

EXPLORING UNKNOWN PATTERNS OF CRIMINALITY IN HOMICIDE: A
QUANTITATIVE EXPLORATORY ANALYSIS OF CRIME IN MACON-BIBB COUNTY

by

Santel Dion Smith

Liberty University

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

Doctor of Philosophy

Liberty University

2023

EXPLORING UNKNOWN PATTERNS OF CRIMINALITY IN HOMICIDE: A
QUANTITATIVE EXPLORATORY ANALYSIS OF CRIME IN MACON-BIBB COUNTY

by Santel Dion Smith

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

Doctor of Philosophy

Liberty University, Lynchburg, VA

2023

APPROVED BY:

Marlana Hancock, Ph.D., Dissertation Chair

Blake Lafond, Ph.D., Dissertation Reader

ABSTRACT

The phenomenon of violent crime and homicide has largely been of interest to criminologists and sociologists for years, with correlating implications on the socioeconomic, sociocultural, and political landscape. Over the past two years in the United States, there has been a significant surge in both violent crime and homicide in the country, prompting calls for policy action to mitigate the impacts on vulnerable populations. In Macon, a similar upward trend in violent crime and homicide has emerged, even exceeding the average violent crime rate recorded nationwide (Stebbins, 2021). Despite the rising crime rates, there is a scarcity of literature on the precipitating factors that triggered the current trend, the conditions that sustain the high rate of homicide incidence, and the underlying patterns of criminality. The purpose of this study was to explore a five-year trend of the unknown patterns of criminality in homicide in Macon-Bibb County through an exploratory quantitative framework suitable for investigating under-researched problems.

Keywords: Homicide incidence, violent crime, crime statistics, gun violence, unknown patterns, historical context, sociological theories

© 2023

Santel Smith

Dedication

I dedicate this dissertation to my mother. I wish you were here on earth to celebrate this moment with me, but I know you are smiling down from our heavenly father's arms, beaming with joy.

Acknowledgments

*“The LORD is my strength and my shield; my heart trusted in him,
and I am helped: therefore my heart greatly rejoiceth; and with my song
will I praise him.”—Psalm 28:7*

I am grateful to my past and present dissertation committee members for their mentorship, patience, and guidance during this incredible journey.

I owe my immediate and extended family a heartfelt debt of gratitude for their support of my career and educational goals. During this journey, you have showered me with love, support, and encouragement. You were there when I wanted to “throw in the towel” but refused to allow me to give up, and for that, I want to thank you more than ever.

My gratitude also extends to Office for providing me with the necessary data to be successful in completing this dissertation. Without obtaining access to the data, my research would not have been plausible.

Table of Contents

ABSTRACT	3
Copyright Page	4
Dedication.....	5
Acknowledgments.....	6
List of Tables	10
List of Figures.....	11
List of Abbreviations.....	12
CHAPTER ONE: INTRODUCTION.....	13
Overview.....	13
Background	14
Problem Statement.....	17
Purpose of the Study.....	18
Significance of the Study	19
Research Questions	22
Nature of the Study.....	25
Definitions.....	28
Summary	30
CHAPTER TWO: LITERATURE REVIEW.....	33
Overview.....	33
Theoretical Framework.....	33
Sociological Positivism.....	33
Related Literature	35

Common Themes in the Literature.....	35
Common Conclusions in the Literature About Future Research.....	62
Limitations of the Literature.....	63
Summary.....	64
CHAPTER THREE: METHODS.....	67
Overview.....	67
Research Method and Design.....	68
Research Questions	70
Hypotheses	72
Participants and Setting	73
Procedures.....	76
The Researcher’s Role	76
Data Collection.....	77
Data Analysis	78
Ethical Considerations.....	79
Summary.....	80
CHAPTER FOUR: FINDINGS.....	83
Overview.....	83
Descriptive Statistics	84
Basic Demographic Patterns.....	84
Geographic Characteristics and Distribution.....	91
Results.....	96
Summary.....	109
CHAPTER FIVE: CONCLUSIONS	111

Overview.....	111
Summary of Findings	112
Discussion	112
Demographic Characteristics of Victims and Perpetrators.....	112
Geographic Characteristics and Distribution.....	115
The Role of Weapon Type in Macon's Homicide Rate.....	120
Race and Firearm Use.....	121
Location of Firearms Use.....	122
The Relationship between Gang Affiliation and the Type of Weapon.....	122
Implications.....	123
Theoretical Implications.....	123
Practical Implications.....	124
Delimitations and Limitations.....	124
Recommendations for Future Research.....	125
Summary.....	126
REFERENCES	128
APPENDICES	139
APPENDIX A: Sheriff's Office Request for Data.....	141
APPENDIX B: Sheriff's Office Approval for for Data.....	142
APPENDIX C: Coroner's Office Request for Data	143
APPENDIX D: Coroner's Office Approval for Data.....	144
APPENDIX E: Data Collection Form	145
APPENDIX F: IRB Approval Letter.....	146

List of Tables

Table 1. Demographics of Victims in the 2017–2021 Study Period	85
Table 2. Relationship between Sex of Homicide Offender and the use of Firearms.....	87
Table 3. Relationship between Age of Arrestees and Firearm Use	91
Table 4. Geographic Characteristics of Homicide in the 2017–2021 Study Period	94
Table 5. Chi-Square Test for Homicide Incidence and Weapon Type	97
Table 6. Chi-Square Test for Race of Homicide Offenders and Weapon Type	104
Table 7. Relationship between Location of Homicide and Firearm Use	106
Table 8. Chi-Square Test for Gang Affiliation and Weapon Type.....	108
Table 9. Relationship between Gang Affiliation and Firearm Use.....	109

List of Figures

Figure 1. Sex of Perpetrator and Type of Weapon Used in Homicide Incidents	87
Figure 2. Age of Arrestees compared to Homicide Arrests in the 2017–2021 Study Period	90
Figure 3. Population Distribution compared to Homicide Incidents	95
Figure 4. Type of Weapon and Homicide Incidence in Macon-Bibb County 2017–2021	100
Figure 5. Firearm Use and Victim–Offender Relationship	103
Figure 6. Location and Type of Weapon Used	107

List of Abbreviations

Autoregressive Integrated Moving Average (ARIMA)

Federal Bureau of Investigation (FBI)

National Violent Death Reporting System (NVDRS)

Prescription Drug Monitoring Programs (PDMPs)

Sustainable Development Goals (SDGs)

Uniform Crime Report (UCR)

CHAPTER ONE: INTRODUCTION

Overview

Of the major concerns that materialized during the pandemic, the rising rate of violent crime across the United States emerged as an alarming trend for law enforcement, political leaders, and the American public. According to the U.S. violent crime rate, a yearly population-adjusted system that tracks incidence of violent crime including homicide, aggravated assault, rape, and robbery, the rate of violent crime increased by 5% in 2020 with a notable surge of a 29% increase in homicides, making the year the most dangerous in the country since the 1990s (Stebbins, 2021). In Macon-Bibb County, Georgia, the focus of this study, the rate of violent crime in the metro area in 2020 was 708 incidents per 100,000 people, making it one of only 22 metro areas nationwide with an excess of 700 incidents for every 100,000 (Stebbins, 2021). The high rate of violent crime is therefore a prime area for research to uncover the underlying patterns that influence the rate of incidence, victimization, and causal factors.

The rising trend in criminal homicide in Macon is a cause for concern given it affects developmental, entrepreneurial, and residential interest in the city. In 2020, cases of aggravated assault increased by 91.9%, while homicide incidents surged from 27 in 2019 to 47 in 2020, a near doubling of the rate from one year to the next (Bibb County Sheriff's Office, 2022; Stebbins, 2021). As a result, the U.S. violent crime rate estimates a 55.7% spike in the overall violent crime rates during this period in Macon (Stebbins, 2021). The alarming numbers have prompted a broad examination of criminal homicide in the United States, including critical areas such as causation, risk factors, perpetrator and victim characteristics, and occurrence rates.

Therefore, the study focused on exploratory research to uncover the unknown patterns of criminality in homicide incidence in Macon, given that the statistical realities in the past and

today are integral in formulating and enhancing response strategies. While there are a wide range of current studies examining criminality, theories of causation, perpetrator and victim characteristics, and rate of occurrence in the country, there is a research gap in studies on criminal patterns for homicide incidence, especially with a specific focus on Macon. Therefore, this study investigated the unknown patterns of criminality in homicide in Macon by examining critical factors such as population characteristics, population density, location, race, and use of firearms that may contribute to the patterns that increasingly influence the high occurrence of homicide rates.

Background

Research history of violent crime in Georgia reveals a particular focus on major cities such as Atlanta and the state as a whole, but specific details on the factors linked to homicide incidence in smaller towns are lacking. In the mid-twentieth century, the state of GA experienced a major crime problem at rates higher than the national median. From the 1970s and 1990s, there was a year-on-year increase in violent crime in GA, which notably came to a peak in the late 1980s to early 1990s. In 1970, the violent crime rate stood at 305 for every 100,000 people, but by 1990, this figure was 756 for every 100,000 (*Georgia crime rates*, 2019). The driving force behind this surge was primarily attributed to urban decay occurring across many large cities in the United States during this period (Khan, 2014). Urban decay is defined by depopulation in urban areas because of crime, high local unemployment, political disenfranchisement, high rates of poverty, and increased drug use and drug-fueled crime (Khan, 2014). While the historical account provides a background of the violent crime status in Georgia as a whole, it also illustrates the need for specific studies targeting smaller towns like Macon within the state to uncover the patterns of violent crime and homicide incidence.

With regards to criminal homicide in the state, the rising trends seen from the 1970s to the early 1990s reflect the surge in overall violent crime in the state. Of note, there was a 27% increase in murder from 1970 to 1981 from about 15.3 to 17.2 per 100,000 people (*Georgia crime rates*, 2019). The high rates of murder were consistent throughout the 1970s to the mid-1990s. Apart from 1977, the *Georgia crime rates* (2019) show that the state was in the top three of murder rates across the country throughout the 1970s, while consistently placing in the top ten in the 1980s and early 1990s. Consistent with national trends on violent crime, the rate of occurrence for murder steadily declined to less than 10 cases per 100,000 people from the late 1990s, with urban renewal programs playing a major role. Murder rates continued to decline at the turn of the millennium to average about 6.2 cases for every 100,000 people in 2019 (*Georgia crime rates*, 2019). Beyond the murder statistics, a comparative analysis of the murder incidence in the state vis-à-vis other states also highlights a criminal homicide problem in Georgia in recent history.

Specific homicide incidence in Macon from the past decade presents data on violent crimes and homicide in the city that not only mirror the declining rate of violent crimes in the 2000s across the country but also highlight a recent surge in cases from 2015. According to the number of incidents investigated by the Bibb County Sheriff's Office between 2014 and 2018, there was a notable increase in homicide incidents in Macon from 16 to 41, followed by a substantial decline to 27 in 2019, or about a 34% decrease from the previous year (Bibb County Sheriff's Office, 2022). However, like much of the country during the pandemic period, Macon witnessed a surge in both violent crime and homicide in 2020 and 2021 (Bibb County Sheriff's Office, 2022). In 2020, the Macon-Bibb County metro area reported 1,624 violent crime incidents, which translates to 708 incidents per 100,000 people (Stebbins, 2021). Compared to

the national median of 399 for every 100,000 people during the same year, the city was among only 22 metro areas recording more than 700 cases for every 100,000 people. Further, the homicide rates rose by 43% from 27 in 2019 to 47 in 2020, which was followed by a further surge in 2021 to 55 homicide cases (Bibb County Sheriff's Office, 2022). These figures place Macon among one of the most dangerous metro areas in Georgia, only exceeded by Albany, GA, where violent crime incidents in 2020 accounted for 1008 per 100,000 people (Stebbins, 2021). The surge in violent crime and homicide in 2020 nationwide and in Macon makes the year one of the deadliest since the mid-1990s.

The recent data on violent crime and homicide incidence in Macon underscores the urgency to investigate underlying patterns which inform and predict occurrence, therefore contributing to response strategies. In the local context, crime is influenced by varied factors; therefore, the rates of violent crime in the country are considerably different from one area to the next. In the case of metro areas like Macon, the high rates of criminal violence may be tied to socioeconomic disparities and local poverty levels higher than the national median. According to the United States Census Bureau (2023), there was a 25.2% poverty rate in Macon-Bibb County in 2021 compared to the 11.6% nationwide rate. In addition to the socioeconomic factors, Kegler et al. (2021) highlight the link between firearm possession in metro areas, as well as population and traffic density to an elevated rate of firearm homicide in metro areas compared to non-metro areas. However, given that specific literature on the patterns that emerge from homicide incidence in Macon is lacking, the current study will contribute towards uncovering the unknown or undefined patterns of criminality.

Problem Statement

Over the past few years, concerns have surfaced in Macon due to the increasing criminal reports in the city. Of specific concern are the unknown patterns of criminality pertaining to violent homicide. While Macon is not a nationally renowned city, it has a population and gross domestic product capable of sustaining its political and socioeconomic needs. Ideally, the city should be a hub for technological and entrepreneurial ventures. However, according to Macon-Bibb County (2016), the high crime rates are an investment deterrent to entrepreneurs, real estate developers, technological firms, and residents. As a result, investment in the city is negatively impacted as the problem of escalating crime rates persists. Therefore, it is integral that the factors responsible for unregulated crime in the city are identified and analyzed in the search for a solution.

As the recent rise in crime has had a negative social impact in Macon, economically, crime is both a deterrent to entrepreneurial ventures and an additional cost to the city in services such as health. From a social perspective, violence affects communities through physical and emotional harm in forms such as depression, post-traumatic stress disorder, and anxiety (Fisher et al., 2017). Further, high crime rates also lead to reduced physical activity as people are less likely to walk to places due to fear of physical harm (Fisher et al., 2017). Additionally, the crime rates place a financial burden on healthcare systems as additional safety and violence preparedness costs must be included. Expectedly, the social and economic burden of the high crime rates on the community results in productivity losses.

An analysis of the violent crime patterns in Macon over the past decade reveals an unknown and uncontrollable aspect behind the problem. For instance, according to crime reports, the city experienced a spike in homicide rates between early 2020 and late 2021 (Stebbins,

2021). The city regions highlighted for high crime rates are mostly the Eastern and Southern regions which include College Street, Linden Avenue, Prince Street, Adams Street, and Nussbaum Avenue. The higher crime rates in the Eastern and Southern areas can be associated with geographic characteristics including the high traffic movement in these regions. Further, a case study comparing crime patterns in Macon and the city of Greenville in South Carolina in relation to public policy revealed links between policy enforcement and crime statistics (Gallota, 2018). Overall, the crime rates in Macon can be attributed to a wide range of factors, which thus makes it necessary to narrow down and identify the most impactful causal factors.

An analysis of recent crime trends reveals that, while the annual national crime rate increased in 2020, Macon experienced a spike in crime exceeding the national average, thus necessitating unique and targeted solutions. The increase in nationwide violent crimes is attributed to a historic rise in aggravated assault cases and homicides (Georgia Bureau of Investigation, 2020). Further, from annual crime numbers tracked by the FBI, Macon is one of the 22 regions in the country with a crime rate that exceeds 700 cases per 100,000 people (Georgia Bureau of Investigation, 2020). As a result of the worrying crime trends, it is necessary to identify and target the unknown factors responsible for the shift in crime rates. The problem is the lack of previous studies examining the trends and patterns of homicide incidence in Macon-Bibb County, despite the alarming rate of crime in the county compared to the national average.

Purpose of the Study

In response to the unknown patterns of criminality in Macon, the purpose of the quantitative exploratory study was to explore the hidden patterns in the city's criminal homicide cases and Macon's approach to handling crime to understand how they contribute to violent crime statistics over a five-year period. While high rates of violent crime correlate to

vulnerabilities such as poverty, as well as legal policy issues at the national level, it is still necessary to investigate the elements that influence the prevalence of criminal behavior at the local level to develop targeted solutions. Through the quantitative analysis of secondary data, this study aimed to explore and identify the most consequential trends to Macon's crime statistics and investigate the victimology in the city's rising crime rates. By uncovering the patterns of criminality in Macon's rising homicide rates and the most impacted demographic groups, the study's findings can help the city to efficiently prepare and develop effective response solutions.

Significance of the Study

While information on general crime trends exists, there is still a need to investigate and highlight the known and unknown factors responsible for rising homicide rates in Macon. One objective of the study was to explore victim and perpetrator demographics in homicide incidents to determine whether a relevant pattern or relationship exists. This study is unique as it examined specific data on criminal and weapon characteristics in Macon homicides and considered other facets of criminality such as weapon use, the characteristics of perpetrators, and crime locations. This approach provided a more comprehensive analysis of the overall criminal homicide outcomes in Macon.

It is important to highlight the unique elements of criminality that impact homicide rates to identify the specific causal factors influencing increased rates, and the consequences of the resulting trends in Macon. In general, the process of defining the problem involved gathering and analyzing information about offenders and victims of crime in the city. By understanding where and why the crimes occurred, crime response institutions and teams can react accordingly when targeting the problem (Lau, 2020). Further, this study is important as a clear understanding of the

specific vulnerabilities that fuel criminal homicide in Macon informs the organization of crime data in the city in a way that will be useful to law enforcement (Rouchy et al., 2020).

The study analyzed data to uncover the unknown patterns and variables significant to the rising homicide rates in Macon. The results of this study can assist in alleviating social and economic concerns that are surfacing in the county due to increasing crime incidence. Importantly, the outcome of this study provides researchers and authorities with a model to detect potential dangers that negatively impact homicide incidence. With a model supported by research data, it is possible to identify crime hotspots, high risk individuals, and monitor criminal activity to develop effective violence interruption strategies. Understanding the sociopolitical and economic motivation behind the rising crime rates is important when developing long-lasting solutions. Overall, the study's approach laid the foundation for future research to investigate the gaps in the legal, social, economic, and education systems that impact criminal trends.

While historical research on crime trends is limited, the past few decades, from the 1990s to the present, have seen a substantial increase in scholarly studies on the topic of homicide incidence resulting in significant implications in the field (Baumer et al., 2012). However, as one of the counties with a crime rate that greatly exceeds the national average, there is still a lack of research in Macon directed at examining the rising homicide rates in the city (Stebbins, 2021). Based on the research questions and problem statement, there are unknown and uncontrollable factors responsible for increasing homicide rates in the city; however, the extent of variables that encourage an increase in these incidents is unknown. This study is significant in identifying causal factors behind the increase in homicide rates, which is useful in targeting the city's homicide problem. The results of the analysis can also be valuable in designing crime prevention strategies and violence intervention programs in the county.

The study is also important as an examination of current literature on crime trends reveals that there is less targeted crime data of counties such as Macon. The lack of research necessitates empirical investigation to enhance the data infrastructure in this field. Therefore, this study enhances county-level crime trend information in Macon. Additionally, the study expands upon the scope of existing research and clarifies influential factors to Macon's homicide trends (Baumer et al., 2012). Temporal components are important and dynamic factors in crime research. Recent studies and reports released over the past decade are integral to providing accurate and time relevant information (Rosenfeld & Weisburd, 2016). Therefore, the study reviewed homicide incidence in Macon over five years from 2017 to 2021 to provide an accurate analysis of recent crime trends in the city. Importantly, this study also contributes to the current body of academic crime research by filling the information gap of crime statistics in Macon with more recent data.

Of note, apart from the contributions to government programs and the overall body of research, addressing the research problem is impactful to the local community of Macon as it provides viable solutions to the city's socioeconomic and policing issues. By understanding the unknown crime patterns in Macon, the city can perform actions such as investing in predictive policing, improving community relations, addressing education and mental health problems, guiding budget and resource allocation, and addressing the impact of prosecution and incarceration on crime trends (Metzl & MacLeish, 2015). In terms of predictive policing, crime statistics from this study and other similar research are important in creating methods for criminal justice professionals and law enforcement to anticipate crime risk and preemptively prevent predicted crimes (Lau, 2020). By utilizing predictive data such as information on high-risk locations, law enforcement can use police resources more efficiently to target a specific area

(Lau, 2020). However, the lack of research and refinement in this area makes the value of predictive data debatable, thus necessitating this study and other similar research. Additionally, addressing the research problem is integral in improving community relations in Macon. By adopting transparency in matters of crime, open dialogue can be established between law enforcement and the community (Lau, 2020). Community outreach can be established through confidential methods such as anonymous tip-lines to reduce the public's reluctance to provide information to law enforcement (Duffee et al., 2006). As a result, the research is important when addressing obstacles to increased cooperation and coordination with the public. Finding solutions to the research questions is therefore the first step to addressing the city's security problems, creating awareness, and overcoming obstacles to positive community relations such as population changes, fear of retaliation, and past tensions with the police force (Duffee et al., 2006). From an economic perspective, studies in this field are significant as they inform budget formation and law enforcement resource allocation (Shapiro & Hassett, 2012). The crime statistics resulting from the study highlight the locations or programs that require more resources to address the high crime rate. Importantly, law enforcement can implement strategies that direct resources to the most high-risk areas that will be most impactful in maintaining the safety of the community (Duffee et al., 2006). Overall, the results of the study are useful in developing strategies aimed at violence prevention, community relations, and the socioeconomic issues related to crime.

Research Questions

As a result of the unknown patterns of criminality that influence crime trends in Macon, rigorous research was necessary to address the rising homicide rates. Unfortunately, the region has experienced an elevated rate of cases in recent years. Further, there is a general lack of

understanding on the causal factors of the city's crime statistics among the stakeholders in law enforcement and the criminal justice system. For that reason, this study examined the impact of factors such as population distribution, traffic density, location, and gang affiliation on the rising homicide problem in the county. Furthermore, the quantitative model examined the association between these variables and firearm use to establish any statistical significance.

RQ 1: *Is there a significant difference between homicide incidence and weapon type in Macon-Bibb County?*

The extent of social and legal control in the possession of firearms is important in determining the homicide rates attributed to gun violence. Cabrera-Barona et al. (2019) reveal that increasing population density in metropolitan areas can result in weaker social interactions and compromised informal social control. Further, according to Johnson and Robinson (2021), the increase in gun dealers in the city directly correlates to the rising cases of firearm-related homicide in metropolitan areas. As the rate of gun ownership and distribution rises in the country, more individuals are exposed to risks involving firearm-related violence, and the more likely a gun is used in a crime. Social, political, educational, and economic factors influence social control within an area and either condones or normalizes gun ownership or use. Notably, the development and degree of implementation of firearm regulation policies can play a role in gun crime.

RQ 2: *Is there a significant difference between the race of a homicide offender and use of a firearm in Macon-Bibb County?*

In addition to examining the link between homicide incidence and the type of weapons used, investigating whether there is a connection between demographic characteristics such as race and a predisposition to firearms as the weapon of choice for homicide is relevant. Specifically, the research question asks about the possible relationship between a demographic

characteristic of the offender and firearm use. Siegel (2020) notes a disproportionate impact of violent crime on Black people, given that 59% of gun-related homicide victims in 2017 were African American. Bryant (2013) also highlights the prevalence of gun violence and high homicide rates in the African American community, particularly due to high poverty levels in disenfranchised neighborhoods. To this end, whether there is a relationship between the race of a homicide offender and the use of a firearm as the weapon of choice is significant for law enforcement homicide response.

RQ 3: *Is there a relationship between the location of homicide and firearm use in Macon-Bibb County?*

The location of homicide incidence, or the type of location where homicides occur is a significant factor in understanding the patterns of criminality surrounding homicide. From private residences to public locations such as parks, alleys, highways, streets, and sidewalks, identifying the common locations for homicide is important for identifying high-risk locations. Terranova and Zen (2018) and Jung and Stewart (2019) note that the majority of homicides in the United States occurred as a result of domestic disputes involving intimate or familial relationships, which are more likely to take place in a home or residential setting. In addition to identifying the type of location, the study is concerned with investigating whether there is a relationship between the location of homicide and the type of weapon used in committing homicide, specifically the use of firearms. Exploring whether there is a relationship between firearm use and where the homicides are committed is important in a study intended to uncover unknown patterns in the high rates of homicide in Macon-Bibb County.

RQ 4: *Is there a difference between gang affiliation and weapon used in homicide incidence in Macon-Bibb County?*

Gun-related violence contributes to a significant share of homicide incidence in the United States. According to Sutherland et al. (2021), data from the CDC indicates that 79% of all

homicides in 2020 involved the use of firearms. In the discussion of homicide in the United States, scholars continue to link guns with the disproportionate rates of homicide in the country. The incidents of gun violence have been on the increase as 2020 saw a 14% increase from 2019 and a 25% increase from the average of five years before 2020 (Sperlich et al., 2022). The rise in gun-related violence prompts an examination of gang-related homicide incidence since this is one of the common areas where firearms are used (Carlock & Lizotte, 2015). Specifically, the study was concerned with the question regarding whether gang affiliation was a factor in firearm homicides. In other words, gang affiliation as a risk factor for firearm homicide was investigated in this study.

Importantly, the investigation of unknown patterns of criminality in Macon's homicide rates takes a four-fold approach. First, the study investigated whether the type of weapon was a significant factor contributing to elevated rates of homicide in Macon. Second, the research focused on race and firearm use to find out whether there was any significant connection. Third, the study looked at the type of location of homicide incidence and whether there was a relationship to the use of firearms. Lastly, the study examined the relationship between gang affiliation and the choice of homicide weapon, with a particular focus on firearm use. Overall, these research questions explore unknown patterns of homicide incidence in the county in an effort to provide new insights in this research area.

Nature of the Study

To answer the proposed research questions, a quantitative exploratory framework that applies secondary data analysis of existing data was selected as the research design for this study. The quantitative approach focuses on measuring quantifiable aspects in the social world to inform the research on patterns of offending (Queirós et al., 2017). Since the study aimed to

investigate existing Macon homicide data with numerical values for victims and offenders, and any possible correlation between variables such as victim or offender characteristics and homicide rate, the quantitative method was best suited for this study. The approach was suitable for the study due to its suitability in dealing with quantifiable data, objectively measuring variables, and producing findings that can be generalized across the population.

