	0.036	0.243	0.150	0.881
Attachment									-0.636	0.213	-2.994	0.003	-0.667	0.215	-3.099	0.002
Private													0.467	0.223	2.090	0.036
Parochial													0.020	0.167	0.119	0.906
Public													-0.029	0.344	-0.085	0.933
Var. Comp.																
Within	*0.9515*				*0.9527*				*0.9541*				*0.9550*			
Between	*0.1748*				*0.1524*				*0.1479*				*0.1470*			
Exp. Variance																
Within	*1.1%*				*1.0%*				*0.8%*				*0.8%*			
Between	*11.1%*				*22.5%*				*24.8%*				*25.3%*			

disadvantage and ethnic heterogeneity increase larceny theft victimization. Unexpectedly, residential stability also increases larceny theft victimization. Based on the existing social disorganization literature, it was expected that residential stability would decrease property crime. However, if the stability is thought of in terms of time, it makes sense that if a high proportion of residents had lived in the neighborhood for a long time, the probability of larceny theft victimization would be higher than in neighborhoods where the proportion living in the neighborhood over time was lower. This level-2 model explains 11.1 percent of the variation in larceny theft victimization across neighborhoods.

The second level-2 model adds disorder. In this model, both residential stability and disorder are statistically significant. Residential stability again increases larceny theft victimization, as does disorder. This model explains 22.5 percent of the variation in larceny theft victimization. This increase in explained variance emphasizes the importance of disorder as a variable that mediates the effects of social disorganization on larceny theft victimization.

When cohesion and attachment are added to the model, attachment has a significant and negative effect on larceny theft victimization. As attachment increases, larceny theft victimization decreases. Residential stability and disorder are also statistically significant, with residential stability maintaining its positive relationship with larceny theft victimization. Disorder continues to have the expected positive relationship with larceny theft victimization. This level-2 model explains 22.5 percent of the variation in stolen property across neighborhoods.

The final level-2 model adds the three levels of informal control. This model

explains 25.3 percent of the variation in larceny theft victimization across neighborhoods. Residential stability is no longer significant, although disorder and attachment remain statistically significant and the relationships are in the expected direction. Private control is also statistically significant, although not in the expected direction. The results indicate that as private control increases, so does larceny theft victimization. We would expect private control, defined as residents' ability and willingness to use informal controls and measured by asking residents how often they and other neighborhood residents do favors for each other, how often they watch each others' homes, and how often they ask each other for personal advice, to decrease property victimization. There is evidence in the literature that may account for this seemingly anomalous finding. Wright and Decker (1994) found that residential burglars were most likely to steal from acquaintances in their own neighborhoods, and chose their targets based on their personal knowledge of the person and his/her property. Larceny theft, often an opportunistic crime, is very similar to residential burglary. Hence, neighborhoods high in private control, where neighbors "know each other's business," are likely the ones that experience higher larceny theft victimization.

Recent Larceny Theft Victimization

The recent larceny theft victimization item asked residents who answered yes to having property stolen while they lived in the neighborhood if their victimization had occurred within the past 6 months. The unconditional means model indicates that 20.7 percent of the variance in recent larceny theft victimization is between neighborhoods,

while 79.3 percent is within neighborhoods. This indicates a considerable amount of variation in recent larceny theft exists between neighborhoods.

The level-1 model of recent larceny theft victimization indicates that individual-level characteristics influenced residents' reports of recent larceny theft victimization. Six individual-level characteristics are statistically significant, and in the expected direction. Older residents reported less recent larceny theft victimization. Residents who were black reported less recent larceny theft victimization than any other race, and married residents reported less recent larceny theft victimization than any other marital status group. Homeowners reported more recent larceny theft victimization, as did residents who indicated they had moved more frequently in the past five years. The individual-level model explains none of the variation in recent larceny theft victimization across neighborhoods.

The first level-2 model (Table 5.19) shows that economic disadvantage and ethnic heterogeneity are both statistically significant and in the expected direction. As economic disadvantage and ethnic heterogeneity increase, so does recent larceny theft victimization. This model explains 25.5 percent of the variation in recent larceny theft victimization.

When disorder is added sequentially to the model, it is statistically significant, as is ethnic heterogeneity. As expected both disorder and ethnic heterogeneity increase recent larceny theft victimization. The model explains 44.2 percent of the variation in recent larceny theft victimization.

The next model adds social cohesion and attachment. Ethnic heterogeneity is statistically significant, and has a positive statistical impact on recent larceny theft

Table 5.19: HLM Results for Recent LarcenyTheft Victimization

	Social Disorganization				Social Disorganization and Disorder				Social Disorganization, Disorder, Cohesion and Attachment				Social Disorganization, Disorder, Cohesion, Attachment, and Private, Parochial, and Public Control			
Variable	**Coeff.**	**SE**	**T-Test**	**p-value**	**Coeff.**	**SE**	**T-Test**	**p-value**	**Coeff.**	**SE**	**T-Test**	**p-value**	**Coeff.**	**SE**	**T-Test**	**p-value**
Econ. Disadv.	0.437	0.058	7.479	0.000	0.033	0.083	0.402	0.687	-0.023	0.083	-0.280	0.779	-0.033	0.084	-0.395	0.692
Ethnic Het.	0.295	0.060	4.900	0.000	0.176	0.061	2.870	0.005	0.142	0.062	2.294	0.022	0.143	0.063	2.278	0.023
Racial Het.	0.230	0.304	0.756	0.450	0.131	0.292	0.450	0.653	-0.032	0.290	-0.110	0.913	-0.079	0.295	-0.268	0.789
Res. Stability	0.031	0.055	0.555	0.578	0.085	0.055	1.543	0.123	0.048	0.059	0.825	0.410	0.013	0.065	0.194	0.846
Disorder					1.356	0.203	6.666	0.000	1.087	0.224	4.861	0.000	0.968	.236	4.103	0.000
Cohesion									0.339	0.233	1.456	0.145	0.266	0.281	0.947	0.344
Attachment									-1.000	0.246	-4.058	0.000	-0.976	0.249	-3.918	0.000
Private													0.437	0.258	1.696	0.089
Parochial													-0.233	0.191	-1.221	0.223
Public													-0.340	0.396	-0.858	0.391
Var. Comp.																
Within	*0.9252*				*0.9337*				*0.9343*				*0.9339*			
Between	*0.1777*				*0.1331*				*0.1208*				*0.1210*			
Exp. Variance																
Within	*-1.3%*				*-2.3%*				*-2.3%*				*-2.3%*			
Between	*25.5%*				*44.2%*				*49.3%*				*49.3%*			

victimization. Disorder also has a significant and positive relationship with recent larceny theft victimization. Attachment is also significant, and in the expected direction. As attachment increases, recent larceny theft victimization decreases. This model explains 49.3 percent of the variation in recent larceny theft victimization.

The final model adds the three forms of informal control to the model. Only private control comes close to being statistically significant (p=0.089, two-tailed test), and it is positive, as it was in the larceny theft victimization model. Ethnic heterogeneity, disorder, and attachment are still statistically significant and in the expected direction. Ethnic heterogeneity and disorder both increase recent larceny theft victimization, while attachment decreases it. The model explains 49.3 percent of the variation in recent larceny theft victimization.

Vandalism Victimization

The vandalism victimization item asked residents if they or any member of their household had property damaged, including vehicles, the exterior of the home, or personal property, while they had lived in the neighborhood. The unconditional means model indicates that 12.8 percent of the variance in vandalism victimization is between neighborhoods, while 87.2 percent is within neighborhoods. This indicates a moderate amount of variation exists between neighborhoods.

The level-1 model of vandalism victimization indicates that individual-level characteristics influenced residents' reports of vandalism victimization. Seven of the individual-level variables were statistically significant and in the expected direction.

Older residents reported less vandalism to their property, while those with higher education levels and higher incomes reported more property damage. Residents who were black reported less vandalism victimization than any other racial group. Residents who were separated or divorced reported more vandalism victimization, as did homeowners. Residents who had lived longer in their neighborhoods reported more vandalism victimization as well. This model explains none of the variation in vandalism victimization across neighborhoods.

The level-2 models for vandalism victimization are shown in Table 5.20. The first level-2 model of vandalism victimization indicates that only one social disorganization variable is significant. Economic disadvantage increases vandalism victimization. The model explains just 6.6 percent of the variation in vandalism victimization across neighborhoods.

