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Beyond Social Disorganization Theory:  
The Influence of Multiple Structural Determinants of Crime on an Urban Community

by

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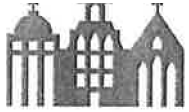
Submitted in partial fulfillment of the requirements for the degree of

Doctor of Education

College of Education  
Seton Hall University

2020

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COLLEGE OF EDUCATION AND HUMAN SERVICES

SETON HALL UNIVERSITY

APPROVAL FOR SUCCESSFUL DEFENSE

Rodney C. Boyd has successfully defended and made the required modifications to the text of the doctoral dissertation for the Ed.D. during this **Spring Semester 2020**.

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## **Abstract**

This correlational, explanatory, cross-sectional study explains the influence of neighborhoods' structural determinants on the rate of violent crimes in New York City's communities. Guided by the theoretical foundation of social disorganization theory, the variables in this study included the economically disadvantaged, racial/ethnic heterogeneity, residential instability/mobility, and the level of educational attainment. The statistical analysis in this study included correlational matrix and simultaneous multiple regression model (ordinary least squares). The study consisted of 59 New York City community districts (encompassing the City's population of 8,622,698 residents) and included the violent crime rates for 2017. The findings in this study indicated that the level of the community's economically disadvantaged and residential instability/mobility does influence the rate of violent crimes in New York City communities. Conversely, racial/ethnic heterogeneity and the level of educational attainment did not influence the rate of violent crime in New York City communities. The findings suggest that more resources should be directed to address poverty within communities with high rates of violent crime.

Keywords: structural determinants, social disorganization theory, economically disadvantaged, racial/ethnic heterogeneity, residential instability/mobility, educational attainment

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## **Dedication**

I would like to dedicate this paper to my mother, Ruth Boyd. Mom, thank you for making my education a priority from the very beginning of my life, which taught me to make education a priority for the rest of my life. I love you!



## Tables of Contents

<b>Abstract</b> .....	ii
<b>Acknowledgments</b> .....	iii
<b>Dedication</b> .....	v
<b>Table of Contents</b> .....	vi
<b>List of Tables</b> .....	x
<b>List of Figures</b> .....	xi
<b>Chapter I: Introduction</b> .....	1
Statement of the Problem.....	3
Purpose of the Study.....	4
Significance of the Study.....	5
Research Questions.....	6
Theoretical Framework.....	6
Design and Methodology.....	8
Variables.....	9
Data Collection.....	9
Data Analysis.....	10
Limitations.....	10
Delimitations.....	11
Definition of Terms.....	12
Summary.....	13
<b>Chapter II: Review of the Literature</b> .....	14

Introduction.....	14
Literature Search Procedures for the Historical and Theoretical Review of Literature...15	
Criteria for Inclusion and Exclusion of Literature for the Historical and Theoretical	
Review of Literature.....	16
General Background Information.....	17
Theory.....	25
Instruments.....	59
Research Synthesis.....	60
Systematic Reviews.....	61
The Stages in Carrying Out a Systematic Review.....	63
The Clearly Defined Research Questions.....	64
Databases and Search Engines Used in this Review of Empirical Literature.....	65
List of Inclusion Criteria and Exclusion Criteria.....	65
List of the Search Terms and Search Strings Utilized in the Search.....	66
Documentation of the Search Process.....	67
Summary Overview of Table 1 with Some Key Factors.....	82
Study Heterogeneity.....	82
Narrative Synthesis.....	85
Summary.....	94
<b>Chapter III: Methods.....</b>	<b>99</b>
Background.....	100
Research Design.....	100

Derivation of General Research Hypotheses and Specific Research Hypotheses.....	101
General Research Hypothesis.....	102
General Null Hypothesis.....	102
Specific Research Hypotheses.....	102
Participants.....	102
Sampling Procedures.....	108
Instruments and Measures.....	108
Variables List.....	109
Data Collection.....	110
Statistical Treatment.....	110
Limitations.....	112
Summary.....	113
<b>Chapter IV: Results of the Study.....</b>	<b>115</b>
Descriptive Statistics.....	116
Results of Testing the Research Hypotheses.....	118
Summary.....	126
<b>Chapter V: Summary, Conclusions, and Implications.....</b>	<b>127</b>
Introduction.....	127
Summary of the Study.....	127
Statement of the Problem.....	127
Theoretical Foundation.....	128
Statement of the Procedures.....	128

Conclusions.....	130
Implications.....	136
Recommendation for Policy and Practice.....	137
Limitations of This Study and Recommendations for Future Research.....	139
References.....	142

## List of Tables

Table 1. Characteristics of Included Studies.....	69
Table 2. City Community District Demographics.....	104
Table 3. Descriptive Statistics.....	116
Table 4. Correlations.....	120
Table 5. Collinearity Statistics.....	121
Table 6. Model Summary.....	121
Table 7. ANOVA.....	123
Table 8. Coefficients.....	123

## List of Figures

Figure 1. Flow Chart of the Inclusion and Exclusion of Studies.....	68
Figure 2. Economically Disadvantaged.....	85
Figure 3. Racial/Ethnic Heterogeneity.....	89
Figure 4. Residential Instability/Mobility.....	91

## Chapter 1

### INTRODUCTION

The New York City Police Department is the largest police department in America and is located in the ninth largest city in the world. The demographics of this city are such that it is distinguished by its inordinate number of diverse backgrounds. The New York City Police Department has over 36,000 uniformed members and has over 19,000 non-uniformed members in support of those in uniform (2019a). It is 66% larger than the Chicago Police Department, the second largest police department in the country, with its 11,954 officers and 1,181 non-uniformed members (2019).

Over the last two decades, the crime rates reported by the New York City Police Department have steadily declined. Since the beginning of the early nineties, the New York City Police Department has been able to maintain social control—the ability to regulate the behavior of residents and visitors for the purpose of diminished crime and victimization (Velez, 2001). The NYPD has been able to successfully manage crime and manage the public’s perception of crime. Recently, however, events of the past few years have changed that perception. With events such as the rise of the Black Lives Matters movement and concern for the inequitable racial distribution in regard to stop-and-frisk and arrests for minor summoning offenses, a phenomenon has emerged whereby the NYPD has been forced to manage the public’s perception of itself, or in other words, manage its own legitimacy (Evans & Williams, 2015; Weisburd, Wooditch, Weisburd, & Yang, 2016).

After *Floyd v. City of New York* (Harris, 2013), in which New York City's stop-and-frisk practices were found unconstitutional, the need for legitimacy was not only paramount but court-

ordered. When police departments are in the position of reestablishing their legitimacy, they resort to procedural justice, a plan of action that encourages citizen participation in decision making. This process gives the perception of neutrality in decision making, demonstrates dignity and respect in police and citizen interaction, and demonstrates that the actions of police are trustworthy (Mazerolle, Bennett, Davis, Sargeant, & Manning, 2013). Procedural justice is a form of intervention, and a familiar police program that falls under the framework of procedural justice is community policing (Higginson & Mazerolle, 2014).

Being an entity that serves the community while not being part of the community was no longer a desire for the New York City Police Department. In 2015, the Department introduced its new community policing program: Neighborhood Policing (Bratton, 2015). Following the framework of procedural justice, the Neighborhood Policing Model states there will be genuinely collaborative efforts among sector officers and community residents in that both will share responsibility for gathering information, identifying problems, and jointly planning local measures to address crime and other issues, highlighting that the new Neighborhood Policing Model will give communities a voice at the most local level in how they are policed (Bratton, 2015).

Unlike most community policing programs, the former Chief of the Department, James O'Neil (now Police Commissioner James O'Neil), the program's developer, and former Police Commissioner William J. Bratton realized that all relationships required time. One of the major tenets of the program is that all patrol officers will be "allotted a minimum of 33% of their respective tours, or about two hours and 20 minutes each eight-hour tour, to engage in proactive and problem-solving activities" with the community (Bratton, 2015, p.4). This one feature



allows the police department to manage crime and simultaneously manage time with the community it serves and hopes to become part of. But what exactly should the New York City Police Department do with this time?

Currently, police officer deployment is determined by calls-of-service via 911 and through crime analysis of past criminal incidents. However, community policing programs are crime prevention programs with the goal of preventing crime from occurring (Community Policing Consortium, 1994). In the age of Big Data, theory has almost lost its usefulness in policing application; yet, in this case of officer deployment for crime prevention measures, theory used in combination with big data may have just found a home. There have been numerous studies that have found that there are neighborhood determinants that indicate a likelihood of crime occurring in certain neighborhoods rather than others and that these neighborhood determinants should be identified and utilized in the deployment of neighborhood policing officers. What then are these neighborhood determinants of crime in New York City?

### **Statement of the Problem**

This study addresses the problem of assigning neighborhood police officers to locations within the city whose structural determinants indicate a likelihood of higher criminal activity for the purposes of preventing crime. The phenomenon of crime is a concern for all citizens of the City of New York. The New York City Police Department, which has notably reduced crime with its past policy of zero tolerance, is still struggling to maintain that reduction in addition to producing further reduction in crime. The term *zero tolerance* is not the preferred term that is generally used by the New York City Police Department (Bratton, 1998), but it is often used to describe the method (policy) of policing utilized by the Department. Regardless of terms, this

policy has produced a rift between the Department and the citizens it serves. To re-legitimize itself in the eyes of the of the community it serves, the NYPD needs to develop new strategies to aid in this task, and the Neighborhood Policing program is the new strategy proposed to meet this need. Under this new program, the major thesis is the collaboration of police officers and citizens working together to prevent crime; as a result, the deployment of police officers can no longer be based solely on the location of past crimes or 911 calls-for-service. The deployment of police officers should also be decided based upon known structural determinants of crime.

The goal of all police departments is crime prevention. One way to effect crime prevention is to identify, if they are present, any determinants of crime other than crime itself. However, there is a noticeable lack of research examining the structural determinants of crime in communities where crime is being reduced. Most, if not all, studies of crime in urban communities focus on communities with rising crime rates. Research needs to be conducted to identify the structural determinants in crime in areas where crime is being reduced to further aid in its reduction and prevention.

### **Purpose of the Study**

The purpose of this study was to identify (if present) the structural determinants of crime in New York City communities. Specifically, this observational/correlational explanatory study explains the relationship between the independent variables, (economic disadvantage, racial/ethnic heterogeneity, residential instability/mobility, and educational attainment), and the dependent variable (major felony crimes).

An examination of structural determinants of crime is a proactive method in preventing future crime occurrences. There have been numerous studies on the structural determinants of

crime in developing urban communities (Pratt & Cullen, 2005). With 55% of the world population currently living in urban areas and with that number expected to grow to 68% by 2050 (United Nations Department of Economic and Social Affairs, 2018), there will probably be a need for more studies conducted in developing urban communities. However, there is a void in the quantitative literature examining the effects of structural determinants on crime in communities that have had significant crime reduction. In addition, amongst the studies conducted in different areas, many yielded different results. New York City is no longer a developing city and is probably the most developed urban area in the world. Taking this into account, there is a need to study the structural determinants of crime in urban communities that have experienced reduced crime rates so as to aid in the further reduction of crime in those communities.

### **Significance of the Study**

The Metropolitan Police Act of 1829 in London and the Metropolitan Police Act of 1857 in New York posed that the true measure of a police department is its ability to prevent crime. The findings of this study may aid the New York City Police Department in the further prevention of crime. Identifying the structural determinants of crime with the inclusion of past crimes may aid the Police Department in making better decisions with resource allocation.

On a community level, the findings of this study may help increase the quality of life for the residents of the community. In addition, by combining community resources and policing resources in a partnership to reduce crime, this study may point to other community needs that are not necessarily a police matter; but through the Neighborhood Policing program, doors may be opened to other city services that will assist the community in addressing those needs.

This study differs significantly from other studies that aimed to explain why crime occurs in that which it also aims to identify the structural determinants of crime by incorporating lessons gleaned from prior researches; however, no such study was conducted in the largest populated city in America: New York City.

### **Research Questions**

Utilizing a quantitative correlational research question format that seeks to identify whether a relationship exists between X (independent variable) and Y (dependent variable) in a specified population (Haber, 2010, p. 35), the following overarching research question guided the study: What, if any, relationship exists between neighborhood structural determinants and crime rates? The study included four sub-questions:

1. What, if any, relationship exists between the number of economically disadvantaged members in a NYC community and the rate of crime in that community?
2. What, if any, relationship exists between the level of racial/ethnic heterogeneity in a NYC community and the rate of crime in that community?
3. What, if any, relationship exists between the amount of residential instability/mobility in a NYC community and the rate of crime in that community?
4. What, if any, relationship exists between the level of educational attainment in a NYC community and the rate of crime in that community?

### **Theoretical Framework**

The importance a theoretical framework is often stressed as a needed component in most social science studies, but the concept, when explained, can be confusing to a researcher who is

new to its idea (Grant & Osanloo, 2014). Simply stated, a theoretical framework is the following:

- the means of organizing and integrating all that is known concerning the phenomenon of study
- it is utilized as a means of preventing the researcher from being overwhelmed by the full-blown complexity of the phenomenon being studied
- it provides a set of blinders and tells its wearer (the researcher) that it is unnecessary to worry about all of the aspects of the phenomenon being studied
- it details rather explicit instructions as to the kinds of data that should be collected in connection with the phenomenon (Hall, Lindzey, & Campbell, 1998)

As this study examined structural determinants, specifically social, economic, and environmental determinants and their possible effects on crime, a theory that provides a macro-level approach to understanding the variation in levels of community crime is best suited to contextualize this study. Clifford R. Shaw and Henry D. McKay's social disorganization theory best suits these needs.

Social disorganization can be defined as "the inability of local communities to realize common values of their residents to solve commonly experienced problems" (Bursik, 1988, p. 521). In accordance with this theory, Shaw and McKay gave the following three reasons to explain this phenomenon:

- residential instability/mobility, which is defined as individuals who move frequently and do not develop any commitment to the community they temporarily live in

- racial/ethnic heterogeneity, which is defined as residential isolation as a result of racial, cultural, and language attributes that block the formation of community unity and
- poverty which, as per Shaw and McKay, by itself does not cause crime but facilitates it because of a lack of the resources necessary to eradicate criminal behavior (Harbeck, 2017).

This study examined the influence structural determinants have on the rate of crime in the communities of New York City through the lens of social disorganization theory.

### **Design and Methodology**

The design used for this study is nonexperimental, explanatory, and cross-sectional, utilizing an observational approach, in which a correlational analysis is the recommended statistical analysis (Edmonds & Kennedy, 2016).

Under the cross-sectional design framework, this study utilized calendar year 2017 data for the four independent variables and the dependent variable under study to identify if any of the structural determinants relate to high crime rates. The study utilized the statistically significant coefficients to create the models of best fit for predicting the neighborhoods that are more likely to have higher crime rates and to determine if the predicted score relates to the actual crime rates. If the predicted model is successful, then this model may be able to aid the New York City Police Department in deployment of police officers in its Neighborhood Policing program.

The population under study are the residents of New York City, aggregated into 59 community districts. The population is currently estimated at 8,622,698, of which 32.1% is

White, 24.3% is Black, 29.1% is Hispanic, 14% is Asian, and .5% is Other ("Quick Facts New York City, New York," 2017).

The process to answer the research questions began with data collection from two websites, entering and analyzing the data in a statistical software package, determination of statistically significant relationships between the independent variables and the dependent variable; and, finding if these relationships exist, the variables could be extracted from the multiple regression to create a best fitting model for identifying neighborhoods whose structural determinants align with higher crime rates.

### **Variables**

The following list is how the variables were coded in this present study. The independent (predictor) variables were the following:

- Racial Diversity Index – the chance that two randomly chosen people in a given geographic area will be of a different race
- Poverty Rate
- Change in Population – The change in population from calendar year 2010 to 2017
- Population Aged 25 or Older with a Bachelor's Degree or Higher

The dependent variable is the following:

- Serious Crime Rate, violent (per 1,000 residents) during calendar year 2017

### **Data Collection**

Observational studies utilize two types of data sources, primary data and secondary data, with the former being collected by the researcher and the latter data which have already been

collected for other reasons but are being used by the researcher to answer his research question (Carlson & Morrison, 2009). This study utilized secondary public data only.

All data for this study were collected through the use of two publicly available websites. The first was CoreData, which is described as New York City's housing and neighborhood data hub, presented by New York University Furman Center" (NYU Furman Center, 2020a). The second is New York City's Department of City Planning/Community District Profiles website (City of New York, 2020). The data for racial diversity index, poverty rate, change in population, and serious crime rate were retrieved from the CoreData website. And, data for the population aged 25 or greater with a bachelor's degree or higher were retrieved from the Department of City Planning website.

The following are the links for these two websites:

- <http://coredata.nyc/>
- <https://communityprofiles.planning.nyc.gov/>

### **Data Analysis**

A simultaneous linear regression was utilized for data analysis. Simultaneous linear regression can provide estimates of the total effects of a series of variables on some outcomes, and it improves the prediction of some outcomes over and above an existing set of variables (Keith, 2019).

### **Limitations**

First, this study is limited as a result of its correlational design. This study can only indicate the correlation between racial diversity, poverty, change in population, the population aged 25 or older with a bachelor's degree or higher, and violent crime; as such, it cannot



determine cause and effect. Despite this limitation, high correlations permit the possibility of prediction of outcomes (Mills & Gay, 2019).

Additionally, this non-experimental, correlational, explanatory, cross-sectional study focused on data collected at one point in time; as a result, it will be unable to detect patterns from the data over time.

Another limitation of this study is derived from the limitations associated with secondary data analysis. This study utilized data from the New York City Planning Community District Profiles website and the NYU Furman Center CoreData New York City website. None of these data sources were designed for the purposes of this study; yet each played an essential role in addressing each research question.

Last, it was possible for issues with multicollinearity to arise (which can occur during regression modeling when two or more predictor variables are moderately or highly correlated); this is further explained later in this research.

### **Delimitations**

This study is delimited to the city for which it was conducted, New York City. While researchers have conducted similar studies to test social disorganization theory, New York City is a unique urban area due to its constant reduction of crime and—reiterating the goal of this study—what structural determinants cause the greatest or lowest reduction in crime rates.

This study utilized data from the New York City Police Department and New York City community districts. There are 59 community districts and 77 police precincts. This study was based upon community districts and precinct alignment. U.S. Census data align with community

districts, which only allows for analysis of community districts that align with precinct boundaries.

### **Definition of Terms**

The following terms are relative to this study:

**Concentrated disadvantage** – Concentrated disadvantage can be defined and measured in many different ways. One way it can be defined and measured is as an economic indicator that is calculated from five Census variables: the percent of individuals living below the poverty line, the percent on individuals on public assistance, the percent of female-headed households, the percent of people unemployed, and the percent of people less than 18 years old (2013).

**Demographic diversity** – The degree a community is heterogeneous with respect to gender, race, age, and education (Pelled, Eisenhardt, & Xin, 1999).

**Institutional Instability** – A community that is in constant change, reaction, or unrest caused by various social consequences in an established environment (Sampson & Wilson, 1995).

**Population Density** – A measurement of population that is typically expressed as the number of people per square mile of land area (Cohen, 2015).

**Residential instability** – Residential mobility is when a household or individual moves from a primary residence to another residence; residential instability is when residential mobility occurs frequently and over short intervals (Theodos, McTarnaghan, & Coulton, 2018).

**Social control** – The mechanisms by which society maintains social order and cohesion. Some of the mechanisms that are used are coercion, force, restraint, persuasion, and shame and are exercised by family and friends (informal control), religious organizations, schools and the workplace (parochial control), and by government or police (formal control) (Carmichael, 2012).

**Social disorganization** – Is the opposite of social organization, which is the orderly arrangement of the parts of a community. Social disorganization occurs when the parts of a social structure do not perform their functions efficiently and effectively or perform them badly (Shah, 2018).

### **Summary**

This observational/correlational explanatory study explores the effect structural determinants have on crime rates in New York City communities. Following the framework of social disorganization theory, the effects the predictor variables, (economic disadvantage, racial/ethnic heterogeneity, residential instability/mobility, and educational attainment), have on the outcome variable (major felony crimes) are examined. Identifying the locations in New York City may be useful for the purposes of proactive policing, police officer allocation, and the allocation of other city social services.

## **Chapter II**

### **REVIEW OF THE LITERATURE**

#### **Introduction**

The following is primarily a review of empirical research on the structural determinants of crime. This review of literature will mainly focus on the relationship between community structural characteristics and violent crime.

The structure of this review of literature was recommended by Newman, Benz, Weis, and McNeil (1997) in their book, *Theses and Dissertations: A Guide to Writing in the Social and Physical Sciences* in that it has a General Background Information section, a Theory section, an Instruments section, and concludes with a Summary section.

This chapter is divided into four sections. The first section of this chapter gives a historical overview of policing and the need for social control in New York from the founding of the city to the creation of the New York City Police Department. The second section of this chapter reviews the history of crime theory and how it led to the study of the neighborhood structural determinants of crime and social disorganization theory. The third section explains the importance of social disorganization theory in regard to this research, how this theory provides a structured background for this study and the impact it has had on the study of crime. In addition, this section explains the difference between formal and informal social control and why policing should make both a priority. The third section considers the correlational research studies that have investigated the relationship between community structural characteristics and violent crime, explores how the structural determinants of crime were analyzed, measured, and determined under the framework of social disorganization theory and how they support and

express the need for this current study. The fourth section summarizes the need for this research and how it adds to the current knowledge base on the structural determinants of crime and their relationship to policing policies.

In short, the main purpose of this chapter is to provide a historical review of the literature, a theoretical review of the literature and to provide a research synthesis of empirical literature by utilizing secondary research methods.

### **Literature Search Procedures for the Historical and Theoretical Review of Literature.**

The literature reviewed for this chapter was conducted via online databases including Google Scholar, the Seton Hall University Library online system, Academic Search Complete, Educational Resource Information Center (ERIC) (EBSCO) (A&I), ProQuest ERIC, ProQuest Social Science Database, ProQuest Psychology Database, Criminal Justice Database (ProQuest Central), websites of New York State courts, and numerous resources published by the New York City Police Department and the United States government. All references were stored in EndNote X9 reference management software, and the usage of reference material and this study's formatting is supported and defined by the guidance provided in the Publication Manual of the American Psychological Association, Sixth Edition (American Psychological Association, 2010).

Search terms that were utilized in electronic searches included the following: structural determinants of crime, social disorganization theory, history of policing, history of New York, zero tolerance policing, economic disadvantage, racial/ethnic heterogeneity, residential instability/mobility, educational attainment, community policing, criminology, criminological

theory, criminological theorist, informal social control, and formal social control. Boolean Operators were used to aid in the search.

Books utilized for this literature review included those published within the fields of criminological theory, environmental criminology, crime history, police history and the New York City Police Department's patrol guide. This review of literature was conducted under the framework for scholarly literature reviews suggested by Boote and Beile (2005).

### **Criteria for Inclusion and Exclusion of Literature for the Historical and Theoretical Review of Literature**

All studies included in this review met most, if not all, of the following criteria:

- The study was written in English.
- The study was written and published post 2014 unless theoretical in nature or historical in context primarily pertaining to the history of New York, the history of policing, and the history of criminological theory.
- Government documents, rules and regulations, laws, and ordinances
- Peer-reviewed journal articles that utilized quantitative methods and published in journals which had acceptance rates below 30%
- The study measured the effect or relationship, through correlational analysis, of at least one of the structural determinants posed in the research questions.
- The study reported the results on at least one of the following dependent variables: violent crimes, robberies, assaults, homicides, and shootings

Studies not included in this literature review were the following:

- Non-English studies

- Studies that could not be verified by a secondary source
- Studies with no methods described
- Content redundancy
- The literature was not relevant to the problem

### **General Background Information**

#### **A look at Urbanization and Crime**

Managing crime is difficult, especially in an urban environment. While most large cities struggle with the phenomenon of crime, for the past 30 years New York City has managed to reduce crime, in some cases to levels that have not been seen in over 50 years.

Many studies on the phenomenon of crime are conducted in urban areas. Urbanization has both positive and negative effects on the society that is currently experiencing it. As per the United Nations, 55% of the world's current population lives in urban areas (United Nations Department of Economic and Social Affairs, 2018). One of the positive effects of urbanization is that it is linked to economic development and growth (Bairoch, 1991; Bertinelli & Black, 2004). For example, in high-income countries, 85% of the country's gross national product is generated from its urban areas (World Bank, 1999).

