ABSTRACT

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According to social disorganization and systemic theories, crime will flourish in areas with high residential mobility, low socioeconomic status, high racial heterogeneity, and high rates of family disruption. Essentially, these theories posit that these forms of structural disadvantage weaken the ability of local residents to achieve mutual goals and solve neighborhood problems, thereby resulting in high crime rates. Several studies have examined the utility of the social disorganization tradition for understanding macro-level variation in crime rates, particularly across neighborhoods. I review this research and propose three ways in which the literature can be extended. First, it is necessary to consider more critically the correspondence between the theoretical and empirical definition of what constitutes a neighborhood rather than relying on the convenience of data for empirical definitions. Second, empirical research should account for the fact that local neighborhoods are not immune to the structural conditions of surrounding areas. Finally, researchers should be more cognizant of whether the effects of neighborhood characteristics influence violent and property crimes similarly. Using data from seventy-four neighborhoods bounded by cultural and historical lines in St. Louis, my analyses speak to each of these issues indicating that both violent and property crime rates are predicted by population turnover and structural disadvantage. Thus, this analysis demonstrated no need for crime-specific models of social disorganization.

Neighborhoods and Crime: An Examination of Social Disorganization and Extra-Community Crime in St. Louis

by
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BIOGRAPHY

Kristin N. Williams was born August 19, 1983 in Kansas City, Missouri. After graduating with honors from Shawnee Mission North High School, she pursued her interest in Sociology at the University of Missouri- St. Louis (UMSL). Kristin graduated Summa Cum Laude from UMSL with a Bachelor of Science in Sociology, Bachelor of Science in Criminology and Criminal Justice, and an honors certificate from the Pierre Laclede Honors College in 2005. That same year, Kristin began work on her Master's degree in Sociology at North Carolina State University, the requirements of which were completed in February 2008. Currently, she is continuing her study in the pursuit of a Doctoral degree in Sociology.

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CHAPTER ONE

SOCIAL DISORGANIZATION TRADITION

1.1 Introduction

One of the most widely studied theories in criminology is that of social disorganization, which attempts to account for the spatial variation of crime rates (Shaw & McKay 1942). Of particular importance is how neighborhood dynamics impact delinquency and crime rates. Despite the theory's contribution to sociological and criminological research, conceptual and methodological limitations endure. This paper attempts to overcome three pervasive limitations: (1) the imperfect measures of neighborhoods in empirical research that have allowed available data to define what constitutes a neighborhood; (2) empirical inattention regarding possible differential effects of structural characteristics of neighborhoods on specific types of crimes; and (3) failure to consider that neighborhoods do not exist in a vacuum but are impacted by the dynamics of surrounding areas.

By using data on neighborhoods that resemble communities more so than census tracts and jurisdictions and by considering the impact of surrounding criminal activity, I test aspects of the social disorganization theory more precisely than has been done previously. Specifically, I use official data from neighborhoods defined by cultural and historical boundaries to test the theory through various theoretically and empirically supported proxies. Further, I explore the impact of social disorganization on both violent and property crime at the neighborhood level.

The paper proceeds as follows: I start with a basic overview of the social disorganization tradition. I then discuss some of the pervasive limitations of the empirical research conducted to test the theory as well as the results of such empirical tests. In the following section, I discuss the details of the current study as well as its general results. I conclude with suggestions for future research.

1.2 Background

Social disorganization is the inability of local communities to realize mutual goals and solve neighborhood problems through social networks (Kornhauser 1978). Invoking the assumption that people want to live in relatively safe areas (Bursik & Grasmick 1993), the theory posits that one aspect of social disorganization includes the inability of residents to come together and maintain the neighborhood in such a manner that allows for both the realization and achievement of this goal. In contrast, neighborhoods that are organized socially are better suited to deal with issues of crime and delinquency. The social disorganization perspective posits that communities can fall along a continuum of (dis)organization based on this self-monitoring criterion.

One of the basic assumptions of the social disorganization tradition- which has been extended with the systemic, social capital, and collective efficacy models- is that the formation of social networks is hindered by certain structural features of neighborhoods (Bursik & Grasmick 1993; Sampson 1997; Sampson, Morenoff, & Earls 1999). The most fundamental of these features is grounded in the work of Shaw and McKay (1942). In their seminal study of juvenile delinquency rates, they report very few physical, psychological, and intellectual differences between delinquents and non-delinquents. Their study further

concludes that crime rates remain stable in areas of the city over time, regardless of shifts in the racial and ethnic composition of the areas. Their theory thereby attributes variation between delinquent and nondelinquent groups to differences in local environmental factors and posits that neighborhood characteristics provide the best explanation for why there are different rates of delinquency across neighborhoods over time (Shaw & McKay 1942).

Early ecological research in criminology focused primarily on residential mobility, racial and ethnic heterogeneity, family disruption, and socioeconomic status as proxies for social disorganization (Blau & Blau 1982; Krivo & Peterson 1996; Kubrin & Weitzer 2003; Martin 2002; McNulty 2001; McNulty & Holloway 2000; Roncek 1981; Rountree & Warner 1999; Smith & Jarjoura 1989; Van Wilsem, Wittebrood, & De Graaf 2006). However, in response to critics who posit that the theory suffers from tautology, researchers have placed these ecological measures within a systemic model framework to completely separate crime from social disorganization (see Bursik 1988). In line with the system model, researchers recently have begun to assess the extent to which social disorganization- tapped with direct measures of collective supervision, social capital, collective efficacy, and community participation- mediates the effects of structural disadvantage on crime (Bursik & Grasmick 1993; Morenoff, Sampson, & Raudenbush 2001; Sampson 1997; Sampson et al 1999; Warner & Rountree 1997). Figure 1 shows the broad conceptual model of social disorganization theory and Figure 2 demonstrates the aforementioned attempt to address criticism of tautology. The purpose of the present study, however, is not to assess the intervening mechanisms operating at the neighborhood level. Instead, I use a unique data source that taps neighborhood structural characteristics at a level more consistent with the

theoretical arguments of social disorganization than the level utilized by much previous research.

This data unfortunately does not allow for the assessment of the intervening disorganization measures. Thus, I follow the lead of early research and assess the total effects of structural characteristics on crime rates and then compare the findings from this unique analysis to those of previous research. A comparison of Figure 2 and Figure 3 reveals such intentions: The total effects of the neighborhoods' structural characteristics on crime are considered without the analysis of the direct and indirect effects outlined in Figure 2. Thus, when discussing recent research in which mediating mechanisms are considered, I emphasize the total effects of neighborhood structural characteristics, as this provides a more direct comparison to my research.

