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**The Importance of Place: A National Examination of the Structural Correlates of
Intimate Partner Homicides**

by

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ABSTRACT OF THE DISSERTATION

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Little research in the United States has focused on homicides outside cities. This study examines the impact of structural factors on intimate partner homicides in rural counties, as well as, across the nation as a whole. Expanding on the paucity of research on rural crime, this research applies the systemic reformulation of social disorganization theory and considers the importance of civic engagement and religious participation variables in influencing these outcomes.

Utilizing recent Uniform Crime Report Supplementary Homicide Report data (2000-2005), U.S. Census data (2000), a study of County Characteristics (2000-2007), and the Association of Religion Data Archives Religious Congregations and Membership Study of 2000, this study investigates how the systemic reformulation of social disorganization theory explains intimate partner homicides across the country and in rural counties. In examining the structural correlates of homicide and the impact of social institutions, this research bridges the gaps between social organization theories and cultural or subcultural theories. By incorporating institutions into the analysis, this study examines the “relatively stable configuration of statuses, roles, values, and norms that

emerge from the basic functional requirements of a society” (Messner and Rosenfeld, 1999: 28). Through the inclusion of religious and political institutions, this analysis adds to the understanding of the impact of institutional factors on intimate partner homicides and finds that in rural communities, especially, religious participation and voter participation are negatively correlated to intimate partner homicides.

This study found that the systemic reformulation of social disorganization theory and the concepts therein significantly explained intimate partner homicide counts across the country, though religious participation was not significant. For rural counties, the model was significant but only the population structure component, which included population density and population size, and religious participation were statistically significant. These findings have important policy implications. With more recently emerging literature on the importance of civic engagement, this research highlights the importance of further investigation of voter participatory norms, especially in future studies of crimes in rural locations. Additionally, religious participation must be investigated further, especially in studies involving rural communities.

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CHAPTER 1 INTRODUCTION

Homicide is a crime that is of particular importance to society. Media reports focus disproportionately on murders, and researchers have focused disproportionately on homicide, even to the extent of creating entire journal, *Homicide Studies*, devoted entirely to the study of homicides. Homicide is the most serious, but least common violent crime, accounting for only 1 percent of all index offenses reported to the FBI. Despite its relative infrequent occurrence as a crime, the impact of homicides on society is significant.

Despite a great deal of focus on homicide research there are still some inconsistencies in the findings and gaps within the research. One of the reasons for these inconsistent findings is that many studies do not differentiate between the correlates of different victim-offender relationships. Intuitively, it makes sense that stranger homicide occurs as a result of different factors, compared to intimate partner or family homicides. Research supports this notion as well, yet many aggregate studies fail to disaggregate homicides by victim-offender relationships. Additionally, the type of place (that is, rural, non-metropolitan, and urban) may also contribute to homicide in differing ways, and is rarely considered in research endeavors (see Osgood and Chambers, 2000). Homicide in rural areas may follow different trends and have different correlates, compared to homicide rates in urban areas. The majority of homicide research has focused on urban areas, nearly neglecting explanations of homicide in rural and non-metropolitan areas, leaving a gap in our understanding of homicides in those areas and creating problems when generalizing those results to non-urban areas. This research seeks to fill those gaps

by examining the structural and demographic correlates of intimate partner homicides throughout the United States and in rural counties across the United States.

There has been little focus on the macro level correlates of intimate partner homicides. This research seeks to fill the gaps in the research on homicides by examining the relationship between structural factors and intimate partner homicides across the country and across rural counties through the theoretical lens of the systemic reformulation of social disorganization theory (Kornhauser, 1978; Kassarda & Janowitz, 1974). According to this reformulation the institutions play a key role. Culture is transmitted through and embodied in various institutions, including the church, schools, the family and other community institutions. The strength of the commitment to the community flows through such institutions and the variation between communities is a result of the structural forces within the community (Kornhauser, 1978). Hence, the structure of the community affects the community's ability to live out society's common values and informal social control is thereby weakened.

While there is a great deal of research on homicide, very little has been done with regard to homicides outside the cities. A few early studies examined the impact of the type of place on crime. In that research low rates of disorganization (lower rates of divorce, lower rates of single-headed households, lower percentages of unemployment, etc.) in rural areas can lead to more problems than those same rates in urban areas (Quinney, 1966). Comparing crime rates in rural areas, small and medium cities and metropolitan areas (larger cities), Quinney (1966) found that metropolitan areas were less sensitive to structural variation than either of the other types of areas. Quinney (1966) noted, too, that rural areas are particularly vulnerable to occupational variables.

This study expands upon the paucity of research on crime in rural areas, utilizing Uniform Crime Report Supplementary Homicide data from 2000- 2005, U.S. Census data, a County Characteristics database, and the Association of Religion Data Archives Religious Congregations and Membership Study of 2000 to examine additional structural predictors of intimate partner homicides. In examining not only the typical structural correlates of intimate partner homicide, but also the impact of social institutions, this research bridges the gaps between social organization theories and cultural or subcultural theories through the use of the systemic reformulation of social disorganization theory. Since this study incorporates the impact of institutions in the analysis, it includes an examination of the “relatively stable configuration of statuses, roles, values, and norms that emerge from the basic functional requirements of a society” (Messner & Rosenfeld, 1999: 28). To that end, this research will apply the systemic reformulation of social disorganization theory to intimate partner homicides to national county-level data and to all rural counties in two separate analyses.

This research examines how the structural factors correlate with intimate partner homicide in a national analysis of all counties and in rural counties across the country. Rural are likely to have different counts of intimate partner homicides and possibly different structural correlates, compared with a combined analysis of all counties. Rural homicide appears to have characteristics that distinguish it from urban homicide and these characteristics may also apply to intimate partner homicides. For example, Clinard (1942, 1944, 1960) identified some key differences between typical rural offenders and rural non-offenders, citing that rural offenders were more mobile and less inclined to participate in community affairs. Quinney (1966) compared rural, urban, and

metropolitan areas, finding that structural factors such as median family income, median education, percent nonwhite, population mobility, and percent owner-occupied dwelling were correlated with crime, but even more importantly, that structural changes in rural and urban¹ areas had greater impacts on crime compared to metropolitan areas. This study examines the differential impact of structural factors on intimate partner homicides.

Intimate partner homicides are examined from the systemic reformulation of social disorganization theory perspective while paying close attention to the differences that emerge in the patterns of intimate partner homicides that occur in rural counties of the United States in a separate analysis of a subset of the national county-level data. This research has important policy significance because it focuses on a relatively neglected issue about which little is known: that is, rural intimate partner homicides. There is no indication or logic that states that rural areas with homicide problems have those problems for the same reasons as cities, so more research needs to investigate this. By the same token, previous research has presumed that rural areas have no crime; yet some clearly do. There is a perception that “rural” is associated with small, idyllic communities where neighbors help each other out. While this may be true in some rural communities, there are significant problems in rural communities that can lead to high crime problems.

Additionally, this research can contribute to policy so that what is learned about intimate partner homicides from a macro level can enable policymakers to implement structural solutions to the problem of intimate partner homicide. This study is also important because research focusing on rural communities has yielded some conflicting findings. For example, researchers in one study found that poverty did not correlate with

¹ Quinney defined “urban” as small and medium sized cities and contrasts this with large metropolitan areas.

crime in rural areas (Osgood & Chambers, 2000), yet other studies have found that poverty as one factor within an index of disadvantage was positively correlated with crime (Lee & Ousey, 2001). This study can shed light on the significance of particular structural forces on intimate partner homicide counts. Furthermore, this research contributes to the religious studies field by combining an understanding of the sociology of religion to a structural analysis of the regulatory impact of religious membership on various types of homicides in different types of locations. This study also adds the grossly underutilized element of voter participatory norms within communities to expand upon the regulatory mechanisms associated with voting in a national election. Voter participation can be a good indication of participatory norms within a community and the impact of informal social processes guiding what is often, though not always, a community/societal expectation. Finally, this study is broader than previous studies that tend to focus on a very limited geographic region, usually within a single state, so this study has greater powers of generalizability. Since this is a national analysis, conclusions can be made about intimate partner homicides across the country and in rural communities, while recognizing that there are regional variations that may be masked.

In addition to the contributions mentioned above, this research updates the previous research by analyzing more recent data, specifically, examining intimate partner homicide counts from 2000-2005. Although homicide rates have been declining in the United States since about 1992, there have been some key differences in homicide rates depending upon the location, type of location in the country, and the demographics of the communities themselves. Lee and Hayes (2005) note that the decline in homicides varied by race, age, gender, and level of urbanization, wherein the biggest declines were seen in

large cities and suburban areas, among African American, among males, and in teenage and young adult killings. This paper highlights the importance of disaggregating homicides, especially since the national analysis masked a significant correlation within the rural only data analysis- religious participation.

The majority of criminal justice research has focused on crime in urban areas, neglecting non-metropolitan areas, despite the fact that many Americans live in smaller communities. Hobbs (1994) notes that 88 percent of American communities have fewer than 10,000 people in them. Osgood and Chambers (2003) highlight the fact that less than half of the American population lives in metropolitan areas of more than 500,000 people or more. In fact, about 65 million people live in rural areas of the United States (Weisheit & Donnermeyer, 2000). Yet population is not the only reason non-urban areas should also be included in the research. Crime rates in rural areas do not necessarily mirror crime rates in urban areas, and have even increased in some areas (Cameron, 2001; Lee & Hayes, 2005). The rate of intimate partner homicides has been significantly higher than suburban or urban areas across the country with large cities having the lowest rates and seeing the largest decline in the past thirty years (Fox & Zawitz, 2007). A number of researchers have argued that it is important to disaggregate homicides (see for example: Williams and Flewelling, 1988; Maxfield, 1989; Flewelling & Williams, 1999; Kubrin, 2003). Since the victim offender relationship is likely to have an impact on homicides, this research disaggregates homicides by victim-offender relationship and examines only intimate partner homicides. A significant amount of research indicates that intimate homicides differ significantly from stranger and acquaintance homicides with respect to the significance and magnitude of the effects of structural variables (Parker & Smith,

1979; Parker, 1989; Williams & Flewelling, 1988; Kovandzic, Vieraitis & Yeisley, 1998). When all homicides are lumped together important differences based on victim-offender relationship information, or type of homicide, findings might appear inconsistent (see Land et al., 1990). Thus, it is vital to disaggregate homicides.

After a national county-level analysis, this study utilizes a subset of counties and examines the same structural correlates of intimate partner homicides in rural counties. Structural variables are likely to play different roles in different types of communities and in different types of homicides. In one meta-analysis of homicide studies, Land et al. (1990) examined 21 different studies that looked at various types of structural analyses of homicide. The researchers noted that the reasons for the variation included the fact that previous research utilized different research designs, methodology and statistical techniques. They then controlled for those factors and concluded that multicollinearity was the primary reason for the inconsistencies in the data from 1960, 1970, and 1980. The three indicators that stood the test of time and space were: a resource deprivation index (which was strongest over time), a population structure index, and the percent of the population that is divorced (Land et al., 1990). The resource deprivation index Land and his colleagues (1990) included the median family income, the percent of families living in poverty as well as the Gini index of income inequality, the percent of the population that is black as well as the percentage of children under 18 living in a single-parent household. The population structure component consists of population size and population density, both converted to their natural logarithms. Since there are variations between homicides involving different victim-offender relationships it is important to consider them individually, and since different types of counties may reveal different

correlates of intimate partner homicides, counties should be disaggregated by county type.

When employing statistical techniques like regression, it is crucial to ensure that the assumptions of such a technique are met and that variables that correlate to one another are not run as separate indicators without first adjusting for multicollinearity. While multicollinearity was part of the problem in the Land et al. (1990) study, the researchers failed to examine the possibility that some of the inconsistencies may be a result of two other primary factors as well: the type of location (rural, suburban, or urban) and the victim-offender relationship, neither of which were accounted for in their analysis. Toward the end of their paper, Land and his colleagues did question to what extent three factors (the resource deprivation index, the population structure component and divorce) were related to different subtypes of homicide. Other researchers have also highlighted the importance of disaggregating homicides. For example, Kubrin (2003:140) notes the multidimensionality of homicide, indicating that “different types of homicide may have different correlates, patterns and causes” some of which may be individual level, while others may be based on geography. Rural counties may have different correlates associated with intimate partner homicides.

Today it is generally accepted that homicides should be disaggregated by victim-offender relationship, since intimate, family, and acquaintance/stranger homicides may have different patterns and causes (Flewelling & Williams, 1999). In this study the dependent variable is intimate partner homicide counts, defined as the number of homicides of current or former partners, including homosexual partners totaled by county from 2000 to 2005. This study answers a few important research questions. The first is

whether structural characteristics are associated with intimate partner homicide. Previous research has focused on aggregated homicides so it is important to know if the systemic reformulation of social disorganization theory applies to intimate partner homicides. This research also asks to what extent the type of location (rural versus all counties) impacts intimate partner homicides and which factors play the most significant role, both across all counties and in rural counties specifically. The impact of other institutional variables on intimate partner homicides is also explored- specifically religious attendance, and political participation.

This study provides an updated structural examination of homicides disaggregated by victim-offender relationship focusing on intimate partner homicide, while also taking into account the type of geographic location by parsing out rural counties and examining them separately. Such a study is significant because previous research has indicated that the final two decades of the 20th century had the highest homicide rates (Zahn & McCall, 1999) and that trends in rural counties do not always mimic those in urban areas (see Weisheit & Donnermeyer 2000). The next chapter highlights the theoretical foundation for this research. Chapter 3 explains the methodology and statistical approach to the analysis, while Chapter 4 provides background descriptive information about the nature of the dependent and the independent variables for all counties and for rural counties. Chapter 5 focuses on the structural analyses for all counties and then for rural counties only, and Chapter 6 discusses the theoretical and policy implications of the study, suggests future research that should be conducted, and includes a discussion of the limitations of this study.

CHAPTER 2 THEORETICAL CONSIDERATIONS

This section provides the theoretical foundation for this study. It first discusses the importance of disaggregating homicides by victim-offender relationship. Following that, a theoretical framework is provided which includes a discussion of the origins of social disorganization theory and the changes that have occurred to the theory. The subsections following the theoretical framework for this particular study describe rurality and studies that have examined key differences between the types of the location and the different types of homicides.

There is a lack of research that disaggregates homicides by victim-offender relationship. The fact that research does not disaggregate homicides may explain some of the inconsistent findings, since structural variables are likely to impact stranger homicides differently compared to intimate or family homicides. The reason some studies have found relationships between some structural variables while other studies sometimes reach opposing conclusions lies most likely in the fact that structural variables correlate somewhat differently depending on the relationship of the victim to the offender. For example, Williams and Flewelling (1988), Peterson and Krivo (1993) and Loftin and Parker (1985) found that structural variables correlate to a greater degree with acquaintance or stranger homicides than family homicides. Using 1980 data, Peterson and Krivo (1993) also statistically compared structural correlations between different victim-offender relationships in Black homicides in center cities of SMSAs where the population exceeded 100,000 and where the black population was over five thousand. In their study they compared family homicides to acquaintance homicides, looking at segregation, black income inequality, education, percent black, and percent of black

males aged 15-34. Comparing acquaintance and stranger homicides, they found fewer significant differences in the factors explaining homicide, but the two that stood out were education and the percent of the population that was black. Comparing family to stranger homicides, they found education significantly different as well as percent of black males aged 15-34 and they also found regional differences between the two types of homicides. They conclude by noting that there is no clear and consistent pattern of structural conditions affecting black homicide rates, but that disaggregation of the data are important. Their research could have been strengthened if they had also disaggregated intimate partner homicides.

The majority of studies on homicide do not break down their analysis by victim-offender relationship at all, despite the research indicating important differences between acquaintance/stranger homicides and domestic/family homicides. This can pose some methodological problems and may result in aggregation bias (Pridemore, 2002). Aggregation bias occurs when crime, individuals, or situations are grouped together with the assumption that they are homogenous, when really they are not (Hammond, 1973). Lumping together stranger homicides, intimate homicides and family homicides will likely produce aggregation bias in studies examining the correlations of homicide and structural variables, masking the true correlations of key factors to their outcomes by not taking the victim-offender relationship into account. This study will reduce the likelihood of aggregation bias by focusing on only intimate partner homicides.

Different categories of homicides are important to analyze separately because the etiologies and correlations differ. A number of researchers have recognized the importance of disaggregating homicides by the victim-offender relationship (see

Maxfield, 1989; Williams & Flewelling, 1988). For example, intimate homicides, in particular, are often a result of repeated patterned abuse (Websdale, 1999). Mercy and Saltzman (1989) found that the same factors contributed to both fatal and nonfatal intimate partner abuse. When family members are killed by other family members abuse is likely to have been a part of the family dynamic as well (Ewing, 1997). One study examining intimate family homicides compared them to stranger homicides and found some key differences (Avakame, 1998). Avakame (1998) examined UCR Supplementary Homicide Reports from 1980 to 1982 and found that the incidence of homicides varied across states, and that intimate homicides differed significantly from stranger homicides. Additionally he found support for a social disorganization approach, but his second level of data analysis was at the state level, which may not be the most appropriate level, since there is still significant variation within a state that would not be taken into account. At the state level, Avakame (1998) found that economic deprivation, was significantly related to intimate homicide, but not stranger homicides. While this study did control for the percent of the population living in metropolitan areas it did not examine non-metropolitan areas in great detail and had some significant methodological problems. Additionally, Avakame's research is based on data that are now over a quarter of a century old and should be reexamined for more current correlations, although Land et al. (1990) do indicate that robust structural variables should be and have been consistent over time in the United States.

Not only should homicides be disaggregated, but it is also important to examine homicides by the type of location. It is very possible that the structural correlates in urban areas differ from those in rural or suburban areas. Clinard (1944: 38) notes, "Widely

recognized differences between the urban and the rural way of life make it questionable that such criminological propositions, derived purely from urban research, are necessarily applicable to rural society.” One study that actually examined basic rural and urban differences in intimate partner homicides found that intimate partner homicides increased over time (from 1980- 1999) in rural areas, while other types of homicides declined (Gallup-Black, 2005). While the researcher did a great job demonstrating changes in various variables over time and that there are key differences between rural and urban areas (especially with respect to poverty rates, and intimate homicide rates), no higher order statistical analysis was calculated. A detailed study with a strong theoretical foundation is needed. Specifically, the research indicates that social disorganization theory provides a promising theoretical foundation for examining intimate partner homicides across the United States.