The second level-2 model, adding disorder, shows that disorder is the only statistically significant variable, and it is in the expected direction. As disorder increases, so does vandalism victimization. Thus, disorder once again mediates the effects of social disorganization on crime victimization. This second level-2 model explains 26.7 percent of the variation in vandalism victimization.

When cohesion and attachment are added to the model, both these variables fail to be statistically significant, and disorder is the only statistically significant variable, and it is in the expected direction. The model explains 27.3 percent of the variation in vandalism victimization.

Table 5.20: HLM Results for VandalismVictimization

	Social Disorganization				Social Disorganization and Disorder				Social Disorganization, Disorder, Cohesion and Attachment				Social Disorganization, Disorder, Cohesion, Attachment, and Private, Parochial, and Public Control			
Variable	**Coeff.**	**SE**	**T-Test**	**p-value**	**Coeff.**	**SE**	**T-Test**	**p-value**	**Coeff.**	**SE**	**T-Test**	**p-value**	**Coeff.**	**SE**	**T-Test**	**p-value**
Econ. Disadv.	0.241	0.047	5.112	0.000	-0.063	0.068	-0.930	0.353	-0.066	0.069	-0.948	0.343	-0.064	0.070	-0.912	0.362
Ethnic Het.	0.079	0.048	1.657	0.097	-0.011	0.049	-0.219	0.827	-0.013	0.050	-0.253	0.800	-0.010	0.050	-0.194	0.847
Racial Het.	0.016	0.249	0.062	0.951	-0.069	0.239	-0.287	0.774	-0.073	0.241	-0.301	0.763	-0.064	0.244	-0.262	0.793
Res. Stability	-0.010	0.043	-0.235	0.814	0.025	0.042	0.581	0.561	0.022	0.046	0.467	0.640	0.020	0.052	0.394	0.693
Disorder					0.998	0.166	6.015	0.000	0.993	0.186	5.337	0.000	0.883	0.195	4.524	0.000
Cohesion									0.031	0.189	0.166	0.869	0.110	0.230	0.480	0.631
Attachment									-0.046	0.199	-0.229	0.819	-0.013	0.201	-0.065	0.949
Private													0.153	0.211	0.723	0.470
Parochial													-0.276	0.157	-1.760	0.078
Public													-0.122	0.326	-0.375	0.708
Var. Comp.																
Within	*0.9630*				*0.9663*				*0.1031*				*0.9669*			
Between	*0.1323*				*0.1040*				*0.9663*				*0.1062*			
Exp. Variance																
Within	*0.6%*				*0.3%*				*0.3%*				*0.2%*			
Between	*6.6%*				*26.7%*				*27.3%*				*25.1%*			

The final model includes the three measures of informal control. Of the these three variables, only parochial control comes close to being statistically significant ($p=0.078$, two-tailed test) and it has the expected dampening effect on vandalism victimization. The only significant variable at the $p<0.05$ level remaining after all systemic social disorganization variables are in the model is disorder. It is in the expected direction. The model explains 25.1 percent of the variation in vandalism victimization.

Recent Vandalism Victimization

The recent vandalism victimization variable was measured by asking residents who had indicated they had property stolen while they lived in the neighborhood if their victimization had occurred within the past 6 months. The unconditional means model indicates that 17.4 percent of the variance in recent vandalism victimization is between neighborhoods, while 82.6 percent is within neighborhoods. This indicates a moderate amount of variation in recent vandalism victimization exists between neighborhoods.

Results of the level-1 model indicate that individual-level characteristics influenced residents' reports of recent vandalism victimization. Consistent with several other victimization variables, older residents reported less recent vandalism to their property, while residents with higher household income levels reported more recent vandalism to their property. Black residents reported less recent vandalism, while Latinos reported more recent vandalism. Both residents who had lived in the neighborhood longer and those who had moved more frequently in the past five years reported more

recent vandalism victimization. This individual-level model explains 25.4 percent of the variation in recent vandalism victimization across neighborhoods.

Table 5.21 shows the results of the four level-2 models of recent property damage. When social disorganization alone is in the model, two of the four variables are statistically significant and in the expected direction. Economic disadvantage and ethnic heterogeneity both increase recent vandalism victimization. The model explains 40.7 percent of the variation in recent vandalism victimization.

In the next two models, adding disorder to social disorganization and cohesion and attachment respectively, disorder is the only statistically significant variable, and it is in the expected direction. Consistent with the other crime victimization models, disorder mediates the effects of both ethnic heterogeneity and economic disadvantage on crime victimization. The model with disorder explains 54.4 percent of the variation across neighborhoods, while the model with cohesion and attachment explains 52.9 percent of the variation in recent vandalism victimization across neighborhoods.

The final model which includes the three measures of informal control shows that two variables are statistically significant, and in the expected direction. As disorder increases, so does recent vandalism victimization. However, parochial control decreases recent vandalism victimization, as expected. This model explains 56.7 percent of the variation in recent vandalism victimization across neighborhoods.

Table 5.21: HLM Results for Recent Vandalism Victimization

	Social Disorganization				Social Disorganization and Disorder				Social Disorganization, Disorder, Cohesion and Attachment				Social Disorganization, Disorder, Cohesion, Attachment, and Private, Parochial, and Public Control			
Variable	**Coeff.**	**SE**	**T-Test**	**p-value**	**Coeff.**	**SE**	**T-Test**	**p-value**	**Coeff.**	**SE**	**T-Test**	**p-value**	**Coeff.**	**SE**	**T-Test**	**p-value**
Econ. Disadv.	0.283	0.053	5.304	0.000	-0.051	0.077	-0.663	0.507	-0.052	0.078	-0.667	0.505	-0.040	0.079	-0.511	0.609
Ethnic Het.	0.114	0.054	2.099	0.036	0.012	0.056	0.218	0.827	0.014	0.057	0.238	0.812	0.008	0.057	0.144	0.886
Racial Het.	-0.048	0.273	-0.175	0.861	-0.124	0.265	-0.468	0.639	-0.135	0.268	-0.506	0.613	-0.068	0.70	-0.253	0.800
Res. Stability	-0.044	0.049	-0.900	0.368	-0.003	0.049	-0.061	0.952	0.014	0.053	0.262	0.794	0.027	0.060	0.460	0.645
Disorder					1.110	0.186	5.970	0.000	1.037	0.208	4.999	0.000	0.891	0.216	4.115	0.000
Cohesion									-0.181	0.214	-0.844	0.399	0.058	0.258	0.227	0.821
Attachment									0.018	0.226	0.079	0.938	0.090	0.226	0.398	0.690
Private													-0.029	0.238	-0.121	0.904
Parochial													-0.356	0.174	-2.041	0.041
Public													-0.470	0.368	-1.278	0.202
Var. Comp.																
Within	*0.9474*				*0.9509*				*0.9505*				*0.9339*			
Between	*0.1164*				*00896*				*0.0924*				*0.1210*			
Exp. Variance																
Within	*-1.4%*				*-1.8%*				*-1.7%*				*-2.0%*			
Between	*40.7%*				*54.4%*				*52.9%*				*56.7%*			

CONCLUSION

In this chapter, I have provided the results from my confirmatory factor analyses of the key concepts in systemic social disorganization theory and the hierarchical linear and nonlinear models that provide tests of the theoretical model. The results were discussed briefly in terms of whether or not the relationships between constructs and variables were in the direction specified by the theory. In the few cases where the relationships were not in the expected direction, a brief explanation was provided.

Chapter VI provides a more thorough discussion and summary of the findings. The chapter begins with a brief review of the systemic social disorganization model tested in this study, highlighting the additions to the model that have been made. An overview of how the findings presented in Chapter V fit with this modified systemic social disorganization theory and the implications of these results for future research will then be discussed. The policy implications of these findings will also be explored.

CHAPTER VI

DISCUSSION AND CONCLUSIONS

INTRODUCTION

This chapter provides a discussion of the results of the confirmatory factor analysis and the hierarchical linear and nonlinear modeling presented in Chapter V. I first assess the results of the analysis in terms of the three primary purposes of this study, in addition to discussing the implications of these results for systemic social disorganization theory. Additionally, I assess the modified systemic social disorganization theory tested in this study. I also discuss the limitations of this study, as well as suggestions for future research using systemic social disorganization theory. Lastly, I provide a brief discussion of the policy implications of this study in light of the research findings.

THEORETICAL IMPLICATIONS

Social Disorganization Variables

One of the objectives of this study was to develop more rigorous and theoretically-sound measures of social disorganization, particularly economic disadvantage and racial and ethnic heterogeneity. As discussed previously, there is very little consistency across studies in the measurement of social disorganization variables.