Notwithstanding this link, while some cities thrive, there are some that fail (Jacobs, 2016). Some of the negative effects of urbanization include congestion, environmental degradation, and crime (Bloom, Canning, & Fink, 2008). New York City, considered to be the eighth largest city in the world and the largest on both the North and South American continents, has seen great economic development and growth; it has also managed to lower crime. New York City has shown that it can consistently lower crime and manage economic prosperity while

other larger urban environments fail to do both. For example, in 2017, Chicago, the country's third largest city had 660 homicides versus the 292 homicides that occurred during the same year in New York City; this is in spite of the fact that New York City has nearly three times the number of residents (FBI, 2018; U.S. Census Bureau, 2018). With this fact being noted, a review is needed to point out how society's behavior within New York City led to the creation of the New York City Police Department.

### **The History of Crime and Policing in New York City**

A review of policing is important because it aids in understanding the lengths to which governments will go in their efforts to control socially harmful behavior and offers insight into those lengths (Steverson, 2008). In looking at social disorder, proper scholarship requires a review of New York City's history and what events took place that necessitated the need for the governance of social disorder. This short historical narrative, combined with event-structure analysis, will aid in the causal interpretation as to what led to the creation of the New York City Police Department (Griffin, 1993). In brief, this historical review views the need for social control through the theoretical lens of causality.

The story of New York begins in 1524 when Giovanni da Verrazzano, on behalf of King Francis I of France, blundered into New York Harbor (Lankevich, 1998). He never set foot on the land he found and reported to the king of the impassable land mass he found that stood between Europe and China (Verrazano, 1970). New Yorkers chose to name a bridge after Giovanni da Verrazzano to honor the path he chose when he visited the area (Gandy, 2003).

In 1609, English sailor Henry Hudson, while working for Dutch merchants, sailed his way up what is known today as the Hudson River (hoping to find a northwest passage to Asia),



and reported to his employers the possibility of good trading in the area (Cavendish, 2014). This discovery led to several Dutch companies vying for the region at this time known as the American territories. After intense competition, the Dutch government chartered the Dutch West India Company, a monopoly over all trade that took place in Africa, South America, the Caribbean, and in New Netherland in North America (Lamb & Harrison, 2005).

While already having a few Dutch settlers in New Amsterdam, now under control of the Dutch West India Company, New Netherland and its capital New Amsterdam, both considered to be one proprietary colony, began to see its first visitors 1624. These visitors who were under employment of the Dutch West India Company had to follow the rules set forth in the charter. The area known as New Netherland and New Amsterdam later came to be known as New York State and New York City, respectively. At this time in New York's history, social order was maintained by a few Dutch troops (an army paid for by the Dutch government on call for the Dutch West India Company) that accompanied the first charter settlers of the Dutch West India Company (Offen, 2010).

In 1626, the settlement's director general, Peter Minuit, purchased the island of Manna-hata (Manhattan) from the Native Americans for 60 guilders (converted into USD today is equivalent to \$33.51 or adjusted for inflation, \$1,014.32), (Good, 1923, p. 261). On the island of Manhattan, Minuit pushed forth the construction of Fort Amsterdam, not so much to ward off Native Americans but to defend against possible attacks from the English, French, and Spanish (Barreveld, 2009). Also in 1626, alcohol began to become such a problem that requests were made to have the Dutch West India Company send over workers who were sober and willing to work as farmers and builders (Dutch West India Company, 1924).

For a short time, New Amsterdam rules were administered by the *schout fiscal* (sheriff attorney), Johan Lampo, whose role included district attorney and that of the community's first police officer (Ruff & Cronin, 2012, p. 9). He could not effect arrests unless court ordered or if the crime occurred in his presence (Roth, 2019, p. 84). To supplement his efforts, in 1633 the first garrison troops appeared in New Amsterdam; fifty men who had to be split to guard Fort Orange (in Albany) in addition to Fort Amsterdam in Manhattan. Despite the addition of troops, crime control in the Dutch's polyglot society began to be a problem due to its being a heterogeneous population made up of Dutch fur traders, European nationalities, and African slaves (Greenberg, 1982).

As the population rose, crime started to rise in New Amsterdam and in May 1638, the city recorded its first murder; the victim was Gerrit Jansen, who was stabbed to death during a brawl in front of Fort Amsterdam (Stokes, 1915, p. 19). Ordinances were created to address the problems they were having such as fighting, adulterous intercourse, theft, and false swearing (O'Callaghan, 1868). Also during this time, governance was needed to guard against Native Americans (Jackson & New York Historical Society, 2010). As a result of the rising tension between the colonists and the Native Americans, in May of 1640 an ordinance was created for the arming and mustering of the militia in cases of danger; this militia would later become known as the Burgher Guard (O'Callaghan, 1868, p. 23).

"Burgher" was a title given to denote a person's identity, and having burghership meant that the person could be an active member of society and participate in town affairs such as government, administration of justice, and with the added bonus (if you were an able-bodied man) mandatory unpaid service in the Burgher Guard to protect the town and its inhabitants

against enemies from the outside and defend public order and safety in the community (Venema, 2003, pp. 105-111). The Guard was first mustered in 1642, reluctantly by then Director-General Kieft (Scisco, 1895, p. 738). By 1643, due to the unruly behavior of the Burgher Guard, ordinances were created to curtail their actions on duty, such as using the Lord's name in vain, speaking ill of a fellow guardsman, being intoxicated on duty, and firing of their weapon without orders of their corporal (O'Callaghan, 1868). In 1644, under the command of Captain Jochem Pietersen Kuyter, they were deployed in the Indian War of 1644 (Osgood, 1904, p. 388).

In 1647, the new Director General of New Amsterdam, Peter Stuyvesant, was dismayed upon his arrival to New Amsterdam by the social disorder (Abbott, 1873, p. 125). Between 1647 and 1658, the need for social control was made apparent upon review of the ordinances produced during that time. Beginning in May 1647, ordinances were created to stop drinking during church services, stop drinking after 9 p.m. every day of the week, stop selling strong alcohol to Native Americans (and later to prevent the sale of any type of alcohol to Native Americans), to prevent goats and hogs running wild in New Amsterdam, to regulate the driving of carts, wagons, and sleighs in New Amsterdam (and later to stop fast driving—America's first traffic law), to stop firing of guns at wildlife residing within New Amsterdam city limits (to stop all firing of guns within city limits), to stop the harboring of pirates or vagabonds and to regulate their behaviors, to stop the slaughtering of cattle without a permit, to prevent smuggling of goods, and to prevent quarreling and fighting in public streets (New Netherland Council, 1658; Roth, 2019).

By 1658, Stuyvesant, to address the growing problem of Native American raids, (and at the request of the Burgher Guards to be relieved of night watch duties), directed the creation of a

paid nighttime foot patrol (the Rattle Watch), consisting of a captain and eight men armed with wooden rattles to alert residents of raids or fires. They are considered to be the first paid public police force in America (McCabe, 2012; Paulding, 1843; Venema, 2003). The watchmen received twenty-four stivers per night, while their captain, Lodowych Pos (the city's first police captain) received fifteen stivers per month from all householders (Peterson & Edwards, 1917). The watchmen patrol carried green lanterns from sunset until dawn and hung their lanterns on a hook by the front door of the watch house to show they were on the job (or on watch); this tradition is still being practiced by the New York City Police Department (Greenberg, 2015). In front of every police station house, there are two green lanterns that indicate someone is on watch. Stuyvesant was clever enough to develop ordinances to control the Rattle Watch's behavior, such as working while impaired due to alcohol, sleeping on duty, blaspheming, and fighting on duty (Tuckerman, 1893, p. 128). In contrast, this type of criminal justice did not feel the need to construct jails since the time between detection, judgment, and punishment normally took a few days (Christianson, 1991).

In the mid to late 1600s, the proprietors of social control changed hands. In 1664, by order of King Charles I of England, James, Duke of York, the commander of the Royal Navy, sent a fleet to New Amsterdam to assert England's claim over the colony; Governor Stuyvesant surrendered without a fight and New Amsterdam's name was changed to New York City in honor of the Duke of York (Klein, 2001). At this time, there were fifteen hundred inhabitants in New York City, and the watch system remained in place under British rule. In 1665, Colonel Nicolis, who took possession of the colony, granted a charter of incorporation to the city's occupants to be administrated by a Mayor, Aldermen, and Sheriff, which ordered a team of six

burghers to do night watch every night. In addition, the British appointed the first constable to, among other duties, oversee the watchmen (Costello, 1885). By 1686, there were one or more constables assigned to each of the six wards of the city (Bridenbaugh, 2013, p. 81). In 1734, the original watch system was replaced by the Constable's Watch, which consisted of a high constable and 12 sub-constables (today's NYPD's Medal of Honor has 12 stars on it that represent the 12 sub-constables) (Whalen & Whalen, 2014).

The watch system remained in place during the Revolutionary War, and after that it ended in 1783 as a result of dissatisfaction with the British troops' attempt at law enforcement. Yet, despite having a paid citizen night watch system in the 1770s, it could not stop or reduce the growing crime problem that came with a growing population and urban life. Over time, and with the evacuation of the British army from New York, the citizen's watch would desperately need changes; and without the proper resources, they could not keep up with their criminal counterparts (Roth, 2011).

In 1812, Charles Christian wrote a brief treatise regarding the need for a preventive formal police force in the city of New York due to the growing unlawful conditions in the city at the time. He pointed out the following social disorders: the growing population of thieves, sharpers (con men), prostitutes and brothels, gamblers and gaming houses, taverns, and pawn-brokers (Christian, 1812). In addition, he cited that there were three classes in New York City: those that practice justice without coercion, those who are deterred from the practice of crime because of fear of detection, and those who have been corrupted early and whose natural inclination is crime. He added that a police force is needed to protect the first class from danger,

prevent the second class from descending into a life of crime, and to frustrate or punish the third class (Christian, 1812, pp. 3-4).

During the early 1800s, and despite heeding the suggestions of Christian, disorder continued to grow in the city in the form of riots. The city had riots due to the influx of Irish immigrants, differences between political parties, differences of religion, and differences between the original settlers and African Americans (Chadwick, 2017). In 1839, city ordinances were created to address this growing social disorder. The Night Watch was restructured by the city's Common Council to report directly to them and included provisions for a Superintendent of the Watch, Captains of the Watch, the appointment of 132 Sergeants of the Watch, and granted the Superintendent the power to appoint 784 watchmen and sergeants (New York, 1839). Despite this increase in manpower, crime continued to rise, and advocates of reform took their case to then Whig Governor, William H. Seward. In 1844, he and his legislature passed the Municipal Police Act, which eliminated the night watch and created a unified full-time day-and-night police force of 800 men (Dougherty, 1893; Lardner & Reppetto, 2001). In 1845, the Common Council of the City of New York made the state law into city law, thus creating the Municipal Police Department (New York, 1845).

Unfortunately, politics played a large role in determining what was next for the Municipal Police Department, which by 1857 was under heavy Democratic control; as a result, the Republican controlled New York State Senate passed the Metropolitan Police Act, which abolished the Municipal Police Department and created the Metropolitan Police Department (Burrows & Wallace, 1998). This state-run police department was short lived, and in 1870 New York City pushed the state to eliminate the Metropolitan Police Department, recreate the

Municipal Police Department, and have it once again be controlled by city legislators (Ruff & Cronin, 2012). The 1870 Municipal Police Department is now known as the New York City Police Department.

Currently, the New York City Police Department is budgeted for 36,118 uniformed members of the service (City of New York, 2019c). It is comprised of 82% males and 18% females, of which 49% are White, 28% are Hispanic, 15% are Black, and 8% are Asian (City of New York, 2019b).

## **Theory**

### **An Introduction to Crime Theory and Bringing Theory into the Fold**

In research, it is necessary to know and understand the history of the subject being researched in order to obtain a better understanding of the need and the purpose of the study being undertaken. This study falls within the realm of crime and criminology, with a goal of utilizing theory and the study thereof to develop practical strategies with the sole purpose of reducing crime. Before engaging in such an undertaking, we must first review the history of crime and the theories that paved the way for this research to become possible; in other words, look at crime, criminology, and the theories that laid down the foundation of the American criminal justice system and the foundation for this research.

### **The Study of Crime and the Creation of the Discipline of Criminology**

Crime is a phenomenon that has affected all Americans, and an understanding of it is necessary for the purposes of this research. While most American citizens may not be direct victims of crime, it could be argued that taxpayers are all victims if we consider how much of the country's tax dollars are spent on preventing, fighting, adjudicating, punishing, and analyzing

crime. The police, law (lawyers and judges) and corrections (probation, correctional facilities, and parole) are the major recipients of tax contributions for the management of crime. Schools (curricula and researchers), hospitals, drug and alcohol treatment centers, and psychologists are all minor recipients of tax contributions for the management of crime. While the country is consistently under siege by this phenomenon of crime and its management, even defining crime can be a daunting task (Jeffery, 1959, pp. 4-7). For the purposes of this research, crime is “a type of behavior that has been demarcated by the state as deserving of punishment, which usually includes imprisonment in the county jail or state or federal prison. Crimes and their punishments are defined by Congress and state legislatures” (Hill, Hill, & Nolo, 2009, p. 107). Determining the causes of crime falls under the field of criminology and this current study.

The meaning of criminology has taken shape and been reformed many times over the years; for the purposes of this study, this researcher develops a solid foundation of criminology that aids in the understanding of many concepts that were utilized in this research. To date, the generally accepted definition of criminology was provided by Edwin H. Sutherland in his book, *Principles of Criminology*. Sutherland defined criminology as “the body of knowledge regarding crime as a social phenomenon which includes within its scope the processes of making laws, of breaking laws, and of reacting towards the breaking of laws” ( Sutherland, Cressey, & Luckenbill, 1992, p. 3). A shorter definition of criminology, which happens to be equally accurate is “criminology is the scientific study of crime” (Pond, 1999). This understanding of criminology remains true as this study moves further along.

Since theory is so fundamental to this study, it would be reasonable to first develop an understanding of the history of criminology because its understanding is the bedrock of



criminological theory. Criminology was founded by philosophers, sociologists, historians, lawyers, economists, and psychologists who took interest in the study of the phenomenon of crime (Gibbons, 1968; Zedner, 2007). Since criminology's roots stem from sociology, it would be prudent for this study to glance at sociology as well.

The term *sociology* was first used by French sociologist Auguste Comte in his book, *The Positive Philosophy* (Comte, 1880, p. 22). Comte viewed sociology as both an observation of human behavior and as a process, a process that has a progression of three stages: the theological stage (explanations of a phenomena), the metaphysical stage (philosophical explanations of a phenomena) and the positivity stage (scientific explanations of a phenomena) (Hagan, 2017). Sociology was described by one of the principal founders of modern sociology, Emile Durkheim, as a “neologism” (a newly coined term) ( Durkheim & Giddens, 1972).

As a reminder, this study speaks of sociology as a historical reference of crime study, not to retreat into it as a discipline utilized in this research. The purpose of this introduction to crime theory is strictly philology and the profound effect it has on the study of crime today.

Philosophers and sociologists often spoke of the study of crime and justice as “criminal sociology.” Enrico Ferri, a criminal sociologist, began using the term *criminal sociology* for his book, titled the same, first published in 1884 (Ferri, 1996). He believed it was barbaric to join a Latin word to a Greek one, “criminal” being the former and “ology” being the latter. In 1879, the first scholar to use the term *criminology* was Frenchman Paul Topinard, who happened to be an anthropologist and not a criminologist; and it was Baron Raffaele Garofalo who was the first to use the term for the title of his book, *Criminologia* (criminology), which was released in 1885.

Criminological scholars are still unsure if the term *criminology* was first used by Topinard or Garofalo, but scholars can agree on its importance as a discipline (Radzinowicz, 2002).

During the late 1800s through the early 1900s, criminology remained a specialized field of study in sociology; it wasn't until the 1960s that community colleges began offering associate of arts degrees in criminal justice, and by 1990 there were over 1,000 institutions of higher learning offering bachelor, graduate, and doctoral degrees in criminal justice, criminology, and law enforcement (Akers, 1992, p. 7). According to Hesselink and Herbig, in their study, *The Scientific Basis of Criminology*, "Criminology as a science has evolved over the past 50 years from a 'sub-discipline' into a self-reliant and contemporary discipline" (2009). It is this science that forms the basis of this research.

### **The Need to Understand Theory**

Theory and theoretical understanding are an important part of this research; and before moving forward, it is necessary to have a clear understanding of the term *theory*. Since the biblical story of Cain and Abel, man has been attempting to theorize why people conform to or deviate from social and legal norms. When we say *theorize*, we mean the development of a theory. While there exist many theories as to why people behave outside of social and legal norms, there are an equal number of definitions as to what exactly a theory is. It has been suggested that theories in the field of criminological studies have developed a bad name and "are just fanciful ideas that have little to do with what truly motivates real people" (Akers, Sellers, & Jennings, 2017).

However, research on theories has demonstrated that theories are more than just fanciful ideas. In the book, *The Conduct of Inquiry: Methodology for Behavioral Science*, the authors

cite that a theory is “a symbolic construction” (Kaplan, 1964). In their paper, “Multiparadigm Perspectives on Theory Building,” authors Gioia and Pitre broadly defined a theory as “any coherent description or explanation of observed or experienced phenomena” (Gioia & Pitre, 1990, p. 587). Theories should meet two basic criteria. A theory must make use of objective evidence and systematic observation, and a theory must have a rational explanation of that evidence; in short, “a good theory is one that can be tested and that best fits the evidence of research” (Williams III & McShane, 2018, pp. 1-3). For the purposes of this research, this study utilized the definition of theory as defined by Tibbetts and Hemmens: “A theory can be defined as a set of concepts linked together by a series of statements to explain why an event or phenomenon occurs; it is a model of the phenomenon that is being discussed,” which, in the case of this paper, is the phenomenon of criminal behavior (Tibbetts & Hemmens, 2019).

Theories that attempt to explain the behavior of an individual as a result of psychological or biological reasons (such as human decision making, rational thinking, and biochemistry) can be categorized as micro theories, and theories that attempt to explain criminal behavior as a result of structural attributes (such as gender, socioeconomic status, population density, or police effectiveness) can be categorized as macro theories.

It is one of the goals of this research to express the importance of theory and theory building in criminology research. Ultimately, the goal of criminology theory is to guide research, to aid the researcher in analyzing the determinants of crime, and to aid in development of policy to assist in the prevention of future crime. Unfortunately, for a criminologist to quickly minimize or eliminate crime, theory is normally left out of the process. In the journal article, “The Present State of British Criminology,” the author noted that theoretical criminology is a

thing of the past to the younger generation of criminologists; they are only engaging in the practical and the empirical (Rock, 1988). This study proposes that it is best to review all previous theories that led up to the creation of the theory or theories that will be utilized in any current research project. Jeffery noted in his research, *Pioneers in Criminology*, that if researchers were to take a moment in time to understand the pioneers of criminological thought and theories, then they could better understand the current issues in criminology today (Jeffery, 1959, p. 3).

### **The Criminological Schools of Thought and Their Thinkers**

A brief historical review of the efforts of those who made this research possible is needed for a clearer understanding of why we can conduct such a task today.

**The Dark Ages (500-1000).** To begin, while this study did not reference crime-fighting methods from the Dark Ages, it should be noted that it was the crime-reduction strategies of the Dark Ages that contributed greatly to changes that led to the methods we are able to utilize today. As such, a brief review is warranted. The Dark Ages' crime-fighting strategies can be summed up in one statement, "The devil made me do it," a famous line spoken by actor and comedian Flip Wilson (Sutherland & Wilson, 2008, p. 112). And while crime is not funny, during this period, the most common belief of the determinants of crime was demonic possession or demonic perspective—demonology—the belief that crime is caused by otherworldly forces (Einstadter, 2006). During this time, brutal methods were used to determine if a person was demonically possessed; and if a person was found guilty of possession, a person would be slowly tortured to death in public for the purpose of purging the body of the sinner of all traces of the evil with the added benefit of strengthening the community's relationship with God (Pfohl, 1985,

p. 25). The Dark Ages, whilst infamous, did produce a time when man became enlightened and new theories on the determinants of crime were developed.

**The Age of Enlightenment (1688-1789).** The demonic perspective, being the leading theory as a determinant of crime, began to be challenged during the Age of Enlightenment, where philosophers theorized about new determinants of crime. Philosophers at the time were not criminologists or sociologists but questioned the unjust treatment of man. Notable political philosopher Thomas Hobbes introduced the idea of a “social contract” (Hobbes, Rogers, & Schuhmann, 2005). Hobbes formulated the idea of the “social contract” in his book *Leviathan*, in which he postulated that human beings are rational beings who can choose their own destinies, create democratic societies, and create rules and laws to govern themselves (Hobbes et al., 2005). In addition, Hobbes theorized that until humans of a nation receive the respect they are entitled to by their governing bodies and by their criminal justice systems, they will never fully commit to said governing bodies or their systems of criminal justice (Tibbetts & Hemmens, 2019, p. 45).

Hobbes was not alone in his belief in the “social contract.” French philosopher Jean Jacques Rousseau added to the work of Hobbes with his book *The Social Contract, or Principles of Political Right*. Rousseau believed that it did not matter if the governmental structure of a nation was a democracy or monarchy; all forms of governmental structures are at the will of the people they serve; and if a governmental structure was to act outside of the will of the people, its people have a right to replace it (O’Connor, 2013; Rousseau, 1795).

The Age of Enlightenment also produced English philosopher John Locke. In 1690, John Locke wrote and anonymously published his book *Two Treatises of Government*. In his book, the first treatises of government focused on Locke’s outward opposition to autocracy. In the

second treatise, Locke proposed the idea of “natural law,” which argued that God had given each person life and as a result, “it was part of God’s ‘natural law’ that the individual was the only rightful owner of this life, that each had this right equally, and the right was therefore inalienable” (Hillard, 2014).

In sum, the relevance of the “social contract” can be seen in today’s criminal justice system. Man has free will to decide how he or she will behave; and while that behavior can be influenced by God or the Devil, it is most likely to be influenced by desire for money, sex, or security. In light of that free will, when man behaves outside of social and legal norms, punishment is no longer carried out by individuals; punishment is carried out by the government, and last, the fear of punishment is the primary method of controlling behavior in our current justice system (Pond, 1999).

The Age of Enlightenment may seem insignificant, but its significance becomes important when one realizes that the foundation of the criminological schools of thought that led to the study of structural determinants and their influences on crime were influenced by this age. The next section of this introduction reviews the three main schools of criminological thought that contributed greatly to our current criminal justice system and to the study of structural determinants.

**The Classical School of Criminology - Classicism (1750-1870).** During the eighteenth century, even though the term *criminology* was not created until the late nineteenth century (Beirne, 1993, p. 233), philosophers touched on criminological theories during their efforts to create criminal justice reform (Williams III & McShane, 2018, p. 13). Two writers during this time, Cesare, Marchese (marquess) Di Beccaria Bonesana (also commonly known as Cesare

Beccaria) and Jeremy Bentham are mostly noted for creating what is known today as the Classical School of Criminology. However, before looking into their contributions to the Classical School of Criminology, we must first answer the question, what is the Classical School of Criminology?

Many authors and researchers of criminological studies have applied a good amount of research into the Classical School (or Classical Thought) of Criminology, but no other author summarizes this school of thought as well as Natalie Boyd in her paper titled, "Criminology." The Classical School of Criminology is based upon five key principles: rationality, hedonism, punishment, human rights, and due process (Boyd, 2018a). Rationality implies people have free will and they make a choice when they behave in opposition to social and legal norms; hedonism implies people will seek pleasure and try to avoid pain; punishment applies to the pain a person will feel if he or she engages in hedonistic behavior; human rights implies that all individuals have rights and those rights need to be respected by society, and due process implies that a person charged with committing a crime is innocent until proven guilty (Boyd, 2018a). In regard to punishment, the Classical School of Criminology argued for a definite penalty for each crime, and the punishment for the crime must fit the crime committed (Jeffery, 1959). A noted proponent for change in how crimes were punished is Cesare Beccaria.

In 1764, Cesare Beccaria self-published his first book, *Dei Delitti e Delle Pene (On Crimes and Punishments)*, which was about criminal justice reform (Beccaria, 1769). Beccaria's work demonstrated that it was greatly influenced by being written during the Age of Enlightenment. Beccaria's book spoke of how authoritarian governments ruled the justice system, which were very unjust at the time, noting examples of how if a man stole a loaf of bread

to feed his family, he was often placed in jail for life or even killed ( Thomas, Voltaire, & Parzen, 2008). Beccaria's book proposed several reforms of the current justice system at the time, such as allowing the laws that were broken to define the type of punishment required and the idea that these laws and types of punishment should be decided by citizen-elected legislatures (Thomas et al., 2008). Beccaria's book also proposed ideas such as cross examination, that torture should not be used against defendants, the right to be tried by one's peers, laws and decisions of law should be more transparent for the people, the process of the justice system should be made public knowledge, and that the best way to prevent crime is by perfecting the nation's system of education (Tibbetts & Hemmens, 2019). Last, Beccaria believed that the purpose of punishment was to deter or prevent future criminal acts and that punishment should be swift (the swifter the punishment is, the more useful it will be), punishment should be certain (certainty would exact fear), and punishment should be severe (the punishment should outweigh the potential benefits of the criminal act) (Tibbetts & Hemmens, 2019). Cesare Beccaria is considered to be the father of both modern criminal law and criminal justice (Hostettler, 2010). His contributions are reflected in today's criminal justice system. For example, United States citizens do sacrifice some of their rights to live in a peaceful society; its citizens have the right to bear arms and defend their nation; punishment is fixed by law and by the type of crime; and its laws are clear, simple, and defensible by all of its citizens (Pond, 1999). Beccaria's work was studied further by another noted philosopher of the time, Jeremy Bentham.