CHAPTER TWO

THEORETICAL AND METHODOLOGICAL ISSUES

Regardless of the methodological and theoretical improvements to the social disorganization model over time, the empirical literature continues to be plagued by the same issues haunting early research. Specifically, recent efforts have failed to focus on what empirically constitutes a neighborhood, to investigate the applicability of the model to specific types of crimes, and to consider the influences of surrounding areas.

2.1 Defining an Empirical Neighborhood

The most persistent limitation in the social disorganization tradition derives from the difficulty of defining neighborhoods or communities such that they have substantive and methodological value. Critical to the theory of social disorganization is the idea that residents within a given area work together to achieve communal goals as long as they are able to form networks with one another (Shaw & McKay 1942; Bursik & Grasmick 1993, Sampson, Raudenbush, & Earls 1997). Sampson's recent research has indicated, however, that these networks are not sufficient for community organization. There must also be a sense of collective efficacy among community residents in order to enable these social networks (Browning, Feinberg, & Dietz 2004; Morenoff, Sampson, & Raudenbush 2001; Sampson, Raudenbush, & Earls 1997). Still others have suggested the importance of public institutional strength (Triplett, Gainey, & Sun 2003) and the interplay of parochial and public forms of social control (Carr 2003).

The theory delineates a neighborhood as a naturally defined area based on conscious interactions among its inhabitants (Heitgerd & Bursik 1987). Researchers have struggled for decades to find the most appropriate empirical measure to capture the geographic level at which these processes occur. Unfortunately, this quest has been hampered by a paucity of data, thereby leading researchers to use data convenience as the main criteria for the appropriate empirical definition of neighborhoods. Relying on this criterion, the most common approach is to use data aggregated at the census-tract level (Elliot et al 1996; Heitgerd & Bursik 1987; Krivo & Peterson 1996; Martin 2002; Rountree & Warner 1999; Sun, Triplett, & Gainey 2004; Warner & Rountree 1997). According to the U.S. Census Bureau (2007), census tracts are "small, relatively permanent statistical subdivisions of a

county that are delineated by a local committee of census data users for the purpose of presenting data" and each tract averages approximately 4,000 individuals. It is clear from this definition that the census tract lacks substantive meaning for the study of socio-ecological processes. Instead, it is precisely what Gieryn (2000) contends that place is not: an aggregation of variables for the sake of data analysis. The arbitrary nature of the tract delineations means that few individuals can identify within which census tract they reside nor can they describe the interactions they have with others in their same tract.

Others have tried to overcome these issues by employing different conceptualizations of community. These techniques, however, still fall short of what is needed to truly study social disorganization. Though smaller than a census tract, the census block (see Roncek 1981), the block group (Elliot et al 1996; Gottfredson, McNeil, & Gottfredson 1991; McNulty 2001; McNulty & Holloway 2000; Shihadeh & Shrum 2004), and the census tract quartile (Kubrin & Weitzer 2003) are inappropriate units of analysis because they- like their larger counterpart- are arbitrarily defined for statistical ease. Yet other units may be impractical because they represent areas far too large and heterogeneous to allow for the formation of a unified sense of community. Such characteristics make communal supervision and interaction engagement less likely at that level than in smaller ecological units. These include cities (Miethe et al 1991), Standard Metropolitan Areas (Blau & Blau 1982), British localities (Sampson & Groves 1989; Veysey & Messner 1999), political constituencies (Markowitz et al 2001). These areas likely are comprised of multiple community structures that consist of social networks varying in strength and extensiveness.[1]

[1] Research has indicated that both strong and weak social ties are important for community organization (See Bellair 1997). It seems that both types would be more likely in smaller ecological units where individuals are in close proximity of one another.

Thus, they may distort the actual effects of social disorganization at the neighborhood level and exaggerate or underestimate the social processes taking place among residents.

Importantly, Bursik and Webb (1982) use the recognized neighborhoods of Chicago for their analysis of population turnover and changes in delinquency rates, which marks a vital advance in the measurement of neighborhoods within the literature. However, only recently have researchers begun to follow their lead, utilizing recognized neighborhoods. Perhaps the most ambitious research is that conducted by Sampson and his colleagues' (1997): The Project on Human Development in Chicago Neighborhoods. This project defines neighborhoods empirically as neighborhood clusters that are "ecologically meaningful, composed of contiguous census tracts, and based on both geographic boundaries and knowledge of Chicago neighborhoods" and average approximately 8,000 residents" (http://www.icpsr.umich.edu/PHDCN/glossary.html). While researchers have capitalized on the substantive benefits that such data have to offer (Browning et al 2004; Sampson et al 1997), the clusters in this research remain relatively large, which may have resulted in trading size for substance.

2.2 Issues of (In)Determinacy and Crime Types

Another difficulty with the social disorganization literature is that researchers have not remained entirely cognizant of the extent to which neighborhood structural conditions and local disorganization operate similarly or differently in the production of various types of crimes- i.e. property versus violent offenses. This likely is the result of Kornhauser's (1978) categorization of the theory as one of pure control which posits that a lack of control in a neighborhood will result in a wide variety of criminal and other imprudent outcomes. In

other words, the theory has been treated as indeterminate in that it similarly predicts a wide variety of crimes, rather than explaining certain types better than others (Cullen 1983).

However, Shaw and McKay's (1938) original explication of the theory included cultural transmission as a precursor to criminal outcomes. It may be the case that different types of disadvantage influence the content of subcultures that emerge in various neighborhoods, thereby influencing the nature of crime that becomes the most prevalent (Kobrin 1951; Cloward & Ohlin 1960). Thus, researchers should consider the extent to which structural characteristics of neighborhoods influence violent and property crimes similarly or differently. In other words, the theory may prove to be determinate in nature.

An overview of the empirical literature reveals that many researchers focus on various types of crimes under the assumption that social disorganization can account for any type of crime, without considering that the theory actually may be characterized by determinacy. Some look solely at the effect of social disorganization on violent crime (Blau & Blau 1982; Browning et al 2004; McNulty 2001; Rountree & Warner 1999; Sampson et al 1997), while others are more specific in their analyses, assessing homicide rates (Kubrin & Weitzer 2003; Sampson, & Raudenbush 2001; Sampson & Morenoff 2004) or burglary rates (Markowitz et al 2001; Martin 2002; Smith & Jarjoura 1989) as their outcome variables. Both Sampson and Groves (1989) and Veysey and Messner (1999) focus on total victimization rates, including an index of common street crimes such as robbery, assault, rape, burglary, motor vehicle theft, and vandalism but excluding white collar crimes and murder. The use of total victimization rates does not allow for a test of determinacy for social disorganization theory.