One indicator that has been measured very inconsistently in the model is socioeconomic status, which I call economic disadvantage in this study. Most recently, Sampson et al. (1997) and Morenoff et al. (2001) used a variable called "concentrated disadvantage" to represent socioeconomic status. While this variable included measures of economic disadvantage (percentage of the population living below the poverty line, the percentage receiving public assistance, and the percentage unemployed), it also included the percentage of female-headed families, the percentage under age 18, and the percentage Black. As discussed in Chapter IV, while percentage of female-headed families and the percentage Black are likely to be highly correlated with low economic status, I believe they need to be in the model as individual variables in order to fully test their effect on the mediating concepts in the model as well as on crime and victimization. In other words, Sampson et al.'s (1997) concentrated disadvantage incorporated too many variables and ignored the assumptions of both the traditional social disorganization model and the newer systemic social disorganization models.

In this study economic disadvantage was measured with percentage unemployed, percentage receiving public assistance, and percentage of the population living below the poverty line. The results presented in Chapter V show that economic disadvantage had a statistically significant direct effect on all variables in the model, and these relationships were in the expected direction. Additionally, economic disadvantage had a statistically significant indirect effect (as noted in several of the other level-3 models), although not always in the expected direction. There are several possible explanations for the change in the direction of the relationships, including a high level of kinship and friendship

networks among residents, as well as the strong mediating effects associated with disorder and social cohesion. The results clearly indicate that disorder and social cohesion mediate the effects of economic disadvantage on crime and victimization. For example, economic disadvantage was significantly related to perceptions of violent street crime, however, it was not in the expected direction for three of the level-3 models (see Table 5.12). Increased economic disadvantage decreased residents' perception of violent street crime. This contradicts the existing social disorganization literature. However, disorder was statistically significant for all of the models, and social cohesion was also statistically significant in one of the models. The results suggest that perception of violent street crime was higher in economically disadvantaged neighborhoods where there was also higher levels of disorder and lower levels of social cohesion.

The results associated with economic disadvantage reinforce the need to measure this variable as an economic one that does not include race and family disruption. Economic disadvantage directly affects the mediating concepts in the model, and therefore it is an important component of social disorganization. Additionally, the results for racial heterogeneity show that it had a different impact on the mediating concepts as well as on crime and victimization. For example, whereas economic disadvantage had an unexpected negative relationship with perception of violent street crime, racial heterogeneity had a consistently positive relationship across all of the violent street crime models. This reinforces the need to separate race from economic disadvantage in the systemic social disorganization model.

This study was also concerned with creating new measures of racial/ethnic heterogeneity that account for both racial heterogeneity and ethnic heterogeneity, and assessing their differential impact on the mediating concepts in the model (disorder, social cohesion, attachment, and private, parochial, and public informal control) and on neighborhood crime and victimization. The results of the hierarchical linear and nonlinear models support the inclusion of these two measures as separate variables in the systemic social disorganization model. Racial and ethnic heterogeneity had different effects on the other variables in the model. Racial heterogeneity was statistically significant only for the two neighborhood crime variables and one of the victimization variables. Specifically, racial heterogeneity was statistically and positively (as expected) related to violent street crime in all four level-3 models (see Table 5.12) and to perceptions of violent fights in the neighborhood in all four level 3 models (see Table 5.13). As racial heterogeneity increases, so do perceptions of violent street crime and violent fights in the neighborhood. However, racial heterogeneity was **negatively** associated with recent violent crime victimization–residents in racially heterogeneous neighborhoods were significantly **less** likely to be violent crime victims (see Table 5.15). This finding agrees with the fact that most violent crime is intraracial.

Ethnic heterogeneity, however, was related to several variables in the model, although not consistently across the level-3 models. As expected, ethnic heterogeneity was significantly and positively related to disorder and recent larceny/theft victimization for all level-3 models. It was also statistically and positively related to perceptions of violent fights in the neighborhood, recent violent crime victimization, burglary

victimization, larceny/theft victimization, and recent vandalism victimization when just the social disorganization variables were in the model. As expected, ethnic heterogeneity was significantly and negatively related to social cohesion, attachment, and parochial control. However, it was also statistically significant and negatively related to perceptions of violent street crime for all four level-3 models, and the relationship with perceptions of violent fights turned from positive and significant to negative and significant once disorder had been controlled (see Table 5.13). These results suggest that residents in ethnically heterogeneous neighborhoods had lower perceptions of violent street crime, while ethnic heterogeneity increased perceptions of violent fights only in neighborhoods with high levels of disorder.

Shaw and McKay's traditional social disorganization model included a measure of ethnic heterogeneity. However, subsequent social disorganization models have included one measure of racial/ethnic heterogeneity, and it has generally been measured as a race variable (e.g., percent Black). These studies have simply assumed that race and ethnicity have the same effects on crime, and that using race as the primary measure provides an adequate assessment of the effect of racial/ethnic heterogeneity on crime.

The results of this study provide evidence that these two variables, ethnic heterogeneity and racial heterogeneity, have different effects on the mediating variables and on the crime and victimization variables in the model. These results suggest a complex relationship between ethnic heterogeneity and crime, particularly since ethnic heterogeneity decreases reports of violent street crime in the neighborhood, and also violent fights once differences in disorder have been taken into account. In

neighborhoods where more ethnic heterogeneity exists, lower perceptions of violent crime occur. However, this was not the case with racial heterogeneity. More violent crime is perceived to exist in neighborhoods characterized by greater racial heterogeneity. However, violent victimization is actually lower in racially heterogeneous neighborhoods. In summary, the results of this study provide empirical evidence for the inclusion of two distinct measures of racial and ethnic heterogeneity in the systemic social disorganization model.

Mediating Concepts

A second major objective of this study was to examine the convergent and discriminant validity of the concepts hypothesized to mediate the relationship between social disorganization and crime. These concepts include: disorder, social cohesion, attachment, and private, parochial, and public levels of informal control.

First, as discussed in Chapter IV, no study has tested whether or not disorder is a one-dimensional or two-dimensional (social and physical) concept. The results of the confirmatory factor analysis presented in Chapter V provided the first empirical test of the dimensionality of disorder. As indicated in Table 5.1, disorder is one-dimensional. The two-factor model with social disorder and physical disorder lacked discriminant validity, meaning there was very little difference between the social and the physical dimensions of disorder.

This study also assessed the convergent and discriminant validity of the social cohesion variables and informal social control variables. As discussed previously,

Sampson et al. (1997) combined social cohesion and informal control to create a new variable, collective efficacy. The confirmatory factor analysis results presented in Table 5.2 show that, at the individual level, the two dimensions of collective efficacy have discriminant validity, while at the aggregate level they are highly correlated. However, the combination of these two variables would not have allowed for a full test of the three levels of informal control. As this was one objective of this study, social cohesion and informal control were not combined. The confirmatory factor analysis for social cohesion revealed that two dimensions of social cohesion exist. Social cohesion represents residents' bonds with their neighbors, and attachment represents residents' attitude towards their neighborhood as a place to live.

As discussed previously, no study has yet tested whether or not informal control is one-dimensional or multi-dimensional. Therefore, my study has provided the first test of the dimensionality of informal control. The results of the confirmatory factor analysis, presented in Table 5.4, support the use of the three levels of informal control–private, parochial, and public in the systemic social disorganization model.

In summary, the results of the confirmatory factor analyses confirm the appropriateness of treating disorder as a one-dimensional construct. The analyses also support the treatment of social cohesion and informal social controls as separate dimensions. Additionally, the results show that two dimensions of social cohesion exist–social cohesion and attachment. Both social cohesion and attachment were included in the model, as attachment fits with the underlying assumptions of systemic social disorganization theory. Lastly, the results confirm that informal control is not

necessarily a one-dimensional construct. In support of Bursik and Grasmick's model of systemic social disorganization, there are three clear dimensions of informal control–private, parochial, and public.

Comprehensive Systemic Social Disorganization Model

A third major objective of this study was to offer a more comprehensive test of the systemic social disorganization model. As discussed previously, no study has simultaneously included the mediating concepts of disorder, social cohesion, attachment, and private, parochial, and public informal controls in the systemic social disorganization model. This study provides the first test of such a model. The results of the hierarchical linear and nonlinear models confirm that several of the mediating concepts make significant contributions to the overall strength of the systemic social disorganization model. However, the results also provide mixed results for the variables of attachment and the three levels of informal control.

