

DISSERTATION

UNRESOLVED HOMICIDE:
A CROSS-NATIONAL PERSPECTIVE

Submitted by

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In partial fulfillment of the requirements

For the Degree of Doctor of Philosophy

Colorado State University

Fort Collins, Colorado

Fall 2024

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ABSTRACT

UNRESOLVED HOMICIDE: A CROSS-NATIONAL PERSPECTIVE

Administrative justice research seeks to understand both the intended and unintended consequences of social action, institutional outcomes, and resulting sociological meanings. The study of homicide informs social science of one set of phenomena, while investigating unresolved victimization provides a contrasting framework of analysis. Unsolved or cold case homicides represent both terrible acts of harm and indicators of some deficiency in the ability of law enforcement to adequately respond. This dissertation expands on the current understanding of unresolved homicide by conducting a cross-national comparison of outcomes.

Beginning with a framework for understanding homicide, an analysis of unresolved homicide as a unique outcome is examined from a hierarchical theoretical perspective. This research proposes that there are linkages across social strata of macro governance, meso law enforcement institutions, and micro direct-contact predatory violations that display distinct patterns at an international level. This dissertation investigates the macro and meso Weberian (1947) bureaucratic structures that engages a micro Routine Activities Theory (Cohen and Felson 1979) process of post-homicide administrative justice outcomes. The research is informed by a combination of recommendations from prior literature, as well as introducing new techniques for measuring complex data.

Utilizing information from the United Nations, World Bank, the Varieties of Democracy dataset from the Department of Political Sciences at the University of Gothenburg, Sweden, and

relevant secondary sources, a multiple step process analyzes thirteen hypotheses. This includes verification of the constructed dataset, the replication of prior studies, and the implementation of speculative exploratory abductive research (i.e., inferential observational testing). Moving from the bivariate correlations of homicide to measures of formal contact by the police, to judicial convictions for homicide, 100 nations are compared across two sets of predictive independent variables through a process of multiple linear regression analyses. The first set of predictive independent variables tests are for macro level societal indicators, while the second set examines aspects of meso to micro interactions that affect opportunities for offending and victimization.

The findings support the validity of the dataset, achieve replication of prior cross-national homicide research, and from this a speculative unresolved homicide proxy measure is constructed. Deriving from the difference between the number of reported homicides and the reported number of formal contact police events in a country for a given year, a speculative examination of outcomes is conducted. Further exploration of the unique patterns identified by the unresolved homicide proxy measures are tested to provide further opportunities for theoretical explication.

Most of the hypotheses support past findings for homicide rates in producing patterns of correlations and significant predictive relationships. Mixed results from subsequent analyses contribute to a broader understanding of cross-national homicide and unresolved homicide events in context to macro and meso level social indicators. Measures of social inequality, economic development, civil unrest, impartial enforcement of the law, fairness of public administration, and equity of available public services contribute to the understanding of cross-national patterns affecting unresolved homicide rates.

ACKNOWLEDGEMENTS

I sincerely express my gratitude to my dissertation committee, mentors, family, friends, Colorado State University Department of Sociology, and the University of Montana Department of Sociology for providing me with the opportunity to achieve a doctoral degree. I earnestly thank my dissertation committee consisting of Dr. N. Prabha Unnithan, Dr. Michael Hogan, Dr. KuoRay Mao, and Dr. Jeffrey Snodgrass for providing me with support and feedback on this project. Creating and composing a doctoral dissertation is a wonderfully complex task that is best cultivated with knowledgeable instruction. I appreciated all the interactions and opportunities to learn from you while at Colorado State University. I give a special thanks to Dr. N. Prabha Unnithan, for your mentorship of me in this project and beyond.

I find myself continually in debt to the University of Montana Department of Sociology faculty, who engaged with me as an undergraduate and Master of Arts student. From my thesis chair Dr. Jackson M. Bunch to my committee member Dr. Daisy Rooks, to Dr. Dusten Hollist, Dr. Robert Balch, Dr. Daniel Doyle, Dr. Jim Burfeind, and Dr. Kathy Kupiers; I cannot express how much learning from you impacted me. The foundational understandings of sociology and criminology I established in your program assisted me in the completion of this doctoral degree.

While I cannot adequately thank everyone who supported me in this undertaking, my appreciation for the support of my wife, Chelsey Greenwood, daughter Oona V. Greenwood, son Killian J. Greenwood, my mother Leslie A. Greenwood, and father Kelly D. Greenwood cannot be understated. Each of you made the goal of completing this manuscript a worthy endeavor. To Dr. Daniel N. Acton, all my friends, and the Freemasons of Fidelity Lodge No.19 A.F.&A.M., thank you for your support and for the adventure we had along the way.

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CHAPTER 1 - INTRODUCTION TO CRIME IN A COMPARATIVE CONTEXT

Understanding criminal events in a comparative context benefits from engaging specific frameworks of analysis. Although harmful outcomes are generally perceived as undesirable, there are many factors that contextualize social behaviors. Phenomena viewed as “objectively” harmful, or deviant are not necessarily categorized as criminal across different societies. There are layers of socio-cultural interactions that must be interpreted to understand when social behaviors are perceived as criminal. Classical sociologists encouraged the analysis of phenomena by establishing a context for research within a larger framework of societal set and setting. Max Weber termed this understanding as *verstehen* in the context of social action. “Action is social in so far as, by virtue of the subjective meaning attached to it by the acting individual (or individuals), it takes account of the behavior of others and is thereby oriented in its course” (Weber 1947:88). This is to say that there are underlying patterns of social action that allow for the analysis of phenomena in a correlative or socially causal framework.

Weber defines the very discipline of Sociology as, “the interpretive understanding of social action in order thereby to arrive at a causal explanation of its course and effects” (Weber 1947:88). In his further discussion of sociological methodologies, Weber identifies that social action generates types of meanings (Weber 1947:89). First, social action attains meaning through either the reification of behaviors under a specific actor or an approximation of a plurality of actors (Weber 1947:89). Second, meaning can be identified in the conceptualization of theoretical ideal types, potentially engaged by a hypothetical plurality of actors (Weber 1947:89). While Weber goes on to dissect the complicated divisions of social action as intentional, reactionary, directed, and subjective, this dissertation is not an examination of his category delineation. For purposes of

this research what Weber provides is a context for understanding the social action of harm and the resulting statutory legal structure that contextualizes social meanings of criminal events.

Distinctions between deviance, harm, and crime have undergone the social processes of rationalization resulting in their bureaucratic codification into legal statutes. Statutory laws that define crimes and their punishments may be classified under Weber's second form of social action. Each defined crime may be seen as an ideal type, disembodied from potential actors and based on a *verstehen* of prior undesirable human behavior. The social heuristic of statutory law as collective political action is based on some totality of intentional behaviors within a plurality of cultural sets and settings. Weber's conceptualization of ideal types and social action, as well as the validity of *verstehen* itself can be identified by the shared categorizations of international statutory laws. For example, the intentional killing of a person or persons by others in peace time is recognized as murder, or more specifically homicide across all nations and cultures. While there are variations in the application or availability of legal processes, homicide is a shared ideal type.

Homicide is arguably the most severe type of criminal harm any person or set of persons can generate. To deprive another of their very existence has been a central focal point of denunciation across socio-cultural belief systems. In the traditions of Western philosophy there are many examples that point out murder as unjust, antisocial, and deserving of punishment. In the shared context of the Hebrew, Christian, and Islamic faiths, the narrative of Cain and Abel is the first display of homicidal betrayal. The Pentateuch describes the details of Cain's jealousy at the perceived favoritism of Abel by God (Genesis 4:1-16 of the Old Testament; Sura v. 27-32/30-5 of the Qur'an). From this strain of negative emotion, Cain commits fratricide and so quickly realizes his transgression as to engage deception to escape judgment. "Then the Lord said to Cain, "Where

is your brother, Abel?”, “I don’t know,” he replied. “Am I my brother’s keeper?” (Genesis 4:9 of the Old Testament).

The first Biblical identification of a crime, the first mention of blood, and the first judgment occur all at once, “The Lord said, “What have you done? Listen! Your brother’s blood cries out to me from the ground. Now you are under a curse and driven from the ground, which opened its mouth to receive your brother’s blood from your hand.” (Genesis 4:10-11 of the Old Testament). Not only is Cain a murderer, but there is a distinct establishment of sin and crime as interlinked but separate events. Although the retributive aspects of the Old Testament are often discussed from an “eye for an eye” perspective, Cain’s punishment is banishment. “But the Lord said to him, “Not so; anyone who kills Cain will suffer vengeance seven times over.” Then the Lord put a mark on Cain so that no one who found him would kill him.” (Genesis 4:15 of the Old Testament). This illustrates a prescriptive social morality that opposes murder as retribution.

The brief description above of Western religious philosophy displays a shared point of *verstehen* for multiple cultures and nations. Alternatively, the “eye for an eye” perspective is also contained within Western philosophy from at least two sources. Again, the Old Testament provides a point of origin in Leviticus 24: 17-22, “Whoever takes a human life shall surely be put to death. Whoever takes an animal's life shall make it good, life for life. If anyone injures his neighbor, as he has done it shall be done to him, fracture for fracture, eye for eye, tooth for tooth; whatever injury he has given a person shall be given to him. Whoever kills an animal shall make it good, and whoever kills a person shall be put to death. You shall have the same rule for the sojourner and for the native, for I am the Lord your God.”

However, this section also displays the hybrid nature of religious philosophy as the retributive elements of Leviticus exhibit a replication of prior legal ideologies. The Code of

Hammurabi outlines approximately 300 laws and predates the authorship of Leviticus by hundreds of years. Where religious texts identify Moses as writing Leviticus after fleeing Egypt under the reign of Ramses II 1297 to 1213 B.C.E., Emperor Hammurabi of the Babylonian Empire ruled Mesopotamia from 1792 to 1750 B.C.E. (Velikovsky 1952; Velikovsky 1978; Charpin 2012). Beyond that, similar retributive legal codes have been identified in the Ur-Nammu Law Code, stone tablets dating from around 2400 B.C.E. from the ancient city Ebla in modern-day Syria (Kramer 1954).

From an Eastern perspective, we are likewise presented with overlapping and historically established sets of philosophies. Although Hinduism, Buddhism, Confucianism, and Taoism, each present serious contemplations on behavioral social action, the ancient Sanskrit hymns of the Vedic tradition predate other Eastern practices. The Rig Veda Hymn LXXV, Weapons of War 19 states, “Whoso would kill us, whether he be a strange foe or one of us, may all the Gods discomfit him.” (Holy Books, 2024). HYMN III, Agni 13, “Go never to the feast of one who harms us, the treacherous neighbor or unworthy kinsman. Punish us not for a false brother’s trespass. Let us riot and feel the might of friend or foeman.” (Holy Books, 2024). HYMN LI, Visvedevas 7, “Let us not suffer for the sin of others, nor do the deed which ye, O Vasus, punish.” (Holy Books, 2024).

While these excerpts are not a one-to-one match with ancient Western ideas, the Rig Veda’s historic importance cannot be understated. The origins of these ideal types were communicated through a bardic tradition dating to around 1500 B.C.E. (Prasad 2015). The hymns were distributed throughout the Eastern world ahead of formal codification, as writings dating to nearly 300 B.C.E. (Prasad 2015). The basic themes of murder as punishable under the authority of a deity, social ostracization for criminal behavior, and individualized responsibility for social action align across the larger *verstehen* of ideal types. Further, the comparison of Eastern and Western ideas of murder

as a social phenomenon displays that homicide is an apex crime highlighted across unique philosophical traditions. First, killing is a sin under some supra-human authority. Second, killing is a crime identifiable, governable, and punishable at the level of human social action.

In each case, there is an underlying ideal type of criminality and justice expressed through the mechanisms Weber describes as imperative to establishing an analysis of social action. This is similar to Weber's description of the conditions during the emergence of capitalism. First, Calvinist religious beliefs combined to establish the doctrine of the predestination (Weber 1947:65). Then the material successes of the Calvinist belief structure transcended the faith-based system and expanded into the broader European social sphere. Further, Weber identified that a modernizing form of Capitalism in the United States (U.S.) was subsequently stripped of the religious meanings and instead takes on a secular attitude of competition (Weber 1992:124).

This rapid transformation of an ideal type displays an evolution of social action that links current systems to past philosophies. Although modern statutory laws are not directly or completely representative of these ancient moral philosophies, the foundational ideas of the past remain relevant in our modern context. Both past and current systems of socialization influence personal behaviors and political ideologies that serve to establish a comparable context for criminality at an international level of analysis. The *verstehen* of each nation, each legal system, and all possible variations among them share a total capacity for identifying patterns, allowing for a correlative or socially causal analysis of outcomes.

This dissertation explores the modern context of homicide, at a global scale with a focus on failures of formal criminal justice systems to provide adequate or timely resolutions. This project takes inspiration from prior comparative international investigations engaging a theoretical framework of shared ideal types across crime and justice. Homicide is a preeminent criminal act,

abhorrent and objectionable. Both the legally defined act of murder and criminal justice institutions involved in homicide resolutions are ideal types. All nations and cultures identify homicide as a unique crime. All nations and cultures specify personal, community, and institutional responses to homicide as a crime.

This dissertation presents findings in a process of discussing theoretical possibilities, examining prior literature, replicating previous findings, and then introducing new techniques in analyzing unresolved homicide at a global level. Each chapter will contribute to the study by discussing key concepts, findings, and analytical procedures. This begins in Chapter 2 in discussing the complexity of homicide and unresolved homicide to provide a clear definition for the analysis. Chapter 3 introduces the theoretical discussion of Weberian (1947) bureaucratic macro governance and meso institutional patterns. These ideas are then linked to the Routine Activities Theory micro predatory violations of Cohen and Felson (1979). This framework provides context for understanding unintended outcomes or perceived failures of institutional law enforcement that result in unresolved homicides as a phenomenon at a global scale.

