

2021

Relationships Among Residential Instability, Poverty, and Index Crimes in Rural New York

Justine Case-Fitzgerald
Walden University

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Walden University

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Justine Case-Fitzgerald

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Walden University
2021

Abstract

Relationships Among Residential Instability, Poverty, and Index Crimes
in Rural New York

by

Justine Case-Fitzgerald

MPhil, Walden University, 2020

MA, University of Houston, 2013

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Public Policy and Administration

Walden University

March 2021

Abstract

The lack of empirical literature on rural crime limits the ability to fully understand the driving force behind criminality in nonmetropolitan areas. Predominantly urban theories such as social disorganization theory have been used as a general description for crime causation; however, most social disorganization research has been conducted in urban settings without reference to the mediating rural characteristics present. This simplified view of crime, which does not reflect existing variables within the areas studied, has weakened the ability to identify the most efficient and effective crime-control strategies. The research questions in this study addressed the need to understand how unique rural variables can be measured to understand rural crime rates. Using secondary data from 26 rural counties in New York State, the study explored the relationships among residential mobility, poverty, and index crime rates. There was a significant relationship between index crime rates and poverty, as well as index crime rates and residential mobility; however, when poverty and residential mobility were introduced together, there was no significant relationship with index crime rates. Overall, assuming that rural crime causation is definitively explained by theoretical frameworks based solely on urban crime research is a problem that needs further attention. Broadening the scope of theoretical explanations may enhance knowledge of how public policies can base crime-control initiatives on the unique characteristics and relationships present within rural regions. Understanding the complex nature of crime in less populated areas may help in identifying where resources are best allocated and how to enhance overall safety leading to positive change.

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Acknowledgments

Getting to this point in my academic career was not a simple process. It took time, dedication, and sacrifices. Not only from me, but my husband and children as well. Instead of building Lego cities or cooking dinner, I was doing homework or writing. Instead of watching the family movie, I was proofreading. Despite all of the times I was not present, my family understood and supported me. My husband most of all. For that, I cannot just say thank you, but I can show you that the sacrifices will be worth it. I will continue to make you all proud. I will always try my best and I will always be grateful to have such amazing people to call my family. Thank you and I love you!

It was not only my husband and children's support that got me through this process, but also my sister's unrelenting encouragement. I do not even want to know the number of minutes she lost listening to me and keeping me calm during this process and life in general. I am lucky to have her to be my ear. With that being said, I owe an apology to my brother and nieces for taking so much of her time, but it is not likely to end, ever. I love you all.

I would also like to thank my committee, Dr. Telesco and Dr. Grier. I tell myself the longest roads are the most rewarding and I am glad that you two were on this road with me.

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Chapter 1: Introduction to the Study

Introduction

This study addressed the relationships among residential instability, poverty, and index crime rates in rural New York. Crime control initiatives are often based on what is known about a given area; however, much of what is thought to be known about rurality has been found through research conducted in urban areas (DeKeserdy, 2016). The results of these research studies do not accurately describe rural crime, resulting in the social problem of policies potentially being misaligned with what is needed in a particular area. Determining prospective relationships amidst the unique characteristics within rural areas may inform future public policy initiatives and introduce a better understanding toward addressing crime in specific areas.

This chapter provides a brief background of the research related to rural crime and how the lack of knowledge on unique characteristics within rural areas may promulgate crime. The need to understand rural crime in New York State is discussed so that the relationship between variables present in rural areas of Upstate New York can be understood and employed in future public policy initiatives. I present the study's research questions, address the need to understand how crime in rural areas and unique rural variables can be measured to understand rural crime rates. Using the lens of social disorganization theory, I explore how many crime control initiatives generalize the explanation of rural crime based solely on previously conducted urban crime studies. Social disorganization theory is used to look at previously studied characteristics related to crime causation and identify if there is a similar relationship in rural crime as

determined in urban crime theories. The nature of the study is presented with definitions of the variables and how the variables were used to make predictions about rural crime despite the lack of rural crime knowledge. The variables were correlated to determine if a relationship exists and if the relationship can be understood through the scope of social disorganization theory to aid in the development of future studies. The limitations and significance of the study are also explored. The chapter concludes with a brief summary of the main points addressed.

Background

Social disorganization studies have been conducted primarily in densely populated areas (Donnermeyer, 2015). The limited number of studies conducted in rural areas have provided mixed results as to the characteristics that may be correlated with rural crime problems. Gruner (2015) studied metropolitan areas and found that crime and poverty were closely linked. Ludwig et al. (2001) also found that areas with higher rates of violent crimes tend to be high-poverty areas, with increased mobility and large population sizes. Gruner noted, however, that despite the consensus in urban crime literature, data correlating crime with rural characteristic are limited. The lack of empirical data on rural crime leads to the assumption that crime is minimal in nonmetropolitan areas (Carrington et al., 2014). Understanding the characteristics that promote crime in urban areas and determining whether those characteristics promote crime in nonmetropolitan areas as well can create a more holistic picture of effective crime control strategies in rural New York. Developing public policy in nonmetropolitan

New York based on New York City crime control may not be the best approach; there is a need for current research on rural crime control needs.

Problem Statement

Despite crime control programs, index crimes per capita in rural areas of Upstate New York are among the highest in the state (Federal Bureau of Investigation [FBI], 2016). Reported index crimes in rural areas of Upstate New York exceed the prevalence of index crimes in New York City, despite the difference in population densities (New York State Division of Criminal Justice Services [DCJS], 2016). A study conducted by Gruner (2015) revealed a correlation between crime and poverty within urban locations; this finding was consistent with numerous other social disorganization studies.

Although poverty levels and crime have been found to be highest among areas with large population densities, areas with lower population concentrations have not been thoroughly studied, despite high per capita poverty and crime levels being present (Gruner, 2015). It has been suggested that rural areas are plagued with extreme poverty, most often having a much higher poverty rate than urban areas (Bouffard & Muftic, 2006). According to social disorganization theory, poverty leads to increased crime rates; however, a prominent assumption is that crime is minimal in rural landscapes (Bouffard & Muftic, 2006; Carrington et al., 2014). Lee and Thomas (2010) suggested that serious violent crimes and high rates of interpersonal violence occur in some rural communities. Given the lack of rural crime knowledge, existing theoretical explanations based on urban areas may not cover all geographic contexts, resulting in a lack of a definitive theoretical framework explaining rural crime causation (Carrington et al., 2014). Focusing on the

relationship among rural crime, poverty, and neighborhood stability may reveal important information for the future implementation of effective rural crime control policies.

Purpose of the Study

The purpose of this quantitative correlational study was to examine how residential instability and poverty levels are related to index crimes within rural areas of Upstate New York. The analysis was conducted with secondary data on county, state, and national level index crimes, population, residential mobility, and poverty statistics over a 10-year period. By exploring secondary data, the study may offer a better understanding of how public policy makers can base crime control initiatives on the unique characteristics and relationships present among poverty levels, residential stability, and index crimes within rural areas.

Research Questions

Residential instability and poverty have been positively correlated to increased crime rates in urban environments; however, crime in rural areas has received limited attention (Carrington et al., 2014). The research questions and hypotheses for this study were as follows:

RQ1: Is there a correlation between residential instability and index crime rates in the rural areas of New York?

H₁: There is a positive correlation between residential instability and index crime rates in the rural areas of New York.

H₀: There is no correlation between residential instability and index crime rates in the rural areas of New York.

RQ2: Is there a correlation between poverty and index crime rates in the rural areas of New York?

H₁: There is a positive correlation between poverty and index crime rates in the rural areas of New York.

H₀: There is no correlation between poverty and index crime rates in the rural areas of New York.

RQ3: How well can index crime rates in the rural areas of New York be predicted by poverty levels and residential instability combined?

H₁: There is a positive correlation among poverty levels, residential instability, and the prediction of index crime rates in the rural areas of New York.

H₀: There is no correlation among poverty levels, residential instability, and the prediction of index crime rates in the rural areas of New York.

Theoretical Framework

Social disorganization theory, as developed by Shaw and McKay (1942), suggests that the nature of an environment and community placement may be conducive to criminal behavior (Moore & Sween, 2015). A person's economic status within a community can either be an attribute directing them away from crime or a risk factor directing them toward crime (Weisburd et al., 2014). Social disorganization theory involves the assumption that urban areas limit community cohesion and interaction, thereby leading to weaker informal social controls (Weisburd et al., 2014). The

combination of weaker social controls and social disorganization suggests that individuals in such environments are more likely to commit crime (Weisburd et al., 2014).

The theoretical framework of social disorganization can assist in the effort to identify the predictive relationship among residential mobility, poverty, and index crime rates in specific locations. According to Owusu et al., (2015), the idea that an environment can actually induce crime is a primary focus of many studies, leading researchers to expand the application of social disorganization theory to examine crime in rural areas (Moore & Sween, 2015). Researchers focusing on social disorganization theory have concluded that crime rates are highest in urban areas characterized by increased poverty rates; low social controls, including residential mobility; and one-parent households (Piquero, 2016). Potential components of social disorganization being applicable to rural crime enables the possibility of enhancing the understanding of crime causation and developing crime-control solutions better suited to the individual characteristics present in different geographic locations.

The Nature of the Study

The nature of this study was quantitative. In quantitative research, numerical data are incorporated as a way for researchers to explain, predict, investigate, describe, or examine possible relationships, influences, or impacts on prescribed outcomes (Laureate Education, 2010c). In nonexperimental designs such as a correlational study, researchers use numerical data to construct a picture of a problem by testing the relationships among the variables over a period of time (Walden University, 2010). Predicting the relationship

among poverty levels, residential mobility, population, and index crime rates is only possible through detailed statistical analyses; therefore, employing quantitative methods to conduct a correlational study was the most logical method to answer the research questions. Employing this technique enables a researcher to gather a plethora of crime data and census information efficiently and in a broader scope than would otherwise be possible using other quantitative methods. Employing unobtrusive measurements through secondary data analysis also minimizes potential intrusions in the research context (Web Center for Social Research Methods, n.d.). The data can then be analyzed to assess whether there are presenting similarities in the measurement of index crimes, poverty, and neighborhood stability given the population of an area. By conducting a correlational study, it was possible to evaluate data on index crime rates, neighborhood mobility, and poverty levels within rural populations (Walden University, 2010). The results may expand knowledge, enabling the enhancement of future research toward implementing the most successful crime-control policies.

Definitions

The standard definition of the word *rural* indicates that this term refers to phenomena related to the country, agriculture, or country characteristics, such as country people or country life (Merriam-Webster, 2018). What is classified as rural, however, is not as easily determined. As a result, the *rural-urban divide* is considered to be a multidimensional concept, and rural areas may be classified incorrectly.

In the United States, there are various government agencies that define area classifications (Ratcliffe et al., 2016). Each classification is made based on the purpose of

the definition. The three most common rural definitions are determined by the U.S. Census Bureau, the U.S. Office of Management and Budget (OMB), and the U.S. Department of Agriculture Economic Research Services. The delineation of a rural area is determined after each decennial census (Ratcliffe et al., 2016). The information that is gathered over the 10-year time frame determines which areas are considered rural for the proceeding 10 years. With each decennial census, however, the definition may change. Such changes take effect 2 years after a completed census (Ratcliffe et al., 2016).

The U.S. Census Bureau uses population and the various measures of density in area development to determine the boundaries of urban areas (Ratcliffe et al., 2016). The areas left over after urban boundaries are determined are then classified as rural areas; therefore, the definition of rural includes all geographic territory, housing developments, and persons within nonmetropolitan areas (Ratcliffe et al., 2016). After the 2000 Census, the urban area classification branched into two types: *urbanized* and *urban clusters* (Ratcliffe et al., 2016). Areas with a population of more than 50,000 were considered to be urbanized areas, and areas with more than 2,500 but fewer than 50,000 people were classified as urban clusters (Ratcliffe et al., 2016).