Social Disorganization Theory

Structural explanations of crime have existed for about a century in one form or another and their popularity has waxed and waned over time. Over the years there have been numerous theories about criminal behavior, beginning in the 1830s with Guerry (1832) and Quetelet. Guerry (1832, 1833/2002) and Quetelet were some of the first scholars to examine the regional differences in property and violent crimes in urban areas (Quetelet, 1831/1984). In the 1830s Guerry and Quetelet examined the regional differences in property and violent crimes in urban areas by examining some key structural correlates (Quetelet, 1831/1984). Quetelet (1831/1984) found that increasing education did not lead to a reduction in crime, after analyzing crime data and examining the impact of climate, seasons, education, sex and age. Durkheim (1933) was also an

early criminological theorist who noted that crime is a normal part of society, especially for societies in transition. Since Guerry, Quetelet, and Durkheim there have been many researchers interested in the structural causes of crime. One of those key structural theories of crime is social disorganization theory. Bursik (1988) defines social disorganization as “an inability of community members to achieve shared values or to solve jointly experienced problems’ (as cited in Osgood & Chambers, 2003: 1). While social disorganization theory is over half a century old, quality applications of the theory were not attempted until the 1980s. Recent literature shows a resurgence in the study and tests of social disorganization. Even more recent research focuses on tests of social disorganization theory in rural counties, although their scope is typically limited to a few counties or just one or two states, leaving gaps in the understanding and generalizability of the theory and its implications.

As with many criminological theories, the origin of social disorganization theory lies in Durkheim’s concept that crime is normal when there is a breakdown of social controls; this breakdown of social controls is associated with rapid social change. Social disorganization may be the result of rapid social change. Thomas and Znaniecki (1920) defined social disorganization as a reduction in the effectiveness of rules and norms governing social behavior. Social disorganization arose out of the classical Chicago school studies by Wirth (1938) and Shaw and McKay (1942). Wirth (1938) noted that, in urban areas, population density and size, along with racial and ethnic heterogeneity, produced anonymous transitory relationships. These transitory human relations led to increased conflict among urbanites that required increasing formal control, leading to a breakdown of shared cultural norms and understandings (Wirth, 1938). Shaw and McKay

(1942) examined crime rates in Chicago neighborhoods from 1900 to 1930 noting that they remained relatively unchanged, despite changes in the population. They found that structural processes (poverty, racial/ethnic heterogeneity, and residential mobility) explained delinquency, expanding beyond Park and Burgess' notion that cities expand and "grow radially in a series of concentric zones or rings" (Palen, 1981: 107). According to Park and Burgess, the transition zones were of the utmost concern, since it led to residents being displaced due to the outward push of the business district. Shaw and McKay tested Burgess' model by examining juvenile court records and found that juvenile delinquency was related characteristics of the neighborhoods and not the nature of the individuals within those neighborhoods (as cited in Lilly, Cullen and Ball, 1989: 53).

Additional research has focused on factors that contribute to a lack of integration and social disorganization, supporting the concepts of social disorganization theory. For example, Maxim (1985) indicated that a lack of integration was due to an imbalance in age cohorts, while increases in divorce rates were highlighted by Gillis (1986) as an important factor that can cause a reduction of integration within the community. Blau and Blau (1982) noted that social disorganization increases with ethnic heterogeneity in that conflict between diverse ethnic groups causes stress in the society. Chicago school researchers have found that the organization and coordination of urban areas were accompanied by changes in social interactions and institutions (Abbott, 1999; Bulmer, 1984; Cavan, 1983). Social institutions play a key role in helping to explain crime and researchers were noticing that such institutions like the church, schools, and the family

were playing a declining role in socialization and social control. Thus, areas of higher crime experienced a decline in the functioning of social institutions.

Social disorganization theory combines demographic variables and demographic processes (for example, population mobility) with the structural components of a community that impact the community's ability to informally control itself, making it a great theoretical foundation for the study of homicides. Decades after its initial inception, a new understanding of how social disorganization affected communities arose where the impact of institutions within the communities became the focus of criminological studies. Research by Kornhauser (1978) and Bursik (1988) indicated that disorganization affects the way communities regulate themselves and share the value of living free of predatory crime. Kasarda and Janowitz (1974) highlighted the importance of institutions in the socialization process. This theoretical shift with respect to the systemic reformulation of social disorganization theory sparked a renewed interest in a theoretical perspective that had sat relatively dormant for decades. In the 1980s researchers showed an increased emphasis on the structural correlates of crime, and specifically, the level of organization of a particular geographic unit. Bursik (1988: 521) notes that "in its purest form social disorganization refers to the inability of local communities to realize the common values of their residents or solve commonly experienced problems". Thus, communities play an important role in the level to which a community is organized and able to buffer itself from crime. Therefore, communities with good self-regulation mechanisms will benefit from lower crime rates, and fewer homicides.

Additional research expanded the understanding of social disorganization and led to a new reformulation of social disorganization theory that incorporates the importance

of institutions to the understanding of structural causes of crime, often referred to as the systemic reformulation of social disorganization theory. Kasarda and Janowitz (1974) understood the local community to be a “complex system of friendship and kinship networks and formal and informal associational ties rooted in family life and ongoing socialization processes...fashioned by the large scale institution of mass society” (329). Under their understanding of the social disorganization model, one of the most important variables is length of residency. The idea is that the longer one resides in an area the more likely they will be assimilated to the culture (Kasarda & Janowitz,1974). In their study they examined five key independent variables: population size, population density, length of residency, social class, and stage in life cycle (dichotomized as 21-49 or 50 and over), examining their impact on local social bonds. They found that the size and population density were not as significantly related to attachment to the community as was length of residency.

With Kassarda and Janowitz (1974) and Kornhauser’s (1978) notion of social disorganization theory as a model of social control spurred a renewed emphasis in the research on social disorganization theory. Kornhauser (1978) noted that culture should be viewed as a variable. Her view is that social disorganization theory should seek to “uncover the social sources of that variation” (Kornhauser, 1978: 30). The underlying component of culture is values. That is, how is that culture transmitted through and embodied in various institutions, including the church, school, family and other community institutions. The strength of the community commitment flows through such institutions and the variation between communities is a result of the structural forces within the community (Kornhauser, 1978). Kornhauser (1978: 120) defines social

disorganization as “the inability to realize common values.” She also notes that “The attenuation of cultural values is indicated by their distortion, their selective disuse, or their withering away” Kornhauser (1978: 120). The withering away of common values is often defined as the inability to prevent crime. A more in depth interpretation of her work would indicate that the “inability of community residents to realize many of society’s common values that creates a weakened social fabric” (Warner, Leukefeld, Kraman & Pilar, 2002: 5). Kornhauser (1978: 78) indicates that:

“an attenuated communal value system cannot serve as a basis for effective community control. The community cannot organize itself to combat delinquency united by common values. A fragile, badly divided community opinion cannot evoke shame in the child. The community ceases to be an agency of social control.”

In other words, the structure of the community affects the community’s ability to live out society’s common values and informal social control is weakened.

Social disorganization theory experienced a resurgence in the 1980s, primarily a result of this systemic reformulation of social disorganization theory. Since then, there have been numerous studies examining the effects of social disorganization on crime. While some studies have focused on violent crime, the overwhelming majority of the studies leave significant gaps in our knowledge of social disorganization theory’s contribution to the general understanding of the structural correlates of crime overall, and some specific types of crime, especially homicides and especially homicide analyses that take into consideration the victim-offender relationship. Most of the studies examine the structural factors related to crime in very limited settings, examining city blocks in one

city or comparing the results from a few cities at a time, while neglecting a broader, more complete overview of what is taking place. Other studies only examine crime in urban areas, exhibiting an “urban ethnocentrism” (Kowalski & Duffield, 1990: 77), and overlooking the fact that rural areas have significant crime problems as well, especially according to the research on homicide after 1980.

More recently, Bursik and Webb (1982) explain that the greater residential instability in a neighborhood, the greater the difficulty in preventing or controlling crime, since formal and informal associations within the community cannot be maintained over time with high residential turnover. Somewhat more recent research has focused on poverty as a key variable because it can influence mobility and racial heterogeneity (Bursik & Grasmick, 1993). Social disorganization can be explained as operating “through the processes of value and norm conflicts, cultural change and cultural vacuums, and the weakening of primary relationships” (Veysey & Messner, 1999: 159). This weakening of relationships leads to a reduction in both internal and external social control.

Stark (1987) emphasizes the importance of variables such as population density, population mobility, poverty, land usage, and building conditions when examining crime rates. Stark (1987) proposes that increases in neighborhood density leads to an increased likelihood of interactions between deviants and non-deviants, and results in a higher level of *moral cynicism* because of the greater likelihood of overhearing trouble in other families. Stark (1987) also notes that crowded homes are more likely to be in poorer areas and can result in more time spent outside the home as well as less supervision of children. Additionally, poorer areas with mixed use neighborhoods have higher transience rates,

which weaken attachments to the community, reducing levels of community surveillance, and, therefore, informal and formal social control (Stark, 1987). Social disorganization of an area increases the deviant associations of individuals within that community (Cattarello, 2000). The more deviant associations the more difficult informal control may be, and population density may contribute further to this possibility.

Bursik and Grasmick (1993) discuss three levels of social control that Hunter (1985) described which are related to social disorganization- private, parochial and public. Private controls are controls exercised by parents, family, and friends. Parochial controls are those exercised by acquaintances and neighbors, and public controls are those having to do with outside influences like the influences from governmental agencies. Parochial level controls function through “the effects of the broader local interpersonal networks and the interlocking of local institutions such as stores, schools, churches, and voluntary organizations” (Bursik & Grasmik, 1993:17). According to Bursik and Grasmik’s system model of crime, the socioeconomic composition of a community impacts residential stability and racial heterogeneity, which in turn affect the primary and secondary relational networks. The primary relational networks impact the exercise of private control and effective socialization. The secondary relational networks affect the parochial controls and the seeking out of external response. The external response impacts the exercise of public controls, which impact crime rates as well as the exercise of private control. The exercise of parochial controls impacts effective socialization as well as crime rates.

Each of these controls is important in the prevention of crime, by adding formal and informal controls the likelihood of crime decreases. Communities that have an

abundance of such controls can be seen as having a buffer against crime. While crime may still occur in such communities, it is less likely to. Rose and Clear (1998) argue that the distinctions highlighted between the three levels of social control are not as clear as formerly believed; that, in fact, they are correlated with one another. Poverty alone does not correlate with higher crime rates; the relationship is much more complicated. Velez (2001) found a correlation between formal social control and crime; specifically, that poor neighborhoods with strong ties to the government and positive relations with law enforcement had less crime compared to neighborhoods with fewer resources devoted to formal control.

While the systemic reformulation of social disorganization theory emphasizes community values impacted by institutions of social control that impact formal and informal controls, more recent research has emphasized the importance of social capital on the structure of communities, whereby communities with greater levels of social capital are likely to have higher levels of organization and lower levels of crime. Sampson and Groves (1989) expanded upon Kornhauser's construction of social disorganization theory by viewing crime as the result of a reduction of friendship networks, which leads to a reduction of involvement in the community and community organizations, resulting in a reduction in the supervision of juveniles.

A number of researchers focus on the notion of collective efficacy and social capital (see for example Sampson, Raudenbush, & Earls, 1997; Sampson & Raudenbush, 1999). Collective efficacy is a more recent term that refers to neighborhoods that are not socially disorganized. A neighborhood high in collective efficacy is one in which "residents will work together on common, neighborhood-wide issues, will get along

somewhat with one another, and will take steps to supervise activities of youth or teen taking place in the immediate locale” (Taylor, 2001: 128). Areas with high levels of collective efficacy have informal social control and organizational participation (Taylor, 2001), and should, therefore, have less crime. Coleman (1988) was among the first to coin the phrase “social capital”, which refers to the intangible resources that are produced through “relations among persons that facilitate action” for their mutual benefit (Coleman, 1988:100). Social capital is related to the personal investment in the community and individual’s desire to intervene in any neighborhood conflicts. As social capital increases, social cohesion increases, so does “the linkage of mutual trust and the willingness to intervene for the common good” increase (Sampson et al., 1997: 919). Thus, the cohesion within the communities and the social capital and collective efficacy can starkly impact crime in positive ways.

Historically, social disorganization theory has been applied predominantly to urban areas. According to Sampson and Groves (1989), the four specific components of social disorganization are low economic status, population heterogeneity, high mobility of residents, and broken homes and disrupted families. Rural areas of the country have historically been presumed to be relatively organized in numerous informal ways, although recently there is research to indicate that in areas high in social disorganization, that disorganization is correlated with crime. Rural communities have typically been thought of as “small, unconcentrated and relatively isolated from the influence of large metropolitan centers” (Miller & Luloff, 1981: 610). Bottoms (1994: 648) mentions that pertaining to criminal behavior, “one of the most obvious of such influences is whether one lives in an urban or a rural environment”. This quote underscores the notion that

crime is associated with urban environments, yet a good theory examining the structural factors related to crime should apply to different types of environments as well. In fact, Osgood and Chambers (2000: 83) note “the lack of attention to nonurban communities is a glaring omission”. The more generalizable the theory, the better its predictive ability. The better predictive ability a theory has, the better the theory.

Additionally, research on social disorganization theory has shown some inconsistent results. Land et al. (1990) examined many studies involving tests of social disorganization theory in urban areas and reported inconsistent findings that are greatly reduced when a principal component analysis reduces the dimensionality of the variables. They then created two components by combining the variable loadings from a number of variables. The first is a *population structure component* that included both population density a population size, and the second a *resource-deprivation/affluence component* that included the GINI index of family income inequality, percent black and percent single-parent households with children under 18, median family income, percent of the population living in poverty and percent of the population that is black (Land et al., 1990). A principal component analysis reduced the data because some variables were highly correlated to one another and the assumptions of multiple regression require each independent variable to be independent; the principal component analysis reduces multicollinearity, creating factors that are not correlated with one another. Their study focused only on homicide in urban areas (cities, SMSAs and state-level data) using 1960, 1970, 1980 data. The variable with the strongest relationship to homicide was the resource-deprivation/affluence component. Thus, research examining homicides should also include a principal component analysis to reduce concepts that are significantly

correlated with one another, and research needs to expand beyond urban areas to determine if or to what extent data reductions are necessary when examining rural areas.

Understanding Rurality

Before answering why it is valuable to study rural crime it is helpful to understand what rural means and how it is similar to and different from urban and suburban places. There are a number of different methods of conceptualizing rurality and its meaning has changed significantly over time. One way to examine the concept of rurality is by looking at a location's population density, while another is by examining population size. For example, Dewey (1960) maintains that there is a significant relationship between population size and differences in anonymity, the division of labor, heterogeneity, formal interactions, and status symbols. While these differences may be predominantly related to population size, it is important to note that even within the category of rural there are still differences within rural communities that may not be related to population size at all. Another way to understand rurality is as a function of geographic isolation. Counties that are more geographically isolated are likely to have fewer outside influences. Individuals hearing the word 'rural' may bring forth ideas of "wholeness, reciprocity, intimacy, informality, and social cohesion" (Hogg & Carrington, 1998: 161), yet even rural communities near urban areas are likely to have some influences of the city. What little recent research exists suggests that such notions of associating rurality with an idyllic place without crime are not absolute or necessarily true in a rural or small town setting. Social cohesion, wholeness and reciprocity are not necessarily going to be found in smaller places. Finally, there are some key differences in the institutional makeup of rural communities.

In order to understand what rurality means there are four different possible conceptions: a demographic or ecological understanding that focuses on population density, a social structural conception that focuses on close kinship ties and informal social control, an economic understanding that focuses on the occupations of residents, cultural in that rural residents share common values. Generally the first two conceptions of rurality go hand in hand. That is, population dispersion, or density, “must have some causal importance for other patterned forms of interaction” (Bealer, Willits & Kuvlesky, 1965: 260). In the past, rural referred to agrarian societies of people living on farms, distanced from each other, and in low density areas; this is identified as the economic or occupational conceptualization of rurality. The majority of the literature about rural areas describes rural culture as conservative, traditional, slow to change, and a bit fatalistic (Bealer et al., 1965; Loomis, 1950; Miller & Crader, 1979; Sorokin & Zimmerman, 1929). Of the 2411 nonmetropolitan counties in 1990, 702 are defined by the Department of Agriculture as “farming dependent”, meaning that at least 20 percent of their income from farming and in 60% of farm families at least one household member worked somewhere other than on a farm (*Nonfarm Employment of Farm Operators*, 1990). The cultural definition is a more subjective understanding of rurality and can be expressed through the common saying, “You can take the boy out of the country, but you can’t take the country out of the boy” (Weisheit, Wells, & Falcone, 1995: 9). Additionally, sometimes the understanding of rural was thought to be simply “not urban”. Clearly, this negative definition leaves much to be desired and may not be completely accurate, in that there may be similarities between urban and rural communities.

Bealer, Willits and Kuvlesky (1965) note that within the sociocultural understanding of rurality, there are two dimensions- an interactional one, and a cultural one. The cultural dimension indicates that there are shared values in a rural community that serve as “guidelines for patterned interactions” (Bealer et al, 1965: 610), while the interactional one refers to the idea that “society is a system of action that involves a plurality of interacting individuals whose operation is vitally affected by shared ideals and values but not totally determined by them” (Bealer et al., 1965: 264). Thus rural communities have typically been thought of as “small, unconcentrated and relatively isolated from the influence of large metropolitan centers” (Miller & Luloff, 1981: 610). More recently, however, rural communities have become more urbanized. With the development and expansion of new technologies in communication and transportation, rural communities are not as isolated from the influences of nearby cities or communities. Miller and Luloff (1981) attempted to determine if it were possible to accurately predict rural-conservatives and urban-liberals based on a classification system that examined religion characteristics, family structure, income, age, and attitudes towards civil liberties, abortion, and attitudes about race, and found that current residence and occupation were not as significantly related to rural culture, compared to religion, income, and age.

Why Study Rural Places?