Some researchers have investigated the possibility of differential effects of neighborhoods on distinct crime types in their studies (Krivo & Peterson 1996; McNulty & Holloway 2000; Shihadeh & Shrum 2004; Van Wilsem et al 2006). However, their findings that crimes are not always explained by ecological factors have not adequately addressed the issue of (in)determinacy primarily because such an issue was not a primary focus in their research. Such results should not be ignored and can contribute greatly to the framing of the social disorganization model as either determinate or indeterminate in nature. A more helpful approach would be to explore this matter more explicitly.

Notably, Bursik and Grasmick's (1993) general review of the literature led them to conclude that social disorganization seems to better explain property crimes (especially burglary) than violent crimes, which certainly suggests the need to use specific measures of crime rates and to begin assessing potential determinacy in the theory. Barnett and Mencken (2002) call for such an investigation as a result of their finding that different factors predict property and violent crimes. Perhaps it is because their analysis was conducted at the county-level in non-metropolitan areas that their request has been unfulfilled and researchers continue to focus their attention on the indeterminate, control version of social disorganization theory (Kornhauser 1978). Alternatively, it may be that the literature on neighborhoods and crime has become too disjointed, such that research findings often are not built upon in the cumulative manner required for effective science. In the following sections, I attempt to cull important findings from the literature, despite the often noncumulative proceeding of this body of work. I review the literature focusing on the themes articulated in my critique thus far. Specifically, I focus the review on the empirical measurement of neighborhoods across studies, as well as on potential evidence of determinacy. To date,

scholars have not provided a general overview of how different measures of neighborhoods or different measures of crime impact reported findings. If there are patterns to be uncovered, this is an important step in moving the literature forward on a clear trajectory. Thus, I focus my review predominately on these issues.

CHAPTER THREE

REVIEW OF THE LITERATURE

To review, the ecological forces of concern for Shaw and McKay were residential mobility, racial and ethnic heterogeneity, and socioeconomic status. Over time, the model has been extended to include family disruption and structural disadvantage. A general review of the literature pertaining to these factors follows. Further, I include a discussion of research conducted regarding the possible effects of crime occurring outside the neighborhood as well as justification for the two control variables- neighborhood sex and age compositions.

3.1 Residential Mobility

Residential mobility includes both in-migration and out-migration patterns within given areas that contribute to community instability. If a neighborhood experiences high population turnover, residents are not there long enough to form strong social networks that allow them to communally solve problems with others nor does it give them the motivation to do so if they are aware that their residency is only temporary (Sampson & Groves 1989).

Research findings on the effects of residential mobility/stability on crime rates are not entirely consistent and can best be characterized as mixed, especially for burglary and homicide rates. Smith and Jarjoura (1989) report that residential instability increases burglary victimization rates. Others find that residential instability actually decreases the risk of burglary victimization, perhaps due to higher reporting or the presence of more suitable targets in stable areas- i.e. there is more money in those types of neighborhoods (Miethe, Hughes, & McDowall 1991; Martin 2002).

In a recent study of neighborhoods defined by zip codes, Van Wilsem et al (2006) report that turnover associated with neighborhood socioeconomic improvement results in higher victimization rates than in stable disadvantaged areas. This suggests that both economically advantaged and disadvantaged neighborhoods are susceptible to the repercussions of community instability. However, not all researchers report a significant effect of mobility on burglary. Warner and Rountree (1997) find that residential stability is not a significant predictor of burglary rates at the census tract level. Markowitz et al (2001) also fail to find an effect of residential stability on burglary rates. It could be that some of the differences in findings are due to variation in the definition of neighborhood- census tracts versus zip codes- or to the precise measures of crime- burglary victimization rates versus burglary rates obtained from official data.

Research focusing on homicide also reports mixed findings. Some report that residential stability increases murder rates in neighborhood clusters, or contiguous census tracts with similar demographic characteristics (Morenoff et al 2001; Sampson & Morenoff 2004; Sampson et al 1997). Morenoff, Sampson, and Raudenbush (2001) find that the effect remains positive and significant after considering spatial interdependence (i.e. the

relationship between what happens in one community and what happens nearby). Other studies using units of analysis other than the neighborhood cluster report a null relationship between mobility and homicide rates (Browning et al 2004; Kubrin & Weitzer 2003; McNulty & Holloway 2000; Shihadeh & Shrum 2004) with the exception of Rotolo and Tittle's (2006) report of a negative relationship between city population change and city homicide rates.

More consistent findings for the effects of residential mobility come from research examining its impact on violent crime more generally, including homicide, rape, robbery, and aggravated assault. Whether neighborhood is tapped by block groups, neighborhood clusters, or census tracts, residential mobility appears to increase violent crime rates (Browning et al 2004; McNulty 2001; Rountree & Warner 1999; Sampson et al 1997). The only exception to this pattern is the finding of no relationship by Van Wilsem et al (2006), whose study was conducted in the Netherlands.

The inconsistency of findings for some types of crime may be at least partially attributed to the various and disjointed units of analysis employed. Regardless, the evidence suggests that residential mobility, either as a direct predictor of crime or an indirect measure of social disorganization, is an important consideration in the study of social disorganization, particularly for violent crime.

3.2 Racial and Ethnic Heterogeneity

The degree of racial and ethnic heterogeneity is used to measure local levels of social disorganization because isolation and fear accompany diversity (Bursik & Grasmick 1993). Issues may also arise due to language barriers and culture conflict (Kornhauser 1978;

Sampson & Groves 1989). Such problems discourage interaction and the formation of friendship bonds that help curb crime in neighborhoods.

Research examining the effect of heterogeneity, operationalized either by Blau's (1977) heterogeneity index or simply the percent black multiplied by the percent non-black, on crime yields more consistent results than those for residential mobility. Most report a significant, positive effect despite the type of crime, unit of analysis, or the measure of heterogeneity used. Studies confirm that high levels of racial and ethnic heterogeneity result in higher rates of both violence (Sampson & Groves 1989; Rountree & Warner 1999) and burglary (Markowitz et al 2001; Smith & Jarjoura 1989; Rountree & Warner 1999).

Research on the effect of racial heterogeneity on property crime, robbery, and homicide has been a bit too sparse to assert definitive claims about the influence of heterogeneity on these crimes. However, the existing research tends to suggest that racial and ethnic heterogeneity generally have a positive effect on most crimes, with the exception of property crime (Miethe et al 1991; Sampson & Groves 1989).[2]

Some researchers have assessed the social disorganization model by investigating the effect of African American population size (minority presence) rather than heterogeneity measures on crime rates. Though the findings from these studies are mixed, it is possible to extrapolate patterns. Findings suggest that the size of the black population is not significantly related to property crime at either the census tract or block levels (Roncek 1981; Krivo & Peterson 1996). Research to date has not reported a significant relationship between percent black and robbery, though this research has been limited to the block group level

[2] Others who have used such a measure in their analyses did not provide enough information about its total effects for proper interpretation of heterogeneity's true impact on crime rates and victimization (Sun, Triplett, & Gainey 2004; Veysey & Messner 1999).