As previously mentioned, the study involved a secondary analysis of data concerning the number of criminal homicide incidences investigated by law enforcement in Macon. Secondary data analysis applies conceptual skills and knowledge to analyze existing data (Johnston, 2014). The analysis approach was suited for this research since it was a study of Macon's already existing criminal homicide cases. The study used data from the city's law enforcement to understand the nature of the victims and offenders based on their characteristics, the location of the crime, the causes of homicide, and the classification of the crime.

In this study, the research investigated homicide cases in Macon with a sample size of 20 cases per year for five years. The study analyzed crime patterns from 2017 to 2021 by considering the different variables and characteristics of the first 20 homicide incidents in each year (Bibb County Sheriff's Office, 2022). As there are no living participants in this study, the research focused on the perpetrators and demographics in the investigated cases, as well as the facts of each case. With regards to the limitation of the small sample size, repeated research measures applied in the study for the selected five years, with a total of 100 cases, hoped to ensure clearer and more time relevant results (Baghfalaki, 2018). Additionally, the study accounted for factors such as age, gender, location of homicide incidence, and race of the victims and perpetrators. Importantly, adopting an exploratory approach allowed the study to compare available data across time.

Further, the sampling technique applied in the study was the quota sampling method. Quota sampling is a non-probability sampling technique where the researcher chooses a group of individuals as representatives for a population based on specific characteristics and qualities to efficiently collect data on the population (Iliyasu & Etikan, 2021). Unlike uncontrolled quota sampling in which the researcher can choose the samples at will without any restrictions, this study utilized controlled quota sampling with specific restrictions limiting the secondary data to 20 investigated cases per year for the five years from 2017 to 2021. Specifically, quota sampling was used with quotas based on the sex, race, age, date, and homicide classification of the cases investigated by the Sheriff's office in Macon. In this process, deviating from the predefined quotas to obtain actionable results was avoided so as not to induce bias (Iliyasu & Etikan, 2021). Overall, the aim of the research in applying quota sampling was to get the best representation of data in the final sample and replicate the population of interest in the most accurate form.

In addition to the sampling method, the choice of data collection procedures was integral in collecting the most accurate data. The source of the data utilized in this research was government statistics and records, specifically the cases investigated by Macon's Sheriff Department (Bibb County Sheriff's Office, 2022). The data was evaluated to determine its relevance to the study based on specific restrictions and its usefulness to uncovering the unknown patterns behind Macon's rising crime rate, focusing on homicide incidence. The evaluation also considered the original purpose of the secondary data and how that informs this research (Bibb County Sheriff's Office, 2022). By understanding why the data was originally collected, the researcher could determine its suitability for this particular study. To explore the shifts in crime trends, the study compared the characteristics of the homicide cases for five years, along with the findings from the previous literature in the same field.

Definitions

The following terms were used operationally in this study:

1. *Causal Factors*: Causal factors are the influences or reasons of criminal behavior. This means that as causation denotes cause and effect where one event produces another event or outcome, the causal factors are the events that influence the occurrence of another event (Hunter & Dantzker, 2002).
2. *Demographic Data*: In the study of crime patterns, demographic data is important as it includes an array of information about attributes such as age, gender, ethnicity, and the income levels of a target population (Kaliyadan & Kulkarni, 2019).
3. *Exploratory Research*: Exploratory research is a research method used to investigate unknown or unexplained phenomena. The main purpose of this method is to provide clearer details regarding problems in fields where research is lacking, such as the unknown patterns of crime in Macon (Wang et al., 2017).
4. *Incidence*: Incidence is an expression of the total number of criminal events within a particular area. In this study, homicide incidence, therefore, refers to the number of homicide cases that have taken place in a given area.
5. *Occurrence Rates*: In the context of the current study, occurrence rates refer to the frequency with which violent crime and homicide occurs in a given location.
6. *Predictive Policing*: In the same manner as community intervention programs, predictive policing utilizes crime statistics to anticipate the risk of crime (Rosenfeld & Weisburd, 2016). The predictive data can assist law enforcement to allocate more resources into high-risk areas.

7. *Productivity Losses*: Productivity losses refer to the cost incurred by individuals, family, organizations, and society as a whole due to factors that lower productivity. For instance, problems related to criminal violence, such as physical and mental health, can impact an individual's ability to work resulting in a loss of productivity (Metzl & MacLeish, 2015).
8. *Quota Sampling*: Quota sampling is a sampling technique that involves creating a sample of individuals that represents a larger population. When using this sampling method, researchers form subgroups based on the characteristics of the population data such as age, gender, and ethnicity (Iliyasu & Etikan, 2021).
9. *Secondary Data Analysis*: In secondary data analysis, the researcher uses data collected by other researchers (Johnston, 2014). The secondary data can be accessed publicly or by contacting the original researcher. Secondary data analysis can be used to address a new research question or to find alternative perspectives on research questions in previous studies.
10. *Sociological Positivism*: Sociological positivism encompasses the theories asserting that human behavior is influenced by external sociocultural, sociostructural, and socioeconomic factors that mold the behavior of individuals within the given environment (Case et al., 2017).
11. *The U.S. Violent Crime Rate*: Derived from the FBI's Uniform Crime Report (UCR), the U.S. violent crime rate is an annual measure of offenses designated as violent crime in the country, including homicide, rape and sexual assault, aggravated assault, and robbery (Stebbins, 2021). It is adjusted to suit the population to highlight the incidence of crime for every 100,000 people.

12. *Urban Decay*: From a sociological context, urban decay is the process through which a previously working city or metro area collapses. Urban decay is characterized by depopulation in urban areas, increased crime rates, high local unemployment, political disenfranchisement, high rates of poverty, and increased drug use and drug-fueled crime (Khan, 2014).
13. *Victimization*: In criminal justice, victimization is the process through which an individual becomes a victim of a crime. Specifically, it is the consequence of a criminal action that either harms the individual or their property. In criminal homicide, there is a specific focus on common victims of the crime and the characteristics of the victims (Rouchy et al., 2020).
14. *Violence Interruption Strategies*: Violence interruption programs are intervention strategies which identify high-risk individuals, locations, and cause factors of violence to preemptively reduce crime rates (Rosenfeld & Weisburd, 2016).

Summary

This chapter communicates the relevance and urgency of a study on the patterns of criminality in homicide in Macon by documenting the increased prevalence in recent years, along with the scarcity of research linking homicide rates to established patterns of crime. The reflection on the rising incidence of violent crime and homicide in Macon over the past few years is supported by 2020 data from the FBI's Uniform Crime Report, which shows that the Macon-Bibb County metro area recorded 708 incidents of violent crime for every 100,000 people, exceeding the national average of 399 and emerging as one of only 22 metro areas in the country to record more than 700 incidents per 100,000 population (Stebbins, 2021). The high rate of violent crime positions Macon not only as one of the most dangerous places in Georgia but also

in the entire country. The direct implications of the problem are seen in the impediment in the areas of development at both an entrepreneurial and residential level. With a scarcity of studies outlining patterns of criminality that can enhance understanding and response to the problem, the chapter provides a justification for the study in investigating the unknown patterns.

A key aspect of the chapter is conducting an evaluation of trends in homicide incidence in Macon-Bibb County in recent years, for five years, from 2017 to 2021, to uncover any patterns of either decline or surges in violent crime and thus theorize the contributing factors. The historical context of offending in Georgia reveals an annual increase in violent crime and homicide throughout the 1970s and 1980s, with peak levels reached in the early 1990s (*Georgia crime rates*, 2019). The rise in crime in urban areas is specifically linked to urban decay, with an increasing number of economically and politically disenfranchised demographics. However, while the historical context provides a background of violent crime in Georgia as a whole, it also highlights the necessity for specific research centered on smaller metro areas like Macon.

Against the backdrop of escalating violent crime rates in Macon and a scarcity of literature on developing patterns of criminality, the problem statement not only highlights the socioeconomic costs for the city, but it also proposes addressing the problem by studying the unknown factors responsible for the shift in crime trends to establish relevant patterns. Therefore, the overarching purpose of the study was outlined as collecting and investigating data on violent crime trends to explain the unknown factors behind Macon's surge in violent crime, specifically homicide, and to establish a better understanding of relevant patterns of criminality.

Overall, the chapter indicates that a quantitative exploratory framework was used to understand Macon's homicide incidence. The utility of the approach is the capacity to not only

analyze phenomena but also extrapolate findings to the larger county and further the understanding of Macon's homicide trends. The study applied secondary data analysis based on the Macon-Bibb homicide statistics database. In studying victimology, the quota sampling method that categorizes the data based on demographic characteristics was used to study the possible patterns of homicide incidence in the county. The importance of the entire project lies in the usefulness of understanding patterns of criminality in designing crime prevention strategies and programs.

CHAPTER TWO: LITERATURE REVIEW

Overview

The broad literature on criminal homicide reveals the history of criminality, the theories that explain criminal homicide, the causal factors connecting perpetrators to the crime, the perpetrator–victim dichotomy, and the rate of occurrence in both the United States and the global space. While a considerable number of studies have highlighted the basic causal factors of criminal homicide, the research goes beyond these elements to investigate or interrogate the vulnerabilities, the nature of the perpetrators, the impacts of incarceration, and the challenges of gun prevalence in the American context. The literature is relevant to the proposed research topic area given that its focus on causation, characteristics of victims and offenders, gun violence, and gun-related homicide uncovers unknown and distinct patterns of criminality in homicide.

Theoretical Framework

Sociological Positivism

In theorizing about homicide and influencing factors, the study will rely on sociological positivism as the theoretical framework that provides context for the intended project and its overall importance in criminal justice literature. Positivistic explanations of criminal behavior link offending to external or internal influences that are mainly out of the individual's control (Case et al., 2017). Emerging in the nineteenth century as a contrast to the classical theory, which places criminal responsibility on the individual, the positivist school establishes a connection between criminal behavior and psychological or sociological factors surrounding the offender; thus, crime is attributed to these factors rather than the individual. While positivistic theories include individual determinism and sociological positivism, the latter is the most relevant to this

study given the emphasis it places on how the structure of society, culture, institutions, and the social process can determine the propensity and occurrence rates for crime.

Based on Durkheimian sociostructural analysis of crime and punishment, sociological positivism looks at the institutions and structure of society and how they combine to influence criminal behavior. According to Durkheim, social factors embedded in the structure of society, such as the institutions of education, religion, and the distribution of labor and resources, are all elements that are not only external to the individual but also pre-date and post-date the individual who exists in this structure (Webber, 2010). Therefore, a person is born into a society that already has these structural properties to subsequently shape individual behavior. Specifically, the environment molds human behavior, including criminal behavior.

The understanding of criminal behavior from a social and structural perspective influenced the Chicago School, which is also relevant to this study. The Chicago School, led by Robert E. Park, Ernest Burgess, Louis Wirth, Clifford Shaw, and Henry McKay, posits that crime and deviance can be understood through the analysis of the social and material surroundings of the individual, including population growth, distribution and concentration in urban areas, ethnographic diversity, and wealth distribution, as well as threats of displacement by the arrival of new groups of people (O'Brien & Yar, 2008). Overall, sociological positivism from both the Durkheimian thought and the Chicago School provide a theoretical context for exploring the research problem on the unknown patterns behind the spike in homicide and violent crime in Macon as the theories link crime statistics to sociocultural, sociostructural, and socioeconomic concerns.

Related Literature

Common Themes in the Literature

The Causal Factors of Criminal Homicide

In recent years, a considerable body of literature on criminality has focused on causal factors that establish the connection to criminal homicide. In a systematic study of the risk factors that increase the predisposition for homicide-suicides, Rouchy et al. (2020) discovered eight categories of factors that are linked to homicide-suicide. The categories include sociodemographic characteristics, familial and other relationship dynamics, psychopathological influences, victimological factors, criminological or legal history, life history, means and method used for the crime, and motivational factors. The sociodemographic characteristics associated with homicide-suicide perpetrators were the male gender and older age. Further, under the category of life history and relationship dynamics, an early history of childhood trauma is identified as a major risk factor. In addition, a history of legal issues and arrests is shown to correlate with an increased risk for offending. Most importantly, the study demonstrates the importance of psychopathological vulnerabilities such as depressive illnesses and psychotic delusional convictions in influencing the homicide-suicide phenomenon. Metzl and Macleish (2015) similarly establish a link between criminal homicide and mental illnesses, indicating a pattern. In another study, Heide (2021) uncovers both psychological and sociological factors as the link to homicidal behavior among juveniles in the United States. To understand juvenile homicidal behavior, the study follows up on twenty men for 35 years following juvenile convictions for murder or attempted murder in a southeastern state. From interviews with the subjects, Heide (2021) establishes a discernible pattern of psychological vulnerabilities and sociological factors which cause or influence juvenile homicide offenders. Of note, the literature

provides insight into factors associated with criminal homicide, with both psychological and psychopathological vulnerabilities of the offender emerging as the main influencing elements.

Further, the literature on causation explores the association of geographic, sociodemographic, and socioeconomic characteristics with homicide incidence. For instance, in the context of firearm homicide, Kegler et al. (2021) examines geographic and population-based homicide incidence at the county level. Using data from the United States Census Bureau and the National Vital Statistics System between the years 2004 and 2018, the study finds that both metro and non-metro regions have high concentrations of firearm homicide. The high levels of firearm homicide are observed in the metro areas of the north-central U.S. and the northeastern seaboard, as well as the metro and non-metro areas of the southeastern U.S. While both metro and non-metro areas experience high incidence of firearm homicide, the authors note that the level of urbanization, poverty level, and race or ethnicity were strongly linked to higher concentrations of firearm homicide (Kegler et al., 2021). As such, the firearm homicide rates in large metro counties were generally higher and associated with the higher level of surrounding poverty affecting all race or ethnic groups but reaching the highest rates among non-Hispanic Black Americans. For small and medium metro counties, the data was less consistent but exhibited a similar pattern of high firearm homicide rates with increasing levels of homicide. As the authors emphasize the persistent link between poverty and the risk factors for violence such as school dropouts, unemployment, and economic instability, they observe an important point about the differences in poverty gaps between the metro and non-metro areas across the United States which, in turn, can explain the differences between the rates of firearm homicide across the country. Of note, while the poverty gap between metro and non-metro regions in the United States has reduced to about 3% in the recent decade, this difference varies based on region. For

instance, the South has the highest poverty gap of about 6% between metro and non-metro areas. As a result, non-metro regions with the highest poverty rates are found in the South, especially along the Mississippi Delta, where higher concentrations of firearm homicide are also reported (Kegler et al., 2021). Further, on the causal impact of criminal homicide, Marez (2021) takes the conversation to television production, location, and the reproduction of inequalities that, in turn, negatively impacts minority communities. The study provides a unique insight into the socioeconomic front, arguing for the link between television production and disenfranchised locations. In exploring the causal factors of criminal homicide, it is, therefore, important to examine the socioeconomic characteristics in addition to the geographic and sociodemographic factors to uncover the unknown patterns linking economic status to the level of homicide incidence.

A further approach in the literature on criminal homicide is examining the problem of gun violence in the United States to determine whether gun prevalence is a causal factor of higher concentrations of homicide. Johnson and Robinson (2021) studied the connection between gun prevalence and the rate of criminal homicide from 2003 to 2019 using the measure of gun dealers in a narrow geographic region. The study concluded that a high gun dealer density, measured based on the number of dealers in a 100 square mile area, positively corresponds to an increase in homicide in successive years. Specifically, the higher the number of gun dealers in an area, the higher the likelihood of an increase in gun-related homicides. The research in this direction is significant given that the authors rely on a direct measure of gun use (i.e., the gun dealers) rather than indirect measures, which have been used in previous studies and yielded inconsistent results on the gun prevalence–homicide connection.

Another significant aspect of the reviewed literature in the context of causal factors is the unique insights into hypotheses such as the lead–crime correlation. Despite contradictory findings in this area of study, the correlation between lead exposure and criminality is an important topic when exploring environmental factors that influence criminal behavior. In Boutwell et al. (2017), the authors investigated the aggregate blood lead levels using data from St. Louis City, MO and analyzed the information against indicators of violent offending. The study finds that, apart from rape, the cumulative blood lead levels are statistically relevant predictors of violent crimes. Among firearms, assault, robbery, and homicide crimes, the risk ratios suggest that aggregated lead exposure can predict crime outcomes. To further understand the causal factors beyond the sociological elements, a study on the lead–crime correlation advances the research on environmental and biological risk factors that directly contribute to violent crime.

Characteristics of Perpetrators and Victims

In addition to causal factors, the research literature on violent crime places a considerable focus on the characteristics of perpetrators and victims to establish the sociodemographic differences in these two groups. Importantly, there is a specific focus on males and females as either perpetrators or victims, including factors which increase vulnerability to victimization. In Rouchy et al. (2020), the authors found that in cases of homicide-suicide, the perpetrators were more likely to be male. Moreover, the perpetrators were also found to be older males compared to separate homicide or suicide offenders. On victimization, both Rouchy et al. (2020) and Terranova and Zen (2018) identify females as common victims of criminal homicide. Terranova and Zen (2018) also investigated female homicide in a comparative study based on Italian, German, and United States trends, finding that in the United States, there is a higher risk for

female homicide across all age groups, with an even higher risk for middle-aged women. Similar to Rouchy et al. (2020), Terranova and Zen (2018) note that the majority of female victimization originates from intimate or familial relations. Further, in understanding female mortality due to homicide and suicide, Ivey-Stephenson et al. (2018) analyzed violent death among the different age groups and race/ethnicities of female victims using data from the National Violent Death Reporting System (NVDRS). The authors found that while the homicide rate for females was significantly lower compared to males, victimization trends show females as disproportionately the common victims of criminal homicide, rather than the perpetrators. In terms of age group, the highest homicide rates among females were recorded among infants of less than one year, followed by the 30–34-year group. The detailed report is important in not only advancing the literature on female victimization but also homicide prevention initiatives.

Studies have also been conducted to determine murder profiles to understand the patterns that emerge from this category of crime. Using national data from the FBI, Avdija et al. (2021) deduced generated the murder profiles of perpetrators and found there were more males than female offenders in homicide cases. Similarly, Jung and Stewart (2019) found that while female offenders were fewer, they would often settle for male victims. The source argues that domestic wrangles are the center of most homicidal crimes in the United States. While male perpetrators choose male victims for attack, a significant proportion of the attacks are targeted at female victims. The likelihood of a White person being murdered is higher than the likelihood of any other race. The older the perpetrator is, the less likely it is that a person of African American descent would commit a crime. However, as an offender's age increases, their likelihood of killing female victims would increase significantly (Duke et al., 2018). In addition, offenders prefer to kill victims of approximately their own age. The offenders are also more likely to

commit these offenses the longer they stay out of remedial procedures such as going for rehabilitation programs. Therefore, an understanding of the characteristics of homicide perpetrators is essential in the conversation about shifting trends in homicide incidence.

Driving Factors of Criminal Tendencies

Poverty and Criminal Tendencies.

In the literature on political economics, the relationship between dire financial circumstances and criminal activity is a contentious topic. While some writers believe that poverty is a direct cause of crime, others hold the total opposite view. In Imran et al. (2018), the objective was to investigate the relationship between low income and criminal behavior in the United States. The study adopted an autoregressive model for data between 1965 and 2016 on criminal tendencies and offenders' socioeconomic status. The findings provided more evidence that poverty and property crime are positively intertwined. In the long term, one may argue that a lack of money is the root cause of property crime in the United States.

The distribution of crime rates in the U.S. against poverty indices is also a subject of concern to scholars. Quednau (2021) investigated the relationship between low income and higher rates of violent crime in several cities throughout the United States. The rational choice theory contends that offenders are also rational actors who commit crime for a specific perceived benefit that maximizes their utility. By utilizing the American Community Survey Census and using the ordinary least squares method, the researcher tested the hypothesis that more poverty is linked to more crime. The variables investigated included age, race, job status, and educational achievement. According to the findings, there is a substantial connection between levels of poverty and the incidence of violent crime. In addition to the findings, the results of this research

show that there is also a substantial association between the proportion of a city's population that is Black and the rate of violent crime in that city.

According to the vast majority of research conducted on the link between financial status and crime, income disparity is the primary factor that contributes to violent crime. However, Dong et al. (2020) contend that prior research on the subject generally ignored the influence that poverty and socioeconomic status played as opposed to the function that income disparity had. The study used all the court cases that took place between 2014 and 2016. According to the findings, a higher murder rate was more likely to be caused by poverty and low-income levels than by economic disparity (Rosenfeld & Lopez, 2020). The correlation between poverty and murder gives the impression that absolute deprivation is the primary factor in the development of violent crime.

Parental Neglect and Criminal Tendencies.

Parental neglect has also been correlated with criminal behavior by several studies on the driving factors of crime. In Herrenkohl et al. (2018), abuse and child neglect were shown to enhance the probability of criminal activity in adulthood by encouraging antisocial behavior throughout childhood and adolescence. This was demonstrated by the findings that this behavior is often followed in maturity by the development of connections with antisocial romantic partners and peers. Such individuals go on to commit acts of violence against members of their own communities later in their life cycle. The pattern of behavior discovered in this research becomes evident in the victims of perpetrators with a history of childhood neglect and abuse. In addition to a history of neglect, Benedini and Fagan (2020) argue that people who have histories of verified child abuse are shown to have a higher likelihood of engaging in sexual and physical intimate relationship violence in adulthood as compared to their counterparts who were not

maltreated as children. Overall, the researchers examined the mechanisms by which child abuse might lead to violent behavior in adulthood.

Although maltreatment rates change over time and are affected by the features of neighborhoods, the specific impacts of crime and deprivation on risk are not well known. This is despite the fact that these factors are both influential. The research conducted by Bland et al. (2018) used a Bayesian spatiotemporal strategy to investigate potential risk variables for confirmed cases of child abuse and neglect across all of the zip codes in Davidson County, Tennessee over the course of nine years. From 2008 to 2016, there was a decline in the likelihood of sexual and physical abuse of children. In contrast, there was a rise in the risk of child neglect during the years of 2011 and 2014, followed by a sharp decline in that risk. While greater unemployment rates were individually related to an increased risk of child neglect, more poor families were associated with an increased risk of all forms of child maltreatment. Further, there was a significant correlation between crime rates and the probability of child sexual assault and physical assault, but not neglect. The findings have implications for adapting preventative tactics according to the geographical location, as well as the specific kind of abuse.

Maltreatment comes in many forms, but one that has been traditionally understudied despite its high prevalence is neglect. A comprehensive analysis conducted by Haslam and Taylor (2022) reveals that recent studies have shed light on the far-reaching and one-of-a-kind consequences that neglect has on future cognitive, behavioral, and socioemotional development, as well as its effects on health. More than twenty papers were considered for inclusion in the final collection. These publications investigated five distinct markers of the interpersonal functioning of adolescents. A little less than half of the studies that looked at the quality of peer relationships revealed that emotional neglect related to a lower level of relationship quality. This

idea further led the researcher to uncover evidence suggesting an increase in the chance of membership in gangs and that affiliation with deviant peers is associated with neglect. Child neglect can result in the lack of proper life values among children as they grow into adults. Sometimes, these children have no one to teach them to refrain from certain vices in society. When they become adults, Avdija et al. (2021) found that the individuals become indifferent from these vices and thus found no problem in partaking in them. Therefore, intervention programs and preventative measures against criminal incidence are more effective when targeted at reducing the abuse and neglect of children.

Low Self-esteem and Criminal Tendencies.

Over the course of the last century, different schools of thought have identified self-esteem as a significant characteristic that impacts criminal tendencies. Consequently, there are several therapies that target enhancing one's sense of self-worth in order to avoid criminal and delinquent conduct. The meta-analysis conducted by Mier and Ladny (2018) looked at 48 effect sizes derived from 42 research conducted over a period of 25 years (1990–2015) and 71,130 persons. The results of the research suggest that a low sense of self-worth is significantly associated with an increased risk of criminal behavior, even though this association is only marginally negative. Ward and Carter (2019) identified a negative correlation between self-esteem and criminal activity and delinquency. To put it another way, both adults and adolescents who lacked a healthy sense of self-esteem were marginally more likely to have participated in unlawful activities. On the other hand, individuals who had higher levels of self-esteem had a somewhat lower likelihood of engaging in crime.

The poor sense of self-worth that many criminals have, according to some observers and a significant number of specialists in the field of mental health, is a primary factor in the

development of their antisocial behaviors. Cale et al. (2021) argue it is quite possible that the person has been unsuccessful in many aspects of his life, including at school, in the workplace, within his family, and in other relations. Even in his criminal endeavors, he may have been unsuccessful since he is always caught. Some academics are of the opinion that illegal activity is nothing more than a futile effort to make up for this pervasive feeling of inadequacy. To put it another way, he elevates himself by bringing others down. He wants to feel better about himself by exerting control and dominance over other people. This line of thought challenges and flips the traditional paradigm of cause and effect. In most cases, the offender has already turned his back on his family, his instructors, and the working world well before those spheres of society have done so.

Alcohol/Drug Abuse and Criminal Tendencies.

Through previous research, alcohol and drug abuse are also correlated with crime in the United States. Duke et al. (2018) investigated the effects that prescription drug monitoring programs (PDMPs) have had on criminal activity. The purpose of the study was to provide insight on policies limiting access to prescription opioids in and of itself inside the healthcare system and how this might influence larger non-health areas. In response to the significant rise in the use of opioids and their abuse in the United States, PDMPs have been established in practically every state to collect, monitor, and evaluate data pertaining to prescription opioids. The abuse and diversion of this information will be avoided if this analysis is completed successfully. A differences-in-differences methodology and data on crimes known to police departments from the Uniform Crime Reports (UCR) were used in the research. The results showed that obligatory access PDMPs decreased total crime by 5%. In particular, those crimes that were prompted by violence, burglary, and the theft of a motor vehicle were the most

prevalent (Benedini & Fagan, 2020). Evidence shows that PDMPs, when constructed effectively, are an effective social policy instrument to ameliorate some of the harmful effects of opioid usage. On a broader scale, these outcomes suggest that opioid regulations may have significant repercussions for criminal activity as a spillover effect.