Chapter 4 reviews of prior literature focuses on global, regional, and local police actions which provides a foundation for conducting the central analysis. Chapter 5 provides the methodology, introduces the data for the analysis, and lists the hypotheses testing in a multi-stage technique. Chapter 6 verification of the original database, replication of prior findings, and introduction of new techniques for understanding unresolved homicide as a global to local, or glocal (Roudometof 2016) phenomenon occurs in context to the prior discussions. One important note for understanding this research is that reliable yearly national, regional, or local unresolved homicide data is not available. While this research examines some of the possible reasons for this unique category of missing data, it also proposes the use of a proxy measurement.

Chapters 7 and 8 review the findings of the study and conclude the research in a reflective global to local cross-national context. The interlocking concepts of an unresolved homicide proxy measure and a glocal scale of analysis are integral to the comparative cross-national nature of the research. This dissertation proposes that macro bureaucratic differences in governance produce meso level law enforcement institutional variations. These variations in institutional policing practices produce patterned homicide resolutions. While a homicide occurs as an intimate person-to-person, micro direct-contact predatory violation, under Routine Activities Theory (Cohen and Felson 1979) criminal justice outcomes occur at a meso institutional policing level.

The glocal context of criminal justice is complex in that it identifies patterns across a global to local framework. For example, the reporting, investigation, and resolution of a homicide by police may follow a similar processes nation-by-nation or city-by-city due to unique factors that influence criminal justice patterns. Glocalization (Roudometof 2016) seeks to identify or account for unique aspects of the same global phenomenon. This can be seen as a counterpoint to the concept of McDonaldization (Ritzer 1983) which conceptualizes similarities through imposed standardization or efficiency.

While one goal of criminal justice is to hold offenders accountable for murderous acts, that objective may not always be achievable. Homicides go undetected, unsolved, and unresolved. Responding and resolving crime is dependent on adequate time, resources, available evidence, and the ability of criminal justice institutions. Crime does not pause to allow justice systems to reconcile all cases as they occur. Instead, a complex ebb and flow of broader social dimensions exert subtle effects that condition the reporting, recognition, and resolutions of homicide. This dissertation seeks to contribute to a global understanding of the dimensions of unresolved homicide in a comparative cross-national perspective.

CHAPTER 2 - UNRESOLVED HOMICIDE AS A SOCIAL PHENOMENON

Patterned social phenomenon are conditioned by socio-cultural lifetimes of experiences. Our socio-cultural training begins at a young age, long before we have the knowledge or opportunity to be cognitively selective. My interest in unsolved, unresolved, and cold case homicides originates with Siobhan McGuinness. 5-year-old Siobhan disappeared when walking home on a snowy day in Western Montana (Baker 2020). She was reported missing in the afternoon and law enforcement scouted the mountainous terrain throughout the night. Authorities and her family grew even more concerned as the February winter temperatures dropped below freezing and visibility was limited by a snowstorm.

When she could not be found, friends of the family joined the search. A local cowboy on horseback began looking in the tougher to reach off-road areas. On his second day of searching, he found Siobhan's lifeless snow-covered body stuffed in a drainage culvert. Once police recovered her it was clear that she had been beaten, stabbed in the chest, and sexually assaulted. Finding the killer and pursuing justice for Siobhan appeared to be impossible as the snowy weather covered any tracks, the freezing of her body complicated the coroner's assessment, and 1970's forensic technologies held little hope of linking evidence to an unknown suspect.

Researcher Positionality

My family was friends of the McGuinness's. Our community ties continued throughout my life and in 2007 Steve McGuinness, my father Kelly Greenwood, and I worked on an antique neon sign restoration project which now hangs outside the University of Montana School of Journalism (Briggeman 2007). Like many children in our area, I grew up under the shadow or perhaps more accurately, haunted, by the death of Siobhan McGuinness. We were often reminded of her disappearance, given instructions never to travel alone, not to talk to strangers, and to look out for

each other. Her death was a formative event in my personal and community understanding of the social phenomenon of unsolved murder.

The development of this dissertation project emerged from an alignment of past and present experiences. In 2020, I assisted Dr. N. Prabha Unnithan at Colorado State University prepare for his year of service as the President of the Academy of Criminal Justice Sciences. Then seemingly out of nowhere, the story of Siobhan McGuinness reemerged. After 46-years of cold case status, there was a breakthrough from a combination of innovative DNA (deoxyribonucleic acid) analysis and genetic genealogy. As technology advanced there was an increase in publicly shared ancestral DNA results and fortunately detectives back in Montana had preserved minuscule samples of evidence. The biotechnology firm, Othram, took on the Siobhan McGuinness case and matched the degraded forensic evidence with a publicly available DNA sample (DNASolves 2024). In a twist of fate, relatives of long-haul trucker and now suspected serial child murderer Richard Davis shared their DNA results. The combination of preservation of evidence by the police and advanced technology suddenly resolved a 46-year cold case.

My work with Dr. Unnithan focused on unresolved homicide and at the same time the conclusion of my most salient personal experience with a cold case emerged from the past. Despite the positive news of identifying Siobhan's killer, Richard Davis died in 2012 eluding accountability for his crimes. My personal reflections led me to evaluate the experiences of the McGuinness family, law enforcement, the Davis family, and my small-town Montana community connected by this cold case. Through this process I identified the glocal context for researching cold case homicide as a large-scale sociological and criminological phenomenon.

Homicide as Social Action

From my local neighborhood to a global scale, unresolved homicides are social phenomenon based on the articulation of multiple variables contextualized in a unique set and setting. Any resolutions or conclusions to a cold case are likewise based in patterned responses beyond a singular homicide, offender(s), or investigation. Sociology is uniquely positioned to analyze the complex social layers of interactions that condition unresolved homicide as an event beyond murder, outside individual failures of the criminal justice system, and eclipsing the horrors inflicted by offenders. The overlapping macro, meso, and micro levels of social interaction each require a theoretical lens from which we can understand how systems, groups, and individuals play a part in unresolved homicide as a social phenomenon.

Weber (1947) discusses the complex of individual variables, social variables, and occurrences that generate the *verstehen* of social action. Unresolved homicides are a collective social phenomenon greater than the sum of the aggregate parts of cold cases. There is a confluence of factors in social and geographical spaces that combine to condition criminal justice outcomes. While any single murder contains individual actors as offenders, victims, and law enforcement officials they represent larger social concepts. For example, social, political, and cultural forces condition interpersonal actions related to violence. Structural, institutional, and economic factors influence criminal justice responses. These variations produce the possibility that homicides go unsolved because of the interplay of factors across the macro, meso, and micro sociological levels.

Homicides occur in context to the *verstehen* of every location. In a broader perspective, those locations are geographically bound as nation-states which share a given set of social, economic, political, and criminal justice characteristics. The macro bureaucracies of each country exert forces which condition institutional responses and individual interactions. Murder occurs as

a crime at an individual micro-sociological level between offenders and victims. However, a homicide becomes a meso-sociological interaction as law enforcement personnel engage to investigate the crime. Homicide is the transition of murder to a broader sociological level as criminal justice institutions convert the individual nature of the crime to a larger set of social processes including arrest, adjudication, conviction, and punishment. At each point there are individuals; however, individual factors become less impactful as the scale of institutional reactions and interactions expands into the meso or macro levels of bureaucratic action.

While murder occurs between persons, it is also a statutory crime regulated under jurisdictional boundaries. Nation-states maintain the right and thereby the responsibility to enforce laws for statutory violations as ideal types. Further, all failures to enact justice are also the responsibility of the nation-state, transferring the undesirable outcome of an unsolved murder to the institutional failure of unresolved homicide. The social phenomenon of unresolved homicide is then the reification of our lived experiences in reflection not only to the violent act of murder, but the total set of thoughts and feelings that encompass our perceptions of the failure of the nation-state to resolve homicides. The *verstehen* of unresolved homicide encompasses each level of sociological analysis through our conditioned process of enculturating harm and criminal justice.

Defining Unresolved Homicide

To analyze unresolved homicides and any potential patterns of interactions a set of definitions needs to be established. The terms and limits of the definitions need to be set so they can be applied or contrasted beyond the present analysis. This analysis of unresolved homicide will employ basic guidelines for defining terms and selecting variables. First, when possible, the definitions need to be adopted from established sources that apply to the broadest context. Second, when possible, definitions need to encompass that greatest number of locations, actors, and

outcomes. Third, definitions should attempt to transcend culturally specific ideologies and represent broader ideal types in a Weberian sociological context.

To evaluate patterned differences in a broad perspective it is necessary that this analysis use large-scale data. This type of analysis requires linking the definitions of the variables to the methodologies and subsequently the framework of analysis. This investigation will utilize quantitative data, collected by formal institutions at an international level. While some are considered ‘official’ data sources like the United Nations (UN), others are political, economic, or academic sources with a history of providing publicly available data.

This scientific approach adopts a specific epistemological stance by focusing on a comparative quantitative framework. Here, the loss of rich, personal data and details found in a qualitative perspective is exchanged for the broad comparative analytic patterns based on defined Weberian ideal types. The clear and broadly applicable variable definitions are accessible to researchers worldwide and could be used as a general structure for subsequent qualitative examinations. The definitions and explanations of ideas described below are designed to satisfy the three criteria outlined above in that they are (1) adopted from established sources, (2) broad in their application, and (3) represent ideal types across variables in the analysis.

Homicide

This dissertation focuses on homicide data collected and distributed by an agency of UN, the United Nations Office on Drugs and Crime (UNODC) under an International Classification of Crime for Statistical Purposes (ICCS) (UNODC Booklet 1 2019). This provides an international definition of homicide as the “unlawful death inflicted upon a person with the intent to cause death or serious injury” (UNODC Booklet 1 2019:7). The UNODC provides a definition that is irrespective of definitions adopted by any single nation or government. There are three elements

that characterize killing or murder as an intentional homicide including (1) the objective element of the killing a person by another person, (2) the subjective element of the intent of the offender to kill or seriously injure the victim, and (3) the legal element of the unlawfulness of the killing (UNODC Booklet 1 2019:7).

At an international level, this definition of homicide does include deaths caused by terrorism and attaches the intentionality of killing via terroristic acts under the total liability of the perpetrator (UNODC Booklet 1 2019:7). This is differentiated from excluded forms of killing which are not defined as homicides in this analysis. Non-homicide killings include (1) deaths caused by armed conflict or war, (2) self-inflicted deaths or suicides, (3) deaths caused by legal interventions or self-defense, and (4) deaths due to negligence or reckless actions resulting in non-intentional homicide (UNODC Booklet 1 2019:7). In this analysis homicide is defined as an ideal type represented by a person's death that is intentionally caused by another person, thereby meeting the threshold of attaining a legal standard of culpability.

The UN is not the only source for cross-national homicide data. However, it does contain specific information necessary to calculate unresolved homicides as a subset of a larger category. For example, the World Health Organization (WHO) also produces yearly homicide data. This information is a combination of the UNODC data and measures from the WHO Mortality Database (WHO 2024). It has been previously concluded that the yearly WHO homicide information is a richer source for analyzing homicide statistics (Unnithan 2021; Andersson and Kazemian 2018). However, the WHO data does not measure any other criminal justice actions which are necessary to estimate unresolved homicides.

Prior research has established that homicide reporting, and homicide rates are among the most valid and reliable measures of cross-national crime (Andersson and Kazemian 2018;

Neapolitan 1994; Neapolitan 1997; Bennett and Lynch 1990; Huang and Wellford 1989; Kick and LaFree 1985; Hansmann and Quigley 1982). From this perspective the choice to use data from the UN that includes multiple criminal justice indicators specific to police action directly related to homicide is intended to maintain standards of validity and reliability across the analysis. UNODC dataset was selected because this analysis requires more than finding a single best measure of homicide at an international level.

Homicide Rate

The homicide rate for this analysis is determined under standard calculations for every UN recognized sovereign territory. The UN country classification system is based on categorizations by the World Economic Situation and Prospects (WESP) division to evaluate dimensions of the global economy (UN/DESA 2024). It combines data from the statistics division and population division of the United Nations Department of Economic and Social Affairs (UN/DESA), and five UN regional commissions. These regional commissions include the International Monetary Fund (IMF), the Organization for Economic Cooperation and Development (OECD), the United Nations Conference on Trade and Development (UNCTAD), the United Nations World Tourism Organization (UNWTO), and the World Bank.

The country classification created by the WESP includes population, economic, development, and geographic data divided into continental regions, subcontinental regions, and countries. This creates a hierarchy where a country, the United States of America for example, is organized as regionally bound to (1) the Americas, (2) Northern America, and (3) the United States of America. The continental regions include Africa, the Americas, Asia, Europe, and Oceania. Subcontinental regions are similarly divided into directional, situational, or delineated categories based on geographic location within continental regional boundaries. This also generates a

discrepancy between the current 194 UN member nations and 197 sovereign territories recognized by the UN. This discrepancy is neither the focus nor an impediment to this analysis, because homicides rates are calculated based on UN designations.

Homicide rates will then be calculated as the number of homicides divided by the population of a country, where that outcome is multiplied by one-hundred thousand. Resulting in a homicide rate per one-hundred thousand as a comparable statistic between nations of varying homicides frequencies and populations in a single calendar year timeframe. To continue with the above example of the United States of America; combining the UNODC and WESP data from the UN results in calculating the 2016 homicide rate for the United States as 17,413 homicides divided by the 323,016,000 population, equaling 0.00005391. This outcome of 0.00005391 is then multiplied by 100,000 for a value of 5.39075464, which is rounded to the nearest 100th of an integer for ease of further analysis. All of this results in a calculation that in 2016 the United States of America displayed a 5.39 homicide rate per 100,000 people.

The advantage of employing rates as a tool for comparative analysis is that they allow for the examination of different nations under the UN geographic categories regardless of their population sizes by generating a baseline for observations. For example, in the same year 2016, Canada which is geographically classified by the UN as (1) the Americas, (2) Northern America, displayed a homicide rate of 1.68 per 100,000 people (612 homicides with a population of 36,383,000). In 2016, Canada had a population 1/11th the size of the United States of America and 16,801 less homicides. However, the comparative estimation is that the homicide rate in the United States of America (5.39 per 100,000) is roughly three times greater than the homicide rate in Canada (1.68 per 100,000). This figure therefore articulates the conceptualization of homicide as

an ideal type, wherein comparing equally defined statutory constructs reveals the difference in severity of homicide as a social phenomenon.