The U.S. OMB categorizes urban and rural areas into *metropolitan* and *micropolitan* statistical areas. Each area is determined by the application of published standards to the collected Census Bureau data. The delineation of metropolitan, micropolitan, and neither metropolitan nor micropolitan areas by the U.S. OMB is for statistical purposes only; therefore, the designation of each area is based only on county population size (U.S. Census Bureau, 2018). Metropolitan statistical areas are determined

by a minimum of one urban area within a county population of 50,000 or more (U.S. Census Bureau, 2018). Micropolitan statistical areas include a minimum of one urban cluster within a county population size of 10,000 to 50,000 (U.S. Census Bureau, 2018). A county with a population of less than 10,000 is considered neither metropolitan nor micropolitan (Health Resources and Services Administration, 2017). All micropolitan statistical areas and areas classified as neither metropolitan nor micropolitan make up the U.S. OMB definition of a rural area (Health Resources and Services Administration, 2017).

The U.S. Department of Agriculture Economic Research Services employs definitions of micropolitan and metropolitan similar to those defined by the OMB. Metropolitan areas have population sizes of 50,000 or more, whereas all other areas are considered micropolitan (Reynnells, 2016). Micropolitan areas have some combination of open landscapes, completely rural towns with a population of less than 2,500, and urban areas that have populations from 2,500 to 49,999 but are not classified as metropolitan areas (Reynnells, 2016). Most counties throughout the United States have some combination of urban and rural populations; therefore, subcategory classifications have been developed in order to better determine specific program eligibility (U.S. Department of Agriculture Economic Research Service, 2016).

New York State employs the three different rural classifications as provided by the federal agencies. Each definition is chosen based on the needs of the specific eligibility determination or research situation, or by the program or policy being

developed. Subcategories or specific criteria may be established to broaden the definitions given changes in census information gathered by each state.

When determining the rate of crimes that occur annually across areas in the United States, the FBI employs definitions similar to the OMB. Metropolitan areas are urbanized areas that include populations over 50,000 (National Center for Victims of Crime, 2013). Cities outside metropolitan areas have populations sizes from 2,500 to 49,999 and are considered incorporated (National Center for Victims of Crime, 2013). Nonmetropolitan counties have a population size less than 2,500 and are unincorporated (National Center for Victims of Crime, 2013).

The Federal Uniform Crime Reporting Program (UCR) publishes *Crime in the United States* yearly. The program's publications enable the public to seek information about crimes throughout the United States. The publication displays crime results by population for nonmetropolitan areas above a population of 10,000 and metropolitan areas with populations up to 1,000,000. The nonmetropolitan counties are all grouped into one category when displaying the results.

The New York State DCJS also provides annual reports on crime occurrences throughout the state. Each area in the DCJS report is classified by region, county, and agency. The definitions of rural and urban coincide with the federal definitions and are dependent on the category being measured. By providing individual agency totals, it is possible to determine the areas within each county as being classified as rural or urban and the associated crime totals. This allows the data of rural crime totals to be removed from urban crime totals and used within the study.

Crimes, as I refer to them for the duration of the study, include only *index crimes* or *Part I crimes*. *Criminal homicide, forcible rape, robbery, aggravated assault, burglary, larceny-theft, motor vehicle theft, and arson* are the eight Part I crimes that were used for the study (FBI, 2004). Criminal homicide includes *murder* and *nonnegligent manslaughter*, which is the voluntarily killing of another living human by a living human (FBI, 2004). When a person forces themselves upon a female to perform sexual intercourse without the female's consent, they have committed forcible rape (FBI, 2004). Robbery occurs when force or threat is used to take something of value from the care, custody, or control of another living person (FBI, 2004). Aggravated assault is an illegal attack by a living human upon another living human to purposely induce severe or aggravated harm upon the other person (FBI, 2004). Burglary occurs when a person illegally enters a dwelling to commit a crime at the felony level (FBI, 2004). Larceny-theft is illegally taking, carrying, leading, or riding away any property that does not belong to the person and belongs to another living human (FBI, 2004). Motor vehicle theft entails actually taking or attempting to take a motor vehicle owned by another living human (FBI, 2004). Arson is knowingly or voluntarily burning or attempting to burn any property of another living human (FBI, 2004).

Residential mobility is common in the United States and tends to occur more frequently in low-income areas (Theodos et al., 2018). According to the U.S. Census Bureau, 11% of residents age 1 year and older experienced a residential move, which was slightly lower than the 11.2% in 2016 (Moore, 2017). The definition of residential

mobility varies; however, there is consensus that the term refers to moving from a primary residence to a different residence (Theodos et al., 2018).

The downside of residential mobility is that often in low-income areas, *residential instability* occurs (Theodos et al., 2018). When there is a high frequency of moves in a short period of time, the individuals involved and those in the surrounding area may experience residential instability (Leventhal & Newman, 2010). For the primary purpose of this study, residential mobility was calculated as the total number of moves in the rural geographic areas being tested.

Poverty is a relative term that is determined based on a number of factors. The U.S. Census Bureau measures poverty through a set of income thresholds given both the size and composition of the family (U.S. Census Bureau, 2017). The official definition calculates the before-tax income of a family without taking in account the benefits they receive (U.S. Census Bureau, 2017). There is no variation in geography when determining measurements of poverty; therefore, urban and rural areas have the same poverty thresholds (U.S. Census Bureau, 2017).

These definitions are important in explaining the demographic and economic conditions as they are used in the study. Each condition is a pivotal aspect of social disorganization theory and the predictive association between neighborhood characteristics and increased relative crime, as well as understanding why urban-centric biases in the application of social disorganization may not be accepted as an explanation for rural crime.

Assumptions

Social disorganization theory has been used to explain crime causation; however, most social disorganization research has been conducted in urban settings (Chilenski et al., 2015). A multitude of researchers using the framework of social disorganization theory have employed innovative quantitative methods as a means to predict future crime patterns based on generalizing observations in solely urban areas, without reference to mediating characteristics present in rural landscapes (Deller & Deller, 2011, Kubrin & Weitzer, 2003). A clear understanding of a particular phenomenon through quantitative methods is based on the underpinnings that the necessary information will be detailed in the variables studied in order to produce meaningful results that are able to be interpreted and build on an observed reality to inform future predictions (Gelo et al., 2008). Despite the research data to support rural criminology, explanations for criminal behaviors have been expanded to cover all geographic locations, including rural landscapes (Deller & Deller, 2011). Without extensive research being conducted in rural areas, as has been done in urban areas, social disorganization theory cannot be applied as a generalizable crime explanation. Quantitative methodologies, as were employed in this study, embed theory-driven ideals as a way of confirming predictions about relationships between variables (Gelo et al., 2008). This study established that social disorganization theory should not be generalized as a basis for all crime explanations without sufficient literature demonstrating previous researchers' ability to interpret findings as a viable way to confirm the application of social disorganization theory to all geographical areas.

The study is important because the limited amount of data available and the mixed results from previous studies on rural crime relationships show that there is a need to focus on rural criminality. To address crime in all areas, it is important to understand the underlying causes of crime. If researchers are able to understand the relationships between neighborhood characteristics and crime rates through empirical data, they can better target what is needed in a given area. Using a quantitative approach to identify rural crime phenomena and apply observations to deduce a possible relationship within rural areas and crime is necessary in order to inform potential studies to confirm predictions made by social disorganization theory or other potential theories in the future. Without this knowledge, it is impossible to accurately detail what is causing crime and whether the causes differ in urban and rural areas. For this study, I predicted that the relationships in rural areas of Upstate New York would be relevant to the crime rates and that criminological theories should be based upon data directly affecting rural areas, not generalized from data on urban areas.

Scope and Limitations

When a researcher is deciding to conduct a correlational study, it is important to understand that the researcher has no control over the variables (Black, 1999). Each variable is represented by a number that is unique; therefore, all variables are independent from one another and no causality can be proven (Black, 1999). Due to the lack of cause and effect, the researcher cannot make inferences about the relationship between or among variables (Crawford, 2014). When a correlation is found, there is very little information that can be concluded about the relationship (Crawford, 2014). The

correlation can be expanded upon in future studies to address the limitation of the design type by conducting an experimental design so that the independent variable can be manipulated and a causal relationship can be determined (Crawford, 2014). The results of this study may provide necessary information for future studies to build upon and further the scope and generalizability so that the development of programs addressing unique geographical characteristics is possible.

Significance

The significance of this study is that it provides information about the relationship among index crime rates, poverty, and neighborhood stability, with a focus on rural areas. Identifying crime factors and being able to distinguish between the variables present, such as heightened poverty levels and residential mobility, can lead to a significant understanding of how to address the presence of these crimes, as there is currently no theoretical basis for crime prediction that is representative of rural area characteristics. The complex nature of crime involves multiple facets that require a variety of responses; therefore, it is necessary to break down the problem and develop insight as to how best to respond using a multipronged approach (Callahan et al., 2012). Current public policy developed on the basis of social disorganization theory aims to cover crime in all geographic areas, despite the presence of some of the perceived urban population living in defined rural locations. Positive social change can result from knowledge of how to administer changes to public policies according to what best suits the characteristics of each geographic area. If there is a relationship present among rural index crimes, poverty,

and neighborhood stability, then it is necessary to understand these relationships in order to better address the presenting crime problems within specific nonmetropolitan areas.

Summary

This chapter provided a brief background of the research related to rural crime and how the lack of knowledge on unique characteristics within rural areas may promulgate crime. The need to understand rural crime in New York State was discussed so that the relationship between variables present in rural New York may be understood and employed in future public policy initiatives. The research questions addressed the need to understand how crime in rural areas and unique rural variables can be measured to understand rural crime rates. Social disorganization theory was introduced as a generalizable theoretical explanation for all geographic crime-control initiatives. In addition to describing the nature of the study, I provided definitions of the variables and how the variables were used to make predictions about rural crime despite the lack of rural crime knowledge. The limitations of the study were noted, with the suggestion that future studies may expand upon the limitations of this study. The significance of the study was addressed, which resided in the effort to address the problem of limited knowledge about rural crime relationships. Overall, the chapter provided a brief introduction of the history of rural criminology with an emphasis on the limits of rural crime explanations. In the next chapter, the focus is on the history of social disorganization theory and the empirical literature both justifying and discounting the use of social disorganization theory as a rural crime explanation to build on the need for the current study.

Chapter 2: Literature Review

Introduction

Historically, criminological research has relied upon the study of people and locations to provide a basis for why crime occurs. Each criminological theory that is developed provides a foundation for further research into an occurring phenomenon. Social disorganization theory has suggested crime to be a predominantly urban phenomenon, but it was developed as a general theory to cover both urban and rural crime, despite a large majority of the population living in nonmetropolitan areas (Bouffard & Muftic, 2006; Chilenski et al., 2015). To date, the focus of social organization research has been on urban settings, as has the focus of crime itself (Chilenski et al., 2015). Urban-centric bias is often described by researchers as a pitfall of criminological theory, which pays little mind to rural landscapes; therefore, it is essential to determine whether social disorganization theory is in fact an appropriate theory to explain rural crime (DeKeseredy et al., 2016). What is known about the structural changes promoting urban crime cannot be used to explain rural crime patterns without empirical evidence supporting this usage; however, this is exactly what is happening (Deller & Deller, 2011). The lack of rural crime research has limited the ability to derive a general understanding of crime and social disorganization within rural areas. A wider criminological view is needed to encompass the current dynamics of the expanding social world to implement effective crime-control initiatives in nonmetropolitan areas.

Despite crime-control programs, index crimes per capita in rural areas of Upstate New York are among the highest in the state (FBI, 2016). Reported index crimes in rural

areas of Upstate New York exceed the prevalence of index crimes in New York City, despite the difference in population densities (New York State DCJS, 2016). Gruner (2015) determined a correlation between crime and poverty within urban locations, which is consistent with numerous social disorganization studies. Although poverty levels and crime have been found to be highest in areas with high population densities, areas with lower population concentrations have not been thoroughly studied, despite high per capita poverty and crime levels being present (Gruner, 2015). It has been suggested that rural areas are plagued with extreme poverty, most often having much higher poverty rates than urban areas (Bouffard & Muftic, 2006). According to social disorganization theory, poverty leads to increased crime rates; however, prominent assumption is that crime is minimal in rural landscapes (Bouffard & Muftic, 2006; Carrington et al., 2014). Lee and Thomas (2010) suggested that serious violent crimes and high rates of interpersonal violence occur in some rural communities. The lack of rural crime knowledge limits urban theoretical explanations from covering all geographic locations, resulting in a lack of a definitive theoretical framework explaining rural crime causation (Carrington et al., 2014). Focusing on the relationship between rural crime, poverty, and neighborhood stability can reveal underlying principles for the future implementation of effective rural crime-control policies.