Jeremy Bentham, a British philosopher, is considered the founder of modern utilitarianism (Griffin, 1982). The term *utilitarianism* can be defined as "a belief that morality must be determined by the consequences of an action; society and the survival and benefit of all



are more important than any individual, and something is right when it benefits the continuance and good health of society” (Pollock, 2017). During the late 1700s, Bentham became very unhappy with English law, and he expressed this through his writings. In 1789, he introduced the idea of utilitarianism (also known as the principle of utility) in his book *An Introduction to the Principles of Morals and Legislation*. Bentham believed that through government legislation, the government could achieve the greatest good for the greatest number of people in its nation—happiness being the greatest good (O’Donnell, 2013). He was also involved in reforms in animal welfare, changes in prison design and management (prison surveillance and inmate discipline), and the decriminalization of homosexuality (Williams III & McShane, 2018, p. 15). In addition, he is noted for his principle that “the punishment that the law imposes should result in pain in excess of the pleasure that might be derived from the criminal act, so as to be a deterrent” (Pond, 1999). The work of both Beccaria and Bentham caused them both to become known as the founding fathers of the Classical School of Criminology.

The Age of Enlightenment and the Classical School of Criminology had a profound effect on society, examples of which are the United States Constitution and the U.S. Criminal Justice System (from arrest with due process to the idea of punishment shaping our prison system) ( Williams, 2012). The Classical School of Criminology believed that the causation of crime was free will and dismissed the idea of demonic possession; but as with all things, the Classical School of Criminology is not without its shortcomings. One of the problems with the Classical School of Criminology is that it only gives attention to the crime committed and not the person committing the crime; and by doing so, it fails to acknowledge that some criminals are irrational individuals and commit crimes not as the result of rational thinking or free will.

(Steden, Schuilenburg, & Breuil, 2014, p. 20). It is this one failing that led to the formation of the Positivist School of Criminology.

**The Positivist School of Criminology - Positivism (1870-1960).** Before diving into the Positivist School of Criminology, we must first take a moment to define the meaning of the term *positivist* (positivism). Taking the time out to understand the meaning of the word *positivism* will aid in understanding the purpose of the Positivist School of Criminology in addition to underscoring one of the main tenets of this study, empirical research.

The word *positivist* has many definitions, yet all of them are similar. Positivism can be defined as “a philosophical doctrine that appeared to offer a solid epistemological foundation for those willing and capable of adhering to the rigors of the scientific method” (Caldwell, 2010). In the discipline of philosophy, positivism is combined with the word *logical*. “Logical positivism’s definition is similar but applies to statements in that no statement is true unless it has been first verified by observation or experiment” (Ayer, 2012). In the social sciences, positivism is the belief that social sciences should be modeled similarly to the natural sciences; and as such, under this belief, the social sciences should deploy the same research methods that are employed in the natural sciences (Keat, 1979, p. 75). This particular study is one of positivism as it relates to social science in that it is a quantitative study (utilizing statistical research methods), that it is limited to data (observations) that can be readily collected, and scientific methods can be utilized to analyze the collected data and to interpret the results (Orlikowski & Baroudi, 1991). The history of positivism is equally as interesting as its definition.

In the late 19<sup>th</sup> century, the positivist belief was founded in the field of the social sciences. French philosopher Auguste Comte is considered to be the founder of positivism (Bourdeau, 2008; Philips, 2013). Scholarship of the word *positivism* teaches us that Comte also coined the term *positivism* (Waliaula, 2013). Comte is considered to be one of the greatest systematic thinkers of the 19<sup>th</sup> century in France. He believed that science was the foundation of knowledge and that human behavior can only be explained through multiple observations, predictions, and conclusions that later can become policy or the law of society (Comte, 2009). Comte's study of human behavior was not focused on criminal behavior, but Cesare Lombroso, a student of positivism, focused on the individual determinants of criminal behavior.

While in school, Lombroso took interest in Comte's book *Positive Philosophy* and the scientific methods discussed therein (Wolfgang, 1961). In 1858, Lombroso received his medical degree; and in 1876, with the publication of his book, *The Criminal Man*, the Positivist School of Criminology was officially created (Tillinghast, 2010). *The Criminal Man*, which was written in five editions, was based upon research conducted by Lombroso in which he utilized theories of Darwinism to demonstrate how the physical characteristics of criminals denoted their inferiority to honest people (Beccalossi, 2010). In the first edition of Lombroso's book, titled *Criminal Craniums*, after examining the cadavers and skulls of 66 prisoners, he concluded that the cranial anatomy of specific groups, specifically African American and Mongol races, had lower development and cited their skulls to be closer to that of prehistoric man than the skulls of White races (Lombroso, 2006, p. 49). In the second edition of Lombroso's book, Lombroso theorized that those criminals who were declared criminally insane and those who committed crimes of passion were more likely than those without mental or emotional issues to commit suicide

(Lombroso, 2006, pp. 97-160). In the third edition, Lombroso wrote on the hands of criminals (left-handedness he linked to savages), prostitution, moral insanity, and brain abnormalities; and he proposed the idea of the “born criminal” (Lombroso, 1903, 2006). In the fourth edition, Lombroso spoke on the physiological characteristics of crime, the communication patterns of criminals, and a lengthy discussion on epilepsy. citing, “Epilepsy, like a complete type of atavism, is characterized by primordial religiosity, ferocity, instability, impetuosity, agility, cannibalism, irascibility, precocity, and animal instincts” (Lombroso, 2006, p. 266). Atavism (or reversion), a Darwinian concept, is a “condition in which characteristics that have previously disappeared in the course of evolution suddenly recur” (Faller, Schünke, & Schünke, 2004, p. 61). In the fifth and last edition, he focused on political criminals, ecological correlates of crime (the relationship between living organisms and their environment), crime prevention, and the dangers of mixing of the population by race (Lombroso, 2006, pp. 299-356). Lombroso believed that social circumstances could not alone make a person who was not born physically or psychologically a criminal; however, social circumstances could call forth the dormant criminal tendencies in the abnormal or degenerate individual (Ellwood, 1912, p. 718). It is this belief that led the way to the idea that there may be a relationship between social determinants and crime.

Lombroso rejected the Classical School of Criminology and its tenets of free will and its relationship to criminal behavior promoted by Cesare Beccaria and Jeremy Bentham; but Lombroso’s beliefs laid the foundation for the three subgroups of the Positivist School of Criminology: biological positivism (criminals commit crimes because they are biologically abnormal), psychological positivism (criminals commit crimes because they have psychological

issues) and sociological positivism (criminals commit crimes because of issues in society such as poverty, education, and alcohol and drug use) (Boyd, 2018b).

Lombroso's ideas were not without their opponents. In the book *The English Convict*, the author Charles Goring employed a statistician to analyze the physical differences between criminals and non-criminals; after studying over 3,000 English convicts against numerous control groups, Goring concluded that there were no notable differences between non-criminals and criminals apart from stature and body weight (Goring, Pearson, & Driver, 1913; Morrison, 2014)

The idea of social determinants and their influence on crime was further explored by Enrico Ferri, a student of Lombroso. Ferri was responsible for applying scientific techniques to the study of criminals and coining the term *criminal sociology* (Estes, 2010). In his book, *Criminal Sociology*, he wanted to compare the relationships of anthropological or individual conditions (race, age, sex, intelligence); physical conditions (the seasons, climate, length of the day, and average temperature); social conditions (population and migration changes, public opinion, religion, and family circumstances); and crime (Estes, 2010; Ferri, 1917). In short, unlike his teacher Lombroso who focused on the belief that criminals were born, Ferri focused on the effect that social and environmental factors have on crime. From Lombroso's and Ferri's ideas, the debate of "nature versus nurture" was developed (Penn, 2018).

Another important contribution to the Positivist School of Criminology came from Ferri, with the release of his book of lectures, *The Positive School of Criminology*. In this book, he posed a classification system in order to identify criminals. They were the born criminal, the mentally ill criminal, the crime of passion or emotionally driven criminal, the occasional

criminal, the habitual criminal, and the involuntary (negligent) criminal (Estes, 2010; Ferri, 1908).

An equally important contributor to the Positivist School of Criminology was Raffaele Garofalo. Like Ferri, Garofalo was also a student of Lombroso and through his studies, he theorized that crime was the result of biological flaws that led to the failure of a person to develop both humane sensibilities and moral feelings for others; in addition, he proposed that criminals who were unable to conform to social norms and who felt no remorse when committing crimes, should be terminated in a manner that is consistent with nature's evolutionary process (Garofalo, 1914; Lanier, Henry, & Anastasia, 2014).

The biological and psychological positivism theories of Lombroso, Ferri, and Garofalo are not widely accepted today. However, through the application of neurogenetics and forensic research that focuses on the causes of criminal behavior, science may add new support to biological and psychological positivism theories (Sirgiovanni, 2017). However, it is the continued study of sociological positivism that leads to the purpose and foundation of this research.

Sociological positivists believe that criminals commit crimes because of issues in society such as poverty, education, and alcohol and drug use. Sociological positivism's most noted contributor in the nineteenth century was Belgian mathematician and astronomer Lambert Adolphe Jacques Quetelet, or Adolphe Quetelet for short. Adolphe Quetelet is considered to be one of the greatest nineteenth-century pioneers of statistics and sociology (1996).

In 1835, Quetelet published *Sur l'homme et le developement de ses facultés* (later translated to *A Treatise on Man and the Development of His Faculties*), which spoke of the

importance of gathering quantitative data for the purposes of answering questions about social phenomena and the epistemological problems that interfere with the proper understanding of the forces shaping human actions (Quetelet, 1835). Quetelet noted that, “Society itself contains the germs of all the crimes committed. It is the social state, in some measure, that prepares these crimes, and the criminal is merely the instrument that executes them” (Quetelet, 1835, p. 6).

As a positivist, Quetelet was determined to rule out that crime was the result of free will; and to do so, he conducted an analysis using all available crime data in the country of France. He found that crime occurred via patterns and was too regular in occurrence to be that of free will (Akers et al., 2017, p. 166). He concluded that crime in part is caused by social factors (determinants); and while legislation could not hope to prevent all crime, it could create “an ensemble of laws, an enlightened administration, and a social state such that the number of crimes can be reduced as much as possible” (Beirne, 1987, p. 1160) and that the elements of disorganization would be prevented from destroying the social state (Quetelet, 1848, p. 295).

During the time Quetelet was conducting his studies, a Belgian non-colleague of Quetelet, Andre-Michel Guerry, utilized French crime data to examine the social structural influences on crime. He found that crime occurred unevenly throughout the country and was not affected by observable sociodemographic factors such as poverty and education levels; in addition, he and Quetelet suggested that opportunity may have an influence on crime (Ayer, 2012; Kindynis, 2014). The intensive work conducted by Quetelet and Guerry laid down the foundation of examining structural determinants of crime, led to the development of utilizing statistical methods in sociology, and led to the collective advancement of sociological positivism.

Currently, this study has looked at the Classical School of Criminology and its primary tenet: that crime is committed by the free will of men. It has also examined the Positivist School of Criminology, which rejects the beliefs of the Classical School of Criminology, and focuses on the biological and psychological reasons why men commit crimes. In addition, this study has also highlighted the efforts of Quetelet and Guerry as being the first to measure quantitative crime data and to conclude that society itself has a role in producing criminals. However, it has been argued that the methods that are utilized by sociologists and criminologists in the study of society and crime phenomena were developed and first utilized by French sociologist Émile Durkheim (1858-1917) (Thompson, 1982).

Emile Durkheim was the first sociologist to conduct research on modernization and its relationship to crime. Durkheim believed that sociology was the scientific study of society; and through his efforts, he transformed sociology from a field of philosophical endeavor into a field that is the controlled observation of empirical reality (Durkheim, 1972). His importance to sociology, criminology, and to this research cannot be overstated. A discussion of his important contribution is needed to understand the focus of this study.

Durkheim released several famous books, the first of which was *The Division of Labor in Society* in which he posited that society was no different from the physical universe. Moreover, he believed that society was organic and that it should be studied in the same manner as one would study other things occurring in nature (i.e., biology or physics); as such, as with other organic organisms, society would develop what he called, “anomie,” which would lead to social pathology (Durkheim, 1972, 2018). In other words, if something were to deviate from what society deems normal, it should be considered pathological. In short, Durkheim believed that



society was made up of many social phenomena acting on their own and as separate entities to individuals (Pond, 1999). For example, Durkheim believed that since crime exists in all societies, crime should be considered a normal part of all societies (Pearce, 2005). Furthermore, Durkheim believed that crime provides a useful function; it helps societies differentiate between right and wrong and allows societies, as a whole, to act as judge and punish those behaviors it deems as criminal (Ritzer, 2011, p. 90).

In Durkheim's second book, *The Rules of the Sociological Method*, he introduces the term *social facts*, which he considered to be the primary object of study in sociology and which he defines as "a category of facts which present very special characteristics: they consist of manners of acting, thinking, and feeling external to the individual, which are invested with a coercive power by virtue of which they exercise control over him" (Durkheim & Lukes, 1982, p. 52). A present-day example of Durkheim's view can be seen during the holiday celebration of St. Patrick's Day. During this holiday, it is customary to wear green. The wearing of green can be considered a social fact. This social fact not only has those of Irish descent wearing green, it also has those of non-Irish descent wearing green as well. While no one is forced to do so, this social fact has coercive power of those who are wearing green as a result of it being St. Patrick's Day. Social facts and their coercive power produce social cohesion which is the interdependence between individuals in a society, which has little social conflict and which has strong social bonds (Fonseca, Lukosch, & Brazier, 2018). Durkheim believed that it was a collective consciousness (a society's beliefs, morals, and ideas) that keeps society together (Durkheim & Lukes, 1982). These ideas of Durkheim led to the creation of structural functionalism theory and paradigm, a consensus theory that theorizes that "society is based on mutual agreements, sees the

creation and maintenance of shared values and norms as crucial to society, and views social change as a slow, orderly process” (Ryan, 2005).

In Durkheim’s most famous book, *Suicide*, he argued that the lack of social integration produces suicides in a society; he determined this by using multivariate statistics to compare the suicides rates between Catholics and Protestants, which showed that Protestants had a larger number of suicides than Catholics, which he believed was due to a lack of social integration in the Protestant religion as compared to the Catholic religion (Stark, Doyle, & Rushing, 1983).

What is even more important about Durkheim’s work in *Suicide* is that it became the foundation for empirical analyses in sociology as a result of being the first published sociological analysis of its kind. This work led to his being known as the founder of multivariate statistics (Collins, 1988, p. 107).

Durkheim’s contribution to this study can be found with the development of a theoretical framework of structural determinants of crime and with the use of multivariate statistics techniques which were utilized to compare the relationships of those determinants as they relate to different types of crimes. If crime is a structure, then there must be elements within that structure that cause it to occur.

**The Chicago School of Criminology.** The classic structural-functionalism work of Durkheim that focused on the study of social facts and collective behaviors was just the beginning; the most noted work on the structural determinants of crime came out of the Chicago School of Criminology (Hardyns & Pauwels, 2017). While it is often referred to as a school, the Chicago School of Criminology refers to the work conducted by faculty members and students at the University of Chicago who utilized the macro-sociological theories of human ecology and

social disorganization to explain why crime rates were higher in some neighborhoods than in others, and often the city used for these works (these bodies of research) was Chicago (Abbott, 1999; Bursik, 2012; Williams III & McShane, 2018).

Chicago was a test bed for such studies as a result of its rapid growth. In 1840, there were 5,000 people living in Chicago, and by 1900 that number grew to 1.5 million, of which 70% of them were born in foreign countries (Bernard, Kurlychek, & Kurlychek, 2010). The Chicago School of Criminology (which is sometimes referred to as the Ecological School) believed that the community itself is a major influence on human behavior and thought of cities as natural human environments which were a microcosm of the human universe (Williams III & McShane, 2018). However, this study does take a moment to underscore those who began the macro-sociological theory of social disorganization and other related intellectual contexts at the University of Chicago.

However, there would not have been a Chicago School of Criminology if there had not first been a Department of Sociology at the University of Chicago. In 1892, at the request of the University of Chicago's president, Albion W. Small, an American sociologist, the University of Chicago established the first academic department of sociology in America (Goodspeed, 1926). Small knew for sociology to become fully grounded in the family of sciences, it would have to be legitimized; so in 1895, shortly after creating an academic department of sociology, he created and launched the *American Journal of Sociology* (American Sociological Association, 2019a; Vallet, 2017). Most of Small's work dealt with understanding the social process and how to use that understanding for the betterment of society (Williams, 2007). It was Small's creation that led to the wonderful works that came out of the Chicago School of Criminology.

The catchphrase “Chicago School” first came into use based upon the works of William I. Thomas and Florian Znaniecki, and Robert E. Park and Ernest W. Burgess. In 1920, Thomas and Znaniecki, in their book *The Polish Peasant in Europe and America* concluded that Polish immigrants who moved to Chicago from Poland were unable to form the strong personal relationships in America that they once had in Poland; and as a consequence of these weaker personal relationships, these new Polish neighborhoods suffered from a condition commonly known today as social disorganization, which was defined as a reduction in the influence of present social rules of behavior due to weak local institutions and the misunderstanding about those rules (Bursik, 2012; Thomas & Znaniecki, 1920).

Adding to the catchphrase “Chicago School,” in 1921, Parks and Burgess published one of the most influential textbooks ever written. Their textbook, *Introduction to the Science of Sociology* (which is also referred to as the Green Bible), was mandatory reading for sociology departments for many decades after its publication; in addition, it outlined their theory of human ecology in which racial/ethnic heterogeneous populations in an urban environment compete for scarce but desirable residential space (Bursik, 2012; Robert & Ernest, 1921).

In line with this study, Park and Burgess believed that “social phenomena are subject to mathematical measurement” and “prediction is the aim of the social sciences as it is of the physical sciences” (American Sociological Association, 2019b; Park, 1926). Their later work introduced the concept of the “concentric zone,” in which the poorest neighborhoods are predicted to reside directly outside of the central business district of the city, economic status is predicted to increase as one moves further away from the central business district of the city, and fewer social problems occurred the further one moves away from the central business district of

the city (Park, Burgess, & McKenzie, 1925). Burgess (1925) described five zones, labeling them from inner zone to outer zone. The first is the central business district. Second is the zone in transition, which consists of deteriorating neighborhoods occupied by newly arrived immigrants and under constant invasion by expanding manufacturing industries. The third is the zone of working-men's homes (those of skilled labor who worked in the factories in the first zone and who were able to escape the poverty of the second zone). The fourth is the residential zone, and last, the commuter zone which consists of white-collar workers who worked in the first zone and their families (Akers et al., 2017). This concentric zone theory formed the framework of future study at the Chicago School. Park, reflecting on his and Burgess' work, added to the concept of social disorganization by noting that "Every new device that affects social life and the social routine is to some extent a disorganization influence . . . We are living in such a period of individualization and social disorganization" (1925). In the case of Chicago, the new device was rapid urbanization and immigration.

Building on their work, Frederic M. Thrasher, a student from the Chicago School, in his book, *The Gang: A Study of 1,313 Gangs in Chicago*, utilized the work of Park and Burgess (concentric zones and social disorganization), in his descriptive analysis of gangs in Chicago (Thrasher, 1927). Their early work laid down the foundation for the work produced by Clifford R. Shaw and Henry D. McKay and the theoretical foundation for this study.

**Shaw, Mckay, and social disorganization theory.** As stated previously, the purpose of this study is to identify the structural determinants of crime in New York City communities to aid in the deployment of police officers performing neighborhood policing duties. Having established the history of criminological theory, this section focuses on the creation and further

development of the theoretical framework for this research, social disorganization theory, and the importance of informal social control.

Clifford R. Shaw and Henry D. McKay were both graduate students at the University of Chicago's Department of Sociology and students of Parks and Burgess (Akers et al., 2017). Before working together, from 1921-1923, Shaw worked as a parole officer and from 1924 to 1926, he worked as a juvenile probation officer; at this time, he took great interest in juvenile delinquency, and being a juvenile probation officer gave him access to a great range of data about the addresses of the juveniles who had court cases (Hardyns & Pauwels, 2017). In conjunction with his experiences in the courts, Shaw lived in a Chicago settlement near the inner city which awakened his consciousness to the harsh realities of American social life (Snodgrass, 1976, p. 4). Before Shaw and McKay produced structural (macro) works together, Shaw's work and living experiences led to his most notable individual (micro) level works (Binder, 2003), *The Jackroller* (1930) and *The Natural History of a Delinquent Career* (1931), both of which used life-history records of individual delinquents for sociological research.

Before teaming up with Shaw, McKay did not have the experiences that Shaw had, but his studies left him with a haunting question—does race and nationality have an effect on delinquent behavior (Snodgrass, 1976; Thistlethwaite, 2003).

Shaw and McKay teamed up in 1927. There was a saying at the Chicago School, "If you want to understand something, map it" (Inderbitzin, Bates, & Gainey, 2016). In line with that philosophy, their first work together was *Delinquency Areas: A Study of the Geographic Distribution of School Truants, Juvenile Delinquents, and Adult Offenders in Chicago* (Shaw, McKay, Zorbaugh, & Cottrell, 1929). In this study, Shaw and McKay identified the physical

locations of high rates of delinquency utilizing official statistics; they took a map of Chicago and placed a stop on the map representing the addresses of one male delinquent; they created a rate map which indicated the rate of delinquency per every hundred persons as per U.S. Census data (Bennett, 1988, p. 169). Together they created a radial map based upon Burgess' concentric zone theory to indicate the rates of delinquency by zone (Bennett, 1988, p. 169). They found that rates of delinquency were higher near downtown Chicago, were lower near the edges of the city, and intermediate between the inner and outer zones of the city (Shaw et al., 1929).

Shaw and McKay's foremost work, published in 1942, was *Juvenile Delinquency and Urban Areas: A Study of Rates of Delinquents in Relation to Differential Characteristics of Local Communities in American Cities*. In this study, they once again applied Park and Burgess' concentric zone theory, not only to Chicago but to Birmingham, Boston, Cincinnati, Cleveland, and Columbus (Shaw & McKay, 1942). The goal of this study was to observe the possible relationship between geographic distribution of juvenile delinquency rates and matching economic and social structure of these locations in each city over three time periods, 1900-1906, 1917-1923, and 1927-1933 (Shaw & McKay, 1942). They plotted geographically place of residence for each delinquent, place of residence for school truants, place of residence for young adult offenders, rates of infant mortality, tuberculosis, mental disorder, population change, number of families on welfare, housing rentals, home ownership, racial composition, ethnic composition, and percentage of people born outside of America (Akers et al., 2017; Shaw & McKay, 1942). They found, that despite the time period, delinquency centered in or near the first two zones, the central business district zone and the zone in transition; both are inner city zones (Shaw & McKay, 1942). They also found a common theme in all of the cities observed;

there were four neighborhood characteristics that were related to juvenile delinquency and adult crime as well – racial/ethnic heterogeneity, economic status, residential mobility (population turnover) and (lightly) family disruption. They theorized that these four conditions caused social disorganization. Shaw and McKay postulated that when a neighborhood exhibits these characteristics, social disorganization reduces a community's ability to control itself through informal social controls (Rhineberger, 2003).

**Theoretical contributions to social disorganization theory.** It has been suggested (Bellair, 2017), that the first work on Shaw and McKay's social disorganization theory and the intervening mechanisms of informal social controls was done by Eleanor E. Maccoby, Joseph P. Johnson, and Russell M. Church in their study titled *Community Integration and the Social Control of Juvenile Delinquency* (1958). Maccoby, Johnson, and Church (1958) conducted their study in two low-income communities in Cambridge, Massachusetts, in which one had a high rate of delinquency and the other had a low rate of delinquency. Based upon surveys they conducted in both communities, they found that the community with the high rate of delinquency, when asked, were 50% less likely to take action to stop anti-social acts committed by a juvenile offender (such as calling the police, stopping the juvenile directly, or reaching out to the parents directly) if he or she wasn't the victim when compared to the community with the low rate of delinquency (Maccoby et al., 1958).