(McNulty & Holloway 2000; Shihadeh & Shrum 2004). The effect of percent black on violent crime rates appears more consistent and robust than its effect on other types of crime. That is, the relationship between the percentage of the population that is black and violence is consistently significant and positive at the census tract (Krivo & Peterson 1996), block group (McNulty 2001), and SMSA (Blau & Blau 1982) levels. However, the findings are mixed when particular crimes are investigated rather than a general violent crime index. McNulty and Holloway (2000) report that the size of the black population is positively related to both rape and murder while Shihadeh and Shrum (2004) report that it is not a significant predictor of either crime.

In sum, research concerning the relationship between race or racial heterogeneity and crime rates is abundant. The lack of uniformity in analysis units as well as the operationalization of heterogeneity makes the generalization of its effects quite difficult. However, some patterns have emerged in that neither heterogeneity nor the size of the black population have an effect on property crime rates but both are usually significant predictors of violent crime rates. Researchers, however, have generally ignored this difference and the determinacy that it implies.

3.3 Socioeconomic Status

Social disorganization theory predicts that those with fewer resources-financial or otherwise- will be less likely to participate in organizations that promote the formation of social networks (Sampson & Groves 1989). Further, those living in disadvantaged neighborhoods are believed to have less supervisory power over their children and other

children in the neighborhood because of greater work obligations. Thus, individuals are free from the controls that restrain delinquent and criminal behavior (Kornhauser 1978).

The most common single indicator of socioeconomic status used in this area of research has been the percentage of community residents living in poverty. Though not always supportive of Shaw and McKay's (1942) hypotheses, the results are consistent according to crime type. For violent crime, there appears to be no significant relationship with the proportion of those in poverty in SMSAs or census tracts (Blau & Blau 1982; Rountree & Warner 1999). The findings, however, suggest that there is a significant and positive relationship for burglary (Warner & Rountree 1997; Martin 2002) and assault (Warner & Rountree 1997).

Others have used median income as a measure of community socioeconomic status in their studies of local burglary rates and have found no relationship cross-sectionally for households aggregated by similar characteristics and close proximity (Smith & Jarjoura 1989) or over time for neighborhoods defined by political constituency (Markowitz et al 2001). The same is found when the socioeconomic variable is comprised of multiple indicators such as the percentage of resident who are college educated, the percentage in managerial or professional occupations, and the percentage with high incomes (Sampson & Groves 1989; Veysey & Messner). Sun, Triplett, and Gainey (2004) report that socioeconomic status has a significant, positive direct effect on robbery at the census tract level.

As was the case for other social disorganization measures, the findings regarding socioeconomic status are mixed. Some have found that it is a significant predictor of burglary rates and violence while others have found no effect. Such inconsistency can be

attributed to the diverse measures of socioeconomic status, the different levels of analysis employed, or both.

3.4 Family Disruption

Researchers have discovered that residential mobility, racial and ethnic heterogeneity, and socioeconomic status are not the only important predictors of community crime. Sampson (1985), for example, contests the research findings that indicate a positive relationship between race or racial heterogeneity and crime. His research reveals a high correlation between the size of the black population and the percentage of female-headed households and a significant effect of family structure on crime. Thus, criminal victimization may be higher in disadvantaged neighborhoods not because of the proportion of racial and ethnic minorities per se but as a result of disrupted homes and the lack of supervision that accompanies this family disruption (Cohen & Felson 1979). Other studies have supported this relationship for burglary (Smith & Jarjoura 1989), violent crime (Blau & Blau 1982), and total victimization (Sampson & Groves 1989; Veysey & Messner 1999).

Others, however, have found that the family disruption, usually operationalized as the percentage divorced or percentage of female headed households, does not have a statistically significant effect on assault (Shihadeh & Shrum 2004), homicide (Kubrin & Weitzer 2003; Shihadeh & Shrum 2004), or burglary (Martin 2002; Shihadeh & Shrum 2004). Like the aforementioned structural variables, the inconsistent findings for family disruption may be, at least partially, attributed to the variety of levels of analysis used. Multicollinearity issues may also arise when researchers fail to consider the effects of black population size and

family disruption independently before including them in the same model (Blau & Blau 1982; Shihadeh & Shrum 2004).

3.5 Structural Disadvantage

Because of the great degree of multicollinearity- or very high correlations between measures of race, poverty, and female headship at the community level-research has been unable to decipher the independent effects of these indicators of structural disadvantage on crime rates (see Land, McCall, & Cohen 1990). To address this issue, some researchers have concluded that it is best to consider structural disadvantage as a latent factor that can be tapped with observable measures of racial composition, poverty, and percent of female-headed families in the areas. The issue arising from considering these factors separately was first noted by Kornhauser (1978). The great push, however, came decades later in a seminal methodological article by Land et al (1990). In their analysis of community homicide studies, they confirm that multicollinearity plagues analyses when including the aforementioned exogenous variables in the same regression model. To avoid the misallocation of error and explained variance, or the partialling fallacy, they suggest that socioeconomic and heterogeneity measures be placed in a resource deprivation index including median family income, percentage in poverty, Gini index of family income inequality, percent black, and the percentage of minors not living with both parents. Morenoff, Sampson, and Raudenbush (2001) slightly modify this concentrated disadvantage cluster by including the percentage of individuals receiving public assistance, the percentage of families in poverty, the percentage unemployed, the percentage of female-headed households, and the percentage of blacks in the neighborhood.

Most researchers today heed the warning of Land et al (1990) by replacing the use of independent measures of economic disadvantage and racial composition with a general structural disadvantage index. Not surprisingly, this corrective in the empirical literature has produced findings with greater consistency. The relationship between structural disadvantage and violent crime rates generally is positive for census tracts, neighborhood clusters, and zip-code areas (Krivo & Peterson 1996; Sampson et al 1997; Browning et al 2004; Van Wilsem et al 2006). McNulty (2001) reports a positive relationship until a certain tipping point, after which the level of disadvantage actually decreases the prevalence of violence. Disadvantage also increases the frequency of robbery, rape, and assault at the block group level (McNulty & Holloway 2000; Shihadeh & Shrum 2004). Similarly, homicide increases with concentrated disadvantage at most levels of analysis (Browning et al 2004; Land et al 1991; Kubrin & Weitzer 2003; McNulty & Holloway 2000; Morenoff, et al 2001; Sampson et al 1997). The only exception to this pattern can be found in Shihadeh & Shrum's (2004) block group analysis, which contrasts McNulty and Holloway's (2000) finding at the same unit of analysis.