The purpose of this quantitative correlational study was to examine how residential stability and poverty levels are related to index crimes within rural areas of Upstate New York. The analysis was conducted with secondary data on county, state, and national level index crimes, population, residential mobility, and poverty statistics over a

10-year period. By exploring secondary data, the study may lead to a better understanding of how public policy can base crime-control initiatives on the unique characteristics and relationships present among poverty levels, residential stability, and index crimes within rural areas.

The predictive value through patterns in crime rates in rural areas has not been detailed in literature; therefore a general understanding that is present in current urban crime and social disorganization data is not readily available for rural crime control policies. By conducting a correlational study that included measurements of index crime rates, poverty data, and neighborhood stability within rural areas of Upstate New York, I sought to further explore the possible influence of the variables that promote crime. Through a focus on the relationship among index crime rates, poverty, and neighborhood stability, it is possible to reveal underlying principles for future implementation of effective rural crime-control policies, given predictive structural factors present in rural landscapes.

Although the criminological theory of social disorganization has been extensively studied and researchers have made a positive connection between social disorganization and crime rates in metropolitan areas, understanding of the connection between rural social disorganization and crime rates is lacking. This is due to both limited empirical research testing of the theory in nonmetropolitan areas and inconsistent results in existing research studies (Kaylan & Pridemore, 2013). This paper focuses on a predominately rural landscape and the effects of social disorganization theory, including poverty levels, residential mobility, and the interaction with index crime rates. By conducting a

correlational study, it is possible to offer insight to the growing literature on crime in rural areas and the application of social disorganization theory. The results may enable the expansion of crime-control initiatives based on relevant population, crime, and economic characteristics of individual areas.

The literature review details previous studies on rural crime within the scope of social disorganization theory to show why it is important to further explore crime in rural areas, as well as to address the relationship of crime rates to population size, poverty levels, and residential instability. A comprehensive overview of social disorganization theory and its application to urban and rural areas through a look at past studies shows that researchers have focused primarily on urban areas in addressing crime causation. A mixed consensus as to whether social disorganization theory can be used to explain both urban and rural crime and the need for further research into the rural crime phenomenon is presented.

Literature Search Strategy

The Walden Library database was beneficial in providing access to a variety of search engines such as EBSCO, Criminal Justice Database, SAGE Journals, Science Direct, and the Thoreau Multi-Database Search tool. The use of these search engines using the key terms *rural urban, metropolitan, nonmetropolitan, crime, violent, social disorganization, poverty, socioeconomic status, mobility, and residential instability* or combinations of key terms such as *rural, crime, and social disorganization* allowed for an abundance of peer-reviewed literature to be found and analyzed for the purpose of this literature review.

The review of current peer-reviewed literature allowed for a grounded study on relevant data and suggestions concerning where information needs to be developed to benefit further research on the topic. Current research on the topic of rural crime causes was limited, as a resurgence of interest in rural crime occurred recently; therefore, an extensive look at both past and current literature was needed. There was value in empirical literature from decades ago because much of what researchers determined recently was based on work in the same subjects from the past. For example, an earlier study conducted by Osgood and Chambers (2003) was used as a reference for a multitude of more recent rural crime studies; therefore, it was imperative that older studies were used as the basis for this literature review.

Theoretical Foundation: Social Disorganization Theory

Researchers have offered criminological theories as explanations for why crime occurs given specific characteristics. These characteristics may include location, persons, mentality, or physical attributes. During a time when crime explanations focused on the criminal person, Shaw and McKay (1942) emerged with a theory explaining the pathology of places as opposed to the pathology of people. They developed the for social disorganization theory when looking at neighborhood factors affecting crime in Chicago, Illinois (Shaw & McKay, 1942). After studying the city of Chicago, Shaw and McKay (1942), determined that specific neighborhood characteristics were tied to the increased likelihood of delinquency and that prevailing community social structures led to a level of social disorganization within the community that promulgated crime. Crime was not a random act, but a phenomenon occurring in concentrated areas within the city (Shaw &

McKay, 1942). The city was plagued with disadvantaged neighborhoods in a constant state of instability, in which residents were unable to create the necessary bonds to fight crime (Shaw & McKay, 1942). The basic definition of social disorganization became the local communities' inability to recognize similar values among residents in order to solve common problems and prevent crime in the area (Shaw & McKay, 1942).

Social disorganization theory originally proposed that there are three primary causes of crime: social control, social conflict, and social consensus (Schmalleger, 2012). Similar to the application of social disorganization theory today, much early criminological theory, including social disorganization theory, was rooted in the study of urban settlements (Schmalleger, 2012). To date, the majority of criminological research using social disorganization theory has been conducted in urban settings, with little attention being given to rural locations (Moore & Sween, 2015). As a result, social disorganization theory has been applied to both urban and rural areas, creating an incomplete picture of crime attributes in rural locations.

Residential mobility, racial/ethnic heterogeneity, and poverty became the three crime-inducing characteristics of social disorganization theory (Harbeck, 2013; Sutherland, 1947). Sutherland (1947) suggested that mobility was almost always present and was perhaps the most important characteristic in the process of social disorganization. In agreement, Osgood and Chambers (2003) also suggested that residential instability was one of the variables most consistently associated with crime rates. Residential instability or mobility alters geographic locations, thereby shifting the area where control is needed (Sutherland, 1947). Broadening the area of control,

changing social situations, and weakening the community likely lead to increased crime (Sutherland, 1947). Residential instability has been defined as a primary criminogenic factor in social disorganization theory and is generally studied as the movement of individuals from one area to another within a specific time frame (Inderbitzin et al., 2019).

The poverty component of social disorganization theory, as discussed in the more contemporary work of Sampson and Groves (1989), suggests that areas with low socioeconomic status (SES) are more likely to produce higher crime rates due to the weakened social controls present. Coupled with residential instability, individuals who do not have the means to remove themselves from a crime-prone area are subjected to an increased association with criminal entities (Deller & Deller, 2011). Despite both residential mobility and poverty often being present in high-crime areas, due to the lack of empirical evidence on rural landscapes through the lens of social disorganization theory, a gap emerges.

The emergence of social disorganization theory defined urban crime causation as a phenomenon occurring because of the environment in which people live. This notion, as developed by Shaw and McKay (1942), led criminological thinking to include neighborhood effects, enabling a pivotal idea for the path of future crime prevention initiatives. During period between the development of social disorganization by Shaw and McKay, and the reemergence of the theory under Kornhauser (1978), who outlined the social control process of social disorganization, little attention was given to the theory. Subsequently, new momentum drove Sampson and Groves (1989), as well as

Bursik and Grasmick (1993), and Osgood and Chambers (2003), to continue to advance social disorganization as a prominent theory in criminology. Despite the seminal work advancing the criminological understanding of social disorganization, the theory was based primarily in urban studies, with little data to support the benefit of using the theory to explain rural crime causation.

The lack of information relating social disorganization theory to rural criminology was noted, and in recent decades, more studies have emerged tying social disorganization to rural crime. Kubrin and Weitzer (2003), detailed the need to look critically at the relationships among neighborhood characteristics as determined by social disorganization theory, suggesting that variations in neighborhoods may change how social disorganization explains crime in a given area. Osgood and Chambers (2003), sampled 264 nonmetropolitan areas to determine whether social disorganization was an appropriate explanation for all geographical areas. Their study has served as a basis for further studies, all with the same goal of determining whether social disorganization is a plausible theory to explain rural crime. Despite the advancement by Osgood and Chambers; however, there are still limited data to generalize social disorganization to accurately explain all rural crime. The limited number of crimes, coupled with the limit in geographic landscapes studied, leaves room for future enhancements of the topic, thereby spurring the need for this study. Accurate rural crime knowledge based on empirical data can enhance the general understanding of crime and ensure that future policies are generated based on the best solution given specific area attributes.

Literature Review

Depending on the type of crime, when considering the present impact that crime has on different neighborhoods, it is important to consider an area's structural factors such as population, residential stability, and SES. Researchers have found that these factors are important components of social disorganization theory and that these characteristics are present in both urban and rural environments; however, to date, there has not been enough relevant literature to support the generalization of social disorganization theory to explain all rural crime (Hesse & Hilal, 2009). Despite knowing that heightened levels of social disorganization may lead to both higher crime rates and perceived crime, the initial look at social disorganization in rural and urban settings has led to the assumption that these areas may operate differently (Chilenski et al., 2015). It is important to determine whether variation in how crime is impacted by social disorganization characteristics in rural and urban areas exists.

Presently, there is increasing interest in rural criminological studies. Researchers have begun to focus on the disparities between rural and urban crime, positing the potential for both the rates and causes of crime in these areas to differ. The prevalence of studies that have explicitly tested rural crime and social disorganization theories, however, is limited; additionally, such studies have yielded mixed results. Researchers have primarily conducted studies in southern regions of the United States, with a few studies being conducted in the Midwest region (Bouffard & Muftic, 2006). The need has been routinely noted for further research to assess the associations between crime and the structural variables of social disorganization theory in the varying geography of rural

areas (Chilenski et al., 2015). Studies that have been conducted have primarily used crime as the dependent variable while controlling for rural in the area chosen through population size and the definition of rural according to different government agencies. The independent variables have been components of social disorganization theory such as race/ethnicity, residential mobility, and poverty. Time-series studies have allowed for data to be gathered over the course of several years in order to assess any changes in the data.

Poverty and Residential Instability

Moore and Sween (2015), concluded that the application of social disorganization theory to rural juvenile crime is similar to its application to urban juvenile crime. Characteristics including residential mobility, poverty, and population density were predictive of higher youth crime in urban and rural environments (Moore & Sween, 2015). Hesse and Hilal (2009), also found that poverty and residential mobility were positively correlated with increased juvenile crime rates in rural counties within South Dakota. Both research teams concluded that regardless of geographic area, the components of social disorganization theory, poverty and residential stability, can accurately be applied as an explanation for both rural and urban crime (Hesse & Hilal, 2009; Moore & Sween, 2015).

Lee and Thomas (2010), had a similar expectation. They hypothesized that population change resulting from residential mobility would disrupt social ties; therefore, increasing violent crime rates, creating an overall reduction in community protective factors (Lee & Thomas, 2010). Employing quantitative research methods using secondary

data from 917 U.S. counties with more than 1,000 people over a 20-year time frame Lee and Thomas concluded that population change was found to be positive and significant. When higher levels of residential mobility and instability were present, so were increased levels of violent crimes; however, despite the support for residential mobility being a criminogenic characteristic, Lee and Thomas suggested that rural areas cannot be fully explained by social disorganization. The different characteristics within rural areas presents problems for social disorganization to become an acceptable explanation for all rural crime.

Similar concerns were expressed by Barnett and Mencken (2002), when studying counties in 48 states over a two-year period to determine both violent crime and property crime in relation to social disorganization theory. They determined resource disadvantage was significantly related to crime rates when population increased but the opposite for population decrease; therefore, the instability of losing population and SES resulted in an increase in crime (Barnett & Mencken, 2002). Barnett and Mencken determined the application of social disorganization to rural areas was not appropriate because the increase in crime was in neighborhoods that were less mobile, despite similar findings in other areas adhering to social disorganization generalizability.

Wells and Weisheit (2004), also believed that it would be ill-advised to automatically assume that causes for urban crime should be unanimously applied to rural crime without taking into consideration the social context that rural crime ensues. After studying counties in the 48 continental states, the independent variables as a whole were found to be less predictive of crime in rural areas; therefore, Wells and Weisheit assumed

that there are substantially different predictor variables than those used to explain urban crime. From this study, it was assumed that a very different model should be developed, separate from urban crime explanations in order to get a better understanding of the true causes of rural crime (Wells & Weisheit, 2004).