Importantly, some studies have investigated opiate-related criminal activities in the US. Pierce et al. (2018) investigated whether individuals who tested positive for opiates were more likely to have a history of criminal behavior than controls that tested negative for opiates. An additional objective was to determine if the association remained stable both before and after the commencement of opiate use. The research set out to determine if these correlations were different depending on the sort of offense and the participant's gender. The study calculated rate ratios (RR) by gender comparing those who tested positive for opiate consumption to cocaine and opiate negative controls. The findings suggested that opiate-positive patients had greater rates of criminal activity than test-negative controls did, both in the time before and after the commencement of opiate use. As for gender, the use of opiates was associated with a 16% increase in RR for males but doubled for females (Pierce et al., 2018). Male offenders were more likely to engage in violent offenses than their female counterparts. The study attributed this notion to the heightened aggressiveness of men, which leads them to be more violent relative to women. Under the effect of opioids, the frequency of homicidal attacks from men was also higher than that of women.

In addition to opiate use, some researchers have conducted systematic reviews on the relationship between drug abuse, crime, and the impact of incarceration on children. Saladino et al. (2021) analyzed the primary findings of several research papers conducted between the year 2010 and the year 2020. The review indicates that incarcerated parents cause their families to

lack cohesion, which is important for child development. Without this cohesion, children under 18 lack proper life guidance and engage in uncouth activities such as drug abuse. These circumstances seem to have led them to participate in illegal activities and misuse substances. Such behaviors are often associated with a type of unease and the need for autonomy. Considering these findings, potential future therapeutic implications could be based on multifaceted methods, with a greater emphasis placed on the role of the home environment in promoting treatments for adolescents who are at risk. These findings are synonymous to those established in Cale et al. (2021), where researchers found that alcohol and drug abuse contributed to making poor life decisions. The abuse of drugs and alcohol makes an individual susceptible to knee-jerk reactions to situations where such antisocial behavior is not welcome. For instance, when one is intoxicated with alcohol and or other drugs, they may get into domestic fights with their spouses without their active knowledge. Therefore, alcohol and drugs as driving factors of criminal homicide is a major area of research in the conversation about the rise in homicide incidence in some American states.

Comparison of the Rate of Occurrence

Violent crime and homicide literature is also mainly concerned with the rate of occurrence across cities in the United States over time. Yim et al. (2020) studied the media-reported increase in homicide rates between 2014 and 2015 by comparing these rates to historical data to establish whether there is an upward trend in the country. Using data from the Annual Uniform Crime Report published by the Federal Bureau of Investigation, the authors employed an ARIMA (autoregressive integrated moving average) model of predicting future trends, and a one-step ahead method of forecasting to predict the occurrence of criminal homicide, aggravated assault, rape, and robbery across the country. The study found that there was a spike in homicide

rates in 2015 going above the prediction intervals of the analysis techniques. Black males accounted for the majority of victims between 2009 and 2018 while approximately 21% of females were victimized (Yim et al., 2020). However, the upward spike in homicides in 2015 was presented as an anomalous case compared to historical data, showing only a one in 100 possibility of occurrence. Moreover, while the rate of homicide increased from 2014 to 2016, the trend was not replicated from 2016 to 2018, which suggested shortcomings in the reliability of the prediction models. While the study did not articulate the causes of the sudden increase in homicide rates from 2014 to 2015, it adds to the literature on unfamiliar patterns of criminality that require more extensive study. While Yim et al. (2020) studied homicide increase, other studies such as Parker et al. (2017) explored the decline in homicide rates from the 1990s to 2011. The study reported two trends in homicide drops across major cities, with the first decline found between 1994 and 2002 and the second trend of decline reported between 2007 and 2011. Importantly, Parker et al. (2017) attributed the homicide drop to structural factors such as disadvantage, and crime control strategies such as police presence. However, the recent drop between 2007 and 2011 demonstrates that other than police presence, structural conditions do not explain the homicide decline during this period. This highlights a gap in homicide decline research, which demands further study to determine the causes for the falling rates. Overall, the research on homicide occurrence rates in the United States is useful to advance a study on unknown factors in the patterns of homicide criminality, even though more data analysis is required to draw reliable conclusions.

In comparing homicide occurrence rates to other countries, the United States' efforts to reduce murder and achieve a peaceful and less tragic society has overall poor results compared to its counterparts. According to the World Population Review (2022), the United States ranks as

the 64th worst nation in terms of its homicidal rate, which is 4.96 for every 100,000 people in the country. According to this metric, El Salvador is the most dangerous nation in the world since it has a murder rate of 52.02 per 100,000 people. The Isle of Man, Andorra, Monaco, and San Marino had a homicidal rate of 0.00 out of every 100,000 residents, making them the nations with the best overall performance. With a total of 16,214 murders in 2018, the United States ranks as the sixth-worst nation in the world when looking at the absolute number of killings. Only Nigeria (with 64,201), Brazil (with 57,358), India (with 41,651), Mexico (with 36,685), and South Africa (with 21,036) have more than the U.S. (16,214). The World Population Review (2022) examines the yearly homicide statistics for the United States between 1980 and 2020 per 100,000 persons. According to the findings, the rate was 597 in 1980, which then reached its highest point of 758 in the years 1991 and 1992, and then started a steady decline that brought the number down to 399 in 2020. Therefore, this strategy demonstrates that while the overall homicide rate is still high, the nation has been effective in lowering the number of homicides in recent years.

While the overall homicide rate in the United States is high compared to other nations, some states such as Mississippi have far higher murder rates compared to the rest of the country. Statistics show that the state of Mississippi has the highest rate of homicides in the whole country (World Population Review, 2022). In the year 2020, the murder rate in the state was recorded as 20.5 per 100,000 people. In this sense, Louisiana, Alabama, Missouri, Arkansas, and South Carolina are among the states that rank as the most hazardous in the country, while New Jersey, New Hampshire, Rhode Island, Maine, and Vermont are considered the states with the lowest homicide rates. The rate of violent crime in Georgia is 20.1 per 100,000 residents, placing the state in the 34th spot out of 50 (World Population Review, 2022). In the South Atlantic area,

Georgia has a score that is higher than the average for the region, which is 18.9. In addition, the state's rate of property crime is much higher than the national average of 19.6. At least seventy-five percent of people living in Georgia have some kind of burglar alarm or other security system installed in their homes or places of business. According to Kolbe (2020), Georgia had a rate of 4.0 offenses per 1000 residents for the commission of violent crimes. The state registered a total of 943 violent crimes in 2021, which places it sixth among the 50 states in terms of overall violent crime rate. Pepper spray is used by around 39% of the population, making it the most common form of personal defense. It is evident that American states such as Mississippi and Georgia not only have homicide rates beyond the national average but their violent crime rate is also high, which necessitates unique and targeted strategies against violence in general.

Gun Violence

Further, a recurrent theme in the literature on criminal homicide in the United States is gun violence. The discussion on gun violence takes different angles involving the factors influencing gun crime, the effects of gun violence in schools, the legal and moral approach to appropriate gun policy, and the relationship between gun control and crime. As aforementioned, when discussing gun violence, it is important to consider the prevalence of gun dealers as a cause factor for high incidents of gun crime. In Johnson and Robinson (2021), the authors demonstrated that the influx of gun dealers partly explains the increase of gun-related homicide in urban areas. Further, Bryant (2013) discussed gun violence in the African American community and highlighted financial instability and living in high poverty neighborhoods as major reasons for the high homicide rates. The report suggested education and employment opportunities for poor communities as a solution to high crime rates (Bryant, 2013). As the

studies covered identify factors that lead to higher homicide rates, they are useful in developing recommendations to reduce gun crime.

Gun violence constitutes a significant proportion of crime committed in the United States. According to Sutherland et al. (2021), 79% of all murders in 2020 involved the use of guns. Even more significant, the study found that the majority of gun-related crimes were cases of suicide. In the same year (2020), the proportion of gun-related suicide among all cases of gun violence was 54%. The number of gun violence cases has been on the increase in the United States. The year 2020 saw a 14% increase from 2019 and a 25% increase from the average of five years before 2020 (Sperlich et al., 2022). The number of 2020 gun violence cases indicated a 43% increase compared to the average of the decade before. The 2020 gun murders were the highest since the year 1968, which also represented a 75% increase relative to the prior decade's average. Suicide cases were 25% more than the average of the past 10 years, which points to the increasing use of guns for suicide.

When discussing gun crime, it is important to highlight the uniquely American issue of school shootings. In addition to research that focuses on gun regulations as a solution to firearm homicide, studies by Gereluk et al. (2015) and Fisher et al. (2017), for example, approach the problem from a psychological and behavioral angle. After examining the history of gun violence in American schools, Gereluk et al. (2015) took an all-encompassing approach to school shootings by considering the social, political, educational, and unique circumstances of the school and community. As one of the most infamous cases of gun violence in American schools, the Sandy Hook incident has been studied extensively to prevent a recurrence of similar shootings. The Fisher et al. (2017) study analyzed the impact of gun violence on the emotional wellbeing and educational outcomes of students after Sandy Hook. Using data collected from

66,511 high schools, the study found that school shootings had a negative impact on students' perception of their own safety (Fisher et al., 2017). The study discussed the implications of the findings on policy and suggested social and psychological recommendations for dealing with the problem. However, there is a lack of focus on gun access and firearms as the primary weapons used by mass shooters in both studies. Nevertheless, both studies advocate for a committed and comprehensive dialogue on gun violence in schools.

In addition to the prevalence of shootings targeted at schools, mass shooting incidents affecting the general population in the United States have been on the increase since the early 2000s. While there have been some fluctuations in the number of active shooter incidents, the trend signifies that these cases are on the rise with time (Sutherland et al., 2021). The randomness of these episodes makes it more difficult to do a study of the patterns of mass shootings in the United States. It is difficult to identify a distinct pattern since the yearly number of mass shooting episodes is subject to random variation, and estimations of the trend will be sensitive to outliers and the time range that is selected for analysis. It is essential to keep in mind that the data compiled by the FBI on homicide incidence does not account for the specifics of each homicide committed with a firearm in the United States each year (Pear et al., 2022). The statistics collected by the FBI are derived from information that is voluntarily provided by law enforcement agencies located across the United States; however, not all agencies participate or give comprehensive information each year. Overall, the prevalence of mass shootings in the country contributes to the disproportionate rates of firearm homicide in the United States and necessitates specific action against this problem.

Further, to combat the disproportionate rates of gun violence in the United States, different parties including activists, law makers, and researchers have accelerated gun control

conversations in the country. In terms of research on gun regulations, Degrazia (2014) made a case for moderate gun control by interpreting American gun legislation to rebut common arguments against firearm regulation. Further, Degrazia (2014) not only highlighted the positive effects of moderate gun control but also came up with recommendations to address gun violence, such as prioritizing controlling guns rather than firearm bans, universal background checks, and restrictions on assault weapons. Similarly, Moorhouse and Wanner (2006) continued the conversation on gun regulation by emphasizing the relationship between strong gun control laws and a reduction in crime rates. However, research on the effects of established gun control policies is limited mainly due to both the broadness of gun control as a legal concept and the state level differences in policy enforcement (Moorhouse & Wanner, 2006). The study circumvents the limitations by developing an index of gun regulations in fifty states across the United States, as well as the District of Columbia. The study finds it necessary to analyze data at the state level instead of the federal level due to the varying gun control laws and differences in the enactment of the laws per state (Moorhouse & Wanner, 2006). While the number of gun control statutes surpasses a thousand, Moorhouse and Wanner's (2006) research splits gun regulations into simpler categories involving gun registration, regulation of firearm purchase, and gun safety training. The research findings reveal that an increase in crime rate leads to an expansion of firearm regulation across the country. Further, the study shows that gun control measures reduce homicide rates when enforced correctly. Therefore, research on the topic of gun control is important in understanding the path towards effective firearm regulation policies, and most importantly, the enactment of these policies.

Gun Ownership and Criminal Activity

In the dialogue about homicide in the United States, scholars have linked guns with criminal violence and the disproportionate murder rates in the country. Data from the CDC suggests that 79% of homicides in the United States have involved firearms. A study by Avdiya et al. (2021) corroborates this data by indicating that guns make it easy for one to commit murder because it makes it a speedy task. The same study argues that states with limited gun ownership and criminal activity risk their populations from senseless murders. Kolbe (2020) also finds that most states upholding extreme gun rights policies often do so because of their leaders' political affiliations and the fear of losing the support of gun lobbyists. About one-third of Americans acknowledge that they bear firearms. This right is accorded to them by the Second Amendment, which allows all Americans of legal age to own guns. The constitution states that a well-regulated militia is key to the freedom of a state. Additionally, the amendment provides that neither the federal nor the state government has the right to infringe upon the rights of individuals to own guns. This law has resulted in varied interpretations, with some arguing that the amendment means that no restrictions should be put to people wishing to own firearms.

In terms of state-level regulations on owning firearms, republican and republican-leaning states have softer restrictions in gun ownership. For example, Semenza and Stansfield (2021) find that such states do not require gun sellers to perform background checks on individuals seeking to purchase firearms. Such checks involve confirming whether an individual has any criminal record or mental issues. The results have been devastating, as Wamsler-Nanney (2021) reports that republican states lead in gun-related violence. Perhaps, the most recent demonstration of gun-related violence in a republican state is the attack at Robb Elementary School in Uvalde, Texas. In this attack, a young man ambushed a school and killed 19 children

and two adults. It has revived the gun ownership debate in the country, with the democrats calling for more restrictions. Nevertheless, the republican ideology does not agree with this position as they argue that the attacks are a result of schools having multiple entry points, atheism, mental health issues, and pornography (Reeping, 2022). Critics note that this view blames anything but policies that allow easy access to guns by the public. Therefore, firearm ownership and regulation in the country is greatly influenced by political leanings at the state level.

Gangs and Gun Violence

Gang violence and guns represent two major threats to public safety. The problem of gang-related violence in the United States is not a new trend, given that there has been public concern over increasing violence perpetrated by youth gangs all over the country. The time when gangs were mainly confined to large urban areas like New York City, Chicago, and Los Angeles are long gone as today's gangs are increasingly visible even in medium- and small-size metro areas (Bjerregaard & Lizotte, 1995). The high visibility of gangs and gang-related crime has led to increased interest in studies on the connection between gang membership and the ownership and use of guns, given that gun victimization has also been on the rise in the United States. Carlock and Lizotte (2015) argue that firearm use is inextricably connected to gang violence. Since young individuals involved in gangs participate in more violence compared to their non-gang peers, and gun-carrying youth are also more likely to engage in violent crime than non-armed individuals, it is evident that gang membership and gun carrying separately amplify violent crime. This means that a combination of the two factors significantly exacerbates violent crime beyond the levels of crime by gangs or crime by guns alone (Carlock & Lizotte, 2015). Further, in a study to determine the role of street gang networks in the City of Chicago in enabling access to

illegal guns, Roberto et al. (2018) found that membership to a gang reduced how close an individual was to a firearm by 20% or more. Using a co-offending network analysis over an eight-year duration and gun data from police records to determine the closeness of offenders to a known firearm, the study established that gangs facilitate firearm access given that membership lessens the potential network distance to known firearms by 20% and above. This means that the proximity to a gun increases for individuals in a co-offending network. In addition, the study found that the closer the members affiliated to a gang are to firearms, the higher their risk of gun victimization. Overall, the current literature points to a positive relationship between gangs, guns, and the resulting violence.

Impact of Gun Policy Depending on Race

While there has been considerable research examining the correlation between firearm prevalence and violent crime over the past decade, research on the impact of gun policies on the homicide rate by race or ethnicity is still scarce. Siegel (2020) highlighted the disproportionate impact of violent crime on Black persons where 59% of victims of gun-related homicide in 2017 were African American. Importantly, Siegel (2020) expanded on existing research on the overall effectiveness of firearm laws by focusing on the impacts of specific laws on different ethnicities. By acknowledging that state-level firearm policies did not have a homogenous effect on victims of different ethnicities, the study came up with two major findings. First, the study found that permits for purchase and concealed carry of guns resulted in lower gun deaths among Black and White populations with the results influenced by factors such as criminal history, mental health, level of urbanization, and overall crime levels (Siegel, 2020). Second, Siegel's (2020) research showed that although violent misdemeanor laws reduced homicide rates in minority populations, they were less effective among the White population. Overall, Siegel (2020) concluded that

regulations on who has access to firearms were more successful in deterring gun crime compared to laws and policies that only controlled access to specific types of weapons. Therefore, when developing and implementing policies aimed at reducing violent crime, it is important to account for the impact of regulations on different demographics.

Incarceration and Sentencing Laws

As the country with the highest incarceration rates in the world, sentencing laws in the United States have been widely contested by the public, lawmakers, and proponents of sentencing law and prison reform. The discussion on sentencing laws is centered on the morality of different forms of criminal punishment such as the death penalty, life imprisonment, and the prison labor system. On the topic of the death penalty, Morczek (2017) argues against capital punishment for perpetrators of homicide and proposes a life imprisonment sentence as an alternative. The study recommends shifting the criminal equity framework in the United States to eliminate uncertain sentences (Morczek, 2017). Similarly, Hoag (2020) highlights the demerits of the capital punishment system, which include racism, prejudice, and bias that disproportionately affect Black Americans. Statistically, defendants convicted of homicide against a White victim are more likely to face capital punishment (Hoag, 2020). Therefore, Hoag (2020) emphasizes the need to prioritize the value of Black lives when discussing sentencing law reform. On the relationship between race and sentencing, the United States Congress Washington (1994) report supports Hoag's (2020) study as it reveals the inequality in the application of the death penalty. The report highlights that racial minorities face capital punishment at rates far greater than the general population and even White convicts. Further, Tomlinson (2016) examined the deterrence theory, which has been foundational for many sentencing policies in the American criminal justice system. The theory is important in the sentencing and the death

penalty discussion as it examines the certainty, swiftness, and severity of punishment. On the morality of the death penalty, researchers consider different ethical considerations and arguments on the topic. In a study by Liu et al. (2018), the authors analyze how prioritizing coherence in morality ignores the moral complexity in the world. They also emphasize the negative political effects of conflating practical good and moral good. Therefore, when discussing the death penalty, it is important to analyze the complex problem of sentencing with the understanding that people have different moral values. In relation to the topic of criminal homicide, the literature addresses the moral of capital punishment by exposing its limitations such as uncertain sentences based on factors such as racial bias.

Further, when discussing sentencing laws in the United States, the topic of race is unavoidable, especially with the existence of prison labor punishments such as the convict leasing system. Muller (2018) breaks down the racist history of convict leasing in the state of Georgia from 1868 to the present day. Not only are the incarceration rates of African Americans higher than other racial groups, but the convict lease system was also more likely to affect Black prisoners in post-slavery America. In this case, elite white landowners continued utilizing free Black labor even after slavery was abolished. In the present, though the convict leasing system has ceased, other forms of prison labor persist. Further research by Muller and Schrage (2019) finds a link between incarceration rates and the demand for labor. Historically, a racial pattern of the increase in incarceration rates as seen during the boll weevil infestation of 1915 to 1920 seems apparent (Muller & Schrage, 2019). The study finds that while prison admission rates for Black Georgians increased, the infestation had no significant effect on White incarceration rates (Muller & Schrage, 2019). The authors analyzed archive data to trace the origins, effects, and racial prejudice entrenched within prison labor as a form of punishment. Therefore, it is

important to consider the historical influence of racism on the modern prison system when discussing sentencing law reform. Of note, the literature provides a necessary analysis of the history of racism in the United States legal system to highlight the multifaceted nature of criminal homicide and incarceration in relation to minorities.

While sentencing law in the United States is still influenced by the nation's complex history, the definition of murder is in line with other common law countries. Unlike manslaughter, which is the killing of another human being without intent or planning, murder is defined as the intentional killing of another person (Sutherland et al., 2021). In United States law, there are three categories of murder based on factors such as intent and premeditation. First degree murder includes intent, deliberation to cause harm, and a general disregard for human life, while second degree murder is the unpremeditated killing of another human being. As for third degree murder, it only exists in the three states of Florida, Pennsylvania, and Minnesota, and is similar to manslaughter, which is not intentional. As a result of the pain murder inflicts upon people close to the victim, the law decrees it as worthy of capital punishment, that is, the death penalty (Sutherland et al., 2021). Alternatively, one may face life imprisonment for the same crime if the jury finds them guilty. The sentence for capital punishment for a guilty verdict for murder differs from state to state, and from federal to state. Of note, however, is that the case of *Roper v. Simmons* 543 U.S. 551 (2005) asserted that offenders below age 18 are not to be executed (Sutherland et al., 2021). Additionally, juvenile offenders with life sentences must be accorded the possibilities of parole. Overall, even within the murder charge, the two sub-charges of first-degree murders, which are planned and intentional, and second-degree murders, which are intentional but not planned, exist in every state, while some states also have a third-degree murder charge that is synonymous with manslaughter.

Based on the different categories of murder discussed, states have varying sentencing laws. For example, Alabama requires that a judge sentences a first-degree murderer to death or life imprisonment without the parole option (Sutherland et al., 2021). Second-degree murder attracts a 10–99-year sentence, while manslaughter involves a punishment of between two and 20 years in prison. In Georgia, the sentencing laws look at murder in four categories, namely voluntary manslaughter, involuntary manslaughter, malice murder (first-degree murder), and second-degree murder (Sutherland et al., 2021). For involuntary murders, the state requires that the judge sentences an offender to between one and 20 years in prison, while voluntary manslaughter demands between one and 30 years in prison. Second-degree murders are considered an elevated form of voluntary manslaughter, and their punishment is even graver. The state requires that offenders guilty of second-degree murder be imprisoned for a term between 10 and 30 years. Malice murder is combined with felony murder in its conviction and sentencing. The sentence is usually death in situations where the murderer committed the offence in aggravating circumstances (Sutherland et al., 2021). However, one may also be given a life sentence with or without parole, depending on how grave the crime is and the jury's opinion on the same. Of note, sentencing laws across the United States vary significantly from state to state.

White Supremacy Patriarchy in Georgia

Along the same line of racial discrimination, the topic of white supremacy patriarchy in Georgia is central to the discussion of criminal homicide. Campney (2011), Barron (2015), Muller (2018), and Pratt (2021) approach systemic racism from a historical context, highlighting the history of violence, lynching, and state-approved servitude of Black Americans in Georgia. In terms of racial violence, Campney (2011) focuses on the division created between moderate urban Georgians and conservative Georgians who supported the lynching of a Black man in

1949. Another example that highlights the political division between moderate and conservative Georgians is Barron's (2015) study on property tax distribution. The two studies examined historical institutional racism, violent injustice, and white privilege which limited the rights of African Americans and other minorities in owning property (Barron, 2015). As a result, the disenfranchisement of minorities has been perpetuated to the present thus impacting crime among minority communities. Further, the Pratt (2021) project interrogates violence in Georgia by examining its historical relation to race. In order to understand the inclination of institutional structures and culture towards violence, the study relies on critical work such as the Institutional Anomie Theory and Fu Bois' double consciousness (Pratt, 2021). A common point of discussion in the studies is their focus on the legacy of white supremacy, specifically within institutions and national systems, and its negative impact on the criminal justice system and the continuing disenfranchisement of African Americans.

While institutional racism and inequality has historical roots, there are still forms in which white supremacist patriarchy is perpetuated in a modern context. The Palmer (2021) study spotlights the frequency of sexual assault against women migrating from Mexico to the United States. As a thorough investigation of the intersection between race and gender with respect to migrant women, the study highlighted how American nativist groups use the sexual violence perpetrated against migrant women to justify their surveillance activities. Palmer (2021) arrives at the conclusion that the United States still maintains white supremacist patriarchy within its systems and institutions. Similarly, Briandi (2010) highlights the continued segregation of schools in Georgia by examining the white private school system. While the underfunded and overcrowded public schools are populated by African Americans, there are a disproportionate number of private schools with majority Caucasian student bodies (Briandi, 2010). The

inequality in schooling has existed for decades and affects society as it is perpetuated even after the students grow into adults. While both studies explore white supremacist patriarchy from different approaches, they highlight the fact that not only is it systemic, but it also affects outcomes related to criminality in the future.

With regards to modern impacts of white supremacy on murder and criminal activity in the United States, there is a pattern of racially motivated crimes committed by white nationalist extremist groups. Violent extremism is considered part of the problem that has aggravated murder and criminal activity in the United States. According to Reeping (2022), there were 29 domestic murders in 2021. Among these killings, 26 were committed by right-wing extremists, who subscribed to white nationalism or supremacy. Although white supremacists were not responsible for the deaths of an absolute majority of victims in 2021, they did murder more individuals than any other extremist group (Reeping, 2022). An in-depth review of the crimes committed by white supremacists over the previous decade reveals the threats presented by alt-right white supremacist prison gangs. The majority of the homicides that took place in 2021 were carried out by individuals who were affiliated with long-standing extremist groups, such as the white nationalist movement. However, 2021 followed the pattern seen in previous years of killings attributed to emerging forms of extremism (Sutherland et al., 2021). It includes those linked with toxic masculinity, QAnon supporters, and anti-vaccination extremists. Overall, extremist groups that subscribe to racist and misogynistic views are a major factor in the rise of criminal incidence in American states.

Similar to the dangers of white supremacy, patriarchy, a social system in which men have power to dominate and exclude women, greatly contributes to violence and murder. Patriarchy results in a society where women have limited rights to advance in social, political, and

economic circles because of the inherent obstacles placed by the system. Regarding crime, patriarchy has been strongly linked to gender-related crime. This link often manifests in the form of men physically abusing women to the extent of killing them. According to Pear et al. (2022), men believing in male dominance barely tolerate resistance and deviance from women. The situation can be even more dire when the women in question are bold and confident, which patriarchal men consider as usurping their authority. Cases of violence against women occur in the United States among all racial groups. However, Black women are the most disadvantaged group, as the homicide rate against them is 4.4 per 100,000 (Palmer, 2021). Factors aggravating patriarchy in the United States are religion, culture, and right-wing extremism. Most of the religions exercised in the U.S. embrace male dominance, hence the difficulty in eradicating the notion in the population. While the country has implemented legal measures to combat patriarchy over time, it remains a dominant ideology across cultures, institutions, and religions in the country.