With regard to property crime, research investigating the effect of structural disadvantage is more limited. Krivo and Peterson (1996) found that property crime rates are higher in disadvantaged areas. Van Wilsem et al (2006), however, found that neighborhood disadvantage did not affect burglary rates.

While residential mobility, racial/ethnic heterogeneity, socioeconomic status, and family disruption are of utmost importance in the study of social disorganization, they are not the only forces that impact local crime rates. Of particular interest in this paper are neighboring crime, age composition, and sex composition.

3.6 Neighboring Crime

Far too often in this tradition, researchers dedicate their entire focus to the internal dynamics of particular neighborhoods while disregarding influences from adjacent areas. We should be cognizant of the fact that community boundaries do not act as barriers that keep forces located outside from having an impact on the neighborhood or its residents. There are two important reasons for such an approach, particularly with respect to external crime. First, crime rates in surrounding areas may impact neighborhoods with relatively low levels of social disorganization as a result of spillover effects (Mears & Bhati 2006). Including a measure of external crime in the model also allows for the isolation of the structural dynamics of each neighborhood. As Baller, Anselin, Messner, Deane and Hawkins (2001) note, parameter estimates for the independent variables may be biased and misleading when external forces are not considered. The aforementioned inconsistencies in the literature may be a consequence of this.

Though some have considered the impact of external community conditions (Mears & Bhati 2006), I am concerned primarily with the diffusion of crime, or the idea that crime in one community influences criminal activity in those surrounding it (Cohen & Tita 1999; Peterson & Krivo 2005). Most who have taken an interest in the diffusion process have done so primarily through spatial-lag regression analyses which assess the degree of spatial autocorrelation or, conversely, spatial randomness, among communities (Baller et al 2001; Kubrin & Weitzer 2003; Mears & Bhati 2006; Morenoff et al 2001). Though their focus is on external change rather than diffusion, Heitgerd & Bursik (1987) offer an alternative to spatial lag modeling that can help detect spillover effects without heavily relying on

statistical estimation. To look at the degree of external community change, they averaged the changes for all areas immediately adjacent to each of the local communities. This technique provides a more accurate measure of external influences and was only possible because their data were derived from a single city and were all contiguous. While advantageous in this regard, Heitgerd & Bursik (1987) warn that using averages for all neighborhoods grants an equal effect for each neighborhood regardless of its degree of adjacency. In other words, surrounding neighborhoods that join the community for only a few blocks are given the same weight in their influence as neighborhoods that are contiguous for several miles.

3.7 Compositional Effects

Researchers have also included variables known to be highly correlated with crime at the individual level in their ecological studies in an attempt to control for compositional effects. Age composition has been one of the strongest predictors of crime, especially burglary (Martin 2002; Smith & Jarjoura 1989; Van Wilsem, et al 2006) because of the well-documented age-crime curve (Farrington 1986; Hirschi & Gottfredson 1983). Following this logic, the sex composition of the neighborhood should be related to official crime rates since males commit more serious offenses and are more likely to be arrested for doing so (Hindelang 1979; Steffensmeier et al 1995).

CHAPTER FOUR

HYPOTHESES

I put forth several hypotheses to test social disorganization theory at the neighborhood level. These hypotheses are meant to predict relationships between the various structural variables and crime in general. I do not hypothesize explicitly about violent and property crimes independently for the determinacy/indeterminacy part of the study is somewhat exploratory. Because neighborhood disruption consistently has proven to be an important source of social disorganization, I explore the impact of community change rather than residential tenure despite its empirical history. I expect crime rates to be higher in communities that have experienced a substantial population turnover over time. The direction of this change should not matter because both extensive population growth and population decline are likely to interfere with community relations (Bursik & Webb 1982).

Hypothesis 1: There will be a positive relationship between the degree of change in population size and neighborhood property and violent crime rates.

Because of its suggested effect on residential interaction, a high degree of structural disadvantage- defined by the degree of female headship, the neighborhood's socioeconomic composition, and the size of the black population- should result in higher crime rates than in more affluent areas.

Hypothesis 2: There will be a positive relationship between structural disadvantage and neighborhood property and violent crime rates.

If external crime has a significant effect on a particular neighborhood, it can do so in two ways. The hotspot argument suggests that when crime is high in one area, crime rates in the surrounding areas will be lower because of concentration of criminal activity

(Brantingham & Brantingham 1999; Weisburd, Maher, & Sherman 1992). These effects, however, may "spill over" into the surrounding areas and increase crime rates as a result (Cohen & Tita 1999; Peterson & Krivo 2005).

Hypothesis 3: Crime in adjacent areas will have an effect on a particular neighborhood's violent and property crime rates.

> **Hypothesis 3a:** If the hotspot hypothesis is correct, there will be a negative relationship between external crime rates and the crime rate in a particular neighborhood.
>
> **Hypothesis 3b:** If the hotspot with spillover effects hypothesis is correct, there will be a positive relationship between external crime rates and the crime rate in a particular neighborhood.

CHAPTER FIVE

DATA

5.1 Sources of Data

The units of analysis used in this study are neighborhoods located within St. Louis City that have been defined by history, culture, and often ethnic background. Thus, each is more likely to be considered a community than census tracts, neighborhood clusters, SMSAs, or cities. The average population size is approximately 4,600 residents, making these neighborhoods about half the size of a neighborhood cluster as used by the Project on Human Development in Chicago Neighborhoods (see Sampson et al. 1997) and more substantively meaningful than the relatively arbitrary boundaries delineated by the Census Bureau. Further, each neighborhood has a Neighborhood Stabilization Office as well as a designated Neighborhood Stabilization Officer to aid residents through education and organization.

Using neighborhoods from a single city allows for the control of political, economic, and social processes occurring at the city level (Sun, Triplett, & Gainey 2004).

Though there are seventy-nine neighborhoods within the city limits, only seventy-four are used in this analysis. Two neighborhoods are excluded because they are located in the central business district. Their locales pose problems in the analysis of neighborhoods, crime, and disorganization because of the constant flow of people and the anomalous crime rates that tend to characterize downtown regions. Two others are left out because of the prisons located within their boundaries and the available data do not distinguish population characteristics of the inmates from those not institutionalized. A final neighborhood is excluded because it is a non-residential business area.

The data on structural characteristics are from official reports provided by the Community Information Network and its Technology Services Agency Division. This group has transformed St. Louis data based on census blocks into statistics aggregated at the neighborhood level as defined by the city of St. Louis. The crime rate data were supplied by the St. Louis City Metropolitan Police Departments and were compiled at the recognized neighborhood level.