Osgood and Chambers (2003), sampled 264 nonmetropolitan counties with populations between 560 to 98,000 in the states: Florida, Georgia, South Carolina, and Nebraska to determine the most appropriate basis for developing youth crime control programs within smaller communities. The results of their study depicted an increase in violent crime such as aggravated assault, simple assault, and weapons violations with a marginal significance for rape within the juvenile population when residential instability was heightened (Osgood & Chambers, 2003). When residential instability increased from 15% to 25% the rates of juvenile arrests for violent offenses, not including homicide increased between 29% to 65% (Osgood & Chambers, 2003). According to their data analysis, residential instability was indicative of a possible rural crime explanation; however, there was no significant relationship found between the youth crime rates and socio-economic status in the sample rural counties (Osgood & Chambers, 2003). Despite findings in urban centered studies depicting poverty as being a criminogenic factor, Osgood and Chambers suggested that poverty was positively associated with the rural delinquency rates; therefore, poverty did not increase crime. Specifically, they presented that lower socioeconomic status in rural areas actually led to residential stability, opposite of the explanation presenting in social disorganization theory (Osgood & Chambers, 2003). Both Petee and Kowalski (1993), and Lee, Maume and Ousey (2003), also found

that similar levels of poverty measurements were not consistent with increased youth crime rates, further noting the inconsistency in generalizing social disorganization as a rural crime predictor.

Similar results were expressed by Bouffard and Muftic (2006), while studying 221 nonmetropolitan counties in four Midwest states including: North Dakota, South Dakota, Minnesota, and Wisconsin. They studied all the of the criminogenic factors detailed in social disorganization theory and the effect on violent offenses, including: aggravated assault, other types of assault, robbery, and rape (Bouffard & Muftic, 2006). When residential instability was significantly heightened both assault categories were heightened (Bouffard & Muftic, 2006). The same was true for single-mother households (Bouffard & Muftic, 2006). Residential instability also resulted in a significantly higher number of robberies, causing Bouffard and Muftic to conclude that areas with a higher level of disorganization had a higher level of all violent crimes tested.

Ludwig, Duncan, and Hirschfield (2001), studied 638 families living in high-poverty areas within the city of Baltimore, Maryland under the Moving to Opportunity Demonstration. They looked at the implications residential mobility had on juvenile crime and if families that left poverty-stricken neighborhoods produced less crime (Ludwig et al., 2001). The families that were offered relocation from high poverty to low poverty areas experienced a 30% to 50% reduction in arrests for violent offenses, whereas, the prevalence of property crimes did not experience such a reduction (Ludwig et al., 2001). Property crime rates were associated with an increase in offending, by

which the researchers concluded to be consistent with prior literature on neighborhood data (Ludwig et al., 2001).

Osgood and Chambers (2003), found that all of the variables were consistent with the use of social disorganization theory in explaining rural crime except poverty; therefore, the application of social disorganization theory was accepted to explain rural juvenile crime. Ludwig, Duncan, and Hirschfield (2001), determined residential mobility and decreased socioeconomic status was indicative of increased violent crimes in the city of Baltimore, another urban-centric zone. As previously noted, a study conducted by Moore and Sween (2015), concluded that both residential instability and poverty significantly predicted juvenile violent crimes. Moore and Sween built off of the previously mentioned study conducted by Osgood and Chambers (2000), to include rural counties as defined by the Census Bureau, in all of the states except Alaska and Hawaii. Not all social disorganization theory factors were found to be significant, suggesting that there is a difference between rural and urban juvenile crime (Moore & Sween, 2015). By increasing the sample size, the results were generalizable; therefore, enabling future studies to build on the research.

Bouffard and Muftic (2006), also built off of the knowledge gained by the Osgood and Chambers (2000), study to look at levels of unemployment and families in poverty. The results were mixed; therefore, despite their finding of rural residential instability being consistent with social disorganization theory predictors, they could not definitively agree that socioeconomic status was a significant predictor. Both assault categories increased when higher levels of unemployment were present; however, the assault

categories decreased when higher levels of families living in poverty presented (Bouffard & Muftic, 2006). The strong and significant negative association of the assault categories and poverty caused them to conclude that poverty could not be a definitive predictor of increased violent crime as described by social disorganization theory (Bouffard & Muftic, 2006). The significant positive association with ethnic diversity, single mother-headed household, and population density; however, was found to be a generalizable predictor of social disorganization theory for assault in the rural counties studied (Bouffard & Muftic, 2006).

Kaylen and Pridemore (2011), used the same measures as Osgood and Chambers (2000) to determine the generalizability of social disorganization to juvenile crime; however, their study led them to disagree with the application of social disorganization as a plausible explanation for rural youth crime. Based on their study of 106 rural Missouri counties, only one characteristic, family disruption, was both positively and significantly associated with crime (Kaylen & Pridemore, 2011). The results suggested that social disorganization was not an appropriate theory to explain rural crime; therefore, Kaylen and Pridemore disagreed with both Osgood and Chambers and Bouffard and Muftic (2006).

Testing previous research in urban landscapes Liu et al. (2018), sought to determine if individuals moving from rural to urban China would affect the characteristics and neighborhood environments within the urban areas being studied. Looking at both residential instability and total social disorganization compared to the total burglaries occurring in the urban areas of China, they concluded that juvenile

migrant burglars tended to be concentrated in urban villages, whereas, adult migrant burglars were concentrated in both urban and suburban villages (Liu et al., 2018). There were no findings of the total burglaries occurring prior to the movement into urban areas (Liu et al., 2018). An overall assumption was made that residential instability in urban China had a more profound effect on juveniles, whereas, adults were affected more by total social disorganization (Liu et al., 2018). The environments were also detailed as being low-income, primarily low-rent housing, indicative of poverty-stricken areas (Liu et al., 2018). Both groups of individuals lived in rural China prior to the movement into an urban or suburban village; however, the occurrence of burglaries was not tested until after the movement occurred; therefore, there is no distinction on whether the residential instability and social disorganization within the urban environment actually caused the burglaries or if the criminal behavior was present prior to the movement. Creating an entire picture of residential instability and overall social disorganization in both rural and urban locations would help determine if the characteristics were similar in both areas. The results of the extended research may help identify accurate criminogenic effects.

Conclusion

The discussed findings are mixed and do not indicate that social disorganization theory should always be applied to explain all rural crime. Despite social disorganization theory being an acceptable explanation for some of the rural and urban characteristics influencing juvenile crime, not one study was able to accept social disorganization as an absolute explanation to rural crime causation. To date, there are still only a limited number of studies that have addressed rural structural factors effecting adult criminal

offending. Due to the urban-centric approach previously used in criminology, findings supporting the theoretical application to the varying levels of urban crime have been generalized to explain rural crime. These findings may perhaps be based on the connections between social disorganization theory and environmental characteristics in both urban and rural areas relative to juvenile crime rates, as concluded in past research (Moore & Sween, 2015).

Kaylen and Pridemore (2013), conducted a study utilizing the British Crime Survey to determine the prevalence of crime in rural areas in respect to the utilization of social disorganization theory. Their findings suggested that social disorganization theory may not be as good of a predictor of rural property and violent crime as suggested to be for urban property and violent crime (Kaylen & Pridemore, 2013). Braithwaite (2014), focused on rural and urban comparison groups to explore sex crimes and the structural covariates present. His findings yielded the significant differences in the application of social disorganization theory to rural and urban crimes. Braithwaite determined that automatically linking social disorganization theory with rural crime is not always appropriate; therefore, subtypes should be used to provide the necessary differentiation between the groups. Future research determining the unique differences between urban and rural areas and the association to crime rates would better inform the potential use of social disorganization theory to explain the crime phenomenon.

Kaylen and Pridemore (2013), disagreed with the hypothesized explanations of crime as described in social disorganization literature for all of the structural factors except SES. Their research determined that although SES in rural areas may be

associated with higher crime rates, as suggested in the empirical literature on urban crime, the same was not found for residential mobility (Kaylen & Pridemore, 2013). Kaylen and Pridemore suggested that although the social structures present in urban areas are likely predictors of urban crime rates, the factors are different for rural disorganization than those explaining urban disorganization (Kaylen & Pridemore, 2013). Donnermeyer (2015), also suggested that the assumptions outlined in social disorganization theory would be ill-advised in explaining rural crime, as each area is independent and the inconsistency in crime predictors cannot be explained by one theory alone. Rurality is a concept that was largely ignored in criminological literature, which gave way for an urbanistic concept to become homogenous for many criminological theories (Donnermeyer, 2015). Establishing theoretical framework that is concerned with the intricacies of rural areas may be more suitable for the progression of geography and crime patterns. Levels of social disorganization in urban areas; therefore, cannot be compared to rural areas because of the different social structures, crimes rates, and characteristics.

Summary

With the different characteristics and each separate distinction between urban and rural environments, each variation should be accounted for and determined based on the individual entities present for both the area and the crime. Not only do the different populations cause variations but the structural variables present within residential mobility and poverty need to be noted before making assumptions about crime explanations. As demonstrated in the literature review, the urban generalization for

explaining rural crime creates a gap in the literature. It is important to separate rural and urban crime in relation to social disorganization theory as originally developed by Shaw and McKay (1942).

Social disorganization theory expanded crime explanations to cover the characteristics of places as crime inducing entities (Shaw & McKay, 1942). The basis for the theory was in urban Chicago, where high crime neighborhoods all had three similar characteristics: higher levels of ethnic and culture mixing, increased poverty and physical dilapidation (Shaw & McKay, 1942). In advancing the understanding of social disorganization, scholars began looking closer at neighborhood characteristics and included the role of social control and neighborhood social processes (Kornhauser, 1978, Sampson & Groves, 1989). Eventually, the idea that the urban-centric bias due to studies be predominately conducted in urban landscapes may play a role in accurately developing theories to explain rural crime explanations beyond the urban-based social disorganization theory (DeKeseredy, 2016).

Scholars began studying rural areas in the scope of social disorganization only to yield mixed results. Of the limited amount of research currently available there is no consensus as to whether social disorganization theory is an appropriate theory to explain all of rural crime, or even rural crime in general. The unique characteristics present in rural areas and the differences in crime statistics are presenting researchers with more avenues to approach the issue; however, there is still a gap understanding the relationship among residential stability, poverty levels, rural populations, and index crimes. In order to adequately understand the unique characteristics present in each urban landscape it is

important to study each area individually. As noted, there is limited research in rural landscapes but there is no research that was found detailing rural areas in the Northern United States, specifically in New York. By conducting a quantitative correlational study of secondary data it will lead to a better understanding of how public policy can base crime control initiatives on the unique characteristics and relationships present among poverty levels, residential stability, and index crime rates within rural areas of Upstate New York.

Chapter 3: Research Method

Introduction

The purpose of this quantitative correlational study was to examine how residential stability and poverty levels are related to index crime rates within rural areas of Upstate New York. The analysis was conducted using secondary data of county, state, and national level index crime rates, residential mobility, and poverty statistics over a 10-year period. The isolation of rural populations was done through the use of secondary census data on the county, state, and national levels. The study results, based on the exploration of secondary data, enable a better understanding of how public policy makers can base crime-control initiatives on the unique characteristics and relationships present among poverty levels, residential stability, and index crime rates within rural areas of Upstate New York.

The study answered the following three research questions:

- RQ1: Is there a correlation between residential instability and index crime rates in the rural areas of New York?
- RQ2: Is there a correlation between poverty and index crime rates in the rural areas of New York?
- RQ3: How well can index crime rates in the rural areas of New York be predicted by poverty levels and residential instability combined?

This chapter covers the research design and rationale for the chosen study, including the constraints and how the design choice may advance the knowledge of crime in rural areas of Upstate New York. The methodology section covers a number of topics,

beginning with the defined target population and its approximate size, along with the sampling and sampling procedure to identify that secondary data from county, state, and national level data were chosen for the study. The methodology section continues with a discussion of the variables used and how the variables were measured. The sources of data are discussed, followed by the operationalization of constructs and method of statistical analysis. The next section details threats to external and internal validity, as well as any threats to the construct and statistical conclusion validity. The chapter concludes with the alleviation of ethical concerns through the use of secondary data and a summary of the topics used to develop the methodology for the current study in answering the prescribed research questions.