Today there remains very little uniformity in researchers understanding of rurality and it still continues to be a field of study that is understudied. It is vital to extend theories beyond studies of urban cities or neighborhoods within cities. Other than the fact that rural areas have been largely ignored in the research, one may ask why it is so

important to examine crime in such areas? First of all, it is important to note that a large segment of the population lives outside the cities. Additionally, rural and suburban areas have experienced significant changes over the past several decades that maybe correlated with crime that warrant continued study. Furthermore, crime rates in rural areas have not followed the same decline that urban areas have experienced over the past decade or so and have even increased in some areas. Furthermore, different types of regions have different structural and demographic characteristics compared to urban areas. In other words, rural areas differ from urban and suburban areas in many significant and distinct ways that may contribute to different crime problems, and the correlates of crime may differ because of such factors. For example, rural areas have fewer resources for their citizens, and police reaction time is often longer. In rural areas, hospitals are further away and there are fewer domestic violence shelters (U.S. Congress, Office of Technology Assessment, 1990). Finally, it is important from a theoretical standpoint to examine rural areas because the more broadly a theory applies, the better the theory. Each of these key reasons to study non-urban crime is explained further below.

It is vital to study rural areas for a number of reasons. First of all, most communities consist of smaller populations. Hobbs (1994) indicates that 88 percent of American communities have fewer than 10,000 people in them. Osgood and Chambers (2003) note that less than half of the American population lives in metropolitan areas of more than 500,000 people or more. In fact, about 65 million people live in rural areas of the United States (Weisheit & Donnermeyer, 2000). In other words, rural and non-metropolitan areas of the United States are worthy of study, in terms of their numbers. Yet this is not their only draw.

Not only are rural areas important to study because there are many such communities, but numerous changes have taken place in rural communities. For example, the actuality of crime and structural makeup in rural areas may counteract the crime-free, close-knit, bucolic rural image. Conditions of living in many rural communities have been deteriorating. Calvin Beale noted that rural areas were losing “critical mass” which negatively impacted the sense of community in many areas (“The Continuing Decline of Rural America”, 1990). Not only have many rural areas lost younger potentially productive members of their communities, but they have also experienced significant economic hardships, especially for small farmers, miners and individuals involved in lumbering who find that their livelihood has been threatened by large agribusiness, changes in energy sourcing, and so on. The central Appalachian region has experienced strong levels of out-migration (Duncan, 2001), underemployment, a decline of two-parent families (Friedman & Lichter 1998), and economic underdevelopment (White, 1987). Across the country there are rural areas with high violence and homicide rates (Montell, 1986). This could be a result of changes in the rural population, deteriorating rural economies, and family disruption. In fact, Sampson (1986) found differences in victimization data for rural areas, compared to urban ones and noted that the lower rates in rural areas may be due to different structural factors. He found that poverty was only correlated to victimization in urban areas, but the proportion of multi-family dwellings correlated in rural areas. Therefore, it is important to examine rural areas because the same structural characteristics may not have the same impact on crime, and the violent crime rates in rural areas have not declines as quickly as in urban areas.

In examining rural crime trends over time, trends have sometimes followed the patterns of the cities, but have occasionally not. For example, from 1966 to 1997 violent crime in urban areas increased until about 1991 then declined, whereas in rural areas there was a constant increase throughout that period (Weisheit & Donnermeyer 2000). This increase highlights two good reasons to examine crime by type of geographic location: rural areas have had different trajectories of crime, compared with urban areas, and that rural violent crime has increased. While not always the case, it is logical that crime rates in urban areas affect surrounding non-urban areas, but the impact is likely to be affected by specific sociocultural differences in rural or non-metropolitan areas as well. In other words, the impact of the cities on surrounding communities is dependent in part on the structural and cultural characteristics of those communities. Additionally, Fischer (1980) examined violent crime data from California counties and concluded that changes in rates in rural counties were preceded by changes in the rates of urban areas, after first diffusing to smaller cities. This suggests that crimes, particularly violent crimes like homicide, do not merely follow the trends of the nearest city (this is not clear to me – it seems to me that we could draw the opposite conclusion) and that analyzing non-metropolitan areas is crucial. Patterns for different crimes may not be the same either. Weisheit and Donnermeyer (2000: 314) note that although rural homicide rates did not change significantly from 1966 to 1997, larceny, rape and aggravated assault rates tripled, and robbery, burglary, and motor vehicle theft rates doubled. Thus, studying rural crime is important to improving the understanding of crime generally, and to address important policy implications of such information.

There are some differences between rural and urban areas that may impact crime in negative ways. For example, rural areas have fewer resources for their citizens, and police reaction time is often longer (Mahew & Levinger, 1977). There are also some health related differences between rural and urban areas. One study in Wisconsin found that the ratio of physicians to citizens was less than one third the national average in smaller communities (Patton, 1988). Residents living in rural areas have longer drives to hospitals, and those hospitals have fewer registered nurses and physicians, compared with urban or suburban hospitals. Physicians are not as inclined to operate in rural areas because they often have to work longer hours to make less money than they would receive in more urban areas, since fewer rural residents are likely to have health insurance, since rural areas are less densely populated, and lower rates from Medicare patients living in rural areas (Patton, 1988). So, there are some key differences in the medical field that could impact homicide rates in rural areas. Medical aspects can impact homicides in that may not have occurred with faster or better medical treatment. In an analysis examining rural areas a measure of hospitals per capita should be included to account for the possibility of the impact of per capita hospitals on homicides. In rural communities hospitals are further away and there are fewer domestic violence shelters. Quick response by Emergency Medical Services is impeded in rural areas for two reasons: one, EMS cannot always sustain itself, receiving only one call in a day, and two, there is a greater distance between hospitals and rural residents (Office of Technology Assessment, 1990). With respect to the relevance to homicides, because of the lack of medical resources, assaults may be more likely to become homicides. Harries (1990) points out that murder is distinguished from other crimes in terms of its outcome. In other

words, the motive for an act that ends in death of the victim is likely the same as the person who is lucky enough to survive.

Additionally, it is important to criminology and criminological theory to test and retest theories. A theory that applies to a more diverse area or population is a better theory. Specifically, “the rural-urban dimension is itself an essential aspect of communities, and our current theories of communities and crime would be far more useful if they apply to the entire range of this dimension” (Osgood & Chambers, 2000: 82). Osgood and Chambers (2003) reiterate the fact that applying theory to different types of places makes the theory much stronger. There has been, and continues to be, an association between urban areas and crime, but “by neglecting rural settings, researchers have ignored important data that may yield new insight into the factors that explain crime rate variations across diverse geographic communities” (Lee & Ousey, 2001: 582). Certainly, crime occurs in rural areas as well, and it is important to understand the trends throughout the United States, not just in urban areas. Because rural counties are different from metropolitan areas there will likely be some differences in the dynamics of crime, but those differences are likely to have diminished over time with the media and technology making rural communities more like urban ones, and with more rural areas urbanized each year.

The Importance of Examining Rural Intimate Partner Homicide

With respect to homicide specifically, research has revealed a decline in homicides over time, however such research has focused predominantly on urban areas or on an aggregation of types of areas. Nearly one in ten homicides occurs in communities identified as rural and some of the counties with the highest rates of homicides are

classified as rural counties (Kposowa & Breault, 1993). In the early 1980s rural homicide rates were higher than homicide rates in most U.S. cities (Wilkinson, 1984). Trends in rural homicides have been more stable since the 1960s and have not followed this declining pattern the cities have seen (Weisheit & Donnermeyer, 2000; p. 317), a rate higher than most industrialized countries (UN, 2001). Trends dealing with rural homicide data indicate a relatively consistent pattern of about 4.5 homicides per 100,000 people since the 1960s (Weisheit & Donnermeyer, 2000: 317). This rural homicide rate in the United States is much higher than the homicide rate of the majority of industrialized countries (Shaw, van Dijk & Rhomberg, 2003). Lee and Hayes (2005) highlight the fact that of the total decline in homicides experienced across the country, rural areas accounted for only four percent of the decline, while urban areas accounted for nearly ninety percent. With respect to homicides in particular, there are key differences in the pattern of such crimes when comparing rural and urban communities.

While research in the United States still indicates that crime is less frequent in rural areas, and more prominent in the cities, there are still types of crimes that may have a greater impact in a smaller community, and some areas where specific crime rates surpass urban crime rates. Additionally, many smaller towns did not experience the same relatively rapid reduction in crime rates that many of the cities saw in the mid 1990s. Research has shown that crime rates in the United States have been declining, but further investigation reveals that since 1980 violent crimes have become a greater proportion of crime in Appalachia² (Cameron, 2001: 2). Indeed, Weisheit and Wells examined data from 1994-1998 concluding that, “although non-metropolitan counties have lower

² 107 of the 416 areas of the country considered part of Appalachia are rural, and 93 are non-metropolitan not adjacent to metropolitan areas.

homicide rates on average, there are pockets of rural America with rates exceeding those in the largest cities” (2005: 69). A recent examination of homicide victimization rates in the 1990s found that by 2000 the “proportion of victims in small cities and rural areas had increased slightly” (Lee & Hayes, 2005: 396). In this particular study, Lee and Hayes (2005) did not, however, break down their analysis into victim-offender categories of deadly victimizations, but did offer some possible explanations for the decline including declining drug market violence and age structure changes (see Blumstein & Wallman, 2000). Such an analysis highlights the importance of studying recent rural locations as well.

Not only is it important to examine homicides in rural areas, but it is also necessary to disaggregate homicides by victim-offender relationship. Patterns in rural homicides may vary significantly from those in urban areas. In Formby’s (1985) examination of homicides in semi-rural/suburban Alabama, he found that two thirds of the cases involved a friend or relative as the offender, compared to Voss and Hepburn’s (1968) study of Chicago homicides where less than half of the victims were relatives or close friends of the offender. Of course, the two studies were limited in their geographic scope, examined data from different time periods, and utilized different definitions of the relationships. Formby found other differences as well; compared to urban studies, male offenders consisted of almost equal percentages of blacks and whites, and white males were more likely to kill white females than any other race-sex category. However, these two studies highlight some significant differences worth exploring further and on a larger scale.

The Importance of Geography in Studies of Violence

There is research indicating that crime is not equally distributed in all areas (Lagey, 1957; Lottier, 1938; Shannon, 1954; Gastil, 1971; Kowalski, Dittmann & Bung, 1980). Homicide, specifically, is not distributed randomly. Some cities, counties, neighborhoods, and other geographic areas do not have equal rates of homicide (Miethe & Regoeczi, 2004). For example, the South especially seems to have a much different perspective on crime than other geographic areas of the country. Homicide especially has been more prominent in the South. High Southern homicide rates were detected well over a century ago (Redfield, 1880). In examining the crime rates across the country, Kowalski et al. (1980) found that all but two states in the highest quintile for homicide rates were located in the South (Nevada and Alaska were the only non-Southern states in the highest quintile). Rural Appalachia areas, areas in the South and some areas in the West have had high rates of violence and family violence (spousal abuse and child abuse) (Gagne, 1992; Nisbett, 1993; Owen, Monsey, Lambert & Zierman, 1993). Thus, crime should always be considered with respect to geographic location and is an important factor for researchers to control for and investigate further. One possible explanation for the geographic differences is that different regions of the country have slightly different cultures and values from each other. These differences may reflect themselves in the crime rates. Hackney (1969) and Gastil (1971) have both argued that the South has higher levels of violence compared to other regions because they have a different value system that reinforces violence.

Culture has been identified as an important factor that can either be a buffer against crime or that lead to increases in crime. The subculture of violence perspective indicates that individuals who believe violence is an appropriate mechanism for dispute

resolution are more likely to utilize violence (see Wolfgang & Ferracuti, 1967). Not only that, but individuals living within such a subculture are more likely to be exposed to violence; that exposure could impact their attitudes and actions. Wolfgang (1958) demonstrated that there is a significant association between homicide and certain demographics within the population. Wolfgang and Ferracuti (1967) highlighted the importance of subculture, roles, norms, and values, indicating that violent crimes are committed by individuals whose behavior is based on values supporting violence. The majority of the focus of the subculture of violence theory has been on poor urban areas.

With respect to racial subgroups of the population and the subculture of violence, Harvey (1986) views violence by African Americans as a consequence of frustration and powerlessness because of their experiences as young adults. While the evidence does indicate that there is a relationship between the percent Black and homicide rates (see Messner, 1983), there is little direct empirical support for such an explanation (Loftin & Hill, 1974; Parker 1989; Phillips, 1997; Sampson, 1985a; 1985b; 1987). Loftin and Hill (1974) argue that poverty is more significant than a subculture of violence, pointing out that people in the lower socio-economic strata of society are more likely to commit homicide. Reaves points out that, “cultural and environmental phenomena are best viewed from a ‘systems’ perspective involving interdependency and multi-causal relationships between the environment and culture” (1992 :12). Thus, the relationship between relevant variables is complicated and needs better operationalization.

There are two theoretical frameworks to understanding cultural theories of crime (Kubrin & Weitzer, 2003). One framework of the theory views the subculture of violence theory as an expression of counter-societal goals; that is, that the lower class strata of

cities have different values from the general population, including a belief system and values that are pro-violence and support the use of aggressive behavior (Krivo & Peterson, 1996). The other type of subculture theory focuses on high-crime areas in urban neighborhoods and the fact that residents do not want crime in their backyards, but become cynical about it and feel that crime is inevitable (see Sampson & Jeglum-Bartusch, 1998). This leads them to adopt the same code of the streets that the criminals use in order to survive (Anderson, 1999). Of course, these theories may help explain crime in urban areas, but are less likely to explain suburban or rural crime. More importantly, it is necessary to examine the greater cultural differences that exist across the country.

In order to study culture, it is important to extend beyond the individual and to understand public perceptions and representations (Sperber, 1990). Concluding that one culture is more violent than another does not necessarily imply that there are more violent individuals within that culture, *per se*, but that there is more support for violence within that culture, including social support, collective support, as well as institutional support (Cohen & Nisbett, 1997). There is a long documented difference between overall values in the North and South. According to Hackney (1969: 395), Southerners “have a greater sense of history than Northerners, a greater attachment to place, and more deferential social customs...[and] place more emphasis on personal relations and on ascribed statuses than do Northerners”. Additionally, Southerners are more likely to “prize political and social cohesion” (Hackney, 1969: 395). Thus, there are some key historical differences that set the South apart from the rest of the country, and these long-standing differences are important to account for in an analysis of homicide.

Violence appears to be more normative in dispute resolutions in the South. Cohen and Nisbett (1997) examined honor killings and public perceptions of them across organizations and media throughout the United States, concluding that the Southern public is more likely to be sympathetic to such deaths and the media is more likely to write sympathetically of the offenders when newspapers were sent information about honor killings. They highlighted the importance of institutions (work and media) in impacting the public opinion of honor killings. While the study itself had very low response rates from the 900 plus organizations who received an applicant's letter of interest containing a description of a manslaughter conviction that could easily be perceived as an honor killing, or a control letter discussing a theft, it was important in that it found significant differences between organizations in the South and West. The second part of their study involved sending a set of facts to college newspapers across the country and asking them to be part of a research design that examines how facts become a story. Cohen and Nisbett (1997) found that the stories written up in the Southern papers were far more sympathetic to the offender, suggesting that values in the South are somewhat different from other regions of the country in that they support honor killings. So, the culture of honor may apply differently even amongst institutions in different regions.

In addition to examining and interpreting reactions to news stories, Nisbett (1993) and Reaves (1992) developed and tested a hypothesis that links the southern culture of honor to herding practices, hypothesizing that the homicide rate for non-Hispanic white males would be higher in areas with either low levels of precipitation or areas with more difficult terrain (arid or hilly areas). The idea behind that lays in the belief that such areas

that depended on agriculture would be limited to herding. Such herding communities have historically been more isolated and separated from central authority, requiring residents of such areas to rely on themselves to ensure security for one's family and possessions. This is often referred to as the "frontier hypothesis". Using data from 1973 to 1983, they found that such homicide rates were higher in the herding counties, and that adding in various structural variables did not disturb the significance of that effect (Reaves, 1992; Nisbett, 1993; Nisbett & Cohen, 1996). A recent retesting of the Nisbett hypothesis revealed no support for it, even though researchers followed the original methodology closely (Chu, Rivera, & Loftin, 2000). Specifically, Chu and her colleagues found that the earlier findings "are artifacts of unreliable estimates of homicide rates, skewed distributions, and the failure to control for differences in the distribution of white poverty" (Chu et al., 2000: 982). The problem with the herding hypothesis is that a good portion of the hilly Southern areas are in Appalachia, which historically has had the highest rates of white poverty in America (Chu et al., 2000). Thus, while a culture of honor has been attributed differently to diverse regions of the country, further examination of it is necessary.

Further support for incorporating an analysis of regional variance in homicides across the country comes from Gastil (1971). He notes that similar situations in different regions of the country are more likely to result in death in some regions compared to others. For example, he mentions that barroom brawls are more likely to result in death in the south because of Southern attitudes toward violence as well as the greater likelihood of Southerners to carry guns and knives with them (417). In conclusion, geography, and

especially the South should be controlled for in analyses of homicides to account for regional differences.

Types of Place, Crime, and Social Disorganization

Durkheim proposed that one possible reason for higher homicide rates in rural places is organic solidarity (Durkheim, 1933). Organic solidarity requires dynamic density (Durkheim, 1933), which is unlikely to be found in rural places. Messner's (1982b) research indicated that homicide rates were higher when organic solidarity was lower, since the "spatial dispersion of a local population impedes community integration" (Wilkinson, 1982 as cited in Wilkinson, 1984: 446). Wilkinson (1984) examined homicide rates in the northeastern part of the United States and found that "rural areas tend to have an incomplete, fragmented form of community organization" (449) largely because the dispersion of the population leads to greater difficulties with social interactions. In other words, communities are so spread out that members do not interact much with one another, straining friendships and kinships. There is also research that suggests that rapid growth and population changes have impacted rural areas adjacent to metropolitan areas (Johnson & Beale, 1995), so it is important to understand the impact of such mobility and growth on crime rates. Quinney (1966) notes that as urbanization increases across the country, crime rates in rural areas will not be as different from those in urban areas and the focus of research should be on the structural differences between them, noting, "It is possible that structures do not operate the same in relation to offense rates for the different types of population areas." (Quinney, 1966: 46). So, different places should be examined when examining the impact of structural characteristics of communities.

The type of place (rural, or urban) may impact homicide data. Quinney (1966) described four different overall patterns related to the structural correlates of crime. The first is the historically typical pattern wherein crime rates are the highest in urban areas. This applied to robbery rates in Quinney's research. The second pattern is just the opposite; all other things equal, crime decreases when population density increases, and Quinney (1966) found this to be true only for driving while intoxicated. Another possible pattern that developed may be called a cultural pattern (Warner, 1982: 5). With this third pattern, there was a negative correlation between population size and crime rates for urban and suburban areas, while crime rates increase in rural areas. This was identified to be the case for many violent crimes, including murder and manslaughter (Quinney, 1966). The fourth pattern was just the reverse in that crime rates increased as population decreased for cities, but just the opposite for rural areas. This research underscores the importance of disaggregating the type of location, or accounting for the type of location in some way since patterns in different types of counties may not be the same.