First and foremost, this study emphasizes the importance of including the concept of disorder as mediating the effects of social disorganization on social cohesion attachment, informal controls, and crime and victimization. Disorder was significant in nearly every model for every variable. In several cases it appears as if the impact of disorder was such a strong mediator that it rendered the other variables non-significant, and changed the direction of the relationship for several variables. This, however, underscores its impact as a mediating variable. In cases where the relationship between variables was in an unexpected direction, disorder appeared to be the impetus for the

change. For example, as discussed above, ethnic heterogeneity had a significant negative impact on perceptions of violent street fights once disorder had been controlled. What this tells us is that ethnic heterogeneity may increase violent fights only in neighborhoods with high levels of disorder. In addition, the significant effects of most of the social disorganization variables on crime and victimization of all types dropped either to nonsignificance or substantially decreased once disorder was added to the model. Thus, disorder is a powerful mediator of the effects of social disorder on crime and victimization.

Second, the results indicate that measures of social cohesion and attachment mediate the effects of social disorganization as well. The results further indicate that these two variables have different effects on informal controls and on crime and victimization. Social cohesion was significantly related to all three levels of control (private, parochial, and public), perception of violent street crime, and was nearly significant ($p=0.054$) for violent crime victimization. Additionally, social cohesion was not significantly related to any of the remaining victimization variables. Attachment was significant only for the public level of informal control and for only three of the victimization variables (recent violent crime victimization, larceny/theft, and recent larceny theft). Attachment was not related to the neighborhood crime perception variables.

The results of this study support Shaw and McKay's (1942) hypothesis that social disorganization serves to weaken relationships among community residents. These weakened social bonds in turn affect the use of informal controls. Social cohesion and

attachment, along with informal controls, were discussed by Shaw and McKay but were not included as a part of their empirical model. Other studies have recently begun to incorporate these measures, however, none have tested social cohesion and informal control in one model as separate variables.

The next component of the comprehensive model tested in this study was informal control. As discussed previously, few studies have incorporated informal control as part of the systemic social disorganization model. Additionally, only Snell (2001) has attempted to test the existence of the three levels of informal control described by Bursik and Grasmick (1993). However, Snell was not able to test all three levels of informal control due to data limitations. My study provides the first empirical test of informal control as a mediator of the effects of social disorganization on crime.

The hierarchical linear and nonlinear modeling results show that each of the three levels of informal control had different effects on crime and victimization. However, the three variables were only significant for one crime each. Private control had an unexpected significant positive effect on larceny/theft victimization. Where private control was high, so was larceny/theft. However, as discussed in Chapter 5, there is criminological literature to support this anomalous finding. Parochial control, however, had the expected negative significant effect on recent vandalism victimization. In neighborhoods where residents perceive their neighbors as more willing to intervene if youth were skipping school and hanging out on the street corner, spray-painting graffiti, showing disrespect to an adult, and intervening if there was a fight in front of their house, recent vandalism was less likely to occur. Public control also had a significant, negative

impact on one victimization variable, and it was in the expected direction. Neighborhoods with more public control (i.e., youth centers, youth recreation programs, and after-school programs) had less burglary victimization. This finding not only supports Bursik and Grasmick's (1993) theory of three levels of informal control, it also supports the underlying assumptions of social disorganization theory. Where there are proper socializing institutions, such as youth centers, youth recreation programs, and after-school programs, youth, particularly young men, are less likely to commit burglary. These public control programs provide opportunities for youth that not only reinforce traditional norms and values, but that also provide activities and opportunities for youth that keep them busy and thereby prevent them from causing trouble in the neighborhood.

While the three levels of informal control were significant for a small number of victimization variables, the results suggest that informal control does in fact influence property crime and victimization. The fact that there is no overlap in the types of crime each of the three informal controls were related to indicates that the three levels of informal control were needed in the model to fully explain not only the variation in crime and victimization across neighborhoods, but also why some types of crime and victimization may be more prevalent in some neighborhoods but not in others.

Additionally, the results suggest that Sampson et al.'s (1997) collective efficacy variable, which combined social cohesion and informal control, may not adequately distinguish the relationship between these variables. Even though social cohesion and informal control are highly correlated, they clearly have differential impacts on different types of crime and victimization. For example, social cohesion clearly affects informal

controls and some of the violent crime variables, yet the informal control variables affect only one property crime each, and that crime is different for each level of control. These results suggest that social cohesion and informal control need to be separate variables in the systemic social disorganization model. Additionally, the results suggest that the three levels of informal control may provide a more thorough explanation for the variation in crime and the variation in the type of crime prevalent across neighborhoods.

While the results related to informal control provide an initial indication that the three levels of informal control have differential affects on crime, these findings are disappointingly weak. Based on Bursik and Grasmick's (1993) and Snell's (2001) discussion of informal controls, combined with Sampson et al.'s (1997) related findings for collective efficacy, it was expected that each of these three levels of informal control would have had more significant and more profound impacts on crime. One possible explanation for these weak findings is the questionnaire items available to measure each of the levels of informal control. All of the items were perceptions of what residents believed their neighbors and other neighborhood residents would do in certain circumstances. These items may not necessarily be measuring the ***exercise*** of informal control by residents themselves. None of the questions asked residents what they would do in each of the circumstances. In the case of public control, the available items were even less adequate. Bursik and Grasmick (1993) define public control as residents' abilities to bring in crime control-related resources from outside the neighborhood. The items used in this study from the PHDCN study may have measured residents' knowledge of whether or not certain services (e.g., alcohol or drug treatment, mental health center,

etc.) are available in their neighborhoods, rather than an individual resident's ability or a group of residents' ability to bring in crime control resources from outside the neighborhood. It is clear that better measures of all three levels of control are needed in future research in order to determine their impact on neighborhood crime. For example, future research might incorporate survey items that ask residents if they have ever exercised particular types of informal controls or if they would be willing to exercise informal control in these same circumstances.

This study has provided the first comprehensive test of the systemic social disorganization model. While the results of this study support the hypothesis that this comprehensive model provides a more thorough explanation of neighborhood crime and victimization, further tests of the model that include these mediating variables is warranted in order to provide additional support for the systemic social disorganization model tested in this study.

STUDY LIMITATIONS

The limitations of this study are consistent with the limitations associated with both survey research and secondary data analysis. First, the data for the Project on Human Development in Chicago Neighborhood (PHDCN) were collected for a purpose that is different in scope from the purpose of the current study. The purpose of the PHDCN study was to gain a better understanding of the causes of crime, juvenile delinquency, substance abuse and violence, in addition to studying how these issues relate to the social psychological development of children living in urban neighborhoods (Earls

1999). As previously addressed, this was similar to the current study in that both seek to understand the impact neighborhood processes have on crime at the neighborhood level.

The second limitation is the PHDCN survey response rate. The PHDCN study had a 75 percent response rate, which is quite high by survey research standards, particularly for such a lengthy survey. The study required very long, intense face-to-face interviews with respondents. Response rates tend to be lower when the survey is lengthy, and respondents are more likely to refuse to answer some questions, particularly those of a sensitive nature. While the response rate for this survey was high, there is still a substantial percentage (25 percent) of the sample that did not complete the survey. The primary concern associated with response rates is the potential for response bias. This pertains both to the characteristics of the people who took the survey and answered the questions as well as to the potential characteristics of those who refused to take the survey. Often people who refuse to complete a survey are likely to differ not only in demographic characteristics, particularly race, education level, and economic status, but also in their perceptions of their neighborhood. This can lead to misleading information when evaluating the results and implications of the research, as well as in recommending policy implications.

A third limitation of this study is the sampling design developed by PHDCN staff. Of the 343 neighborhood clusters in the study, 80 were oversampled for the purpose of the longitudinal portion of the PHDCN study design. The random sample design resulted in the selection of 50 households within each of the 80 oversampled clusters. In the other 263 clusters resulted in a sample of 20 households within each cluster. According to

Sampson et al. (1997:919), this mixed sampling design resulted in a "representative and self-weighting sample of dwelling units" within each of the 343 neighborhood clusters. Given that each neighborhood cluster contained approximately 8,000 residents, a sample of 20 or 50 respondents from each cluster is very small. Combined with the response rate of 75 percent, this small sample from each cluster results in just a few respondents representing a large number of people. This small sample size may result in increased response bias, with skewed individual and aggregate level results. It is possible that the few individuals in each cluster who agreed to take the survey are different demographically as well as socially from the individuals who refused to take the survey.