Research Design and Rational

The expansive amount of literature on crime has made it possible to determine what factors may contribute to overall urban crime rates; however, the limited amount of information on rural crime and the lack of expansive studies in less populated areas were the basis for this study. No study could be found detailing any possible relationships or causes for crime in rural areas of Upstate New York; however, the Uniform Crime Report, U.S. Census, and New York State Census all provided a plethora of information regarding crime and various factors that have been found that are correlated with crime rates. As a result, the decision to utilize the available data through secondary data collection and employ a correlational design was made in order to contribute to the potential determination of what contributing relationships exist when rural crime is

present. The outcome variable (Y) was index crime rates. The predictor (X) variables were residential stability and poverty levels.

The study included predictive quantitative analysis. Employing a correlational study with only secondary data, index crimes rates in rural areas of Upstate New York were examined to determine any potential relationship to the area's poverty levels and residential instability. This was possible because the primary purpose of predictive statistics is to inform on the degree of relationship between or among variables, or predict one variable by using knowledge from another variable (Williams, 2009).

The primary limitation of conducting a correlational study is the inability to infer a causal relationship; the researcher cannot assume a causal relationship based on the correlation between the variables (Frankfort-Nachmias et al., 2015; Grand Canyon University, n.d.). Another limitation is that if a relationship is found to exist, then there is the possibility that an outside variable is causing that relationship; however, the researcher would be unaware, unless all potential variables were being tested (Grand Canyon University, n.d.). The use of secondary data also confines the researcher to study only what has been tested before (Frankfort-Nachmias et al., 2015). The potential gap in the data collected and data needs, as well as differences in the studies, can make the inclusion of various data sets in one study difficult (Frankfort-Nachmias et al., 2015).

Choosing to conduct a correlational study enables a determination to be made as to whether a statistical association of variables is present, as well as the degree of correlation between variables in order to predict a future relationship (Warner, 2013; Williams, 2009). Despite the inability to determine a causal relationship, a correlation

definitively indicates that there is or is not a relationship among the variables being studied; as such, it is a good beginning point toward knowing the direction that future research should go (Grand Canyon University, n.d.; Williams, 2009). Support in determining the value of any potential relationship among the variables can enhance the understanding and predictive ability of crime-control measures. Additionally, the results of a correlational study can inform researchers of whether further studies are necessary. The secondary data used in this correlational study will enable replication of the study and the introduction of additional variables to further understand any potential relationships and their predictive effect on index crime. Crime is a never-ending problem that, despite initiatives, persists. The more accurate information that can be determined, the better the chance of strategizing public policies and crime-control initiatives toward effective reduction, and ideally elimination, of the most serious crimes.

Methodology

Population

The defined population of secondary data included all individuals who had committed an index crime within the rural areas of the 55 counties in Upstate New York from 2008 through 2017, not including New York City and Long Island. The definition of *rural* used for the purpose of this study was determined by the Office of Budget and Management and included all micropolitan areas and areas not classified as either metropolitan or micropolitan (Health Resources and Services Administration, 2017).

Local, state, and federal level government agencies collect census data through direct sources from censuses and surveys while also gathering administrative data from

other agencies as required by law to determine the overall picture of the population and economy (U.S. Census Bureau, 2018). Census data beginning January 1, 2008 and concluding December 31, 2017 were used to determine the rural classifications and the overall sample for the study. There were an estimated 1,376,268 rural residents in New York, who constituted the total potential population for the current study (U.S. Census Bureau, 2018). The unit of analysis, therefore, was counties, specifically the 55 counties located in Upstate New York, not including the counties within New York City and Long Island.

Sampling and Sampling Procedure

When a researcher is conducting a correlational study, the sample size must be at least 30 (Sage, 2016). With a larger sample size, there is more control over the validity and reliability of the variables being measured (Frankfort-Nachmias et al., 2015). When choosing an adequate sample, a researcher should consider the population size, margin of error, confidence level, and percentage value (SurveyMonkey, 2018). For the purposes of this study, including the 55 counties in Upstate New York allowed for confidence in the findings, as could only be demonstrated with a large enough sample size to be representative of the entire population (Rural Health Information Hub, 2018; Sage, 2016). Although the current population was known, because the data being used already existed, there was no way to choose a population beyond the determination of people living in rural areas of the 55 counties in Upstate New York. Although gender, race, ethnicity, and age were known, the information bore no relevance for the current study, so these data were not included in the study. The population and sample size were chosen from the

county, state, and national agencies conducting the original studies and were therefore out of the control of the current study.

Variables

The one outcome variable (Y) was index crime rates. The two predictor variables were poverty rates (X₁) and rates of residential instability (X₂). X₁ and X₂ were used to predict Y and ascertain if a positive or negative association was present and the degree of the relationship.

Measurement

The variables in the study were measured using quantitative levels of measurement (Williams, 2009). Index crime rates, poverty levels, and residential mobility were measured at the interval level of measurement.

Source of Data

The data were readily available at the start of the study. The collection of data, however, was an important aspect of the success and value of the overall study. The use of government websites allowed for the collection of UCR data from the 55 counties in Upstate New York as well as census information to calculate poverty levels and residential instability. Both the federal government and state governments collect census and crime information, which allowed for similar data to be accessed and compared for use within the study.

All vital information pertaining to poverty and residential instability was derived from secondary data that were originally gathered through surveys, census collection, administrative reporting, and self-reporting. The data were taken from U.S. Census

reports, as well as New York State Census reports for the 10-year period beginning in 2008. Census collection at the county, state, and national levels determined the sample rural populations as well as poverty levels and residential instability. The county and state level surveys, administrative reporting, and self-reporting were used to determine the rate of index crimes and were taken from the New York State DCJS for the 10-year period beginning in 2008. The national level crime data were collected from FBI Criminal Justice Information Services as well as the Department of Justice, Bureau of Justice Statistics, and National Crime Information Systems. Each of the government entities provided information for the total 10-year time period being studied. The data being utilized were collected from government organizations and are public; therefore, no special permissions to access, review, or utilize any data within the study were needed.

Operationalization of Constructs

The national level crime statistics were gathered through the FBI's annual UCR. As detailed in the definitions section, the FBI employs the OMB definition of rural; therefore, the index crime rates for criminal homicide, forcible rape, robbery, aggravated assault, burglary, larceny-theft, motor vehicle theft, and arson can be delineated from the UCR for the State of New York, separate from New York City and Long Island. The county and state crime datasets from 55 counties located in Upstate New York were used to measure the index crime rates reported. The data were analyzed to determine the rate of rural index crimes. The county, state, and national census records were analyzed to determine population rates, poverty rates, and residential instability through the mobility of individuals out of a location over the course of the 10 years studied.

Method of Statistical Analysis

The outcome variable, index crime rates, and the predictor variables, poverty and residential instability, were analyzed to determine whether a positive or negative association was present and the degree to which any relationship existed. The statistical analysis chosen for the study was based on a multitude of factors. The study contained more than one independent variable or predictor; therefore, a multivariate analysis was a plausible choice (Frankfort-Nachmias et al., 2015). It is reasonable to assume that the independent variables could be correlated with each other and that they each made unique contributions toward the prediction of the dependent variable of index crime rates (Warner, 2013). By using a multiple regression analysis, it was possible to evaluate and predict unique questions when there was more than one predictor variable and multiple regression was used (Warner, 2013). It is also possible to conduct an Omnibus test to determine how all of the predictor variables were combined to predict the outcome (Warner, 2013). When using a multiple regression, the researcher can obtain a partition of variance on the dependent variable and determine if the variance is predicted by one or both of the predictor variables, or if they correlate and there is shared variance present (Warner, 2013). The analysis is an accurate choice because the predictor variables are measured at the interval level, meeting the qualifications needed for the proposed statistical analysis (Warner, 2013). The test for significance for overall regression was conducted by an ANOVA to determine if the overall multiple regression (R) is deemed statistically significant (Warner, 2013).

Threats to Validity

Validity refers to the degree to which an instrument measures what the researcher is intending to measure (Frankfort-Nachmias et al., 2015). There are various types of validity, such as external validity, which refers to the representativeness of the sample and the reactive arrangements (Frankfort-Nachmias et al., 2015). Due to the nonexperimental nature of the study and the use of secondary data analysis, I did not have to be worried about the reactive arrangement component of external validity, and because the entire population was used in the sample, the representativeness of the sample was entirely covered.

The internal validity of a research design is of the utmost concern when causality among the dependent and independent variables is being questioned (Frankfort-Nachmias et al., 2015). Due to the nature of the study, causality was not being inferred; therefore, control, or the requirement that the researcher denote other factors as causing the relationship among the variables as a possibility, was unnecessary (Frankfort et al., 2015).

The internal validity of a study concerns whether changes of the independent variable indefinitely caused changes in the dependent variable (Frankfort-Nachmias et al., 2015). The variables in the current study were labeled outcome and predictor variables because the study aimed to predict or determine whether a relationship existed, rather than to describe or infer the cause of the relationship (Williams, 2009). Internal validity also refers to biases introduced into the research; however, due to the nature of the data collection, the elimination of all bias was accepted (Williams, 2009).

Construct validity refers to whether the instrument used in the study is logically and empirically tied to the theoretical framework being employed within the study (Frankfort-Nachmias et al., 2015). The theoretical framework, social disorganization theory, predicts that areas with larger populations will have higher crime rates, therefore predicting the relationship between population and crime. This theoretical framework has consistently been used within secondary data sets identical and similar to the ones being employed in the current study, as noted in Chapter 2.

Statistical conclusion validity refers to the accurate use of statistical methods to provide an acceptable conclusion based on an adequate analysis of data (Garcia-Perez, 2012). Achieving statistical conclusion validity is threatened when random error occurs, such as Type I and Type II error (Garcia-Perez, 2012). This can be fought by using the appropriate statistical test where the results are accurately portrayed based on the outcome of the statistical analyses. The determination to use a multiple regression analysis was based on how the variables were categorized, and the hypothesis was directed toward the current theoretical framework of social disorganization theory. When an appropriate framework is chosen from past studies through an accurate determination of the variables, the correct test can be determined. Both, an accurate framework and appropriate test coupled together, can help to eliminate the potential limitations of statistical conclusion validity (Frankfort-Nachmias et al., 2015; Williams, 2009).

Ethical Concerns

Ethical concerns were alleviated due to the use of secondary data. A primary benefit of secondary data analysis is the elimination of any interaction with human

subjects. When the primary data were collected, methods were employed to safeguard the identities of the constituents (U.S. Census Bureau, 2018). Using secondary data from government entities ensures that protected information remains anonymous to individuals utilizing the data sets (U.S. Census Bureau, 2018). In addition to being removed from human interaction, the use of secondary data prevents the researcher from coming into contact with the events being studied; therefore, the unobtrusive measures effectively remove any possibility of data contamination affecting the outcome of the study and eliminates the need for additional ethical precautions (Frankfort-Nachmias et al., 2015).

Summary

The overall methodology of the study was discussed in relation to the current design and rationale. Choosing a correlational study constrains the researcher in regard to determining a causal relationship among the variables being tested; however, within the current study, the simple determination of a relationship among rural index crimes, poverty, and residential instability may benefit the future of criminal justice research, crime policy, and initiatives. The target population was described, and the determination was made that secondary data were sufficient when collected from federal, state, and local level entities to develop an adequate population to study with a large enough sample size to be representative of all rural areas in Upstate New York. The variables and how they were measured were discussed, along with the source of information from which the variables were drawn. The operationalization of constructs was discussed in order to show the necessity of using secondary data in developing a starting point for determining rural crime relationships. The method of statistical analysis was introduced and defended

based on the need to understand potential correlations among the variables. The use of secondary data was also shown to alleviate ethical concerns in regard to human participants and any inclusion of the researcher in the data. The chapter concluded with possible threats to the current research and how these threats can be eliminated or guarded for in order to ensure the success and implication of the overall study. The following chapters detail the study and parameters used to gather data, as well as the data analysis and discussion of results.