Although a few tests of social disorganization theory have been applied to rural areas there is still much to be examined. Some key structural variables have been identified in previous research as playing significant roles with respect to crime in rural areas. For example, early researchers found that economic factors play a role in crime in rural areas (Yoke, 1932; Wiers, 1939; Polk, 1967). A few more recent studies have applied social disorganization theory to rural areas with success, but a number of those have focused on the application of social disorganization theory in countries other than the United States. For example, in one study in Australia researchers found that some structural aspects of rural places were linked to crime (Jobes, Barclay, Weinand, &

Donnermeyer, 2004). Another study by Sampson and Groves (1989) examined the application of social disorganization theory to 238 geographic areas in Great Britain using 1982 and 1984 British Crime Survey data. Of the few studies that do exist examining rural communities, some focus on youth violence (Osgood & Chambers, 2000), while some focus on rural areas in Australia (Jobes et al., 2004). Social disorganization theory has been used to analyze homicide rates among American Indians on reservations (Bachman, 1991), though the outcome cannot be generalized to other rural communities. Yet, the focus of the research has been largely on neighborhoods within cities, and the studies that do exist on non-metropolitan areas have a long way to go to catch up with what we know about crime in the cities.

While studies of crime in rural communities are not as common as studies of urban crime, there are a few; however, when crime in rural communities is examined it is usually only examined in a few states or geographic regions. For example, Osgood and Chambers (2000) examined the relationship between youth violence and social disorganization theory in non-metropolitan counties in Florida, Georgia, Nebraska, and South Carolina. They pooled UCR data from 1989 to 1993 to examine the impact of structural variables (ethnic heterogeneity, female headed households with children under 18, residential instability, poverty, unemployment, and proximity to metropolitan counties) on homicide, forcible rape, aggravated assault, robbery, weapons offenses, simple assault, and the UCR violence index (a sum of the first four index offenses). They found that overall, their findings were consistent with previous findings of social disorganization theory tests with a few exceptions. The most notable exception is that poverty is not associated with high rates of population mobility in non-metropolitan

areas. They rationalized their findings by noting that outside the metropolitan areas, populations with high rates of poverty may be more stable. Additional research needs to expand beyond those four states to examine whether this holds in other areas. Another finding that was a bit surprising was that the proximity to metropolitan areas was statistically insignificant. This may have more to do with their definition of proximity. That is, they created a dummy variable that indicated either adjacent to a metropolitan area or not. Research on diffusion indicates a more complex relationship (Heitgerd & Bursik, 1987), so measuring the distance from a metropolitan area is more precise. The research studies that have examined social disorganization theory beyond one single state, have found some key differences between metropolitan and non-metropolitan areas.

There are, for example, a couple of studies that have looked at a large number of states and examined rural and non-metropolitan communities. One study in particular examines non-metropolitan counties across the 48 contiguous United States, looking at both violent and property crimes using data from 1989-1991 (Barnett & Mencken, 2002). Donnermeyer and Jobes (2000: 461) note that social disorganization theory “has been especially important in helping to bring rural areas into the mainstream of criminological research and theory in the past decade,” yet the research on crime in non-urban areas needs more attention. Arthur (1991) found that unemployment, poverty, public aid, and race were related to both property and violent crime rates in 13 rural Georgia counties. Thus, tests of social disorganization theory in rural areas are important not only in explaining crime, but also in that they have been instrumental in putting rural crime on the map, but additional research is necessary to fill in the many gaps.

Some researchers examine the density of acquaintanceship, suggesting that in rural areas, individuals have a higher density of acquaintanceship, and communities are comprised of populations with higher densities of acquaintanceship. Density of acquaintanceship refers to the extent to which individuals in the community know each other. Freudenburg (1986) found that areas with a higher density of acquaintanceship reported less criminal victimization. The way in which this works is that when people know one another they are more likely to be watchful over their neighbors, more likely to know what is going on in their lives, so that anything out of the ordinary would be reported, and individuals who know each other will be more likely to act when there is a problem (for example, if a juvenile misbehaves this can be brought to the attention of their parents by other community members).

Thus, the organization within communities may be in part a result of the type of place. In studies utilizing a social disorganization framework should disaggregate by community type and not expect rural and urban communities necessarily to have the same organizational issues. Additional research should examine rural communities to ascertain the extent to which structural correlates impact crime, as there have been disproportionately few studies focusing on rural areas.

Homicide Typologies

There are a number of different ways in which to disaggregate or classify homicides. One basic method of classification focuses on the types of weapons involved. While this is interesting information, it may highlight more the availability of (or lack thereof) a particular kind of weapon more than offering an explanation or characterization of different types of homicides. Another way of disaggregating homicides is by motive.

Harlan (1950) developed a four category typology examining motive that included killing a family member, quarrel with wife or lover, quarrel over money related issues, and trivial quarrel like an insult or curse. This may confuse victim-offender relationship with motive (Brookman, 2005). Yet another typology emphasizes two types of instrumental homicides and two types of expressive- planned and spontaneous (Block, Devitt, Donoghue, Dames & Block, 2001), combining motive and method in a basic fashion, neglecting the potential intricacies underlying the victim offender relationship.

Studies that have analyzed different types of homicide separately have indicated differences in the outcomes of that analysis, indicating a need to take into account the victim-offender relationship when examining homicide. American society has approached the various types of homicide, differently depending on the victim-offender relationship. Historically speaking, violence in the home has been tolerated and even considered acceptable in some forms under certain circumstances. This historic trend has impacted policies and procedures that apply to domestic cases and still plays a role in the criminal justice system today and may relate to the differential correlations of intimate homicide that are likely to exist.

Homicide and Place

Very few studies utilizing social disorganization theory have examined homicide rates in rural areas, and even fewer studies focus on structural correlates of intimate partner homicide anywhere, least of all in rural areas. Historically, studies of homicide have focused almost exclusively on urban areas. For example, Browning (2002) examined partner violence using 1990 Census data and data from the Project on Human Development in Chicago Neighborhoods Community Survey, along with 1994-1995

homicide data and 1995-1997 Chicago Health and Social Life Survey to examine the impact of collective efficacy on partner homicide data, utilizing a social disorganization framework. Browning (2002) found that concentrated disadvantage at the neighborhood level was associated with intimate partner violence, but population mobility and heterogeneity of the neighborhood were not. Browning (2002: 848) concludes by indicating, “socially organized communities are better equipped to manage the exposure of women to particularly violent men”. He does indicate that the generalizability is limited since the study only examined one city.

Another study focusing on urban areas examined homicide rates in Canadian provinces and found that some social disorganization variables contributed a great deal to the model (Kennedy, Silverman & Forde, 1991). While population mobility was not significant, other key social disorganization variables were. Specifically, divorce rates and population density were significant for some of the analyses, although there were some inconsistent findings with respect to the predictive ability of social disorganization theory (Kennedy et al., 1991). Parker and Smith (1979) discovered the importance of breaking homicides down into primary and non-primary categories, where primary indicates a primary relationship including family or acquaintance and non-primary referring to homicides committed during other crimes like felony murder or gang killings. They found that poverty indicators and subculture indicators had predictive value for primary homicides, but not non-primary homicides in cities across the U.S.. Williams and Flewelling (1988) examined motive and victim-offender relationship and found that resource deprivation and social disintegration indicators were significantly correlated to each of the subtypes, but the magnitude of the effects varied by each subtype. Williams

and Flewelling (1988) found, for example, that divorce rates played a greater role in other conflict homicides and increases as the intimacy level of the relationship decreases, though divorce was not significantly correlated with conflict homicides involving strangers. Thus, it is important to examine homicides at a disaggregated level to best understand the complex phenomenon of homicide.

A few studies concentrated on explaining domestic homicides finding fewer relevant structural characteristics associated with them, though a few structural characteristics were correlated with family homicides. Researchers have indicated that homicides between family members are less impacted by greater sociological forces and more likely to be the result of a situation (Straus, 1987; Wolfgang, 1958; Lystad, 1980; Katz, 1988). Parker (1989) examined four types of homicide (felony murder during a robbery, felony murder associated with other felonies, primary non-intimate homicides, and intimate partner homicides) and found that poverty was associated with three types of homicides, and was the dominant predictor in family intimate and non-robbery felony murders. The percent of the population that was black was found to be correlated to robbery and primary non-intimate homicides in Parker's study. Kovandzic, Vieraitis, and Yeisley (1998) divided homicides into three categories of victim-offender relationship: family members, acquaintances, and strangers and found that inequality and poverty have different effects depending on the victim-offender relationship category. For example, inequality was correlated with family and stranger homicides, while poverty was only associated with stranger/acquaintance homicides. In their study, the percent of the population that was black was the strongest predictor for all of the models. Unfortunately,

the above studies focus on 190 of the largest urban areas, providing no information about rural or suburban areas.

One specific study that focused primarily on rural areas examined the protective buffer that religion may have against juvenile homicides in rural communities, breaking down different categories of homicide in their statistical analysis into family homicides, acquaintance homicides, and stranger homicides (Lee & Bartkowski, 2004). Examining county level data and using negative binomial regression, they found that communities that had civilly engaged religious organizations seemed to only provide protection against juvenile family homicides in rural areas. When they extended their analysis to urban areas as well, they found no correlations between religious organizations and any type of juvenile homicide. This research demonstrates the importance of examining rural and urban areas separately as well as breaking down homicides into different categories based on the victim-offender relationship.

Depending on the type of relationship between the homicide victim and the offender, different variables are expected to correlate differently. What is clearly lacking is a study of homicide on a larger scale, disaggregating homicide by the victim-offender relationship, utilizing higher order statistical analyses, and focusing on rural-urban differences. This study aims to fill the gaps in the research and expand the current understanding of intimate partner homicides and the impact of structural variables on them. Two crucial distinctions ought to be made in research examining the structural correlates of crime; the first is the type of place where the homicide occurred (for example, rural or urban); the second is the portioning out by victim-offender relationship.

In conclusion, the literature explaining homicides, while vast, has not examined rural homicides sufficiently. The systemic reformulation of social disorganization theory may provide an essential foundation to aid researchers in their understanding of intimate partner homicides, yet it has rarely been applied. A good criminological theory should apply to a variety of crimes and situations. Additionally, there is a lack of research that disaggregates homicides by victim-offender relationship. The fact that research does not disaggregate homicides may explain some of the inconsistent findings. In other words, the reason some studies have found relationships between some structural variables while other studies sometimes reach opposing conclusions lies most likely in the fact that structural variables correlate somewhat differently depending on the relationship of the victim to the offender. This study will examine the application of social disorganization theory to all counties across the United States, as well as to rural counties alone and examine the predictability of the concepts of social disorganization theory as they apply to intimate partner homicides. The next chapter outlines the research methodology involved in this study.

CHAPTER 3 RESEARCH METHODOLOGY

This research aims to answer whether intimate partner homicides across the country and in rural areas of the country can be explained by examining structural variables, namely by using the systemic reformulation of social disorganization theory, and which variables explain intimate partner homicide counts best. Social disorganization theory studies typically examine four independent variables- population homogeneity, residential mobility, poverty, and family disruption. The systemic reformulation of social disorganization theory notes that neighborhoods are not isolated; rather, they are part of a larger network. Thus, the systemic reformulation focuses attention on system components to examine the patterns of exchange and the ties among the components of the system. The main claim of this reformulation is that through those regulatory networks, the regulatory capacity of neighborhoods becomes actualized. Hence, this research examines variables such as education, employment, religious participation, as well as voter participation to determine the extent to which (if any) participatory norms like going to school, being employed in the workforce, being married, being affiliated with a religious organization, and voting in the community are correlated with intimate partner homicide.

The unit of analysis for this project is counties and statistical areas across the United States (n=3141). Examining only national data masks any community level variation that might exist (Lee and Bartkowski, 2004), but focusing on only one community or a few communities leads to problems with generalization. Although social disorganization theory began as a neighborhood theory of crime, more recently it has successfully been applied to county level explanations of crimes in rural counties. Counties are an appropriate unit of analysis for an examination of the systemic

reformulation of social disorganization theory because they share common governmental institutions (health facilities, courts, and jails) and “offer a reasonable approximation of local labor markets and job opportunities” (Schwartz, 2006: 259). Osgood and Chambers (2003: 2) note too in their analysis of non-metropolitan areas that for their sample the average population was about 10,000, which “is comparable to the smallest units used in research on urban neighborhoods” (see also Sampson et al., 1997; Warner & Pierce, 1993). Examining only cities limits the generalizability of the findings and tells us nothing about crime in rural communities. Counties are distinct enough from one another to avoid collinearity problems in contrast to studies of cities where issues like family structure, race, and poverty are entangled (see Kposowa, Breault & Harrison, 1995). Cities also suffer from other problems like less variation within and between cities (Kposowa & Breault, 1993), and would certainly not be an appropriate unit of analysis when examining intimate partner homicides in rural areas. Rural communities do not have the same types of neighborhoods that exist in large cities or in suburban areas and homes can be miles apart from one another. Geographically, though, there may still be some key differences between communities in one region of the country and those in another region. For instance, Kposowa and Breault, (1993) mention that when examining regional differences or theoretical constructs that imply a regional difference within the literature (like the subculture of violence theory where the South is predicted to be more violent) differences are not found because Southern cities may be more similar to Northern cities, compared to their surrounding rural and suburban areas, suggesting that the type of county may be even more important than the geographic location of that county. Additionally, counties offer a larger geographic space that may provide a more

accurate analysis of a relatively rare event, intimate partner homicide. Finally, county-level data are available from diverse sources, so that data on specific variables are accessible.

Since county level data are utilized the incident-level data from the Uniform Crime Reports Supplementary Homicide Reports from 2000-2005 were aggregated to the county level to describe the number of homicide incidents per county for that time frame. Uniform Crime Report data in the form of the Supplementary Homicide Reports from ICPSR (2000 data from #3448, 2001 data from #3722, 2002 data from #3999, 2003 data from #4125, 2004 from #4465, and 2005 data from #4723) are utilized to ascertain relevant count information about homicides, including the prevalence of and victim-offender relationship. Supplementary Homicide Reports are considered to be one of the databases available with the most in-depth data about homicides (Pampel & Williams, 2000). Since homicide is considered a serious offense, police are likely to deal with it more consistently than lesser offenses. So, police data may be more accurate for homicide compared to other crimes.³

For the independent variables a number of sources provided the pertinent data, including U.S. Census Bureau data from Gallup-Black's study *Rural and Urban Trends in Family and Intimate Partner Violence in the United States*. population size and population density, Gini index of inequality, poverty rates, county type, percentages of female headed households with children under 18, percent nonwhite, divorce rates, population mobility, high school dropout rates, and the percent of the population born in

state. Additionally, some independent variables were derived from ICPSR #20660⁴, including, *County Characteristics, 2000-2007* including the dissimilarity index, unemployment in 2005, votes in the presidential election, and the residential population over 18 (to determine percent voting).

Finally the percent of the population registered with a particular religious organization was derived at the county level from ARDA's (Association of Religion Data Archives) Religious Congregations and Membership Study of 2000. This dataset includes data on 149 religious bodies and includes religious memberships for some locations. Because religious institutions are one of the socializing institutions that can act as a buffer against crime and increase social conformity, they need to be examined; especially in a study that examines rural areas.

This study synthesizes many variables that have been used in the past for structural analyses of other crimes to determine if they can help explain intimate partner homicides, and examines the structural factors that correlate with intimate partner homicide counts in rural areas as well as throughout all counties across the United States. Some additional variables that have not been examined to the extent they ought to are also incorporated into the analyses because of the theoretical significance of those variables, namely voter participation and religious participation. Because all counties in the United States are analyzed, this study expands on the geographic understanding of homicides, and provides more generalizable findings. Since rural counties are analyzed, information about the significance of structural factors can be ascertained for this understudied area.

⁴ Since the data for the purpose of this study does not include individual identifiers and since it is publicly available, an IRB exemption was given for this study.

Limitations

While this study provides an important empirical test of the systemic reformulation of social disorganization theory, as with any study there are some limitations. First, there is the possibility of committing an ecological fallacy, wherein aggregate level data are used to explain individual behavior. Further, because aggregate data are utilized and because the unit of analysis is the county, significant differences within counties may not be accounted for. Additionally, spatial autocorrelation may be an issue since counties do not exist within a vacuum. Another limitation is the analysis examines crimes using official data any problems with differential enforcement and reporting of crime exist. Using county-level data is also not ideal since each county is not uniform throughout. Finally, aggregation bias is also a potential problem since most of the variables are aggregated to the county level. Each of these limitations is discussed in more detail below.

One of the most important concerns to be aware of is the possibility in macro-level research of making an ecological fallacy. Clearly, this is a macro-level study that does not attempt to understand what makes an individual commit homicide; however, it does provide information about the correlates of each type of homicide across the United States and within rural counties across America. Additionally, when employing cross-sectional analyses at such a macro level, it is not possible to demonstrate causation. A related limitation arises from the use of county level data. By using county-level data, differences within counties are masked. Lagey (1957) and others have indicated that spaces within a county are not all alike. Since intimate partner homicides are so rare, though, an aggregation to the county level may be necessary for an appropriate statistical analysis to be run.

Of course, there is also the unaccounted for possibility that what occurs in one county can impact other structural or criminal factors in a related county. Counties certainly do not operate in a vacuum and there are no walls blocking out outside impacts. Thus, spatial autocorrelation may be a problem that impacts the outcome of this study. Spatial autocorrelation can be defined as when the value for a variable at one location has an impact on that variable at another location. A nearby rural county, for example, could easily be influenced by a neighboring metropolitan statistical area. There are certainly no walls between counties and a county that has a significant crime problem may impact the crime in a neighboring county. If spatial autocorrelation exists with the dependent variable in an Ordinary Least Squares multiple regression, for example, can lead to making a Type II error (Mencken & Barnett, 1999), and Odland (1988) indicates that such autocorrelation among error terms can lead to a Type I error through underestimated standard errors.