Common Conclusions in the Literature about Future Research

While there is extensive research on criminal homicide, the literature suggests researching different theories on the legacy of violence in the United States (Pratt, 2021). Further, studies emphasize the importance of mental health assistance for those impacted by gun crime, in addition to the implementation of transformative policies that can reduce criminal homicide. On the topic of racial segregation and its impact on future violent crime, and specifically in the education system, Briandi (2010) highlights that more studies could target the resentment resulting from Black teachers who face a different reality compared to their White counterparts. In addition, the literature advocates for further studies on the limitations of the education programs for the purpose of understanding inequality and the persistent factors

influencing homicide rates. On homicide rates, the literature highlights the necessity for expansive models to analyze homicide trends beyond the reliance on percentage change or trend analysis to achieve a more accurate picture of the rate of homicide incidence.

Limitations of the Literature

While the literature covers different themes on criminal homicide, there are gaps that can be identified in the studies, especially regarding the rate of occurrence. For instance, the Yim et al. (2020) study is limited due to the forecasting techniques used to map out homicide occurrence rates across time, thus leading to inconclusive and unreliable results. Therefore, additional empirical research is warranted to establish consistent models of predicting the rate of homicide in the country.

In addition to limitations in the accuracy of homicide occurrence rates, the literature on gun violence is limited due to the lack of focus on unrestricted firearm access as a causal factor. In terms of gun violence and school shootings, studies such as Gereluk et al. (2015) and Fisher et al. (2017) highlight the psychological and emotional aspects of gun violence but place little focus on young children and teenagers gaining access to firearms. Similarly, studies such as Boutwell et al. (2017) focus on the external factors driving criminal homicide but do not address firearms such as assault weapons, which are the primary weapons used by mass shooters. While addressing causal factors such as bullying, mental health problems, and chemical pollutants can be helpful, it can be argued that the approach cannot eliminate the problem of gun violence if firearms are readily available to everyone, including children.

Another limitation of the literature is the difficulty in accurate data collection per state for studies that either compare gun violence rates in different states or provide an analysis of the effects of gun regulation. The gap in data collection is due to the different gun policies in every

state. Crucially, each state has a different degree of enforcement, even for similar policies (Moorhouse, 2006). Therefore, there can be inaccuracies in the data collected, which can result in incorrect conclusions on criminal homicide (Ukert et al., 2018). As a result, the gap in accurate data collection per state affects the findings of the studies, which leads to inconclusive results.

Summary

The current literature is impactful in the study of unknown patterns of criminality in homicide, given that it encompasses causal impact, perpetrator and victim characteristics, the frequency of occurrence, the unique problem of firearm homicide in the United States, the impact of sentencing laws, and incarceration, in addition to racial discrimination and its connection to disproportionate patterns of criminality. The assessment of the reasons that perpetuate or motivate homicidal behavior mainly reveals the causal impact of psychopathological, psychological, socioeconomic, and sociodemographic factors (Heide, 2021; Rouchy et al., 2020). Importantly, the connection between geographic and socioeconomic factors in Kegler et al. (2021) has significant implications for establishing the reasons for homicide incidence, as well as the different rates observed across metro and non-metro areas in the country. A considerable number of studies have also explored the perpetrator–victim dichotomy to familiarize with the unique characteristics that predispose an individual to either perpetrator or victim status. Beyond the male perpetrator and female victim narrative, the research has insight into specific groups of victims, such as sex workers, and the increased vulnerability to victimization compared to the overall female victim group (Salfati & Sorochinski, 2018). In addition to perpetrator and victim characteristics, the existing literature has implications in the study of homicide rates across the country over time. Despite inconclusive models of predicting

increasing or decreasing rates, Yim et al. (2020) and Parker et al. (2017) provide a starting point in understanding current homicide trends.

The implications of the current literature further extend to the study of gun violence and historical racial injustices and the connection of these two factors to homicide incidence. From socioeconomically linked gun crime in disenfranchised communities, the prevalence of gun dealers in urban areas and the uniquely American problem of school shootings, to the political complications of gun regulation, the existing research is sufficiently extensive to guide future research in firearm-related homicide. Most importantly, the current studies on violent crime and homicides go beyond the surface to uncover the impacts of historical racial injustices seen in the legal system and socioeconomic spaces. The literature on the impact of incarceration and sentencing laws that disproportionately affect minority groups has implications on understanding perpetrators and the contested rates of homicide incidence. On racial discrimination in the education system in the South, it is evident that the literature contributes to establishing the link between historical racial exclusion and poor economic outcomes, which in turn influences criminal behavior. Overall, the current literature is substantively relevant for an in-depth understanding of the patterns of criminality in homicide.

The study aimed to address the current gaps in the literature by providing useful data on the rate of homicide occurrence and gun violence in Macon. By focusing on the 2017–2021 period, the study's findings mapped out homicide incidence in the county over time and included a focus on the manner of death to present a better picture of the role of firearms in accelerating homicide incidence. The findings of the study are significant for Macon-Bibb County as part of the literature that highlights the correlation of guns and the rate of homicide incidence, as well as

the implications of unrestricted firearm access. The findings on gun-related homicide in Macon can also represent the county in future comparative research.

CHAPTER THREE: METHODS

Overview

In exploring the unknown homicide patterns of criminality in Macon, this chapter describes the methodological approach to investigating the under-researched problem. The purpose of this quantitative study was to investigate the unknown patterns of criminality in homicide incidence in Macon, given the rising trend in criminal homicide in recent years. The dynamic of this concern within the region surfaced due to the increase in homicide and violent crime in Macon in the preceding five years, based on data from the Bibb County Sheriff's Office (2022). Incidents from the Bibb County Sheriff's Office (2022) database indicate a rise in yearly homicide rates from 2017 to 2021, except for 2019, where there was a notable drop of 14 homicides compared to the previous year. While violent crime statistics is an impediment in cultivating developmental, entrepreneurial, and residential interest in the city, an important area of concern is the scarcity of studies establishing the patterns of criminality to explain the increasing rate of occurrence compared to other cities in the state of Georgia.

Previous criminal homicide research centers on elements of criminality, the theories of criminal homicide, causality, the characteristics of offenders and victims, and the rate of occurrence in the United States and international components of crime causation alike. The research reveals that the causes for criminal homicide are mainly linked to sociodemographic, geographic, socioeconomic, and psychopathological influences (Kegler et al., 2021; Rouchy et al., 2020). Applying these causal factors guides homicide research at the local and national level. Therefore, there was a need for a study that investigates the homicide incidence in Macon while relying on the existing data, established literature, and theoretical frameworks to interpret the patterns of criminality that influence occurrence rates.

This chapter presents the methods and design that were used in conducting the current research. Detailed information on the research questions, hypotheses, setting and sample selection, data collection and analysis, and ethical considerations is also addressed in the chapter. Concluding the chapter is a summary of the major points that will shape the research approach for data collection and analysis.

Research Method and Design

In this study, a quantitative exploratory approach was used for a rigorous, multi-dimensional research. In criminal justice research, the use of quantitative methods means that the study can produce a deeper understanding of phenomena such as victim and offender characteristics and the association between rate of occurrence and trends concerning weapons used. Quantitative research, one of the two main methodological approaches in social science studies, was adopted as one of the most effective means for carrying out meaningful research in the under-researched criminal justice problem concerning homicide incidence in Macon. Investigating and modeling social phenomena is traditionally conducted through methodology that either takes the qualitative or the quantitative approach. In general, the quantitative approach concerns quantifiable information derived from objectively measuring concepts and variables. For the current study, the value, appropriateness, and necessity of applying quantitative research is established, particularly in seeking to understand the relationship between homicide incidence and factors such as weapon type, location of homicide, and demographics.

Given that the quantitative method concerns numerical data and objectively measuring variables to establish any correlations, the study adopted a quantitative exploratory approach in the analysis. Bryman (2012) defines the quantitative approach as “a research strategy that emphasizes quantification in the collection and analysis of data” (p. 35). This means the method

is concerned with quantifiable information in an effort to investigate questions on “how much,” “how many,” and “to what extent”; for example, there is a correlation between two or more variables (Rahman, 2017). Alternatively, it is a strategy that greatly emphasizes the measuring of variables that exist in the social world. To this end, variables are empirical components derived from separating the social world into factors that can be numerically represented as either frequencies or rate, and whose relationship to each other can be investigated through statistical methods that involve researcher manipulation of data and systematic measurement. Overall, the quantitative approach aims to produce reliable and accurate measurements that facilitate the effective statistical analysis of social phenomena.

The rationale for the quantitative approach is to introduce a narrow but objective measuring of phenomena for purposes of research rigor. Quantitative research focuses on quantifiable aspects of social behavior that can then be interpreted and patterned. This makes the approach useful for the current study which seeks to uncover unknown patterns of criminality in homicide incidence in Macon for the period between 2017 and 2021. Moreover, quantitative results can be generalized to a sub-group or even a whole population; for instance, the findings can be generalized to groups such as victims and perpetrators, and to criminal justice phenomena such as homicide and violent crime. The current approach is effective in advancing criminal justice studies given that it provides a comprehensive understanding of phenomena such as crime rates, victim and offender characteristics, and the trends and patterns unique to homicide criminality.

In addition to conducting a quantitative analysis of secondary data, the study approach also involved exploratory research. Exploratory research, also referred to as grounded theory re-

search or interpretive research, is the process of investigating a problem that is under-investigated and not clearly defined in previous research (Wang et al., 2017). In this study, the objective was to uncover the unknown patterns of crime in Macon-Bibb County. Therefore, exploratory research was suitable for the study, given the scarcity of research on patterns of criminality in Macon's homicide incidence. By relying on exploratory research, one can gain insight into the relevant data and develop hypotheses for future research. Importantly, the approach was suitable for this study since it has lower costs of conducting the research, answers questions like how and why, and is flexible and adaptable to change (Wang et al., 2017). The exploratory approach allowed the research to gain familiarity and insight into the unknown patterns of crime that influence homicide incidence in Macon-Bibb County.

Research Questions

To address the unknown patterns of crime in Macon, this study relied on a set of research questions to analyze the factors that impact the increase of homicide incidence in the county. As of 2022, Macon is recognized as one of the most dangerous metropolitan areas in the United States with regards to the county's homicide record (Stebbins, 2021). For the purpose of understanding the rising rate of homicide incidence in the county, research questions were formulated to analyze the county's crime statistics. Essentially, the study examined the county's crime data in five years with the aim of increasing the understanding of the factors that influence crime trends in Macon.

As this research involves examining the offending patterns in Macon as part of the larger investigation of the unknown patterns of criminality in the county, it is designed to answer the following research questions:

RQ1: *Is there a significant difference between homicide incidence and weapon type in Macon-Bibb County?*

RQ2: *Is there a significant difference between the race of a homicide offender and use of a firearm in Macon-Bibb County?*

RQ3: *Is there a relationship between the location of homicide and firearm use in Macon-Bibb County?*

RQ4: *Is there a difference between gang affiliation and weapon used in homicide incidence in Macon-Bibb County?*

With the core objective of uncovering the unknown patterns of homicide in Macon, the research relies on these questions and analyzes crime statistics in the county to understand the rise in crime rates. The first research question focuses on the relationship between the city's rising homicide rates and weapon type. The research question examines the role of firearm use on crime in Macon. It is informed by studies such as Johnson and Robinson (2021), which shows that gun dealer density has a direct impact on firearm-related violence in urban areas. With the collected data on firearm use, the study further assessed the association of key variables with the use of firearms in a quantitative analysis that sought a new or different understanding of the homicide phenomenon in the county. The key variables examined in relation to firearm use in the subsequent research questions included the race of the offender, the type of location of homicide, and offender gang affiliation. The first and last variables concern offender characteristics as the study sought to establish whether there is a connection of statistical relevance between these characteristics and the propensity to use firearms for homicide. The other independent variable concerns the type of location where the homicides took place, and the question here asks whether a certain location type is more likely to have firearm homicides than other locations. By relying on the four research questions, the study analyzes crime statistics in Macon to uncover the phenomena influencing crime trends, as well as the linkage between these factors.

The research employs secondary data sources from law enforcement in Macon to examine the factors influencing homicide in the city. The quantitative approach is well-suited for the specific questions that seek to uncover whether there is a relationship between the key independent variables of the offender's race, location type, and gang affiliation to the use of firearms and other types of weapons. Through the research questions, the study analyzed crime statistics in Macon to understand the complexity and context of homicide incidence in the city. Further, answering the research questions through a quantitative framework allows the researcher to explain the connections between variables, patterns, and trends of criminality. As a result, the selected research questions and research design identify and promote an understanding of the causal factors of the city's rising homicide rates.

Hypotheses

The null hypotheses for this study are:

RQ1: *Is there a significant difference between homicide incidence and weapon type in Macon-Bibb County?*

- H₀1: There is no significant difference between homicide incidence and weapon type.
- H_a1: There is a significant difference between homicide incidence and weapon type.

RQ2: *Is there a significant difference between the race of a homicide offender and use of a firearm in Macon-Bibb County?*

- H₀2: There is no significant difference between the race of a homicide offender and weapon type.
- H_a2: There is a significant difference between the race of a homicide offender and weapon type.

RQ3: *Is there a relationship between the location of homicide and firearm use in Macon-Bibb County?*

- H₀3: There is no significant relationship between the location of homicide and firearm use.
- H_a3: There is a significant relationship between the location of homicide and firearm use.

RQ4: *Is there a difference between gang affiliation and weapon used in homicide incidence in Macon-Bibb County?*

- H₀4: There is no significant difference between gang affiliation and weapon type.
- H_a4: There is a significant difference between gang affiliation and weapon type.

Participants and Setting

With regards to the setting of the study, the research examined homicide cases in Macon to understand the causal factors of crime in the city. The study was necessitated by the recent increase of overall crime not just in Macon but the United States as a whole. Conducting a study in this lens could provide the opportunity for additional studies to concentrate upon similar measures of criminality throughout the United States. In 2020, the rate of violent crimes such as rape, aggravated assault, and robbery in the country increased by 5%, while the rate of homicide rose by a historic 29% (Stebbins, 2021). The research places a specific focus on Macon-Bibb County in the state of Georgia as it is recognized as one of the most dangerous metro areas in the nation. Of note, the governments of Bibb County and the City of Macon were consolidated into one unified jurisdiction following a 2012 referendum, which resulted in Macon being the fourth largest city in the state. In 2020, the county had a reported homicide rate of 708 incidents for every 100,000 people (Stebbins, 2021). As a result, Macon was among the 22 metro areas in the United States with a crime rate higher than 700 homicide incidents per 100,000 residents (Georgia Bureau of Investigation, 2020). Therefore, this study is necessary to understand the underlying causes of Macon's rising rate of homicide incidence.

Since the study placed a specific focus on the homicide incidence in Macon, the selected sample was comprised of homicides in the city. Importantly, a sample is the group of participants or individuals selected from the target population to represent the overall population. As a result, the sample mirrors the target population's characteristics to ensure accuracy and prevent bias.

The sample selection process in the study relied on the Bibb County Sherriff's office database for information about investigated homicide cases in Macon, as well as the Coroner's Office (see Appendices A, B, C, and D as they pertain to data collection permission). The final sample included 20 cases for each year, from 2017 to 2021, resulting in an overall sample group of 100 homicide incidents. Additionally, the characteristics of the target population such as the sex, ethnicity, age, location of crime, and homicide classification were also collected to understand the impact of different demographic and geographic factors on homicide victims and perpetrators in Macon. Overall, sample selection was a key step in the current research as it allowed the use of a smaller group of individuals to represent the larger target population.

In addition to the setting and sample group, the sampling method applied in the study was key to ensuring accurate and reliable results during research. Specifically, the study utilized quota sampling, which is a non-probability sampling technique that uses a sample of individuals to represent the larger target population (Iliyasu & Etikan, 2021; Simkus, 2022). As a non-probability sampling method, the researcher specifically chose the sample group rather than relying on random selection. Additionally, the researcher assigned quotas to the sample to create subgroups while considering the characteristics of the population (Simkus, 2022). In this study, characteristics such as the age, sex, and ethnicity of the victims, as well as the location of the homicide and the homicide classification, were used to form the subgroups (Bibb County Sherriff's Office, 2022). After forming the subgroups, the study selected cases from each segment based on previous studies, crime statistics, and demographic data. Importantly, applying quota sampling to form subgroups requires that the correct proportions are maintained (Segwick, 2012). The final sample should reflect proportions of the general population based on characteristics such as gender and ethnicity. Overall, the application of the quota sampling

technique in the study ensured that the research determined the relationship between different subgroups of the sample population.

Due to the restrictions on sample selection and time period specified in the research, controlled quota sampling was applied in this study. In controlled quota sampling, the choice of the sample was limited based on specific restrictions (Simkus, 2022). Controlled quota sampling was applied in the research through the following four steps: the population data was divided into subgroups, the proportions of the subgroups were defined, an appropriate sample group was selected, and in the final step, the researcher ensured that the chosen sample provided an accurate representation of the target population (Simkus, 2022). For the first step, mutually exclusive subgroups were created based on relevant control characteristics of the population. In the second step, the study defined the proportions of the subgroups to be used in the sampling process (Simkus, 2022). When determining the proportions, the key was to identify the demographic characteristics of the population under study that impacted the research. By balancing the characteristics and qualities during the sampling process, the research can reduce bias in the study. Additionally, while there is no minimum or set limit to the ideal number of quotas, more quota categories ensure that the design was more representative of the target population and reduces the level of bias. However, when determining the quotas, it was important to prioritize quality over quantity. In the third step, an appropriate sample size of 20 incidents per year was selected while considering the control variables such as age, ethnicity, and gender (Simkus, 2022). The selected sample size is adequate for the research as it is in line with sample size requirements, which recommend 20 cases to account for the attrition of participants. However, as the study relied on secondary data rather than participants, attrition was not a concern. The final step in the sampling process was ensuring that the sample was representative of the target

population in Macon while considering the existing proportions (Simkus, 2022). For instance, the data on victims of homicide in the city was divided into categories based on age, sex, race, location of the crime, and homicide classification. Taking gender into consideration, approximately 11% of Macon's homicide victims in 2021 were women, while men made up 89% of victims in the same year (Bibb County Sherriff's Office, 2022). Therefore, the selected sample must reflect the proportions in each category. Overall, as seen in Appendix E on data collection, the sampling process ensured that bias was reduced, and accuracy and reliability was enhanced.

Procedures

The first step as far as data collection and analysis is concerned was securing the approval of the Liberty University Institutional Review Board (IRB), as seen in Appendix F. Following IRB approval, obtaining the research subjects was the next step. This involved contacting the Macon-Bibb County Sheriff's office and the coroner's office for access to homicide records from 2017 to 2021, and specifically the first 20 cases for each year. Following approval of the requests for homicide data by both offices, the following step was the data gathering process through a data collection form (Appendix E) containing demographic and geographic characteristics, as well as other relevant information about manner of death, and perpetrator characteristics. The data was recorded in a Microsoft Excel document for efficient reading and interpretation.

The Researcher's Role

The role of the researcher in the current study was to access the official homicide records from the Macon-Bibb County database, collect and analyze the data, and then present the findings and conclusions drawn from the same findings. As the human instrument through which the data was mediated, and in pursuant of a Doctor of Philosophy, I was well inclined and qualified

to carry out this study. The recent rising trend of homicide incidence in Macon is a significant concern that requires urgent attention, and thus the lack of research specific to the county pushed my interest in uncovering the unknown or hidden factors and patterns behind criminality in homicide in the county. While I approached the task with no biases, there were assumptions on the positive link between high rates of firearm possession and high homicide rates. Accordingly, a quantitative exploratory approach was employed to fulfill the researcher's responsibility in this study.

Data Collection

For the data collection process, the study relied on secondary sources as the main source of data. Specifically, the research collected data about investigated homicide cases from the Bibb County Sheriff's office database. When determining the data to collect, the study takes into account data classification of both general and essential data due to its importance in ensuring a high level of accuracy and effectiveness (Stephan, 2012). The overall data collection process involved gathering information on homicide incidences in Macon from 2017 to 2021. Additionally, the study followed quota sampling guidelines to select 20 cases each year for a total of 100 cases over the five years. Further, important information including general data such as demographic information describing the race, sex at birth, and age of the victims and offenders, as well as crucial data on homicide classification and location of the crime, was extracted from the dataset to analyze and understand the recent trends in Macon's homicide rates (See Appendix E). Overall, the data collection process was simple, cost-effective, and timesaving since the study used reliable secondary data from government sources.

Additionally, while secondary data has limitations based on validity and time relevance, the study relied on secondary data due to the lack of primary data. The lack of primary data is

attributed to the study's focus on the victims of investigated homicide cases in Macon and their perpetrators, and as a result, the study could not collect primary data from live participants. However, while the research was confined to relying on secondary data, the Bibb County Sheriff's office dataset on criminal homicide and the data from the County Office database are accurate and reliable as they are drawn from official government sources (Bibb County Sheriff's Office, 2022). Additionally, the collected data included information on homicide incidence for five years, which allows the research to investigate past changes and developments in Macon's crime trends. As a result, the time-relevance and credibility of the data was high as it included information that was tabulated for more than five years describing the homicide cases investigated by law enforcement.

Data Analysis

Data from the Bibb County Sheriff's Office database and the County Office database were analyzed to identify the common patterns and themes associated with homicide incidence in Macon. To analyze the data derived from the secondary sources, a chi-square test and cross tabulation analysis were applied. Microsoft Excel was used to perform the chi-square tests and to generate equations. The chi-square test of independence was selected to test the hypotheses in the first, second, and fourth research questions. Importantly, the chi-square test examines significant associations between variables. For the first hypothesis, the test assessed whether there was a significant association between the variables of homicide incidence and weapon type. Similarly, the test was applied to the second hypothesis to assess whether there was a significant difference between the type of weapon and the race of homicide offenders. Further, in the fourth research question, chi-square analysis tested the association between gang affiliation and weapon type. The rationale for choosing the test was because a chi-square test of independence is

appropriate for testing hypotheses where there are two categorical variables (Zach, 2020). The test was also selected due to its flexibility in handling data from two or more categories and the ease of computing the data (McHugh, 2013). The formula applied to calculate the test statistic was $X^2 = \sum(O - E)^2/E$, where X^2 is the chi-square test statistic, Σ is the summation operator, O is the observed frequency, and E is the expected value. A chi-square critical value table was used with a selected significance level (α) of 0.05. Overall, the chi-square test was consistent with the research questions and hypothesis since it can easily compute the collected data to produce detailed information relevant for the study.

In addition to the chi-square test, cross tabulation analysis was also applied to test the hypotheses in the third and fourth research questions. For the third research question, a contingency table was used to analyze whether there was a significant relationship between the location of homicide and firearm use. Similarly, crosstabs analysis was used to test the fourth hypothesis to determine whether there was a significant difference between gang affiliation and weapon type in Macon. The rationale for choosing crosstabs to test the hypotheses was due to its suitability for the analysis of categorical data (*What is a crosstab*, 2023). As a data analysis tool, crosstabs analysis can be used to compare the results associated with one variable to the results of another variable. Further, the tool can also reveal relationships within a dataset that are not readily apparent (*What is a crosstab*, 2023). Importantly, not only can crosstabs analysis be used to gain a deeper understanding of the data, but it also simplifies the data analysis process for large datasets.

Ethical Considerations

Given that the current study used secondary data analysis to respond to the research problem, the ethical issues and challenges are minimal and easily overcome, as opposed to the

use of primary data. When a researcher relies on existing data from an original work, the ethical concerns regarding the secondary use of data mainly revolve around the consent and potential harm to research subjects when identifying information is included. However, when the relevant data is not only freely available on the internet and public forums but also accessible for use, permission for further use in secondary analysis is implied (Tripathy, 2013). Nevertheless, ownership of original data from the Bibb County Sheriff's Office database and the County Office database is acknowledged. Most importantly, further analysis of the data collected from the county databases will be appropriate and relevant to the current study on the patterns of homicide criminality in the county.

The most important ethical factor in a study of secondary data freely available on the internet is appropriate attribution to the owner of the original data and obtaining relevant and adequate data, but nothing excessive. However, in a research approach that relies on a sample of human subjects, such as a sample of Macon residents with shared characteristics, complications concerning data confidentiality and security, return for consent, and potential harm to individual subjects may arise (Tripathy, 2013). Further, secondary data sources such as large-scale surveys may raise ethical concerns depending on the amount of information that identifies the participants. A full board review was required when identifying information that could be linked to the participants was extracted as part of data collection and analysis (See Appendix F). The concerns for widely available data on a public forum were therefore limited and satisfactorily addressed.

Summary

The chapter articulated the steps in the exploratory quantitative research and provided the justification for the approach in responding to an urgent criminal justice problem. Through the

selected design, victim and perpetrator data from Macon-Bibb County were collected for the five years from 2017 to 2021 to facilitate the analysis of text data for this period. The quantitative research process allowed an in-depth and objective exploration of phenomena, experiences, and the resultant changes over time. Given the study explored the under-researched phenomenon of the patterns of criminality in homicide especially based on the recent rising trends in Macon, the value and appropriateness of adopting a quantitative approach was highlighted.

The study used a set of research questions to explore the impact of gun possession on crime and investigate the correlation between race of perpetrators, location type, gang affiliation, and firearm use in Macon. To answer the research questions, the study relied on secondary data from law enforcement, which included demographic data relevant to homicide incidence in the county such as age, ethnicity, and sex of the victims and offenders (Bibb County Sheriff's Office, 2022). As the setting of the research is in Macon, the sample population was selected from Macon's residents. Specifically, the sample was selected from the victims of homicide investigated by the Bibb County Sheriff's office from 2017 to 2021. Further, the sampling procedure used to choose the sample group was the quota sampling method, which allows the researcher to form quotas based on qualities of the target population. Importantly, the data collection and sampling method adopted in the research were selected to increase the credibility and accuracy of the findings.