Two other studies conducted in the 1960s and 1970s found similar results to the study conducted by Maccoby, Johnson, and Church. The first study was conducted by Donald I. Warren in Detroit, Michigan, with data gathered from several areas before and after the occurrence of the 1963 and 1964 Detroit riots. Warren found that that neighborhoods that were



less socially organized (not very neighborly, no consensus of values, greater levels of alienation) had greater rates of riot activity during the Detroit riots (1969). In measuring informal control, his questions were based upon the degree of informal social contact neighbors had with one another, to which he found that the neighborhoods where neighbors had greater social contact experienced little or no rioting during the Detroit riots (Warren, 1969).

In the second study, Robert E. Kapsis (1976) surveyed three riot-zone neighborhoods after the 1968 Richmond Riots, located in Richmond and North Richmond, California. Based upon official arrest reports, Kapsis noticed different rates of delinquency in all of the three riot-zone neighborhoods. He found that the neighborhoods that had the least amount of riot delinquency had greater social networks and greater levels of neighborhood organizational activity (Kapsis, 1976).

The theory of social disorganization was not without its critics. First, Shaw and McKay viewed the high delinquency rates as a temporary effect due to rapid urban growth and change (1969). Then with the rise of individual-level theories on delinquency and punishment which aligns with the Classical School of Criminology (Gibbs, 1975; Hirschi, 1969; Matza, 1964) and the increased studies of deviance and its effect on individuals and society (Becker, 1963; Lemert, 1951), sociologists began to discount the theory's validity, and interest in social disorganization theory began to decrease. The number of studies conducted that concluded that social economic status was the sole significant and important predictor of high crime and high delinquency rates added to declining interest in social disorganization theory (Bordua, 1958; Chilton, 1964; Gordon, 1967; Lander, 1954)

Fortunately, there were several studies conducted that theoretically defined and empirically tested the validity of social disorganization theory. In the early 1970s, social disorganization began to find new life. In their study on community attachment, Kasarda and Janowitz found that local communities were “complex systems of friendship, kinship, and associational networks into which new generations and new residents were assimilated while the community passed through its own life-cycle” (1974). Their finding added to the importance of community organization in that communities with high levels of attachment were less likely to need outside community help to solve their problems. Kasarda and Janowitz’s work led to more theoretical contributions to the theory of social disorganization.

In her book, *Social Sources of Delinquency: An Appraisal of Analytic Models* (1978), author Ruth R. Kornhauser, in her analysis of the prevailing criminological theories at the time, took a closer look at the theory of social disorganization and its circular reasoning. Her research asked, does social disorganization cause higher crime rates and higher delinquency rates, or does higher crime rates and higher delinquency rates cause social disorganization (1978)? This is something that Shaw and McKay were never able to prove with their mapping and spatial analysis of crime (1978). In her exhaustive assessment of the literature, she was able to theoretically separate control foundations of social disorganization theory from the individual culturally deviant characteristics of crime and delinquency (Rhineberger, 2003). In addition, Kornhauser theoretically argued that informal social control only increases as community organization increases, adding validity to social disorganization theory even if in her time, it had not been truly measured (1978). Last, she defined social disorganization as follows: “a socially disorganized community is one unable to realize its values” (1978, p. 63). She also noted, as

well as Shaw and McKay, that the following also increase in neighborhoods that are socially disorganized: tuberculosis, infant mortality, mental disorder, economic dependency, and adult crime (1978, p. 63). In line with this research, it should be the goal of community policing to organize with the community it serves for the purpose of increasing informal social control.

Another contribution to the theoretical framework of social disorganization theory can be found in the work of Wesley Skogan. In the late 1980s, Skogan conducted an analysis which connected citizens' fear of crime and neighborhood characteristics. Skogan concluded that fear affects community life by causing its residents to withdraw from community life (both physically and psychologically), by weakening the informal social control process, which is needed to prevent crime and disorder, by causing a decline in the communities' organizational life and mobilization capacity, by causing the deterioration of neighborhood businesses, by inviting and promoting delinquency and deviance in the community, and by furthering dramatic changes in the neighborhood's composition (Skogan, 1986, p. 216). Further study of the relationship between disorder and crime led Skogan to conclude that "an increase in disorder and crime reflects the decline strength of informal control in urban neighborhoods that are caught in the cycle of decline" (Skogan, 1990). While Skogan's studies do not directly refer to the work of Shaw and McKay, he furthered the idea of informal social control as a mechanism necessary to minimize crime rates and delinquency rates and maintain social order.

In the late 1980s and 1990s, the theory of social disorganization had evolved into two separate versions but related directions (McMurtry & Curling, 2008). The first of these versions is known as the systemic model of social disorganization (Bursik & Grasmick, 1993, 1995), and the second version is known as the social capital/collective efficacy framework (Sampson,

Morenoff, & Earls, 1999; Sampson, Raudenbush, & Earls, 1997). A discussion of both is required to understand their differences and how these theories related to and modeled the future responsibilities of community police in New York City.

**The systematic variant of social disorganization.** Before writing his book, *Neighborhoods and Crime*, author Robert J. Bursik, Jr. published a paper titled “Social Disorganization and Theories of Crime and Delinquency” (1988), in which he addressed some of the serious criticisms leveled against social disorganization theory and its models of crime and delinquency. For example, its poor conceptualization of disorganization and its failure to operationalize its key elements (Bursik, 2012; Bursik, Jr., 1988). In his article, he noted that one area of future research regarding social disorganization framework “must begin to pay greater attention to the role of educational institutions” (1988, p. 530).

In their 1993 book, *Neighborhoods and Crime: The Dimensions of Effective Community Control*, Bursik and co-author Harold G. Grasmick proposed a systemic theory of neighborhood control – an extended version of Shaw and McKay’s social disorganization theory – arguing that networks (and different types of networks) between neighborhood individuals are needed to invoke informal social control, and that these networks were not included in Shaw and McKay’s original model of social disorganization (Bursik & Grasmick, 1993). They also argued that a control-theoretic approach of viewing Shaw and McKay’s social disorganization theory was needed to fully understand it, noting that Shaw and McKay did not clearly explicate a causal linkage between social disorganization and juvenile delinquency rates (Bursik & Grasmick, 1993, p. 33). Reviewing the previous works of other sociologists in their study of crime and urbanization, Bursik and Grasmick (1993) found that a common theme was that rapid population

turnover and heterogeneity can decrease a neighborhood's ability to control itself in the presence of a lack of interest in the community. This is a result of individuals wanting to leave as soon as they arrive, (Kornhauser, 1978, p. 78), the presence of changing neighborhoods and their ability to form informal structures of neighborhood control (Berry & Kasarda, 1977), and the presence of racial and ethnic heterogeneity, which hinders communication and leads to neighborhoods unable to discuss common problems, let alone solve them (Kornhauser, 1978, p. 78).

Bursik and Grasmick suggested that an understanding of how individuals within a neighborhood are both formally and informally connected to each other, how they are connected to local institutions, and how they are connected to external resources is needed to understand how structural conditions affect crime rates and control the community which was an expansion of Kornhauser's interpretation of social disorganization (Bursik & Grasmick, 1993; Kornhauser, 1978).

Bursik and Grasmick then adopted Kasarda and Janowitz's systemic model of community attachment, which states that the community is a "complex system of friendship and kinship networks and formal and informal associational ties rooted in family life and on-going socialization processes" (Kasarda & Janowitz, 1974). Further along in their book and to define formal and informal social control, Bursik and Grasmick borrowed the definition for social order from the work of Albert Hunter who in his study, *Private, Parochial and Public Social Orders: The Problem of Crime and Incivility in Urban Communities*, discussed that there were three types of social (informal controls) controls in a community: private, parochial, and public control (Hunter, 1985). Private control is rooted in the interpersonal relationships between family and close friends who control one another through the withdrawal of social support, esteem, and

sentiment; parochial control is the informal control arising from institutional sources outside of the family, such as schools, churches, and voluntary organizations; and public control “focuses on the community’s ability to secure the public goods that are allocated by agencies located outside of the neighborhood” (Bursik & Grasmick, 1993; Heidt & Wheeldon, 2014; Hunter, 1985). Bursik and Grasmick, by adding three types of informal controls, created a more robust version of social disorganization theory, which they label as a systemic social disorganization theory which stressed the importance of the indirect relationship between the mechanism of informal social controls (social networks) and crime rates (Bursik & Grasmick, 1993; Rhineberger, 2003).

**Social disorganization and the social capital/collective efficacy framework.** The concept of collective efficacy was developed by Albert Bandura from his social psychology work on self-efficacy, “referring to beliefs in one’s capabilities to organize and execute the courses of action required to produce given attainments” (Bandura, 1997, p. 3), human agency, referring to “the human capability to act intentionally, controlling personal behavior and external environment” (Eells, 2011, p. 10), and how environments aid in individual decision-making (Boessen & Gatens, 2016). Bandura’s work later led to the creation of collective efficacy which he defined as “a group’s shared belief in its conjoint capabilities to organize and execute the courses of action required to produce given levels of attainment” (Bandura, 1977, p. 477).

Adding to the work of Shaw and McKay’s (1942) social disorganization theory, Robert J. Sampson, Stephen W. Raudenbush, and Felton Earls hypothesized that collective efficacy, which they defined as “social cohesion among neighbors and neighbors’ willingness to intervene on behalf of the common good” (Sampson et al., 1997, p. 918) are required in a neighborhood for its

residents to achieve collective goals, such as social control with its aims to be free of crime and violence (Sampson, 2006). In addition, they posited that social capital, utilizing the work of James S. Coleman, “is a form of social organization created when the structure of relations among persons facilitates action, making possible the achievement of certain ends that in its absence would not be possible” (Coleman, 1988, 1990; Sampson et al., 1999).

To measure this variant of informal social control, they examined data for the Project on Human Development in Chicago Neighborhoods (PHDCN) and utilized the following questions as a measure of informal social control (utilizing a Likert-type five-item scale) (Sampson et al., 1997):

As a resident, would you intervene if

- you observed children in the community skipping school and hanging out on a street corner
  - you observed children in the community spray-painting graffiti on a local building
  - you observed children showing disrespect to an adult
  - you observed a fight that broke out in front of your home
  - if the fire station closest to your home was threatened by closure due to budget cuts
- (Sampson et al., 1997, pp. 919-920).

To measure social cohesion and trust, respondents were asked (utilizing a Likert-type five-item scale) if they strongly agreed or disagreed with these points: people in the community were willing to help their fellow neighbors; their neighborhood is close-knit; they can trust their neighbors; their neighbors generally do not get along; they and their neighbors share the same values (Sampson et al., 1997, pp. 919-920). They found a strong correlation between informal

social control and social cohesion ( $r = .80, p < 0.001$ ), suggesting that they were “tapping aspects of the same latent construct,” and as a result, social control and social cohesion were combined to form a summary measure which they labeled collective efficacy (Sampson et al., 1997).

Informal social control and social cohesion was then measured against violence. To measure violence, respondents were asked if the following events had occurred in the past six months: a fight involving a weapon, a violent argument amongst neighbors, a gang fight, a sex crime, and/or robbery. Respondents were also asked if they were or knew someone who was a victim of the previously mentioned crimes, and these surveyed measures of violence were tested against police recorded incidents of homicide (Sampson et al., 1997). They found that collective efficacy was negatively related to violence ( $t = -5.95$ ) with a standardized coefficient of  $-0.45$  (Sampson et al., 1997). In short, Sampson et al. concluded collective efficacy “is an important construct that can be measured reliably at the neighborhood level by means of survey research strategies, it mediates a substantial portion of the relationship between residential stability and economically disadvantaged with multiple measures of violence; and the combined measure of informal social control and cohesion and trust is a robust predictor of lower rates of violence” (Maxwell, Garner, & Skogan, 2018; Sampson et al., 1997, p. 923).

Collective efficacy, like informal social control, is not without its problems. Studies have found that collective efficacy weakens as neighborhoods perceive an increase in crime or disorder, which indicates that collective efficacy is constantly updating as neighborhood views change (Hipp, 2016; Kleinhans & Bolt, 2014; Ross, Reynolds, & Geis, 2000). In contrast, collective efficacy can be increased with explicit, directed intervention (Carlson, Brennan, & Earls, 2012; Schmidt et al., 2014). It is the strengths and limitations found in both theories, the



systematic variant of social disorganization theory and the social capital/collective efficacy framework that stresses the need of a third party within the community which can bridge the gap in neighborhoods with low informal social control and fluctuating collective efficacy.

**Educational attainment and crime.** There have been several studies that explored the relationship between social disorganization and education achievement (Ainsworth, 2002, 2010; Madyun, 2011; Wilson, 2011, 2012) indicating that in neighborhoods that are considered socially disorganized, residents have lower levels of education achievement than in neighborhoods that are not considered socially disorganized. Conversely, economic research has shown that higher education achievement has been positively associated with a decrease in crime (Hjalmarsson, Holmlund, & Lindquist, 2015; Lochner & Moretti, 2004; Machin, Marie, & Vujić, 2011; Meghir, Palme, & Schnabel, 2012; Merlo & Wolpin, 2015). Currently, there is no published, peer reviewed research that has directly measured the effects of the independent variables of social disorganization theory (racial/ethnic heterogeneity, economic status, and residential mobility) and educational attainment, their effects on each other, mediating effects and effect size on crime.

### **Instruments**

The purpose of the previous section of this chapter, the review of literature, was to discuss the historical background of crime and policing in New York City (a historical literature review), and to discuss the theoretical underpinnings of this study's theoretical framework—social disorganization theory (a theoretical literature review); in other words, the road traveled to develop a theoretical framework and why such a framework can be utilized to aid in the

deployment of the police officers in the New York City Police Department's Neighborhood Coordinating Officers program.

The purpose of this current section is to review literature on the various instruments used to measure the constructs (relationships) under investigation, make a case as to why particular instruments were selected over instruments that were previously used to measure the same constructs (relationships) under investigation, and to identify, through this review, the best instrument available to measure the current constructs (relationships) under investigation (Newman et al., 1997, pp. 29-30). Last, if the research questions could be satisfactorily answered through the use of comprehensive secondary research study methods (i.e., a research synthesis which can take the form of a systematic review, and/or meta-data analysis or narrative synthesis) it would negate the need to conduct a primary research study (McCrocklin, 2018).

### **Research Synthesis**

To reiterate, the purpose of this study is to identify the structural determinants of crime in New York City communities to aid in the deployment of police officers performing neighborhood policing duties. More specifically, this observational/correlational explanatory study explores the relationship between the independent variables, (economic disadvantage, racial/ethnic heterogeneity, residential instability/mobility, and educational attainment), and the dependent variables (major felony crimes). In addition, earlier in this research it was noted that research synthesis is defined as a review of literature that focuses on empirical research findings for the purpose of integrating past research to draw overall conclusions (generalizations) from many separate investigations that address identical or related hypotheses while simultaneously

presenting the state of knowledge concerning the relation(s) of interest and to highlight important issues that research has left unresolved (Cooper, 2015, p. 7).

Research synthesis is not new. The importance of empirical reviews of literature in conjunction with new research was realized in the late 1800s. Physics professor Lord Rayleigh brought this reality to light in his presidential address at the 54<sup>th</sup> meeting of the British Association for the Advancement of Science by noting that “the work which deserves, but I am afraid does not always receive, the most credit is that in which discovery and explanation go hand in hand, in which not only are new facts presented, but their relation to old ones is pointed out” (Rayleigh, 1884, p. 20). Unfortunately, there are those researchers who believe that over a hundred years later, there are few methods used to reduce the probability of biases in current reviews of literature in primary research (Clarke & Chalmers, 1998). Systematic searches and systematic reviews can reduce the probability of biases in current reviews of literature (Petticrew & Roberts, 2008; Rossi, 1987). In the 1980s, and with the aid of meta-analysis, systematic reviews began to be published more frequently in health care; as a result, in 1994 the Cochrane Collaboration was created to conduct systematic reviews in healthcare, and in 2000 the Campbell Collaboration was created to conduct systematic reviews in social sectors (Campbell, 2019; Cochrane Library, 2019; Petticrew & Roberts, 2008).

### **Systematic Reviews**

Systematic can be defined as an undertaking that follows a fixed plan or system or method, and a review (in regard to research) can be defined as a critical appraisal and analysis (Gough, Oliver, & Thomas, 2017, p. 5). In their book, *Doing a Systematic Review, A Student's Guide*, Boland, Cherry and Dickson, define a systematic review as a “literature review that is

designed to locate, appraise, and synthesize the best available evidence relating to a specific research question in order to provide informative and evidence-based answers” (Boland, Cherry, & Dickson, 2017, p. 2). The steps in a systematic review are well defined, transparent, require a well-defined research question, a critical appraisal of the available evidence, and a synthesis of the findings which may include a research synthesis and/or a meta-data analysis (Boland et al., 2017); examples of these steps and methods can be found in all disciplines of research (Dunton, Kaplan, Wolch, Jerrett, & Reynolds, 2009; Gentin, 2011; Guitart, Pickering, & Byrne, 2012; Ogilvie, Egan, Hamilton, & Petticrew, 2004; Petticrew, 2001; Tucker & Gilliland, 2007).

There can be a bit of confusion when discussing systematic reviews. While there are those who may think the terms *systematic review*, *research synthesis*, and *meta-data analysis* are one and the same, they are not. A research synthesis focuses on empirical research findings with the intent of integrating past research by drawing overall conclusions (generalizations) from many separate investigations that address identical and/or related hypotheses with the main goal to present the state of knowledge concerning the relation(s) of interest and to highlight important issues that research has left unresolved (Cooper, 2015, p. 7). A meta-data analysis is a “set of statistical quantitative methods for combining quantitative results from multiple studies to produce an overall summary of empirical knowledge on a given topic;” and it should be noted that a systematic review may conclude with a narrative research synthesis, it may conclude without a narrative research synthesis or a meta-data analysis, or it may have one or several meta-data analyses that may be a separate analysis of effects on different outcomes (Littell, Corcoran, & Pillai, 2008, p. 2). One of the problems associated with a traditional or narrative literature review is the likelihood of being misinformed by bias and chance which has been

documented through various studies (Cooper, Hedges, & Valentine, 2009; Hedges, 1987; Hunt, 1997). A systematic review reduces the likelihood of bias, in addition to ensuring that a comprehensive body of knowledge has been identified on the subject matter being researched (Booth, Sutton, & Papaioannou, 2016, p. 2; Clarke & Chalmers, 1998). Last, a best-evidence synthesis is a type of literature review that combines the strengths of meta-analytic and traditional narrative reviews by incorporating the quantification and systematic literature search methods of meta-analytics with the detailed analysis of critical issues and study characteristics of the best traditional narrative reviews; by doing so, best-evidence synthesis attempts to offer a thorough and unbiased means for synthesizing research and offering a clear and useful conclusion (Slavin, 1995).

### **The Stages in Carrying Out a Systematic Review**

It has been recommended that the following structured approach should be utilized to document a search strategy for the critique and synthesis of the review of empirical literature (Cooper et al., 2009; Kable, Pich, & Maslin-Prothero, 2012; Pickering & Byrne, 2014; Volmink, Siegfried, Robertson, & Gülmezoglu, 2004):

- Provide a purpose statement (objective(s) of the review) or clearly define the research question(s) that the review is setting out to answer.
- Document the databases or search engines used in the search strategy.
- List the inclusion criteria and exclusion criteria.
- List the search terms or search strings utilized in the search.

- Document the search process, assess articles for relevance to answering research question(s), conduct quality appraisal of retrieved literature, and provide a statement specifying the number of retrieved articles.
- Document a summary table of included articles for the review of empirical literature.
- Assess heterogeneity among the study findings for the purpose of determining if a meta-data analysis could be conducted.
- Conduct narrative synthesis if unable to conduct meta-data analysis (H. M. Cooper et al., 2009; Kable et al., 2012; Pickering & Byrne, 2014; Volmink et al., 2004).

### **The Clearly Defined Research Questions**

For this part of the review of literature, the following research questions are the aim of this research:

1. What, if any, relationship exists between the number of economically disadvantaged members in a NYC community and the rate of crime in that community?
2. What, if any, relationship exists between the level of racial/ethnic heterogeneity in a NYC community and the rate of crime in that community?
3. What, if any, relationship exists between the amount of residential instability/mobility in a NYC community and the rate of crime in that community?
4. What, if any, relationship exists between the level of educational attainment in a NYC community and the rate of crime in that community?

### **Databases and Search Engines Used in This Review of Empirical Literature**

A search of the databases ProQuest Social Science Database, ProQuest Psychology Database, ProQuest Criminal Justice Database (ProQuest Central includes all three databases)

was conducted for the purpose of locating published research about whether there is a relationship between the number of economically disadvantaged members in a community, the level of racial/ethnic heterogeneity in a community, the amount of residential instability/mobility in a community, the level of educational attainment in a community and the rate of crime in that community. A Google Scholar search was conducted to identify published research that may not have been in or retrieved in the search of the databases utilized in the initial search. It has been suggested that three databases should be utilized along with Google Scholar to locate all subject matter to answer a research question(s) (Bramer, Rethlefsen, Kleijnen, & Franco, 2017). The Seton Hall University Library (ILLiad Interlibrary Loan) online system was utilized to locate published research that was found in the search databases that did not include full text articles for the articles found.

### **List of Inclusion Criteria and Exclusion Criteria**

The inclusion criteria for this empirical review of literature were original research studies that utilized the theoretical framework of social disorganization theory and reported whether or not there is a relationship between the number of economically disadvantaged members in a community, the level of racial/ethnic heterogeneity in a community, the amount of residential instability/mobility in a community, the level of educational attainment in a community and the rate of crime in that community. In addition, the original research studies were all written in English, written and published post 2009, peer reviewed—an external seal of approval which is recommended in primary research—(Berzonsky & Richardson, 2008; Björk & Solomon, 2013; Gannon, 2001), studies that measured the effect or relationship, through correlational analysis, of at least one of the structural determinants posed in the research questions, and studies that

reported the results on at least one of the following dependent variables: violent crimes, robberies, assaults, homicides, and shootings.

Papers were excluded if they were non-English studies, qualitative, studies that could not be verified by a secondary source, studies with no methods described, content redundant, and the literature was not relevant to the research questions. In addition, previously published literature reviews and previously published systematic reviews were excluded (Kable et al., 2012).

### **List of the Search Terms or Search Strings Utilized in the Search**

Six search terms were utilized to search the databases with the article title, abstracts, and body all searched. The search terms used were the following (Kable et al., 2012):

- Social disorganization theory and crime
- Social disorganization theory and correlational studies
- Structural determinants of crime
- Economically disadvantaged and crime
- Racial/ethnic heterogeneity and crime
- Residential instability/mobility and crime
- Educational attainment and crime

Before using the search terms in all of the databases utilized for this empirical review of literature, all of the search terms were tested to determine if they properly located the relevant article that were consistent with the inclusion criteria.



## **Documentation of the Search Process**

To properly document the search process utilized in this systematic search, a flowchart recommended by Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) was utilized (PRISMA, 2015). Directly following this flowchart is a table of the characteristics of included studies (Petticrew & Roberts, 2008).