5.2 Dependent Variables

The dependent variables for the study include total, violent, and property crime rates, as tapped by official crime rate data of crimes known to the police. Although the use of official crime rate data may exaggerate the differences among neighborhoods by measuring levels of social control (i.e. police activity) rather than actual crime (Bursik 1988), the use of official data makes my findings more comparable to others who have used such data (Blau &

Blau 1982; Krivo & Peterson 1996; Markowizt et al 2001; Martin 2002; McNulty 2001; McNulty & Holloway 2000; Miethe et al 1991; Rocek 1981; Shihadeh & Shrum 2004).

Following previous research, I utilize the *total neighborhood crime rate* per 1,000 population of the neighborhood in 2000. I use rates of offending rather than counts to account for population size. Further, to control for random fluctuations in crime rates, I use the average rates from 1999, 2000, and 2001 as the measure of total crime in 2000 (Krivo & Peterson 1996; McNulty 2001; McNulty & Holloway 2000; Sampson 1985; Sampson 1987).

To explore the possibility of determinacy- or the possibility that structural characteristics influence property and violent crimes differentially-violent and property crime rates are measured separately. *Violent crimes* include murder, rape, robbery (with or without a weapon), and aggravated assault (with or without a weapon). *Property crimes* include burglary, larceny, auto theft, and arson. These, too, are calculated from the averages in 1999, 2000, and 2001 and are per 1,000 population.

5.3 Independent Variables

I use the percent population change in the neighborhood between 1990 and 2000 as an indicator of *residential mobility*. Because disruption is the key concern rather than growth or decline, I use the absolute value of this change. *Structural disadvantage* is an additive index comprised of percent impoverished (socioeconomic condition), percent female headed households (family disruption), and percent of the neighborhood's population that is black (minority presence)[3]. I constructed this index to correct for collinearity among the variables

[3] When factor loadings were used to construct the index, the results of the presented analysis did not change. The reliability estimate for this index is .71. Though some have used the log of structural disadvantage

included in the model. Doing so, however, disallows for the assessment of each variable's independent association with neighborhood crime rates. *External Crime* is measured by the average total crime rate per 1,000 population for all adjacent neighborhoods. As was noted above, any neighborhood with shared boundaries, no matter their sizes, were included in this calculation (the sum of all crime rates for all adjoining neighborhoods divided by the number of adjoining neighborhoods).

5.4 Control Variables

I also include two control variables in the model. *Age composition* is the percentage of the neighborhood population aged fifteen to twenty-four years and *sex composition* is measured by the percentage of the neighborhood population that is male.

CHAPTER 6

METHODS AND FINDINGS

The bivariate correlations among the independent and dependent variables are presented in Table 1. There is no obvious indication of multi-collinearity among these variables because each correlation coefficient is below .70. Those for the index variables, in contrast, are above .70 and provide further justification for the use of a structural disadvantage index. The correlations also reveal that population turnover, structural disadvantage, and external crime have a statistically significant positive association with the neighborhood's total crime rate. Further, population turnover, structural disadvantage

(Morenoff, Sampson, & Raudenbush 2001), an examination of the scatterplots indicated that logging this variable is not appropriate for this analysis.

external crime, and sex composition are all statistically significant predictors of violent crimes. Interestingly, the association between sex composition and violent crime is negative. Statistically significant (and positive) predictors of property crime rates are population turnover and structural disadvantage. Based solely on the bivariate correlations, social disorganization theory receives substantial support as does the hotspot with spillover effects hypothesis.

The standardized (β) and unstandardized (*b*) parameter estimates obtained through Ordinary Least Squares (OLS) regression are reported in Tables 2 (total crime rates) and 3 (violent and property crime rates). Table 2 reveals that population turnover and structural disadvantage are associated with the neighborhood's total crime rate, net of the other structural and control variables included in the model (Table 2, rows 1 and 2, column 1). Consistent with Hypotheses 1 and 2, the relationship between population turnover and total crime rates is positive as is the relationship between structural disadvantage and total crime rates- indicating that population change and disadvantage are associated with increases in crime. There is no support for Hypothesis 3 in that crime in adjacent neighborhoods is not associated with the neighborhood's total crime rate (Table 2, row 3, column1). External crime lost the statistical significance once the other factors were controlled. The larger the male population of the neighborhood, the greater its total crime rate as indicated by the statistically significant positive relationship between its sex composition and total crime rate (Table 2, row 5, column 1).

The overall findings for both violent and property crimes mirror those for total crime rates, as the indeterminacy hypothesis would suggest. Table 3 reveals population turnover, disadvantage, and sex composition of the neighborhood are statistically significant predictors

of both crime types. The R^2 values for both crime types indicate that the model explains more of the variance for violent crime (0.810) than property crime (0.414). In support of Hypothesis 1, areas with high levels of residential mobility experience higher rates of violent and property crimes (Table 3, row 1, columns 1 and 4). Violent and property crime rates also increase as the degree of neighborhood disadvantage worsens as is posited in Hypothesis 2 (Table 3, row 2, columns 1 and 4). Like the results for the total crime rate, violent and property crime rates of a particular neighborhood are not predicted by crime in those adjacent to it (Table 3, row 3, columns 1 and 4).[4] Again, Hypothesis 3 is not supported by the data. Though the bivariate correlation suggests that external crime has a significant relationship with violent crime, its predictive power is no longer statistically significant once the other ecological factors are considered. An examination of first-order correlations suggests that this likely results from population change driving both external crime and violent crime rates[5]

In sum, the analysis provides support for social disorganization theory and the indeterminacy hypothesis. Population turnover and structural disadvantage have significant effects on crime, regardless of its general type. The size of the male population is also an important predictor of both violent and property crime rates.

[4] When the violent and property crime indices were broken down into individual crimes and were regressed on the full model variables, external crime was statistically significant for both aggravated assault (-) and larceny (+).

[5] The correlation between external crime and violent crime dropped from .292 (statistically significant) to .119 (not statistically significant) once population change was controlled in the first-order correlation matrix.

CHAPTER SEVEN

DISCUSSION AND CONCLUSIONS

The primary goal of this research was to test the social disorganization model using data from neighborhoods within a single city to predict both violent and property crime rates. According to the contemporary version of the theory, residential mobility (population turnover) and structural disadvantage- defined by the size of the neighborhood's black population, socioeconomic status, and degree of family disruption- will have positive and significant effects on crime. Because these factors are believed to hinder collective efficacy, discourage the formation and participation in organizations, and restrict the supervision of youths, they should remain significant predictors after controlling for common correlates of crime such as the size of the youth and male populations. I added to the study of social disorganization by exploring the role of external crime rates. Such a consideration is important to the study of social disorganization and crime because it is illogical to assume that neighborhood processes occur within a vacuum. Including a measure of external crime rates allows researchers to more closely examine the true effects of social disorganization by accounting somewhat for outside forces.