The research facilitated the analysis of causal relationships between specific demographic and geographic characteristics and homicide incidence, as well as the risk factors contributing to rising homicide trends in Macon. However, given the limited geographic setting and sample of the study, the findings are not generalizable to the larger United States population, but their application can extend to other settings of similar context. The findings will be valuable as a

basis for further studies in criminal homicide trends in the county and in the development of appropriate response strategies.

CHAPTER FOUR: FINDINGS

Overview

The current chapter presents the main research findings of the study that sought to uncover unknown patterns of criminality in homicide incidence in Macon. The rise in violent crime, specifically homicide, in Macon in recent years, was a subject of concern given the negative impact on entrepreneurial, technological, and residential interest in the city. For this reason, the current study sought to investigate the unknown patterns and elements of criminality underlying homicide incidence in Macon over a five-year duration from 2017 to 2021, and was based on a sample of 20 incidents a year for a total of 100. Microsoft Excel was used to perform the chi-square tests and bivariate analyses. The software was used to generate equations and plot graphs. The primary research questions that the study sought to answer were:

RQ1: *Is there a significant difference between homicide incidence and weapon type in Macon-Bibb County?*

- H₀1: There is no significant difference between homicide incidence and weapon type.
- H_a1: There is a significant difference between homicide incidence and weapon type.

RQ2: *Is there a significant difference between the race of a homicide offender and use of a firearm in Macon-Bibb County?*

- H₀2: There is no significant difference between the race of a homicide offender and weapon type.
- H_a2: There is a significant difference between the race of a homicide offender and weapon type.

RQ3: *Is there a relationship between the location of homicide and firearm use in Macon-Bibb County?*

- H₀3: There is no significant relationship between the location of homicide and firearm use.
- H_a3: There is a significant relationship between the location of homicide and firearm use.

RQ4: *Is there a difference between gang affiliation and weapon used in homicide incidence in Macon-Bibb County?*

- H₀4: There is no significant difference between gang affiliation and weapon type.
- H_a4: There is a significant difference between gang affiliation and weapon type.

The findings are organized in the following order: the basic demographic patterns, geographic characteristics, and distribution are presented. The rate of homicide by firearm, the characteristics of firearms used, and the victim-offender relationship and the use of firearms are discussed. The association between firearm use and the race of the perpetrators is analyzed. The relationship between location of homicide and the use of guns as murder weapons is explored and the link between gang affiliation and weapon use is covered. The date and time of the homicides under the current study are also discussed as a separate theme before the concluding section of the chapter.

Descriptive Statistics

This section summarizes the main findings of the study, drawing on data collected from police reports, news media, and court records over a period of five years from 2017 to 2021 in Macon. The findings are organized into the following themes: basic demographic patterns and geographic characteristics and distribution.

Basic Demographic Patterns

Sex at Birth

Victims.

Aggregating data across the entire study period revealed the important, yet predictable, demographic patterns concerning the sex at birth of homicide victims in Macon from 2017 to 2021. Specifically, the rate of homicide affecting male victims was noticeably higher in all the years under study, accounting for 82% of the total incidents under investigation. Of the 100 homicide incidents between 2017 and 2021, the homicide rate for female victims was more than four times lower than that of males, with 18 incidents and 21 victims in total. Of the three

homicide incidents with multiple victims observed in April, June, and March of 2018, 2019, and 2020, respectively, there were male victims at each incident, while female victims were observed in two of the three incidents. Across the years under study, the male to female ratio of homicide victims slightly changed, with an increase in the number of male victims in 2019 and 2021. Of the 20 homicide incidents in 2017, there were 15 male and five female victims, and the number for males remained consistent in 2018, while the female victims increased by one due to a multiple-victims homicide incident. However, 2019 saw a jump in male victims to 19 in 18 homicide incidents and a decrease in female victims to two. While the number of male victims slightly decreased to 16 in 2020, the increase to 18 victims in 2021, as seen in Table 1, shows that the ratio of male to female victims increased from 3:1 in 2017 to 9:1 in 2021 (*Bibb deputies arrest teen*, 2021; Solomon, 2021). Overall, the 100 incidents studied demonstrate a significantly higher rate of homicide impacting males (see Table 1).

Table 1

Demographics of Victims in the 2017–2021 Study Period

	2017	2018	2019	2020	2021	Total
Sex at Birth						
Male	15	15	19	16	18	83
Female	5	6	2	6	2	21
Race						
Asian	2	0	0	0	0	2
Black	17	20	20	17	17	91
White	1	1	1	5	3	11
Age						
Average	40	36	28	34	29	

Note. Data Sources: Police Reports; Court Records; and New Media – The Macon Telegraph, WGXA, 13wmaz.com, 41nbc.com, gunmemorial.org, maconbibb.us

Arrestees and Perpetrators.

Of the available data on suspects, arrestees, and perpetrators of the homicide incidents under study, the findings across five years showed significantly higher involvement in homicide by males compared to females. Out of the total 90 arrestees for the homicide incidents, 78 were male and 12 were female. The male arrestees represent 87% of the total number of arrests that were made for the selected homicide incidents during the five-year study period. Notably, from the collected data, there were 29 guilty verdicts recorded among the arrestees for felony murder, malice murder, and vehicular homicide, and out of this number all were male. Information on suspects, arrestees, and perpetrators was, however, incomplete, given that there are pending arrests, indictments, and trials concerning these parties.

In addition, relating the sex of homicide perpetrators to weapon type, Table 2 reveals that male offenders were more likely to use guns as murder weapons compared to female perpetrators. According to Table 2, there is an association between the sex of a homicide offender and use of a firearm. Out of the 78 male arrestees, 64 of them used a firearm, which comprises 82% of all homicides perpetrated by males. Compared to males, firearm usage in homicide perpetration was relatively lower for female perpetrators at 58%. Out of the 12 female arrestees, only seven of them used a firearm, while the other five used other murder weapons. Therefore, the data shows that male perpetrators were more likely to use firearms as the primary murder weapon when compared to female offenders (see Table 2 and Figure 1).

Table 2

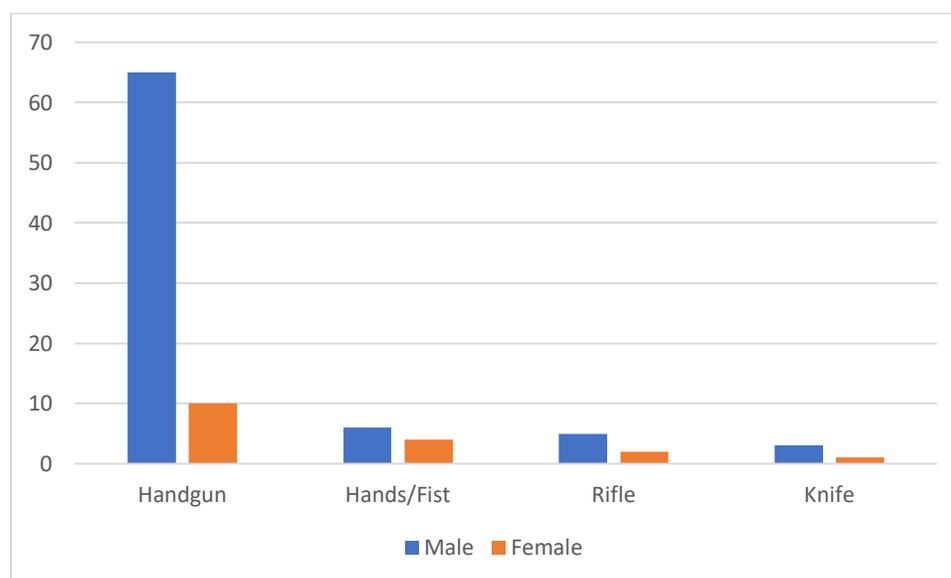
Relationship between Sex of Homicide Offender and the use of Firearms

Sex*Was a Firearm used in the Incidents? Cross Tabulation

		Was a Firearm used in the Incidents?		Total
		Yes	No	
Sex	Male	64	14	78
	Row %	82%	18%	100%
	Female	7	5	12
	Row %	58%	42%	100%
Total		71	19	90
	% of Total	79%	21%	100%

Figure 1

Sex of Perpetrator and Type of Weapon Used in Homicide Incidents



The results of the column chart above indicate that the handgun is more commonly used by male offenders as compared to the female offenders. Furthermore, the hands/fist, rifles, and knives are more used by male offenders compared to female offenders. The column chart above clearly shows that an association exists between the sex of a homicide offender and the use of a firearm in Macon during the study period.

Race

Victims.

The data from 2017 to 2021 showed a considerably higher number of Black people comprised the homicide victims compared to people of Asian and White ethnicities. Specifically, of the 104 victims in the 100 incidents under study, 91 were Black, 11 were White, and two were Asian victims. This shows that 87.5% of all the victims were Black. A notable pattern in the data is that in the incidents with multiple victims, the victims were Black on all three occasions in 2018, 2019, and 2020. There were minor changes in the race of the victims from year to year, but the constant is the high number of Black victims compared to Asian and White victims. Of note, the lowest number of victims out of the total in the five-year period for any racial group was two Asian victims in 2017 (Kachinsky, 2017; Leedy, 2018). There were no Asian victims in the 2018–2021 data collected. For White victims, there was an increase from one in 2019 to five in 2020. For the most part, the data revealed the higher number of Black homicide victims as a constant (see Table 1).

Arrestees and Perpetrators.

The available information on arrestees, and convicted persons showed that 91% of all arrestees for homicide during the overall study period (2017-2021) were Black, while 7% were White, with the two racial groups accounting for 89 out of the total 90 arrestees. Notably, there was a disproportionate concentration of both homicide victims and perpetrators among Black Americans in Macon.

Age

Victims.

On age distribution, the data revealed that the victims of homicide during the overall study period were of an age range of 4 months to 75 years. The average age of victims under study for all the years (2017–2021) was 33 years, which was close to the averages in 2020 at 34 years, and 2018 with an average of 36 years (see Table 1). Specifically, the data showed that the most vulnerable age group to homicide is the 20–40-year-old range, in which a total of 56 victims out of the overall 104 was observed. This accounts for 54% of the total victims under the current study. Conversely, the least vulnerable age group is the 50–70-year group accounting for 14% of the total number of victims. Of note, the average age per year, with the exception of 2020, decreased from 40 years in 2017 to 29 years in 2021. Overall, the young age of the victims was significant.

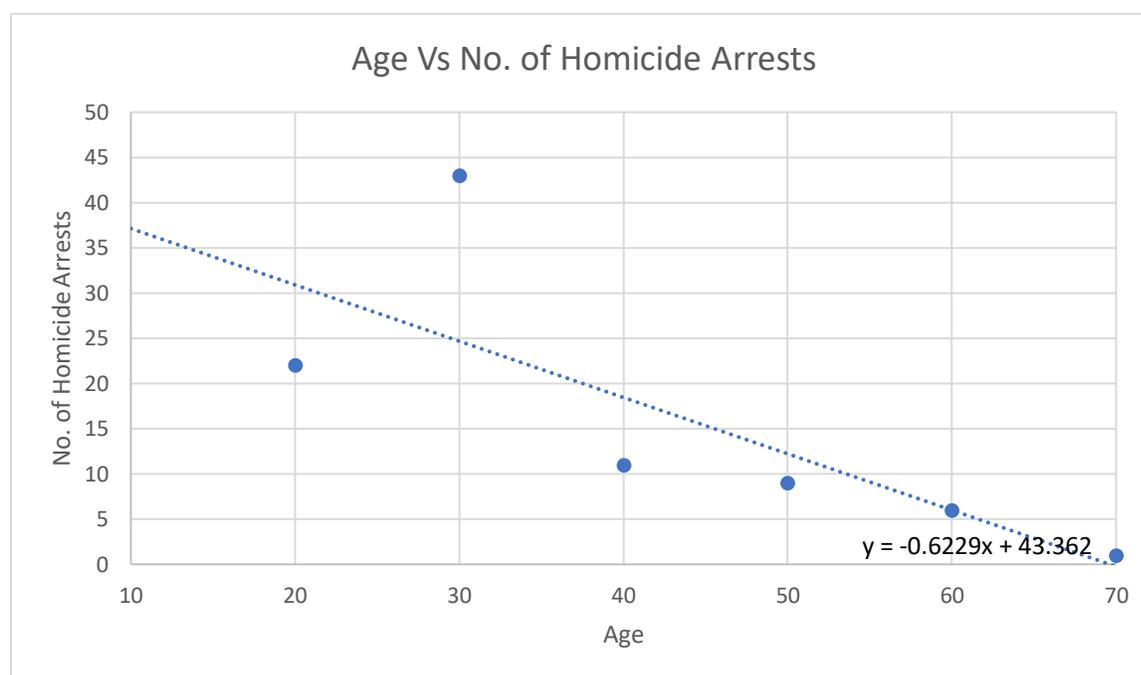
Arrestees and Perpetrators.

The average age of the arrestees and perpetrators for the current study period was 28 years at the time of incident, with a notable decline in average age from 36 years in 2017 to 25 years in 2021. The information collected revealed that the younger 14–25 age group accounted for 53% of the homicide arrests while the older 50–70-year age group only accounted for 8% of the arrests. It is worth noting that the youngest arrestees at the time of incident were 14 years of age. Specifically, as seen in Figure 2, there is a negative correlation between age and participation in homicide incidence given that the more advanced age groups from ages 40–50, 50–60, and 60–70 account for the lowest number of homicide arrests in decreasing order. In contrast, age groups 10–20 and 20–30 account for the highest number of arrests in increasing

order. Similar to the data on age of victims, the disproportionate concentration of the younger demographic among arrestees and perpetrators is also substantial.

Figure 2

Age of Arrestees Compared to Homicide Arrests in the 2017-2021 Study Period



In the above graph, there is a negative correlation between age of homicide arrestees and involvement in homicide incidence. The more advanced the age, the lower the likelihood of participating in homicide.

In addition, the cross-tabulation analysis in Table 3 reveals high firearm usage in younger age groups when compared to older age groups. According to the table, the highest percentage of firearm usage when compared to other weapons was 100% in the 61–70 age group. However, this is not significant since there was only one incident in the study sample. The second highest rate of firearm use is in the 11–20 age group, where firearm use was at 91% compared to other weapon types, which were only used in 9% of the homicide incidents. It is also notable that as the age of the arrestees increased from age group 11–20, 21–30, 31–40, 41–50, to 51–60, the rate

of firearm usage decreased while the use of other weapon types increased. Therefore, Table 3 reveals a significant relationship between the two variables of age and weapon type. Specifically, the younger the arrestee, the more likely they were to use firearms compared to other weapon types. The data shows that the gap between the use of firearms and the use of other weapons in Macon's homicide incidence reduces as the arrestees get older (see Table 3).

Table 3

Relationship between Age of Arrestees and Firearm Use

Age*Was a Firearm used? Cross Tabulation

		Was a Firearm used?		Total
		Firearm Used	Other Weapons Used	
Age Group	11–20	20	2	22
	Row%	91%	9%	100%
21–30		31	8	39
	Row%	79%	21%	100%
31–40		8	3	11
	Row%	73%	27%	100%
41–50		5	3	8
	Row%	63%	37%	100%
51–60		3	3	6
	Row%	50%	50%	100%
61–70		1	0	1
	Row%	100%	0%	100%
Total		68	19	87
	% of Total	78%	22%	100%

Geographic Characteristics and Distribution

Location of the Homicides and Population Distribution by Zip Code

Statistics on the location of homicides in Macon were collected based on location type, zip codes, and population by zip codes. Data on location type of homicides in the county relying on the sample of 100 homicide incidents revealed a major gap between homicides in a residence or home and homicides in other types of locations. A residence or home was the most common

location of homicide incidence, accounting for 72% of incidents in the selected sample. The next significant location type accounting for 13% of homicide incidents was highways, roads, alleys, streets, and sidewalks. Parking, drop lots, and garages accounted for 5% of homicides, while convenience stores and hotels accounted for 5% and 4%, respectively. The locations with the least number of homicide incidents from 2017 to 2021 were incarceration facilities, restaurants, and homeless shelters with only one incident of homicide each (General, 2017; Niemietz, 2020). The incarceration facilities include prisons, jails, penitentiaries, and corrections facilities. Importantly, the findings revealed the differences in homicide prevalence based on the type of location.

The data collected over the five-year period also revealed that some zip codes had significantly more homicide incidence than others. Out of the nine zip codes in the data examined, the zip codes with the highest number of homicide incidents were 31204 and 31206, where 34 and 31 homicide incidents were observed respectively. These two zip codes are located in the metro areas of Macon. Conversely, the least homicide incidence was observed in zip code 31211 and 31220, with each having two incidents over the five-year period. Therefore, there was a difference of 32 incidents between the zip code with the highest number of homicide incidents and the two zip codes with the least homicide incidence. Importantly, the data revealed that zip code 31204, the location with the highest homicide incidence, had 17 times the number of homicides compared to zip codes 31211 and 31220, which had the lowest rate. Of note, four zip codes, including 31216, 31502, 31211, and 31220 had a homicide incidence rate of less than 5% over the five-year period.

In addition to homicide rate by zip code, statistics on the number of residents per zip code were collected to identify the zip codes with the highest and lowest rate of homicide, and the zip

codes with a disproportionate homicide incidence rate when accounting for population size. The overall breakdown of homicide incidence by zip code is presented in Table 4. Based on the sample under study, it is noteworthy that the zip code with the largest population recorded a significantly lower homicide rate. A low homicide rate of five incidents over a five-year period was observed in zip code 31210, despite the high population of 33,647 residents. The second most populated zip code, 31204, which had a population of 31,055 residents, recorded the highest homicide rate at 34 incidents. Of note, zip code 31201, which had the lowest population of 7,937 residents had a disproportionate homicide rate of 100 incidents per 100,000 people when compared to the most populated zip code, which had a homicide rate of 10 incidents per 100,000 people.

The statistical data also revealed the zip codes that had more elevated homicide rates based on the number of homicides and the total population in an area. The highest homicide rate while accounting for population size was in zip code 31206, which had a homicide rate of 120 incidents per 100,000 people. Referring to Table 4, zip codes 31210, 31211, and 31220 had the lowest homicide rate of 10 incidents per 100,000 people. Importantly, the rate of homicide incidence increased or decreased in different zip codes over the 5-year period. The homicide rate decreased in zip code 31052, which had three homicide incidents in 2017 but no further incidents from 2018 to 2021. However, in zip code 31206, the number of homicides rose from five incidents in 2017 to nine incidents in 2020 before dropping to six in 2021. Therefore, the data accounted for not only the number of homicides but also differences in population by zip code and shifts in homicide incidence over the five-year period.

Table 4*Geographic Characteristics of Homicide in the 2017–2021 Study Period*

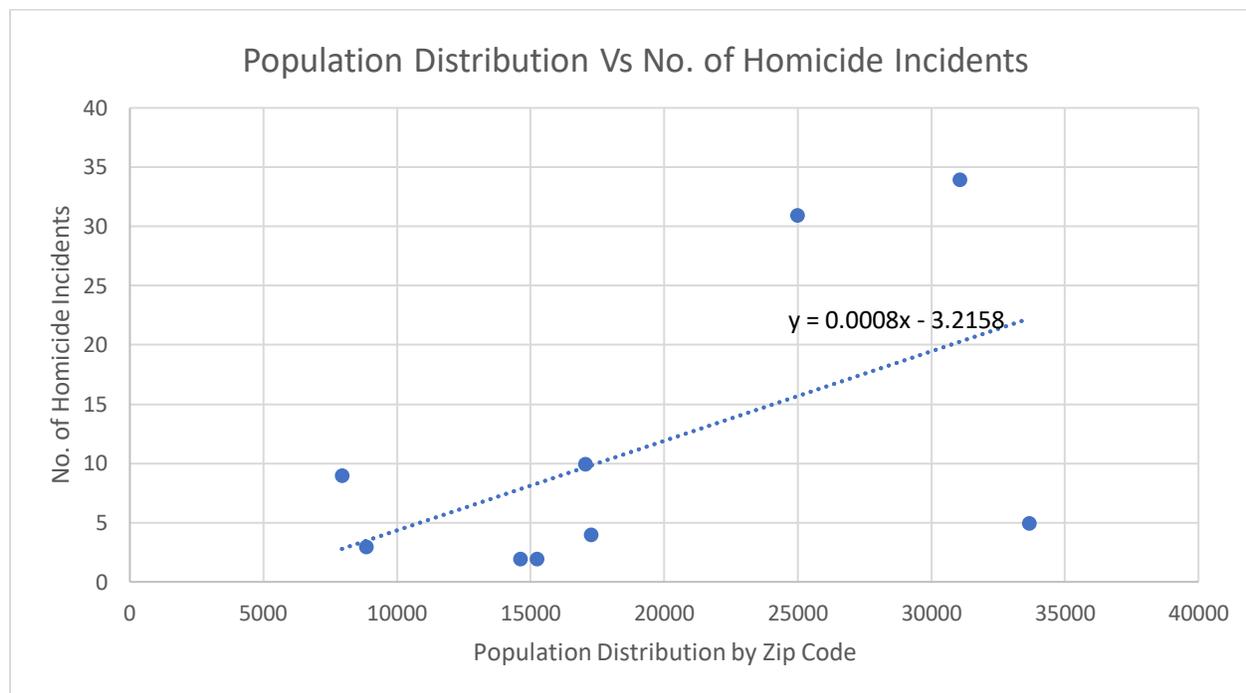
Zip Code	Population	Homicide Incidents
31052	8837	3
31201	7937	9
31204	31055	34
31206	24983	31
31210	33647	5
31211	14602	2
31216	17267	4
31217	17044	10
31220	15230	2

Note. The data was sourced from police reports from the Bibb County Sheriffs' Office and court records of homicide cases in Macon.

On a related note, a bivariate correlation was carried out to determine the relationship between population distribution by zip code and homicide incidents. Figure 3 below indicates a positive but weak correlation between the variables. The higher the population in a zip code, the higher the likelihood of a high number of homicide incidents, but the effect is modest.

Figure 3

Population Distribution compared to Homicide Incidents



Date and Time of the Homicides

In addition to addressing the four research questions, the collected data also included information relevant to the theme of date and time of homicide incidence. This section presents findings on the distribution of homicide incidents based on the day of the week and specific periods of time in a day. The findings are organized according to homicide incidence by date or day of the week and homicide incidence by time of day.

Date.

Over the five-year period, the data revealed that there was a significant difference in the homicide incidence rate for different days of the week. Days of the week, such as Tuesday and Saturday, had a significantly higher homicide incidence rate than other days with a total of 19 incidents each. The number of homicide incidents in the two days with the highest homicide

incidence rate was more than twice the homicide incidents on Friday, the day with the least incidents. There were only seven homicide incidents in total occurring on Friday over the five-year study period. The order of days with the least to the highest rate of homicide incidence was as follows: Friday, Monday, Thursday, Wednesday, Sunday, and Tuesday, and Saturday. Of note, Saturday and Sunday had a combined homicide incidence rate of 35%, which was more than any other two adjacent days.

Time.

In addition to the days of the week, the data also revealed the distribution of homicide incidents across different periods of the day. Notably, the morning hours of the day from 6:00 a.m. to 12:00 noon had the least homicide incidence rate at only 12%. Conversely, 6:00 p.m. to midnight had the most homicide incidents with a total of 36 incidents over the 5-year period. Therefore, the period between 6:00 p.m. and midnight had three times more homicide incidents compared to the morning hours. Overall, the nighttime hours from 6:00 p.m. to 6:00 a.m. had more homicide incidence with a total of 56 out of 100 incidents occurring during this period.

Results

RQ1: *Is there a significant difference between homicide incidence and weapon type in Macon-Bibb County?*

- H_0 1: There is no significant difference between homicide incidents and weapon type.
- H_a 1: There is a significant difference between homicide incidents and weapon type.

A chi-square test was performed to assess whether there was a statistically significant difference between the observed and expected counts for the two categorical variables of homicide incidence and weapon type (Banas, 2017; Zach, 2020). As indicated in Table 5, there was a sig-

nificant relationship between the two variables, X^2 (df = 12, N = 100) = 3.65, $p = .989$. The sample's Pearson chi-square statistic value of 3.65 is less than the chi-square critical value of 21.026. When the Pearson chi-square statistic is less than the chi-square critical value, the null hypothesis is accepted (*Interpreting the results*, 2023). Therefore, in this case, there is no significant difference between homicide incidents and weapon type.

Table 5

Chi-Square Test for Homicide Incidence and Weapon Type

Categories	Handgun	Hands/Fist	Rifle	Knife	Blunt Object	Vehicle	Fire	Total
Murder								
Observed	67	10	7	4	2	1	1	92
Expected	69	9.2	6.44	3.68	1.84	0.92	0.92	
Justifiable								
Observed	7	0	0	0	0	0	0	7
Expected	5.25	0.7	0.49	0.28	0.14	0.07	0.07	
Negligent								
Observed	1	0	0	0	0	0	0	1
Expected	0.75	0.1	0.07	0.04	0.02	0.01	0.01	
$X^2 = 3.65$, df = 12, significance level (α) = .05								

Given that the null hypothesis was accepted and no significant difference exists between homicide incidents and weapon type, more individualized attention was turned on the rate of homicide incidence by firearms, the characteristics of the firearms used, the rate of homicide incidence by other types of weapons, and the relationship between the use of firearms and the victim–offender relationship.