Unresolved Homicide

To operationalize unresolved homicide as a measurable value at a cross-national level, the difference between homicides as defined by the UN and the number of homicide resolutions that occur must be calculated. To achieve this, police homicide formal contact information from the same UN dataset is retrieved and subtracted from the homicide count for each nation within a selected calendar year. The resulting number is then an unresolved homicide proxy count, which can be calculated into an unresolved homicide measure, similar to that of a homicide rate or homicide formal contact rate for each nation in the study.

It is important to identify that the criminal justice response to homicide for each nation operates within a specific context of resources deployed, available personnel, and institutional capacities. In a broader context there is a procedural or operational process whereby a homicide must first be reported to law enforcement, second the report must be investigated, and third there must be a criminal justice resolution to that investigation. An unresolved homicide is then defined as an event which has been reported to law enforcement, has been investigated, and then failed to achieve the third step of receiving a criminal justice resolution. In the UN data this third step failure is a conceptual element, represented by the difference between the homicide count and homicide formal contact count for each nation, in any given year of data.

Unresolved homicides are not unreported or undetected homicides. Both the reporting and detection of a homicide rely on several social factors outside the direct intervention of law enforcement agencies. If a death is not identified and reported to law enforcement, it would fail to meet the standard of a homicide as defined in this analysis. It is likely that there are many deaths

that go unrecognized as being a homicide or are unreported due to the complexities of victim and offender interactions. For example, murders among gang members, homeless persons, or anti-government extremists may go unreported as these groups actively avoid legal authorities. Similarly, crimes of opportunity against vulnerable populations like the elderly, children, undocumented workers, or the victims of sex trafficking may evade detection as these groups often lack efficacy. Whether that is due to anti-social orientations or victim and offender selectivity, if law enforcement remains uninformed a murder fails to achieve a Weberian ideal typology of statutory classification as a homicide.

From this we are left with the problem of the third category, criminal justice actions. Once law enforcement is engaged in the active detection and investigation of a homicide, the primary goal is to identify a perpetrator for subsequent legal proceedings. This is commonly referred to as the clearance of a crime. The concept of clearance and clearance rates has a long-established history in the United States and across the world. These are standards by which the effectiveness or efficiency of law enforcement, prosecutors, and subsequently justice systems are regularly evaluated. In 1966, Jerome Skolnick discussed law enforcement in the context of the social, political, and procedural aspects that define police work. He argued that the legitimacy of policing as an institution depends not only on public safety related to arrests and the behaviors of officers, but the larger concepts of justice that those actions generate.

Among the concerns Skolnick (1966) identified conflicting expectations during police and public interactions. While police are expected to engage in protective behaviors by enacting arrests, larger social concerns for fairness, justice, and due process contextualize perceptions. The balance between following statutorily obligating and socially expected norms compounded by achieving valid criminal justice outcomes increases the complexity of police work. Because

homicide is considered an apex crime, it is undesirable to have active homicide offenders in a community. However, given that the standard of punishment for homicide represents some maximum penalty, errors of false convictions are equally concerning among civilian populations.

Police in their many cross-national configurations are the enforcers of the law. They play the role of gatekeepers to the resolution of homicides. The work performance of the police at any given time is a social artifact of the macro-sociological ideal types embedded within meso law enforcement institutional systems. There are aspects of measuring police work which play a role in defining unresolved homicide in this analysis. Harkening back to Sir Robert Peel's Victorian era nine principles of policing, homicide violates or otherwise erodes regulatory police work categorizations (Law Enforcement Bulletin 2023). Homicides challenge state authority by displaying a failure to prevent criminal acts, which fosters discord of public approval for the police.

The practical application of policing towards justice is conceptualized as the clearance of criminal events. Clearance is a complex concept, captured in a socially generated set of ideas. First, we must differentiate between crimes known to the police and crimes that go unreported. Then we need to understand how criminal events documented by the police are resolved. Finally, we must designate a timeframe within which crimes are deemed unresolved and subsequently relegated to the cold case category. The police are therefore enmeshed in a situation where resolving a homicide becomes a significant metric of success, despite the complexity of the criminal justice processes. While police may be unable to prevent a homicide from occurring, their ability to resolve the crime becomes a critical defining characteristic.

The Dark Figure of Homicide

One element to understand in the potential resolution of homicide events is the differences between reported and unreported crimes. This study is bound by the homicide definitions outlined

by the United Nations and as a result relates only to killings reported or known to law enforcement. This does not include killings that are not reported to police agencies or persons suspected to have been killed but who may be considered as missing persons. All the unreported homicides, unidentified bodies, and persons who have disappeared are placed under a broader category of omissions designated as the dark figure of homicide (Minkler, DeLisi, Marquart, and Scurish 2024). The dark figure of homicide is related to the broader concept of the dark figure of crime.

The dark figure of crime (Biderman and Reiss 1967) has been a serious consideration in applied statistical criminology for nearly two-hundred years. The term itself is attributed to Belgian statistician, mathematician, and astronomer Adolphe Quetelet. More accurately, Lambert Adolphe Jacques Quetelet began working on criminal patterns and the moral implications of crime around 1830. Even though Quetelet is often cited as having coined the phrase “the dark figure of crime,” the term came into prominence for criminology in the 1950’s. However, the linkages in the development of criminology adopting the Law of Error from astronomy introduced by Quetelet in combination with the statistical methodology of least squares established the baseline for probabilities across the standard normal curve (Tafershi 2022).

Quetelet collaborated with attorney André-Michel Guerry, and they analyzed criminal patterns across France. They identified criminogenic patterns that generate averages based on seasons of the year. From this, Quetelet concluded that once social events are defined or confined within patterned systems, statistical methodologies could be applied to estimate past, present, and future outcomes. At least as far as both randomized errors and interindividual errors could be reconciled. Interindividual errors are the variations obtained from different people when measuring the same observation (Tafershi 2022). Quetelet formulated a view of the social sciences as sort of social physics where in calculating a mean error term allows researchers to apply an inverse

inference into an equation, thus allowing for the calculation of generalizable estimate-based probabilities. The concept is that the probabilities of observations (O) are the sum of the true value (T) and the error term (E) (Tafershi 2022). This is represented as $O = T + E$, which we now identify in the social sciences as $y = \alpha + \beta x + \epsilon$.

The mathematical elements of the Law of Error and the processes of statistical analysis for generating a standard normal curve were already available. However, Quetelet assembled them and applied them to sociological and criminological concepts. Quetelet then noted that patterned systems undergo changes when they connect with larger social institutions, in this case law enforcement agencies. Although homicide resolution is within the purview of the police, the very nature of randomized error will alter outcomes. This represents that we cannot know what we do not know, and we must account for some average of unknown factors. Quetelet (1831:18) wrote, “In a well-organized society where the police are active and where justice is well administered, this relationship for manslaughters and murders will be pretty equal to unity - that is to say that an individual will not disappear from society at all by manslaughter or murder without it being known.” Variations away from total accountability of homicide justice are nothing less than the total factors of a society's organization, police performance, and all the unknowns combined.

Quetelet (1831:17) sets up the interconnected concepts of the dark figure of crime as, “It is that our observations can only correspond to a certain number of crimes known and judged out of an unknown sum of crimes committed. As this total of crimes committed will probably remain unknown forever, all the arguments for which they will serve as a basis will be more or less defective.” He goes on to postulate, “I do not even hesitate to say that all we are conversant with on the statistics of crime and offense would not be of any use unless it were admitted tacitly that

there exists a relationship pretty nearly invariable between offenses known and judged and the unknown sum total of offenses committed.” (Quetelet 1831:17).

An important side note on Quetelet is that he also clearly statistically identified the nexus of age, sex, and criminal offending as a male gendered age-crime curve in 1831 stating, “Among all the causes which have an influence for developing or halting the propensity for crime, the most vigorous is, without contradiction, age.” (Quetelet 1831:54). This dual taxonomy of age and crime divided by gender is often discussed by researcher Terrie Moffitt (1993) as adolescence-limited and life-course-persistent antisocial behavior. However, Moffitt (1993) identifies the criminological pattern as relating to Gottfredson and Hirschi’s 1990 *A General Theory of Crime* delinquency model.

Even in often-cited publications focusing on the dark figure of crime, the role of Quetelet is ignored or forgotten. Biderman and Reiss (1967) discuss the implications of law enforcement reporting, the adequacy of police administrative records, and the value of a crime rate index. They summate the procedural steps in policing as, “so selective that the ‘visible tip of the iceberg of crime’ looks progressively different from the huge, submerged mass.” (Biderman and Reiss 1967:4). The underlying ice below the waterline is the dark figure of crime. However, these unknowns do not discredit using official homicide data defined and collected by the United Nations as valid but incomplete.

Steven Messner (1984) explored the concepts of the dark figure of crime and composite indexes of crime to examine differences between official data from the United States Federal Bureau of Investigation (FBI) Uniform Crime Report (UCR) and the National Crime Survey (NCS), which is now titled the National Crime Victimization Survey (NCVS). The assumption here is that the NCS represents a more complete picture of the “actual” frequency of homicide or

other crimes as it is not subject to some of the shortfalls in police reporting and response mentioned earlier. Through examining a twenty-six-city sample in the United States, of weighted crime rates from 1973 to 1981; Messner (1984:442) found linkages between the UCR and NCS data and argues that an official homicide rate could be used as a useful proxy for a general index of crime.

Messner (1984) found that homicide resolutions are costly and time-consuming criminal justice events. As such they relate to some overall expenditure of police resources. The core concept linking homicide rates with other violent crime rates was supported by the subsequent work of Van Breen, Rabolini, and Leim (2023) examining similar patterns in Northern Europe. This concept of homicide as a heuristic for crime in general is only representative and should not be considered a reliable measure. However, these findings support a perspective for understanding officially reported homicide rates as representative of broader sociological, political, and criminal justice concepts. As law enforcement is an institution affected by social forces, unresolved homicide in any given jurisdiction also represents some broader measure of social differences between places at a specific period.

A more focused study on murder victims by Quinet (2007) sought to identify the variability of “the missing missing”, or those persons who were not officially reported as murdered or missing and who may have fallen victim to serial killers. This study highlights the overlap of missing persons and unresolved homicides. Quinet (2007:324) points out that in the early 2000’s the difference in gender for homicide was approximately 75% male and 25% female. However, the percentage difference for missing persons was divided almost 50% equally for both men and women. Beyond persons who go missing and could be deceased, there is also the problem of a significant number of unidentified bodies that are discovered in the United States each year.

A recent example is that in 2022 the National Crime Information Center (NCIC) reported over 8,000 unidentified decedents (NCIC 2023). Throughout 2022 the adjusted figures display that 581 cases were added, 568 cases were resolved, for a resulting 13 person increase (NCIC 2023). While these deceased persons may or may not have been victims of homicide, their status as deceased and unresolved could impact overall U.S. homicide reporting, depending on jurisdiction. Quinet (2007:334-335) argues that anywhere between 182 and 1,832 homicides could occur in the United States each year at the hands of serial killers alone. Further, the disjuncture between missing persons and homicide data fails to account for the impact of homicide that is committed with the intent to conceal some other criminal act. This is a contributing factor to the dark figure of homicide (Quinet 2007) in that murders that occur in the drug trade, among gangs, or related to human trafficking often go unreported.

Pizarro and Zeoli (2013) found variations within reported data across the FBI UCR Supplementary Homicide Reports (SHR) and the original local law enforcement generated data. The specific differences related to documentation of crime clearance through arrest. Their evaluation from a single-site comparative analysis found that larger “social, demographic, and violent crime patterns in municipalities can indeed affect how homicide detectives investigate and, thus, report cases to the SHR.” (Pizarro and Zeoli 2013:730). Reporting time to resolution in a homicide appears to vary depending on jurisdiction, identifying that, “the time gap may be designed to reflect the mean amount of time it takes to clear a homicide, but also have a time requirement for reporting that prevents uncleared homicides from being excluded from the SHR.” (Pizarro and Zeoli 2013:730).

At the international level, Andersson and Kazemian (2018) compare the World Health Organization (WHO) and United Nations (UN) data, finding that the actual variation in homicide

reporting was minimal. They suggest that the use of a database for large-scale analysis would be acceptable, so far as their limitations are known. They state, “our findings have suggested that WHO data are more suitable for longitudinal analyses because these data are more stable and reliable over time. However, despite consistently higher homicide rates, the UN data produces statistical models with less error.” (Andersson and Kazemian 2018:298). This analysis supports the concept that despite variations in collecting homicide data, research tends to yield similar results over time. However, this similarity is still contained within the knowledge that data collection occurs within the limits of institutional settings that are representative but not accurate.

Further descriptions of official reports and alternative data sources in the United States can assist in evaluating the dark figure of homicide. The Murder Accountability Project (MAP) provides a data dashboard and citations for information resources. MAP provides a total overview of homicides from 1965 to 2022 and displays a resolution percentage of 66.60%. Where 1,010,902 homicides were calculated against the FBI UCR clearance number of 673,301 (MAP 2024). This reveals that roughly one-third of homicides remain unresolved over that fifty-seven-year time span.

For 2016 MAP (2024) reports 16,904 homicides and 9,606 clearances in the U.S., resulting in 56.83% resolutions. The UN data (UNODC 2021) in the U.S. for 2016 reports 17,413 homicides and 11,788 clearance events, resulting in 67.70% resolutions. The variations between the two sources display the discrepancies described repeatedly by Biderman and Reiss (1967), Messner (1984), Quinet (2007), and Pizarro and Zeoli (2013) where institutional, organizational, sampling, and unaccounted factors result in variations regarding the interpretation of homicide data. To understand a potential dark figure of homicide problem within any dataset, knowledge of how violent crimes against persons are reported is necessary. More specifically, understanding some of the differences between murders reported to the police and unreported murders is necessary.