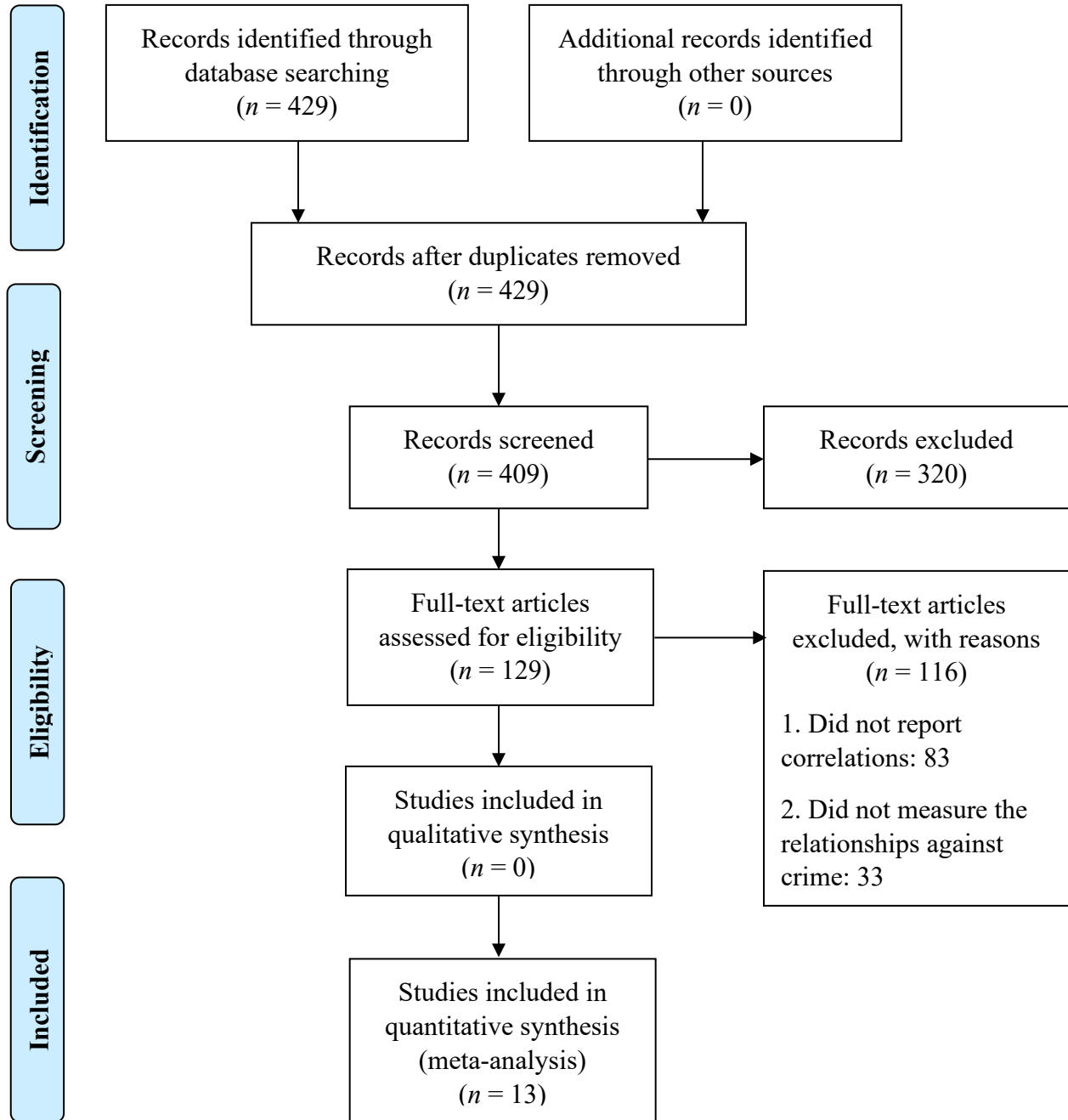


Figure 1. Flow chart of the inclusion and exclusion of studies.

Table 1

*Characteristics of Included Studies*

Study	Objectives	Country	Methods of data collection	Data analysis	Correlates assessed
(Bellair & Browning, 2010)	This study tests the interchangeability of the measures of informal social control as it relates to crime.	Seattle, Washington	The authors utilized the 1990 Victimization Survey from Seattle, WA: a self-report survey. In this cross-sectional/quantitative study, the study population are those who were interviewed within the selected 300 blocks (U.S. Census). $N = 300$ .	The correlates were assessed using ordinary least square regression. The authors found there was a statistically significant relationship between violent victimization (mugging and stranger assaults) and Family Income, Neighboring, and Informal Surveillance. Best fit model accounted for only 9% of the variance in violent victimization (Adj. $r^2 = .099$ , $df = nr$ , $nr$ , $F = nr$ , $p = nr$ ).	<ul style="list-style-type: none"> <li>• Family Income</li> <li>• Heterogeneity</li> <li>• Residential Turnover</li> <li>• Familiarity</li> <li>• Neighboring</li> <li>• Participation</li> <li>• Informal Surveillance</li> <li>• Violent Victimization*</li> </ul>

Note.  $nr$  = not reported.

\* = Dependent variable.

Table 1

*Characteristics of Included Studies*

Study	Objectives	Country	Methods of data collection	Data analysis	Correlates assessed
(Choi, 2011)	This study tests if output-related police performance is influenced by the tenets of social disorganization.	United States	The authors utilized the Uniform Crime Report, the Law Enforcement Management and Administrative Statistics (LEMAS), and the Social Capital Benchmark Survey. In this cross-sectional/quantitative study, the study population were 44 local police departments and their performance in managing crime rates. $N = 300$ .	The correlates were assessed using ordinary least square regression. The author found there was a statistically significant relationship between crime rates and social disorganization and black male youth. Best fit model was statistically significant and accounted for 57% of the variance in crime rates. (Adj. $r^2 = .57$ , $df = nr$ , $F = 12.70$ , $p < 0.01$ )	<ul style="list-style-type: none"> <li>• Social Disorganization</li> <li>• Police Force Size</li> <li>• Racial Stratification</li> <li>• Black Male Youth</li> <li>• Population Structure</li> <li>• Crime Rates*</li> </ul>

Note.  $nr$  = not reported.

\* = Dependent variable.

Table 1

*Characteristics of Included Studies*

Study	Objectives	Country	Methods of data collection	Data analysis	Correlates assessed
(da Silva, 2014)	This study seeks to determine the structural determinates of the rise of crime in Belo Horizonte, Brazil	Horizonte, Brazil	The authors utilized the data from the 2000 Brazilian Census and the Brazilian Military Police. In this cross-sectional/quantitative study, the study population were reported crimes within 195 Brazilian Census track. $N = 195$ .	The correlates were assessed using Poisson regression. The author found that there was a statistically significant relationship between population density, family disruption, income, degraded urban environment, local friendship networks, organizational participation and risk of exposure to crime. The best fits model was not statistically significant. (Pseudo $r^2 = .03597$ , $df = nr$ , $F = nr$ , $p = nr$ ).	<ul style="list-style-type: none"> <li>• Population Density</li> <li>• Family Disruption</li> <li>• Income</li> <li>• Degraded Urban Environment</li> <li>• Sense of Belonging of Neighborhood</li> <li>• Reported Crime Rates*</li> </ul>

Note.  $nr$  = not reported.

\* = Dependent variable.

Table 1

*Characteristics of Included Studies*

Study	Objectives	Country	Methods of data collection	Data analysis	Correlates assessed
(Emerick, Curry, Collins, & Fernando Rodriguez, 2014)	This study tests if social disorganization theory is viable in a predominately Latino city with a large Mexican immigrant population.	El Paso, Texas	The authors utilized the homicide data from the El Paso Police Department and the US Census 1990 decennial data. In this cross-sectional/quantitative study, the study population were reported homicides across 85 census tracts. $N = 85$ .	The correlates were assessed using negative binomial regression. The authors found there was a significant relationship between concentrated disadvantage, residential stability and total homicides in El Paso, Texas. The authors did not report the statistics of a best fit model. (Adj. $r^2 = nr$ , $df = nr$ , $p = nr$ ).	<ul style="list-style-type: none"> <li>• Concentrated Disadvantage</li> <li>• Residential Stability</li> <li>• Family Stability</li> <li>• Percent Latino</li> <li>• Percent Black</li> <li>• Percent Recent Immigrant</li> <li>• Homicides*</li> </ul>

Note.  $nr$  = not reported.

\* = Dependent variable.

Table 1

*Characteristics of Included Studies*

Study	Objectives	Country	Methods of data collection	Data analysis	Correlates assessed
(Hollis, 2016)	This study examines the socio-demographics of crime surrounding a military community.	Fayetteville, North Carolina	The authors utilized the data from the U.S. Census Bureau and Fayetteville, NC Police Department. In this cross-sectional/quantitative study, the study population were crimes across 129 Census block groups. $N = 129$	The correlates were assessed using zero-inflated Poisson regression. The authors found that there was a statistically significant relationship between socioeconomic status, population mobility, % of population that is non-white, crime potential, % of population that is military and violent crime. The authors did not report the statistics of a best fit model. (Adj. $r^2 = nr$ , $df = nr$ , $p = nr$ ).	<ul style="list-style-type: none"> <li>• Socio-economic status</li> <li>• Population Mobility</li> <li>• % of population that is non-white</li> <li>• Crime potential</li> <li>• % of population that is military</li> <li>• Violent Crime*</li> </ul>

Note.  $nr$  = not reported.

\* = Dependent variable.

Table 1

*Characteristics of Included Studies*

Study	Objectives	Country	Methods of data collection	Data analysis	Correlates assessed
(Kaylen & Pridemore, 2013)	This study tests the validity of the tenets of social disorganization theory as it relates to violent crime in rural areas.	Missouri, United States	The authors utilized the data from the US Census Bureau and Missouri Department of Health and Senior Service – Patient Abstract System. In this cross-sectional/quantitative study, the study population were serious violent victimization rates across 106 Missouri counties. $N = 106$ .	The correlates were assessed using ordinary least square regression. The authors found that there was a statistically significant relationship between residential instability, female-headed households, poverty and serious assaults. The authors did not report the statistics of a best fit model. (Adj. $r^2 = nr$ , $df = nr$ , $p = nr$ ).	<ul style="list-style-type: none"> <li>• Residential Instability</li> <li>• Diversity</li> <li>• Female-headed Households</li> <li>• Poverty</li> <li>• Unemployment</li> <li>• Adjacent to Metro Area</li> <li>• Population at Risk</li> <li>• Victimization Rates*</li> </ul>

Note. *nr* = not reported.

\* = Dependent variable.



Table 1

*Characteristics of Included Studies*

Study	Objectives	Country	Methods of data collection	Data analysis	Correlates assessed
(Lancaster & Kamman, 2016)	This study, under the framework of social disorganization theory, determines if high murder rates can provide insight into the level of risk of murder in South Africa communities.	South Africa	The authors utilized the 2014-2015 South African Police Service's Crime Statistics Report and the Statistics South Africa Survey. In this cross-sectional/quantitative study, the study population were 1,138 police stations in South Africa. N = 1.138.	The correlates were assessed using multiple linear regression. The authors found there were a statistically significant relationship between population density, unemployment, relative poverty and murder rates. The authors did not report the statistical significance of the model, but the model accounted for 25% of the variance in murder rates (Adj. $r^2 = .254$ , $df = nr$ , $nr$ , $F = nr$ , $p = nr$ ).	<ul style="list-style-type: none"> <li>• Population Density</li> <li>• Unemployment</li> <li>• Relative Poverty</li> <li>• Murder Rates*</li> </ul>

Note. *nr* = not reported.

\* = Dependent variable.

Table 1

*Characteristics of Included Studies*

Study	Objectives	Country	Methods of data collection	Data analysis	Correlates assessed
(Lee, Lee, & Hoover, 2016)	This study examines auto theft rates under the framework of social disorganization theory for the purpose of preventing future auto theft.	Houston, Texas	The authors utilized the U.S. Census Bureau Survey and 2005 Houston Police Department recorded auto theft crimes. In this cross-sectional/quantitative study, the population were reported auto thefts across 401 census tracts. $N = 401$ .	The correlates were assessed using multiple linear regression. The authors found there was a statistically significant relationship between concentrated disadvantage, residential stability, racial heterogeneity and auto theft rates. Best fit model was statistically significant and accounted for 39% of the variance in auto theft rates. (Adjusted $r^2 = .398$ , $df1 = 4$ , $df2 = 378$ , $F = 62.513$ , $p < 0.001$ )	<ul style="list-style-type: none"> <li>• Concentrated Disadvantage</li> <li>• Immigrant Concentration</li> <li>• Residential Stability</li> <li>• Racial Heterogeneity</li> <li>• Auto Theft Rates*</li> </ul>

Note. *nr* = not reported.

\* = Dependent variable.

Table 1

*Characteristics of Included Studies*

Study	Objectives	Country	Methods of data collection	Data analysis	Correlates assessed
(Lynch, 2016)	This study tests if the structural determinants of crime that are grounded in social disorganization theory are capable of explaining crime in rural areas.	Hillsborough, Florida	The authors utilized the U.S. Census Bureau Survey and data obtained from the Hillsborough County Sheriff's Office. In this cross-sectional/quantitative study, the study population was reported crime across 56 zip code areas. $N = 56$ .	The correlates were assessed using ordinary linear regression. The author found there was a statistically significant relationship between % of White people, % of female-headed households and crime rates. The best fit model was statistically significant and accounted for 19.7% of the variance in crime rates. (Adj. $r^2 = .197$ , $df = nr$ , $nr$ , $F = 4.368$ , $p = 0.004$ )	<ul style="list-style-type: none"> <li>• % of Population Growth</li> <li>• % of White People</li> <li>• % of Female Headed Households</li> <li>• Autocorrelation Correction Control Variable</li> <li>• Crime Rates*</li> </ul>

Note.  $nr$  = not reported.

\* = Dependent variable.

Table 1

*Characteristics of Included Studies*

Study	Objectives	Country	Methods of data collection	Data analysis	Correlates assessed
(Mares, 2010)	This study examines the relationship of social disorganization theory and gang homicides and non-gang homicides.	Chicago, Illinois	The authors utilized 1990 Census Information (Neighborhood Change Database (NCBD) and Chicago Police Crime Dataset. In this cross-sectional/quantitative study, the study population were the number of homicides per Census tract. $N = 800$ .	The correlates were assessed using negative binomial regression. The author found there was a statistically significant relationship between youth in gangs, % of African Americans, disadvantage, instability, heterogeneity and all homicides. The authors did not report the statistics of a best fit model. (Adj. $r^2 = nr$ , $df = nr$ , $p = nr$ ).	<ul style="list-style-type: none"> <li>• Youth in Gangs</li> <li>• % of African Americans</li> <li>• Disadvantage</li> <li>• Instability</li> <li>• Racial Heterogeneity</li> <li>• All Homicides*</li> </ul>

Note. *nr* = not reported.

\* = Dependent variable.

Table 1

*Characteristics of Included Studies*

Study	Objectives	Country	Methods of data collection	Data analysis	Correlates assessed
(Martinez, Stowell, & Iwama, 2016)	This study tests if the increase of foreign-born population increases the rate of homicides in a community.	San Diego, California	The authors utilized the Neighborhood Change Data Base (NCDB) with 2010 tract definitions as identified by the U.S. Census Bureau and Homicide data from San Diego Police Department. In this cross-sectional/quantitative study, the study population were reported homicides across 314 Census tracts. N = 314.	The correlates were assessed using negative binomial regression. The author found there was a statistically significant relationship between disadvantage, stability, % foreign-born, neighborhood diversity, adult to child ratio and homicide rates. The authors did not report the statistics of a best fit model. (Adj. $r^2 = nr$ , $df = nr$ , $p = nr$ ).	<ul style="list-style-type: none"> <li>• Disadvantage Index</li> <li>• Stability Index</li> <li>• Percent Professional Employment</li> <li>• Percent Foreign-born</li> <li>• Neighborhood Diversity Index</li> <li>• Adult/child ratio</li> <li>• Homicides*</li> </ul>

Note. *nr* = not reported.

\* = Dependent variable.

Table 1

*Characteristics of Included Studies*

Study	Objectives	Country	Methods of data collection	Data analysis	Correlates assessed
(Przeszlowski & Crichlow, 2018)	This study tests the success of Community-Oriented Policing Implementation against structural determinants of crime in small police agencies around the country.	United States	The authors utilized 2013 Law Enforcement Management and Administrative Statistics Survey (LEMAS), 2013 Uniform Crime Report (UCR) and 2012 U.S. Census 5-year American Community Survey (ACS). In this cross-sectional/quantitative study, the study population were violent crimes by police agencies employing between 40-80 full-time sworn personnel. $N=309$ .	The correlates were assessed using ordinary least square regression. The author found there was a statistically significant relationship between % of population that are African American, % of female head of household with children under 18 and no husband present, the % of people whose income was below the poverty level and violent crimes. The best fit model was statistically significant and accounted for 30.1% of the variance in crime rates. (Adj. $r^2 = .301$ , $df = nr$ , $nr$ , $F = 21.69$ , $p = 0.000$ )	<ul style="list-style-type: none"> <li>• # of Sworn Police Personnel</li> <li>• Community-Oriented Policing Implementation</li> <li>• % of population that are Black</li> <li>• % of Population that are foreign-born</li> <li>• % of female head of household with children under 18 and no husband</li> <li>• % of people whose income was below the poverty level</li> <li>• Violent Crimes*</li> </ul>

Note.  $nr$  = not reported.

\* = Dependent variable.

Table 1

*Characteristics of Included Studies*

Study	Objectives	Country	Methods of data collection	Data analysis	Correlates assessed
(Tewksbury, Mustaine, & Covington, 2010)	This study examines the relationship between social disorganization theory and sex offenses (general and against children).	Jefferson County, Kentucky	The authors utilized the U.S. Census Bureau Survey and data obtained from the Louisville, Kentucky Metropolitan Police Department. In this cross-sectional/quantitative study, the study population were reported sexual offenses across 170 census tracts in Jefferson County, Kentucky. $N = 170$ .	The correlates were assessed using ordinary linear regression. The author found there was a statistically significant relationship between social disorganization, # of registered sex offenders, # of schools in census tract, daycare centers, % of population that is female, % of women population between the ages of 16 – 64 with a disability and sexual assault rates. The best fit model was statistically significant and accounted for 39.9% of the variance in crime rates. (Adj. $r^2 = .399$ , $df = nr, nr$ , $F = 13.255$ , $p = 0.000$ )	<ul style="list-style-type: none"> <li>• Social Disorganization</li> <li>• Total # of Schools in Census Tract</li> <li>• Total # of Daycare Centers in Census Tract</li> <li>• % of Population that is Female</li> <li>• % of Population that are Women Living Alone</li> <li>• % of Population that are Women 16 -64 with a Disability</li> <li>• % of Population that are Women 5 -20 with a Disability</li> <li>• % of Population that are Foreign Born</li> <li>• # of Registered Sex Offenders*</li> </ul>

Note.  $nr$  = not reported.

\* = Dependent variable.

## **Summary Overview of Table 1 with Some Key Factors**

**Location.** There is a total of thirteen (13) studies included in this systematic review of literature, of which eleven (11) of the studies were conducted in the United States, and the last two were conducted in Belo Horizonte, Brazil, and in South Africa. Of the studies conducted in the United States, two of them utilized the entire country as its sampling pool; the other nine were conducted in the following states and cities: Hillsborough, Florida; Houston, Texas; El Paso, Texas; Jefferson County, Kentucky; Chicago, Illinois; Seattle, Washington; Missouri (106 rural counties within the state); San Diego, California; and Fayetteville, North Carolina.

**Sample sizes and unit of analysis.** All of the units of analysis were groups (groups of precincts, towns, zip codes, or counties). The sample sizes ranged from a group of 44 to 1,138. Within the 13 included studies, eight studies had more than 150 groups, three studies had from 70-150 groups, and two of the studies were conducted with fewer than 70 participants.

**Statistical methods utilized.** In order of usage, ordinary least square regression was utilized in five of the studies, followed by negative binomial regression and multiple linear regression (slightly different from ordinary least square regression) of which both were used three times, and last, Poisson regression, which was utilized twice.

**Study heterogeneity.** As stated earlier in this research, the goal of secondary research (and this systematic review of empirical literature) is an attempt to answer the research questions without the need to embark on a primary study to do so (Glass, 1976). A meta-data analysis is utilized to analyze the results of previous studies in an attempt to answer the research questions. Meta-data analysis or meta-analysis, which is “the statistical analysis of a large collection of analysis results from individual studies for the purposes of integrating the findings” (Glass, 1976,



p. 3) is appropriate where there is a lack of heterogeneity amongst studies (Cooper, 2003). In other words, the studies under investigation should be homogenous in that they are similar in terms of methods, participants, or similar in terms of their quantitative findings (Thompson, 1994). There are three types of heterogeneity that should be of concern to a researcher attempting to embark of the task of conducting a meta-analysis: clinical heterogeneity, methodological heterogeneity, and statistical heterogeneity (Thompson, 1994).

The roots of systematic reviews and meta-analyses can be found in the medical field and largely promoted by the Cochrane Group to help those in the field make better informed decisions (Higgins & Green, 2011). With that foundation in mind, clinical heterogeneity refers to the differences between clinical trials, (such as differences treatment, types of patients, and outcomes), that need to be explored before a meta-analysis can be conducted; if there are too many differences, the outcome of the meta-analysis would be invalid (Xu, Platt, Luo, Wei, & Fraser, 2008).

Methodological heterogeneity refers to the differences in studies that can be found in the way the studies were designed, conducted, or analyzed; and statistical heterogeneity relates to the degree of variation in effects and questions the probability that the differences observed between the studies are consistent with chance variation (Xu et al., 2008).

**How do you test for study heterogeneity?** When testing for study heterogeneity between clinical trials or randomized controlled trials, studies in which participants are allocated by chance (random) to receive one or several clinical interventions (Shiel Jr, 2019), there are several statistical methods that can be utilized to determine study heterogeneity such as Cochrane's  $Q$  and  $I^2$  Index (Higgins, Thompson, Deeks, & Altman, 2003). Unfortunately, these

tests are only useful with categorical variables and not continuous variables such as those found in correlational studies.

As a reminder, tests for study heterogeneity are to determine if a meta-analysis could be conducted, and the reasoning for the meta-analysis is to answer the research questions without the need to conduct a primary study or further research (O'Rourke & Detsky, 1989). What has not been mentioned before in this study is that a meta-analysis, which was once disapproved for this task decades ago (Charlton, 1996), can also be utilized for hypothesis testing (DerSimonian & Laird, 2015). It is this ability that sets the foundation to determine if a meta-analysis could be performed on correlational studies. It has been illustrated that meta-analysis increases the low statistical power in individual studies (Cohen, 2013; Cohn & Becker, 2003; Mulrow, 1994), but the question that needs to be answered first is how many studies are needed to obtain enough statistical power to reject the null hypothesis? That question was answered through the work of Valentine, Pigott, and Rothstein in their study, "How Many Studies Do You Need? A Primer on Statistical Power for Meta-Analysis." Based upon their work and depending on the type of meta-analysis you need to conduct a fixed-effect model (for studies from a single population or one true effect size) or random-effect model (for studies from multiple populations or effect sizes) (Borenstein, Hedges, Higgins, & Rothstein, 2011; Song, Sheldon, Sutton, Abrams, & Jones, 2001), to achieve a statistical power of .80, a researcher would need approximately 27 studies or 57 studies, respectively, to meet the inclusion criteria before the researcher can undertake a meta-data analysis and possibly reject the null hypothesis (Valentine, Pigott, & Rothstein, 2010). The inclusion criteria for this research yielded only 13 studies, which makes being able to reject the null hypothesis with a meta-analysis highly improbable.

**Narrative synthesis.** When conducting a meta-data analysis is inappropriate, it is recommended that a narrative synthesis be conducted to summarize and synthesize the results of the different studies that relate to the research question (Davis, Mengersen, Bennett, & Mazerolle, 2014). As per the Cochrane Group and Campbell Collaboration, a systematic review need not contain any meta-analyses (Higgins & Green, 2011; O'Rourke & Detsky, 1989); and as with most of their studies, the majority of them do not obtain enough studies to conduct a meta-analysis. Using Cochrane's guidelines as a narrative framework, the research questions acted as a guide in this synthesis. In addition, the forest plots utilized in conjunction with the research questions are for descriptive purposes (Neyeloff, Fuchs, & Moreira, 2012)

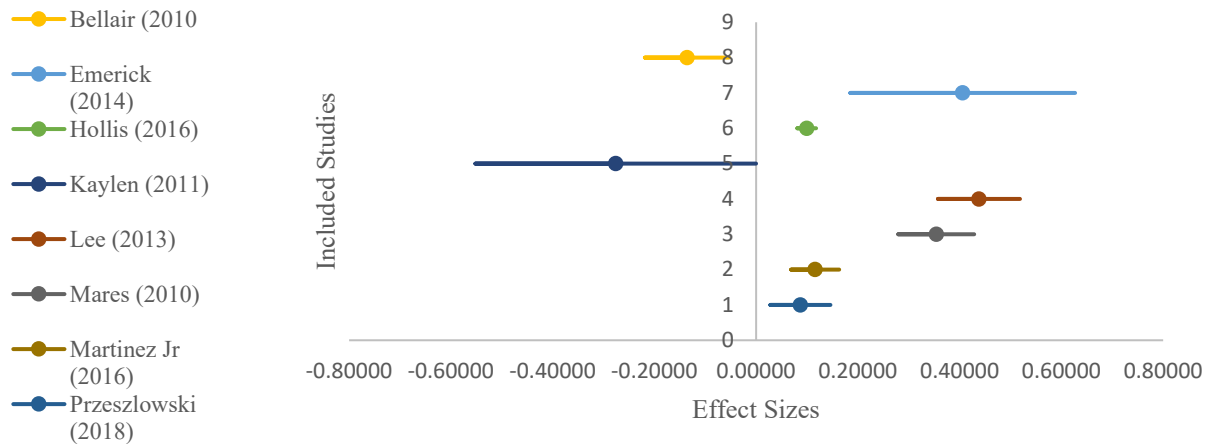


Figure 2. Economically disadvantaged.