The Rate of Homicide by Firearm

Examining the rate of homicide by firearm revealed that three quarters of all homicide incidents from 2017 to 2021 were committed using a handgun. Out of 100 homicide incidents in the county, firearms, including guns and rifles, were used in 82 of the incidents. The handgun was the most prevalent murder weapon in the county as it was used in 75 incidents in the

homicide of 78 victims. The use of a rifle to commit homicide was less common, accounting for only seven incidents in the homicide of 8 victims. On a yearly basis, homicide cases involving the use of a handgun were highest in 2017 and 2020, where 17 of the cases in each year involved a handgun as the murder weapon. These two years also had the highest homicide rates by firearm over the five-year period with firearm homicides accounting for 85% of all the incidents for each year. In 2018 and 2019, the number of firearm-related homicide incidents remained consistent as handguns were used in 13 of the homicide incidents and rifles were used in three of the incidents each year. Therefore, firearm related homicides accounted for 16 out of 20 of the homicide incidents for both 2018 and 2019. Similarly, there were also 16 firearm-related homicide incidents in 2021, where handguns were used in 15 incidents and a rifle was used in one incident. The data showed that the disproportionate use of firearms in homicide in Macon remained consistent over the five-year period. Based on the study sample, firearms were responsible for 86 out of 104 murders from 2017 to 2021, which accounted for approximately 83% of homicides in the county. However, handguns were responsible for a greater margin of homicides when compared to rifles at a ratio of 19:2.

The Characteristics of Firearms Used

The statistics on homicide by firearm also expanded to the characteristics of the firearms used. Specifically, the caliber of the guns was important in understanding which types of firearms contributed the most to Macon's rising homicide rates. A 9mm-caliber handgun was the most commonly used weapon, accounting for 42 of the 100 homicide incidents and a total of 44 victims over the five-year period. The second most common handgun in Macon's homicide incidence was a .40-caliber handgun, which accounted for 11 homicide incidents and 12 victims. Of note, the least used handguns were the .25-caliber, .32-caliber, .390-caliber, and the .762

caliber handguns, which were used in one homicide incident each from 2017 to 2021. While a significant margin exists between the use of handguns and rifles in homicide, the .762 rifle accounted for three homicide incidents in the study sample, which was more than the least used handguns. In addition to the .762 rifle, there were only four calibers of rifles recorded as murder weapons where the .223-caliber rifle was used in two homicide incidents while the .728 and .22-caliber rifles were each used once. For the purpose of understanding the impact of firearm possession on homicide incidence in Macon, the data revealed the types and characteristics of firearms most commonly used as murder weapons (see Figure 4).

Rate of Homicide Incidence by other Types of Weapons

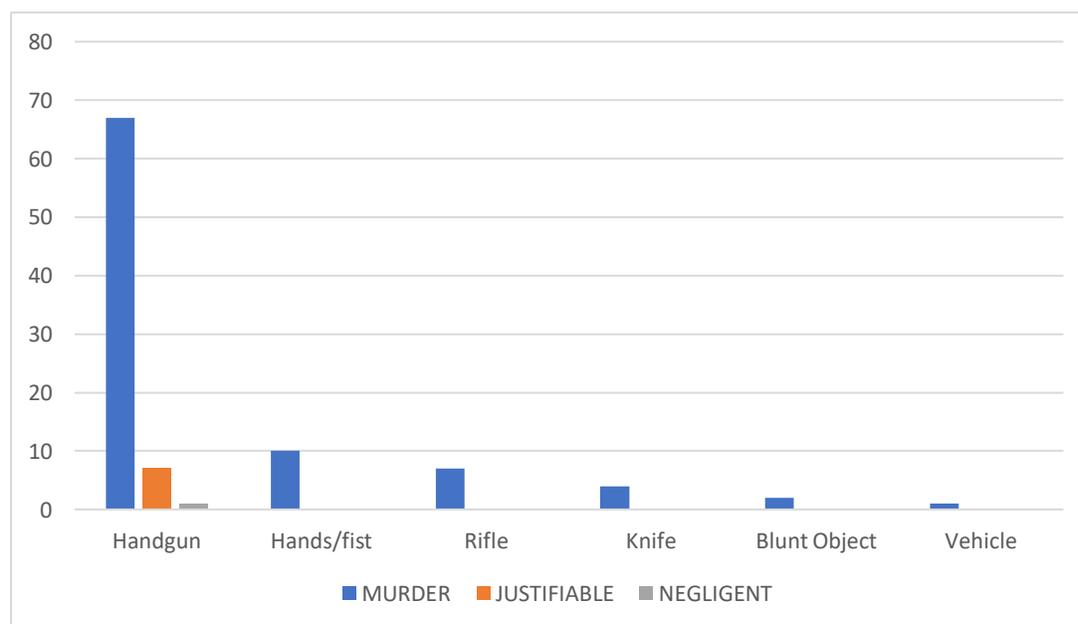
In addition to firearms, which were used in the majority of homicide incidents in Macon, the other manner of deaths in the selected study sample included homicide by blunt object, fire, knife, vehicle, and hands or fists. It is noteworthy that the number of firearm-related homicides far outnumbered any other manner of death since handguns and rifles comprised 82% of Macon's homicide incidents from 2017 to 2021. Therefore, the other manners of death only accounted for 18 out of the total 100 incidents in the research sample. Following the use of firearms, the second most common manner of death was by hands or fists. There were 10 homicide incidents where the victims died due to hands or fists, as seen in Figure 4. Of these 10 incidents, two victims died by asphyxiation. Of the 10 victims who died by hands or fists, three were children aged one-year-old and below. Another statistic that stands out is that six out of the 10 homicide incidents by hands or fists occurred in a residence or home. Apart from hands or fists, a knife was also a common murder weapon, since knives were used in four out of the 100 incidents. In these four incidents, a pocket knife was used in two incidents, while a BBQ fork and an unspecified type of knife were used in one incident each. In addition to guns, hands, and knives,

another manner of death for victims was death by blunt object. There were two homicide incidents where blunt objects, including a pipe and hammer, were used as the murder weapons. Based on the Macon-Bibb homicide statistics analyzed in the study, the order of murder weapons other than firearms from the most commonly used to the least used was hands or fists, knife, blunt objects, fire, and vehicles.

The murder weapons that were least used over the course of the study period were fire and vehicles. There was only one incident where the victim died due to a fire. In this incident, it is notable that the primary pre-homicide motivation was negligence. Similarly, a vehicle, specifically an SUV, was used in one homicide incident where the primary pre-homicide motivation was an accident. Overall, for both incidents where fire and a vehicle were used, the homicide incidents were either accidental or due to negligence (see Figure 4).

Figure 4

Type of Weapon and Homicide Incidence in Macon-Bibb County between 2017–2021



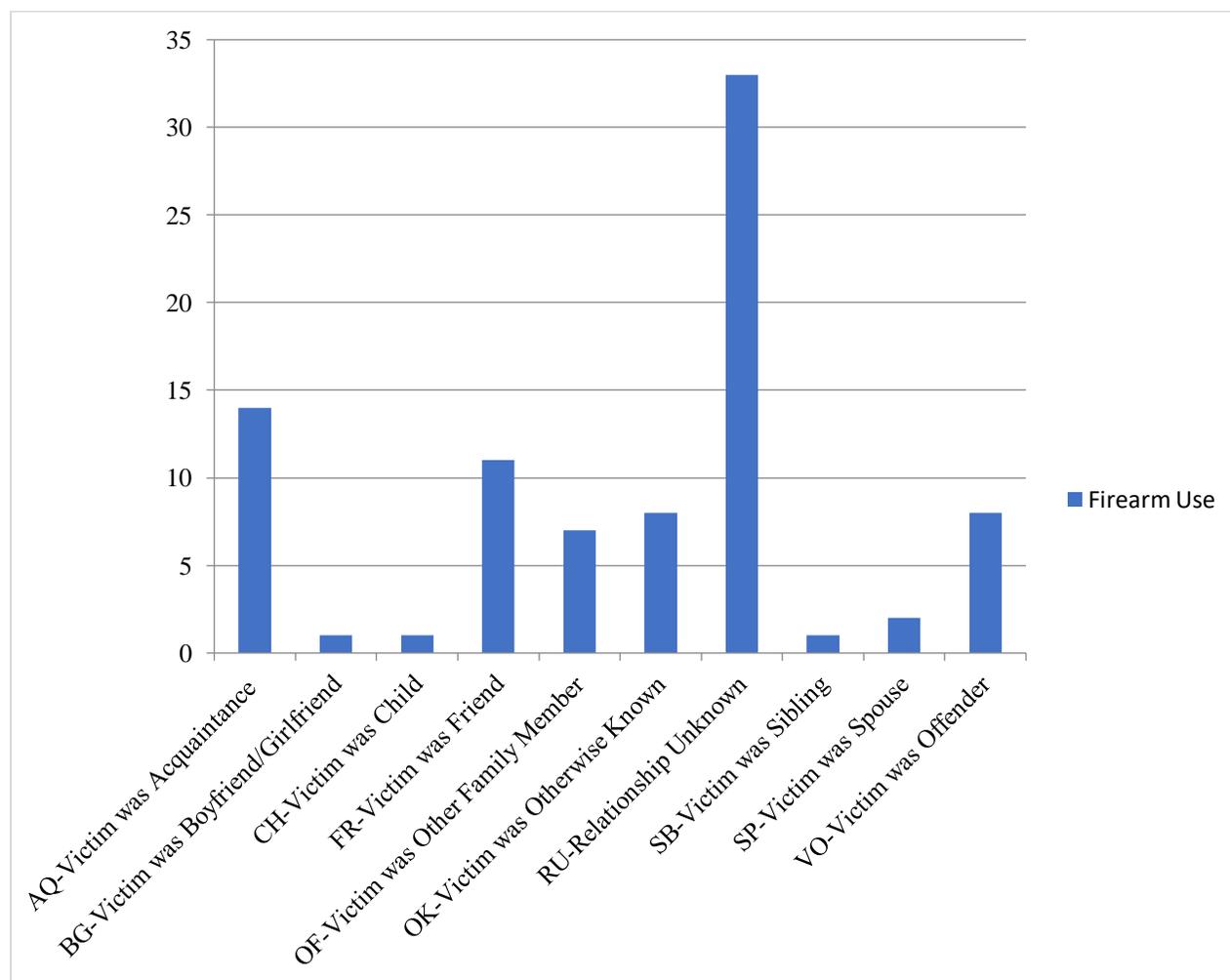
In addition to the chi-square test in Table 5, the column chart above shows whether a relationship exists between weapons used and the high rates of homicide in Macon-Bibb County. The chart shows that more incidents were committed using handguns compared to other weapons. The use of hands/fists is the second most used weapon in committing homicide. The vehicle as a weapon contributes less to the cases of homicide in Macon. The chart adds to the results obtained from the chi-square test of independence that suggests that the type of weapon used contributes to the high level of homicide incidence in Macon-Bibb County.

The Use of Firearms and the Victim–offender Relationship

The data was also important in revealing the relationship between the use of firearms in homicide incidence and the victim-offender relationship. It is noteworthy that apart from incidents involving self-defense, there was also a difference between the use of firearms and the relationship between the victim and the offender. Concerning self-defense, a handgun was used in all eight incidents where the victim was also the offender. Consequently, six of the eight incidents were ruled as justifiable homicide while of the two remaining incidents, one was ruled as negligent homicide and the other as murder. Notably, three out of eight victims who were offenders when a handgun was used were gang affiliated. In general, while the victim–offender relationship did not directly influence firearm use, handguns were used in self-defense in all incidents where victims were the offending party.

The association between the victim–offender relationship and the use of firearms as the primary murder weapon was explored. Figure 5 shows that, based on the data sourced from the Bibb County Sherriff’s Office (2022), the relationship between the victims and offenders was unknown for most of the homicide incidents. There were 33 homicide incidents where the victim–offender relationship was unknown. For the known victim–offender relationships, Figure 5

shows that there is an association between the victim–offender relationship and firearm usage in incidents where the victim was known to the perpetrator. Notably, the highest number of firearm homicides was 14 incidents where the victim was acquainted with the offender. The second highest use of firearms was when the victim was a friend, which accounted for 11 incidents. There were also eight incidents where the victim was otherwise known to the offender or where the victim was the offender. As previously mentioned, in the eight incidents where the victim was the offender, the perpetrators were mostly ruled to have acted in self-defense. The lowest firearm usage was in the following relationships: the victim was a boyfriend or girlfriend, the victim was a sibling, and the victim was a child of the offender. Each of these three victim–offender relationships only had one firearm homicide each in the selected study sample. However, it is notable that for incidents where the victim was either a boyfriend or girlfriend or where the victim was a child, perpetrators were more likely to use other weapons apart from firearms. Specifically, other types of weapons were used in three incidents where the victim was a boyfriend or girlfriend, and three incidents where the victim was the offender’s child. With the exception of homicide incidents where the victim–offender relationship was unknown, homicide incidents where a firearm was used mostly occurred when the victim and perpetrator were acquaintances or friends. However, it should be noted that firearms were used in most homicide incidents regardless of the relationship between the victim and offender (see Figure 5).

Figure 5*Firearm Use and Victim–Offender Relationship*

RQ2: *Is there a significant difference between race of a homicide offender and use of a firearm in Macon-Bibb County?*

- H_{02} : There is no significant difference between race of a homicide offender and use of a firearm.
- H_{a2} : There is a significant difference between race of a homicide offender and use of a firearm.

A chi-square test was performed to assess whether there was a statistically significant difference between the observed and expected counts for race and weapon type (see Table 6). There was a significant relationship between the two variables, $X^2 (df = 5, N = 89) = 23.71, p < .001$. The chi-square calculated test statistic = 23.71 is greater than the chi-square critical value = 11.070 and thus the null hypothesis is rejected. This means that there is a significant difference or association between the race of a homicide offender and the use of a firearm.

Table 6

Chi-Square Test for Race of Homicide Offenders and Weapon Type

Categories	Firearms	Hands/Fist	Knife	Blunt Object	Vehicle	Fire	Total
Black							
Observed	68	8	2	1	2	1	82
Expected	64.49	9.21	4.6	0.92	1.84	0.92	
White							
Observed	2	2	3	0	0	0	7
Expected	5.5	0.79	0.39	0.08	0.16	0.08	
$X^2 = 23.71, df = 5, \text{significance level } (\alpha) = .05$							

RQ3: *Is there a relationship between the location of homicide and firearm use in Macon-Bibb County?*

- H_03 : There is no significant relationship between the location of homicide and firearm use.

This section addresses the relationship between location of homicide and the use of firearms in Macon-Bibb. The null hypothesis rejects that there is any statistically significant relationship between homicide location and the use of firearms. However, the findings reject the null based on the cross-tabulation analysis in Table 7.

- H_a3 : There is a significant relationship between the location of homicide and firearm use.

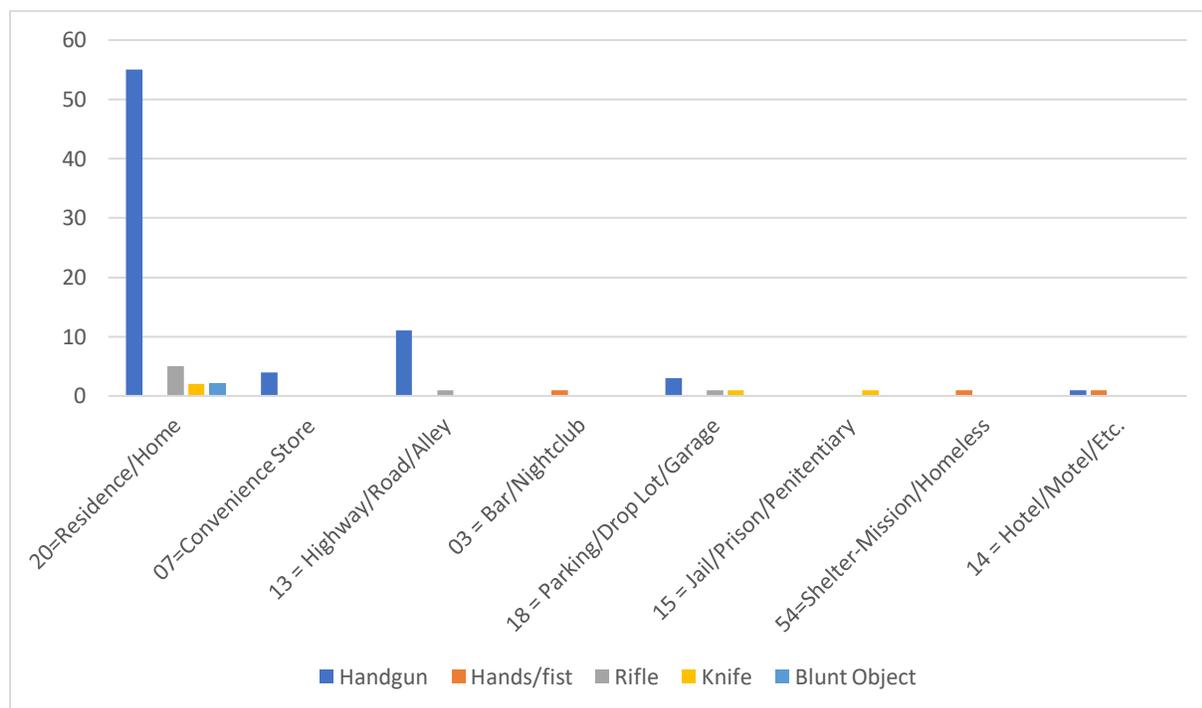
The cross-tabulation analysis presented in Table 7 below supports the alternative hypothesis since it reveals major gaps in firearm use between different locations. Relating data on location type to the use of firearms revealed an association between the two variables. As previously mentioned, there was a major gap between homicides in residences or homes and other location types. However, while a residence or home was the most common location of homicide incidence, Table 7 shows that a greater proportion of homicides were perpetrated by firearms in locations such as convenience stores and restaurants. While convenience stores and restaurants had a relatively low homicide rate consisting of four incidents and one incident respectively, all the incidents involved the use of a firearm. Therefore, the rate of firearm use in these locations was 100%. The other location with a high proportion of firearm homicide compared to other murder weapons was highways, roads, alleys, and streets where 92% of the homicides were committed using a gun. Of the 13 homicide incidents in this location, a gun was used in 12 incidents. With regard to the proportion of firearm homicide, residences or homes had the fourth highest proportion of gun homicides at 83%. Although this location accounted for the highest number of homicides, as well as the highest number of firearm homicides, firearms were used in 60 of the 72 homicides, while the other 12 incidents involved the use of other murder weapons. Table 7 also shows that 80% of homicides in the Parking, Drop Lot, and Garage location involved the use of a firearm. Notably, according to the findings there were three locations where the rate of homicide by firearms was 0%. Incarceration facilities, homeless shelters, and bars and nightclubs not only had lower homicide incidence with one incident each, but firearms were also not used in any of the incidents. Importantly, the data shows that some locations with a lower overall homicide rate had proportionally greater firearm use compared to other locations with high homicide rates.

Table 7*Relationship between Location of Homicide and Firearm Use***Location of Homicide*Was a Firearm used? Cross Tabulation**

		Was a Firearm used?		Total
		Yes	No	
Location of Homicide	Residence/Home	60	12	72
	Row %	83%	17%	100%
	Highway/Road/Alley/Street	12	1	13
	Row %	92%	8%	100%
	Parking/Drop Lot/Garage	4	1	5
	Row %	80%	20%	100%
	Convenience Store	4	0	4
	Row %	100%	0%	100%
	Hotel/Motel	1	1	2
	Row %	50%	50%	100%
	Restaurant	1	0	1
	Row %	100%	0%	100%
	Incarceration Facilities	0	1	1
	Row %	0%	100%	100%
	Homeless Shelters	0	1	1
	Row %	0%	100%	100%
	Bar/Nightclub	0	1	1
Row %	0%	100%	100%	
Total		82	18	100
	% of Total	82%	18%	100%

The column chart in Figure 6 below also illustrates the relationship between the location of a homicide event and the type of weapon used, specifically if a firearm was used or not. In support of the results obtained from the crosstabs, the graph shows that a firearm was used mostly in residences or homes to commit the offense, followed by streets, highways, roads, and valleys. Of note, there was no use of a firearm in hotels and motels, bars and nightclubs, and shelter-mission and homeless locations.

Figure 6
Location and Type of Weapon Used



RQ4: *Is there a difference between gang affiliation and weapon used in homicide incidence in Macon-Bibb County?*

- H_04 : There is no significant difference between gang affiliation and weapon type.
- H_{a4} : There is a significant difference between gang affiliation and weapon type.

A chi-square test was performed to assess whether there was a statistically significant difference between the observed and expected counts for gang affiliation and weapon type (see Table 8). There was not a significant relationship between the two variables, χ^2 (df = 3, N = 14) = 0, $p = 1$. Notably, the observed frequencies equal the expected frequencies; thus, the overall chi-square statistic is zero. A chi-square statistic of zero represents or accepts the null hypothesis. This means that there is no significant difference or relationship between gang affiliation and choice of weapon.

Table 8*Chi-Square Test for Gang Affiliation and Weapon Type*

Categories		Firearms	Other Weapon Types	Total
Bloods	Observed	2	0	2
	Expected	2	0	
Crips	Observed	6	0	6
	Expected	6	0	
Folk	Observed	5	0	5
	Expected	5	0	
Mafia	Observed	1	0	1
	Expected	1	0	
$X^2 = 0, df = 3, \text{significance level } (\alpha) = .05$				

While the data on gang membership was limited, the findings in the crosstabs in Table 9 showed the perpetrator's gang affiliation and the use of firearms as murder weapons. In Table 9, the data on arrestees was divided into Arrestee 1 (A1), Arrestee 2 (A2), and Arrestee 3 (A3) indicating the categories of perpetrators arrested per incident. There were 4 gang affiliated arrestees in A1, 7 gang affiliated arrestees in A2, and 3 gang affiliated arrestees in A3. In total, there were 14 perpetrators who were affiliated with a gang in the study sample. Notably, all 14 gang affiliated arrestees used a firearm as a murder weapon. Therefore, for homicide incidents involving gang affiliated perpetrators, firearms were used in 100% of the incidents (see Table 9).

Table 9*Relationship between Gang Affiliation and Firearm Use***Gang Affiliation*Was a Firearm used? Cross Tabulation**

		Was a Firearm used?		Total
		Yes	No	
Gang Affiliation	Arrestee 1 (A1)	4	0	4
	Row%	100%	0%	100%
	Arrestee 2 (A2)	7	0	7
	Row%	100%	0%	100%
	Arrestee 3 (A3)	3	0	3
	Row%	100%	0%	100%
Total		14	0	14
	% of Total	100%	0%	100%

Summary

This chapter presents the key findings of the study based on data collected from police reports, media reports, and court records concerning homicide in Macon over a five-year duration between 2017 and 2021. The findings aimed to respond to four key research questions concerning the most significant characteristics of the population associated with the prevalence of homicide incidences in Macon, the impact of weapon type on the increased rate of homicide, and the association between firearm use and other key factors such as location and gang affiliation. The findings revealed the demographic and geographic characteristics associated with homicide incidence during the five-year study period. The victims were more likely to be Black American males with an average age of 33 years, while the perpetrators were also likely to be Black American males. Regarding location, the metro areas of Macon recorded higher homicide rates, with residences as the most common location for homicide.

Concerning the first research question, the findings revealed patterns in homicide incidence and characteristics of weapon used. Of note, firearms were used in 82% of the incidents accounting for the majority of weapon type used. Handguns were the most common murder weapons. In

addition to revealing the extent of firearm homicides and the characteristics of the firearms, the data also revealed the relationship between weapon type and the victim–offender relationship, the nature of the homicide, the race of the offender, location of the homicide, and gang affiliation. Of note, the findings in this chapter will provide the basis for the discussion in the chapter that follows, where interpretation and synthesis of the findings will result in valuable conclusions and implications for the subject under study.

CHAPTER FIVE: CONCLUSIONS

Overview

From the outset, this study sought to investigate the unknown patterns of criminality in homicide in Macon through a quantitative exploratory approach. The coverage of crime in the county revealed a recent surge in violent crime and homicide, especially in 2020 to 2021, raising concerns about safety and the larger socioeconomic implications of insecurity for the region (Stebbins, 2021). However, despite the growing concerns, the literature examining homicide incidence in the county including causes, risks, and vulnerabilities was severely lacking. This meant that there was difficulty in finding studies explaining the nature of the victims, perpetrators, and risk factors, which in turn showed that there were unidentified factors and patterns of criminality in homicide incidence in the county that required urgent response. To understand the current homicide statistics, the study aimed to examine data on victims and the available information on their perpetrators to identify the common trends in Macon's rising homicide rates. Overall, the findings of the study are significant in building a body of literature on homicide incidence specific to the county of Macon-Bibb.

On the topic of the unknown patterns of criminality in homicide incidence in Macon, a discussion of the study findings is hereby provided to establish the connection, if any, between the results and the theoretical literature reviewed in the second chapter. The chapter is organized in six sections for clarity of presentation. The sections include the following: an overview of the chapter restating the purpose of the study; a summary of findings that concisely summarizes the findings in Chapter Four; a discussion of the findings in correlation with the relevant literature and theory; implications of the study from a theoretical, empirical, and practical perspective; the

delimitations and limitations of the study describing the study's scope and identified weaknesses; and the recommendations for future research in light of the study findings.

Summary of Findings

For the research questions focused on homicide incidence, race, location, gang affiliation and the connection, if any, to the type of weapon, the study findings addressed these questions through the available data from police reports, coroner's records, and media reports concerning homicide incidence in Macon over a five-year duration between 2017 and 2021. In assessing the extent to which firearm use plays a role in Macon's increased homicide incidence, the findings showed that firearms accounted for 82% of all the incidents. The handgun was the most common weapon of choice. Regarding the relationship between race of the offender and firearm use, the findings indicated that there was a significant association between the use of a firearm and the race of the offender. Notably, most of the firearm homicides took place in homes or residences. However, while convenience stores and restaurants had fewer homicides compared to residences or homes, all of the homicides involved the use of a firearm. A significant statistical relationship was not observed between gang affiliation and firearm homicide, even though all the gang-affiliated homicide offenders used firearms. The information is relevant in discussing new contributions of the current research.