A fourth limitation concerns the construction of the social disorganization variables. As discussed in Chapter IV, for confidentially reasons, the PHDCN cannot release the census tracts corresponding to the 343 neighborhood clusters. Therefore, my choice of the census measures was limited to those used by Sampson et al. (1997) to construct the social disorganization variables. Due to the few census variables available, the construction of the social disorganization variables was limited. As discussed in Chapter V, there was only one item available to measure family disruption, and due to multicollinearity, I was unable to use the family disruption variable in the analysis. This is problematic, as a full systemic social disorganization model should include a measure of family disruption in order to determine its impact on the mediating variables in the model.

The construction of the ethnic heterogeneity and racial heterogeneity variables was limited as well. While I have created two measures that are superior to those used in

previous research because they tap both racial and ethnic heterogeneity, I would have preferred to construct indices of diversity that take into account more ethnic groups in measuring ethnic diversity and more race groups in measuring racial diversity. Due to the limitations of the data, I was only able to construct a racial index of diversity that measured only Black and non-Black, and an index of ethnic diversity that only accounted for Hispanic/non-Hispanic and foreign born/not foreign born. By including more ethnic groups and more racial groups, I would have been better able to account for the racial/ethnic diversity of the city of Chicago.

A fifth limitation concerns the issue of missing data. The PHDCN study had a significant amount of missing data. In fact, only 68 of 238 variables (28.6 percent) had no missing data, while 14 variables (5.9 percent) had between 1 and 3 percent missing data. Of the 238 variables, 126 variables (52.9 percent) had between 5 and 10 percent missing data. Thirty variables (12.6 percent) had greater than 10 percent missing data. The problem of missing information is even more serious than these figures suggest because they include only those who refused to respond, while counting those responding "don't know" as nonmissing.

Missing data are problematic in that, similar to the issue of response rates, there is a significant probability of response bias, whereby respondents who refused to answer a particular question(s) may differ demographically and have different experiences in their neighborhoods than the respondents who answered the question. Again, the missing data can impact the results, leading to conclusions that may not represent the neighborhoods from which the respondents come from.

A sixth limitation of this study is the use of "neighborhood clusters" as the unit of analysis. As discussed previously, neighborhood clusters were formed by combining Chicago's 847 census tracts into 343 ecological units of approximately 8,000 people, based on geographic boundaries (railroad tracks, parks, etc) and the researchers' knowledge of Chicago's neighborhoods (Sampson et al. 1997). There are several problems with the creation and use of these "neighborhood clusters." First, while no literature was found that specifically identified the numerical definition of a neighborhood (i.e., the minimum and maximum number of residents needed for an area to be called a "neighborhood"), it seems that clusters of 8,000 residents is a rather large and arbitrary number.

The excessive size of the clusters leads to the second limitation associated with the use of neighborhood cluster. The concept of the "neighborhood cluster" was created by PHDCN researchers, and may therefore not have real social meaning for residents living within the clusters. When asked their perception of their "neighbors" and their "neighborhoods," residents within the same neighborhood cluster may conceptualize very different geographic boundaries. The issue becomes even more important when the data are aggregated to the neighborhood level. Neighborhood clusters are assumed to represent one neighborhood. However, if in reality there are several neighborhoods within the neighborhood cluster, then the results of the data analysis may be misleading, resulting in flawed conclusions about the systemic social disorganization model tested in this study.

A final limitation of this study is the application of the systemic social disorganization model to one city–Chicago. The city of Chicago has been used in an incredibly large number of sociological studies. While its diversity of residents makes it an ideal study location, it is also possible that there are social, economic, and political changes that are unique to the city of Chicago. This study does not take into account how Chicago's history has influenced the structural characteristics–demographic, cultural, and social–of the city's neighborhoods and how this may influence the interaction among residents in these neighborhoods today.

FUTURE RESEARCH

The model tested in this study has made a significant contribution to the systemic social disorganization literature. Based on the results presented in Chapter V, it is evident that future studies of systemic social disorganization theory need to incorporate the concepts of disorder, social cohesion, attachment, and private, parochial, and public controls. Disorder was found to be particularly important and is therefore an essential concept that should be included in future studies testing systemic social disorganization theory. This is the first test of a comprehensive systemic social disorganization model. Further tests of this model are needed in order test its applicability outside of the city of Chicago.

The results discussed above support the need to more consistently measure social disorganization concepts. This study has pointed out that both racial and ethnic heterogeneity differentially impact disorder, social cohesion, attachment, informal

controls, and neighborhood crime and victimization. Therefore, future studies will need to more adequately address this issue and consider measuring both racial heterogeneity and ethnic heterogeneity. Likewise, due to data limitations, this study was unable to include a measure of family disruption. Previous studies have indicated that family disruption is a significant indicator of social disorganization, and therefore, an attempt should be made to incorporate this variable into future studies using the systemic social disorganization theory.

Although weak, the results related to the three levels of informal control suggest that there is a distinction between private, parochial, and public control, and that these three types of control have differential impacts on crime. Due to data limitations, the measures used for each type of control were limited, and may attribute to the weak findings. Therefore, future research needs to construct better measures of each type of control in order to more adequately assess their impact on neighborhood crime.

In addition to these measurement issues, there are several critiques of systemic social disorganization theory that need to be addressed in future research. The first critique considers the operationalization and measurement of "neighborhoods" in the research literature. When social disorganization theory reemerged in the 1980s, the new focus emphasized the importance of studying crime and disorganization using smaller units of analysis, particularly at the neighborhood level. In an attempt to revive social disorganization theory, research focused on drawing together the large-scale structural and group-level explanations with local and individual social psychological processes (Bursik 1988). Some of these studies focus on "community areas" while others focus on

"neighborhoods," in addition to those using census tracts. A review of the relevant research suggests that what constitutes a "neighborhood" varies by study and is used ambiguously and interchangeably with "communities" and "neighborhoods," even though alternative literature suggests that there is a difference in the meaning of these two terms. These studies suggest that there is very little consistency in the operationalization of neighborhoods, such that neighborhoods have been defined as face blocks, census tracts, and tract groups (Wooldredge 2002). In addition, the literature suggests that further research is needed using smaller units of analysis, such as at the neighborhood or block level, yet very little research as of yet has been done at the census block group level, or for that matter, at the face block level within census block groups.

The second critique stems from the decline of social disorganization theory in the 1950s. As discussed in Chapter III, social disorganization theory disappeared as a causal explanation of criminal behavior relatively quickly after its appearance in the literature. This was largely due to its inability to explain why some individuals in disorganized areas did not become criminal. The theory ignored the impact of human agency. In light of the significance of the systemic social disorganization model tested in this study, it is important to study neighborhood processes and interaction as mediating the effects of social disorganization on crime, particularly the interaction between neighborhood residents, using the smallest unit of analysis available, that of the census block group. There is greater likelihood that the population contained within each block group is more homogeneous than that contained in either neighborhood clusters or census tracts as a whole. It makes sense that those who are similar to each other will live near each other,

partly as a function of housing stock and land use. The literature further suggests that informal social control processes are more likely to exist at the face block level rather than in large conglomerated areas. Although census block groups are still much larger than face blocks, they are roughly half the size of a census tract and one-sixth the size of neighborhood clusters. Additionally, census tracts tend to have arbitrary boundaries with physical objects as delineations rather than any real sense of community and neighborliness among residents. They can change from year to year depending on fluctuations in population demographics.

A third critique of systemic social disorganization theory is the lack of a historical perspective that exists in the current literature. Most studies have not taken into account the developmental history of the area they are studying. Much of the existing literature testing social disorganization theory neglects to acknowledge and account for the environmental and social changes–including economic, cultural, and political–taking place in the areas under study. They have not traced the development, growth, and exodus of business, industries, services, entertainment establishments, churches, schools, etc. In short, they have failed to adequately examine the historical conditions that may have contributed to the area's current state of disorganization.

While this was probably not a realistic expectation of previous research, as thus far the research has been conducted on rather large metropolitan areas, cities, and counties, it does not negate the fact that social change impacts the contextual characteristics of a neighborhood, including the level and strength of the interaction among neighborhood residents. Shaw and McKay (1942) discussed the importance that

changing social and economic forces had on the development of the city of Chicago, yet few if any studies have attempted to investigate the social and economic changes that are unique to each city, and perhaps, even to each neighborhood. This becomes increasingly important as officially defined neighborhoods and their respective neighborhood associations continue to strengthen their organization and use the organization as a source of power to compete for scarce funding resources to improve their neighborhoods. As evident from the results of this study, public control does impact the proliferation of some types of crime. Neighborhood associations have the potential to obtain external resources that work towards reducing crime and delinquency at the neighborhood level.