There has not been a vast deal of crime related research examining the impact of spatial autocorrelation, though there are a few studies that have looked into it. Osgood and Chambers (2003) accounted for whether a non-metropolitan (including rural) county was adjacent to a metropolitan statistical area but found no statistical significance with respect to juvenile arrests for violent offenses in 264 non-metropolitan counties within Florida, Georgia, Nebraska, and South Carolina. They argue that merely bordering a metropolitan area is logically not enough to impact violent crime rates. Of course, the counties they selected in the states that they studied may not be completely representative of all counties across the country. One study that specifically tested for spatial autocorrelation examined the impact of alcohol outlets on violence and found that both

after and before accounting for spatial autocorrelation those relationships were similar, though they noted that they would not have known that had they not accounted for spatial autocorrelation in their geographic analysis (Lipton & Gruenewald, 2002).

Another study more related to this paper focused on murder and non-negligent homicide rates from UCR data in 383 mid-South counties within a social disorganization framework, specifically looked for and found that there were no spatial effects whatsoever (Mencken & Barnett, 1999). One study examining 205 variables using 35 different weight matrices that defined proximity in differing ways found that with respect to variables measuring family structure aspects, education, and sex ratio there was autocorrelation, but it was highest with cultural weight matrices, specifically ancestry or religion (Eff, 2004). Despite the fact that these studies have not found many spatial autocorrelation problems, it could still be a factor that impacts one or more variables in this study.

In addition to the aforementioned limitations, the data for the dependent variable come from official police records that have been criticized in a number of ways. Police statistics have been critiqued in that they may be just as good a reflection of police size and activities as their ability to do detective work (Hindelang, 1974; Savitz, 1978). They have also been criticized in that police statistics may be more representative of community tolerance to particular crime problems (Center & Smith, 1973; Lane, 1979). With respect to homicide, though, these factors are less likely to play a role and we can be reasonable certain that the statistics are more a reflection of homicides than police willingness or ability to investigate the crimes or the tolerance of the community. With

respect to the actual data being used for this analysis, Supplementary Homicide Reports, the depth of information has increased, making them more viable tools for researchers.

The Supplementary Homicide Reports changed dramatically in 1976, when victim and offender demographic characteristics were included (Riedel, 1999), allowing for much more detailed analyses. However, there are still some significant limitations to the data. One limitation in particular has to do with the drop in clearance rates for homicide over the past three decades, meaning that many incidents are missing information about the offenders involved (Riedel, 1999). The data might not be recorded properly, especially since it is voluntary for jurisdictions to report their crimes. Additionally, the UCR does not incorporate the dark figure of crime.

However, homicide data are less likely to be plagued by such potential problems in that it is pretty consistently defined across jurisdictions, and any questionable death will end in a police investigation. As noted in the research, the more serious the offense, the more accurate the data. In other words, more serious crimes are more likely to be reported and to result in an arrest, so homicide data is one of the most accurate types of data (Gove, Huges & Geerken, 1985). With respect to the dark figure, research comparing the UCR to the NCVS found that the dark figure primarily relates to rather trivial criminal occurrences (Skogan, 1978). Another criticism of the UCR is that police may differentially enforce laws in different areas, but homicide is so serious an occurrence that police are likely to respond regardless of offender or jurisdiction. According to Miethe and Regoeczi, “SHR data have no rivals in terms of their breadth and depth” (2004: 41). In other words, the Uniform Crime Reports provide a good tool for examining homicides.

Not only have there been concerns and criticisms of the use of police data to help explain crime, but researchers have also critiqued the use of county-level data. Although many researchers argue that county-level data are appropriate for a number of reasons already provided here (see for example Osgood & Chambers 2000; 2003), they are not ideal for a number of reasons. County-level data mask individual differences within the counties themselves. In addition, some argue that a test of social disorganization theory is best at the neighborhood level; however, much of the research on rural areas indicate that each county has a different culture and that there is generally a significant amount of similarities within towns in such counties. Since homicide is a rare occurrence, and since this analysis examines homicides in rural areas, county level data are used. Such data clearly mask different neighborhood level effects. Yet census tract data have also been criticized because they do not necessarily differentiate between neighborhoods. However, county level data have been identified in the literature as appropriate sources for examining rural crime. Thus, county level data, while perhaps not ideal, still can tell us a great deal about applications of social disorganization, but further research should be conducted applying different measures of crime and different types of analyses.

When data are aggregated there is a possibility of creating an aggregation bias that may result in a bias of the parameter estimates, which can lead to an outcome that is more likely to identify stronger relationships between the variables (Veysey & Messner, 1999). Since this study disaggregates homicide data by victim-offender relationship and examines only intimate partner homicides, aggregation bias is less likely to be an issue, though there still may be problems with the data.

Research Questions

1. Do the concepts associated with the systemic reformulation of Social Disorganization theory (including concentrated disadvantage, divorce, population mobility, etc.) explain intimate partner homicides in all counties across the United States?
2. Do the concepts associated with social disorganization theory (including concentrated disadvantage, divorce, population mobility, etc.) apply to rural counties in the United States? If so, which are the most significant?
3. Do religious participation and voter participation help explain intimate partner homicides across the country?
4. Do religious participation and voter participation explain intimate partner homicides in rural communities?

The dependent variable is intimate partner homicide counts from 2000 to 2005. Since it may be easier for police departments to discover if the perpetrator is an intimate partner, this is a good place to begin to understand the complexities of homicides in rural communities. Intimate partner homicides include the intentional or willful deaths, and non-negligent manslaughter incidents involving current or former partners, including spouses (also including common-law spouses), ex-spouses, and girlfriends or boyfriends. Missing data are not analyzed, though there are some techniques employed to dealing with missing data. The rationale for this is that weighing the data may not be the best method for dealing with intimate partner homicides, which are perhaps the most likely to be identified since the significant other is usually the first person looked at as a suspect. Incidents where there were multiple offenders were also excluded from the sample as such crimes may be significantly different in etiology and circumstances.

Table 1 Operationalizations and Sources of Variables

<i>Variables</i>	<i>Measure</i>	<i>Data Source</i>
Dependent Intimate Partner Homicides	County-level counts of intimate partner homicides, 2000-2005	SHRs
Independent County Type	Coded as: Completely rural or less than 2500, Metropolitan areas	County Characteristics 2000-2007
Poverty	Percent of the population below the poverty line	Rural and Urban Trends
Gini household inequality index	Gini household index	Rural and Urban Trends
Female headed household with a child under 18	Percent of female headed households with children under 18	Rural and Urban Trends
Percent non-white	Percent of the population that is not white	Rural and Urban Trends
Dissimilarity Index	The ratio of white to black residents	County Characteristics 2000-2007
Unemployment	Percent of the population over 16 who are not employed	County Characteristics 2000-2007
Divorced	Percent of the population that is divorced	Rural and Urban Trends
Population density	Population per square mile	Rural and Urban Trends
Population size	The county population size	Rural and Urban Trends
Population mobility	Percent of the population who have moved within the past 5 years	Rural and Urban Trends
Born in state	Percent of the population that was born in the state they resided in in 2000	Rural and Urban Trends
High School Dropouts	Average percent of individuals over 25 who did not completed high school (1995-1999)	Rural and Urban Trends
Voter Participation	Percent of county residents over 18 who voted in the Presidential election Percent of county residents over 18 who voted in the 2004 Presidential election	County Characteristics 2000-2007
Religious Participation	Percent of county residents over 18 registered with a religious organization (in 2000)	Religious Congregations and Membership Study of 2000
The South	A dummy variable to account for counties in the southern United States	U.S. Census Bureau

Each of the percentages in the above table refers to the percentage within the county. The above table specifies the database from which each of the variables used in

this particular research were imported, though the original source was the U.S. Census Bureau for most of the above variables. Some of the variables were then combined in a data reduction principal component analysis so there are fewer factors than the variables indicated above.

The independent variables utilized in this study are discussed in more detail below.

Concentrated Disadvantage Component

Disadvantage and inequality lead to a weakening of the legitimacy of social norms, making it difficult for communities to maintain social control (Logan & Messner, 1987). Homicide data in the United States indicate that homicide offenders are more likely to be economically disadvantaged (Harries, 1990; Martinez & Lee, 1999; Short, 1997; Wolfgang, 1958, Peterson & Krivo, 1999). Some scholars (Bursik, 1988; Wilson, 1987) have argued for a new construct to measure concentrated disadvantage since a number of studies examining the structural correlates of crime indicate that there are certain areas that are highly impoverished, with many female-headed single parent households with children under 18, a high percentage of the population living in poverty, and a higher Gini index value. All these indicators make sense as a disadvantage construct and may be highly correlated with one another. Each of these variables may be correlated with homicide and collectively they should provide a significant contribution to the explanation of intimate partner homicides. Because of their overlapping regression space, these variables should be combined. For the purposes of this study, variables related to concentrated disadvantage are combined into a single factor through a principal component analysis.

Concentrated disadvantage can impact community attachment and reflect a greater level of disorganization within a community. As Sampson and Groves (1989) indicate socioeconomic deprivation leads to a reduction in community attachment and weakened social ties. Parker, Stults and Rice (2005) found that concentrated disadvantage was significant, but that it also varied somewhat by race in the cities over 100,000 that they analyzed. The spatial overlap of populations with concentrated disadvantages isolates that population, leading to a greater potential for crime. Recent research found significant support for a correlation between concentrated disadvantage and crime (Lee, 2000; Krivo & Peterson, 1996). Research applying a social disorganization framework has found that concentrated disadvantage is consistently one of the most, if not the most, important factor contributing to crime.

Studies of homicide offenders indicate that they are more likely to be poor and economically disadvantaged as well (see Wolfgang, 1958; Harries 1997; Martinez & Lee, 1999). A number of studies have found that family structure correlates with higher crime rates (see for example Sampson, 1986). The majority of studies focusing on social disorganization theory examine “family disruption”, defining it as the percentage of female headed households with children under 18 (Osgood & Chambers, 2000: 93). A good deal of research has recognized that female headed, single-parent households with children under 18 is the best predictor of poverty rates within a community (Wilson, 1987, 1996; Albrecht, Albrecht & Albrecht, 2000; Snyder & McLaughlin, 2004). For example, Albrecht and Albrecht (2007) found that counties with a greater proportion of female headed households had greater economic inequality. Prior research reveals correlations between high poverty rates and low income levels and female-headed,

single-parent families (Eggebeen & Lichter, 1991; Lichter & Eggebeen, 1993; Lichter & Jensen, 2001). Land et al. (1990) incorporated a Resource-Deprivation/Affluence Component, which included the following variables: median family income, the percentage of families living below the poverty line, the Gini index of family income inequality, percent black, and the percent of female headed single parent families⁵. Rountree and Warner (1999) examined crime in Seattle, Washington finding violent crime rates are lower when there are fewer female-headed households.

Additionally, the racial difference of household composition could be an indicator of differences in norms and values that might lead to more disorder. A few studies (Osgood & Chambers, 2000; Sampson & Groves, 1989; Warner & Pierce, 1993) examine dissimilarity in their examinations of social disorganization theory. This indicator ranges from 0 (no dissimilarity) to .5 (the most dissimilarity). A score of zero would indicate more ethnic homogeneity, while a .5 would indicate the most ethnic heterogeneity. This score is calculated by the following formula: $1 - \sum(p_i^2)$ where p_i is the proportion of households that are white or nonwhite (Blau, 1977; Osgood and Chambers, 2000). This is highly related to the racial makeup in the county so it needs to be included in this factor.

More recent studies have included a measure of unemployment in their concentrated disadvantage factor. Unemployment here is operationalized as the percent of people over 16 who did not work. Historically, few studies found a significant relationship (or looked for one) between unemployment and crime when examining social disorganization theory; for example, nearly all of the studies Land and colleagues

⁵ Land et al. (1990) actually used the percent of children under 18 not living with both parents, but a good deal of research has recognized that female headed single-parent households with children under 18 is the best predictor of poverty rates within a community (Wilson, 1987, 1996; Albrecht et al., 2000; Snyder and McLaughlin, 2004). For example, Albrecht and Albrecht (2007) found that counties with a greater proportion of female headed households had greater economic inequality.

(1990) review did not even include a measure for unemployment, and the few that did did not find any significance. However, more recent studies examine the effects of unemployment on homicides have found a relationship between unemployment and crime (Matthews, Maume, & Miller, 2001). The idea is that the more people who work within a community, the greater the similarity of values and the greater likelihood of prosocial and shared values. Communities with higher rates of unemployment are likely to also have other measures of concentrated disadvantage (see Lee, 2008 for example).

The reformulation of social disorganization theory examines the institutional factors that could impact disorganization in an area. Individuals are socialized by the educational system to conform to societal expectations. The fact that someone completed high school indicates that they are more committed to community institutions like the labor market and the schools themselves. Additionally, students learn compliance in the schools as well as better problem-solving techniques so that they want to avoid violence and can. Therefore, the percent of individuals over 25 years old who did not complete high school was calculated for each county. The literature indicates that education and unemployment interact with one another, which makes sense. Those who completed high school are more likely to find employment; those who drop out are less likely to find employment. Therefore, areas with a high percentage of high school dropouts are likely to have other issues associated with disadvantage. In one study, high school dropouts in rural areas shared the same regression space with other variables related to concentrated disadvantage, including poverty, female headed households, unemployment and percent black (Lee, 2008). It is predicted that concentrated disadvantage positively correlates significantly with intimate partner homicides.

Population Structure Component

Additional indicators that are examined include population density and population size to form a population structure component. In areas of higher population density and areas with more people overall, informal controls may be significantly weakened; neighbors will be less likely to know one another, and, therefore, be less able to know when something is amiss in their community, for example. In areas of higher population density, there may also be a greater degree of anonymity and a lesser degree of shared norms or collective efficacy. In sum, densely populated areas along with residential mobility can increase the opportunities for crime (Shaw & McKay, 1942; Stark 1987). Land et al. (1990) created a population structure component through a principal component analysis of the natural log of the unit population size and the natural log of population density which was found to be statistically significant, and empirically relevant. This was replicated in this research, with the expectation that the population structure component is positively associated with intimate partner homicides. That is, areas where there are more people per square mile may also have higher counts of intimate partner homicide.

Residential Stability Component

One of the key variables historically in the application and understanding of social disorganization theory is residential stability. The more transitory people in a community, the less cohesiveness in that community, the less unified the community, and the greater likelihood of competing norms and lack of assimilation to community norms. The more stable the community, the better able it is to maintain community attachment. Sampson and Groves (1989: 787) found that residential stability was more important than

urbanization with respect to its impact on friendship networks. Kassarda and Janowitz (1974) viewed population stability as more important than the size of the community. Sampson (1995) reviewed numerous studies that analyzed the impact of poverty on crime rates, finding that when poverty was combined with residential mobility, it is associated with an increase in violent crime. Stability is operationalized as the percent of residents who did not move within the past 5 years (in 2000) and the percent of the population born in the state in which they currently reside. It is expected that greater mobility is positively correlated with intimate partner homicide.

Divorce

A number of studies have found that family structure correlates with higher crime rates (see for example Sampson, 1986). Family stability can be defined as the extent to which family units in a particular area conform to the traditional nuclear family. Numerous studies of social disorganization theory examine family disruption, typically defining it as the percentage of female headed households with children under 18 (Osgood & Chambers, 2000: 93), so this is also calculated. Some researchers have also operationalized family disruption as the percent of divorcees, so that is also calculated. Other researchers have operationalized family disruption as a male marriage pool index (the number of employed males over 16 per 100 females over 16) (Wilson & Neckerman, 1985; Sampson, 1987; Parker & Maggard, 2005). Schwartz (2006) found that family structure was even more important for male homicides, compared to homicides committed by females, though it was significant for both. According to Schwartz, family structure was the most significant variable on homicide rates in counties with more than 20,000 people.

Voter Participation

Voting can also be an indicator of participatory norms and involvement in community life. This is a variable that is not often utilized, although there are a couple of studies in which it has been related to crime rates (Coleman, 2002). Voting is generally considered a civic duty in support of democracy (Almond & Verba, 1965), although the proportion of the population who view voting as a moral obligation is not evenly distributed; regular voters, women, older people, and religious people were found more likely to hold that belief (Blais, 2000). Voter participation in an election, especially a national one, can be thought of as a measure of conformity in that it can be a good picture of conformity at one particular point in time, demonstrating how a particular community can hold its members to a widely accepted goal (Coleman, 1990; Elster 1989). As Coleman (2002: 257) notes it is possible to use voter turnout “as a standard measure of the degree of conformity across units of analysis.” Other studies have found links between voting and other positive social behaviors like responding to the census (Knack & Kropf, 1998) and donating to charities (Knack 1992). Sampson and Raudenbush (1999) and Sampson et al. (1997) emphasize the importance of social cohesion, finding that violent crime is lower in areas where residents are willing to intervene and where social cohesion is high. This demonstrates the importance of informal social control. In areas of higher voter participation it can be presumed that those communities are more cohesive, in that there is a larger component of the community with the similar understanding of the importance of voting. Coleman (2002) found that voter conformity, or participation, impacts various crimes at the state and county levels. Lee (2008) found voter turnout to be significant in predicting violent crime, including murder, when

included in a factor containing civic associations per 1000 and civically engaged religions. Voter participation in this study is operationalized as the combined factor of the percent of residents over 18 who voted in the national 2000 presidential elections. It is a direct measure of institutional involvement and an indirect measure of agreement on other social issues. Thus, it is expected that voter participation is negatively correlated to intimate partner homicides.

Since there are many variables to consider and since it is important to maintain statistical power, a principal component analysis is run to reduce the factors. This is also consistent with a large number of studies examining the impact of such concepts as concentrated disadvantage, the population structure component, and civic engagement, to name a few (see Land et al., 1990; Lee, 2008).

Religious Participation

County-wide data on religious participation are examined here as well. Very few studies have examined the connection between religion and crime; however, it is yet another socializing institution that can reduce crime rates under the right circumstances. Religious participation in this study is operationalized as being registered with a religious institution. While registration itself does not mean that a person entirely proscribes to the religion or attends ceremonies regularly, it may mean that areas with higher participation rates are more likely to have similar values and to be socialized more similarly. So, crime should be lower in those areas, since informal social control networks should be stronger in those areas. In fact, using 1990 data, Tolbert, Lyson, and Irwin (1998) found that the percentage of the population attending churches that were civically engaged was significantly correlated to lower levels of inequality, poverty, and unemployment. Irwin,

Tolbert, and Lyson (1997, 1999) found that church membership was negatively associated with out-migration. It has also been argued that the presence of civic institutions have a greater impact on rural areas (Beggs, Haines & Hurlbert, 1996). Lee and Bartkowski (2004) found that churches per capita impacted violent crime rates in rural areas. Thus, religious enrollment is expected to be negatively associated with intimate partner homicide.