The Bureau of Justice Statistics (BJS) publishes U.S. national statistics based on yearly FBI UCR and National Crime Victimization Survey (NCVS) data. The UCR and the current FBI National-Incident Based Reporting System (NIBRS) are the officially reported aggregate of criminal events in the United States. The NCVS is the primary source for data based on individual victimization collected outside of official law enforcement reporting. The 2016 revised BJS victimization data shows that 44% of violent crimes and 35% of property crimes were reported to law enforcement (BJS 2018:7). Beyond this the 2016 UCR displays that official records report 45.6% of violent crimes and 18.3% of property crimes were cleared by arrest or exceptional means. This information highlights that the highest criminal resolution percentage in the U.S. was that of homicides and nonnegligent manslaughter incidents, where 59.4% were cleared by police.

This means that if only 44% of violent crimes are reported and from that an approximated 46% are cleared, an estimated 20% of total violent crimes are resolved [$0.44 \times 0.46 = 0.2024$]. Likewise, if only 35% of property crimes are reported and from that an approximated 18% are cleared, an estimated 6% of total property crimes are resolved [$0.35 \times 0.18 = 0.063$]. In this example it is the unreported crimes that, at a minimum, aggregate the dark figures of crime as the dark figure of violent crime and the dark figure of property crime. This UN UNODC *Global Study on Homicide* (2021) shares the formal contact definition used by the FBI covering two conditions of offense resolution, clearance, or closure: (1) An arrest is made, and the offender(s) are charged with a crime. (2) Exceptional events identify an offender, evidence is obtained, or offender locations are revealed outside of routine law enforcement actions.

Black (1970) concluded that crime rates are conditioned by official reporting factors determined through complainant and police interactions. Black (1970) found that more legally serious crimes, the greater the victim's desire for police action, and broader social pressures for a

resolution affected police reporting. Skogan (1974) found that official crime statistics were moderately correlated with victim survey reports. That crime measurement errors and results occur both as institutional multi-step reporting processes and interindividual variations among victims (Skogan 1974). The reporting of crime at an individual level correlates to victim and offender relationships, the degree of physical harm or violence of an attack, the value of the property stolen or damaged, and pre-existing victim and police interactions (Skogan 1974; 1977).

Minkler, DeLisi, Marquart, and Scurich (2024) utilized data from the Supreme Court of California and found that roughly 1 in 3 convicted offenders on California's death row had additional homicide crimes for which they were not prosecuted. The number of additional homicides displayed a high level of variance, from 1 to 93 incidents. However, their study supports prior findings that homicide is a unique crime with a higher level of overall reporting. Further, that the increase in the number of homicides by a single offender is linked to higher psychopathy, sexual sadism, homicidal ideation, or gang involvement (Minkler et al. 2024). They comment that a disproportionate number of unresolved homicides in the U.S. could be linked to pathological antisocial psychopathy, which again makes the dark figure of homicide distinct from the larger dark figure of crime (Minkler et al. 2024).

For this study, the dark figure of homicide is identified as the variations and errors of unreported murders, killings unknown to police, and some average estimate of criminally negligent deaths omitted from inclusion in law enforcement records. As discussed, the serious nature of homicide appears to result in a higher rate of reporting and resolution than that of violent crime or property crime. An evaluation of the approximated U.S. homicide resolutions across reporting organizations from MAP 57% to UN 68%, and the FBI 60% figures, it is likely that a similar pattern of reduction of actual clearances would occur if we knew the dark figure of homicide.

However, calculating this would require information on the unknowns and the “missing missings” which are the indeterminable factors within the dark figure of homicide.

Nonetheless, the examination of unresolved homicides in a cross-national comparative context receives support and validation beyond the unknowns. When compared to other criminal events, homicide appears to achieve the highest rates and percentages of both reporting and resolutions. In considering the certainty that a dark figure of homicide exists, global figures adopted by the United Nations for reporting homicide rates and formal contacts as clearance rates are supported theoretically and validated through prior studies.

From Social Phenomenon to Theoretical Framework

Chapter 2 provided the background motivation for the research and defined unresolved homicide. The United Nations data used in this analysis defines homicide as the intentional killing of a person and formal contact by police as a measurement of resolution. Although imperfect national level aggregate measures, they can be operationalized to generate an unresolved homicide proxy measure. Just as Quetelet (1831) observed inconsistency in reported crimes, criminology on the whole addresses this as the Biderman and Reiss (1967) dark figure of crime. Understanding the background of homicide data analysis within the limitations of reporting and institutional police action moves the discussion forward to a review of theories that explore crime in a social context. From there an evaluation of prior studies of unresolved homicide is conducted to identify strategies for analysis and concepts utilized to interpret research results.

CHAPTER 3 - THEORETICAL FOUNDATIONS

Unresolved homicide holds important implications for the study of crime and justice. Further, it connects to deeper social contexts and to the sociological experiences that surround homicides. While this study acknowledges the serious interpersonal emotional and psychological aspects of homicide, the focus here is to understand larger patterns of interactions and outcomes. This requires a multi-level examination of unresolved homicides that extends beyond the individual case or a single theoretical perspective. However, linking the macro, meso, and micro theoretical perspectives is challenging. To better understand the factors surrounding unsolved homicides, a review of prior research and literature provides context for the multi-theory analysis. This review is a selective assessment of research that outlines the interaction between macro-institutional, meso-institution, and micro-social habitus that frames unresolved homicide as a unique phenomenon.

This investigation began as a convergence of events and opportunities. Outlining prior research of Dr. N. Prabha Unnithan (1983) on cross-national homicide introduces the framework of this analysis. In 1983, Unnithan identified support for higher levels of reporting in homicide victimizations based on the work of Braithwaite (1979). Braithwaite (1979:204) makes the assertion that a high rate of homicide reporting can be “safely assumed” due to the social contextualization of the seriousness of the crime of murder. Braithwaite (1979:204) then goes on to substantiate that cross-national homicide comparisons, using United Nations (UN) data, are reliable based on assessments from the UN Chief Statistician.

While this assessment was made four decades ago, advances in information reporting make the present use of cross-national UN data as good or better than when Braithwaite (1979) drew his conclusion. The integration of more countries reporting to the UN, the UN’s total capacity for data

collection, and the use of advanced information technologies makes the present information more comprehensive. Where Braithwaite (1979) discussed data quality issues surrounding war, inequality, and differentiated justice models, the current UN definitions and reporting practices have addressed many of these concerns (UNODC 2019; 2021; 2023).

A key finding from Brathwaite's (1979:228) work is that two patterns emerged at an international level of analysis. First, higher homicide rates are positively correlated with higher levels of earnings inequality. Second, higher homicide rates are negatively correlated with national level of social security expenditures. In short, a pattern of inequalities at a national level among civilians, as well as between civilians and their government appears to result in an increase of homicides. This is an important foundation for understanding unresolved homicides. A linkage between inequalities, government expenditures, and policing practice can each generate variations in both homicides and homicide resolutions.

However, there are even earlier investigations of homicide rate by country using United Nations data. Quinney (1965:404, Table 3) first analyzed data from 48 countries from 1955 to assess the extent to which urbanization or industrialization affected suicide and homicide rates. He conducted two analytic investigations focusing on differences between nations across median suicide and homicide rates. This generated category divisions of urbanization as low, medium, or high. Likewise, a division of industrialization generated low, medium, or high categories.

Quinney (1965:403, Table 2) found that lower and medium levels of urbanization correlated with higher homicide rates, most intensely for males across three age categories (15-29, 30-59, and 60+). Suicide rates, however, were heightened for medium and high concentrations of urbanization, again among males from all three age categories (Quinney 1965:403). Inversely, industrialization counteracted the homicide rates (Quinney 1965:404, Table 3). Homicide rates

increased dramatically for males of all three age categories in the low industrialization category. Suicide rates for industrialization, however, followed a similar pattern to those seen for urbanization. Quinney (1965:406) concluded the analysis by finding that within developed nations, increases in the homicide rate relate to crimes occurring “predominantly in the lower strata” related to structural conditions shared by peoples in undeveloped countries. While Quinney does not examine how these linkages could correlate, he does suggest examining causal linkages between economic development and crime.

The Macro Sociological Perspective

The macro-level sociological framework of Max Weber (1947:328) in addressing bureaucracy identifies three pure types of legitimate authority: (1) rational or legal authority, (2) traditional authority, and (3) charismatic authority. Since this study relies on United Nations data for tracking unresolved homicides, it is only concerned with legal authority. Any traditional or charismatic authority structure should not be expected to conform to UN standards, definitions, or reported information. For example, North Korea under successive rulers, Kim Il Sung, Kim Jong Il, and Kim Jong Un embodied the nexus of traditional and charismatic authority. They did not conform to international laws, expectations, or standards, and as such it would be difficult to compare to other nations that institute some form of the rule of law. Weber (1947:329) is foundational to Quinney’s (1970) work in stating that, “any given legal norm may be established by agreement or by imposition, on the grounds of expediency, or rational values or both, with a claim to obedience at least on the part of the members of the corporate group.” The application and enforcement of these laws is nothing less than the totality of a geographic area and all the persons therein (Weber 1947:329).

Weber (1947) identifies power, imperative control, and authority as functions embedded with the formation and perpetuation of bureaucracies. Where power (*macht*) is the force of will over resistance, and imperative control (*herrschaft*) is the execution of commands through a habitus of obedience, hierarchical authority is the result of the socially perceived legitimate exercise of power through imperative control (Weber 1947:152-153). Where Weber focused on the forms and functions of bureaucracies, this dissertation investigates the deviance and the failures of institutional action. The concepts Quinney (1970) developed from Weber's work proposes a macro bureaucratic and meso institutional administrative justice disjuncture.

The Macro to Meso Social Reality of Unresolved Crime

In 1970, Quinney published *A Social Theory of Crime* wherein he developed an analytical perspective for criminal events that contextualizes institutional dominance over societal dilemmas. This study focuses on the disjuncture between what homicide is, how homicide is contextualized by institutional forces, and how unresolved homicides represent a multiplicity of dilemmas. Quinney (1970:8) based his discussion on four assumptions of human social dynamics. These dimensions were process, conflict, power, and social action.

Process represents the social activities that arise through relational fluctuations (Quinney 1970:8). Because society is not static, institutions are not static, and therefore the interactions between these larger forces are both active and diverse. Conflict defines the inevitable differences that generate strife and disjuncture between people, groups, and institutions (Quinney 1970:9). The larger paradigms of "consensus" or "conflict" are discussed as being subsets of larger social operations of meaning making and change. With neither being defined as constructive or destructive, but rather contextualized as aspects of social change. Consensus and conflict are

meaningful both within and across social strata from the meso-sociological aspects of groups or organizations as a part of society to macro-sociological elements of institutional hegemony.

Power becomes the sufficient and necessary characteristic of social hierarchies (Quinney 1970:11). However, the authority to control power, what power represents, and how power can transform socialization are points of contestation. The competition for both material resources and social capital links power to conflict within some perceived value of controlling societal organization. Power is the mechanism by which public policy is formed, enacted, and enforced (Quinney 1970:12). Because the divisions in interests across persons, groups, and institutions both overlap and diverge through natural social processes, the formation of special interests emerge. The ability to align these special interests across persons, groups, and institutions both within and between social strata generates public policy. This is an unequal distribution of power concept; wherein dominant forces of power are constructed through dual consensus and conflict interactions. This also means that conflict is inevitable as society, institutions, groups, or people change across time. This conflict generates new alliances which coalesce into a consensus for authority. From this social action, power is consolidated, legitimized, and engaged.

Social action proposes that human behaviors are purposive and meaningful (Quinney 1970:13). Quinney (1970:14) directly quotes Weber (1947:88) in saying, “Action is social in so far as, by virtue of the subjective meaning attached to it by the acting individual (or individuals), it takes account of the behavior of others and is thereby oriented in its course.” The engagement in social action creates social reality, which represents conceptual reality and phenomenal reality (Quinney 1970:15). Our participation in society, our choices, our habits, our jobs, our institutions all represent process, conflict, power, through social action.

From this theoretical orientation, Quinney (1970:15) then presents propositions that outline the processes and dynamics that organize our social understanding of crime. “Proposition 1 (Definition of Crime): Crime is a definition of human conduct that is created by authorized agents in a politically organized society” (Quinney 1970:15). This definition conceptualizes that crime is a behavior that is conferred on some persons by others (Quinney 1970:15). Crime is created through the application of definitions under some authority, often institutional, which acts as legitimate through the consensus of power. The moral or social origins of criminal definitions as well as how, when, where, to who, or why they are applied become incidental abstractions. The definitions of crime and the enforcement of law are cooperative social actions.

“Proposition 2 (Formulation of Criminal Definitions): Criminal definitions describe behaviors that conflict with the interests of the segments of society that have the power to shape public policy” (Quinney 1970:16). Quinney (1970:17) goes on to state that, “the greater the conflict in interests between the segments of a society, the greater the probability that the power segments will formulate criminal definitions.” This complicates the concepts of responsibility for the resolution of homicides. Unresolved homicides become an exemplar of a discrepancy of capacity for authority, capability, and power of the nation-state as a failure of social action.

“Proposition 3 (Application of Criminal Definitions): Criminal definitions are applied by the segments of society that have the power to shape the enforcement and administration of criminal law” (Quinney 1970:18). The implication within this application of criminal definitions is that individuals and groups that engage conflict with the interests of those in power will be disproportionately associated with criminality (Quinney 1970:18). This segment of the powerless embodies co-varying minority group social indicators. This results in a de facto application of criminal as a label to oppositional ideologies, increased law enforcement engagement with

perceived disobedience, and subsequently the minority groups rejection of the legitimate authority of the state. This cycle then impacts how criminal offenses are reported to law enforcement, as well as how law enforcement documents criminal events.

Quinney (1970:19-20) outlines that community and organizational factors are influenced by the norms, or perhaps more accurately described as the habitus (Bourdieu 1990) of both geographic and social orientations. This is the nexus of Weber's (1946) class, party, and status. The community expectations of law enforcement, the visibility of publicly reporting offenses, and the total capacity for legal authority to balance the unequal power dynamic in a socially organized manner format large scale patterns of criminality (Quinney 1970:19-20). Quinney (1970:20) concludes this proposition by saying, "the more legal agents evaluate behaviors and persons as worthy of criminal definition, the greater the probability that criminal definitions will be applied."