Chapter 4: Results

Introduction

The purpose of this chapter is to analyze the statistical output of data in the SPSS software to examine the relationships among residential instability, poverty, and index crime rates in rural New York State. The following research questions and hypotheses were the center of the analysis:

RQ1: Is there a correlation between residential instability and index crime rates in the rural areas of New York?

H₁: There is a positive correlation between residential instability and index crime rates in the rural areas of New York.

H₀: There is no correlation between residential instability and index crime rates in the rural areas of New York.

RQ2: Is there a correlation between poverty and index crime rates in the rural areas of New York?

H₁: There is a positive correlation between poverty and index crime rates in the rural areas of New York.

H₀: There is no correlation between poverty and index crime rates in the rural areas of New York.

RQ3: How well can index crime rates in the rural areas of New York be predicted by poverty levels and residential instability combined?

H₁: There is a positive correlation among poverty levels, residential instability, and the prediction of index crime rates in the rural areas of New York.

H₀: There is no correlation among poverty levels, residential instability, and the prediction of index crime rates in the rural areas of New York.

This chapter begins with the process of data collection, outlining the time frame, discrepancies from the data collection plan presented in Chapter 3, as well as the baseline descriptive characteristics of the sample. The results of the descriptive statistics are then presented, followed by the statistical assumptions and the findings of the statistical analyses. The chapter concludes with a summary of the answers related to the research questions and a brief overview of the discussion, conclusions, and recommendations that are outlined in Chapter 5.

Data Collection

This study used secondary data collected from county, state, and national sources to measure index crime rates, population, residential instability, and poverty statistics over a 10-year period. All of the data collected were considered public knowledge; therefore, each dataset was accessible and available to download without special permissions. The first step in data collection was identifying classifications of rural and urban counties through population estimates in New York State. These data sets were accessible through the New York State Government and U.S. Census Bureau websites. The initial plan for the study was to isolate the counties in New York State from New

York City and Long Island. There were a total number of 55 counties remaining. After isolating potential rural county population sizes, the definitive delineation of what counties were categorized as rural for the purpose of this study were retrieved from the OMB files on the U.S. Census website. After finalizing the 26 rural counties that would be included in the study, the data for the variables were retrieved for each county from 2008 through 2017.

The dependent variable, index crime rates, was retrieved from the New York State DCJS. The county index crime rates were calculated for each year by county law enforcement submissions of index crimes (New York State, 2020). The total number of crime rates used for this study was taken from the time frame beginning in 2008 through 2017 and was determined by the number of crimes divided by the county population, then multiplied by 100,000, in order to determine the crime rates per 100,000 in population (New York State, 2020). Information for the first independent variable, poverty, was retrieved from the Small Area Income and Poverty Estimates Datasets for the 10-year period from the U.S. Census Bureau website. The files detailed the poverty percentages per county from the total population as determined by the census (U.S. Census Bureau, 2019). The second independent variable, residential instability, was retrieved from the U.S. Census Bureau datasets that measured the total number of people moving out of a given area over the course of 5 years. The data for the first 5 years, 2008 through 2012, were retrieved and divided by 5 in order to determine an average rate of mobility for each county per year. This process was repeated with the data for the second 5 years, 2013-2017. In the original data collection plan, it was anticipated that the data for residential

instability would be available per year, but because this was not the case, an average was taken for the 5-year data set in order to provide the most accurate estimate for the determination of residential mobility.

Data collection was completed in 1 week. Due to the nature of the secondary data and the thorough collection of these data by government entities, the necessary information for the study's purpose was easy to access, assemble, and finalize. The process began with the identification of the counties that would be included in the study. An Excel spreadsheet from the OMB identified counties by their metropolitan or micropolitan characteristics. Data for the 26 counties characterized as micropolitan provided the basis for the study and were then transferred into a data file with the corresponding 10-year time frame for each county. The frequencies and percentages of the cases by year and county are shown in Tables 1 and 2. A total of 260 cases were generated for the study, as was determined by multiplying 26, the number of counties, by 10, the number of years.

Table 1

Frequency and Percentage Summaries of the Descriptions of the Cases of Sample by Year

Year	Frequency	Percent
2008	26	10
2009	26	10
2010	26	10
2011	26	10
2012	26	10
2013	26	10
2014	26	10
2015	26	10
2016	26	10
2017	26	10

Table 2

Frequency and Percentage Summaries of the Descriptions of the Cases of Sample by County

County	Frequency	Percent
Allegany	10	3.8
Cattaraugus	10	3.8
Cayuga	10	3.8
Chautauqua	10	3.8
Chenango	10	3.8
Clinton	10	3.8
Columbia	10	3.8
Cortland	10	3.8
Delaware	10	3.8
Essex	10	3.8
Franklin	10	3.8
Fulton	10	3.8
Genesee	10	3.8
Greene	10	3.8
Hamilton	10	3.8
Lewis	10	3.8
Montgomery	10	3.8
Orleans	10	3.8
Ostego	10	3.8
Saint Lawrence	10	3.8
Schuyler	10	3.8
Seneca	10	3.8
Steuben	10	3.8
Sullivan	10	3.8
Wyoming	10	3.8
Yates	10	3.8

The index crime rates were obtained through the New York State DCJS and were compared to the FBI Uniform Crime Report to determine validity. Following the comparison, the datasets for each year were downloaded and saved, after which only the index crimes were exported into a new dataset that had the corresponding counties and years. The poverty data were then accessed through both the New York State and U.S. Census Bureau websites to compare overall output. The datasets from the Small Area Income and Poverty Estimates were separated into 10 separate Excel spreadsheets, which were easy to download and save for export into the primary dataset being used for the study. Access to information about residential instability was provided through various resources, with a breakdown of where the individuals moved to. This information was not necessary for the study; therefore, only two datasets were available that showed mobility out of each county as a whole for all age groups. The 2 available Excel spreadsheets were compared to year-by-year breakdowns of county-to-county movements provided by the New York State and U.S. Census Bureau to determine validity of the information. The residential mobility estimates for each of the 5 years were input into the original spreadsheet for the study analysis after computing the total for each year. In order to prevent human error, the input of the data was done in multiple Excel spreadsheets and compared for accuracy.

Descriptive Statistics: Study Variables

The study had two predictors, both of which were measured at the ratio level. Poverty and residential mobility were county-level disadvantage factors as provided by the U.S. Census Bureau. The outcome variable, county-level index crime rates, was also

measured at the ratio level, as provided by the New York State DCJS. The descriptive statistics for the study variables are presented in Table 3.

The mean percentage of county residents living in poverty was 15% ($SD = 2\%$), with the percentage of poverty ranging from 9% to 22%. The mean number of county residents who moved from the area was 11,216 ($SD = 5,542$), with a minimum of 919 and maximum of 26,640. The mean rate of county index crimes reported per 100,000 individuals was 1,779 ($SD = 525$), with a minimum of 368 reported index crimes per 100,000 persons and a maximum of 3,108 reported index crimes per 100,000 persons.

Table 3

Descriptive Statistics: County-Level Index Crime Rates, Poverty Percentages, and Residential Mobility Rates

	<i>M</i>	<i>SD</i>	Minimum	Maximum	<i>N</i>
Index crime rate	1779.6912	525.17106	386.6	3108.00	260
Poverty percentage	15.0285	2.59877	9.50	22.40	260
Resid mobility	11216.0846	5542.02306	919.80	26640.00	260

Note. *M* = mean, *SD* = standard deviation. Index crime rate is inclusive of the number of arrests for criminal homicide, forcible rape, robbery, aggravated assault, burglary, larceny-theft, motor vehicle theft, and arson per 100,000 persons. From New York State DCJS (2020).

Results

To approach how well index crime rates in the rural areas of New York can be predicted from poverty levels and residential instability, both separate and combined, a

correlational design that incorporated a multiple linear regression analysis was conducted. SPSS was used to run the regression analyses and produced an output to answer each research question.

Multiple Regression Assumptions

The first assumption, linearity, was tested using a scatterplot. To determine that there was a linear relationship between the independent variables and the dependent variable, a scatterplot was generated in SPSS. The relationship between the independent variables and the dependent variable was modeled by a straight line; therefore, the relationship among the variables was linear.

The second assumption of multicollinearity is used to determine that the independent variables are not correlated at a high rate. The correlation's output in SPSS for poverty percentages was .294 and for residential mobility was .480, both of which were less than 0.8; therefore, there was no multicollinearity in the data. The correlation matrix shown in Table 4 details how the two independent variables, poverty percentage and residential mobility, are correlated.

Table 4*Correlations Among Independent Variables*

	1	2	3	4	5	6	7	8	9	10	11	12
1	Poverty Percentage 2008											
2	Poverty Percentage 2009	.78**										
3	Poverty Percentage 2010	.67**	.74**									
4	Poverty Percentage 2011	.79**	.80**	.74**								
5	Poverty Percentage 2012	.78**	.75**	.78**	.88**							
6	Poverty Percentage 2013	.79**	.63**	.61**	.75**	.73**						
7	Poverty Percentage 2014	.77**	.73**	.69**	.77**	.78**	.73**					
8	Poverty Percentage 2015	.76**	.80**	.71**	.82**	.78**	.68**	.74**				
9	Poverty Percentage 2016	.72**	.78**	.69**	.75**	.83**	.62**	.68**	.76**			
10	Poverty Percentage 2017	.79**	.80**	.61**	.84**	.86**	.79**	.75**	.80**	.86**		
11	Resid. Mobility 2008-2012	.49*	.39*	.36	.54**	.57**	.45*	.48*	.55**	.3	.40*	.56**
12	Resid. Mobility 2013-2017	.49*	.39*	.37	.54**	.57**	.45*	.48*	.56**	.3	.41*	.55**

Note. $N = 26$.

* $p < .05$; ** $p < .01$.

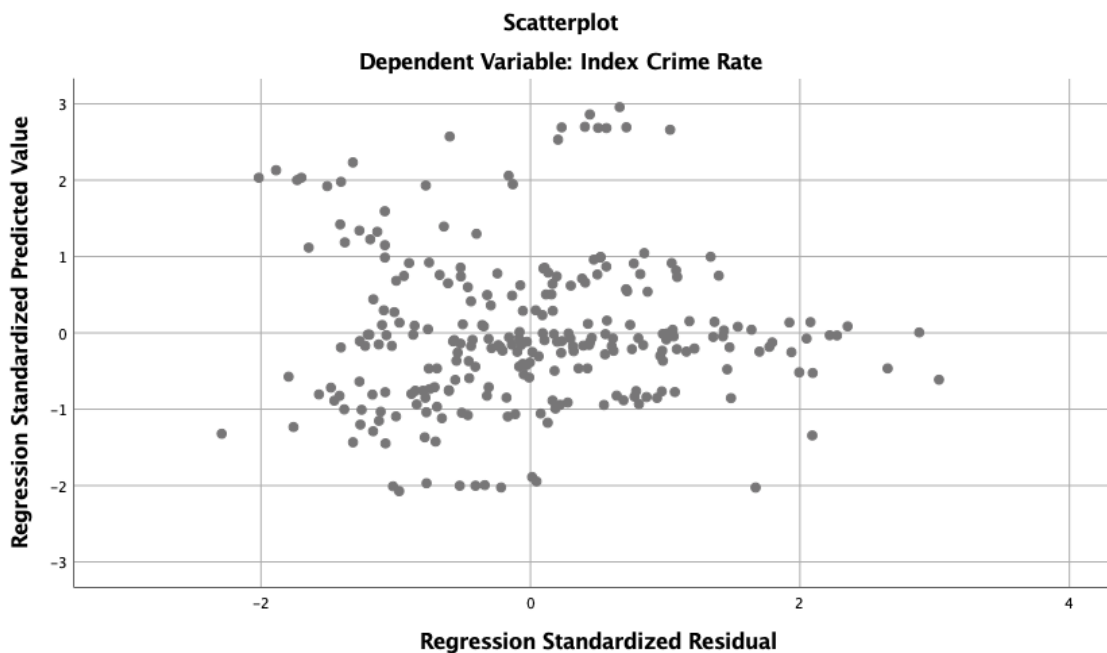
To determine the third assumption, that the values of the residuals are independent, the Durbin-Watson statistic was used. The Durbin-Watson value was .592, which was less than 1 but greater than 0. A value below 1 indicates that this model suffered from serial correlation and that there was a violation on the independence of the residuals.