The fourth critique that needs to be addressed in future research dates back to the birth of social disorganization theory. As discussed by Kornhauser (1978), Shaw and McKay's theory was often criticized as being circular, where the consequences of social disorganization (i.e., crime and delinquency) were also thought to be indicators of the existence of social disorganization. While Kornhauser pointed out that circularity was not an issue because Shaw and McKay did not specify causal ordering, the critique of circularity is likely related to the relationship among variables in the model. The structure of the systemic social disorganization model suggests the presence of a feedback loop between variables. Social disorganization influences crime through disorder, social cohesion, attachment, and informal controls. However, as crime increases in a neighborhood, over time it is likely to feedback around and affect the other variables in the model. For example, as crime increases, disorder is likely to increase as well and neighborhood residents' sense of social cohesion and attachment are likely to decrease,

thereby further decreasing the use of informal controls, resulting in increased crime rates. As crime rates continue to increase, residents are likely to begin leaving the neighborhood, resulting in decreased residential stability. As conditions deteriorate in the neighborhood, housing values are likely to decrease, resulting in the loss of high-quality housing, which means residents who are likely to move into the neighborhood are likely to suffer from economic disadvantage and family disruption. This process perpetuates a cycle of deterioration and decay. Therefore, future studies should be designed to incorporate a longitudinal component in order to compare how changes in the interaction among neighborhood residents over time affects neighborhood crime rates.

Another critique concerns the geographic location of most social disorganization studies. The vast majority of existing tests of social disorganization theory, in any form, have been conducted on relatively large cities with populations over 100,000 (e.g., Chicago, Boston, Pittsburgh, and Baltimore). Even though crime rates tend to be relatively high in these cities compared to cities with populations under 100,000, crime is still considered a social problem worth investigating in these smaller cities. Additionally, it is possible that interactions among neighborhood residents differs in these smaller cities from the process that exists in larger metropolitan areas. Therefore, the systemic social disorganization model tested in this study needs to be tested in smaller cities.

One additional element that future research using systemic social disorganization theory may wish to consider is the effect that formal control mechanisms (i.e., law enforcement and corrections) have on the interactions among neighborhood residents, and the consequences they may have on crime in the neighborhood. Rose and Clear (1998)

postulate that state social controls, primarily via law enforcement and incarceration of offenders, while implemented with the intention of reducing disorganization, actually loops back around and perpetuates the inability of a community to effectively utilize informal social controls, thereby creating more disorganization. They essentially parallel the effects of the extraction of offenders out of the community to prison with Wilson's (1987) position on the effects of out-migration of families from the inner city. The constant removal of people leads to an increase in strangers entering a community, where the residents do not stay long enough to develop social networks that facilitate the effectiveness of informal social controls. The more individuals are removed, the harder it is for the community to effectively utilize informal social controls. In addition, Rose and Clear (1998) suggest that the effects of removing individuals, even those who are criminal, will more drastically affect communities that are already resource-deprived. Rose and Clear (1998:451) claim that

> if offenders are not *solely* a drain–if they are resources to some members of the community and if they occupy roles within networks that form the basis for informal social control–their removal is not solely a positive act, but also imposes losses on those networks and their capacity for strengthened community life.

Social controls are weakened as social networks become more unstable as a result of an increased number of individuals moving out, as well as an increase in the number of strangers who take their place. The removal of individuals also creates more heterogeneity of the community, which in turn leads to an increased weakening of informal social control. Therefore, future studies testing a model of systemic social disorganization similar to the one tested in this study should consider the longitudinal effect of the

neighborhood incarceration rate on the social cohesion, attachment, and informal controls.

POLICY IMPLICATIONS

The results of this study have significant policy implications. In order for crime reduction policies and programs to work effectively, several barriers to their success must first be addressed. One of the most significant policy implications stemming from this study is the need to incorporate disorder-reducing policies at the neighborhood level. The results of this study show that disorder mediates the effects of social disorganization on residents' ability to bond with each other, their attachment to their neighborhoods, their ability to utilize informal controls, and on neighborhood crime rates. The reduction of disorder in the neighborhood may increase residents' willingness to engage in community activities, which may increase social cohesion among residents. This may in turn increase their willingness to utilize informal social controls, which may result in lower crime rates. Programs that provide funding to neighborhood organizations or other local agencies to create neighborhood-level programs or groups to work on disorder-reduction may impact crime rates in the neighborhood as well.

A second policy implication relates to economic disadvantage. Economic disadvantage has a significant impact on disorder, social cohesion, attachment, private, parochial, and public controls, and on all crime and victimization variables. Policies or programs that bring jobs and job training, in conjunction with child care programs for working parents, to these economically disadvantaged neighborhoods may work to improve the conditions of the neighborhood and improve the quality of the relationships

among neighborhoods. Additionally, creating new jobs may help to reduce disorder by revitalizing vacant and abandoned buildings, while at the same time reducing the presence of trash, litter, glass, etc., in the areas where businesses are located. If more jobs are located in the neighborhood, residential stability may increase as residents have an economic reason to remain in the neighborhood.

A third policy implication is the need to increase social cohesion among neighborhood residents. The results of this study indicate that social cohesion has a significant impact on each of the three types of control–private, parochial, and public. Therefore, policies and programs that focus on bringing neighbors and neighborhood children together more frequently so that neighbors get to know each other and their children may increase the level of social cohesion among residents. This increased recognition of neighbors and their children may increase residents' willingness to use informal controls. Residents may be more willing to stop youth from spray-painting graffiti, hanging out on the corner, and other acts of deviance if they know the youth by name and know who their parents are. Likewise, residents may be better able and more willing to organize as a group to bring outside resources into the neighborhood if they know each other and recognize each other as neighbors. Essentially, policies and programs that increase positive interaction among neighborhood residents may decrease the level of crime in the neighborhood as residents become increasingly more willing to use informal controls.

A final policy implication concerns the findings associated with racial and ethnic heterogeneity. Past research has generally assumed, as Shaw and McKay (1942) did, that

racial/ethnic heterogeneity produced a disruptive social environment that was not conducive to the "proper" socialization of neighborhood residents, resulting in increased crime. The results of this study indicate that there is a complex relationship between racial and ethnic heterogeneity and the other variables in the systemic social disorganization model. In many cases, the results of this study contradicted previous research in the area of racial and ethnic heterogeneity. In some cases, increased racial or increased ethnic heterogeneity was associated with increased social cohesion, attachment, and the exercise of informal controls. This indicates that diverse neighborhoods may have more potential social capital to draw on in terms of family, friends, and others who share their racial background or ethnic heritage. Therefore, neighborhood-based crime control policies and programs might have better success if they account for the both racial and ethnic differences in the neighborhoods. Neighborhood policies might fare better if they acknowledge that diversity, both racial and ethnic, can benefit the basic operation of the neighborhood as a social system. However, it must be noted that this study contains measurement weaknesses related to racial and ethnic heterogeneity. Therefore, it is inappropriate to draw any definitive policy implications associated with racial and ethnic heterogeneity based on the results of this study. Further research with better measures of racial and ethnic heterogeneity is needed before such policy implications can be made.

CONCLUSION

This study has provided a test of a comprehensive systemic social disorganization model. The findings discussed in this chapter indicate that the model tested in this study

contributes to the systemic social disorganization theory. This study indicates that neighborhood-level processes significantly mediate the effects of social disorganization, and therefore need to be added to the systemic disorganization model. Future tests of this model, with the suggestions discussed above, are needed in order to further the knowledge we have of systemic social disorganization theory. Continued research to advance systemic social disorganization theory will ultimately lead to the theory's increased ability to accurately explain variations in crime and victimization at the neighborhood level.

REFERENCES

Allison, Paul. 2002. *Missing Data.* Thousand Oaks, CA: Sage Publications.

Bellair, Paul E. 1997. "Social Interaction and Community Crime: Examining the Importance of Neighbor Networks." *Criminology* 35:677-703.

Bursik, Robert J., Jr. 1988. "Social Disorganization and Theories of Crime and Delinquency: Problems and Prospects." *Criminology* 26:519-551.