Discussion

Demographic Characteristics of Victims and Perpetrators

Regarding the demographic characteristics of victims, the findings generally corroborate previous research that shows Black males as the most vulnerable demographic to homicide. Specifically, the findings indicate that 80% of the total homicide victims in the five-year period were male while 72% were both male and Black. The homicide data indicates two key points;

that males are overwhelmingly more likely to be the victims of homicide compared to females, and that the vulnerability to homicide is further highlighted for victims who are both male and Black. In a recent study, Yim et al. (2020) not only reported on the rise in homicide rates from 2015 but also found that the majority of the victims were Black males. The study, which used information from the FBI's Uniform Crime Report, showed that Black male victims accounted for the majority of homicide victims from 2009 to 2018 while female victims comprised of 21% of the total (Yim et al., 2020). While Yim et al. (2020) looked at national homicide trends over time rather than a specific city or county, the findings were consistent with the current study's findings on the sex and race of the victims. Moreover, Ivey-Stephenson et al. (2018) also highlighted the significantly higher homicide rate for males compared to females, even though the victimization trends also showed that females were disproportionately the common victims rather than perpetrators of criminal homicide. Nevertheless, it appears that there is no corroborating data on the age of the victims from the consulted literature which suggests the need for further studies on victim demographics.

Of note, while the findings showed that most of the homicide victims were males, they appeared to confirm Rouchy et al. (2020), Terranova and Zen (2018), and specifically Ivey-Stephenson et al. (2018) on women as disproportionately the victims of homicide but not the perpetrators of the crime. Of the 21 female victims identified in the current study, the corresponding arrestees responsible for the homicide were 14 males and only three female arrestees. Similar to the aforementioned studies, which focused on female victimology, the study's findings indicated that there was a high risk of female victimization from male perpetrators even though male victims were the significantly higher demographic. Overall, the current study suggests that males were the highest in number in homicide offending.

Concerning the demographic characteristics of defendants, the findings in both the current study and relevant literature generally indicated a pattern of male offending. The study findings show that there were 78 male arrestees compared to 12 female arrestees for the five-year study period. In percentage terms, the male arrestee-perpetrator represented 87% of the overall arrests that were made during the study period. From a national perspective, Avdija et al. (2021) used FBI data to determine homicide profiles and concluded that offending profiles were higher in males than females in homicide cases. Similarly, Rouchy et al. (2020) found that in cases of homicide-suicide, the perpetrators were more likely to be male. It is worth mentioning that while the findings on race and age of the perpetrators pointed to Black males and a young age group respectively, there is limited literature that confirms these findings. The current findings indicate that 91% of all arrestees for homicide during the 2017–2021 study period were Black, while 7% were White. However, while these findings can contribute to an understanding of homicide perpetrator profiles in the county, the incomplete data on arrestees of other races apart from Black and White perpetrators for all incidents during the study period means that caution is necessary. On the age of the arrestees, the current findings highlighted the 14–25-year age group as the most likely to offend as the group accounted for 53% of the homicide incidents. Moreover, as Table 3 illustrates, the older the age group, the lower the number of homicide arrests were made during the study period. Jung and Stewart (2019) also found that for African Americans generally, the older the individual, the less likely it was that they would commit a crime. The study findings on the relationship between age and homicide incidence are in line with the age-crime curve where younger individuals commit more crimes compared to older people.

Geographic Characteristics and Distribution

With regard to homicide location and geographic distribution, the current study corroborates previous research indicating residences or homes were the most common homicide location. The findings revealed that most homicide incidents in Macon occurred in homes since the location accounted for 72% of incidents in the county. The findings reject previous research by Terranova and Zen (2018) and Jung and Stewart (2019) in that the majority of homicides in the United States were the result of domestic disputes involving intimate or familial relationships. However, for homicide offenses where the relationship between the victim and offender was known, victims and perpetrators had an intimate or familial relationship in 12 incidents. For this reason, this relationship was second only to the victim-offender relationship where the victim and perpetrator were acquaintances. Therefore, it is expected that a majority of homicides in residences or homes involved a victim-offender relationship of acquaintances or familial and intimate relations.

Concerning the high homicide incidence in domestic situations, in addition to proximity, the possible causes include low income, low self-esteem, and drug abuse. According to investigations by Imran et al. (2018) and Quednau (2021), there is a relationship between low income and criminal behavior in the United States. Further, studies such as Mier and Ladny (2018) and Ward and Carter (2019) have identified a negative correlation between self-esteem and criminal activity. In domestic violence incidents, less self-esteem was associated with a higher likelihood to participate in violence. Previous literature such as Duke et al. (2018) and Pierce et al. (2018) have linked drug abuse to criminal activity. Overall, the findings on the location of homicide showed that, rather than strangers in public places, the threat of homicide is

the highest in a residence or home from people who have some form of acquaintance with the victim.

In addition to location of homicide, the current study also focused on homicide incidence based on population distribution by zip code in Macon. A key finding of the research was that zip codes in the metro areas of Macon had the highest rate of homicide incidence in the county. The findings corroborate crime reports from the Bibb County Sheriff's Office (2022) and Stebbins (2021), which highlighted the high crime rates in city regions in the eastern and southern areas of Macon, including Adams Street, Prince Street, Linden Avenue, Nussbaum Avenue, and College Street. However, while Stebbins' (2021) report linked the higher crime rates in these areas to geographic characteristics such as high traffic movement, this was contradicted by the study's findings that a majority of homicide incidents occurred in homes where the perpetrators had a close relationship with the victims. Regarding the possible causes of the high homicide incidence in metro areas, poverty gaps between metro and non-metro areas, as well as the persistent link between poverty and the risk factors for violence such as unemployment and economic instability, may explain the differences in homicide incidence between urban areas and non-metro areas.

On population distribution, the findings revealed a positive correlation between population distribution and the number of homicide incidents, even though the correlation effect is minor. The findings in Table 4 indicate that a higher population zip code is likely to have a higher number of homicide incidents even though there are high population zip codes such as 31210 with lower per capita homicide incidents compared to low population zip codes. The findings are consistent with previous research examining population concentration and homicide incidence such as Kegler et al.'s (2021) study, which links high incidence of firearm homicide to

densely populated metro areas. According to Kegler et al. (2021), large metro counties are generally associated with higher firearm homicide rates that are mainly due to the levels of poverty surrounding these areas. Nevertheless, despite inconsistent patterns, the authors also found that small and medium metro counties also exhibited high rates of firearm homicide if the surrounding levels of urbanization and poverty were high. The findings of the current study indicate the need for further research to establish more consistency in the patterns linking population concentration to homicide incidence while incorporating studies on urbanization and poverty, since the latter is especially linked to a lot of risk factors for violent crime.

Notably, while the findings show a rise in homicide rates across different zip codes in Macon, some zip codes experienced a drop in homicide incidents over the five-year study period. While pre-existing research, including Stebbins (2021), focused on the rise in homicide incidence over the past decade, the findings of the study suggest that the homicide incidence rate did not rise across all regions in the county. Instead, some regions, such as zip code 31502, experienced a decrease in homicide incidence over the study period. Therefore, a major contribution of the research is presenting data on homicide incidence rate that has more geographical relevance by focusing on data at the county level compared to the pre-existing research, which takes a more nation-wide or state-wide approach.

The Role of Weapon Type in Macon's Homicide Rate

The current study findings revealed that, in comparison to other murder weapons and means of homicide, firearms were responsible for the greatest percentage of homicides in Macon which confirmed previous literature on the topic. According to the findings, firearms were used in 83% of all homicide incidents during the five-year study period. Further, the handgun was the most common firearm used in committing homicide since it was responsible for three quarters of

all homicide incidents over the five-year study period. The findings corroborate previous research such as Sutherland et al. (2021), which highlights that guns were used in most homicide incidents in the United States. However, it is notable that Macon's gun homicide rates were higher than the national average by up to 3% (Sutherland et al., 2021). In addition, the findings of the study align with those of Sperlich et al. (2022), who revealed a nationwide spike in gun violence in 2020. According to the current study, high concentrations of gun related homicides were evident in multiple metro areas in the county. Therefore, the study is important in not only understanding how firearms impact crime rates in Macon but also aligning the findings with previous research to recommend effective solutions.

Notably, the findings on firearm use in homicide also include the most used firearms and the interrelation between firearm use and other factors which are important in the firearm regulation debate. As previously mentioned, the most used firearm in Macon's homicide incidence was the handgun. Specifically, a 9-caliber handgun accounted for 42% of the homicides in the study sample. The second most common handgun was the 40-caliber handgun, which was used in 11% of the homicides over the five-year period. In addition, the findings also revealed that firearms were used in all multiple victim incidents in the study sample. The findings that multiple victim incidents involved firearms corroborate previous research, such as Avdija et al. (2021), who focused on data indicating that guns made it much easier to commit murder at a faster pace and with multiple victims. Therefore, to address gun violence, Avdija et al. (2021) and Degrazia (2014) suggest establishing firearm regulations that limit gun ownership, which would limit criminal activity. However, on the topic of the most commonly used calibers of guns in homicide incidents, Siegel (2020) concluded that controlling specific types of weapons is less effective in deterring gun crime when compared to regulations that control who

has access to firearms. Instead of targeting specific weapon types, Degrazia (2014) suggested establishing policies that control who has access to guns, whether through legal means or illegally, as a way to address gun violence. By addressing firearm possession as a factor in Macon's crime rates, the study contributes to the body of research by expanding information on the role of guns in homicide perpetration.

It is notable that Georgia has weaker restrictions on gun ownership. Therefore, future research can investigate the relationship between firearm homicides and relaxed regulation on who has access to firearms. Nevertheless, the current research is important as it contributes to the conversation on the rising rate of firearm homicide in Macon.

Victim–Offender Relationship and Firearm Use

When examining firearm homicide statistics, the research also focused on the relationship between the use of firearms and the victim-offender relationship. Although there was a significant portion of homicide incidents where the victim-offender relationship was unknown in the selected sample, Figure 5 shows that there was a difference between the victim-offender relationship and the use of firearms in incidents where the victim and offender had a known relationship thus corroborating previous studies. Specifically, the victim-offender relationships with the highest rates of homicide incidence were relationships where the victim was an acquaintance or had a familial or intimate relationship with the perpetrator. Victims were acquainted with the offender in 16% of the 86 firearm incidents from 2017 to 2021. Further, victims and offenders had a familial or intimate relationship in 12 of the 86 firearm homicides. Since this violence happens within the community and even in small neighborhoods, the victims and offenders are usually closely acquainted or friends with each other. Specifically, the study shows that the victims and offenders had a friendship in 13% of the 86 firearm homicides. Rouchy et al. (2020) and Jung

and Stewart (2019) note that domestic disputes where the victim and offender have an intimate or familial relationship are at the center of most homicide incidence in the United States. Importantly, while the findings revealed that firearms were used in most incidents regardless of the pre-existing victim-offender relationship, it is evident that most firearm homicide occurred when the perpetrator and the victim were familiar with each other. For this reason, effective gun crime solutions should also target interpersonal relationships within the home and in communities. Overall, the study can be useful in developing effective solutions for reducing firearm homicide at the community level.

The Role of other Types of Weapons in Macon's Homicide Incidence

While firearms were the most significant murder weapon observed during the study period, the research findings also included other murder weapons such as hands or fists, knives, blunt objects, fire, and vehicles. The study findings corroborate previous research, including Sutherland et al. (2021), who outlined the role of firearms as the most prevalent murder weapon in the United States. Compared to firearms which were used in 83% of the homicide incidents, the other weapons were only responsible for 17% of Macon's homicide rate when accounting for the number of victims. Notably, unlike firearms, other types of weapons were not linked to any of the multiple victim incidents or gang-related incidents. However, the use of hands or fists was significantly high at 10%. The homicide incidents involving the use of hands or fists even exceeded the use of rifles. Surprisingly, knives were less common murder weapons compared to hands or fists. However, in comparison to other types of weapons, firearms were still the most commonly used murder weapon in Macon's elevated homicide rates. It is also noteworthy that other murder weapons were limited to one victim per incident, while handguns and rifles were used in the homicide incidents that had multiple victims within the study sample. Therefore, the

research not only highlights the disproportionate use of firearms in Macon's homicide incidents, but it also shows the lethality of guns per incident compared to other murder weapons.

Notably, sociological positivism can be used to explain the prevalence of firearm-related homicide in Macon-Bibb County. Specifically, sociological positivism examines how social, cultural, and institutional structures combine to influence criminal behavior (Case et al., 2017). From a United States perspective, the prevalence of firearms in the country is linked to the country's gun culture. The Second Amendment not only legalizes gun ownership but even makes it a fundamental right for American citizens to purchase firearms. Therefore, citizens in the country are born in a society where possessing firearms is part of the accepted culture. For this reason, the gun culture in the United States is an external element to the individual that can shape a person's behavior (Case et al., 2017). Of note, in 2023, Georgia was among the top 10 states with the highest number of registered guns per 1000 people. The state was ranked sixth, with a total of 190,050 registered guns (World Population Review, 2023). Based on positivistic approaches, the ownership and use of firearms is a part of the fabric of American society. Overall, understanding the possession and use of firearms in Macon-Bibb County can help researchers determine the propensity for homicide incidence.

Race and Firearm Use

With regard to demographic characteristics of perpetrators, the research findings revealed a significant relationship between the race of the offender and firearm use, thus corroborating previous findings in Bryant (2013). According to Bryant (2013), there is a high rate of gun violence in the African American community attributed to factors such as financial instability, unemployment, and living in high poverty neighborhoods. The current study also found a disproportionate use of firearms among black perpetrators of homicide incidence in Macon.

According to the analysis in Table 6, African American perpetrators were more likely to use firearms when compared to perpetrators of other ethnicities. In addition, Siegel (2020) revealed that 59% of victims of firearm homicide in 2017 were African American. The current findings also reveal a high level of both firearm victimization and perpetration in the African American community in Macon-Bibb County. As the study examined the link between race and firearm use, it is useful in developing recommendations to reduce gun crime.

Location and Firearm Use

Concerning the location of homicide, residences or homes not only had the highest homicide incidence rate but also the highest rate of firearm homicides, which corroborated the findings in Jung and Stewart (2019). However, while the majority of homicides occurred in a residence or home, the findings of this study revealed that outdoor locations such as convenience stores, restaurants, and highways, roads, alleys, and streets had a greater proportion of firearm homicide when compared to residences despite having a lower overall homicide rate. The data on proportion of firearm homicide per location is important when mapping out gun violence hotspots and developing targeted solutions toward firearm use. Of note, the findings suggest that the characteristics of a location are an important factor in predicting firearm use since they demonstrate that in the case of an outdoors location, it is almost certain that a firearm is used in the case of homicide.

The Relationship between Gang Affiliation and the Type of Weapon

A significant relationship between gang affiliation and weapon type was also observed through the findings thus corroborating previous research. Notably, the findings revealed that firearms were used in all homicides where the perpetrator was affiliated with a gang, thus confirming the findings in Roberto et al. (2018). According to Roberto et al. (2018), membership

to a gang increased the proximity to firearms, thus impacting firearm homicide. Therefore, targeted responses to firearm homicide should address both gang violence and gun violence in tandem, since the two are inextricably linked (Carlock and Lizotte, 2015). While regulating guns at home is more difficult, the findings can inform the policy approach to gun violence in public places. Overall, the data on the link between gang membership and weapon type is important when developing legal, law enforcement, and community responses to firearm homicide.

Implications

Research on crime trends is a distinctive area that has experienced a substantial increase in scholarly studies over the past few decades. However, as one of the counties with a homicide incidence rate that exceeds the national average, research examining the reasons for the rising homicide rates in Macon has been neglected in academic literature. Therefore, this study examined homicide incidence in Macon to uncover the unknown patterns of crime in the county. The findings of the study have significant theoretical implications to the body of crime research, as well as practical implications with regard to policy making. Notably, the study played an important role in identifying the cause factors of Macon's homicide rates, which is essential in developing targeted measures against the problem.

Theoretical Implications

As previously mentioned, there is a lack of research on crime trends in Macon despite the high homicide rate in the county. Therefore, the main theoretical contributions of the research included uncovering the unknown factors responsible for Macon's rising crime statistics. By responding to the research questions, this study contributes to the existing body of crime research and theory by highlighting the link between crime statistics and demographic characteristics of victims and perpetrators, and the role of firearms in Macon's rising homicide rate. Of note, the

study addresses the lack of research on crime trends in Macon by enhancing the data infrastructure in this field.

Practical Implications

The study's focus on the unknown factors of crime in Macon also has practical implications for stakeholders including government bodies and policy makers. Specifically, by improving the understanding of crime trends in Macon, the findings are important to local authorities when addressing the increase in homicide incidence in the county (Baumer et al., 2012). Specifically, the research revealed the days, time, and regions with the greatest homicide incidence, as well as the characteristics of the perpetrators involved in homicide incidence in the county. In addition, the research contributes to the body of research relevant to policy makers by providing data on victims, demographic characteristics of perpetrators, and firearm homicide trends in Macon. Therefore, the findings can assist policy makers in creating targeted, preventive, and corrective solutions to address homicide incidence in the county.

Delimitations and Limitations

Of note, the delimitations of the study include limiting the number of incidents in the study sample. Specifically, the sample only included 20 homicide incidents per year over the five-year period. Further, by applying quota sampling when selecting the sample, forming quotas based on demographic characteristics such as gender, age, and ethnicity ensured that the selected sample was representative of the overall population.

In the course of the study, there were uncontrollable limitations related to the sample data. Since the database of information was victim-focused, there was insufficient data on all the possible perpetrators. Among the data analyzed during the study, information on the age, ethnicity, and motivations of suspects was insufficient. Another potential limitation of the study

was the lack of data on other ethnicities such as Asian and Latino perpetrators in the selected sample as the data only included Black and White perpetrators. In addition, while the data revealed gang affiliation status of the homicide victims, information on the gang affiliation status of most of the perpetrators was not included in the sample data. Notably, the findings of the study are limited in geographic scope as the study only focuses on homicide incidence in Macon. However, despite the limitations of the study, the findings are important to expanding homicide research in Macon.

Recommendations for Future Research

In consideration of the study findings and limitations, future research should examine criminal trends while placing a specific focus on the perpetrators of homicide. Since a limitation of the current study was the focus on victimology data in Macon while lacking sufficient data on perpetrators, future researchers can explore homicide incidence in Macon while focusing more on the characteristics of the suspects and defendants responsible for the rising homicide rates, including past criminal history. Of note, the lack of information on the sociopolitical and financial factors influencing crime rates in the county is a significant weakness of the study. Therefore, future research should consider both conflict theory and Marxist theory when analyzing crime. Importantly, conflict theory posits that crime is defined and designated by the ruling class which necessitates examining incarceration and sentencing laws. As for Marxist theory, it maintains that crime is an outcome of capitalist political environments (O'Brien & Yar, 2008). Therefore, by taking both theories into account, the direction of future research can include the social, political, and economic factors influencing the increase in homicide incidence and violent crime in the county.

To understand the impact of historical, political, economic, and cultural conditions on criminal outcomes and the operation of the criminal justice system, critical criminology is a theory that can explore future research in this context. Critical criminology is concerned with the disproportionate outcomes that may emerge in the criminal justice system given that crime and responses to it are controlled by the ruling class while the lower and disenfranchised classes have no voice (O'Brien & Yar, 2008). The impact of race on criminal outcomes could be examined since the history of racial discrimination in the United States and the specific county expresses the impacts on marginalized classes that critical criminology theorizes. The data, while limited, showed a large gap between the number of Black defendants and other races, indicating a disproportionate representation of Black Americans in the criminal justice system. This is an area that future research can explore in conjunction with the aforementioned theory. Specifically, given the incomplete and limited data on defendants, especially the sentencing and incarceration data, it is recommended that future research focuses on racial disparities in criminal justice outcomes and whether critical criminology can explain some of the current unknown patterns of criminality in Macon. Future research could examine the link between incarceration rates and such crime trends in the city, as well as the influence of racial disparities on the cycle of disenfranchisement. More comprehensive research on this topic can assist stakeholders to understand the cause factors of Macon's homicide trends to ensure more effective and targeted solutions.

Summary

The findings of this study underscore the importance of understanding and characterizing the patterns of homicide incidence in Macon both sociodemographically and geographically to better inform corrective and preventive efforts. Notably, the study focused on homicide

incidence in Macon by analyzing the impact of demographic characteristics, geographic distribution, firearm possession and use, and gang affiliation on homicide incidence in the county. However, while the study contributes to the overall body of research on crime trends, important gaps remain with regard to the motivations of perpetrators and in identifying effective solutions to homicide perpetration in the county. Nevertheless, the findings of this study can be used as one of the tools to guide homicide and firearm policy making in Macon.

References

- Avdija, A. S., Gallagher, C. W., & Woods, D. D. (2021). Profiling homicide cases based on matched victim-offender demographic characteristics. *Journal of Investigative Psychology and Offender Profiling*, *18*(2), 101–115.
- Baghfalaki, T. (2018). Bayesian sample size determination for longitudinal studies with continuous response based on different scientific questions of interest. *Journal of Biopharmaceutical Statistics*, *29*(2), 1–27.
- Banas, T. E. (2017, April 24). *How to chi-square test*. Sciencing. <https://sciencing.com/chi-square-test-5881697.html>
- Barron, M. A. (2015). *Tax rebels: The rise of the white property owner in Cobb County, Georgia* (Doctoral dissertation, University of Maryland).
- Baumer, E.P., Rosenfeld, R., & Wolff, K.T. (2012, November). *Expanding the scope of research on recent crime trends*. U.S. Department of Justice Office of Justice Programs. <https://www.ojp.gov/pdffiles1/nij/grants/240204.pdf>
- Benedini, K. M., & Fagan, A. A. (2020). From child maltreatment to adolescent substance use: Different pathways for males and females? *Feminist Criminology*, *15*(2), 147–73.
- Bibb County Sheriff's Office. (2022, May). *Macon Bibb homicides*. [Data set].
- Bibb deputies arrest teen in shooting death of 8-year-old Miracle Brantley*. (2021, February 5). WMAZ-TV. <https://www.13wmaz.com/article/news/local/bibb-deputies-arrest-teen-in-shooting-death-of-8-year-old-miracle-brantley/93-5e387794-c601-4ae4-ad21-38ef0b8727a0>
- Bjerregaard, B. & Lizotte, A. J. (1995). Gun ownership and gang membership. *Journal of Criminal Law and Criminology*, *86*(1), 1–9.

- Bland, V. J., Lambie, I., & Best, C. (2018). Does childhood neglect contribute to violent behavior in adulthood? A review of possible links. *Clinical Psychology Review, 60*(1), 126–35.
- Boutwell, B. B., Nelson, E. J., Qian, Z., Vaughn, M. G., Wright, J. P., Beaver, K. M., Barnes, J. C., Petkovsek, M., Lewis, R., Shootman, M., & Rosenfeld, R. (2017). Aggregate-level lead exposure, gun violence, homicide, and rape. *PloS One, 12*(11), 1–12.
<https://doi.org/10.1371/journal.pone.0187953>
- Briandi, A. P. (2010). Resegregation and educational apartheid in Macon/Bibb County, Georgia: The more things change, the more they stay the same. *Electronic Theses and Dissertations, 532*.
- Bryant, R. (2013). *Taking aim at gun violence: Rebuilding community education & employment pathways*. Center for Law and Social Policy, Inc. (CLASP).
<http://files.eric.ed.gov/fulltext/ED544235.pdf>
- Bryman, A. (2012). *Social research methods*. Oxford University Press.
- Cabrera-Barona, P. F., Jimenez, G., & Melo, P. (2019). Types of crime, poverty, population density and presence of police in the Metropolitan District of Quito. *International Journal of Geo-Information, 8*(558), 1–16. <https://doi.org/10.3390/ijgi8120558>
- Cale, J., Holt, T., Leclerc, B., Singh, S., & Drew, J. (2021). Crime commission processes in child sexual abuse material production and distribution: A systematic review. *Trends and Issues in Crime and Criminal Justice, 617*(1), 1–22.
- Campney, B. M. (2011). “A state of violent contrasts”: Lynching and the competing visions of white supremacy in Georgia, 1949. *The Georgia Historical Quarterly, 95*(2), 232–62.