The first research question asks, what, if any, relationship exists between the number of economically disadvantaged members in a NYC community and the rate of crime in that community? The systematic search of literature uncovered 13 studies that meet the inclusion

criteria. These studies are listed in Table 1. Within those 13 studies, eight of them directly or indirectly addressed the research question and included their unstandardized coefficients along with their standard errors, which allow for them to be entered onto the forest plot (Figure 2). All eight studies found the relationship between the economically disadvantaged members in a community and crime rates within that community to be statistically significant; however, the forest plot (Figure 2) displays various effects sizes which is an indication of lack of heterogeneity as a result of the use of different methodologies (methodological diversity) to obtain these results (McKenzie & Brennan, 2008).

The simplest method of measuring income can be found in the study conducted by Bellair and Browning (2010). Their study measured economically disadvantaged by way of measuring the average family income for every census tract within their study population. This measure indirectly measures economically disadvantaged members of a community, with those whose averages being below the mean are considered more economically disadvantaged than those above the mean. They found this measure to be statistically significant with an inverse relationship; as the average income goes down, crime goes up ( $B = -0.136$ ,  $SE = 0.042$ ). Comparably, studies conducted by Lancaster and Kamman (2016) and da Silva (2014) measured the economic disadvantage in a similar manner as Bellair and Browning (2010). In both studies, the authors did not report the unstandardized coefficients along with their standard errors for this variable and chose to report the standardized coefficients instead. Both Lancaster and Kamman (2016) and da Silva (2010) found their measures of economically disadvantaged members of a community to be statistically significant (Beta = -0.117;  $t = -3.535$ ; and  $p < 0.000$  and Beta = .0513;  $t = 10.02$ ; and  $p < .05$ , respectively); however, only Lancaster and Kamman

(2016) found the relationship to be inverse as expected, and the da Silva (2010) relationship was very small.

Another simple approach to measuring economically disadvantaged was taken by Kaylen and Pridemore (2011) and Przeszlowski & Crichlow (2018). The authors chose to measure the percentage of the population whose income was below the poverty level. Przeszlowski & Crichlow (2018) found it to be statistically significant with a small effect ( $B = .087, SE = 0.03$ ). In their measurement of economically disadvantaged, they found as the percentage of the population whose income was below the poverty level increased, violent crimes increased. Conversely, Kaylen and Pridemore (2011) found it to be statistically significant ( $B = -0.798, SE = 0.388$ ), but with an inverse relationship. In their measurement of economically disadvantage, they found as the percentage of the population whose income was below the poverty level increased, serious assault victimizations for those whose ages are 15-24 decreased.

There were five studies that chose to measure economically disadvantaged as an index, the first being the study conducted by Mares (2010). In the Mares study, a variable was created, Disadvantaged, composed of the standardized values, *z*-scores, for the percent of female-headed household, the unemployment rate for each census tract, percent of households receiving public assistance, percent of the population under 18, the percent of families that make less than \$10,000 annually. This variable was found to be statistically significant ( $B = .354, SE = 0.038$ ), with a positive relationship indicating that when there is an increase in the Disadvantage, homicides in the community increased.

In 2013, Lee, Lee, and Hoover measured economically disadvantaged as an index. A variable was created, concentrated disadvantage as a result of factor analysis; six indicators make

up this factor: percentage of population below poverty level, percentage of population receiving public assistance, percentage of population less than age 18, percentage of population Black, percentage of population unemployed, and percentage of population with female-headed households. Like the Mares study, this variable was found to be statistically significant ( $B = .354$ ,  $SE = 0.038$ ), with a positive relationship indicating that when there is an increase in the Concentrated Disadvantage, auto thefts in the community increased.

Similar to the work of Lee, Lee, and Hoover (2016) and Emerick, Curry, Collins, and Rodriguez (2014) in their studies, they created the variable Concentrated Disadvantage, to measure economically disadvantaged. Their variable was the result of principal components analysis. Seven indicators make up this factor: percentage of population that live in overcrowded areas, percentage of population that live below the poverty level, percentage of population that are single mothers, percentage of population that are unemployed, percentage of population that are on public assistance, percentage of population that have a low education, and the percentage of population that are foreign born. Like the Mares study and the Lee, Lee, and Hoover study, this variable was found to be statistically significant ( $B = .406$ ,  $SE = 0.111$ ) with a positive relationship indicating that when there is an increase in the Concentrated Disadvantage, auto homicides in the community increase.

Last, the studies by Hollis (2016) and Martinez Jr., Stowell, and Iwama (2016) both created an index variable to measure economically disadvantaged. The variables were composed of the standardized values ( $z$ -scores). Both studies combined three variables to create the socio-economic status variable. Both utilized the percentage of population that are living in poverty and percentage of population that have single mothers as head of household with Hollis (2016),

choosing to use the percentage of the population that are unemployed for their third index choice and Martinez Jr., Stowell, and Iwama (2016) choosing to use households receiving public assistance for their index choice. Like the previous studies that chose to measure economically disadvantaged as an indexed variable, both studies by Hollis (2016) and Martinez Jr., Stowell, and Iwama (2016) found their variables to be statistically significant, ( $B = .0994, SE = 0.093$  and  $B = .116, SE = 0.024$ , respectively), whereas as the socio-economic status increases (an increase in poverty), violent crime levels and homicides increase, respectively.

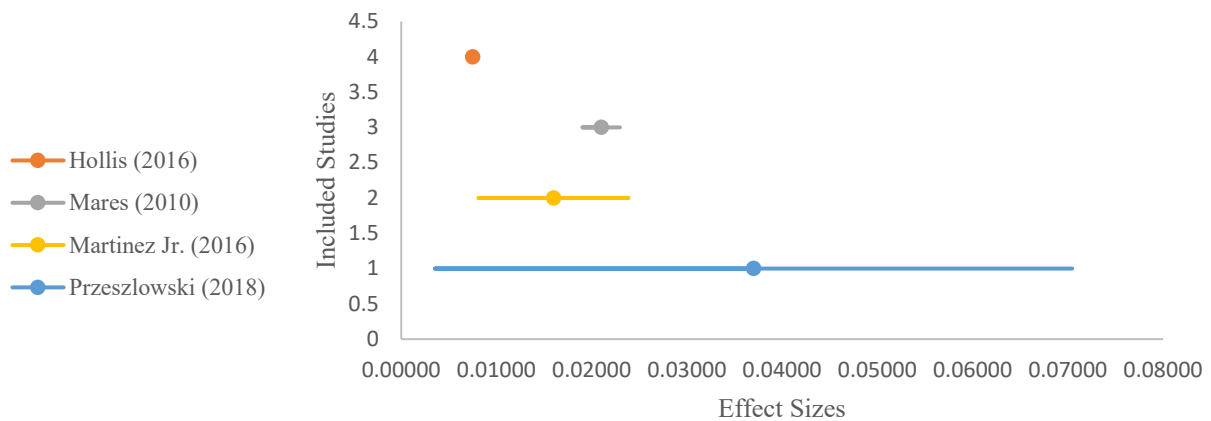


Figure 3. Racial/ethnic heterogeneity.

The second research question asks, what, if any, relationship exists between the level of racial/ethnic heterogeneity in a NYC community and the rate of crime in that community? As a reminder, the systematic search of literature uncovered 13 studies that met the study inclusion criteria. These studies are listed in Table 1. Within those 13 studies, four of them directly or indirectly addressed the research question and included their unstandardized coefficients along with their standard errors, which allow for them to be entered onto the forest plot (Figure 3). All

eight studies found the relationship between the racial/ethnic heterogeneity in a community and crime rates within that community to be statistically significant; however, as with the previous research question, the forest plot (Figure 3) displays various effects sizes, which is an indication of a lack of heterogeneity as a result of the use of different methodologies (methodological diversity) to obtain these results (McKenzie & Brennan, 2008).

The simplest method of measuring racial/ethnic heterogeneity can be found in the study conducted by Hollis (2016). To measure racial/ethnic heterogeneity, the author chose to measure the percentage of the population that is non-White. The author found this measure to be statistically significant with a positive relationship; as the percentage of the non-White population goes up, violent crimes go up ( $B = - 0.0075$ ,  $SE = 0.0003$ ).

Mares (2010) and Przeszlowski and Crichlow (2018) measured racial/ethnic heterogeneity remarkably similar to Hollis. In their study, to measure racial/ethnic heterogeneity, the authors chose to measure the percentage of the population that are Black or African American. The authors found this measure to be statistically significant with a positive relationship; as the percentage of the population that are Black or African American goes up, violent crimes and homicides, respectively, increase (Mares,  $B = .021$ ,  $SE = 0.001$ , Przeszlowski and Crichlow,  $B = 0.037$ ,  $SE = 0.017$ ).

Unlike the previously three mentioned studies, Martinez Jr., Stowell, and Iwama (2016) chose to create an index variable to measure racial/ethnic heterogeneity. Their index is composed of the size of the four largest racial/ethnic groups in each community (non-Latino Blacks, non-Latino Whites, Latinos, and Asians) to create a neighborhood diversity index. Similar to the previous studies that addressed this research question, the authors found their



measure of racial/ethnic heterogeneity to be statistically significant (Martinez Jr., Stowell, & Iwama,  $B = -0.016$ ,  $SE = 0.004$ ). In the Martinez Jr., Stowell, and Iwama (2016) study, the dependent variable was homicides; and as the percentage of the non-White population went up, homicides increased.

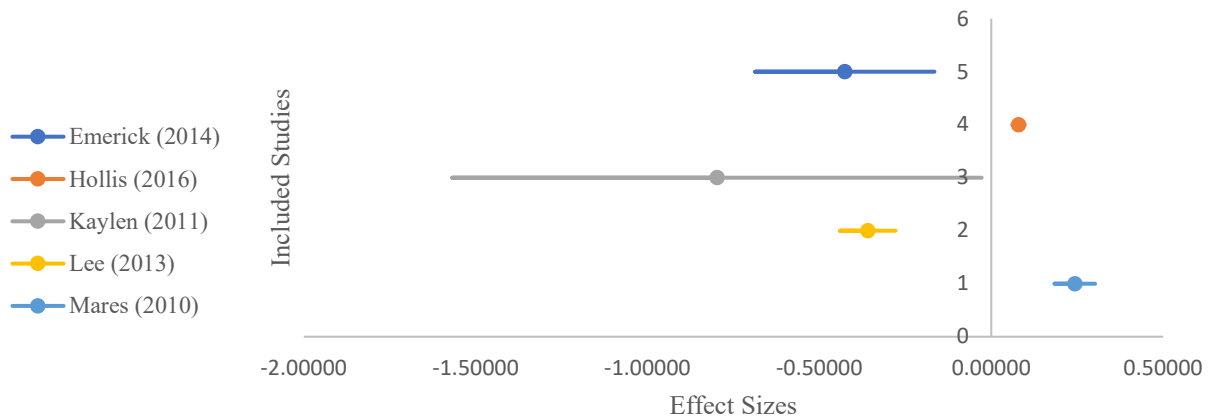


Figure 4. Residential instability/mobility.

The third research question asks, what, if any, relationship exists between the amount of residential instability/mobility in a NYC community and the rate of crime in that community? To reiterate, the systematic search of literature uncovered 13 studies that met the study inclusion criteria. These studies are listed in Table 1. Within those 13 studies, five of them directly or indirectly addressed the research question and included their unstandardized coefficients along with their standard errors which allow for them to be entered onto the forest plot (Figure 3). All five studies found a relationship between the amount of residential instability/mobility in a NYC community and the rate of crime in that community; however, as with the previous research question, the forest plot (Figure 4) displays various effects sizes, which is an indication of lack of

heterogeneity as a result of the use of different methodologies (methodological diversity) to obtain these results (McKenzie & Brennan, 2008).

Most of the included studies chose to measure residential instability/mobility as an index made up of multiple measures. The simplest index variable can be found in the Hollis (2016) study. In this study, the author created a variable called population mobility, which was a combination of two separate measures: percentage of residents who have moved in the past 5 years and the percentage of renter-occupied homes. The author found this measure to be statistically significant with a positive relationship ( $B = 0.0796$ ,  $SE = 0.0089$ ); as population mobility increases, so do violent crime levels.

The next indexed variable created to measure residential instability/mobility can be found in the Mares (2010) study, which adds more variation to the variable. Mares named the variable instability, which is composed of the  $z$ -scores for the percentage of population who are renters, percentage of people who moved in the last five years, and the percentage of housing with less than two bedrooms. The author found this measure to be statistically significant with a positive relationship ( $B = 0.243$ ,  $SE = 0.03$ ); when neighborhood instability increases, so do homicide rates.

Adding a bit more complexity to the measure of residential instability/mobility, Lee, Lee, and Hoover (2013) chose to create an index variable, labeled residential stability, through the use of factor analysis. Their variable was comprised of two indicators to make up their factor, the percentage of population that lived in the same house for five years and the number of owner-occupied households. The authors found this measure to be statistically significant with a

negative relationship ( $B = -0.359, SE = 0.041$ ); as the neighborhood becomes less stable, auto thefts increase.

Emerick, Curry, Collins, and Rodriguez (2014) chose a method similar to Lee, Lee, and Hoover (2013) in creating their measure for residential instability/mobility. The authors labeled their variable “neighborhood stability” and utilized principal components analysis to combine the percentage of vacant housing units, the number of owner-occupied housing units and residential stability (this indicator they did not explain further). The authors found this measure to be statistically significant with a negative relationship ( $B = -0.426, SE = 0.131$ ); as the neighborhood becomes less stable, homicides increase.

Last, the simplest method of measuring residential instability/mobility can be found in the study conducted by Kaylen and Pridemore (2011). To measure residential instability/mobility, the authors chose to measure the number of residents that moved within five years. The authors found this measure to be statistically significant with a negative relationship ( $B = -0.798, SE = 0.388$ ). The authors could not explain this negative relationship.

**Educational attainment.** The final research question asks, what, if any, relationship exists between the level of educational attainment in a NYC community and the rate of crime in that community? Tewksbury, Mustaine, and Covington (2010) is the only study within the 13 studies that met the study inclusion criteria that addresses this question, and they do so indirectly in an indexed variable made up of 11 separate indicators associated with social disorganization.

- The percentage of the population whose ages are 19 and younger
- The percentage of the population who are White
- The percentage of the population with a high school degree

- The percentage of the population with a four-year college degree
- The percentage of the population living in owner-occupied homes
- The percentage of the population that are unemployed
- The percentage of residents living at the same address for at least five years
- The percentage of female-headed households
- The percentage of families living below the poverty line
- The percentage of families living at the median household income
- The percentage of families whose homes are below the median housing value

These variables were combined by subtracting each census tract value from the county average for that variable; negative values represented neighborhoods that were less socially disorganized than the county, on average. The authors found this measure to be statistically significant with a positive relationship ( $B = 0.117$ ,  $SE = 0.045$ ); as the social disorganization increases, sex offenses increase.

### **Summary**

One of the primary purposes of this paper is to aid the New York City Police Department in the deployment of police officers assigned to its community policing program. It is the belief of this researcher that officers assigned to this program be assigned to areas of social disorganization. Their purpose in these areas is not only to act as law enforcement agents or mechanisms in rebuilding the strained relationship between the community and the police department; their purpose should also be to become conduits within the community to strengthen the bonds of the community itself. It is this belief that fostered this review of literature and its framework—history, theory, and the structural determinants of crime.

Within this framework of police purpose and community, this review of literature has its start at the beginning of policing in New York. The purpose of this time travel is to illustrate how policing, from its very roots, has always been community-driven as well as part of the community it served. The history of New York began in 1524 when Giovanni da Verrazzano passed by as he sailed back to France. However, New York did not receive its first settlers until 1609. During this time, social order was maintained by Dutch troops on loan from the Dutch government. As the community grew, the first magistrate of law appeared in 1629; Johan Lampo was known as the *schout fiscal* (sheriff attorney) and effected arrest on behalf of the court. He could be considered the very first policeman in the state. But it was not until 1642 that Burgher Guard came to muster. They were unpaid members of the community, and membership was mandatory and was required to maintain public order. As disorder grew, the Rattle Watch was created to protect the community at night from Native American raids. The Rattle Watch were also members of their community, but they were paid for their duties and considered to be the first paid police service in America.

Under British rule, New York received its first Mayor, Aldermen, Sheriff, and Constables. The original watch system was replaced by the Constable's Watch. They remained in place until after the American Revolution, at which time they were restructured to the Night Watch. By 1839, there were 784 watchmen and sergeants. The police department that we have today was created in 1870.

This review of literature also reviewed crime theory from its beginning to the present theoretical framework utilized in this review. Crime theory began in 1884 with Enrico Ferri, who coined the term *criminal sociology*. A year later, *Criminology (Criminologia)* was the title

a book by Baron Raffaele Garofalo, who was, like Ferri, a criminal sociologist at the time. However, theories of crime existed long before Ferri and Garofalo.

During the Dark Ages, the first theories of crime fell under the realm of demonology—“the devil made him do it.” In the Age of Enlightenment, free will and human rationality formed the foundation of crime theories during that time and formed the foundation of the Classical School of Criminological thought.

The Classical School of Criminological thought produced crime theories such as crime deterrence (education and swift punishment), and it became the foundation of the American criminal justice system. The Classical School of Criminological thought believed that humans were rational beings, but it failed to consider that some human beings are irrational as well, which caused the creation of the Positivist School of Criminological thought.

The Positivist School of Criminological thought fostered beliefs that a person can be born a criminal, that certain physical characteristics indicate a high probability of criminal behavior, that mental abnormalities can cause criminal behavior, and that social structure can influence people to commit crimes. It is the last named of these beliefs that led to the theoretical framework of this paper—social disorganization theory.

Social disorganization theory (and theorists) grew out the Chicago School of Criminology in the early 1900s. Based upon the work of its founders, Clifford R. Shaw and Henry D. McKay, social disorganization theory is currently used not only in criminology but also in other disciplines such as health, economics, and psychology. Social disorganization can be defined as “the inability of local communities to realize common values of their residents to

solve commonly experienced problems” (Bursik, 1988, p. 521). In accordance with this theory, Shaw and McKay gave the following three reasons to explain the occurrence of crime:

- residential instability/mobility, which is defined as individuals who move frequently and as result do not develop any commitment to the community they temporarily live in
- racial/ethnic heterogeneity, which is defined as residential isolation as a result of racial, cultural and language that block the formation of community unity
- poverty which, as per Shaw and McKay, by itself does not cause crime, but facilitate it because of a lack of the resources necessary to eradicate criminal behavior (Harbeck, 2017).

As such, this study examines the influence structural determinants have on the rate of crime in the communities of New York City through the lens of social disorganization theory.

The research questions for this study built upon the tenets of social disorganization are the following:

1. What, if any, relationship exists between the number of economically disadvantaged members in a NYC community and the rate of crime in that community?
2. What, if any, relationship exists between the level of racial/ethnic heterogeneity in a NYC community and the rate of crime in that community?
3. What, if any, relationship exists between the amount of residential instability/mobility in a NYC community and the rate of crime in that community?
4. What, if any, relationship exists between the level of educational attainment in a NYC community and the rate of crime in that community?

This review of literature examined the previous instruments utilized to explain crime through the lens of social disorganization theory. By systematic review, it has been determined that the instrument used most to collect data was the national census (i.e., the U.S. Census Bureau). In addition, most crime data were obtained through local police departments. Every study conducted measured social disorganization within the community differently. One obvious gap in the literature is the location of studies. There were no studies conducted in New York. Another gap in the literature is the lack of outcome consistency within the foundation of social disorganization theory. Third, sample populations varied throughout the studies, which does not allow generalization within New York City. New York City is incredibly unique in regard to citizen population and police population. It is for these very reasons that this researcher believes that primary research needs to be conducted in New York City to determine its structural determinants of crime.



## Chapter III

### METHODS

The purpose of this study is to explain the structural determinants of crime in New York City communities.

The process of research includes developing paradigms, methodologies, and methods (Abdul Rehman & Alharthi, 2016; Kivunja & Kuyini, 2017). As discussed in the review of literature section of this study, the research paradigm for this study is a positivist paradigm which fosters the use of a quantitative methodology to answer a study's research questions and/or test a research hypothesis (Mackenzie & Knipe, 2006); hence, the methodology for this research is quantitative. It should be noted that the methods section should not be confused with the methodology section. Though they may be thought of as one and the same, they are actually different. A research methodology describes how a researcher is going to begin the research to the end of the total research, whereas research methods (also known as procedures), denote the specific tools and procedures that were utilized to collect data and analyze the data collected (Sikes, 2004). The remainder of this section is utilized to answer the study's research questions and test the research hypotheses.

The structure of this section, which served as the structural framework for data collection, was recommended by Newman, Benz, Weis, and McNeil, from their book, *Theses and Dissertations: A Guide to Writing in the Social and Physical Sciences* (Newman et al., 1997); as such, it has the following sections in the following order:

- Background
- Research Design

- Derivation of General Research Hypotheses and Specific Research Hypotheses
- Participants
- Sampling Procedures
- Instruments and Measures
- Variable List
- Data Collection
- Statistical Treatment
- Limitations
- Summary

### **Background**

The researcher is a retired member of the New York City Police Department. While at the Department, this researcher was personally responsible for the development of staffing models that are currently being utilized to deploy over 15,000 members of the service daily in response to 911 calls-for-service. In addition, this researcher developed the current staffing models utilized to deploy members of the service assigned to the Department's Neighborhood Coordinator Officer's program.

### **Research Design**

Research design can be defined as the method that will ensure that the evidence obtained enables us to answer the research question(s) as unambiguously as possible (Akhtar, 2014; De Vaus, 2001). The overall research question of this study is, what are the relationships between neighborhood structural determinants and crime rates? (or in other words, why is crime occurring?) To address this question, the design used for this study is nonexperimental,

explanatory, cross-sectional, utilizing an observational approach, in which a correlational analysis is the recommended statistical analysis (Edmonds & Kennedy, 2016; Teddlie & Tashakkori, 2009).

As an observational study, it should be noted that observational studies have three types of designs: cross-sectional, cohort, and case-control; of the three, the cross-sectional design was utilized for this study (Carlson & Morrison, 2009). A cross-sectional design corresponds with the data selected to answer the research question—a snapshot of crime data from the calendar year 2017.

### **Derivation of General Research Hypotheses and Specific Research Hypotheses**

The main focus of this study is to ascertain if there is a relationship between neighborhood structural determinants and crime rates. Therefore, this study addressed the following research questions:

1. What, if any, relationship exists between the number of economically disadvantaged members in a NYC community and the rate of crime in that community?
2. What, if any, relationship exists between the level of racial/ethnic heterogeneity in a NYC community and the rate of crime in that community?
3. What, if any, relationship exists between the amount of residential instability/mobility in a NYC community and the rate of crime in that community?
4. What, if any, relationship exists between the level of educational attainment in a NYC community and the rate of crime in that community?

### **General Research Hypothesis**

A statistically significant relationship does exist between neighborhood structural determinants and crime rates.

### **General Null Hypothesis.**

A statistically significant relationship does not exist between neighborhood structural determinants and crime rates.

### **Specific Research Hypotheses**

$H_1 =$  There is a relationship between the number of economically disadvantaged members in a NYC community and the rate of crime in that community.

$H_2 =$  There is a relationship between the level of racial/ethnic heterogeneity in a NYC community and the rate of crime in that community.

$H_3 =$  There is a relationship between the amount of residential instability/mobility in a NYC community and the rate of crime in that community.

$H_4 =$  There is a relationship between the level of educational attainment in a NYC community and the rate of crime in that community.

### **Participants**

With a group unit of analysis, the study participants are residents of New York City, aggregated within the geographical confines of 59 community districts. These participants/units of analysis, New York City Community Districts, were chosen as a result of the division of the city into community districts.

The City of New York was chartered in 1897, combining the five boroughs into one greater city with one executive branch of government (Ash, 1897). The city's centralized

government began to become a problem for its citizens in the late 1960s as communities fought for control of city-controlled schools within their communities; as a result of citizens' complaints, decentralized community school boards with power over school governance and administration were created (Freeman, 2001, pp. 221-225). The creation of the school community boards led the way to further political and administrative decentralization; and in 1975, in part mandated by the state, the City Charter of New York was revised to create the 59 community districts, staffed with full-time employees with powers ranging from city land usage, zoning, and participation in the city budget process (Berg, 2007; Pecorella, 2019).

The New York City's population is currently estimated at 8,622,698, of which 32.1% are White, 24.3% are Black, 29.1% are Hispanic, 14% are Asian, and .5% are labeled as Other (2017). Table 2 contains the demographic breakdown of the City's community districts (NYU Furman Center, 2020b).