"Proposition 4 (Development of Behavior Patterns in Relation to Criminal Definitions): behavior patterns are structured in segmentally organized society in relation to criminal definitions, and within this context persons engage in actions that have relative probabilities of being defined as criminal" (Quinney 1970:20). Tapping into Sutherland's (1947) differential association learning theory, the transition from a person or groups exclusionary status as deviant to the authoritarian power structure occurs in two phases. First, is the separation from power that is generated by those who have consolidated socially legitimated authority. Having control over legal definitions and enforcement is valued both for its own sake or social capital and for the practical application of bureaucratic dominance (Weber 1946:180). Second, is the process where the separated minority group internalizes the negative social status attributes and achieves a habitus tipping point in definitions that favor violations of the law (Sutherland 1947:6).

Discussing Proposition 4 as a two-part process is a heuristic for much larger social events, based on symbolic interactionism and social learning theories. Mead (1934:173-178) discussed internalized social orientations through social experiences as the development of the “I” and the “me.” Reflective social interactions generate formations of the self-based on experiences, which then reinforce specific social attitudes about perceived realities. Mead (1934:178) identified the unification of the “I” and the “me” as constituting, “a personality as it appears in social experience.” Alongside this process definitions of the self and our alignment with larger social groups is guided by social processes stigmatization. Stigmatization that confirms a deviant self-status reifies the process of being an outcast from society (Braithwaite 1989:12).

As stigmatization of deviance from a larger social order exerts change on a person, to which a consensus among outcasts emerges as counter-cultural and contra-cultural criminality. Tannenbaum (1938:20) described this in that the “person becomes the thing he is described as being.” The formation of criminal subcultures is the collective organization of those who have been labeled as deviant, criminal, dangerous, or Braithwaite (1989:20) further argues that “once a person is stigmatized with a deviant label, a self-fulfilling prophecy unfolds as others respond to the offender as deviant.” While Braithwaite (1989) makes an argument that shame and stigmatization are differential processes, which could result in reintegration under the right social conditions, this study focuses on homicide as a deviant category.

The concept of stigmatizing a murder holds a vastly different connotation from that of thief, adulterer, abuser, alcoholic, drug addict, or other deviant behavior. Murder in a civilian context is a morally objectionable act. Murder exists as a crime separate from the motives of the offender. Public perceptions of the depravity, gruesomeness, or callousness of the crime generates a stigma to the character of a murder. Therefore, unresolved homicides represent a public threat in that a

murderous offender is present in the public sphere. When the public relies on the state and the legitimate authority of law enforcement to resolve homicides and enact protection, non-resolutions to homicide evoke an increased perception of a failure of the institutions of criminal justice. Homicide is a crime of moral sensibilities that appears worthy of resolution and becomes a measure for the adequacy and legitimacy of law enforcement and the nation-state.

“Proposition 5 (Construction of Criminal Conceptions): Conceptions of crime are constructed and diffused in the segments of society by various means of communication” (Quinney 1970:22). While Quinney (1970) discusses this as social meaning making or attitudes formed through experiences, there are important social media concepts to address in the 21st century. The popularization of homicide events in the media is not new. To briefly illustrate this, the London Whitechapel Murders in 1888 displayed public concern with the daft and disorganized police investigation of Jack the Ripper.

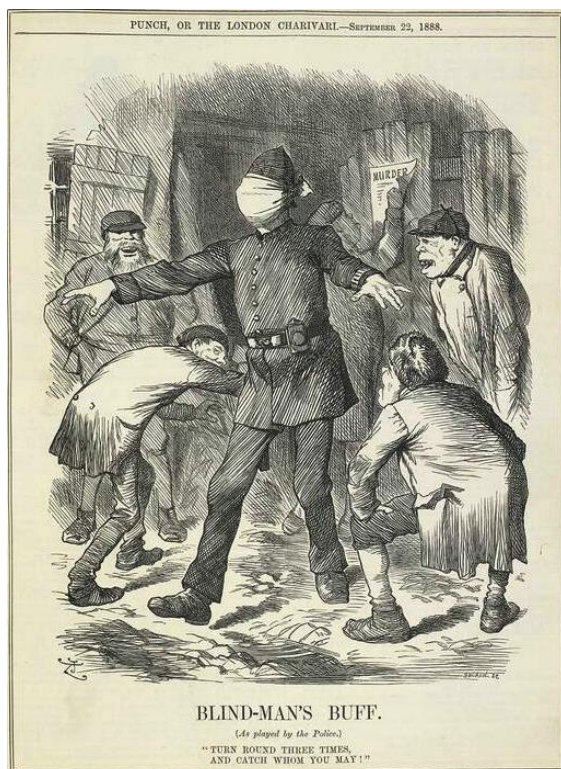


Figure 1. Blind-Man's Buff illustration (Punch magazine 1888).



Figure 2. The Nemesis of Neglect illustration (Punch magazine 1888).

Punch magazine published Figure 1 and Figure 2 above in September of 1888. *Punch* was a hybrid visual and literary publication that coined the term “cartoon” (Illustration Chronicles 2024). As Jack the Ripper terrorized London, Sir John Tenniel lampooned the London police highlighting their inability to resolve the mounting number of homicides. In 1893 John Tenniel was knighted by Queen Victoria, marking the first time an illustrator received that honor. Figure 1 (above) is titled “Blind-Man’s Buff (as played by the Police)” and was accompanied with the phrasing “Turn round three times, and catch whom you may!”, which was followed by the poem, “Lurking crime Haunts from of old these dens of darksome slime. There, where well-armed authority fears to tread, Murder and outrage rear audacious head, unscanned, untracked.” (Ripper Records (a) 2024).

Figure 2 “The Nemesis of Neglect” portrays homicide itself as an apparition beyond the intervention of authority accompanied by the caption, “There floats a phantom on the slum’s foul air, shaping, to eyes which have the gift of seeing, into the spectre of that loathly lair. Face it - for vain is fleeing. Red-handed, ruthless, furtive, un-erect, tis murderous crime, the nemesis of neglect.” (Ripper Records (b) 2024). Here the cartoon highlights the social conceptualization that homicide among the poor is a condition of failing governance and the limitations of legitimate authority. At the time of publication only a portion of London’s population was literate. It is the combination of images and the colloquial nature of the poetic witticism that convey the sociological symbolic meanings.

The expansion of public education, print media, radio, television, and finally online social media platforms each expanded the public’s interaction with homicide and policing. Our modern context reflectively connects to the 1995 failed homicide resolutions of Nicole Brown Simpson and Ronald Goldman, allegedly committed by former professional athlete O.J. Simpson. These

marked a significant change in the public perceptions of policing in the United States. An emerging 24-hour news cycle led to ninety-five million people watching the Los Angeles police chase the white Ford Bronco. A year later a television audience larger than that of the Super Bowl, one hundred and fifty million people, would witness O.J. Simpson's not-guilty verdict (Kafka 2024).

This was followed by the media sensationalizing the 1996 kidnapping, torture, and murder of JonBenét Ramsey in Boulder Colorado (Woodward 2021). Despite a case never going to trial, reporting of law enforcement jurisdictional conflicts, mismanagement of the crime scene, mishandling of material evidence, and the failure to identify a suspect fostered public concerns of police capabilities. Since these two high profile and well publicized hitherto unresolved homicide events, both the factual and the fictional production of true crime media increased significantly. To the extent that numerous homicides have been resolved outside of police activity or supervision.

With the expansion of information technologies and social media, homicide cases are being solved without the police. For example, the case of animal abuser and serial murder Luka Magnotta, a.k.a. Eric Clinton Kirk Newman, was resolved through online civilian amateur investigators (Lewis 2019). Another example is the 2020 decrypting of the Zodiac Killer's Z340 cipher by Oranchak, Blake, and Van Eycke (2024) after 51-years of law enforcement attempts. The paper describing the processes of deciphering the serial killer's message acknowledges the efforts of police and highlights the complexity of Z340. They attribute their breakthroughs to a "multi-decade group effort," dedicating their work to the victims in the hope that "one day justice will prevail" (Oranchak, Blake, and Van Eycke 2024:38).

These examples are related to the central idea Quinney (1970) described in Proposition 5. As criminal definitions are applied throughout society, the communication of crime diffuses through available social networks, thus investing a larger segment of the population with

specialized knowledge of crime. It is not just the reporting of crime that matters, it is the engagement in crime by civilians that reifies the moral implications of criminality. As some persons or social groups become marginalized through labeling as deviant or criminal, other persons or social groups integrate the dominant institutional authoritative narrative and engage in para-law enforcement behaviors. Whether that is in the form of satire, commentary, or efforts to assist in the resolution of criminal events, the development of civilian social engagement in crime increases proportionally to the shared concerns and distributions of criminal definitions in a society (Quinney 1970:23). This displays the diffusion of macro control over crime through government authority to the meso level interplay between police institutions and civilians.

“Proposition 6 (The Social Reality of Crime): The social reality of crime is constructed by the formulation and application of criminal definitions, the development of behavior patterns related to criminal definitions, and the construction of criminal conceptions” (Quinney 1970:23). This proposition defines the social reality of crime as a composite of the previous five. Quinney (1970:23) states that this culmination should be regarded, at any given time, as the amount and character of crime in a society. From this Quinney (1970) goes on to evaluate numerous aspects of law enforcement and criminal justice in the United States. Quinney (1970) describes the complex and widely varying social reality of crime from the creation of statutory laws to police discretion, to the effect of racism within the criminal justice system.

For example, Quinney (1970:189) found that homicide rates across capital punishment abolition states and retention states were similar, thereby questioning the use of state sanctioned homicide as a deterrent. Likewise, Chambliss (1967) found that in the analysis of capital punishment as a deterrent for murder that there is a mismatch between enforcement and punishment. In a theoretical context, if the punishment is the same as the crime, those in power

relinquish their moral superiority through the application of capital punishment. The macro application of power preformats contestations of legitimacy across the meso level of social action.

Where the social reality of crime is a construct of social action, the social reality of unresolved crime would be the result of public response to the failures or contradictions of nation-state authority. Enforcing the law among deviant or minority populations loses legitimacy if the agencies tasked with that responsibility are unable to achieve application of the law for apex crimes. Public concern for protections from one another and the state practices develop in context to observed failures. These failures have increased in visibility and saliency in the public sphere over the past thirty to forty years. A theoretical framework that can account for and contribute to Quinney's *Social Theory of Crime* is necessary to move past the punishable act of homicide to the unreckoned socially constructed meaning of unresolved homicide.

The concepts highlighted by Braithwaite (1979) and Quinney (1965) in their early findings that homicide rates are affected by larger sociological and economic forces are important for transitioning from linkages of homicide among a population to the institutional failure to resolve homicides. Unnithan (1983) examined the concepts Braithwaite (1979) and Quinney (1965) outlined in their prior literature by focusing on the socio-structural determinants of lethal violence (i.e., total suicide rates plus total homicide rates) at multiple time intervals. The variables used in assessing lethal violence correlates were level of inequality, economic development, anomie as systemic frustration, and the cultural legitimation of violence (Unnithan 1983:2-3).

These variables were operationalized under a new framework after assessing each component based on prior studies. Inequality as an independent variable was measured with Kuznets' (1957; 1963) index as a metric of income distribution. However, Unnithan (1983) highlighted that using a Gini coefficient as a standardized measure was the most popular

assessment of income inequality at the time (Allison 1978). Economic development was measured using Gross National Product (GNP) in U.S. dollars, provided by the Banks (1971) and the World Bank (1980). Anomie as systemic frustration utilized functionality like that of Feierabend and Feierabend (1966) to generate a composite measure based on, “standard scores of gross national product, number of radios per capita, and number of newspapers per capita” subtracted from a nation's standard score for literacy which then underwent a square root transformation to stabilize high scoring outliers (Unnithan 1983:47).

Finally, the cultural legitimization of violence was measured indirectly within the conceptualization that violence is a spectrum with any society. As such, no two social orders are identical, however, the prevalence of violence in the resolution of minor conflicts relates to the potential use of lethal violence as a solution for interpersonal conflicts (Unnithan 1983:45-46). The independent variable is a composite scale of five items from Banks (1971) and includes, “the number of assassinations, strikes, anti-government demonstrations, guerilla attacks, and riots” (Unnithan 1983:46). This is the most complex measure used in the analysis and it also underwent a square root transformation to stabilize outlying scores.

Unnithan (1983) identified specific curvilinear relationship across the homicide-suicide ratio (proportion of homicide in total lethal violence, in which the latter is homicide plus suicide). This relates to the significant relationships between lethal violence and the level of inequality (Unnithan 1983:63). However, economic development appeared to be the deciding factor in the selection of lethal violence between homicide or suicide (Unnithan 1983:69). Among the interactions, Unnithan (1983:78) identified that “both very low and very high levels of inequality are prone to large amounts of violence.”

The summation of the study is that the socio-cultural forces of the nation-state exert broad forces which influence patterns of lethal violence beyond that of interpersonal exchanges, stressors, or anomic events. These three articles were selected because they link to deeper concepts of power, control, and the consequences of unresolved homicides. Braithwaite (1979), Quinney (1965), and Unnithan (1983) each contribute to the cross-national analysis of homicide.

Meso Social Action and Institutional Law Enforcement

The work of Quinney (1970), Braithwaite (1965), and Unnithan (1983) present interlocking narratives that advanced the study of homicide. They each draw on differentiating levels of macro sociological analysis that influence correlates at the meso theoretical frameworks. As power is consolidated at the macro sociological level in the form of governance, laws are imposed over a population. However, enforcement of minority groups occurs differentially. Whether through over policing or neglect, the effect of injustice on social deviants reifies oppositional ideologies. The formation of opposition to the larger authoritative order occurs at the meso-sociological level among groups who at a minimum identify as ostracized by social institutions. The processes through which laws are created, enforced, and publicly interpreted becomes the social action basis for understanding how contradictions arise.