- Carlock, A. L., & Lizotte, A. J. (2015). Gangs, guns, and violence: Synergistic effects. In S. H. Decker & D. C. Pyrooz (Eds.), *The handbook of gangs* (pp. 178–92). John Wiley & Sons, Inc. <https://doi.org/10.1002/9781118726822.ch10>
- Case, S., Johnson, P., Manlow, D., Smith, R., & Williams, K. (2017). *Criminology* (1st ed.). Oxford University Press.
- County Office. (2022). *Jails and prisons in Bibb County, Georgia*. CountyOffice.org. <https://www.countyoffice.org/ga-bibb-county-jails-prisons/>
- DeGrazia, D. (2014). The case of or moderate gun control. *Kennedy Institute of Ethics Journal*, 24(1), 1–25.
- Dong, B., Egger, P. H., & Guo, Y. (2020). Is poverty the mother of crime? Evidence from homicide rates in China. *PLoS One*, 15(5), e0233034.
- Duffee, D. E., Renauer, B. C., Scott, J. D., Chermak, S., & McGarrell, E. F. (2006). *Community building measures: How police and neighborhood groups can measure their collaboration*. U.S. Department of Justice. <https://www.ojp.gov/pdffiles1/nij/grants/213134.pdf>
- Duke, A. A., Smith, K. M., Oberleitner, L., Westphal, A., & McKee, S. A. (2018). Alcohol, drugs, and violence: A meta-meta-analysis. *Psychology of Violence*, 8(2), 238.
- FBI. (2022). *Crime in the United States 2012*. https://ucr.fbi.gov/crime-in-the-u.s/2012/crime-in-the-u.s.-2012/tables/42tabledatadecoverviewpdf/table_42_arrests_by_sex_2012.xls
- Fisher, B. W., Nation, M., Nixon, C. T., & McIlroy, S. (2017). Students' perceptions of safety at school after Sandy Hook. *Journal of School Violence*, 16(4), 349–60, <https://doi.org/10.1080/15388220.2015.1133310>

- Gallotta, K. (2018). *Who will save the city: A comparative study of public policies for revitalization in Greenville, South Carolina and Macon, Georgia* (Publication No. 2838) [PhD diss., Clemson University]. All Theses.
- General, R. (2017, August 25). Asian American restaurant employee fatally shot and robbed in Georgia. *NextShark*. <https://nextshark.com/asian-american-restaurant-employee-fatally-shot-robbed-georgia>
- Georgia Bureau of Investigation. (2020). *2020 summary report Uniform Crime Reporting (UCR) program Georgia Crime Information Center*.
<https://gbi.georgia.gov/document/document/2020-crime-statistics-summary-report/download>
- Georgia crime rates 1960 - 2019*. (2019). Disaster Center.
<https://www.disastercenter.com/crime/gacrime.htm>
- Gereluk, D. T., Donlevy, J. K., & Thompson, M. B. (2015). Normative considerations in the aftermath of gun violence in schools. *Educational Theory*, 65(4), 459–74.
- Haslam, Z., & Taylor, E. P. (2022). The relationship between child neglect and adolescent interpersonal functioning: A systematic review. *Child Abuse & Neglect*, 125(1), 105510.
- Heide, K. M. (2021). Juvenile homicide offenders: Why they were involved in serious crime. *Behavioral Sciences & the Law*, 39(4), 492–505. <https://doi.org/10.1002/bsl.2530>
- ‘He had a heart of gold:’ 20-year-old west Macon shooting victim remembered by family (2019, June 28). WMAZ-TV. <https://www.13wmaz.com/article/news/he-had-a-heart-of-gold-family-remembers-20-year-old-shooting-victim/93-93171f87-ef9f-4958-8ba1-f10e12852bbd>

- Herrenkohl, T. I., Lee, J. O., Hemphill, S. A., Heerde, J. A., & Skinner, M. L. (2018). Gendered pathways from child abuse to adult crime through internalizing and externalizing behaviors in childhood and adolescence. *Journal of Interpersonal Violence, 32*(18), 2724–50.
- Hoag, A. (2020). Valuing black lives: A case for ending the death penalty. *Columbia Human Rights Law Review, 51*(3), 986–1009.
- Hunter, R. D., & Dantzker, M. L. (2002). *Crime and criminality: Causes and consequences*. Prentice Hall.
- Iliyasu, R. & Etikan, I. (2021, August). Comparison of quota sampling and stratified random sampling. *International Journal of Biometrics, 10*(2021), 24–27.
<https://doi.org/10.15406/bbij.2021.10.00326>
- Imran, M., Hosen, M., & Chowdhury, M. A. (2018). Does poverty lead to crime? Evidence from the United States of America. *International Journal of Social Economics, 45*(10), 226.
- Interpreting the results*. (2023). Plant and Soil Sciences eLibrary.
<https://passel2.unl.edu/view/lesson/9beaa382bf7e/8#:~:text=If%20your%20chi%2Dsquar,e%20calculated,to%20reject%22%20your%20null%20hypothesis>
- Ivey-Stephenson, A. Z., Blair, J. M., & Crosby, A. E. (2018). Using the National Violent Death Reporting System, efforts and opportunities to understand women's mortality due to suicide and homicide. *Journal of Women's Health, 27*(9), 1073-1081. <https://doi.org/10.1089/jwh.2018.7320>
- Johnson, D. B., & Robinson, J. J. (2021). Gun dealer density and its effect on homicide. *Urban Economics and Public Policy, 1–47*. <http://dx.doi.org/10.2139/ssrn.3867782>

- Johnston, M. (2014). Secondary data analysis: A method of which the time has come. *Qualitative and Quantitative Methods in Libraries*, 3(3), 619–26.
- Jung, S., & Stewart, J. (2019). Exploratory comparison between fatal and non-fatal cases of intimate partner violence. *Journal of Aggression, Conflict and Peace Research*, 15(10), 283–90.
- Kachinsky, N. (2017, August 22). Clerk dead after Macon convenience store shooting had been shot a year ago. *WGXA News*. <https://wgxa.tv/news/local/man-found-shot-dead-at-macon-convenience-store>
- Kaliyadan, F., & Kulkarni, V. (2019). Types of variables, descriptive statistics, and sample size. *Indian Dermatology Online Journal*, 10(1), 82–86.
https://doi.org/10.4103/idoj.IDOJ_468_18
- Kegler, S. R., Dahlberg, L. L., & Vivolo-Kantor, A. M. (2021). A descriptive exploration of the geographic and socio-demographic concentration of firearm homicide in the United States. *Preventive Medicine*, 153, 1–20. doi: 10.1016/j.ypmed.2021.106767
- Khan, F. (2014). *Urbanisation in the United States 1970-1990*. GRIN Verlag.
- Kolbe, L. J. (2020). School gun violence in the United States. *Journal of School Health*, 90(3), 245–53.
- Lau, T. (2020). *Predictive policing explained*. Brennan Center for Justice.
<https://www.brennancenter.org/our-work/research-reports/predictive-policing-explained>
- Leedy, A. (2018, May 14). Search for ‘cold-hearted’ Macon Hot Wings Plus killer continues. *WGXA News*. <https://wgxa.tv/news/local/search-for-cold-hearted-and-heinous-killer-continues>

- Liem, M., & Eisner, M. (2020). From homicide to imprisonment: Mapping and understanding the flow of homicide cases. *Homicide Studies*, 24(3), 207–19.
<https://doi.org/10.1177/1088767920917745>
- Liu, B. S., Wojcik, S. P., & Ditto, P. H. (2018). Moral coherence processes and denial of moral complexity. In K. Grey & J. Graham (Eds.), *Atlas of moral psychology* (pp. 371–81). The Guilford Press.
- Macon-Bibb County. (April, 2016). *Macon-Bibb Urban Redevelopment Plan*.
<http://www.maconbibb.us/wp-content/uploads/2013/10/Macon-Bibb-Official-URP-reduced-size.pdf>
- Macon man charged in triple murder, kidnapping extradited from Florida back to Georgia*. (2020, October 29). WMAZ-TV. <https://www.13wmaz.com/article/news/local/macon-man-charged-in-triple-murder-kidnapping-extradited-from-florida-back-to-georgia/93-a73e4895-5511-4dd9-a256-b92b0324e1cf>
- Marez, C. (2021). Precarious locations: Streaming TV and global inequalities. *American Studies*, 60(1), 9–31. doi: 10.1353/ams.2021.0001
- McHugh, M. L. (2013). The chi-square test of independence. *Biochem Med*, 23(2), 143–49.
<https://doi.org/10.11613/bm.2013.018>
- Metzl, J. M., & MacLeish, K. T. (2015). Mental illness, mass shootings, and the politics of American firearms. *American Journal of Public Health*, 105(2), 240–49.
<https://doi.org/10.2105/AJPH.2014.302242>
- Mier, C., & Ladny, R. T. (2018). Does self-esteem negatively impact crime and delinquency? A meta-analytic review of 25 years of evidence. *Deviant Behavior*, 39(8), 1006–22.

- Moorhouse, J. C., & Wanner, B. (2006). Does gun control reduce crime, or does crime increase gun control. *Cato Journal*, 26(1), 103–24.
- Morczek, A. L. (2017). Truth-in-sentencing laws. *The Encyclopedia of Corrections*, 1–5.
- Muller, C. (2018). Freedom and convict leasing in the postbellum south. *American Journal of Sociology*, 124(2), 367–405.
- Muller, C., & Schrage, D. (2019). The political economy of incarceration in the US south, 1910–1925: Evidence from a shock to tenancy and sharecropping, pp. 105–19. IRLE Working Paper.
- Niemietz, B. (2020, May 18). Man killed, then sexually violated a woman outside a homeless shelter: cops. *New York Daily News*. <https://www.nydailynews.com/news/crime/ny-sex-homeless-woman-georgia-20200518-adhta6wjfndfrnfv5zbas2o2iu-story.html>
- O'Brien, M., & Yar, M. (2008). *Criminology: The concepts*. Routledge.
- Palmer, L. M. (2021). Saving whiteness: Spectacular violence and the politics of white supremacist patriarchy. *Feminist Media Studies*, 1(1), 1–17.
- Parker, K. F., Mancik, A., & Stansfield, R. (2017). American crime drops: Investigating the breaks, dips, and drops in temporal homicide. *Social Science Research*, 64, 154–70. <http://dx.doi.org/10.1016/j.ssresearch.2016.09.029>
- Pear, V. A., Wintemute, G. J., Jewell, N. P., & Ahern, J. (2022). Firearm violence following the implementation of California's gun violence restraining order law. *JAMA Network Open*, 5(4), e224216-e224216.
- Pierce, M., Hayhurst, K., Bird, S. M., Hickman, M., Seddon, T., Dunn, G., & Millar, T. (2018). Insights into the link between drug use and criminality: Lifetime offending of criminally-active opiate users. *Drug and Alcohol Dependence*, 179(1), 309–16.

- Pratt Jr., J. B. (2021). *Terroir of violence in the capital of the southern black belt: On blackness and the American dream in Albany* (Doctoral dissertation, University of California, Irvine).
- Quednau, J. (2021). How are violent crime rates in U.S. cities affected by poverty? *The Park Place Economist*, 28(1), 1–22.
- Queirós, A., Faria, D., & Almeida, F. (2017). Strengths and limitations of qualitative and quantitative research methods. *European Journal of Education Studies*, 3(9), 369–87.
- Rahman, S. (2017). The advantages and disadvantages of using qualitative and quantitative approaches and methods in language “testing and assessment” research: A literature review. *Journal of Education and Learning*, 6(1), 102–12. <https://doi.org/10.5539/jel.v6n1p102>
- Reeping, P. (2022). School shootings are preventable, not inevitable. *bmj*, 104(66), 377.
- Reese, W. (2021, March 4). ‘You don't want to get that call’: Mayor, educator remembers teen shot and killed in Macon. *WMAZ-TV*. <https://www.13wmaz.com/article/news/local/you-dont-want-to-get-that-call-mayor-educator-remembers-teen-shot-and-killed-in-macon/93-aadf6f7d-c37f-4d4e-9802-0c2f3d186685>
- Roberto, E., Braga, A. A., & Papachristos, A. V. (2018). Closer to guns: The role of street gangs in facilitating access to illegal firearms. *Journal of Urban Health*, 95(3), 372–82, <https://doi.org/10.1007/s11524-018-0259-1>
- Rosenfeld, R., & Lopez, E. (2020). Pandemic, social unrest, and crime in US Cities. *Council on Criminal Justice*, 21(7), 127–39.
- Rosenfeld, R. & Weisburd, D. (2016, August 11). Explaining recent crime trends: Introduction to the special issue. *Journal of Quantitative Criminology*, 32, 329–334.

- Rouchy, E., Emma, G., Garcia, M., & Gregory, M. (2020). Characteristics of homicide-suicide offenders: A systematic review. *Aggression and Violent Behavior, 55*(101490).
<https://doi.org/10.1016/j.avb.2020.101490>
- Saladino, V., Mosca, O., Petruccelli, F., Hoelzlhammer, L., Lauriola, M., Verrastro, V., & Cabras, C. (2021). The vicious cycle: Problematic family relations, substance abuse, and crime in adolescence: a narrative review. *Frontiers in Psychology, 12*(9), 2906.
- Salfati, C. G., & Sorochinski, M. (2018). Sex worker victims: Consistency vs inconsistency in victimization patterns by serial sexual homicide offenders. In J. Proulx & E. Beauregard (Eds.), *Routledge international handbook of sexual homicide studies* (pp. 509–26).
Routledge.
- Semenza, D. C., & Stansfield, R. (2021). Community gun violence and functional disability: An ecological analysis among men in four US cities. *Health & Place, 70*(1), 102625.
- Segwick, P. M. (2012). Proportional quota sampling. *BMJ Clinical Research, 345*(sep263), e6336-e6336. <https://doi.org/10.1136/bmj.e6336>
- Shapiro, R. J. & Hassett, K. A. (2012, June). *The economic benefits of reducing violent crime: A case study of 8 American cities*. Center for American Progress.
https://www.americanprogress.org/wp-content/uploads/2012/06/violent_crime.pdf
- Siegel, M. (2020). *The impact of state-level firearms laws on homicide rates by race/ethnicity*. National Criminal Service Reference Service.
<https://www.ojp.gov/pdffiles1/nij/grants/254669.pdf>
- Simkus, J. (2022, January 7). *Quota sampling: Definition, method and examples*. Simply Psychology. <https://www.simplypsychology.org/quota-sampling.html>

- Solomon, K. (2021, January 4). 'He can't take somebody else's daughter': Macon homicide victim's father shares grief about her death. *WMAZ-TV*.
<https://www.13wmaz.com/article/news/crime/he-cant-take-somebody-elses-daughter-macon-homicide-victims-father-speaks/93-16b50695-e10c-4279-8450-91346bf47e0>
- Sperlich, M., Logan-Greene, P., & Finucane, A. (2022). "If not us, then who?": Frontline social workers' perspectives on gun violence. *Journal of Evidence-Based Social Work*, 19(1), 77–97.
- Stebbins, S. (2021, November 11). Albany and Macon are among the most dangerous U.S. metro areas. *The Georgia Sun*. <https://thegeorgiasun.com/2021/11/11/albany-and-macon-are-among-the-most-dangerous-u-s-metro-areas/>
- Stephan, R. M. (2012). A comparison of data classification methods. *Procedia Economics and Finance*, 3, 420–25. [https://doi.org/10.1016/S2212-5671\(12\)00174-8](https://doi.org/10.1016/S2212-5671(12)00174-8)
- Sutherland, M., McKenney, M., & Elkbuli, A. (2021). Gun violence during COVID-19 pandemic: Paradoxical trends in New York City, Chicago, Los Angeles and Baltimore. *The American Journal of Emergency Medicine*, 39(1), 225–26.
- Terranova, C., & Zen, M. (2018). Women victims of intentional homicide in Italy: New insights comparing Italian trends to German and US trends, 2008–2014. *Journal of Forensic and Legal Medicine*, 53, 73–78. <https://doi.org/10.1016/j.jflm.2017.11.007>
- Thomas, Y. (2018, April 25). 'Why? Why my son?' Grieving mother searches for answers, deputies look for killer. *WMAZ-TV*. <https://www.13wmaz.com/article/news/local/why-why-my-son-grieving-mother-searches-for-answers-deputies-look-for-killer/93-545723102>

- Tomlinson, K. D. (2016). An examination of deterrence theory: Where do we stand. *Federal Probation Journal*, 80(3), 33–48.
- Tripathy, J. P. (2013). Secondary data analysis: Ethical issues and challenges. *Iranian Journal of Public Health*, 42(12), 1478–79.
- Ukert, B., Wiebe, D. J., & Humphreys, D. K. (2018). Regional differences in the impact of Florida’s “Stand Your Ground” law. *Preventive Medicine*, 115, 68–75.
<https://doi.org/10.1016/j.ypmed.2018.08.010>
- United States Census Bureau. (2023). *National Poverty in America Awareness Month: January 2023*. [https://www.census.gov/newsroom/stories/poverty-awareness-month.html#:~:text=Official%20Poverty%20Measure,and%20Table%20A%2D1\)](https://www.census.gov/newsroom/stories/poverty-awareness-month.html#:~:text=Official%20Poverty%20Measure,and%20Table%20A%2D1))
- United States Census Bureau. (2023). *QuickFacts: Macon-Bibb County, Georgia*.
<https://www.census.gov/quickfacts/maconbibbcountygeorgia>
- United States Congress Washington. (1994). *Racial disparities in federal death penalty prosecutions*. <https://www.ojp.gov/ncjrs/virtual-library/abstracts/racial-disparities-federal-death-penalty-prosecutions-1988-1994>
- Wamser-Nanney, R. (2021). Understanding gun violence: Factors associated with beliefs regarding guns, gun policies, and gun violence. *Psychology of Violence*, 11(4), 349.
- Wang, M., Beal, D., Chan, D., Newman, D., Vancouver, J., & Vanderberg, R. (2017). Longitudinal research: A panel discussion on conceptual issues, research design, and statistical techniques. *Work, Aging and Retirement*, 3(1), 1–24.
- Ward, T., & Carter, E. (2019). The classification of offending and crime related problems: A functional perspective. *Psychology, Crime & Law*, 25(6), 542–60.

Webber, C. (2010). Psychology, sociology and crime: Mapping the historical terrain. In *Psychology & crime* (pp. 3–29). SAGE Publications Ltd.

What is a crosstab and when to use it. (2023). SurveyMonkey.

[https://www.surveymonkey.com/mp/what-is-a-crosstab-and-when-to-use/#:~:text=Cross%20tabulation%20\(crosstab\)%20is%20a,labeled%20with%20no%20specific%20order](https://www.surveymonkey.com/mp/what-is-a-crosstab-and-when-to-use/#:~:text=Cross%20tabulation%20(crosstab)%20is%20a,labeled%20with%20no%20specific%20order)

World Population Review. (2023). *Guns per Capita 2023.*

<https://worldpopulationreview.com/state-rankings/guns-per-capita>

World Population Review. (2022, April 3). *Murder Rate by Country 2023.*

<https://worldpopulationreview.com/country-rankings/murder-rate-by-country>

Yim, H. N., Riddell, J. R., & Wheeler, A. P. (2020). Is the recent increase in national homicide abnormal? Testing the application of fan charts in monitoring national homicide trends over time. *Journal of Criminal Justice*, 66(101656).

<https://doi.org/10.1016/j.jcrimjus.2019.101656>

Zach. (2020, April 27). *Chi-square test of independence: Definition, formula, and example.*

Statology. <https://www.statology.org/chi-square-test-of-independence/>

Zane, S. (2020, September 24). *Longitudinal research in criminology.* Oxford Bibliographies.

<https://www.oxfordbibliographies.com/view/document/obo-9780195396607/obo-9780195396607-0287.xml>

APPENDICES**APPENDIX A: Sheriff's Office Request for Data**

[REDACTED]
Macon, Georgia 31201

Dear [REDACTED]

As a graduate student in the Helms School of Government at Liberty University, I am conducting research as part of the requirements for a Doctor of Criminal Justice. The title of my research project is Exploring Unknown Patterns of Criminality in Homicide: A Longitudinal Analysis of Crime in Macon and the purpose of my research is exploring the unknown patterns of criminality in homicide in Macon through a qualitative longitudinal framework suitable for investigating under-researched problems.

I am writing to request your permission access and utilize homicide records from 2017 to 2021, specifically the first 20 cases for each year, with the data occurring into 2023. This data will be utilized to explore homicides in Macon-Bibb County, all information identifiers will be held in confidentiality. Your agency's data will be extremely helpful in my research; therefore, upon conclusion of my research, you and the [REDACTED] will be acknowledged in my Acknowledgement section of my dissertation.

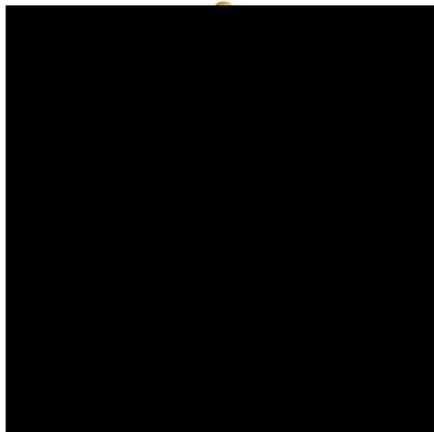
Thank you for considering my request. If you choose to grant permission, please provide a signed statement on official letterhead indicating your approval permission letter document is attached for your convenience.

Sincerely,

[REDACTED]

Ph.D. Candidate
University.
[REDACTED]

APPENDIX B: Sheriff's Office Approval for Data



<p>Office of the Sheriff • [Redacted] a Sheriff [Redacted]</p> <p>[Redacted]</p>
--

Ph.D. Candidate



Dear

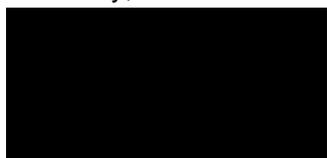
After careful review of your research proposal entitled Exploring Unknown Patterns of Criminality in Homicide: A Longitudinal Analysis of Crime in Macon, I have decided to grant you permission to receive and utilize case files from 2017–2021, with data collection occurring into 2023 for your research study.

Check the following boxes, as applicable:

- [The requested data WILL BE STRIPPED of all identifying information before it is provided to the researcher.]

- [[I/We] are requesting a copy of the results upon study completion and/or publication.]

Sincerely,



Sheriff



APPENDIX C: Coroner's Office Request for Data

[REDACTED]
Macon, Georgia 31201

Dear [REDACTED]

As a graduate student in the Helms School of Government at Liberty University, I am conducting research as part of the requirements for a Doctor of Criminal Justice. The title of my research project is Exploring Unknown Patterns of Criminality in Homicide: A Longitudinal Analysis of Crime in Macon and the purpose of my research is exploring the unknown patterns of criminality in homicide in Macon through a qualitative longitudinal framework suitable for investigating under-researched problems.

I am writing to request your permission access and utilize homicide records from 2017 to 2021, specifically the first 20 cases for each year, with the data occurring into 2023. This data will be utilized to explore homicides in Macon-Bibb County, all information identifiers will be held in confidentiality. Your agency's data will be extremely helpful in my research; therefore, upon conclusion of my research you and the [REDACTED] will be acknowledged in my Acknowledgement section of my dissertation.

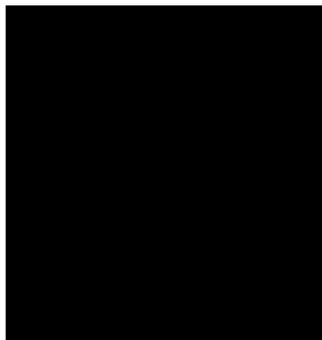
Thank you for considering my request. If you choose to grant permission, please provide a signed statement on official letterhead indicating your approval permission letter document is attached for your convenience.

Sincerely,

[REDACTED]

Ph.D. Candidate
University.
[REDACTED]

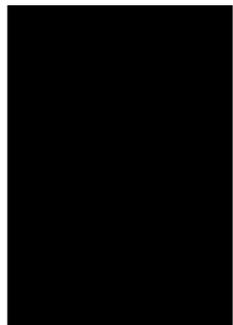
APPENDIX D: Coroner's Office Approval for Data



Office of the Coroner •



Coroner



Santel D. Smith
Ph.D. Candidate
Liberty University



Dear

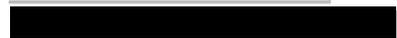
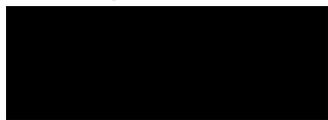
After careful review of your research proposal entitled Exploring Unknown Patterns of Criminality in Homicide: A Longitudinal Analysis of Crime in Macon, I have decided to grant you permission to receive and utilize case files from 2017 to 2021, with data collection occurring into 2023 for your research study.

Check the following boxes, as applicable:

[The requested data WILL BE STRIPPED of all identifying information before it is provided to the researcher.]

[[I/We] are requesting a copy of the results upon study completion and/or publication.]

Sincerely,



Coroner



APPENDIX E: Data Collection Form

Incident Rank _____	DATA COLLECTION FORM	Agency Incident # _____	Year _____
INCIDENT DEMOGRAPHIC			
Multiple Victim _____	# of Victims _____	Loc. Type _____	
Incident Date _____	Day of Week _____	Time of Incident _____	
Moon Phase _____	Moon % _____	Zip Code _____	
Bias _____	Gang Related _____	CASE STATUS _____	
VICTIM INFORMATION			
DATE OF DEATH _____	SEX @ BIRTH _____	RACE _____	
AGE AT DEATH _____	GANG MEM _____	DEATH CLASS. _____	
VIC TO OFF _____	MANN DEATH _____	WEAPON CALIB _____	
ARREST INFORMATION			
Arrest Made _____	# Arrest _____		
SUSPECT INFORMATION W/ NO ARREST			
SEX @ BIRTH _____	RACE _____	AGE AT INCIDENT _____	
GANG MEMBER _____	GANG AFFL _____	ALIVE _____	
Reason No Arrest _____			
ARRESTEE INFORMATION			
SEX @ BIRTH _____	RACE _____	AGE AT INCIDENT _____	
GANG MEMBER _____	GANG AFFL _____	# PREV. ARREST _____	
DATE LAST ARRT _____	DAY B/W H & A _____	DAY B/W H & LA _____	
Arrestee Adjudication			
COURT ADJUDICATION _____	CHARGES PRESENTED _____		
PLEA DEAL _____	CHARGES GUI/PLEA _____		
TRIAL VERDIT _____	SENTENCING _____		
SOURCE OF INFORMATION			
NEW MEDIA REFERENCE SOURCES			
END OF INCIDENT			

APPENDIX F: IRB Approval Letter

January 11, 2023

Re: IRB Application - IRB-FY22-23-735 Exploring Unknown Patterns of Criminality in Homicide: A Longitudinal Analysis of Crime in Macon

Dear,

The University Institutional Review Board (IRB) has reviewed your application in accordance with the Office for Human Research Protections (OHRP) and Food and Drug Administration (FDA) regulations and finds that your study does not meet the definition of human subjects research. This means you may begin your project with the data safeguarding methods mentioned in your IRB application.

Decision: No Human Subjects Research

Explanation: Your study is not considered human subjects research because it will not involve the collection of identifiable, private information from or about living individuals (45 CFR 46.102).

Please note that this decision only applies to your current application. Any modifications to your protocol must be reported to the University IRB for verification of continued non-human subjects research status. You may report these changes by completing a modification submission through your Cayuse IRB account.

If you have any questions about this determination or need assistance in determining whether possible modifications to your protocol would change your application's status, please email us at

Sincerely,

, MA, CIP
Administrative Chair of Institutional Research
Research Ethics Office