Table 2

*Community District Demographics*

Community District	Neighborhood Names	Population (2017)	Percent Male	Percent Female	Percent Asian	Percent Black	Percent Hispanic	Percent White
Manhattan 1	Battery Park /Tribeca/Financial District	148,982	49.10%	50.90%	16.50%	2.10%	5.70%	72.20%
Manhattan 2	Greenwich Village	148,982	49.10%	50.90%	16.50%	2.10%	5.70%	72.20%
Manhattan 3	Lower East Side/Chinatown	160,490	49.10%	50.90%	36.10%	6.50%	23.60%	31.00%
Manhattan 4	Chelsea/Clinton	152,455	52.90%	47.10%	15.60%	6.80%	15.60%	59.30%
Manhattan 5	Midtown	152,455	52.90%	47.10%	15.60%	6.80%	15.60%	59.30%
Manhattan 6	Murray Hill/Stuyvesant Town/Turtle Bay	149,674	45.90%	54.10%	14.90%	4.00%	9.90%	68.50%
Manhattan 7	Upper West Side	207,134	44.70%	55.30%	8.70%	5.70%	13.10%	69.10%
Manhattan 8	Upper East Side	214,219	43.40%	56.60%	10.70%	1.40%	10.80%	74.60%
Manhattan 9	Manhattanville/Morningside Heights/Hamilton	136,017	48.40%	51.60%	10.20%	22.40%	36.50%	28.50%
Manhattan 10	Central Harlem	147,442	46.40%	53.60%	4.10%	53.00%	24.70%	14.90%
Manhattan 11	East Harlem	128,316	46.30%	53.70%	8.30%	26.40%	51.90%	11.90%
Manhattan 12	Washington Heights/Inwood	219,998	48.60%	51.40%	2.40%	8.30%	66.90%	20.20%

*Note.* Adapted from NYU Furman Center. (2020b). *New York City neighborhood data profiles*. Retrieved from <https://furmancenter.org/neighborhoods>

Table 2

*Community District Demographics*

Community District	Neighborhood Names	Population (2017)	Percent Male	Percent Female	Percent Asian	Percent Black	Percent Hispanic	Percent White
Bronx 1	Mott Haven/Melrose	156,357	49.70%	50.30%	0.30%	28.40%	67.20%	3.30%
Bronx 2	Hunts Point/Longwood	156,357	49.70%	50.30%	0.30%	28.40%	67.20%	3.30%
Bronx 3	Morrisania/Crotona	188,075	46.60%	53.40%	1.30%	32.50%	61.80%	3.80%
Bronx 4	Concourse/Highbridge	149,710	46.70%	53.30%	1.00%	27.70%	68.80%	1.30%
Bronx 5	Fordham/University Heights	148,339	46.20%	53.80%	1.80%	24.40%	71.10%	1.00%
Bronx 6	Belmont/East Tremont	188,075	46.60%	53.40%	1.30%	32.50%	61.80%	3.80%
Bronx 7	Kingsbridge Heights/Bedford Park	143,540	47.60%	52.40%	7.10%	11.30%	74.10%	5.10%
Bronx 8	Riverdale/Fieldston	113,242	47.10%	52.90%	4.10%	11.80%	48.80%	31.50%
Bronx 9	Parkchester/Soundview	187,975	47.00%	53.00%	8.20%	30.30%	55.40%	3.00%
Bronx 10	Throgs Neck/Co-op City	113,395	46.30%	53.70%	3.60%	28.80%	39.90%	25.50%
Bronx 11	Morris Park/Bronxdale/Pelham Parkway	120,116	48.10%	51.90%	9.40%	19.80%	42.30%	26.70%
Bronx 12	Williamsbridge/Baychester	150,411	45.90%	54.10%	2.30%	67.20%	23.00%	5.40%

*Note.* Adapted from NYU Furman Center. (2020b). *New York City neighborhood data profiles*. Retrieved from <https://furmancenter.org/neighborhoods>

Table 2

*Community District Demographics*

Community District	Neighborhood Names	Population (2017)	Percent Male	Percent Female	Percent Asian	Percent Black	Percent Hispanic	Percent White
Brooklyn 1	Williamsburg/Greenpoint	152,002	49.40%	50.60%	7.00%	3.60%	21.60%	64.50%
Brooklyn 2	Fort Greene/Brooklyn Heights	135,444	46.80%	53.20%	9.00%	25.80%	14.90%	47.20%
Brooklyn 3	Bedford-Stuyvesant	142,027	47.50%	52.50%	2.70%	48.80%	19.40%	26.60%
Brooklyn 4	Bushwick	140,474	49.50%	50.50%	5.60%	17.00%	53.90%	21.50%
Brooklyn 5	East New York/Starrett City	176,471	46.00%	54.00%	3.80%	52.80%	38.20%	3.90%
Brooklyn 6	Park Slope/Carroll Gardens	116,209	47.60%	52.40%	7.20%	6.10%	17.20%	63.90%
Brooklyn 7	Sunset Park	144,332	50.80%	49.20%	32.70%	2.40%	39.90%	22.70%
Brooklyn 8	Crown Heights North/Prospect Heights	141,725	46.00%	54.00%	5.60%	55.70%	11.70%	24.10%
Brooklyn 9	Crown Heights South/Lefferts Gardens	113,212	45.20%	54.80%	1.80%	60.20%	9.80%	25.50%
Brooklyn 10	Bay Ridge/Dyker Heights	123,488	48.00%	52.00%	28.20%	3.10%	15.80%	50.90%
Brooklyn 11	Bensonhurst	205,850	49.40%	50.06%	38.90%	1.80%	15.50%	40.40%
Brooklyn 12	Borough Park	146,556	50.50%	49.50%	15.70%	1.80%	12.00%	68.90%
Brooklyn 13	Coney Island	122,009	45.50%	54.50%	11.10%	12.50%	18.70%	55.40%
Brooklyn 14	Flatbush/Midwood	150,707	46.80%	53.20%	8.80%	28.90%	15.00%	44.20%
Brooklyn 15	Sheepshead Bay	171,030	48.70%	51.30%	20.80%	5.20%	8.00%	63.70%
Brooklyn 16	Brownsville	111,511	44.00%	56.00%	1.90%	71.30%	19.80%	4.30%
Brooklyn 17	East Flatbush	140,087	43.40%	56.60%	2.10%	87.10%	6.20%	2.70%
Brooklyn 18	Flatlands/Canarsie	215,637	46.00%	54.00%	4.70%	62.20%	8.80%	22.40%

*Note.* Adapted from NYU Furman Center. (2020b). *New York City neighborhood data profiles*. Retrieved from <https://furmancenter.org/neighborhoods>



Table 2

*Community District Demographics*

Community District	Neighborhood Names	Population (2017)	Percent Male	Percent Female	Percent Asian	Percent Black	Percent Hispanic	Percent White
Queens 1	Astoria	164,321	49.50%	50.50%	16.70%	8.20%	24.30%	47.50%
Queens 2	Sunnyside/Woodside	133,822	51.20%	48.80%	36.30%	1.20%	30.90%	29.50%
Queens 3	Jackson Heights	170,222	51.00%	49.00%	18.70%	5.10%	62.50%	12.30%
Queens 4	Elmhurst/Corona	146,301	51.20%	48.80%	32.70%	5.00%	55.80%	5.50%
Queens 5	Ridgewood/Maspeth/Glendale	199,043	48.90%	51.10%	8.90%	0.90%	38.40%	50.10%
Queens 6	Rego Park/Forest Hills	118,922	46.10%	53.90%	29.50%	3.40%	15.40%	47.50%
Queens 7	Flushing/Whitestone	260,282	47.40%	52.60%	54.50%	2.10%	18.40%	23.30%
Queens 8	Fresh Meadows/Briarwood/Hillcrest	164,291	47.50%	52.50%	34.40%	12.10%	19.80%	29.20%
Queens 9	Kew Gardens/Woodhaven	152,283	49.50%	50.50%	25.60%	5.40%	42.90%	17.70%
Queens 10	South Ozone Park/Howard Beach	139,323	49.00%	51.00%	26.70%	13.30%	26.00%	21.80%
Queens 11	Bayside/Little Neck	118,670	48.50%	51.50%	46.00%	2.50%	12.40%	37.50%
Queens 12	Jamaica/St. Albans/Hollis	249,331	46.60%	53.40%	14.60%	59.20%	16.70%	1.40%
Queens 13	Queens Village	208,786	46.80%	53.20%	15.70%	53.90%	14.70%	9.60%
Queens 14	The Rockaways/Broad Channel	133,051	46.60%	53.40%	3.80%	39.20%	20.60%	33.10%
Staten Island 1	St. George/Stapleton	176,632	48.90%	51.10%	8.80%	19.90%	31.10%	38.50%
Staten Island 2	South Beach/Willowbrook	143,766	47.50%	52.50%	15.50%	5.90%	12.50%	64.10%
Staten Island 3	Tottenville/Great Kills	159,060	48.50%	51.50%	4.80%	1.40%	10.20%	82.50%

*Note.* Adapted from NYU Furman Center. (2020b). *New York City neighborhood data profiles*. Retrieved from <https://furmancenter.org/neighborhoods>

## **Sampling Procedures**

There is no sample population within this study. The total population for New York City is utilized in this study, which is aggregated into the 59 community districts.

## **Instruments and Measures**

The instruments utilized in this study were publicly available surveys conducted and data collected by the U.S. Census Bureau, and the American Community Survey (a division of the U.S. Census Bureau), which is a continuous survey that provides yearly detailed data on United States population, housing, education attainment, and veteran status (U.S. Census Bureau, 2020). After the data were collected by the U.S. Census Bureau and the American Community Survey, the data were then collected, preserved, and synchronized by the Integrated Public Use Microdata Series (IPUMS USA), which consists of more than 50 high-precision samples of the American population drawn from 15 federal censuses and from the American Community Surveys of 2000-Present (University of Minnesota, 2020). Last, the data were accessed through the NYC CoreData/New York University Furman Center and New York City's Department of City Planning/Community District Profiles websites.

The total number of variables accessed through the NYC CoreData/New York University Furman Center and New York City's Department of City Planning/Community District Profiles websites were not utilized in this study. The selected variables for this study were chosen because they specifically related to the relationships proposed by the general research hypotheses.

## Variables List

The following list is how the variables were coded in this present study. The independent variables were the following:

- Racial Diversity Index (Interval Data) – Is defined as the chance that two randomly chosen people in a given geographic area will be of a different race. The formula is as follows:

$$RDI = 1 - (P^2 \textit{Asian} + P^2 \textit{Black} + P^2 \textit{Hispanic} + P^2 \textit{White})$$

The higher the number, the more racially diverse the population of that given community is (NYU Furman Center, 2020b).

- Poverty Rate (Interval Data) – The poverty rate was determined by adding up the total number of people living below the poverty threshold and dividing that number by the total number of people for whom poverty status was determined.
- Change in Population (Interval Data) – The change in population rate was determined by subtracting the population number of 2017 from the population number of 2010, and then dividing the difference by the population number of 2010.
- Population Aged 25 or Older with a Bachelor's Degree of Higher (Interval Data) – The percentage of the population who are at least 25 years old who have a bachelor's degree or higher.

The dependent variable is as follows:

- Serious Crime Rate (Interval Data) – as defined by the New York City Police Department, the total number of serious violent crimes (murder, rape, robbery, felony

assault, burglary, grand larceny, and grand larceny of a motor vehicle), committed in a given geographic area per 1,000 residents during the calendar year 2017.

### **Data Collection**

All data for this study were accessed through the use of two public websites. The first is CoreData, which is described as New York City's housing and neighborhood data hub, presented by the New York University Furman Center (NYU Furman Center, 2020a). The second is New York City's Department of City Planning/Community District Profiles website (City of New York, 2020). The data for racial diversity index, poverty rate, change in population, and serious crime rate were retrieved from the CoreData website. Data for the population aged 25 or greater with a bachelor's degree or higher was retrieved from the Department of City Planning website. The following are the links for these two websites:

- <https://coredata.nyc/>.
- <https://communityprofiles.planning.nyc.gov/>

All data were downloaded in a Microsoft Excel Workbook and then imported into IBM's Statistical Package for Social Sciences (herein forward, SPSS). It should be noted, there were no missing data.

### **Statistical Treatment**

It has been recommended as a general rule that the Statistical Treatment section include the following:

- Statistical analysis technique(s) used.
- Rationale for selecting the statistical technique(s).

- Advantages of using the chosen statistical techniques over other techniques (Newman et al., 1997).

The research design used for this study is nonexperimental, explanatory, cross-sectional, utilizing an observational approach, with a unit of analysis at the district level (group), in which a correlational analysis is the recommended statistical analysis. In correlational research, variables are measured simultaneously; as a result, and despite the fact that the terms *predictors* and *outcomes* are utilized, these terms do not imply causal relationships because it is not possible to establish a cause-and-effect relationship in correlational research (Field, 2018).

When utilizing a linear model with two or more predictors, one of the deciding factors in determining a statistical technique to use over another is based upon which variables to enter into the model and the order in which they are entered (Field, 2018). When it comes to linear regression, there are three types of models one can use to test hypotheses: simultaneous model, hierarchical model, and stepwise regression (Cohen, Cohen, West, & Aiken, 2013; Field, 2018).

Simultaneous models are most appropriate when we have no logical or theoretical basis for considering any variable to be prior to any other, or when there is a theoretical basis for considering which variables to enter into a model, either in terms of a hypothetical causal structure of the data or in terms of its relevance to the research goals (Cohen et al., 2013).

In hierarchical models, independent variables are entered cumulatively corresponding to some specified hierarchy which is determined in advance by the intention and the logic of the research (Williams, 2004). In stepwise regression models, beginning with forward stepwise regression, one variable at each stage which has the largest amount of variance in regard to the model (the largest contribution to  $r^2$ ) is entered into the model, whereas backwards stepwise

regression procedures work in the opposite order in that the dependent variable is regressed, one at a time, on the independent variables (Cohen et al., 2013; Field, 2018; Williams, 2004).

The theoretical framework of social disorganization theory suggests that all of the variables within this framework be entered into a regression model simultaneously because these variables collectively create the phenomenon of social disorganization (Shaw & McKay, 1969). In regard to this theory, simultaneous multiple linear regression (ordinary least squares) (Hutcheson & Sofroniou, 1999) was the statistical treatment utilized to test the specific research hypotheses, which is consistent with previous literature.

Apropos of data cleaning, there were no missing data, and the data were imported into SPSS as continuous interval variables. The model was then processed and tested to determine if the specific research null hypotheses would be accepted or rejected. An  $F$  test was utilized to determine if  $R^2$  of the model was statistically significantly different at an alpha, or level of significance, of .05 ( $p < .05$ ).

Consistent with the recommendations of Newman, Benz, Weis, and McNeil, from their book, *Theses and Dissertations: A Guide to Writing in the Social and Physical Sciences* (Newman et al., 1997), the results of the statistical treatment, the descriptive statistics (Myers, Well, & Lorch, 2010), and the inferential statistics are in Chapter IV.

### **Limitations**

First, this study is limited as a result of its correlational design. This study can only indicate the correlation between racial diversity, poverty, change in population, the population aged 25 or older with a bachelor's degree or higher, and violent crime; as such, it cannot

determine cause and effect. Despite this limitation, high correlations permit the possibility of the prediction of outcomes (Mills & Gay, 2019).

Additionally, this non-experimental, correlational, explanatory, cross-sectional study focuses on data collected at one point in time; as a result, it will be unable to detect patterns from the data over time.

Another limitation of this study is derived from the limitations associated with secondary data analysis. This study utilized data from the New York City Planning Community District Profiles website and the NYU Furman Center CoreData New York City website. None of these data sources were designed for the purposes of this study, yet each source played an essential role in addressing each research question.

In addition, there was the possibility of issues with multicollinearity (which can occur during regression modeling when two or more predictor variables are moderately or highly correlated), which is further explained later in this research.

Last, the literature and the research do not address, and do not include the race, color, or creed of police personnel in this study.

### **Summary**

This section has outlined the research design, population, instruments utilized, data collected, analytical techniques used to examine collected data, and limitations of the quantitative design study. The purpose of the study was to answer the overarching research question: “What is the relationship between neighborhood structural determinants and crime rates?” and the four subsidiary questions (p. 88).

The research design of this study is an observational approach, with an explanatory design which utilizes correlational analysis to answer the research questions.

The participants of this study were the residents of New York City, aggregated within the geographical confines of 59 community districts.

The instruments used in this study were the survey data collected by the U.S. Census Bureau, the American Community Survey and Integrated Public Use Microdata Series surveys, and the data were accessed through the NYC CoreData/New York University Furman Center and New York City's Department of City Planning/Community District Profiles websites.

Simultaneous linear regression was used to test the specific research hypotheses through the use of IBM's SPSS Statistics (Version 26) software.

This study was expected to reveal new information about the relationship between neighborhood structural determinants and crime rates in New York City.



## Chapter IV

### RESULTS OF THE STUDY

The purpose of this research study was to answer the following overarching research question, what, if any, relationship exists between neighborhood structural determinants and crime rates?" Therefore, this study addressed the following research questions:

1. What, if any, relationship exists between the number of economically disadvantaged members in a NYC community and the rate of crime in that community?
2. What, if any, relationship exists between the level of racial/ethnic heterogeneity in a NYC community and the rate of crime in that community?
3. What, if any, relationship exists between the amount of residential instability/mobility in a NYC community and the rate of crime in that community?
4. What, if any, relationship exists between the level of educational attainment in a NYC community and the rate of crime in that community?

A quantitative study using simultaneous linear regression was conducted to analyze the relationship among the independent variables and crime rates.

The structure of this section was recommended by Newman, Benz, Weis, and McNeil, from their book, *Theses and Dissertations: A Guide to Writing in the Social and Physical Sciences* (Newman et al., 1997); as such, it will have the following sections in the following order:

- Descriptive Statistics
- Results of Testing the Research Hypotheses
- Summary

## Descriptive Statistics

Using the Descriptive Statistics (descriptives function) in SPSS, the following values were observed: Serious Violent Crime Rates per 1,000 Residents ( $\mu = 4.507$ ,  $SD = 2.8034$ ), Racial Diversity Index ( $\mu = 0.5797$ ,  $SD = 0.10934$ ), Poverty Rate ( $\mu = 18.8356\%$ ,  $SD = 10.00010\%$ ), Change in Population ( $\mu = 5.8288\%$ ,  $SD = 8.33743\%$ ), and Population at least 25 years old with a Bachelor's Degree or Higher ( $\mu = 36.1508\%$ ,  $SD = 19.85788\%$ ).

Table 3

### *Descriptive Statistics*

Variables	<i>N</i>	Minimum	Maximum	Mean	Std. Deviation
Serious crime rate, violent (per 1,000 residents) 2017	59	0.8	13.6	4.507	2.8034
Racial diversity index	59	0.24	0.80	0.5797	0.10934
Poverty rate	59	6.10%	44.20%	18.8356%	10.00010%
Change in Population	59	-13.24%	28.32%	5.8288%	8.33743%
Population aged 25+ with a Bachelor's Degree or Higher	59	10.30%	82.30%	36.1508%	19.85788%
Valid <i>N</i> (listwise)	59				

Adding to the descriptive statistics found in Table 3, Community District – Staten Island 3 (Tottenville and Great Kills) has the least amount of serious violent crime rates per 1,000 residents, with 0.8 serious violent crimes per 1,000 residents, whereas Community District – Bronx 1 (Mott Haven and Melrose) has the highest amount of serious violent crime rates per 1,000 residents, with 13.6 serious violent crimes per 1,000 residents.

Apropos of racial diversity, Community District – Brooklyn 17 (East Flatbush) is the least racially diverse community in New York City, with a racial diversity index number of 0.24. In contrast, Community District – Queens 10 (South Ozone Park/Howard Beach) is the most racially diverse community in New York City, with a racial diversity index number of 0.80. As a

reminder, the racial diversity index number reflects the chance that two randomly chosen people in a given geographic area will be of a different race, and the higher the racial diversity index number, the higher the community's racial diversity. For example, the racial demographics of Community District – Brooklyn 17 (East Flatbush) are 2.7% White, 6.2% Hispanic, 2.10% Asian and 87.1% Black. In contrast, the racial demographics of Community District – Queens 10 (South Ozone Park / Howard Beach) are 21.8% White, 26.0% Hispanic, 26.7% Asian, 13.3% Black, a much more diverse community as compared to the least diverse community.

The community's rate of poverty reflected the same extreme. The poverty rate was determined by adding up the total number of people living below the poverty threshold and dividing that number by the total number of people for whom poverty status was previously determined. The community with the lowest rate of poverty is Community District – Manhattan 8 (Upper East Side) with a poverty rate of 6.1%. However, the community with the highest rate of poverty is Community District – Bronx 1 (Mott Haven and Melrose) with a poverty rate of 44.20%.

The change in population rate was determined by subtracting the population number of 2017 from the population number of 2010, and then dividing the difference by the population number of 2010. Referring to the social disorganization theory, Shaw and McKay believed that rapid population growth contributed to an increase in crime (Shaw & McKay, 1969). The community with the least amount of population change was Community District – Brooklyn 12 (Borough Park), with a -13.24% change in population growth (from 168,915 to 146,556). The community with the greatest amount of population change was Community District – Brooklyn 15 (Sheepshead Bay) with a 28.32% change in population growth (from 133,282 to 171,030).

The last descriptive statistics measure was the percentage of the population, per community, aged 25 or older with a bachelor's degree or higher. The community that had the lowest percentage of its population, aged 25 or older with a bachelor's degree or higher was Community District – Bronx 1 (Mott Haven and Melrose) with only 10.3% of the community that were at least 25 or older and held a bachelor's degree or higher. The community that had the highest percentage of its population, aged 25 or older with a bachelor's degree or higher was Community District – Manhattan 1 (Battery Park, Tribeca, and the Financial District) with 82.3% of the community that were at least 25 or older and held a bachelor's degree or higher.

### **Results of Testing the Research Hypotheses**

To test the relationships of the research questions, a simultaneous linear regression analysis was conducted to evaluate the impact of four predictor variables: Racial Diversity Index, Poverty Rate, Change in Population and the Percentage of the Population, Aged 25 or Older, with a Bachelor's Degree or higher, on the outcome variable, serious crime rates, violent (per 1,000 residents) in the year 2017.

The Correlations Summary (Table 4) indicates that the following predictor variable, Poverty Rate, had a significant, high correlation (using thresholds of .500 for  $r$  and .05 for  $p$ ) when compared with another predictor variable, Population aged 25+ with a Bachelor's Degree or Higher, indicating that there may be a problem with multicollinearity:

- Poverty rate and Population aged 25+ with a Bachelor's Degree or Higher ( $r = -0.574$ ,  $p < .000$ ).

A check of tolerance values in the Coefficients summary (Table 5) indicates that none of the predictor variables were below the tolerance threshold 0.469 which would indicate the existence of multicollinearity.

Last, the sample size used was 59 which was the population under study, the residents of New York City, aggregated into fifty-nine community districts. The population is currently estimated at 8,622,698, (2017).

Table 4

*Correlations*

	Serious crime rate, violent (per 1,000 residents) 2017	Racial diversity index	Poverty rate	Change in Population	Population aged 25+ with a Bachelor's Degree or Higher	
Pearson Correlation	Serious crime rate, violent (per 1,000 residents) 2017	1.000	-0.225	0.722	0.208	-0.383
	Racial diversity index	-0.225	1.000	-0.189	0.103	-0.015
	Poverty rate	0.722	-0.189	1.000	0.053	-0.574
	Change in Population	0.208	0.103	0.053	1.000	-0.092
	Population aged 25+ with a Bachelor's Degree or Higher	-0.383	-0.015	-0.574	-0.092	1.000
Sig. (1-tailed)	Serious crime rate, violent (per 1,000 residents) 2017		0.043	0.000	0.057	0.001
	Racial diversity index	0.043		0.076	0.220	0.454
	Poverty rate	0.000	0.076		0.345	0.000
	Change in Population	0.057	0.220	0.345		0.244
	Population aged 25+ with a Bachelor's Degree or Higher	0.001	0.454	0.000	0.244	
<i>N</i>	Serious crime rate, violent (per 1,000 residents) 2017	59	59	59	59	59
	Racial diversity index	59	59	59	59	59
	Poverty rate	59	59	59	59	59
	Change in Population	59	59	59	59	59
	Population aged 25+ with a Bachelor's Degree or Higher	59	59	59	59	59

Table 5

*Collinearity Statistics*

Model	Collinearity Statistics	
	Tolerance	VIF
(Constant)		
Racial diversity index	0.931	1.074
Poverty rate	0.631	1.586
Change in Population	0.981	1.020
1 Population aged 25+ with a Bachelor's Degree or Higher	0.652	1.534

The Model summary indicates an  $R$  value of .751; an  $R^2$  value of .564; and an adjusted  $R^2$  value of .531. Based on such, approximately 53.1% of the variance in serious violent crime rates can be attributed to, or can be explained by the knowledge in Racial Diversity Index, Poverty Rate, Change in Population and Population Aged 25 and Older with a Bachelor's Degree or Higher, leaving 46.9 % of serious violent crime rates unexplained by this model. Furthermore, the individual predictor variable responsible for the most unique variance in serious violent crime rates is Poverty Rate with 42.6%.