The outcome of the components created is discussed in Chapter 5, though three of the components in this analysis are based on this principle component analysis in conjunction with previous literature. Six of the following hypotheses are based on the outcomes of the principle component analysis- concentrated disadvantage, population structure component, and population stability.

Hypotheses

Hypothesis 1: Structural factors as predicted by social disorganization theory are correlated with intimate partner homicides in all counties.

Hypothesis 2: Structural factors as predicted by social disorganization theory are correlated with intimate partner homicides in rural counties.

The first two hypotheses indicate that it is expected that the models representing the systemic reformulation of social disorganization theory will be significant for both the national analysis of all counties and the analysis of rural counties alone. It would make sense that in communities that are highly disorganized there would be a greater likelihood of intimate partner homicide.

Hypothesis 3: The concentrated disadvantage component positively correlates to intimate partner homicides in all counties after controlling for other relevant variables.

Hypothesis 4: The concentrated disadvantage component positively correlates to intimate partner homicides in rural counties after controlling for other relevant variables.

The literature has consistently found a correlation between poverty and crime. This concentrated disadvantage factor combines concepts that are distinct from one another, but highly correlated with one another and related to absolute deprivation after controlling for other relevant variables. Many studies, in fact conclude that concentrated disadvantage is the most significant structural factor related to crime, although a few rural studies have not found such a consistent relationship.

Hypothesis 5: The population structure component positively correlates to intimate partner homicides in all counties after controlling for other relevant variables.

Hypothesis 6: The population structure component positively correlates to intimate partner homicides in rural counties. after controlling for other relevant variables

The population structure component is a combination of population density and population size. Higher population densities can hinder social control, making it more difficult for neighbors to identify each other (Sampson & Groves, 1989). There have been some conflicting findings in the social disorganization literature on homicides regarding the correlation between homicide and population density and population size (Bailey, 1984; Chamlin, 1989; Land et al., 1990; Loftin & Parker, 1985; Messner, 1982a; Messner, 1983; Peterson & Krivo, 1993; Sampson, 1985b; Sampson, 1986; Shihadeh & Ousey, 1996). Loftin & Parker (1985) found that the population structure component was significantly correlated with homicide rates. Shihadeh and Ousey (1996) found a negative correlation between population density and a positive relationship between population size and homicides. The majority of the research has focused on the impact of the

population structure within urban communities. It is expected that the more highly dense areas with larger population sizes have higher levels of anonymity, making it more difficult for the community to regulate its members. Hence, the population structure component is expected to positively correlate to intimate partner homicides.

Hypothesis 7: Population stability negatively correlates with intimate partner homicides in all counties.

Hypothesis 8: Population stability negatively correlates with intimate partner homicides in rural counties.

One of the important original concepts of social disorganization theory highlighted the key concept of population mobility. The more people moving in and out of an area, the more disorganized that area is likely to be. The logic behind this hypothesis is quite similar to the logic within the population structure component. That is, that the more in and out migration of members of the community, the less able the community is to regulate itself. With more migration comes more anonymity and greater difficulties with formal and informal control mechanisms. Thus, population mobility is expected to positively correlate to intimate partner homicides.

Hypothesis 9: Divorce positively correlates to intimate partner homicides in all counties after controlling for other relevant variables.

Hypothesis 10: Divorce positively correlates to intimate partner homicides in rural counties after controlling for other relevant variables.

Family disruption is one of the key components of social disorganization theory. According to Schwartz (2006), family structure was the most significant variable on homicide rates in counties with more than 20,000 people and that it was especially

significant in explaining homicides committed by males though it was significant for females as well. So, the percent of the people within a county that have divorced should be positively correlated to intimate partner homicides.

Hypothesis 11: Voter participation negatively correlates to intimate partner homicides across all counties after controlling for other relevant variables.

Hypothesis 12: Voter participation negatively correlates to intimate partner homicides in rural counties after controlling for other relevant variables.

Voting can also be an indicator of participatory norms and involvement in community life and highlights the importance of informal social control. In areas of higher voter participation it can be presumed that those communities are more cohesive, in that there is a larger component of the community with the similar understanding of the importance of voting. Voter participation in this study is operationalized as the combined component of the percent of residents over 18 who voted in the national 2000 and 2004 presidential elections. This is a direct measure of institutional involvement and an indirect measure of agreement on other social issues, like the importance of civic participation. Thus, it is expected that voter participation is negatively correlated to intimate partner homicides.

Hypothesis 13: Religious participation negatively correlates to intimate partner homicides across all counties after controlling for other relevant variables.

Hypothesis 14: Religious participation negatively correlates to intimate partner homicides in rural counties after controlling for other relevant variables.

It is expected that where there is a larger percent of the population attending religious services, all types of homicide rates will be lower. Religion is a form of

informal social control. Where informal social control is higher, there should be fewer crime problems, and, specifically, fewer per capita homicides. This variable is expected, based on the literature, to play a more significant role in rural areas, where religious affiliation and attendance are higher.

Hypothesis 15: The South will positively correlate with intimate partner homicides across all counties, after controlling for other relevant variables.

Hypothesis 16: The South will positively correlate with intimate partner homicides in rural counties, after controlling for other relevant variables.

There has been some research that has suggested that the culture of the South is distinct from other regions of the country, especially in that it is more accepting of violence. There is a long documented difference between overall values in the North and South and these could impact intimate partner homicides. For example, according to Hackney (1969: 395), Southerners “have a greater attachment to place, and more deferential social customs...[and] place more emphasis on personal relations and on ascribed statuses than do Northerners”. Because of this potential difference, a dummy variable representing counties in the South was created.

Although most studies of various types of crime have focused more on urban areas, it makes sense that socially disorganized rural areas would result in the same outcome- higher crime rates. It also makes sense that social disorganization concepts would explain homicide rates, though the characteristics of rural areas may impact how the relationships manifest themselves. Socially disorganized rural areas should have more homicides than socially organized areas. Thus, the overall model using social

disorganization theory should explain a statistically significant percentage of the variance.

Statistical Analysis

While many researchers in the past have analyzed homicide data by employing ordinary least squares linear regression, homicides are such a rare occurrence that any findings that they might have concluded may be due to statistical error even if those studies attempted to normalize the distribution through the calculation of the natural log of homicides. Since the dependent variable is intimate partner homicide counts, and since count data are utilized, Poisson regression is more appropriate (Cameron & Trivedi, 1998). Poisson regression is used with count variables and is discrete, not continuous, like the curve assumed with ordinary least squares regression, making it a better statistical fit for this analysis. Negative binomial regression is a form of Poisson regression, but may be more appropriate since Poisson regression assumes equal means and variance. Negative binomial regression allows one to examine homicide count data without the assumption that the data are not overly-dispersed in part because it provides a residual variance term that helps control for the overdispersion (Gardner, Mulvey & Shaw, 1995). The negative binomial distribution may correct for the overdispersion (see Osgood, 2000 and Paternoster & Brame, 1997). Osgood mentions that when analyzing rare crime counts with “small populations and low-base rates” (Osgood, 2000: 21) negative binomial regression may be the best alternative. Negative binomial regression has become the more conventional method of analyzing homicide count data at the macro level (Paternoster & Brame, 1997; Paternoster, Brame, Bachman and Sherman, 1997; Sampson & Laub, 1997; Braga, 2003; Parker, 2004). With data that have many zeros,

small values and discrete dependent variables negative binomial regression is appropriate, since these factors make OLS regression inappropriate. Hence, this analysis employs negative binomial regression using Stata 11 Intercooled, while the data transformations and principal component analysis were conducted using SPSS 16.0.

Theoretical Implications

Since much of the country is not urban, it is important to know whether the same theories of crime that were originally tailored to urban sectors of the country can be applied to non-urban areas of the United States, and other countries. If this research does indicate that social disorganization theory can explain intimate partner homicides in rural areas, then it could inform rural policy in particular about how to deal with such homicides at the macro level, by improving social conditions, collective efficacy notions, and informal social control mechanisms like the schools, employment, civic participation and religion. Clearly, more research in this area needs to be completed, and the paucity of research examining non-metropolitan areas would be expanded upon. Only a few studies have examined the impact of a range of social disorganization variables on homicide rates in rural and non-metropolitan areas on a broad scale. Weisheit and Wells (2005) compared metropolitan and nonmetropolitan counties using data from 1994-1998. While they did examine the victim-offender relationship as one of their variables, it was not discussed in any detail within the article, leaving the gap not completely bridged. Osgood and Chambers (2000) argue for an expanded analysis, since they examined data from only four states. Thus, this is a much larger study that can be better generalized than the smaller studies that have only examined a few counties in one or two states, or studies that have focused primarily on inner-city neighborhoods.

This study could also potentially show additional support for social disorganization theory, expanding its explanatory power with respect to rural areas and provide a springboard for additional studies of social disorganization theory, including what might end up being important variables like voter participation, and religious attendance. Yet at the same time, this study may highlight needed changes in law enforcement. While not something directly measured in this study, research has demonstrated that rural law enforcement agencies have less staff, less knowledgeable staff, and fewer service experts (Ward, 1982). While it is not necessarily the case that rural areas, or all rural areas, truly need additional staff or training, it may be beneficial to increase various services in rural areas.

CHAPTER 4 SUMMARY DATA

This chapter highlights many of the overall characteristics of the data before any analyses are run, providing a description of the variables to the reader.

Units of Analysis

Table 2 County and Geographic Descriptives

	<i>Northeast</i>	<i>Midwest</i>	<i>West</i>	<i>South</i>	<i>Total</i>
Metropolitan	122	221	91	402	836
Non-Metropolitan, Adjacent to Metro	57	243	66	390	756
Non-Metropolitan, not Adjacent to Metro	26	269	164	310	769
Rural Counties	12	322	122	322	778
Total Counties	217	1055	445	1424	3141

Table 2 describes the counties in the United States by regional variations and type of county, according to Census data. Overall, there is a rather even distribution of types of counties and statistical areas, while there are greater differences in the number of counties by region. The Northeast has the fewest counties, while the South has the most counties. While the Northeast has the fewest counties of all of the divisions, the Middle Atlantic states within the Northeast are some of the most densely populated. This subdivision of the Northeast contains counties in Pennsylvania, New York and New Jersey. In fact, the Northeast has the fewest rural counties among the divisions. The Midwestern and the Southern regions both have the most rural counties.

Table 3 provides a brief overview of the basic descriptive information of the variables utilized in the study. In this particular research two sets of data analyses are

conducted: one using all counties and the other examining only rural counties. Therefore, the first two subcolumns provide information about the minimum and maximum for the variables in all counties and the second column includes the means and standard deviations for all counties, while the third column describes the means and standard deviations for the rural counties.

Table 3 Descriptives for Individual Variables for all Counties

	<i>All Counties</i>		All Counties		Rural Counties	
	Min	Max	Mean	SD	Mean	SD
Percent living below the poverty line	0%	56.9%	14.17%	6.55	15.89%	7.09
Gini index	.31	.71	.46	.03	.46	.03
Female headed household with a child under 18	0%	28.8%	8.68%	3.45	8.12%	3.66
Dissimilarity index	0	.5	.18	.16	.14	.16
Percent non-white	0.13%	94.58%	14.16%	16.25	12.86%	17.32
Unemployment	.80%	30.1%	4.98%	2.77	5.37%	2.93
High school dropouts	3.65%	66.17%	24.72%	8.97	26.15%	9.5
Population size	67	9519338	89623	2.93	8564	6381
Population density	.04	66951	242.66	1667.71	17.92	18.03
Born in state	14.32%	96.51%	69.49%	14.95	71.83%	14.41
Moved within the last 5 years	9.52%	84.56%	41.1%	7.48	38.89%	7.21
Percent divorced	0%	19.13%	9.5%	1.95	9.25%	2.18
Voter participation	4.84%	97.76%	53.46%	9.31	55.36%	9.78
Religious Participation	.03%	100%	52.88%	18.14	62.89%	23.73

Some of the most obvious differences in means between the rural counties and information for all counties are population density (persons per square mile and population size) and religious participation. Of course, population density and population size are significantly different in rural areas since they are two of the contributing factors to identifying rural counties.

Dependent Variable

The following tables highlight some key interesting and informative information about all intimate partner homicides between 2000 and 2005 across the country. Table 4 shows the incidents of intimate partner homicides and how many offenders and victims were involved in them. Table 5 shows the intimate partner homicide incidents by regional breakdown, while Table 6 breaks down homicides by victim-offender relationship and Table 7 shows only intimate partner homicides by type of relationship. Table 8 shows the numbers of offenders and victims involved in intimate partner homicide incidents. Finally, Table 9 provides a breakdown of incidents by broader victim-offender relationship categories.

Table 4 Table 4 Intimate Partner Homicide Incident Characteristics: Single and Multiple Victims and Offenders by Year, 2000-2005

	2000	2001	2002	2003	2004	2005
Single victim, single offender	1308	1285	1276	1260	1297	1287
Single victim, multiple offenders	22	25	28	2	20	26
Multiple victims, single offender	54	47	49	31	42	52
Multiple victims, multiple offenders	1	1	3	45	1	1
Total	1385	1358	1356	1338	1360	1366

Source: Supplementary Homicide Reports 2000-2005

Table 4 provides an overview of all intimate partner homicide incidents from 2000 to 2005. Of these, the overwhelming majority involve one victim and one offender. The second most common is the multiple victim, single offender, while the third most common category is the single victim with multiple offenders. This study focuses on the single offender, though most of the incidents involve one victim. Homicides involving multiple offenders may be significantly distinct in terms of etiology and correlates compared to homicides involving a single offender. This research concerns itself only with situations in which there was a single offender because multiple offender homicides likely have a significantly different etiology and may be more influenced by peer group pressure than the social structure.

Table 5 Intimate Partner Homicide Incidents by Geographic Region, 2000-2005

<i>Region</i>	2000	2001	2002	2003	2004	2005
New England	43	39	36	35	48	37
Mid Atlantic	145	138	171	152	168	154
East North Central	168	152	149	142	161	158
West North Central	81	78	72	78	76	74
South Atlantic	262	269	244	241	241	255
East South Central	134	119	112	108	111	138
West South Central	217	220	239	243	228	225
Mountain States	107	105	107	116	119	123
Pacific States	228	238	226	223	208	202
Total	1385	1358	1356	1338	1360	1366

Source: Supplementary Homicide Reports 2000-2005

Table 5 provides a regional breakdown of the intimate partner homicides from 2000 until 2005. While for all homicides more homicides occurred in any given year in the Pacific States, which include Alaska, California, Hawaii, Oregon, and Washington, for intimate partner homicides the South Atlantic region (including Delaware, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, West Virginia, and the District of Columbia) has more reported incidents of intimate partner homicide. The region with the second highest number of homicides overall was the South Atlantic region, while the East North Central region had the third highest number of homicides in each year from 2000 to 2005. The West South Central and Pacific states had high incidents of intimate partner homicides as well. Clearly, there are some regional differences relatively specific to intimate partner homicide.

Table 6 depicts the breakdown of victim offender relationship in homicides across the country from 2000 to 2005. Unfortunately, in the category with the highest number of homicides the relationship between the victim and offender was undetermined. This is one of the problems with using this data- not all of the information is known about the offender. Over the six years indicated, the second category with the highest number of homicides was acquaintance homicides, followed by strangers. This particular study examines intimate partner homicide counts which include the homicides of wives, husbands, common-law wives and husbands, homosexual relationships, ex-wives and ex-husbands as well as boyfriends and girlfriends. Within this category, wives were killed most frequently, followed by girlfriends.

Table 6 The Breakdown of all Homicide and Non-negligent Manslaughter Incidents by Victim- Offender Relationship, 2000-2005

Relationship	2000	2001	2002	2003	2004	2005
Acquaintance	2329	2370	2546	2563	2491	2546
Boyfriend	158	161	159	168	153	159
Brother	95	72	93	97	96	93
Common-law Husband	25	18	25	15	18	25
Common-law Wife	48	52	43	50	54	43
Daughter	156	173	182	161	184	182
Employee	10	5	3	9	8	3
Employer	7	12	10	19	11	10
Father	86	75	82	103	86	82
Friend	316	349	389	374	338	389
Girlfriend	431	438	447	469	445	447
Homosexual Relationship	16	17	27	15	29	27
Husband	138	120	103	109	129	103
In-law	43	69	46	59	56	46
Mother	93	85	103	92	105	103
Neighbor	106	91	99	98	116	99
Other Family	194	182	229	230	210	229
Other- known to victim	673	608	602	630	667	602
Stepdaughter	18	25	16	21	16	16
Stepfather	29	26	26	24	22	26
Sister	21	26	21	29	25	21
Stepmother	6	4	5	3	6	5
Son	195	217	207	234	212	207
Stepson	30	22	27	34	22	27
Stranger	1966	2457	2308	2139	2189	2308
Relationship undetermined	5462	6013	5902	6164	6063	5902
Wife	512	507	506	464	484	506
Ex-husband	10	10	7	7	10	7
Ex-wife	47	35	39	41	38	39
Total	13220	14239	14252	14421	14283	14252

Source: Supplementary Homicide Reports 2000-2005

Research indicates that the etiology of crime may be significantly different based upon the victim-offender relationship. Therefore, the structural correlates may also impact homicides differently based on the relationship between the victim and the offender. Research also indicates that crime analyses should disaggregate data. This table provides a breakdown of the various victim-offender relationships coded in the

Supplementary Homicide Reports. This analysis focuses on homicides committed by intimate partners, including husband, wife, ex-husband, ex-wife, boyfriend, girlfriend, homosexual relationship, common-law wife and common-law husband.

Table 7 Intimate Partner Homicide Incidents by Victim-Offender Relationship, 2000-2005

Relationship	2000	2001	2002	2003	2004	2005
Boyfriend	158	161	159	168	153	156
Common-law Husband	25	18	25	15	18	13
Common-law Wife	48	52	43	50	54	43
Girlfriend	431	438	447	469	445	468
Homosexual Relationship	16	17	27	15	29	21
Husband	138	120	103	109	129	117
Wife	512	507	506	464	484	501
Ex-husband	10	10	7	7	10	8
Ex-wife	47	35	39	41	38	39
Total	1385	1358	1356	1338	1360	1366

Source: Supplementary Homicide Reports 2000-2005

Table 7 reveals that the wives and girlfriends account for victims in the majority of all intimate partner homicides. In fact, wives and girlfriends account for intimate partner victims in over two thirds of the reported incidents of intimate partner homicide in any given year from 2000 to 2005. The numbers of each relationship type are also relatively consistent over time.