The fourth assumption of homoscedasticity was that the variance of the model for the prediction of index crime rates must be similar throughout each point of the model. This assumption was investigated using a plot of standardized residuals versus regression standardized predicted value of index crime rates by poverty percentage and residential mobility. As shown in Figure 1, the number of data points tends to be roughly similar as

the predicted values increase, without the appearance of congestion or funneling of the data points. There is a mild amount of data points in the center, which could be a sign of a slight violation in the regression results for the assumption of homoscedasticity.

Figure 1

Plot of Standardized Residuals Versus Regression Standardized Predicted Value of Prediction of Index Crime Rates by Poverty Percentage and Residential Mobility



The last assumption that was tested using a P-P plot and histogram to determine that the values of the residuals were normally distributed. There were no deviations from a normal distribution, as can be seen in Figures 2 and 3.

Figure 2

Normal P-P Plot of Regression Standardized Residual Dependent Variable: Index Crime Rates

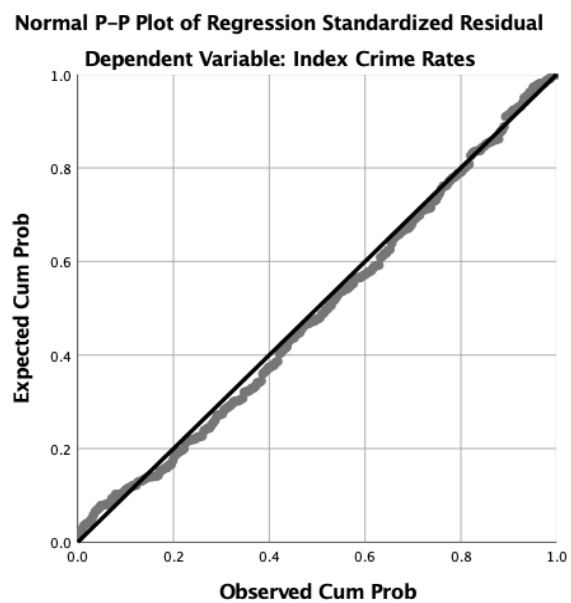
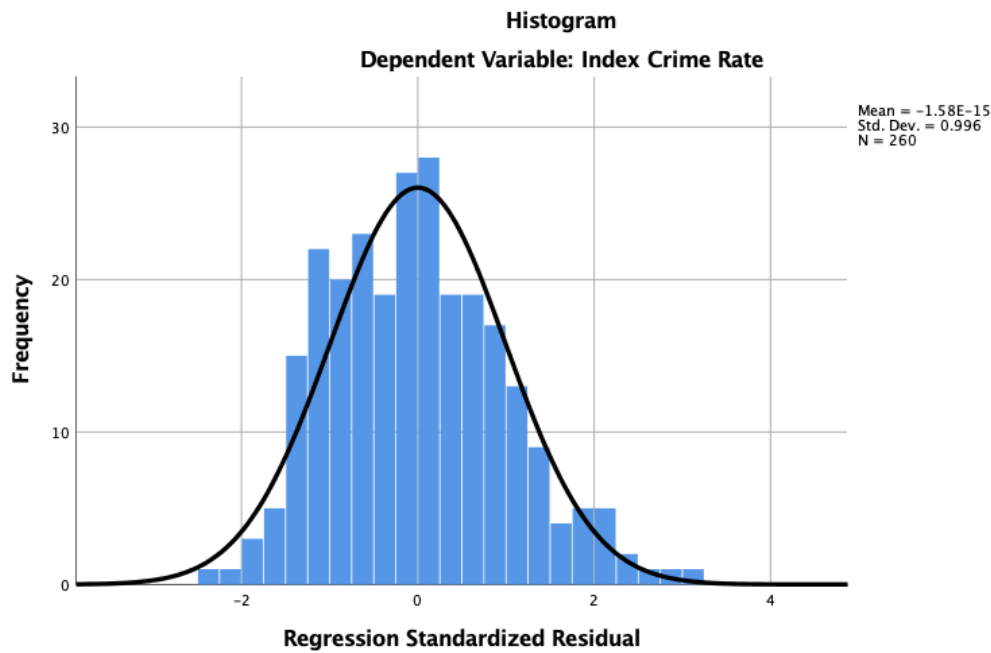


Figure 3

Histogram of Regression Standardized Residual



Regression Results for Research Question 1

The first research question: Is there a correlation between residential instability and index crime rates in the rural areas of New York? Based on the simple regression model summary in Table 5, the R or multiple correlation coefficient of .480 represents a good level of prediction. The R Square or coefficient of determination is .231, meaning that the proportion of variance in the dependent variable, index crime rates can be explained by the independent variable, residential mobility at a rate of 23.1%. The adj. R Square corrects positive bias; however, is not the reported value to predict statistically significant results. With an adj. R Square of .228 the independent variable, residential mobility explains 22.8% of the predictability of the dependent variable, index crime rates in the population.

Table 5*Simple Regression Model Summary for Index Crime Rates and Residential Mobility*

Model	<i>R</i>	<i>R</i> square	Adjusted <i>R</i> square	Std. error of the estimate	Change statistics					
					<i>R</i> square change	<i>F</i> change	df1	df2	Sig. <i>F</i> change	Durbin- Watson
1	.480 ^a	.231	.228	461.49563	.231	77.402	1	258	.000	.566

Predictors: (Constant), residential mobility. Dependent variable: index crime rate.

The ANOVA tests for significance in the overall regression to determine if the multiple regression (*R*) is deemed statistically significant (Warner, 2013). As was depicted in Table 5, $F(1, 258) = 77.402$, $p < .0001$. The independent variable, residential mobility statistically significantly predicted the dependent variable, index crime rates; therefore, the regression model is a good fit for the data. The significant ANOVA, therefore, led to the acceptance of the alternative hypothesis and the rejection of the null hypothesis, identifying that there is a significant positive correlation between residential instability and index crime rates in the rural areas of New York.

The parameter of estimates in Table 6, show the relationship between the independent variable, residential mobility and the dependent variable, index crime rates. The unstandardized coefficient for the constant or index crime rates is 1269.106 when all other variables are zero. The unstandardized coefficient for residential mobility is .046 and is statistically significant because the p-value of 0.001 is less than .05. These estimates predict that as the rate of residential mobility increases, a 0.46% increase in index crime rates is predicted with a statistical significance of $p < .001$. The results suggest that the rural areas of Upstate New York experiencing increased numbers of residential instability also have increased index crime rates.

Table 6*Coefficients for Index Crime Rates and Residential Mobility Rates*

Model		Unstandardized		Standard	<i>T</i>	Sig.	95.0% confidence	
		coefficients		coefficients			interval for B	
		B	Std. error	Beta			Lower bound	Upper bound
1	(Constant)	1269.106	64.709		19.613	.000	1141.682	1396.531
	Residential	.046	.005	.480	8.798	.000	.035	.056

Dependent variable: index crime rates. Predictor: residential mobility.

Regression Results for Research Question 2

The second research question: Is there a correlation between poverty and index crime rates in the rural areas of New York? Based on the simple regression model summary in Table 7, the R or multiple correlation coefficient of .294. The R Square or coefficient of determination is .086, therefore, the dependent variable, index crime rates can be explained by the independent variable, poverty percentage at a rate of 8.6%. The adj. R Square of .083 shows that poverty percentage explains 8.3% of the predictability of index crime rates in the population.

Table 7*Simple Regression Model Summary for Index Crime Rates and Poverty Percentage*

Model	<i>R</i>	<i>R</i> square	Adjusted <i>R</i> square	Std. error of the estimate	<i>R</i> square change	Change statistics			Durbin- Watson	
						<i>F</i> change	df1	df2		
1	.294 ^a	.086	.083	503.01390	.086	24.320	1	258	.000	.570

Predictors: (Constant), poverty percentage. Dependent variable: index crime rate.

The Simple Regression Model Summary also depicts the ANOVA, $F(1, 258) = 24.320$, $p < .0001$ as shown in Table 7. The independent variable, poverty percent statistically significantly predicted the dependent variable, index crime rates; therefore, the regression model is a good fit for the data and led to the acceptance of the alternative hypothesis and the rejection of the null hypothesis. There is a statistically significant positive correlation between poverty and index crime rates in the rural areas of upstate New York.

The parameter of estimates in Table 8, show the relationship between the independent variable, poverty percentage and the dependent variable, index crime rates. The unstandardized coefficient for the constant or index crime rates is 888.325 when all other variables are 0. The unstandardized coefficient for poverty percentage is 59.312 and is statistically significant because the p-value of 0.001 is less than .05. These estimates predict that as the rate of poverty percentage increases, a 59.312% increase in index crime rates is predicted with a statistical significance of $p < .001$. The results suggest that the rural areas of Upstate New York experiencing an increased percent of the population suffering from poverty also have increased index crime rates.

Table 8*Coefficients for Index Crime Rates and Poverty Percentage*

Model		Unstandardized		Standard	<i>T</i>	Sig.	95.0% confidence	
		coefficients		coefficients			interval for B	
		B	Std. error	Beta			Lower bound	Upper bound
1	(Constant)	888.325	183.421		4.843	.000	527.131	1249.518
	Poverty	59.312	12.027	.294	4.932	.000	35.628	82.996

Dependent variable: index crime rate. Predictor: poverty percentage.

Regression Results for Research Question 3

The third research question: How well can index crime rates in the rural areas of New York be predicted by poverty levels and residential instability combined? The model summary in Table 9 shows a good level of prediction with the R or multiple correlation coefficient of .489. The R Square or coefficient of determination is .239, therefore, index crime rates can be explained by the independent variables, poverty percentage and residential mobility at a rate of 23.9%. The adj. R Square of .233 suggests the independent variables, poverty percentage and residential mobility explain 23.3% of the predictability of the dependent variable, index crime rates in the population.

Table 9*Model Summary for Index Crime Rates, Residential Mobility, and Poverty Percentage*

Model	<i>R</i>	<i>R</i> square	Adjusted <i>R</i> square	Std. error of the estimate	<i>R</i> square change	Change statistics				
						<i>F</i> change	df1	df2	Sig. <i>F</i> change	Durbin-Watson
1	.489 ^a	.239	.233	459.88877	.239	40.375	2	257	.000	1.579

Predictors: (Constant), residential mobility, poverty percentage. Dependent variable: index crime rate.

The ANOVA test results of $F(2, 257) = 40.375, p < .0001$ can also be derived from Table 9. The independent variables, poverty percentage and residential mobility statistically significantly predict the dependent variable, index crime rates; therefore, the regression model is a good fit for the data and the alternative hypothesis was accepted and the null hypothesis was rejected. Index crime rates in the rural areas of New York can be statistically significantly predicted from poverty levels and residential instability combined.

The unstandardized coefficients as shown in Table 10, depict that the predicted index crime rates are equal to $1008.289 + .041 (\text{Residential Mobility}) + 20.519 (\text{Poverty})$, where residential mobility is the average rate of individuals moving per year and poverty is measured in percent per total population. For the rate of increase by one standard deviation in poverty percentage, index crime rates increase by 20.519% and as mobility increases index crime rates increase by 4.1%; however, poverty percentage is not a significant predictor ($p > .05$). The residential mobility is a significant predictor ($\beta = .436, p < .001$). When the simple regression analysis was conducted each independent variable was a statistically significant predictor of crime rates. In the multiple regression model, however, poverty rates were not statistically significant, whereas, residential mobility did significantly predict index crime rates when combined with poverty percentage.