Scholars have long assumed that all crimes are affected by the aforementioned structural factors as well as social disorganization in the same way. This research demonstrates that violent and property crimes are explained by the same structural forces in that both flourish in neighborhoods characterized by high residential turnover and extensive structural disadvantage as is suggested by social disorganization theory. Thus, the indeterminate view of the social disorganization model put forth by Kornhauser (1978) is

supported here. Not supported, however, is Cloward and Ohlin's (1960) subcultural argument of crime-specificity. It appears that neighborhoods do not "specialize" in particular types of crimes as a result of disadvantage. This is not to say that culture is not imperative to the study of communities, social (dis)organization, and crime; the importance of culture on collective efficacy or vice versa has been demonstrated (Anderson 1999; Sampson & Bartusch 1998). As Sampson and Wilson (1995) have suggested, individuals in disadvantaged neighborhoods may adopt attitudes in favor or at least tolerable of criminal behavior which, in turn, results in more neighborhood crime. This study suggests that if individuals residing in disadvantaged neighborhoods subscribe to the aforementioned attitude, they do so for most-if not all- crime types.

Cullen (1984) recommends that researchers pay particular attention to the "structuring variables" that influence the direction that criminal motivations take with regard to criminal outcomes. This type of empirical and theoretical investigation would allow for a better understanding as to the indeterminate nature of many criminological theories. He proposes, then, that empirical emphasis be placed on the moderating factors that guide the trajectory of individual motivations into specific crime types. The results reported here (that both crime types are rife across disadvantaged neighborhoods), however, suggest that research should focus on the social processes that mediate the relationship between the exogenous variables examined in this study and crime rates. It is presumably through their impact on social interaction, community networks, collective efficacy, and supervisory power that population turnover and disadvantage impact crime rates at the neighborhood level (see Bellair 1997; Sampson & Groves 1989; Warner & Rountree 1997; Van Wilsem et al 2006; Veysey &

Messner 1999). A more thorough test of social disorganization theory would require the consideration of these mediating effects.

Despite common influences, violent and property crimes differ in the extent to which the ecological factors predict them. Based on the standardized regression coefficients, the strongest predictor of violent crime is the degree of neighborhood disadvantage while property crime is best explained by the size of the male population. Future research should include a sex composition measure to further examine its impact on social disorganization and crime. Higher neighborhood crime rates may result in areas with a large number of males not only because men are more active in crime, but they may be less involved in community affairs than their female counterparts (Booth 1972; Campbell & Lee 1990; McPherson & Smith-Lovin 1982). Even if they are active in their communities and have social ties with their neighborhoods, men's networks may not be as effective in defending the neighborhood against crime (Rountree & Warner 1999). Their absence from community organizations may restrict collective efficacy, hinder social action, and discourage others from taking part. Further, the model of social disorganization used in this study predicts violent crime rates substantially better than property crime rates, indicating that neighborhood social disorganization does not impact these crime types to the same degree.

Another important finding is that external crime does not appear to significantly predict violent or property crime rates generally. They do, however, predict aggravated assault and larceny. Aggravated assault rates are highest in neighborhoods surrounded by neighborhoods with low total crime rates. It appears, then, that aggravated assaults are concentrated within hotspot areas. This type of violence is less prevalent in areas surrounded by neighborhoods with high crime concentration regardless of its own levels of

(dis)organization. Larceny rates, in contrast, are highest in areas where adjacent crime rates are high. This finding lends support to the hypothesis that hotspots have spillover effects that increase crime in surrounding areas regardless of the levels of (dis)organization in those adjacent communities (Mears & Bhati 2006). It also suggests that individuals steal from their communities as well as those nearby. External crime, though not a significant predictor of either crime categorization, should still be considered in the study of social disorganization and crime, especially for the aforementioned crimes. It is possible that this null relationship is the result of both forces-hotspots and spillover effects-occurring simultaneously. If particular hotspots in the city are associated with lower crime rates in surrounding areas while other hotspots have spillover effects that increase crime in other neighborhoods, the overall predictive power of external crime will appear to lack statistical significance regardless of the strength of the aforementioned associations.

In summary, the social disorganization model is supported in this study using neighborhood data rather than data representing city blocks or census tracts. While this research has its advantages, there are several limitations that cannot be ignored. First, these neighborhoods are all located within a single city. This technique is beneficial because it allows for the control of political, ecological, and social forces taking place at a more macro-level. However, this control comes at the cost of generalizability. These findings could be unique to the city of St. Louis especially since it was declared the most dangerous city in the United States in 2005. Replication is certainly needed using data collected for neighborhoods defined by more than arbitrary lines.

Another admittedly limited feature of this study involves the measurement of two key variables. While most other researchers have focused on resident tenure, I was restricted to

total population change over a ten year period due to data availability. Having data on population change over shorter periods of time could offer a better understanding as to what role population disruption plays. It could be that long-term change is the only significant predictor. Another possibility is that crime and mobility reinforce one another; a high frequency of crime in an area could drive residents away which, in turn, results in more crime as residents neglect the formation of networks and organizational participation.

Two of the observed measures of disadvantage are somewhat lacking. Due to data availability, the percent living in poverty and the percentage of female-headed households were the only variables available. It would have been beneficial to have the other components suggested by Land et al (1990) such as median family income and the Gini index of family income inequality. Finally, there were no available data to indicate the extent of participation, network formation within these neighborhoods, or degree to which youths in the community are supervised. Such information would be beneficial to test the systemic model of social disorganization. We need a better understanding of how the structural conditions of the neighborhood impact the collective efficacy and community social control and how those, in turn, affect crime rates at the neighborhood level. Though I was limited to the use of proxies, my research followed the same basic approach and found comparable results as other researchers discussed above.

Despite these limitations, the current research offers a new direction for future exploration. This is one of the few studies to examine the impact of social disorganization indicators in neighborhoods defined by historical and cultural boundaries. This is particularly important in the study of social disorganization because the model relies on a sense of community. Such a bond would be more likely to develop in areas defined by

historical and cultural commonalities rather than by convenience on the part of the Census Bureau. Using such a unit of analysis may help to alleviate the empirical inconsistencies plaguing this area of study. This research also sheds light on something that is not new to the literature but that is often overlooked- social disorganization contributes to higher violent and property crime rates but it does so to different degrees. The dynamics of these crimes alone make this finding somewhat expected but the social disorganization theory never addresses such an issue. Finally, I considered the impact of crime occurring in adjacent neighborhoods because models that do not assume that neighborhoods are somewhat isolated from outside influence. Another possibility for future research would involve an examination of the link between social disorganization in one neighborhood and the level of social disorganization in adjacent areas. These factors should be considered in future research as well as future conceptualizations of the social disorganization model to further explore possible associations outside the city of St. Louis.