Bursik, Robert J., Jr. and Harold G. Grasmick. 1993. *Neighborhoods and Crime: The Dimensions of Effective Community Control.* New York: Lexington Books.

Bursik, Robert J., Jr. and Harold G. Grasmick 1995. "Neighborhood-Based Networks and the Control of Crime and Delinquency." Pp. 107-130 in Hugh D. Barlow (ed.), *Crime and Public Policy: Putting Theory to Work.* Boulder, CO: Westview Press.

Byrne, James M. and Robert J. Sampson, eds. 1986. *The Social Ecology of Crime.* New York: Springer-Verlag.

Cohen, Lawrence E. and Marcus Felson. 1979. "Social Change and Crime Rate Trends: A Routine Activities Approach." *American Sociological Review* 44:588-608.

Earls, Felton. 1999. *Project on Human Development in Chicago Neighborhoods: Community Survey, 1994-1995. [Computer file].* ICPSR Version. Boston, MA: Harvard Medical School [producer], 1997. Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributor].

Hirschi, Travis. 1969. *Causes of Delinquency.* Berkeley, CA: University of California Press.

Hox, Joop. 2002. *Multilevel Analysis: Techniques and Applications.* Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.

Hunter, Albert J. 1985. "Private, Parochial, and Public School Orders: The Problem of Crime and Incivility in Urban Communities." Pp. 23-44 in Gerald D. Suttles and Mayer N. Zald (eds.), *The Challenge of Social Control: Citizenship and Institution Building in Modern Society.* Norwood, NJ: Ablex Publishing.

Jang, Sung Joon and Byron R. Johnson. 2001. "Neighborhood Disorder, Individual Religiosity, and Adolescent use of Illicit Drugs: A Test of Multilevel Hypotheses." *Criminology* 39:109-141.

Kasarda, John, and Morris Janowitz. 1974. "Community Attachment in Mass Society." *American Sociological Review* 39:328-39.

Kline, Rex B. 1998. *Principles and Practice of Structural Equation Modeling.* New York: Guilford Press.

Kornhauser, Ruth R. 1978. *Social Sources of Delinquency: An Appraisal of Analytic Models.* Chicago, IL: University of Chicago Press.

Menard, Scott. 2002. *Applied Logistic Regression Analysis.* Second Edition. Thousand Oaks, CA: Sage Publications.

Merton, Robert K. 1938. "Social Structure and Anomie." *American Sociological Review* 3:672-682.

Miethe, Terance D., Michael Hughes, and David McDowall. 1991. "Social Change and Crime Rates: An Evaluation of Alternative Theoretical Approaches." *Social Forces* 70:165-185.

Morenoff, Jeffrey D., Robert J. Sampson, and Stephen W. Raudenbush. 2001. "Neighborhood Inequality, Collective Efficacy, and the Spatial Dynamics of Urban Violence." *Criminology* 39:517-559.

Osgood, D. Wayne and Jeff M. Chambers. 2000. "Social Disorganization Outside the Metropolis: An Analysis of Rural Youth Violence." *Criminology* 38:81-115.

Pampel, Fred C. 2000. *Logistic Regression: A Primer.* Thousand Oaks, CA: Sage Publications.

Park, Robert E. (1925) 1967. "Community Organization and Juvenile Delinquency." Pp. 99-112 in Robert E. Park and Ernest W. Burgess (eds.), *The City.* Chicago, IL: University of Chicago Press.

Raudenbush, Stephen W. and Anthony S. Bryk. 2002. *Hierarchical Linear Models: Applications and Data Analysis Methods.* Thousand Oaks, CA: Sage Publications.

Raudenbush, Stephen, Anthony Bryk, Yuk Fai Cheong, and Richard Congdon. 2001. *HLM 5.0: Hierarchical Linear and Nonlinear Modeling.* Lincolnwood, IL: Scientific Software International.

Reckless, Walter. 1961. "A New Theory of Delinquency and Crime." *Federal Probation* 25:42-46.

Reiss, Albert J. 1986. "Why are Communities Important in Understanding Crime?" Pp. 1-33 in Albert J. Reiss, Jr., and Michael Tonry (eds.). *Communities and Crime*. Chicago, IL: University of Chicago Press.

Reiss, Albert J. and Michael Tonry, eds. 1986. *Communities and Crime*. Chicago, IL: University of Chicago Press.

Roncek, Dennis W. 1981. "Dangerous Places: Crime and Residential Environment." *Social Forces* 60:74-96.

Rose, Dina R. and Todd R. Clear. 1998. "Incarceration, Social Capital, and Crime: Implications for Social Disorganization Theory." *Criminology* 36:441-480.

Rountree, Pamela Wilcox, Kenneth C. Land, and Terance D. Miethe. 1994. "Macro-Micro Integration in the Study of Victimization: A Hierarchical Logistic Model Analysis Across Seattle Neighborhoods." *Criminology* 32:387-413.

Sampson, Robert J. 1985. "Neighborhood and Crime: The Structural Determinants of Personal Victimization." *Journal of Research in Crime and Delinquency* 22:7-40.

Sampson, Robert J. and W. Byron Groves. 1989. "Community Structure and Crime: Testing Social Disorganization Theory." *American Journal of Sociology* 94:774-802.

Sampson, Robert J. and Stephen W. Raudenbush. 1999. "Systematic Social Observation of Public Spaces: A New Look at Disorder in Urban Neighborhoods." *American Journal of Sociology* 105:603-51.

Sampson, Robert J., Stephen W. Raudenbush, and Felton Earls. 1997. "Neighborhoods and Violent Crime: A Multilevel Study of Collective Efficacy." *Science* 277:918-924.

Shaw, Clifford R. and Henry D. McKay. 1942. *Juvenile Delinquency and Urban Areas*. Chicago: University of Chicago Press.

Skogan, Wesley G. 1986. "Fear of Crime and Neighborhood Change." Pp 203-230 in Albert J. Reiss, Jr. and Michael Tonry. *Communities and Crime*. Chicago, IL: University of Chicago Press.

Skogan, Wesley G. 1990. *Disorder and Decline: Crime and the Spiral of Decay in American Neighborhoods*. New York: Free Press.

Snell, Clete. 2001. *Neighborhood Structure, Crime, and Fear of Crime: Testing Bursik and Grasmick's Neighborhood Control Theory*. New York: LFB Scholarly Publishing.

Stark, Rodney. 1987. "Deviant Places: A Theory of the Ecology of Crime." *Criminology* 25:893-911.

Taylor, Ralph B. 1997. "Social Order and Disorder of Street Blocks and Neighborhoods: Ecology, Microecology, and the Systemic Model of Social Disorganization." *Journal of Research in Crime and Delinquency* 34:113-155.

Taylor, Ralph B. 1998. *Crime Changes in Baltimore, 1970-1994* [Computer File]. ICPSR Version. Baltimore, MD: Battelle/Survey Research Associates, Inc. [producer], 1994. Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributor].

Taylor, Ralph B. and Jeanette Covington. 1988. "Neighborhood Change in Ecology and Violence." *Criminology* 26:553-590.

Thomas, W. I. and Florian Znaniecki. 1975. "The Concept of Social Disorganization.' Pp.34-37 in Stuart H. Traub and Craig B. Little (eds.), *Theories of Deviance*. New York: F. E. Peacock Publishers.

Veysey, Bonita M. and Steven F. Messner. 1999. "Further Testing of Social Disorganization Theory: An Elaboration of Sampson and Groves's 'Community Structure and Crime.'" *Journal of Research in Crime and Delinquency* 36:156-174.

Wilson, James Q. and George L. Kelling. 1982. "Broken Windows." *The Atlantic Monthly* 249:29-38.

Wilson, William J. 1987. *The Truly Disadvantaged*. Chicago, IL: University of Chicago Press.

Wooldredge, John. 2002. "Examining the (Ir) Relevance of Aggregation Bias for Multilevel Studies of Neighborhoods and Crime with an Example Comparing Census Tracts to Official Neighborhoods in Cincinnati. *Criminology* 40:681-709.

Wright, Richard T. and Scott Decker. 1994. *Burglars on the Job: Streetlife and Residential Break-Ins*. Boston, MA: Northeastern University Press.

Appendix A

Survey Items Used to Operationalize Model Concepts

I. INTERVENING VARIABLES*

A) DISORDER

1. Physical Disorder

How much of a problem is litter, broken glass or trash on the sidewalks and streets? Would you say it is a big problem, somewhat of a problem, or not a problem in your neighborhood?