Table 10*Coefficients for Index Crime Rates, Poverty Percentage, and Residential Mobility*

Model	Unstandardized coefficients		Standard coefficients			95.0% confidence interval for B		
	B	Std. error	Beta	<i>t</i>	Sig.	Lower bound	Upper bound	
1	(Constant)	1008.289	168.525		5.983	.000	676.424	1340.154
	Poverty	20.519	12.249	.102	1.675	.095	-3.603	44.641
	Residential	.041	.006	.436	7.187	.000	.030	.053

Dependent variable: index crime rate. Predictors: poverty percentage, residential mobility.

Summary

The purpose of this study was to assess the relationship among residential instability, poverty and index crime rates in rural New York. This chapter revealed the results of the quantitative correlational analyses in addressing the prescribed research questions. All of the assumptions of multiple linear regression were met, except that there was a violation on the independence of the residuals and a potentially slight violation in the regression results for the assumption of homoscedasticity. The violations of the required assumptions result in study limitations. The results, therefore, may be unreliable and a more robust model may be needed for future study implementation. According to the study results there was a statistically significant relationship between residential instability and index crime rates in rural New York, as well as poverty percentages and index crime rates in rural New York when tested independently. When the independent variables were tested together, there was not a statistically significant relationship between poverty percentages and index crimes rates, but there was a statistically significant relationship for residential instability and index crime rates. In Chapter 5, the

interpretation of the findings and the study limitations will be discussed in further detail, as well as the future recommendations and implications resulting from the study.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

In Chapter 5, the nature and purpose of the study, as well as why the study was conducted, are reiterated. The key findings are described in detail in comparison to findings from previous research studies depicted in Chapter 2. The findings are discussed in relation to the theoretical framework of social disorganization theory. Limitations of the study are discussed and incorporated into the recommendations for further research and the future implications for positive social change.

The purpose of this quantitative correlational study was to examine how residential stability and poverty levels were related to index crime rates within rural areas of Upstate New York in the context of social disorganization theory. The empirical literature reviewed for this study support the fact as stated by Chilenski et al. (2015), that the focus of social disorganization research has been primarily in urban settings. The literature supports the presence of a predominantly urban-centric bias when describing social disorganization theory as an appropriate indicator for crime causation, but there is still a relatively limited amount of research to support the theoretical framework as a plausible way to identify rural crime causation (DeKeseredy, 2016). The limited number of studies examining community structural characteristics associated with index crimes in rural areas is problematic for implementing effective rural crime control strategies (Klein et al., 2017).

The study was conducted to address the quantitative research question: How well can index crime rates in the rural areas of New York be predicted by poverty levels and

residential instability combined? Two additional research questions were derived in order to determine if there was a compounding influence when both predictor variables were tested together. The two additional questions were as follows: Is there a correlation between residential instability and index crime rates in the rural areas of New York? Is there a correlation between poverty and index crime rates in the rural areas of New York? The predictor variables residential instability and poverty, two major components of social disorganization theory, were tested to determine the relationship each variable had on index crime rates in the rural areas of New York that were studied.

Interpretation of the Findings

This study was designed to identify whether a relationship was present between poverty, residential stability, and index crime rates in rural areas of New York State. I used existing data collected from county, state, and federal level government entities that had confirmed the rates and percentages of the data used. The findings further exemplify the mixed results when incorporating social disorganization theory as an appropriate theory for both rural and urban crime explanations.

Donnermeyer (2015) studied the urban–rural criminological divide and determined that the notion of one theory being applicable to all geographic areas would further hinder the ability to accurately predict crime. The difference in not only the geography, but also total population, poverty, residential instability, and index crime rates, which are all important components of social disorganization theory make it difficult to expand the theoretical assumption to cover both rural and urban crime. The poverty levels across the United States revealed that rural America in 2012 had a higher

poverty percentage than urban areas (Donnermeyer, 2015). Social disorganization theory denotes crime as environmentally induced, therefore, places where poverty is highest should also have the highest crime rates (Bouffard & Muftic, 2006; Carrington et al., 2014). Social disorganization theory was predominantly based on studies conducted in urban areas, but according to data across the United States in 2012, poverty was at a rate of 14.5% in metropolitan areas and 18% in micropolitan areas (U.S. Department of Agriculture Economic Research Service, 2013). Rates of poverty in rural areas have been consistently higher than in urban areas for the preceding 60 years (U.S. Department of Agriculture Economic Research Service, 2013). Applying social disorganization theory accurately to both urban and rural areas would involve an assumption that based on these statistics, rural crime should be identified at a higher rate than urban crime solely based on the increased poverty percentage present in the past 60 years.

To further emulsify the criminological divide, previous studies have been similar to the one conducted here. No cohesive or unified view has been established, thereby enhancing the need for further studies. Examples of this divide are depicted in the following studies. Wells and Weisheit (2012) found that neither poverty nor residential instability were significantly correlated with increased crime rates in the rural areas studied. The same was found by Kaylen and Pridemore (2011). A unanimous notion among these studies was that despite the possible presence of significant structural antecedents of social disorganization and crime that may cause theorists to expand the explanation to rural areas, there are often no significant findings for increased violent

crime rates when poverty and residential instability are increased (Donnermeyer & DeKeseredy, 2014, Kaylen & Pridemore, 2011, 2013).

As found in Bouffard and Muftic (2006), poverty was inversely related to rural violent crime; however, residential instability was positively correlated with increased crime rates in the rural areas studied. Osgood and Chambers (2000) showed similar results in a study of southern states and concluded that residential instability was significantly related to increased violent crime. Using prior research, Goodson and Bouffard (2020) sampled various counties across 16 states in America and determined that overall, assault was not significantly predicted by residential instability. The urban areas that were studied showed increased assaults with increased residential mobility, which further identified the characteristics of social disorganization theory differently between urban and rural areas, promoting the need for more research (Goodson & Bouffard, 2020).

This study identified a positive correlation between poverty percentages and index crime rates; however, positive correlation was denounced when the regression analysis was run with residential instability combined. There was no positive correlation among residential instability rates, poverty percentages, and index crime rates within the rural areas of upstate New York when the predictors were analyzed together. These findings suggest that social disorganization theory may not be the most appropriate theory to cover crime in rural New York; however, in order to definitely identify crime causation, more research is needed incorporating additional characteristics of social disorganization theory and a greater sample size, potentially expanding beyond secondary data.

Limitations of the Study

Despite the findings presented, this study is not without limitations. The study was conducted based on secondary data, limiting the information that could be incorporated into the study. A researcher is restricted to data that have been previously gathered and are available for public use when using secondary data. The original data were derived from reporting from county arrests and did not include mitigating factors. The correlational design does not enable the researcher to have control over the variables and limits the information that can be gathered through the design. Despite the correlation found among the variables, there is no ability for the study to provide inferences about the relationship or the causation. Conducting an experimental design in the future would enable manipulation of the independent variables, such that causation could be further explored.

This study is also limited because only index crimes were tested. There are a multitude of crimes that are predominant in rural areas that were not included in the study. Index crimes may be the most heinous crimes; however, the predominance of property and drug crimes in rural areas are important details in creating a complete crime picture. The lack of predictor variables also limited the applicability of this study. Social disorganization theory depicts one-parent households as a crime-inducing factor, which was not tested in the current study. Only two predictor variables were used from social disorganization theory, and no control variable was used.

The study is further limited by the number of cases and the violation in multiple regression assumptions. A deviation in the assumptions may prevent the current study

from being replicated for future uses. The potential secondary violation further limits the study. In order to reproduce the study implications for future findings, the violations could be rectified by incorporating a greater sample size. The increase in cases would allow for the multiple regression analysis to be more robust and a plausible choice for generating applicable findings. Future studies can build off of the current longitudinal correlational design by incorporating a more complete integration of crimes and possible intervening factors through a larger sample of rural areas.

Recommendations

Crime is not a phenomenon that will resolve without measures being taken to limit its presence. Even implemented public policy initiatives have proven to lack effectiveness in eliminating crime. It is imperative for the effectiveness of crime-control strategies to be grounded in empirical literature; therefore, studies need to be continuously conducted. These studies must be based on current knowledge of a given area and incorporate the multiple facets that represent each area. A policy geared toward one area may not be efficient or effective in another area. This is why it is so important to base decisions on what is known. Research proves what is known and what needs to be learned. For the purpose of rural crime-control strategies, it is necessary to continue conducting research and produce empirical literature for the implementation of policies. Rural areas lack large population sizes, which is where the designation of rural comes from. This alone is a pivotal determination in understanding why a one-size-fits-all approach should not be used when determining crime policy. Theoretical assumptions derived from urban research are too often transitioned to meet the needs of differing

geographical areas. The lack of population size is not the only difference that needs to be addressed, but as a result, a multitude of variables arise. Looking at these variables and testing them against all crimes—not just index crime, as was done in this study—is important for a full-scale picture. The approach for future policies should be based on the unique attributes present in each area, but this can only be done through research.

Implications

The results of this research study depict the possibility of social disorganization theory being applicable to cover crime in all geographic areas; however, the results were not definitive or profound enough to enlist social disorganization theory as a predominant theory to explain crime in rural areas. Despite the presence of statistical significance between index crime rates and residential mobility, the amount of change was minimal. The statistically significant finding between poverty and index crime rates was slightly more profound; however, when both predictor variables were tested together, the statistical significance changed. Poverty was no longer a statistically significant predictor of rural index crime. These findings suggest that not only is there a necessity to understand these relationships better, but also there is a need to understand cause and effect among the relationships. The lack of causal relationship limits the ability to determine whether the positive results mean anything for addressing future crime policies. There is a need for future studies to explore rural crime and the multiple facets that are present in order to better address the presenting crime problems within specific nonmetropolitan areas. Positive social change can result from the knowledge of how to administer changes to public policies according to what best suits the characteristics of

each geographic area. If there is a causal relationship present among rural index crimes, poverty, and neighborhood stability, then it is necessary to understand these relationships. This can only be done by conducting future research. Currently, researchers face the inability to accurately gauge rural crime through the lens of social disorganization theory, resulting in the social problem of policies potentially being misaligned with what is needed in that particular area. Further research could address these limitations and prove beneficial for the overall advancement of crime-control initiatives in rural areas.

Conclusions

The purpose of this quantitative correlational study was to examine how residential stability and poverty levels are related to index crime rates within rural areas of Upstate New York in the context of social disorganization theory. The objective of the study was to examine secondary data on county, state, and national level index crime rates, residential mobility, and poverty statistics over a 10-year period. The goal of the study was to understand how public policy can base crime-control initiatives on the unique characteristics and relationships present among poverty levels, residential stability, and index crime rates within rural areas of Upstate New York. By exploring secondary data and being able to isolate rural landscapes, the focus of the study was able to be strictly on rural areas of Upstate New York, addressing the three research questions for the study.

According to the results of the regression analysis when the predictor variables were analyzed individually, residential mobility, measured by the number of individuals moving out of each county for a 5-year period and divided by 5 for an average of each

year, did significantly predict index crime rates in rural New York State. It was also determined that poverty percentages, measured by before-tax calculations of income and family size, did significantly predict index crime rates in rural New York State. The regression analysis results when the predictor variables were analyzed together on the dependent variable showed an output where residential mobility was still a statistically significant predictor of index crime rates; however, poverty was not statistically significantly found to be a predictor of an increase in index crime rates.

Based on the findings outlined in the previous paragraph, a recommendation for future study is incorporating more predictor variables to determine if there is a difference when analyzed separately, as was found in the current study. It is also recommended to determine a more accurate calculation of residential mobility for each year to better understand if the average between the 5 years was enhancing the statistically significant finding. Conducting further research in the rural areas of Upstate New York with the inclusion of all crimes would enhance the understanding of whether the predictor variables only influence violent crimes or have a statistically significant effect on nonviolent and drug crimes as well. Overall, the utility of social disorganization theory as a plausible explanation for crime causation in rural geographic areas is still unable to be determined without conducting extensive research. Achieving a wholistic understanding of crime causation in order to implement effective crime-control policies is an important part of creating productive societies, thereby necessitating continued research in rural crime.

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