The previously discussed macro level variables connected to homicide and lethal violence are based on cross-national bureaucratic indicators. To better understand the glocal or global to local context of this research, meso level institutional indicators need to be operationalized in context to Weberian (1947) bureaucratic social action. Law enforcement institutions operating at the meso-level of social action experience a unique *verstehen* of (Weber 1947) based on macro governance and micro social criminal justice challenges. At the micro-level, a homicide negatively affects some affiliated social group through the loss of life and criminal act. While the non-

resolution of a homicide negatively affects members of the micro social group, an unresolved homicide also challenges the authority and legitimacy of the meso-level law enforcement institution in charge of the investigation. In diminishing the legitimacy of law enforcement, deeper processes of opposition to authority are recognized and may be adopted beyond the micro social groups that experienced the negative outcome of the failure of the police to resolve the homicide.

In this example, micro-level social groups see the failure to resolve a homicide as a failure of law enforcement through the failure of government. As Brathwaite (1979) found inequality between civilians and a government appeared to increase homicides and Messner (1984) suggested that homicides rates could be used as a proxy for a general index of crime, this study argues that unresolved homicides follow a similar path of covariance. Unresolved homicide rates could hold unique variance in relation to some macro and meso disjuncture.

To understand this further, a third layer of analysis is necessary that extrapolates social action at the meso and micro-sociological level. A Routine Activities Theory (Cohen and Felson 1979) framework can assist in identifying choices in governance and law enforcement, contextualizing gaps in capable guardianship that result in unresolved homicides. Homicide occurs at the individual level. However, the greater political, geographic, and social patterns that underpin the foundation of micro-sociological habitus operate as forces that contextualize and create opportunities for violent victimizations.

Routine Activities Theory as Micro Social Actions

Cohen and Felson (1979) observed a counterintuitive criminal phenomenon occurring in the United States throughout the 1960's and 1970's. They identified a disparity wherein as political, economic, educational, and social indicators improved, the crime rate for violent victimization, especially among minority populations increased. Criminological and sociological

theoretical frameworks often posit that as social conditions and opportunities improve, criminal events should decrease. The central argument is that greater legitimate opportunities, solidarity at group or national levels, higher achievement in education, or other pro-social activities should affect some decrease in deviance. While every indicator outlined above improved from 1960 to 1975, homicide increased by 188% nationally as reported on the FBI Uniform Crime Report (UCR) (Cohen and Felson, 1979:588). This paradox is counter to the common-sense sociological approach to social interactions where a “rising tide lifts all ships” (J.F. Kennedy 1963, attributed).

The routine activities approach reframes violent victimization or direct-contact predatory violations as Cohen and Felson (1979:589) apply the terminology to intentional criminal events. Routine Activities Theory examines structural changes to life patterns that affect a convergence in time and space where the opportunity for an intentional criminal event materializes. The three minimal elements for direct-contact predatory violations are (1) motivated offenders, (2) suitable targets, and (3) absence of capable guardians against harm (Cohen and Felson 1979:589). As these three factors fluctuate, converge, or diverge, the opportunity for a criminal event affects the propensity for a transgression. Cohen and Felson (1979:589) further identify the necessary and sufficient conditions of Routine Activities Theory describing that the lack of any one of the three elements is sufficient to mitigate successful direct-contact predatory crimes.

They also highlight that the absence of capable guardians may lead to increases in crime rates without requiring increases in conditions that motivate individual propensity for committing a crime (Cohen and Felson 1979:589). Without changing the proportions or interaction frequency of motivated offenders or suitable targets, changes in real or perceived control over crime is the absence of capable guardianship, which will then likely result in increased criminal offenses. These concepts relate back to the research of Shaw and McKay (1929) who examined the relationships

between location, social learning, and persistent criminal patterns at the meso-group level. Violent victimization is regulated or mitigated by the interaction between motivated offenders and capable guardians. This occurs under the assumption that criminal inclination is a constant potential behavior, and suitable targets are readily available, the regulation of violent victimization is in context to presence or absence of capable guardianship. This nexus defines the types, patterns, frequencies, and responses to crime measured in criminology (Cohen and Felson 1979).

Illegal activities occur in relation to other general activities. Processes of socialization give context to criminal interactions. Homicide, like other crimes, occurs under the same structures of general social activities. This contextualizes homicide as being some interrelation between offender and victim at the micro-sociological level. For a homicide to occur the most basic pattern would be that the offender and victim must be in the same place, at the same time, with some absence of capable guardianship. Without cycling through every permutation, for any interaction between victim and offender, there is a threshold of the absence of capable guardianship that affects homicide. As rational actors, people understand the ramifications of killing, the loss of life, potential legal implications, and possible social consequences. Changes in criminal opportunity at that threshold of capable guardianship is the variable that affects the type, frequency, and techniques used in the commission of violent victimizations.

Cohen and Felson (1979:593) review the work of Leroy Gould (1969) in linking the increase in bank robberies from 1921 to 1965 with increases in the circulation of money and the availability of the automobile. The increases in bank robbery hold a relationship to increases in opportunity. These opportunities include an increase in the number of bank locations, the amounts of money held within a bank, and the automobile as technology that assists in the successful commission of the crime. Where long-term economic success in the U.S. increased some general

good, it also increased criminal opportunity. With more potential suitable targets of higher value and an increase in the possibility of getting away with the crime by using a car to escape, banks became more likely targets for robbery. However, it is the inability of the police as capable guardians to be present at the right place at the right time that affected an increase in bank robberies. This is the nexus of opportunity and target suitability, through the absence of capable guardianship.

Target Suitability captures all the social and contextual aspects that determine the risk for violation or harm. This can include value, visibility, accessibility, or mobility (Cohen and Felson 1979:595). In the case of unresolved homicide this captures to what extent a motivated offender, using the technology at hand, in a specific place, at a specific time, on a specific target, would be able to commit homicide and avoid detection. A comparative example is that killing a person through manual strangulation presents a pattern of low technology, close contact, lengthy, dependent on physical ability (strength), and the resistance of the victim. If successful, it also calls into question levels of difficulty in concealing the crime through the victim's social absence, disposition of the body, and prior relationship between victim and offender. Similarly, killing a person with a firearm would involve a higher technology, variable contact distance, swift, physically equalizing, high rates of success for intentional homicide. Shooting can be conducted in a clandestine manner that conceals the identity of the offender, regardless of the disposition of a victim's body. Variations in selectivity across offender motivations, technology, tools, or social interactions are to some extent dependent on macro-sociological factors and meso institutional law enforcement capabilities.

Synthesis across Macro, Meso, and Micro Social Action

To some extent, larger societal trends produce patterns that affect criminal events and therefore crime rates. This results in the uneven distribution of crime by neighborhood, social settings, and group affiliations. As the convergence of motivated offenders and suitable targets occurs in the absence of capable guardians, homicide event social factors are affected from the macro to the meso but occur at the micro-interactional level. While many homicides are individual based incidents, broader sociological forces are always at play. Group membership can add protective factors against being the victim of a crime, whether that be through creating perceived inaccessibility or decreased suitability for violation. However, suitable targets are always at a disadvantage to motivated offenders, in that murderers only need a single opportunity to achieve irreversible harm. While victims require constant capable guardianship to avoid harm.

In the case of an unresolved homicide, the murder occurred but the killer eluded detection by law enforcement. Because it is already unlikely that that police would be present ahead of a homicide, capable guardianship is captured through police detection. Beyond the Dark Figure of Homicide previously discussed, of homicides known to police it is the unresolved homicide that determines the effectiveness, capabilities, and performance of law enforcement. Capable guardianship is the socially perceived ability of law enforcement to adequately complete homicide investigations. The inability to do so represents a meso institutional absence of capable guardianship, which is further socially perceived as the ability of the motivated offender to engage direct-contact predatory violations on suitable targets. This translates to a social interaction wherein the less capable the police appear to be in resolving homicides, the greater the likelihood will be of an increase in homicides.

A Theoretical Articulation for Analyzing Unresolved Homicide

This dissertation links the macro, meso, and micro-sociological levels of analysis across multiple theoretical frameworks. Structural, political, economic, and social macro variables contextualize meso and micro level interactions. Meso-level institutional action that occur under the macro-bureaucratic structures format aggravating or mitigating propensities of interactions at the micro-individual level. Micro-criminological events, in this case homicide, occur in context to social interpretations of the meso-institutional criminal justice outcomes. Creating a framework of analysis from macro-Weberian concepts to meso law enforcement social actions, to micro direct-contact predatory violation builds a comparative framework for evaluating cross-national differences in unresolved homicide rates. The multi-theory approach provides a process orientation for assessing large social structural influences on institutional outcomes, which subsequently affect micro-criminal events.

Chapter 3 establishes that Weber's (1947) evaluation of social and economic organization plays a role in determining the capabilities of law enforcement. Subsequently meso-level law enforcement practices condition homicide resolutions. This results in the social interpretation of the capabilities of police through contextual social processes that consequently transform direct-contact predatory violations (Cohen and Felson 1979). From this, increases in unresolved homicides would be the result of repeated patterns of law enforcement failures.

This proposes a system of transformation where micro-social patterns respond to meso-social outcomes faster than can be adjusted for macro-societal changes. In this theoretical framework homicides and unresolved homicides should hold patterned relationships in response to the same macro-level variables but produce different interactions with meso level indicators. The core concept is that homicide, police resolutions as formal contact, and unresolved homicide

measures react in a similar manner to macro social forces. However, a measure of unresolved homicide should deviate from that pattern in an analysis at the meso level of social action. To understand this proposed interaction a review of prior research on lethal violence, homicide, and unresolved homicide explores patterned social responses.

CHAPTER 4 - PRIOR RESEARCH ON UNRESOLVED HOMICIDE

Chapter 2 outlined a convergence of events that inspired this investigation of cold cases or unresolved homicides. The theoretical linkages outlined in Chapter 3 build a foundation for analyzing the many social forces that influence the covariation of institutional and individual outcomes. While the Weberian perspective describes many of those larger social forces, Quinney (1970) provides a context for understanding the experiential social transformation of behavioral patterns. When examining unresolved homicide, this study draws on the criminological context of Routine Activities Theory to provide the ever-present variable of opportunity. More specifically, the active and reactive social exchange between the meso level law enforcement institutional capable guardianship and micro level social interpretations that affect homicide patterns.

A Macro Assessment of Lethal Violence

In 1983, Dr. Unnithan examined a macro perspective on homicide as an expression of lethal violence, using a cross-national comparative approach. To accomplish this, he tested how the total amount of lethal violence (i.e., suicide rate plus homicide rate) was affected by (a) the degree of inequality, (b) the degree of economic development, (c) the amount of social anomie measured as systemic frustration, and (d) the degree of cultural legitimization of violence (Unnithan 1983:40). The dependent variables were operationalized as the lethal violence rate and the homicide-suicide ratio (Unnithan 1983:42). The study hypothesized that different types of inequality, economic development, and social anomie affect lethal violence.

The independent variables were each calculated to yield single measures. Inequality was calculated as the Kuznets' (1957) Index of national economic disparity. Economic development was measured in Gross National Product per capita as reported by Banks (1971) and the World

Bank (1980). The measurement of anomie is linked empirically to higher literacy rates which was interpreted as resulting in higher material desires. This is calculated by subtracting a standard score for literacy from a combined score for gross national product per capita, number of radios per capita, and the number of newspapers per capita, based on prior research recommendations (Unnithan 1983:47). The cultural legitimization of violence was also drawn from data collected by Banks (1971), which tracked violent events within nation-states.

The analysis included 31 nations from a non-random sample at up to three points in time, as well as an overall twenty-one-year analytical model (Unnithan 1983). Inequality and economic development measures were then squared to integrate them into a logistic regression analysis of the dependent variables. The regression tests for interactions between the independent variables and the measure of lethal violence resulted in inequality displaying the only persistent significant relationship. A further analysis of whether the independent variables predicted lethal violence outcomes of suicide or homicide revealed that inequality was the best predictor, even when it failed to achieve significance.

Unnithan (1983:70-73) also found that variations by nation generated outliers. In this case, Colombia, Costa Rica, and Hungary varied in high or low lethal violence rates. Beyond the outliers, Unnithan (1983) found curvilinear relationships between lethal violence rates, inequality, and economic development. He suggests that the curvilinear interaction could be affected by some threshold of economic development leading to inequality. Inequality then reaches a tipping point where patterns of lethal violence increase (Unnithan 1983:96-97). This tipping point is conceptualized as anomic stressors that generate an upward trend in homicide events. A key finding is the identification of a curvilinear interaction from macro-economic development to macro inequality, which subsequently affect micro lethal violence events.

Unnithan's (1983) findings do not propose the same linkages from macro to meso to micro as described in this dissertation, in part due to differences in the application of a theoretical framework. Unnithan's (1983) analysis identified large social stressors, each of which could now be understood through Robert Agnew's (2005) General Strain Theory. However, a replication of Unnithan's 1983 research could be conducted from an anomic theoretical framework, engaging a similar macro, meso, micro analytic structure with a focus on General Strain Theory (Agnew 2005) which was not available at the time of the original research.

Scaling Up the Analysis of Lethal Violence

Unnithan, Huff-Corzine, Corzine, and Whitt (1994) developed the analysis of lethal violence further in the book *Currents of Lethal Violence*. The central focus of the project was to test an integrated model examining cross-national variations in lethal violence (i.e., suicide rates plus homicide rates) and from these regional differences in the United States (Unnithan et al. 1994:95). This assessed a conceptualization of lethal violence as the totality of homicide and suicide as events compelled by shared social forces. To evaluate this, the authors engage Ferri's (1895) concepts of variation in frequency of an event and the directionality of that event as homicide or suicide (Unnithan et al. 1994:96). This integrated model of analyzing lethal violence considers the curvilinear relationship found in prior studies (Unnithan et al. 1994:102). This research also points out issues pertaining to information reporting, selection bias, and analytic problems that occur when evaluating cross-national data (Unnithan et al. 1994:116). The findings include significant relationships between the independent variables of gross national product, inequality, and the dependent outcome of homicide rates (Unnithan et al. 1994:136).