As Table 8 indicates, the majority of intimate partner homicides involved a single victim. The second most common were intimate partner homicides involving one additional victim. Since this table focuses on intimate partner homicide, it makes sense that few victims are involved other than the intimate partner.

Table 8 Intimate Partner Homicides by Numbers of Additional Victims

	2000	2001	2002	2003	2004	2005
0	1330	1310	1304	1292	1317	1313
1	44	40	40	35	37	45
2	6	8	11	9	6	8
3	5		1			
4				2		
10	1385	1358	1356	1338	1360	1366

Source: Supplementary Homicide Reports 2000-2005

Table 9 depicts the number of counties (out of 3141) that had homicides in them for each of the years of analysis, and the overall number of counties with the specific type of homicide. The type of homicide that occurs in the greatest number of counties is homicides between acquaintances. The fewest counties had stranger homicides, which is particularly noteworthy since such homicides are the most common after the relationship undetermined category in the Supplementary Homicide Reports. This analysis focuses on intimate partner homicides which occur in about 600 counties each year, but since they are combined from 2000 to 2005 nearly half of the counties across the country had experienced at least one intimate partner homicide. Aggregating the data for six years allows for fewer cells with zeros, helping to satisfy the regression requirements for a normal distribution, though failing to satisfy them completely.

Table 9 Numbers of Counties with Single-offender Homicides by Victim Offender Relationship, 2000-2005*

	2000	2001	2002	2003	2004	2005	2000-2005
Intimate Partner	605	590	579	555	603	610	1515
Family	442	458	462	484	460	462	1306
Acquaintance	768	797	827	820	804	803	1776
Stranger	346	358	350	339	343	372	937
Unknown	567	587	581	583	615	580	1307
Total*	1310	1338	1335	1296	1340	1342	

*The total that is in the cell is the total number of counties with any type of homicide for that year.

In conclusion, the descriptives for the independent variable show that most homicides are committed by one person against one person. On average, intimate partner homicides occur in fewer than half of all counties that have reported incidents of homicides in any given year between 2000 and 2005 and occur in about one fifth of all counties across the United States. Despite their relatively rare occurrence, compared with acquaintance or stranger homicides across the country, they are a topic worthy of further examination. The following chapter describes the results of the statistical analysis and hypothesis testing.

CHAPTER 5 ANALYSIS AND RESULTS

This chapter describes the results of the data analysis used to determine if social disorganization components significantly explain intimate partner homicides in rural communities. It first highlights key statistical procedures utilized to arrive at the variables used, then shows the correlations between the variables, and finally shows the results of the regressions run. First, the correlations are discussed to determine the linear relationship between two variables, and can identify potential multicollinearity problems among the independent variables. Then, a principal component analysis was done to create factors consistent with previous studies as well as to have fewer variables to input into the model to achieve more statistical power, especially for the rural counties that were analyzed. Finally, two models are run.

Correlations

This section highlights the relationships between the variables and discusses the Pearson correlations for all counties. A number of variables are highly correlated with one another, which is a major problem for running basic statistical analyses such as ordinary least squares regression, since one of the basic assumptions of such a technique are that each variable is independent and multicollinearity does not exist. For example, the percent of the population that is nonwhite and the dissimilarity index are highly correlated with one another.

Table 10a Correlations between Dependent and Independent Variables for all Counties

	% Poverty	Gini index	Female HH	Diss Index	% non white	unempl	HS dropout	Pop size
Intimate Partner Homicide	-.016	.106**	.190**	.231**	.189**	-.029	-.062**	.836**
% Poverty	1	.674**	.560**	.461**	.546**	.562**	.702**	-.083**
Gini index		1	.544**	.480**	.484**	.367**	.467**	.054**
Female HH			1	.714**	.795**	.339**	.335**	.145**
Disimilarity				1	.908**	.266**	.371**	.202**
% non white					1	.333**	.395**	.156**
unemployment						1	.487**	-.064**
HS dropout							1	-.126**
Population size								1.000

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

The correlations highlight the extent to which the independent variables correlate with one another and with the dependent variable. The independent variables correlate with the dependent variable in the expected direction, with a couple of exceptions. Namely, the percent living below the poverty line is negatively correlated with intimate partner homicide counts. The opposite direction is expected; however, poverty is positively correlated with other factors that are expected and related, such as the percent of the population with female headed households living with children under 18, the percent of the population that is nonwhite and the unemployment. Poverty by itself is not statistically significant as it correlates with intimate partner homicide counts, but is highly correlated with other relevant variables, so it needs to be combined with those

variables to reduce multicollinearity issues. Population size and density correlate highly with intimate partner homicide. Because of their

Table 10b Correlations between Dependent and Independent Variables for all Counties

	Pop per sq mi	Born in State	Pop mobil	Divorced	Voter turnout	Religious partici	South
Intimate Partner Homicides	.403**	-.143**	.182**	.072**	-.131**	-.042*	-.006
Percent living below the poverty line	.006	.196**	-.188**	.028	-.407**	-.052**	.385**
Gini index	.106**	.118**	-.019	.127**	-.348**	-.095**	.403**
Female HH	.166**	.053**	.155**	.273**	-.448**	-.219**	.295**
Dissimilarity index	.145**	-.074**	.179**	.065**	-.499**	-.115**	.479**
Percent non- white	.144**	.027	.050**	-.004	-.449**	-.139**	.395**
Unemployment	-.021	.105**	-.225**	.135**	-.229**	-.150**	.137**
High school dropouts	-.033	.330**	-.346**	.041*	-.540**	-.002	.606**
Population size	.346**	-.196**	.196**	.038*	-.105**	-.045*	-.060**
Population density	1	-.124**	.076**	-.016	-.091**	.010	-.024
Born in state		1	-.590**	-.265**	.033	.282**	.081**
Population mobility			1	.323**	-.282**	-.307**	.032
Percent divorced				1	-.198**	-.391**	.097**
Voter participation					1	.194**	-.507**
Religious Participation						1	-.033
South							1

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

high correlations and nonnormal distribution they were converted to their natural logarithm for the negative binomial regression analysis and were combined in a principal component analysis.

While some of the independent variables are not statistically significantly correlated with the dependent variable, they are highly correlated with another independent variable, deeming them worthy of study and necessary to include in a factor with those other highly correlated variables. For example, unemployment is not statistically correlated with intimate partner homicide but it is with all other measures of concentrated disadvantage, including percent living in poverty, Gini index, percent non-white, and female headed households with children under 18. The dissimilarity index and the percent non white are very highly correlated, with a r of .908. Two other correlations that stand out as particularly strong are between female headed households with children under 18 and percent non-white and the dissimilarity index. This provides stronger support for the need to create an index that includes variables highly correlated with one another and conceptually related to one another to reduce multicollinearity and represent the overlapping regression space. The next subsection presents the outcome of a principal component analysis that was carried out to create factors that represent the overlapping regression space.

Principal Component Analysis

A principal component analysis is beneficial to this macro-level analyses in that it takes variables that are highly correlated with one another and creates factors that are not correlated with other factors and allows for an analysis with fewer variables. Thus, this data reduction transforms variables into principal components. A principal component

analysis for all counties was conducted to determine the overlap of regressive space, especially as the literature reveals numerous structural approaches to explaining crimes and highlight the importance of a concentrated disadvantage factor. The factors were then saved as variables and are run in a later regression that includes the systemic variables and the factors created by the principal component data reduction.

Table 11 provides information about the key factor loadings for the principle component analysis and demonstrates the three key components that arose from it. Each of these components is later utilized in the negative binomial regression analysis.

Table 11 Varimax Rotated Principal Components Matrix

	Component 1	Component 2	Component 3
Poverty	.839		
Gini household index	.748		
Female headed households	.825		
Dissimilarity Index	.821		
Percent non-white	.865		
Unemployment	.587		
High School Dropouts	.647		
Population size		.908	
Population density		.948	
Percent Born in State			.899
Moved within last 5 years			-.817
Eigenvalue	4.199	2.860	1.161
Variance explained	38.169	26.001	10.552

Through the implementation of a Varimax rotated principle component factor analysis with Kaiser normalization to determine uncorrelated groups of variables that tended to share the same regression space, four summary factors were apparent. The communalities were relatively high indicating that the extracted components represent the variables well. The components themselves are consistent with previous research and were input into the principle component analysis based on previous research that

highlighted the key components of concentrated disadvantage and the population structure component (see Land et al., 1990). The first factor represents concentrated disadvantage, which is comprised of the percent of the population under the poverty line, the GINI household index, female headed households with children under 18, the dissimilarity index, and percent of the population that is unemployed (largely following Lee, 2008). The second factor is a population structure component composed of the natural log of the population size and the natural log of the population per square mile (see Land et al., 1990). The third component represents population stability. Population stability consists of the percent of the population that didn't move within the last five years (since the loading is negative) and the percent of the population born in the state. The blanks indicate correlations under 0.3 so the variables with higher loadings are more evident. The total variance explained by the four factors resulting from the principal component analysis nearly seventy five percent (74.72), which is relatively high and suggests that not a lot of variance is lost by reducing these eleven variables to three factors.

Overdispersion

Table 12 The Descriptive Statistics for the Dependent Variable for All Counties

Descriptive Statistics		N	Minimum	Maximum	Mean	Std. Deviation	Variance
Intimate Partner	Homicide 2000-2005	3141	0	285	2.5512	10.05273	101.057

While Poisson is the typical statistical method applied to using count data, it assumes that the mean and the variance are equal. With this particular set of data, the

variance far exceeds the mean, highlighting the overdispersion of the data. Overdispersion is caused by, “positive correlation between responses or by an excess of variation between response probabilities or counts” (Hilbe, 2008: 51). Negative binomial regression is the standard method used to deal with overdispersion. According to Hilbe (2008: 1), using the negative binomial regression to model overdispersed Poisson count data, “the distribution can be thought of as an extension to the Poisson model.” Hence, rather than Poisson regression, negative binomial regression is the more appropriate statistical application for this data.

Table 13 The Descriptive Statistics for the Dependent Variable for Rural Counties

	N	Minimum	Maximum	Mean	Std. Deviation	Variance
Int Partner Homicide 2000-2005	779	.00	5.00	.2837	.66137	.437

In terms of overdispersion, by looking at the descriptive statistics one can see that the variance is greater than the mean, though not as dramatically as in all counties across the country. Hence, negative binomial regression is appropriate to run on the rural homicide counts as well.

Negative Binomial Regression

Table 14 presents the results of two negative binomial regression equations predicting intimate partner homicide count totals for the years 2000 through 2005. To assess the overall model fit, one can use a likelihood ratio test, which is computed as twice the difference between the log-likelihoods of the models being compared. This value is then compared with the χ^2 distribution, with degrees of freedom equal to the difference in the number of parameters between the two models being compared (Osgood & Chambers, 2000). In this case the first model is being compared with a model with

only a dispersion parameter and an intercept. The χ^2 value=2416.94 which is highly significant ($p < .001$), suggesting that the model fits the data very well.

In terms of the individual predictors of intimate partner homicide counts everything that was expected to be correlated with intimate partner homicide counts was statistically significant to the national analysis of all counties, with the single exception of religious participation. Concentrated disadvantage, the population structure component, population stability, percent divorced, voter participation, and being in the South were all statistically significant as applied to counties that experienced intimate partner homicides. In a negative binomial regression model the beta coefficient refers to the proportion change in the dependent variable when the independent variable changes by one unit (Cameron & Trivedi, 1998). For example, a one unit change in concentrated disadvantage the difference in logs of expected counts would be expected to increase by 0.32 units, while holding all other variables in the model constant. Hypothesis 3 indicated that concentrated disadvantage would positively correlate with intimate partner homicide counts across the United States and, in fact, it was one of the strongest predictors, confirming this hypothesis.

Another interesting outcome for this study was that voter participation was statistically negatively correlated with intimate partner homicide in the national analysis, thereby confirming hypothesis 11. The data indicate that voter participation is correlated with a reduction in intimate partner homicides, perhaps indicating that communities with high levels of agreement about the importance of civic participation are protected from intimate partner homicides. Coleman (2002: 274) points out that,

“The connection between voter turnout and crime rate should cause us to think more about the broader impact of social conformity on the fabric of society, about how conformity is mediated by the cognitive processes involved in our perception of the social world, and about how conformity permeates the choices we make.”

In this particular study conformity relates to a decreased likelihood of engaging in intimate partner homicide.

The South was negatively correlated with intimate partner homicides in the analysis of all counties. This may, however, be due to intimate partner homicides taking place in larger cities in the Northern and Midwestern parts of the country. Thus, all of the hypothesis for the all-county analysis are confirmed, with the single exception of the one holding that religion is an important form of social control that can buffer against intimate partner homicides throughout the country. Part of the reason for this may be that religious participation in some counties may be too low.

To assess the overall model fit for the second model, one can use a likelihood ratio test, which is computed as twice the difference between the log-likelihoods of the models being compared. This value is then compared with the χ^2 distribution, with degrees of freedom equal to the difference in the number of parameters between the two models being compared (Osgood & Chambers, 2000). In this case the first model is being compared with a model with only a dispersion parameter and an intercept. The χ^2 value=80.97 which is highly significant ($p < .001$) as well, suggesting that the model fits the data very well.

For the rural analysis, there were only two significant variables: religious participation and the population structure component. With the exception of voter

participation, the direction of the relationships was as expected. For a one unit change in the predictor variable, the difference in the logs of expected counts of the response variable is expected to change by the respective regression coefficient, given the other predictor variables in the model are held constant. For religion, the standardized coefficient is quite low, though religious participation is statistically significant, so it would seem that for a one unit change in religious participation intimate partner homicide decreases slightly, while all other variables are held constant.

Table 14 Negative Binomial Regression Models Predicting Intimate Partner Homicide, 2000-2005

	All County Model	Rural County Model
Concentrated Disadvantage Population Structure Component	.320*** (.030)	.009 (.087)
Population Stability Component	1.22*** (.025)	.708*** (.153)
Percent divorced	-.285*** (.025)	-.064 (.096)
Voter Participation	.066*** (.014)	.025 (.044)
Religious Participation	-2.28*** (.353)	.78 (1.071)
South	-.001 (.001)	-.021*** (.004)
N	-.106* (.056)	.404 (.222)
Likelihood ratio chi- square	3071	763
Likelihood ratio χ^2	-4398.21	-480.552
Pseudo R ²	2416.94***	80.97***
	.215	.078

Coefficients listed with standard errors in parentheses ***p<.001 **p<.01 *p<.05

Although voter participation did not play the same role in rural counties there may be some explanations for it. Historically, voter participation has been lower in the South in presidential elections (Key, 1949; Hammond, 1977; Reiter, 1979). Turnout is still lower in the South even today and rural counties are not evenly spread throughout the

United States. In fact, over forty percent of all rural counties are located in the South. A limitation of voter participation data from previous research was that the variance in the dependent variable was greater in smaller counties, indicating a lower level of accuracy in those counties (Coleman, 2002). Thus, data for voter participation in rural communities may not be as accurate.

Additionally, all of the correlations are in the expected direction with the exception of voter participation in rural counties. One would expect that higher voter turnout indicates greater participatory norms and therefore, fewer intimate partner homicides. Yet it is possible that greater participatory norms reflect society's cohesiveness and this very cohesiveness may result in a greater acceptance of intimate partner homicide and, therefore, a higher occurrence. Though voter participation was not significant, future research should examine how this structural correlate impacts crime.

Hypothesis 1, which states that structural factors as predicted by social disorganization theory are correlated with intimate partner homicides in all counties, is therefore confirmed by the model as is Hypothesis 2 that states that the model can help explain intimate partner homicide in rural counties, except that, while the model itself is statistically significant, most of the variables are not. In fact, only the population structure component and religious affiliation are statistically significant.

While the model is statistically significant for rural counties, it does not confirm perhaps the most important of the hypotheses: that the systemic reformulation of social disorganization theory applies to rural intimate partner homicides since the primary factors associated with social disorganization theory (divorce, population mobility, and concentrated disadvantage) are not statistically significant at all. However, one other

regulatory mechanisms is: religion. This has important ramifications for both theory and policy and these will be discussed in the next chapter.

A summary of the outcomes of all the hypotheses is listed in Table 15. While many of the hypotheses for this study were confirmed, some could not be and one variable even exhibited a correlation in the opposite direction than predicted. Overall, half of my hypotheses were confirmed, most of which dealt with the national study applying the systemic reformulation of social disorganization theory to intimate partner homicides. Three of the hypotheses failed to be confirmed and the outcomes were completely the opposite of what was expected, while another three could not be analyzed (in rural counties) in order to maintain statistical power. The different possible explanations for these findings are discussed in the following chapter, along with a discussion of the limitations of this research, theoretical and policy implications, and suggestions for much needed future research.

Table 15 Hypotheses and their Outcomes

Hypotheses	Outcome
1: Structural factors as predicted by social disorganization theory is correlated with intimate partner homicides in all counties.	Confirmed
2: Structural factors as predicted by social disorganization theory is correlated with intimate partner homicides in rural counties.	Confirmed with qualification
3: The concentrated disadvantage component positively correlates to intimate partner homicides in all counties.	Confirmed
4: The concentrated disadvantage component positively correlates to intimate partner homicides in rural counties.	Not significant
5: The population structure component positively correlates to intimate partner homicides in all counties.	Confirmed
6: The population structure component positively correlates to intimate partner homicides in rural counties.	Confirmed
7: Population mobility positively correlates to intimate partner homicides in all counties.	Confirmed
8: Population mobility positively correlates to intimate partner homicides in rural counties.	Not significant
9: Divorce positively correlates to intimate partner homicides in all counties.	Confirmed
10: Divorce positively correlates to intimate partner homicides in rural counties.	Not significant
11: Voter participation negatively correlates to intimate partner homicides across all counties	Confirmed
12: Voter participation negatively correlates to intimate partner homicides in rural counties	Not significant and reverse direction
13: Religious participation negatively correlates to intimate partner homicides across all counties.	Not significant
14: Religious participation negatively correlates to intimate partner homicides in rural counties.	Confirmed
15: The South positively correlates to intimate partner homicides across all counties.	Significant but reverse direction
16: The South positively correlates to intimate partner homicides in rural counties.	Not significant

CHAPTER 6 DISCUSSION AND CONCLUSIONS

While this research highlights the ability of the systemic reformulation model of social disorganization theory to explain intimate partner homicides across the United States at the county level, it also suggests that the theory seems better adapted to non-rural communities, the constructs within the systemic reformulation of social disorganization theory do not explain rural intimate partner homicides well, as many are insignificant. While many of the hypotheses in the overall analysis were confirmed, very few of those pertaining to rural counties were. In fact, only two of the hypotheses pertaining to rural counties were supported, including the significance of a population structure component as well as religious participation. One of the primary reasons for a few of the hypotheses not being confirmed may be due to the fact that there were few rural counties with intimate partner homicides. This highlights the importance of future studies that examine intimate partner homicides over longer periods of time.