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Table 1: Zero-Order Correlations

	Total Crime	Violent Crime	Property Crime	Population Turnover	Structural Disadvantage	External Crime	Sex Composition	Age Composition
Total Crime	**1.00**							
Violent Crime	**0.706***	**1.00**						
Property Crime	**0.987***	**0.582***	**1.00**					
Population Turnover	**0.533***	**0.679***	**0.457***	**1.00**				
Structural Disadvantage	**0.485***	**0.852***	**0.362***	**0.631***	**1.00**			
External Crime	**0.249***	**0.292***	**0.219**	**0.308***	**0.473***	**1.00**		
Sex Composition	**0.094**	**-0.263***	**0.167**	**-0.236***	**-0.533***	**-0.439***	**1.00**	
Age Composition	**0.168**	**0.157**	**0.157**	**0.042**	**0.143**	**0.057**	**-0.132**	**1.00**
Mean	**146.884**	**23.109**	**123.774**	**15.457**	**99.154**	**192.354**	**46.735**	**15.104**
Standard Deviation	**72.060**	**14.265**	**62.816**	**12.062**	**55.500**	**171.652**	**3.090**	**7.064**
Minimum	**34.654**	**1.579**	**32.592**	**0.350**	**6.720**	**43.230**	**37.070**	**8.290**
Maximum	**491.084**	**61.893**	**459.534**	**43.800**	**188.360**	**1034.00**	**56.820**	**66.170**

Note: N=74; * Significant at α=.05

Table 2: Unstandardized & Standardized Coefficients for the Effects of Predictor Variables on Total Crime Rates

Independent Variables	*b*	*S.E.*	β
Constant	-519.28*	125.84	---
1. Population Turnover	1.818*	(0.672)	0.304
2. Disadvantage	0.610*	(0.173)	0.470
3. External Crime	0.060	(0.042)	0.144
4. Age Composition	1.485†	(0.890)	0.146
5. Sex Composition	11.631*	(2.487)	0.499

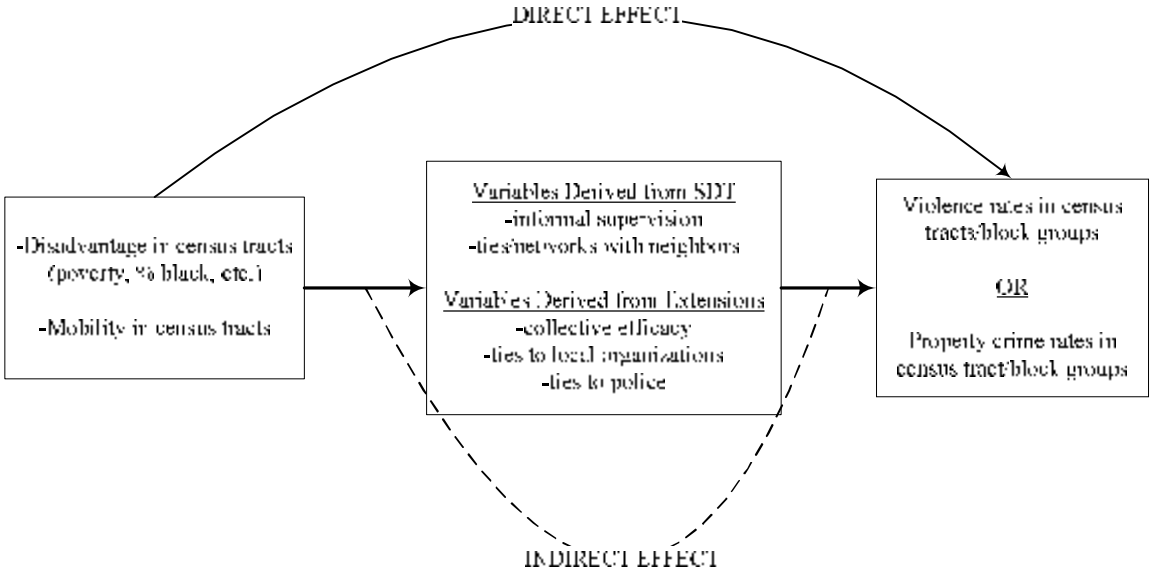
NOTE: *b*= unstandardized coefficient; S.E.= standard error; β= standardized coefficient. *p<.05; †p<.10 (two-tailed tests). R^2= 0.497

Table 3: Unstandardized & Standardized Coefficients for the Effects of Predictor Variables on Violent and Property Crime Rates

Independent Variables	Violent Crime			Property Crime		
	b	**S.E.**	**β**	***b***	**S.E.**	**β**
Constant	**-50.63***	**15.31**	**---**	**-468.66***	**118.40**	**---**
1. Population Turnover	**0.242***	**(0.082)**	**0.205**	**1.576***	**(0.632)**	**0.303**
2. Disadvantage	**0.225***	**(0.021)**	**0.876**	**0.385***	**(0.162)**	**0.340**
3. External Crime	**-0.008**	**(0.005)**	**-0.092**	**0.068†**	**(0.040)**	**0.186**
4. Age Composition	**0.116**	**(0.108)**	**0.058**	**1.368**	**(0.837)**	**0.154**
5. Sex Composition	**1.014***	**(0.302)**	**0.220**	**10.617***	**(2.340)**	**0.522**

NOTE: *b*= unstandardized coefficient; S.E.= standard error; β= standardized coefficient. *p<.05; †p<.10 (two-tailed tests). R^2 value for Violent Crime= 0.810; R^2 for Property Crime= 0.414.

Figure 1. Conceptual Model of Social Disorganization Theory



*Note: Direct Effect + Indirect Effect = Total Effect

Figure 2. Operationalizations of Social Disorganization Concepts/Systemic Model

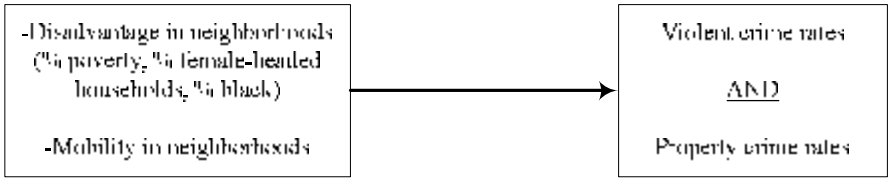


Figure 3. Model Assessing Total Effects of Structural Characteristics of Subjectively-Defined Neighborhoods