The project's findings fall under three categories. First, that the combination of suicide and homicide as lethal violence was generally unrelated to economic development or inequality

(Unnithan et al. 1994:141). Second, as inequality increases, lethal violence is more likely to be directed externally as homicide (Unnithan et al. 1994:141). Third, the greater the economic development, the greater the likelihood that lethal violence is internalized as suicide (Unnithan et al. 1994:141). These findings are based on a cross-national sample of 88 non-randomly selected countries under a theoretical framework of anomic social responses. Despite the discussed limitations, Unnithan et al. (1994:143) posit that differently constituted samples yielded broadly similar results. This indicates support for the study of homicide as holding macro linkages to economic development and meso linkages to inequality, resulting in differences across micro direct-contact predatory violations.

Meso Level Law Enforcement and Unresolved Homicide

While prior studies examining macro social indicators as independent predictors supports the theoretical framework of this analysis, evidence of the connection across macro, meso, and micro is still necessary to understand how unresolved homicides are affected by and affect overall homicide rates. The theoretical analysis from Weber (1947) to Quinney (1970), to Cohen and Felson (1979) was discussed within a larger context of social reality being the sum of many interlocking experiences. With co-variation occurring as meso law enforcement failures to resolve homicides are translated at micro interactional levels. This process is the exchange point where small outcomes generate larger waves of negative social feedback for meso institutions.

It is useful to examine qualitative assessments that investigate how surviving family members and co-victims respond to law enforcement failures that resulted in a homicide becoming a cold case. Stretesky, Cope, O'Connor Shelley, Hogan, and Unnithan (2016) studied responses to cold case law enforcement communication with co-victims. In examining a random sample of 65 unresolved homicides from a possible 139 law enforcement agencies in Colorado, they employed

a survey to evaluate responses to the declaration of a cold case. The primary dependent variable was a civilian respondent evaluation of whether law enforcement has given up on resolving the homicide of their loved one (Stretesky et al. 2016:9). They analyzed this across five communication indicators that the police (1) provided important information, (2) delivered cold case notifications in a satisfactory manner, (3) kept in annual contact as mandated by the Colorado Victim Rights Act (§ 245-4.1-303), (4) the frequency of contact as the total number of contacts after a case was declared cold, and (5) whether a co-victim has ever attended the Colorado annual conference hosted by Families of Homicide Victims and Missing Persons Inc. (FOHVAMP, 2020) (Stretesky et al. 2016:10-11). FOHVAMP is an organization that represents the interests of the families and friends of unresolved homicide victims, as well as advocates for law enforcement and legislative action at the state and local levels.

The central hypothesis posited that higher communication ratings would lead to a decrease in perceptions of the failure of law enforcement. To control for specific negative emotions by family members towards the police, they asked if the respondent believed that the police placed some level of blame on the victim for their own murder. Controls for race, ethnicity, income, and the number of years since the murder were included to account for preexisting social or contextual bias against police that could not be accounted for in law enforcement communication variables (Stretesky et al. 2016:12-13).

Their findings were that higher communication ratings resulted in decreases in co-victim perceptions that police had given up on investigating a homicide (Stretesky et al. 2016:13). However, the perception that communication from law enforcement included (1) important information and (2) that it was delivered in a satisfactory manner were key components in reducing those negative perceptions (Stretesky et al. 2016:14). The context of contact played a key role in

how co-victims evaluated police efforts. For example, receiving a letter with a general update failed to meet a satisfactory threshold among surviving family members.

The Stretesky et al. (2016) article shows that meso level police actions contextualize how people construct meaning to perceived problems. Cold case co-victims who believe police agencies are uncaring or unresponsive also view law enforcement as part of the problem in resolving a homicide (Stretesky et al. 2016:20-21). This response includes co-victims who began their own unauthorized investigation as a resolution mechanism in response to law enforcement failures. The meso level failure of police is reified through a micro civilian para-justice response. At the nexus of meso institutional policing and Routine Activities Theory is the social expectation that police function as capable guardians in the resolution of a homicide. Unresolved homicides represent meso institutional failures which results in a contestation for capable guardianship.

In a similar study, Wellman and Meitl (2021) conducted interviews with surviving family members (or co-victims) of cold case homicides. The qualitative data collected through an interview guide from the 24 participant co-victims revealed the dynamics and depths of their experiences. A broad theme of disappointment and disillusionment on the inability of the police to resolve each homicide emerged. Wellman and Meitl (2021) identified common sentiments among co-victims including that (1) if the police were more efficient, (2) if the family of the victim(s) had greater involvement, (3) if more or better-quality evidence had been collected, and (4) if the police had pursued leads, they believed an offender could have been brought to justice.

Co-victim family members specifically stated their perceptions of the police during the critical first hours of a homicide investigation as lacking in diligence, urgency, and care (Wellman and Meitl 2021:11560). Comments on “sloppy police work,” crime scene contamination, and ethnic or racial bias were repeated throughout the interviews (Wellman and Meitl 2021). This

sense of secondary victimization experienced by the families occurs in the context of the police as an organization, beyond individual officers. Co-victims of cold case homicides experience a sense that no one was listening to the information they had to offer, that no one addressed their concerns or responded to their requests. This in turn induced feelings of frustration that transformed into distrust for law enforcement (Wellman and Meitl 2021:11563).

Like the findings of Stretesky et al. (2016), Wellman and Meitl (2021) found that the frequency, nature, care, and candidness of communication by police to co-victims shaped perceptions. When police genuinely engaged with co-victims, those communication interactions were perceived as a helpful part of the healing process and coming to terms with a cold case outcome (Wellman and Meitl 2021). These findings echoed those of Stretesky, et al. (2010) in that secondary victimization occurs beyond the scope of a homicide itself. Homicide co-victims can experience a unique set of negative reactions and emotional pains through a lack of meaningful communication with law enforcement.

These co-victim responses display layers of overlapping social hierarchical interactions which result in experiencing feelings of being victimized by the meso institution of policing. This is one linkage across the social strata where macro-economic, political, or cultural forces format meso level actions of institutions in how they engage the self-imposed duty of resolving micro-social direct-contact predatory violations. However, there is the context that even the meso institution of law enforcement and policing agencies are themselves only aggregates of individual level efforts. Where the police as a social concept are or should be meso level capable guardians, it is the labors of individual officers or detectives that determine homicide outcomes.

Crime Clearance through Meso Structured Practices

Wellford, Lum, Scott, Vovak, and Scherer (2019) evaluated Eck's (1992) findings regarding the solvability of a homicide reported to or identified by the police. Wellford et al. (2019) began by reviewing 46 research studies, each of which focused on agency attributes or approaches to clearing homicide cases. Their initial finding was that all the studies failed to provide an actual linkage of how (1) case-level information about homicides, (2) investigations into those cases, and (3) agency organizational data about those cases affected homicide clearances. In all, homicide solvability is captured in the details of each case that are lost at an aggregate level of analysis.

Wellford et al. (2019) identify a need to return to a holistic approach outlined by Chaiken, Greenwood, and Petersilia (1977). This concept of assessing the role of investigators in solving homicides emerged from the clearance rate analysis of Greenwood, Chaiken, Petersilia, Prusoff, Castro, Kellen, and Wildhorn (1975). The Wellford et al. (2019) large scale review focused on analyzing specific patterns for homicide clearance, while accounting for (1) case information and (2) the effort put into the investigations across differing agency organizational structures. This resulted in collecting detailed information on 238 homicide cases, which included reviewing actual case files, conducting interviews with detectives, and evaluating the organizational structure of law enforcement agencies.

Wellford et al. (2019) challenged the prior interpretation of Greenwood et al. (1975) and Eck (1992) that the investigatory efforts of detectives do not necessarily impact the clearance rates for serious crimes. While it is acknowledged that a police presence and law enforcement engagement may act as a deterrent to crime, there exists a fatalistic idea that some crimes cannot be resolved through crime fighting efforts. This idea is present within the operational concepts and definitions of Routine Activities Theory itself (Cohen and Felson 1979). When the existence of

motivated offenders is presumed and a near boundless set of suitable targets is present, it is only the absence of capable guardianship that must be accounted for in calculating some deficiency of homicide resolutions. Because capable guardianship for homicide resolution occurs after the crime is committed, a chronological paradox for evaluating absent capable guardianship emerges.

Wellford et al. (2019) address this fatalistic evaluation of capable guardianship in their research. Some officers, supervisors, and detectives communicated that often it is the elements of the crime that contribute to whether it can be resolved (Wellford et al. 2019:594). Investigative efforts are often loosely based on some feeling, sense, or belief about the crime's solvability, removed from evidence or detection actions on the part of the police (Wellford et al. 2019:594). In contrast to these embedded beliefs among law enforcement personnel, Wellford et al. (2019) found that investigation efforts matter significantly in affecting homicide clearances. Further, that the organizational structure and best practices of law enforcement agencies matter in clearing individual homicide cases (Wellford et al. 2019:594).

These factors included if the police identified the offender, if a weapon was recovered, as well as whether the victim and offender knew each other (Wellford et al. 2019:594). However, the most critical element to homicide clearance was found in the meso police and micro civilian interactions. The probability of a homicide being cleared often depended on the police successfully gaining witness cooperation and involved a greater number of agency resources or employees in response to the crime. It is the meso level agency response that engages the micro civilian responses to the legitimacy of the police as capable guardians. From this Wellford et al. (2019) identify a pattern where interactions between investigation efforts and agency best practices result in spurious homicide investigation outcomes.

This draws us back to the topics discussed in prior chapters. From Quetelet's (1831) early conceptualization of a well-functioning police force to Quinney's (1970) social meaning making through experiences, the clearance of a homicide is a social event. Although we often view material evidence or DNA analysis as meaningful in an objective or abstract context, they can be useless without the necessary social actions of law enforcement. In the same way the London police were lampooned for their inability to resolve the Whitechapel murders, current criminal events are also socially interpreted. Where Unnithan (1983) envisioned the cultural legitimization of violence as linked the use of lethal violence, choices to engage in motivated offender direct-contact predatory violations may depend on a social context of police meso level capable guardianship.

As Wellford et al. (2019) identify the efforts and organizational presence of investigative agencies as increasing homicide clearance rates, we can envision how this effects changes in the dimensions of a Routine Activities Theory perspective. If police, detective, and agency responses are the same or similar for every homicide in a geographic area, the broader social interpretation becomes one of equitable justice, regardless of class, party, and status (Weber 1947). Whether detectives are measurably better at resolving homicides may be irrelevant to the perception that murderers are detected, arrested, and punished. While this does not propose a dark figure of crime placebo effect, it reconceptualizes that public perceptions of police ability and legitimacy may extend the capable guardianship dimension of Routine Activities Theory.

This stretches the basic principles of deterrence theory under Cesare Beccaria (1764) which conceptualizes justice as swift, certain, and proportionally severe. In the case of homicide resolutions, the first step in capable guardianship begins with the ability of the police to identify a suspect. The deterrence of homicide as an act of lethal violence must occur before the crime is

committed. This necessitates some micro individual habitus or belief that the police, detectives, and agencies are competent, equipped, and relentless in the pursuit of justice.

Homicide Detectives as Meso and Micro Social Forces

Braga and Dusseault (2018) examined the degree to which homicide detectives could impact clearance rates. Engaging in quasi-experimental analysis techniques they examined changes in the Boston Police Department homicide clearance rates after it adopted a problem-oriented policing approach to investigations (Braga and Dusseault 2018). They began their review identifying that homicide clearance rates remained stable for nearly 40-years, despite large declines in index crime rates over that same period. They highlight that homicide represents the most thoroughly investigated crime in the U.S., however, only about two-thirds of homicides are resolved since 2007 (Braga and Dusseault 2018:284). They question the validity of Eck (1992:33) that it is, “unlikely that improvements in the way investigations are conducted or managed will have a dramatic effect on crime or criminal justice.”

Braga and Dusseault (2018:285) discuss that in the U.S. there is the perception that detectives or investigators enjoy a romanticized reputation as effective crime fighters, contextualized in this dissertation as “capable guardians.” Detectives hold an elite status among law enforcement, earn higher salaries, and have a greater level of discretion in their law enforcement duties. These factors are then socially interpreted as seeming to elevate or privilege the crime-fighting abilities of detectives as superior to that of patrol-based policing strategies (Braga and Dusseault 2018:285). However, prior studies have found that most serious crimes are solved by the responding patrol officer through information obtained from victims or witnesses at the scene of the crime (Greenwood and Petersilia 1975). These results call into question the socially constructed mythology of detectives as capable guardians in resolving serious crimes.

Analyzing data from the Police Executive Research Forum, Eck (1992) developed an investigative process typology with three categories: (1) Cases that cannot be solved with a reasonable amount of investigative effort, (2) Cases solved by circumstances, which only requires that the suspects be arrested, booked, interrogated, and a prosecutable case prepared, and (3) Cases that may be solved in a reasonable level of investigative effort are applied to them but will not be solved otherwise.

These solvability factors are governed by the meso-level capacity of a police agency to adequately review, screen, and assign cases based on systematic investigation procedures (Braga and Dusseault 2018). These factors are held within the meso institutional level of action because they extend beyond the individual detective and require complex networks of managerial operations. This includes budget constraints, police agency leadership styles, working relationships with connected district attorney's offices, police public engagement, and public perceptions of the police as legitimate. These are agency characteristics which are dependent on location, era, and personnel factors beyond the control of any individual detective.

In the U.S., decreases in homicide clearance over time are related to mitigating factors across macro, meso, and micro aspects of criminal justice. The FBI UCR reports that in 1965 U.S. homicide clearance was 83%, but by 2007 this had decreased to 61%. Since that time, the homicide clearance rate in the U.S. has fluctuated around 65%. This decline has been attributed to mitigating social-legal forces that changed the dimensions or capacities of law enforcement. Increased legal restraints on police investigations including mandatory Miranda Rights warnings, regulations on police search and seizure practices, and declining community support for the police have been cited as serious impediments (Cassell and Fowles 1998; Jarvis and Regoeczi 2012).