Table 6

*Model Summary*

Model	$R$	$R$ Square	Adjusted $R$ Square	Std. Error of the Estimate	Durbin-Watson
1	.751 <sup>a</sup>	0.564	0.531	1.9189	1.677
a. Predictors: (Constant), Population aged 25+ with a Bachelor's Degree or Higher, Racial diversity index, Change in Population, Poverty rate					
b. Dependent Variable: Serious crime rate, violent (per 1,000 residents) 2017					

The ANOVA summary (Table 7) indicates that this simultaneous linear regression equation is statistically significant ( $df = 4, 54; F = 17.448; p < .000$ ), indicating that the combination of predictor variables significantly predicts serious violent crime rates.

The prediction equation was as follows: Serious Violent Crime Rates =  $1.739 + (-2.771 \times \text{Racial Diversity Index}) + (0.201 \times \text{Poverty Rate}) + (0.062 \times \text{Change in Population}) + (.006 \times \text{Population Aged 25+ with a Bachelor's Degree or Higher})$ . The Coefficients summary (Table 8) indicates the following with respect to each predictor variable: The impact of Racial Diversity Index on Serious Violent Crime Rates is not statistically significant (Beta = -2.771;  $t = -1.160$ ; and  $p = 0.251$ ).

The impact of Poverty Rate on Serious Violent Crime Rates is statistically significant (Beta = 0.201;  $t = 6.335$ ; and  $p < 0.000$ ). In addition, the Beta “sign” (positive) indicates that there is a positive relationship between Serious Violent Crime Rates and Poverty Rate. This signifies a positive directional correlation, meaning the greater the Poverty Rate the greater the Serious Violent Crime Rates and vice versa.

The impact of Change in Population on Serious Violent Crime Rates is statistically significant (Beta = 0.062;  $t = 2.042$ ; and  $p = 0.046$ ). In addition, the Beta “sign” (positive) indicates that there is a positive relationship between Serious Violent Crime Rates and Change in Population. This signifies a positive directional correlation, meaning the greater the Change in Population the greater the Serious Violent Crime Rates and vice versa.

The impact of Population Aged 25+ with a Bachelor's Degree or Higher on Serious Violent Crime Rates is not statistically significant (Beta = 0.006;  $t = 0.396$ ; and  $p = 0.694$ ).



Table 7

*ANOVA*

Model	Sum of Squares	<i>df</i>	Mean Square	<i>F</i>	Sig.
Regression	256.983	4	64.246	17.448	.000 <sup>b</sup>
Residual	198.835	54	3.682		
1 Total	455.817	58			

a. Dependent Variable: Serious Crime Rate, Violent (per 1,000 residents) 2017

b. Predictors: (Constant), Population Aged 25+ with a Bachelor's Degree or Higher, Racial Diversity Index, Change in Population, Poverty Rate

Table 8

*Coefficients*

Model	Unstandardized Coefficients		Standardized Coefficients		Sig.
	<i>B</i>	Std. Error	Beta	<i>t</i>	
(Constant)	1.739	1.917		0.907	0.369
Racial Diversity Index	-2.771	2.388	-0.108	-1.160	0.251
Poverty Rate	0.201	0.032	0.717	6.335	0.000
Change in Population	0.062	0.031	0.185	2.042	0.046
Population Aged 25+ with a Bachelor's Degree or Higher	0.006	0.016	0.044	0.396	0.694

a. Dependent Variable: Serious Crime Rate, Violent (per 1,000 residents) 2017

Based upon the hypothesis testing, the following conclusions were drawn:

**Research Hypothesis 1**

There is a relationship between the number of economically disadvantaged members in a NYC community and the rate of crime in that community.

### **Null Hypothesis**

There is no relationship between the number of economically disadvantaged members in a NYC community and the rate of crime in that community.

### **Results**

Economically disadvantaged members in a NYC community were tested using the variable “Poverty Rate.” Based upon hypothesis testing, the study was able to reject the null hypothesis. There is a statistically significant relationship between the number of economically disadvantaged members in a NYC community and the rate of crime in that community.

### **Research Hypothesis 2**

There is a relationship between the level of racial/ethnic heterogeneity in a NYC community and the rate of crime in that community.

### **Null Hypothesis**

There is no relationship between the level of racial/ethnic heterogeneity in a NYC community and the rate of crime in that community.

### **Results**

The level of racial/ethnic heterogeneity was tested using the variable “racial diversity index.” Based upon hypothesis testing, the study was not able to reject the null hypothesis. There is no statistically significant relationship between the level of racial/ethnic heterogeneity and the rate of crime in that community.

### **Research Hypothesis 3**

There is a relationship between the amount of residential instability/mobility in a NYC community and the rate of crime in that community.

### **Null Hypothesis**

There is no relationship between the amount of residential instability/mobility in a NYC community and the rate of crime in that community.

### **Results**

The amount of residential instability/mobility was tested using the variable “change in population.” Based upon hypothesis testing, the study was able to reject the null hypothesis. There is a statistically significant relationship between the amount of residential instability/mobility in NYC community and the rate of crime in that community.

### **Research Hypothesis 4**

There is a relationship between the level of educational attainment in a NYC community and the rate of crime in that community.

### **Null Hypothesis**

There is no relationship between the level of educational attainment in a NYC community and the rate of crime in that community.

### **Results**

The level of educational attainment was tested using the variable “Population Aged 25 or Older with a Bachelor’s Degree or Higher.” Based upon hypothesis testing, the study was not able to reject the null hypothesis. There is no statistically significant relationship between the level of educational attainment in a NYC community and the rate of crime in that community.

## Summary

In summary, of the four research questions posed by this study, two can be answered by the results; there is a relationship between the number of economically disadvantaged members in a NYC community and the rate of crime in that community in that as the number of economically disadvantaged members in a community increases, the rate of crime in that community increases. In addition, there is also a relationship between the amount of residential instability/mobility in a NYC community and the rate of crime in that community in that as the number of residential instability/mobility in a community increases, the rate of crime in that community increases.

## **Chapter V**

### **Summary, Conclusions, and Implication**

#### **Introduction**

The purpose of this quantitative, observational, cross-sectional design study was to identify the structural determinants of crime in New York City. Identifying the structural determinants of crime may indicate areas of social disorganization. Kubrin and Weitzer defined a socially disorganized neighborhood as a community that is unable to realize common goals and solve chronic problems such as disorder and crime (2003). The police purpose in these areas is not only to act as law enforcement agents but also as conduits within the community to strengthen the bonds of the community itself. They should aid in getting a community to a point that the community can realize common goals and solve chronic problems such as disorder and crime.

Chapter V begins with a summary of the study including a restatement of the problem, the theoretical framework, procedures utilized in conducting the research, the specific research hypotheses tested, and the conclusions of the study. The chapter ends with implications of the findings and recommendations for policy, practice, and future research (Newman et al., 1997).

#### **Summary of the Study**

##### **Statement of the Problem**

This research investigated the relationship between neighborhood structural determinants and violent crime rates. The structural determinants were the following four variables:

- economically disadvantaged (poverty)
- racial/ethnic heterogeneity (racial diversity)

- residential instability (residential mobility)
- educational attainment (Population aged 25+ with a Bachelor's Degree or Higher)

### **Theoretical Foundation**

As this study examined structural determinants, specifically social, economic, and environmental determinants and their possible effects on crime, a theory that provides a macro-level approach to understanding the variation in levels of community crime is best suited to contextualize this study. Clifford R. Shaw and Henry D. McKay's social disorganization theory guided this study.

Social disorganization can be defined as “the inability of local communities to realize common values of their residents to solve commonly experienced problems” (Bursik, 1988, p. 521). In accordance with this theory, Shaw and McKay gave the following three reasons to explain this phenomenon:

- residential instability/mobility, which is defined as individuals who move frequently and do not develop any commitment to the community they temporarily live in
- racial/ethnic heterogeneity, which is defined as residential isolation as a result of racial, cultural and language that block the formation of community unity
- poverty which, as per Shaw and McKay, by itself does not cause crime but facilitates it because of a lack of the resources necessary to eradicate criminal behavior (Harbeck, 2017).

### **Statement of the Procedures**

Data for this study were collected through the use of two websites. The first is CoreData, which is described as New York City's housing and neighborhood data hub, presented by the

New York University Furman Center (NYU Furman Center, 2020a). The second is New York City's Department of City Planning/Community District Profiles website (City of New York, 2020). The data for Racial Diversity Index, Poverty Rate, Change in Population, and Serious Crime Rate were retrieved from the CoreData website. Data for the Population Aged 25 or Older with a Bachelor's Degree or Higher was retrieved from New York City's Department of City Planning website. All data were downloaded in a Microsoft Excel Workbook and then imported into IBM's Statistical Package for Social Sciences (herein forward, SPSS). It should be noted that there were no missing data.

Hypotheses were derived from the theoretical framework of social disorganization theory and tested using simultaneous multiple linear regression (ordinary least squares).

### **The Specific Research Hypotheses**

The four specific research hypotheses were as follows:

$H_1 =$  There is a relationship between the number of economically disadvantaged members in a NYC community and the rate of crime in that community.

$H_2 =$  There is a relationship between the level of racial/ethnic heterogeneity in a NYC community and the rate of crime in that community.

$H_3 =$  There is a relationship between the amount of residential instability/mobility in a NYC community and the rate of crime in that community.

$H_4 =$  There is a relationship between the level of educational attainment in a NYC community and the rate of crime in that community.

## **Conclusions**

This section is divided into two parts; the first addresses the overarching research hypothesis for this study, and the second concludes with a general discussion of the research hypotheses for this study (Newman et al., 1997).

### **Overarching Research Hypothesis**

The overarching research hypothesis for this study was that there is a relationship between neighborhood structural determinants and violent crime rates. The findings show that there is a statistically significant relationship between neighborhood structural determinants and violent crime rates ( $p < .000$ ); as a result, we can successfully reject the null overarching research hypothesis. These findings are consistent with previous research that has found a relationship between neighborhood structural determinants and violent crime rates (Bellair & Browning, 2010; Choi, 2011; da Silva, 2014; Emerick et al., 2014; Hollis, 2016; Kaylen & Pridemore, 2013; Lancaster & Kamman, 2016; Lynch, 2016; Mares, 2010; Martinez et al., 2016; Przeszlowski & Crichlow, 2018; Tewksbury et al., 2010).

Approximately 53.1% of the variance in serious violent crime rates can be attributed to, or can be explained by, a knowledge of the Racial Diversity Index, Poverty Rate, Change in Population and Population Aged 25 and Older with a Bachelor's Degree or Higher, leaving 46.9 % of Serious Violent Crime Rates unexplained by this model. Furthermore, the individual predictor variable responsible for the most unique variance in Serious Violent Crime Rates is Poverty Rate with 65.3%. The overarching research hypothesis produced the Serious Violent



Crime Rates =  $-1.739 + (-2.771 \times \text{Racial Diversity Index}) + (0.201 \times \text{Poverty Rate}) + (0.062 \times \text{Change in Population}) + (.006 \times \text{Population Aged 25+ with a Bachelor's Degree or Higher})$ .

### **Overarching Research Question**

The overarching research question for this study was as follows: What, if any, relationship exists between neighborhood structural determinants and crime rates? The findings show that we were able to reject the null hypothesis and determine that there is a statically significant relationship between neighborhood structural determinants and crime rates. The specific research hypotheses/questions reveal more detail than the overarching research hypotheses/questions.

### **Specific Research Hypothesis 1**

There is a relationship between the number of economically disadvantaged members in a NYC community and the rate of crime in that community. The findings of this study show that the null hypothesis was rejected and that a statistically significant positive relationship does exist between economically disadvantaged members in a NYC community and the rate of crime in that community. As the number of individuals in a community who are economically disadvantaged increases, the rate of violent crime in that community increases.

### **Specific Research Question 1**

What, if any, relationship exists between the number of economically disadvantaged members in a New York City community and the rate of crime in that community. The results of this study (the rejection of Null Hypothesis 1) revealed that the number of economically disadvantaged members in a community was the individual predictor variable responsible for the most unique variance in serious violent crime rates at 42.6%. This finding is consistent with

previous literature on the economically disadvantaged. For example, in 2010, Mares, in his study of the structural determinants of homicides in Chicago neighborhoods between 1985 and 1995, found that neighborhood disadvantaged had a significant positive impact on the number of homicides in census tracts (Mares, 2010). As the number of a neighborhood's disadvantaged increased, the number of homicides in that neighborhood increased.

Similar studies within the previous literature also found that the number of economically disadvantaged members in a community increased the level of crime within that community. The da Silva study in Brazil, the Emerick study on the Mexican immigrant population in El Paso, Texas, the Lee study in Houston, Texas, and the Martinez study in San Diego, California, all examined the structural determinants of crime and found that as the number of economically disadvantaged members of a community increased, the level of crime within that community increased (da Silva, 2014; Emerick et al., 2014; Lee et al., 2016; Martinez et al., 2016).

There were studies in the previous literature that found a statistically significant negative relationship between economically disadvantaged and violent crime rates, but these negative relationships resulted from the different methods used to measure the economically disadvantaged members of a community. For example, Bellair and Browning, while testing the relationship between informal social control and crime victimization rates found that family income had a statistically significant negative relationship with violent victimization in that as the income of a family decreased, the rate of violent victimization in the neighborhood increased. Other studies from the previous literature that have similar statistically significant negative relationships between economically disadvantaged populations and violent crime rates were conducted by Kaylen and Pridemore when examining the structural determinants of crime in

rural areas of Missouri and Lancaster and Kamman when examining the structural determinants of crime in South Africa (Kaylen & Pridemore, 2013; Lancaster & Kamman, 2016).

### **Specific Research Hypothesis 2**

There is a relationship between the level of racial/ethnic heterogeneity in a NYC community and the rate of crime in that community. The findings show that the null hypothesis—there is no relationship between the level of racial/ethnic heterogeneity in a NYC community and the rate of crime in that community—was not rejected.

### **Specific Research Question 2**

What, if any, relationship exists between the level of racial/ethnic heterogeneity in a NYC community and the rate of crime in that community? Being unable to reject the null hypothesis concerning this research question, this study found that there is no statistically significant relationship between racial/ethnic heterogeneity in a NYC community and the rate of crime in that community. However, this finding is not consistent with previous literature on the relationship between racial/ethnic heterogeneity in a community and the rate of crime in that community. Hollis (2016), while studying the structural determinants of crime surrounding a military community, found there was a statistically significant positive relationship between the racial/ethnic heterogeneity of a community and crime in that community. Similarly, the Mares (2010) study and Przeszlowski and Crichlow (2018) study (examining the structural determinants of crime in small police agencies around the country) concluded that there was a statistically significant positive relationship between the racial/ethnic heterogeneity of a community and crime in that community.

Conversely, Martinez Jr., Stowell, and Iwama (2016), while studying the structural determinants of crime in San Diego, California, found there was a statistically significant negative relationship between the racial/ethnic heterogeneity of a community and crime in that community. However, this inverse relationship was the result of how they chose to measure the relationship between the racial/ethnic heterogeneity of a community and crime in that community (i.e., as the dependent variable was homicides, and as the percentage of the non-White population went up, homicides increased). It should also be noted that while all the studies found a statistically significant relationship between the racial/ethnic heterogeneity of a community and crime in that community, the relationship was very small.

### **Specific Research Hypothesis 3**

There is a relationship between the amount of residential instability/mobility in a NYC community and the rate of crime in that community. The findings of this study show that the null hypothesis was rejected, and that a statistically significant positive relationship does exist between the amount of residential instability/mobility in a NYC community and the rate of crime in that community. As the amount of residential change (people moving into and out of the community) increases, the rate of violent crime in that community increases.

### **Specific Research Question 3**

What, if any, relationship exists between the amount of residential instability/mobility in a NYC community and the rate of crime in that community? The results of this study (the rejection of Null Hypothesis 3) revealed that the amount of residential change (people moving into and out of the community) was an individual predictor variable responsible for a small variance in serious violent crime rates at 7.18%. This finding is partially consistent with

previous literature on residential instability/mobility. The Mares (2010) and Hollis (2018) studies both found that a statistically significant positive relationship does exist between the amount of residential instability/mobility in a community and the rate of crime in that community. In short, when neighborhood instability increases, so do crime rates.

In contrast, studies by Lee, Lee, and Hoover (2013) (examining the structural determinants of crimes in Houston, Texas), Emerick, Curry, Collins, and Rodriguez (2014), and Kaylen and Pridemore (2011) all found that a statistically significant relationship does exist between the amount of residential instability/mobility in a community and the rate of crime in that community; however, that relationship was negative. The results of the Lee, Lee, and Hoover (2013) and the Emerick, Curry, Collins, and Rodriguez (2014) studies were due to the way they chose to measure residential instability/mobility. The researchers found that as the neighborhood becomes less stable (meaning more new residents than old), crime rates increased. However, the Kaylen and Pridemore study was unable to explain the negative relationship in their study.

#### **Specific Research Hypothesis 4**

There is a relationship between the level of educational attainment in a NYC community and the rate of crime in that community. The findings show that the null hypothesis—there is no relationship between the level of educational attainment in a NYC community and the rate of crime in that community—was unable to be rejected.

#### **Specific Research Question 4**

What, if any, relationship exists between the level of educational attainment in a NYC community and the rate of crime in that community? Being unable to reject the null hypothesis

concerning this research question, this study found that there is no statistically significant relationship between educational attainment in a NYC community and the rate of crime in that community. However, this finding is not consistent with previous literature on the relationship between educational attainment in a community and the rate of crime in that community. The previous literature rarely combined educational attainment with crime rates. Yet, Tewksbury, Mustaine, and Covington (2010) in their study examining the relationship between social disorganization theory and crime in Jefferson County, Kentucky, found that when educational attainment is combined with other structural determinants of crime in a community, there was a statistically significant positive relationship with crime rates.

### **Implications**

This study identified two structural determinants of community crime rates to be statistically significant: the level of economically disadvantaged members of a community and residential instability/mobility. The question these findings introduce is “What can the New York City Police Department do to utilize these findings?”

One of the outcomes of this study may be to consider assigning neighborhood police officers to locations within the city whose structural determinants indicate a likelihood of higher criminal activity for the purpose of preventing crime. The phenomenon of crime is a concern for all citizens of the City of New York. The New York City Police Department, which has notably reduced crime with its past policy of zero tolerance, is still struggling to maintain that reduction in addition to producing further reduction in crime. However, this policy has produced a rift between the Police Department and the citizens it serves. To re-legitimize itself in the eyes of the of the community it serves, the NYPD needed to develop new strategies to aid in this task.

The Neighborhood Policing program is the new strategy proposed to meet this need. Under this new program, a major tenet is the collaboration of police officers and citizen working together to prevent crime. As a result, deployment of police officers should no longer be based solely on the location of past crimes or 911 calls-for-service. Deployment of police officers should also be decided based upon known structural determinants of crimes. The following are recommendations the NYPD can consider in the mission to reconnect with the community served.

### **Recommendation for Policy and Practice**

In the profession of policing, policy and practice are one and the same. Police policy is created to control or inform how police personnel should behave in response to or in an attempt to control an event or the behavior of others. All recommendations should be viewed as one and the same, policy that dictates police behaviors for the betterment of the community served.

#### **Recommendation 1**

An old fable that is often repeated states, “When you place a frog in boiling water, it will jump out immediately; but, if you put it in cool water and heat it up slowly, it would slowly cook to death” (Kruszelnicki, 2011). In line with this metaphor, crime is the former and poverty is the latter. What this study has revealed is that poverty and crime are very much related.

Consequently, this conclusion ought to be directly related to policing as well. Part of the New York City Police Department mission statement (actually, the very first line) is to protect life and property (NYPD, 2020); by addressing poverty as well as crime, the Police Department may be more successful with its mission.

In 2016, the Mayor Bill de Blasio initiated a program, Crisis Intervention Training, which trained police officers to “enable them to better recognize the behaviors and symptoms of mental illness and substance use” (2016). This researcher recommends that this program be expanded to train police officers to better recognize individuals and families living in poverty. Police officers, with the knowledge of all available city services related to poverty, might be better able to offer and/or help initiate these services for individuals and families living in poverty. With this policy change, police officers will not only be the first responders when it comes to crime, they will also be the first responders when it comes to preventing crime.

## **Recommendation 2**

In their book, *Policing, Ethics and Human Rights*, Peter Neyroud and Alan Beckley propose three future roles of policing: the enablers, the crime fighters, and the social engineers (2001). As enablers, police officers should provide current core services such as call handling, serious crime management, and intelligence as well as collaborating with private and community patrol forces through “intelligent regulation” (2001). As crime fighters, police officers should continue to utilize specialized investigators and intelligence staff along with technology for the purposes of crime detection and the disruption of crime (2001). Last, as social engineers, police officers should continue efforts in crime prevention by taking the lead in creating stable communities, making use of restorative justice approaches to aid in community crime prevention and diversion, and acting as social mediator to assist in problem solving and negotiation (Neyroud & Beckley, 2001, p. 31).

In light of the Neyroud and Beckley suggestions, this research recommends that the police personnel assigned to the New York City Police Department’s Neighborhood Policing



program assume the role of social engineers for the purpose of addressing the second finding of this study: the relationship between residential instability/mobility in a NYC community and the rate of crime in that community. Within the theoretical framework of social disorganization theory, residential instability/mobility, which is defined as individuals who move frequently and do not develop any commitment to the community they temporarily live in, weakens neighborhood-level connections such as local attachment, social involvement, and citizen-level responses to neighborhood disorder (Taylor, 1996). As such, policy should be developed which would enable police personnel assigned to the Neighborhood Policing program to actively seek out and engage newcomers to the community and suggest and/or aid with their acclimation within their new community.

#### **Limitations of This Study and Recommendations for Future Research**

New York City is the largest city in America, and the New York City Police Department is the largest police department in America. The size of this study is considered among its strengths. Conversely, that is one of the limitations of this study as well in that the findings of this study are only applicable to New York City. With this in mind, the first recommendation is that other cities and police departments consider conducting a similar study to ascertain the structural determinants of crime within their cities.

One of the goals of this study was to identify the structural determinants of crime for the purpose of developing a staffing allocation model. Staffing allocation models are developed to determine the number of personnel needed and the allocation of personnel within an organization (The Traffic Institute Northwestern University, 1993). This study was unable to produce such an output as a result of two of the predictor variables being found to be non-statistically significant

(racial/ethnic heterogeneity and the level of educational attainment). It is this finding that leads to the next recommendation. Further research should be conducted to determine the structural determinants of crime outside of the theoretical lens of social disorganization theory. Other criminological theories, such as routine activity theory and/or rational choice theory could be integrated with social disorganization theory to aid in determining the structural determinants of crime within New York City.

Another limitation of this study was its quantitative design. As such, there was no community input on what community members believe are the causes of crime within their neighborhoods. Similar cities around the world have taken this into account and created on-going data collection to study the opinions and thoughts of those who live within the community. For example, in Chicago, they have the Project on Human Development in Chicago Neighborhoods (PHDCH), which is described as “an interdisciplinary study of how families, schools, and neighborhoods affect child and adolescent development. It was designed to advance the understanding of the developmental pathways of both positive and negative human social behaviors. In particular, the Project examined the pathways to juvenile delinquency, adult crime, substance abuse, and violence”(University of Michigan, 2020). This project makes available study data from community surveys (which consist of household interviews of Chicago residents), systematic social observations (videoed observations of the physical, social, and economic characteristics of Chicago communities), and longitudinal cohort studies which gauges the aspects of human development (University of Michigan, 2020). Such a project could be developed in New York City, allowing researchers to conduct further research about community thoughts on why crime occurs within their neighborhoods.

Last, this study found only two of the four tenets of social disorganization theory to be valid predictors of crime within New York City. Another suggestion for future research is to utilize different metrics to measure the tenets of social disorganization theory. For example, there are at least three different ways to measure the economically disadvantaged, racial/ethnic heterogeneity, and residential instability/mobility. Future studies utilizing social disorganization theory as a theoretical framework for their studies may want to deploy different measures for these structural determinants of crime.

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