Some of the findings themselves are rather interesting and thought-provoking. While the constructs of the systemic reformulation of social disorganization theory explained intimate partner homicides generally, across the country relatively well, the theory not fare well in rural communities when the specific concepts are examined. Although the population structure component, including population density and population size, and religious participation were statistically significant in the predicted directions, nothing else was statistically correlated with intimate partner homicide counts in rural counties. This has significant theoretical and policy implications and highlights a direction that future research should take- namely, to explore further the protective buffer that religion seems to provide to rural communities. Additional questions are raised. Are

there differences depending upon the type of religious affiliation? Does the level of community involvement and/or commitment from the religious institutions help reduce the likelihood of intimate partner homicides in rural communities? Does religious participation also correlate with lower counts or rates of other crimes or other types of homicides?

Theoretical Implications

One of those key structural theories of crime is social disorganization theory. Bursik (1988) defines social disorganization as “an inability of community members to achieve shared values or to solve jointly experienced problems’ (as cited in Osgood & Chambers, 2003: 1). While social disorganization theory is over half a century old, quality applications of the theory were not attempted until the 1980s with Kornhauser and Kassarda and Janowitz’s research with respect to the systemic reformulation of social disorganization. According to Kornhauser (1978), the strength of community commitment flows through institutions like schools and religious institutions and the variation between communities is a result of the structural forces within the community. Kornhauser (1978: 120) defines social disorganization as “the inability to realize common values” and highlights the fact that it is the social institutions that facilitate the socialization of those values. While there is little research applying social disorganization theory to intimate partner homicides there is some that is worth noting. While not focusing on intimate partner homicides per se, Williams and Flewelling (1988), Peterson and Krivo (1993) and Loftin and Parker (1985) found that structural variables correlate to a greater degree with acquaintance or stranger homicides than family homicides.

In this study, concentrated disadvantage was significantly correlated with intimate partner homicides across the United States (see hypothesis 3). In the literature on social disorganization theory there is significant support for concentrated disadvantage being correlated with crime (Williams & Flewelling, 1988). Concentrated disadvantage was not, however, statistically significant in explaining intimate partner homicides in rural counties. While early researchers found that economic factors play a role in crime in rural areas (Yoke, 1932; Wiers, 1939; Polk, 1967), more recent research (see Osgood & Chambers, 2000) has indicated that poverty rates in rural communities are more stable and may not play as significant a role in influencing population mobility, as predicted by social disorganization theory. The literature is not clear on the impact of poverty on crime in rural communities and more research needs to be conducted with respect to this relationship.

The population structure component was also found to be significant in the analysis including all counties across the United States. Theoretically, higher population densities can hinder social control, making it more difficult for neighbors to identify each other (Sampson & Groves, 1989). The social disorganization research reveals some conflicting findings with regard to the correlation between homicide and population density and population size (Bailey, 1984; Chamlin, 1989; Land et al., 1990; Loftin & Parker, 1985; Messner, 1982a; Messner, 1983; Peterson & Krivo, 1993; Sampson, 1985b; Sampson, 1986; Shihadeh & Ousey, 1996). Loftin and Parker (1985) found that the population structure component was significantly correlated with homicide rates. The majority of the research has focused on the impact of the population structure within

urban communities, though, and more exploration of the impact of population density and size is needed in analyses examining non-metropolitan communities.

Divorce was significantly correlated with intimate partner homicides in the national analysis yet it was not in the rural analysis. A number of studies have found that family structure correlates with higher crime rates (see for example Sampson, 1986; Schwartz 2006). One study noted that increases in divorce rates can cause a reduction of integration within the community (Gillis, 1986). Family stability can be defined as the extent to which family units in a particular area conform to the traditional nuclear family.

One of the most important implications of this study is that researchers in the future should look at the regulatory functions of institutions other than the usual work-related and school-related ones and consider the impact of religious institutions as well as voter participation norms. These two variables have been largely neglected in research examining crime from a social disorganization framework and voter participation was statistically significant factor that negatively correlated with intimate partner homicides in the overall analysis. Local voter participation norms may be even more relevant than national voting behaviors, so future research needs to look at the level of community engagement in local politics. Religion too needs to be examined further. Religious participation was one of the few variables negatively associated with intimate partner homicides in rural counties. It may act as a parochial control (see Bursik & Grasmik, 1993) and serve as a buffer to intimate partner homicide. Local participation in religious organizations may not be the best measure of religious engagement. Institutions themselves ought to be examined as to their influence within the greater community.

Civically engaged religious organizations are likely to play a greater role in buffering smaller communities from crimes such as intimate partner homicides (see Lee, 2008).

In one study examining different types of counties, researchers found that communities with civilly engaged religious organizations provided protection against juvenile family homicides in rural areas but not in urban areas (Lee & Bartkowski, 2004). Although religion is operationalized differently and the focus of that study was on juvenile homicides, the findings in this study mimic those in the aforementioned study. Using 1990 data, Tolbert, Lyson, and Irwin (1998) found that the percentage of the population attending churches that were civically engaged was significantly correlated to lower levels of inequality, poverty, and unemployment. Irwin, Tolbert, and Lyson (1997, 1999) found that church membership was negatively associated with out-migration. Lee and Bartkowski (2004) found that churches per capita impacted violent crime rates in rural areas. Researchers have also argued that the presence of civic institutions has a greater impact on rural areas (Beggs, Haines & Hurlbert, 1996) and this study supports that.

Voting can also be an indicator of participatory norms and involvement in community life. Very few studies have examined voter participation but one in particular found it was related to crime rates (Coleman, 2002). Voter participation in an election, especially a national one, can be thought of as a measure of conformity in that it can be a good picture of conformity at one particular point in time, demonstrating how a particular community can hold its members to a widely accepted goal (Coleman, 1990; Elster, 1989). As Coleman (2002: 257) notes it is possible to use voter turnout “as a standard measure of the degree of conformity across units of analysis.” Sampson and Raudenbush

(1999) and Sampson et al. (1997) emphasize the importance of social cohesion, finding that violent crime is lower in areas where residents are willing to intervene and where social cohesion is high. In areas of higher voter participation may be more cohesive, in that there is a larger component of the community with the similar understanding of the importance of voting.

Research that has examined differences in rural and urban places with respect to population dispersion have found that rural areas have greater difficulties organizing themselves because of this population dispersion. Wilkinson (1984: 449) examined homicide rates in the northeastern part of the United States and found that “rural areas tend to have an incomplete, fragmented form of community organization” largely because the dispersion of the population leads to greater difficulties with social interactions. In communities with shared norms of the importance of civic participation and where a greater percentage of the community is affiliated with a religious institution, the easier such social interactions may be, and the more organized the community is. Hence, the importance of religious affiliation and civic participation in this dissertation may be partially explained by that. To put it another way, religious affiliation and civic participation may be good indicators of informal social control within a community. This informal social control may be even more important in rural areas than in urban ones, where more formal measures of social control are utilized.

Another very important implication is that, as many researchers have noted in the past, rural communities are different from other counties, and since much of the country is not urban, it is important to know to what extent, if at all, the same theories of crime originally created to understand urban crime can be applied to rural areas of the United

States. This analysis clearly indicates that structural factors operate differently in rural communities.

Policy Implications

While this study found social disorganization theory a good approach to understanding intimate partner homicides throughout the U.S., when breaking the country down into just rural communities the key components of the original theory did not hold up. There are some policy implications arising from this study for rural communities: focusing on engaging communities in religion. This informal social control mechanism seems to have the greatest impact on intimate partner homicides, while controlling for social disorganization concepts. Policy makers in rural communities should focus on channeling funds through religious institutions to help reduce intimate partner homicide, though further research needs to examine if there are differences in the types of religious organizational impact on intimate partner homicide or crime in general.

Another significant policy implication is that policies focusing on reducing intimate partner homicide, and most likely, crime in general in non-urban areas, cannot simply be imported from promising models showing efficacy in urban areas into rural communities. It is important to examine the structural components of the communities and to know which structural forces are strongest before making policy changes. Programs that work to combat violence in urban areas are not likely to work in the same manner in rural areas.

Clearly, more research in this area needs to be completed, and the paucity of research examining non-metropolitan areas needs to be further expanded upon. Since most studies have focused on urban areas we know a great deal about those areas, but

research focusing on rural and suburban areas is lacking. This study highlights the importance of examining areas beyond urban areas and a significant implication of this study is that much more research needs to examine the structural correlates of homicides in rural areas. Policies should be evidence-based to be as effective as possible. According to Welsh and Farrington (2006: 1) “crime prevention should be rational and based on the best possible evidence”. The ultimate goal of programming ought to make sure that the “best available evidence is considered in any decision to implement a program designed to prevent crime (Welsh & Farrington, 2006: 2). Therefore, any programmatic change should take into account a close examination of the research.

Limitations

While this study provides another empirical test of the systemic reformulation of social disorganization theory, as with any study there are some limitations. As with any macro-level analysis, there is the possibility of committing an ecological fallacy by using aggregate level data to explain individual behavior. Clearly, this analysis does not attempt to understand what makes an individual person commit homicide against their significant other. A further limitation arises from problems with using official data and includes any problems with differential enforcement and the reporting of crime. Using county-level data is also not ideal since each county is not uniform, so spatial autocorrelation may skew the results. Aggregation bias is also a potential problem since much of the data used are aggregated to the county level.

Since the data for the dependent variable come from official police records there are some potential problems. Police statistics have been critiqued by noting that they may be just as good a reflection of police size and activities as their ability to do detective

work (Hindelang, 1974; Savitz, 1978). Additionally, police activities may be more representative of community tolerance to particular crime problems (Center & Smith, 1973; Lane, 1979). With respect to homicide, though, these factors are less likely to play a role and we can be reasonable certain that the statistics are more a reflection of homicides than police willingness or ability to investigate the crimes or the tolerance of the community. With respect to the actual data that were used for this analysis, Supplementary Homicide Reports, the depth of information has increased, making them more viable tools for researchers. However, there are still some significant limitations to the data. One limitation in particular has to do with the drop in clearance rates for homicide over the past three decades, meaning that many incidents are missing information about the offenders involved (Riedel, 1999) and so may not be incorporated into this particular study. Since reporting data to the FBI is voluntary, the data might not be recorded properly. Of course, the UCR does not incorporate the dark figure of crime either, though homicides are less likely than many other problems to go undetected. According to Miethe and Regoeczi, “SHR data have no rivals in terms of their breadth and depth” (2004: 41). In other words, the Uniform Crime Reports Supplementary Homicide Reports provide a decent tool for examining homicides. However, for this particular study the results reflect only homicides where the victim-offender relationship is known and may therefore be biased in that unknowns are not accounted for.

In addition to potential problems using official data, there is a limitation arising from the use of county level data. By using county-level data, differences within counties are masked. Lagey (1957) and others have indicated that spaces within a county are not all alike. Since intimate partner homicides are so rare, though, an aggregation to the

county level may be necessary, and with respect to the rural counties is rare enough to make the statistical analysis very difficult. Because aggregate data are utilized and because the level of analysis is the county level, significant differences within counties are not accounted for. While many researchers argue that a county level analysis is appropriate for a number of reasons, which are already provided in this dissertation (see for example Osgood & Chambers 2000 and 2003), such data may not be ideal for a number of reasons. County data clearly mask different neighborhood level effects. Yet census tract analyses have also been criticized because they do not necessarily differentiate between neighborhoods. However, much of the research on rural areas indicates that each county has a different culture and that there is generally a significant amount of similarities within towns in such counties. However, county level data have been identified in the literature as appropriate sources for examining rural crime. Thus, county level data, while perhaps not ideal, still can tell us a great deal about applications of social disorganization, but further research should be conducted applying different measures of crime and different types of analyses.

Related to this problem, spatial autocorrelation may be an issue since counties do not exist within a vacuum and what happens in one community may impact- positively or negatively- the goings on in neighboring communities. While there has not been a lot of research on the topic of spatial autocorrelation, there are a few studies that have looked into it and found that it does not have a statistical impact on the data (Osgood & Chambers, 2003; Mencken & Barnett, 1999; Eff, 2004). Despite the fact that researchers have not found spatial autocorrelation problems, it could still be a factor that impacted one or more variables in this study.

Additionally, when employing cross-sectional analyses at such a macro level, it is not possible to demonstrate causation. Thus, although social disorganization constructs and many institutional variables are correlated with intimate partner homicide, one cannot say that they impact intimate partner homicide causally. Furthermore, there are many zeros in the dependent variable. Out of the 3071 counties without missing data in the overall model, nearly half, 1488 had at least one known intimate partner homicide between 2000 and 2006, leaving 1583 counties without any intimate partner homicides. While negative binomial regression is superior to OLS regression, there are still some potential problems with having so many zeros. Further research should utilize zero inflated negative binomial regression to examine differences between counties that had homicides and those that did not.

Another potential problem with this analysis is the possibility of aggregation bias. When data is aggregated there is a possibility of creating an aggregation bias that may result in a bias of the parameter estimates, which can lead to an outcome that is more likely to identify stronger relationships between the variables (Veysey & Messner, 1999). Since this study disaggregated homicide data by victim-offender relationship, examining intimate partner homicides, aggregation bias is less likely to be an issue, though there still may be problems with the data.

Future Research

More research examining crime in rural areas of the United States is necessary. That research should pay particular attention to the role of religion and civic participation. While the variable used to measure the role of religion in this study was not the ideal variable to ascertain the impact of religion on the community, it is a step toward

understanding the role religion plays. While religious affiliation is better than no measure of religious participation, researchers should look for more accurate measures of community engagement in religion. While this study is cross sectional, future research should focus on a more longitudinal approach to examining intimate partner homicides in rural communities to assess the extent to which religious participation in fact serves as a buffer in those communities.

Further analyses should parse out the impact of other institutions as well, such as employment and education. Very few studies have examined the relationship between unemployment and crime within a social disorganization perspective but there are a few out there that have found a relationship between unemployment and crime (Matthews, Maume, & Miller, 2001). With respect to employment, the idea is that the more people who work within a community, the greater the similarity of values and the greater likelihood of prosocial and shared values. With respect to education, the idea is that the greater the percentage of people within a community who are over twenty five who have their GED or high school diploma, the greater the similarity of values. This particular study did not separate unemployment or high school dropouts from other indicators of disadvantage.

For future studies of intimate partner violence it may be beneficial to incorporate the population gender component and an examination of the relevance of the age structure of the county in which homicides take place. Additionally, intimate partner studies should disaggregate by gender to determine if social disorganization theory applies equally when women are the killers compared to men who kill. Research should also examine the correlations for same sex homicides as well. Hence, there is much more

research that is needed, especially on crimes committed within rural communities. This study has demonstrated that there are significant differences in rural communities, that social disorganization theory can apply to intimate partner homicides, and that the components of social disorganization theory do not correlate similarly with homicides in rural counties as they did in the national analysis of counties.

Furthermore, future research should also investigate the role of civic engagement and religious participation to determine if communities high in civic engagement and/or religious participation are less likely to experience crime and intimate partner homicide specifically. Rather than examining participation in national elections, local community voting should be examined, though this is likely to be even more variable across communities and perhaps even over time. Researchers should also consider other operationalizations of religious participation as well, rather than merely the number of people affiliated with a religious institution. In fact, examining religiosity and the level civic engagement with the community the organization has may be more telling of the role religion plays within communities.

In conclusion, understanding intimate partner homicides in rural communities requires more research and changes to social disorganization theory for the theory to accurately predict them. Research on crimes in rural communities needs to become more the focus within the literature and among criminologists. Clearly, the structural forces in rural counties operate differently than in counties across the United States. To continue to utilize urban-based theories without adjusting them to rural communities and without incorporating variables that may be significant in rural communities is not helpful to

understanding rural crime. Additionally, it is very important to disaggregate by homicide type and by the type of location as well in macro-level analyses.

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- 2010 Doctor of Philosophy Rutgers University, School of Criminal Justice, Newark, NJ, Dissertation: *The Importance of Place: An Examination of the Structural Correlates of Intimate Partner Homicides*, Chair: Dr. Leslie W. Kennedy
- 1999 Master of Arts, Rutgers University, School of Criminal Justice, Newark, NJ.
- 1997 Bachelor of Arts, German, Rutgers University, Rutgers College. Certification in Business German
- 1996 Bachelor of Arts, Psychology and Sociology, Rutgers University, Rutgers College. Honors in Sociology and Criminology Certificate

AWARDS

- 1999-2000 Teaching Assistantship, Rutgers University, School of Criminal Justice
- 1998-1999 Graduate Assistantship, Rutgers University, School of Criminal Justice
- 1997-1999 Graduate Scholar Award, Rutgers University, School of Criminal Justice,
- 1997 School of Criminal Justice Fellowship, Rutgers University, Newark, NJ.

ACADEMIC APPOINTMENTS

- 2008- 2010 Widener University *Instructor*, Chester, PA
- 2006- 2008 Pennsylvania State University *Instructor*, Altoona, PA
- 2003- 2006 Radford University *Instructor*, Radford, VA
- 2001- 2002 Rutgers University *Full Time Lecturer*, Camden, NJ

PUBLICATIONS

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- 2009 Increasing Student Learning through Assessment: Changing the Grading Paradigm. *International Journal of Learning* 16(6): 344- 358.
- 2009 The Context of Terror: The Portrayal of Terror in the New York Times Before and After 9/11.” T. A. Gilly, Y. Gilinskiy, V. Sergevnin (eds.) In *The Ethics of Terrorism: Innovative Approaches in an International Perspective. 17 Lectures*. Charles C Thomas.