How much of a problem are vacant or deserted houses or storefronts? Would you say it is a big problem, somewhat of a problem, or not a problem in your neighborhood?

The equipment and buildings in the park or playground that is closest to where I live are well kept: strongly agree, agree, neither agree nor disagree, disagree, or strongly disagree.

2. Social Disorder

How much of a problem is drinking in public? Would you say it is a big problem, somewhat of a problem, or not a problem in your neighborhood?

How much of a problem is graffiti on buildings and walls? Would you say it is a big problem, somewhat of a problem, or not a problem in your neighborhood?

How much of a problem is people selling or using drugs? Would you say it is a big problem, somewhat of a problem, or not a problem in your neighborhood?

How much of a problem is groups of teenagers or adults hanging out in the neighborhood and causing trouble? Would you say it is a big problem, somewhat of a problem, or not a problem in your neighborhood?

How many people in this neighborhood would you say make part or all of their income from selling drugs? Almost all, more than half, about half, about a quarter, almost none.

B) SOCIAL COHESION/ATTACHMENT

On the whole, do you like or dislike this neighborhood as a place to live? Would you say you like it a lot, like it, dislike it, or dislike it a lot?

Suppose that for some reason you HAD to move away from this neighborhood. Would you miss the neighborhood very much, somewhat, not much, or not at all?

This is a close-knit neighborhood: strongly agree, agree, neither agree nor disagree, disagree, or strongly disagree.

People around here are willing to help their neighbors.

People in this neighborhood can be trusted: strongly agree, agree, neither agree nor disagree, disagree, or strongly disagree.

People in this neighborhood generally don't get along with each other: strongly agree, agree, neither agree nor disagree, disagree, or strongly disagree.

People in this neighborhood do not share the same values: strongly agree, agree, neither agree nor disagree, disagree, or strongly disagree.

Not counting those who live with you, how many of your relatives or in-laws live in your neighborhood? Would you say none, one or two, three to five, six to nine, or ten or more?

How many friends do you have in your neighborhood? Would you say none, one or two, three to five, six to nine, or ten or more?

How many friends do you have who live outside of your neighborhood? Would you say none, one or two, three to five, six to nine, or ten or more?

About how many families in this neighborhood know each other? Would you say almost all, more than half, about half, about a quarter, or almost none?

C) PRIVATE CONTROL

About how often do you and people in your neighborhood do favors for each other? By favors we mean such things as watching each others' children, helping with shopping, lending garden or house tools, and other small acts of kindness. Would you say often, sometimes, rarely, or never.

When a neighbor is not at home, how often do you and other neighbors watch over their property? Would you say often, sometimes, rarely, or never?

How often do you and other people in the neighborhood ask each other advice about personal things such as child rearing or job openings? Would you say often, sometimes, rarely, or never?

Have you (or any member of your household) talked to a person or group causing a problem in the neighborhood? Yes or no.

D) PAROCHIAL CONTROL

If a group of neighborhood children were skipping school and hanging out on a street corner, how likely is it that your neighbors would do something about it? Would you say very likely, likely, unlikely, or very unlikely?

If some children were spray-painting graffiti on a local building, how likely is it that your neighbors would do something about it? Would you say very likely, likely, unlikely, or very unlikely?

If a child was showing disrespect to an adult, how likely is it that people in your neighborhood would scold that child? Would you say very likely, likely, unlikely, or very unlikely?

If there was a fight in front of your house and someone was being beaten or threatened, how likely is it that your neighbors would break it up? Would you say very likely, likely, unlikely, or very unlikely?

If there is a problem around here, the neighbors get together to deal with it: strongly agree, agree, neither agree nor disagree, disagree, or strongly disagree.

Have you (or any member of your household) attended a meeting of a block or neighborhood group about a neighborhood problem or neighborhood improvement? Yes or no.

Have you (or any member of your household) talked to a local religious leader or minister to help with a neighborhood problem or with neighborhood improvement? Yes or no.

Have you (or any member of your household) gotten together with neighbors to do something about a neighborhood problem or to organize neighborhood improvement? Yes or no.

How often do you and people in this neighborhood have parties or other get-togethers where other people in the neighborhood are invited? Would you say often, sometimes, rarely or never?

How often do you and other people in this neighborhood visit in each other's homes or on the street? Would you say often, sometimes, rarely or never?

Suppose that because of budget cuts the fire station closest to your home was going to be closed down by the city. How likely is it that neighborhood residents would organize to try to do something to keep the fire station open? Would you say very likely, likely, unlikely, or very unlikely?

E) PUBLIC CONTROL

Is there a youth center for children or adolescents in your neighborhood? Yes or no.

How about recreation programs other than those offered in school (are these offered in your neighborhood)? Yes or no.

Do the neighborhood schools offer after-school programs– academic and/or recreational? Yes or no.

Have you (or any member of your household) spoken with a local politician like your Ward committee person or an elected local official like your alderperson about a neighborhood problem? Yes or no.

Do you (or any member of your household) belong to a business or civic group such as Masons, Elks, or Rotary Club? Yes or no.

Is there an alcohol or drug treatment program in the neighborhood? Yes or no.

Is there a family planning clinic in the neighborhood? Yes or no.

Is there a mental health center in the neighborhood? Yes or no.

Are mentoring or counseling services offered, like a Big Brothers or Big Sisters program? Yes or no.

Are mental health services offered for children and adolescents in your neighborhood? Yes or no.

Are there any crisis intervention services offered to children and adolescents in your neighborhood? Yes or no.

The police are not doing a good job in preventing crime in this neighborhood: strongly agree, agree, neither agree nor disagree, disagree, or strongly disagree.

The police do a good job in responding to people in the neighborhood after they have been victims of crime: strongly agree, agree, neither agree nor disagree, disagree, or strongly disagree.

II. DEPENDENT VARIABLES

A) CRIME (as measured by victimization)

1. Personal/Household Victimization

While you have lived in this neighborhood, has anyone ever used violence, such as in a mugging, fight, or sexual assault, against you or any member of your household anywhere in your neighborhood? Yes or no.

Was that in the past 6 months? Yes or no.

While you have lived in this neighborhood, has your home ever been broken into? Yes or no.

Was that in the past 6 months? Yes or no.

While you have lived in this neighborhood, have you or another member of your household had anything stolen from your yard, porch, garage, or elsewhere outside your home (but on your property)? Yes or no.

Was that in the past 6 months? Yes or no.

While you have lived in this neighborhood, have you or another member of your household had property damaged, including damage to vehicles parked in the street, to the outside of your home or to other personal property? Yes or no.

Was that in the past 6 months? Yes or no.

2. Perception of Crime in the Neighborhood

During the past six months, how often was there a fight in this neighborhood in which a weapon was used? Would you say often, sometimes, rarely, or never?

During the past six months, how often was there gang fights? Would you say often, sometimes, rarely, or never?

During the past six months, how often was there a sexual assault or rape? Would you say often, sometimes, rarely, or never?

During the past six months, how often was there a robbery or mugging? Would you say often, sometimes, rarely, or never?

During the past six months, how often was there a violent argument between neighbors? Would you say often, sometimes, rarely, or never?

*Items included in final models are in boldface.

Appendix B

Research Protocol Clearance

WESTERN MICHIGAN UNIVERSITY

Human Subjects Institutional Review Board

Centennial
1903-2003 Celebration

Date: May 8, 2003

To: Susan Carlson, Principal Investigator
Gayle Rhineberger, Student Investigator for dissertation

From: Mary Lagerwey, Chair Mary Lagerwey

Re: HSIRB Project Number 03-05-05

This letter will serve as confirmation that your research project entitled "Disorder, Informal Controls, and Collective Efficacy: A Reformulation and Test of Systemic Disorganization Theory" has been **approved** under the **exempt** category of review by the Human Subjects Institutional Review Board. The conditions and duration of this approval are specified in the Policies of Western Michigan University. You may now begin to implement the research as described in the application.

Please note that you may **only** conduct this research exactly in the form it was approved. You must seek specific board approval for any changes in this project. You must also seek reapproval if the project extends beyond the termination date noted below. In addition if there are any unanticipated adverse reactions or unanticipated events associated with the conduct of this research, you should immediately suspend the project and contact the Chair of the HSIRB for consultation.

The Board wishes you success in the pursuit of your research goals.

Approval Termination: May 8, 2004

Walwood Hall, Kalamazoo, MI 49008-5456
PHONE (269) 387-8293 FAX (269) 387-8276