To test these presumptions, Braga and Dusseault (2018:284) analyzed changes in the Boston Police Department's homicide clearance rates after instituting post-homicide investigation practices which included (1) increasing the number of detectives in a homicide unit, (2) standardizing investigation procedures and forensic reviews, (3) improving training for investigation personnel, and (4) peer review of open investigations. They first observed that Boston's average homicide clearance rate of 44% from 2004 to 2011, was consistently lower than the U.S. national average of 63% (Braga and Dusseault 2018:291). In 2011 updated post-homicide investigation practices were instituted. After these meso-level changes took effect Boston's homicide clearance rate reached 66% in 2012, which outperformed the U.S. homicide clearance rate of 63% that same year (Braga and Dusseault 2018:303).

Braga and Dusseault (2018:300) found that (1) increasing the number of homicide detectives, (2) deploying Crime Scene Response Unit officers to a homicide scene, (3) follow-up witness interviews, (4) having evidence analyzed by a crime lab, (5) the presence of a homicide supervisor at the scene, (6) executing at least one search warrant related to the investigation, (7) having a forensic unit at the scene, (8) performing a check of digital devices at the scene, and (9) conducting DNA testing relative to the homicide all significantly improved clearance rates. While the impressive increase in homicide clearance rates displays the ability of institutions to improve outcomes, we must consider that it came with an enormous cost of resources.

The Boston Police Department received numerous multi-million-dollar grants from the U.S. Federal Government and State of Massachusetts. Braga and Dusseault (2018:306) noted that, "improved homicide clearance rates could conceivably decrease murder rates by changing offender perceptions of apprehension risks or disrupting cycles of gang and drug related violence by removing future targets of retaliation from the streets." This total capacity for change would be

theoretically represented as the capable guardianship intersection of meso policing institutional capacity and micro detective level ability. The macro-economic actions of the state generated a change in the ability of the meso police institutions to expand their micro detective capacities, thereby generating changes in resolving micro direct-contact predatory violations.

Braga and Dusseault (2018:306) also state that they were unable to specify which Boston Police Department reforms were the most significant in effecting improvements in homicide clearance rates. There is also the question of how much return is received for the significant financial investments made to decrease homicide. The cost of homicide investigations, with the potential for non-resolutions between 40% and 60% demands serious consideration. However, maintaining the standards, integrity, and ability of law enforcement agencies as they strive to resolve homicide investigations is easier said than done.

In a cross-national context and given its advanced developed status, the United States has a greater capacity to generate financing, institute education and training, and recruit the qualified personnel necessary to engage a problem-oriented policing approach to homicide resolutions. The same cannot be said for developing nations, countries with systematically different law enforcement structures or cultural practices as highlighted by Unnithan (1983) and Unnithan et al. (1994). Beyond these cross-national differences the reality is that corruption and unexpected events can occur in the background of even the most genuine efforts to resolve or deter crime.

For example, after the successes seen in the Boston homicide clearance rate increases of 2012, a scandal rocked Massachusetts criminal forensic processing laboratories. By 2014, both the Boston Police Department and the overall Massachusetts homicide clearance rates declined to around 48%, well below the U.S. national average of 65% (Braga and Dusseault 2018:303). Due

to the limited number of forensic labs, the progress of hundreds of detectives was eliminated through meso administrative mismanagement and micro employee malfeasance.

Chemist Annie Dookhan engaged in extreme forms of misconduct by tampering with evidence, forging test results, submitting fraudulent evidence records, as well as stealing and using sample comparatives of illegal drugs while on the job (Mulvihill and Schuppe 2022). The decline in criminal resolutions was directly affected by her actions, because she held a critical role in the meso articulation of criminal justice in Massachusetts. While the totality of her damage may never be known, by 2022 more than 21,000 cases in the State of Massachusetts have been dismissed due to her involvement (Mulvihill and Schuppe 2022).

The work of Braga and Dusseault (2018), alongside that of Unnithan (1983), Unnithan et al. (1994), Stretesky et al. (2016), and Wellford et al. (2019) each represent elements of the theoretical framework proposed in the present study. Unresolved homicide is the micro-level experience of direct-contact predatory violations under Routine Activities Theory (Cohen and Felson 1979), operating in response to meso level institutional outcomes discussed by Quinney (1970). This is in turn governed by the larger nation-state macro level forces of bureaucracy and social action (Weber 1947).

Unresolved Homicide Outside of the United States

Examining homicide in a cross-national context includes focused studies of homicides outside of the U.S. Evaluating homicide in Europe utilizing the European Homicide Monitor can contribute to broader understanding of clearance rates and non-resolutions. Liem, Suonpää, Lehti, Kivivuori, Granath, Walser, and Killias (2019) engage the infrequent but serious outcomes of murders in Northern Europe, where unsolved crimes are referred to as ‘uncleared’. Like the U.S. definition of unresolved, uncleared designates that the police have not identified a suspect and

cannot make an arrest. While U.S. homicide clearance rates vary around the 65%-mark, cross-national research in Northern Europe reveals some significant differences occurring in similar socio-culturally industrialized nations.

Previous research on homicide clearance rates across United Nations region categorizations display wide variation. Among Asian nation homicide clearance, Japan and Korea reach rates of 95% or higher (Roberts 2008; Johnson 2008). The Oceania nations of Australia and New Zealand reach levels close to 90% (Chan and Payne 2013; New Zealand Crime Statistics 2022). In the West, the Americas vary from homicide clearance rates of 75% in Canada to 24% in Trinidad and Tobago (Mahony and Turner 2012; Maguire, King, Johnson, and Katz, 2010). In Europe homicide clearance rates are consistently high with resolutions at 98% in Finland, 90% in Germany, 87% in Switzerland, 85% in England and Wales, and around 80% in Sweden and the Netherlands (Leim et al. 2019; Lehti and Kivivuori 2012; Polizeiliche Kriminalstatistik 2014, Bänziger and Killias 2014; Smith, Osborne, Lau, and Britton 2012; Granath 2011; Van Os, Ganpat, and Nieuwbeerta 2010).

Liem et al. (2019) review these statistics, discussing the context that international comparisons are hindered by differentiations in defining, recording, and reporting homicides. In the U.S, the FBI established practices in the UCR and NIBRS place homicide as a principal crime, even when it occurs during the commission of other felonies. However, some nations attribute homicide as a secondary or subsequent crime to another felony. For example, a robbery gone wrong where a homicide occurred as part of the crime can prevent equivalent reporting at a cross-national level (Finch 2001). This dissertation relies on the United Nations definitions and data collection on international homicide rates. However, Liem et al. (2019) selected to utilize European specific data, adopting those definitions and accepting those collection techniques.

Liem et al. (2019) identify discretionary factors engaged by the police that influence homicide resolutions appear to follow characteristics outlined by Black (1970). That bound within the application of homicide investigation a process of victim-valuation, where some victims are seen as more deserving of law enforcement efforts. Again, this translates across the meso and micro social action strata, affecting criminal justice outcomes and public perception. This addresses both the how and the why of criminal resolutions favoring justice deserving victims or those seen as unable to engage capable guardianship on their own. Female victims and younger victims receive attention and prioritization above prior arrestees, felons, or socially and culturally rejected minority groups (Liem et al. 2019).

Black (1980) proposed that discretionary factors in policing extend across macro and meso social structures, resulting in deprioritizing resolving crimes among low socio-economic status, low education, low home ownership, and high unemployment populations. Liem et al. (2019:83) describe this as a process where criminal resolutions are not determined by individual choices on the part of a detective, but rather, “orchestrated at higher organizational levels.” From this undesirable but socially occurring process, homicide cases are affected by the habitus of a nation, a specific area within, as well as the organization and culture of the police force that holds jurisdiction (Paré, Felson, and Ouimet 2007). Within the framework of this dissertation, this draws attention to the connection across social strata that larger macro forces influence meso practices, which in turn are socially interpreted at micro sociological levels. This supports the concept that low clearance rates and higher unresolved homicide rates hold a unique co-operational variation to high homicide rates.

A high frequency of homicide in a given country or within a specific region does not necessarily challenge the capacity or ability of any single law enforcement agency. However, it

does frame an understanding of how social meaning making of unresolved homicides engage complex social processes. From this, homicides increase as resolutions decline. Liem et al. (2019) identify the high financial cost, diminished public trust in homicide resolutions, and reduced police morale that comes with failed investigations (Riedel and Jarvis 1999). This illustrates how the composite meaning of unresolved homicide is distributed across social strata, despite the harm occurring as micro direct-contact predatory violations.

With a focus on Northern European nations, Liem et al. (2019) found patterned outcomes in the high homicide resolution rates. First, homicides that occurred in a public setting were more difficult to clear than occurrences in private settings. Resolutions to public homicides within a 30-day timeline across Finland, Sweden, and the Netherlands ranged from a high of 88% to a low of 68% (Liem et al. 2019:89). Private location homicide resolutions with a 30-day timeline for the same nations ranged from a 91% high to an 81% low (Liem et al. 2019:89). Homicides committed with a firearm presented resolution difficulties in Sweden and the Netherlands, with estimated 56% clearance rates when compared to homicides committed by other means (Liem et al. 2019:92).

The analysis displayed some unique characteristics for Finland. While Finland holds a relatively high homicide rate in Europe, it also displayed one of the highest homicide clearance rates (Liem et al. 2019:96). This brings into question the idea of selectivity and total capacity to resolve homicides on the part of any one police agency. In the case of Finland, greater homicide caseloads per department or detective may not necessarily limit investigation outcomes as proposed by Paré et al. (2007). This finding returns us to Unnithan's (1983; 1994) concepts of lethal violence as an expression of anomie, engaged through the acts of homicide and suicide.

Finland has high suicide rates, even among other Northern European nations. Finland reaches suicide rates up to 0.20 per 100,000 (Kivivuori and Lehti 2003). When compared with

Switzerland at 0.09, Sweden at 0.07, and the Netherlands at 0.05, a case can be made for some level of training and specialization to manage lethal violence cases among Finnish law enforcement that is unique in Northern Europe (Leim, Barber, Markwalder, Killias, and Nieuwbeerta 2011; Regoeczi, Granath, Issa, Gilson, and Sturup 2016). Although Liem et al. (2019) cannot explore this interaction further with their data, they acknowledge that differences in homicide clearance rates across Northern European nations can be partially explained through the prevalence of criminal milieu related events.

The relatively lower homicide clearance rates in Sweden and the Netherlands appear to be related to victim or victimization characteristics including being male, being an ethnic minority, and the use of a firearm in the commission of the homicide (Liem et al. 2019:96). They attribute the lower rates of homicide resolution in these cases to factors like those found in the United States. Specifically, that the criminal nature of the contact or relationship between the victim and offender, a subsequent lack of forthcoming witness to the crime, and the lack of a murder weapon as physical evidence diminish the capacity for resolution (Liem et al. 2019:97). Beyond the difficulties in resolving criminal enterprise-driven homicides, Liem et al. (2019:97-98) found a sub-pattern of homicides among homosexual men presented specific challenges for police agencies. It appeared as behaviors centered on engaging in prostitution with unfamiliar partners and inviting the sex worker to the victim's home generated a criminal homicide opportunity with few possibilities for evidentiary resolution.

Beyond the unique patterns found in the Liem et al. (2019) Northern European comparison study, the general findings align with results found in the U.S. Broader macro social, cultural, economic, and political forces contextualize meso level law enforcement processes. In the subsequent exchange between meso institutional police investigations and resolutions of

homicides, the social meaning of the capable guardianship is transformed. Weberian social action of public perceptions of the police reifies through processes of meaning making. The conflict of police ability and public expectation contextualizes post-homicide capable guardianship.

This research in Northern Europe presents a counter-intuitive prospect that these nations have lower unresolved homicide rates and thereby lower homicide rates. It is not necessarily that the police in Northern European nations are better equipped or trained to resolve homicides. At a theoretical level, this dissertation questions whether a differentiation in perceptions of post-homicide capable guardianship could generate social action to reduce lethal violence between motivated offenders and suitable targets. A counter example of this can be seen in both Northern Europe and the United States, in that homicides which occur among criminal networks in context to other deviant or illicit actions remain difficult if not impossible to solve.

Homicide Solvability at the Micro Level

The likelihood that a homicide will be solved and that a cold case will be resolved exist as two separate concepts. The public in the United States often thinks of justice as a swift process, taking days or weeks. However, homicide investigations on active cases often take up to a year before being declared cold or reported as unresolved. As previously discussed, levels of police management, best practices, and communication can all affect homicide resolutions. Rogers and Unnithan (2022) examined differentiations in homicide resolutions under traditional and alternate time-based definitions.

Rogers and Unnithan (2022) conceptualize analyzing homicide solvability across five factors; (1) victim characteristics, (2) motive and circumstance, (3) weapons use, (4) location type, and (5) temporal effects. They then analyze these factors at two intervals of time, first an alternative time definition of 30-days after the homicide report or event and second at the traditionally

recognized 1-year post the homicide report or event (Rogers and Unnithan 2022). The alternative time-based definition was generated in response to the reality that homicide cases not solved within 30-days of the report or event are significantly less likely to be solved. They analyzed 23,109 homicides cases drawn from national U.S. databases including the FBI NIBRS, the Bureau of Justice Statistics (BJS), and the Law Enforcement Management and Administrative Statistics (LEMAS), covering time periods from 1991 to 2008.

Their findings were consistent with existing FBI and government statistics, calculating a homicide clearance rate of about 65% (Rogers and Unnithan 2022:151). Of the remaining 35% of unresolved homicides, only an approximate 1% were resolved in the traditional one-year cold case time-based definition. When the 30-day time-based definition was applied nearly 12% of homicides from that 35% cold case pool were resolved. Rogers and Unnithan (2022) highlight an important discovery in these findings, that not all cold cases are equally likely to remain unresolved. The factors they outlined exert some force in differentiating cases that are cold after 30-days and cases that receive resolutions at some future point.

Rogers and Unnithan (2022) suggest possibilities that factors such as whether the victim was a child, if the victim was a resident at the location of the homicide, the discovery of the body in an open space or roadway, and regional differences found in the South Atlantic or Mountain states. They also noted the size of law enforcement agencies, the involvement in multiple agencies, as well as the education of the officers in those agencies could all play a role in resolving homicides after they go cold (Rogers and Unnithan 2022). Their thoughts are in alignment with the work of Stretesky et al. (2016), Wellman and Meitl (2021), Braga and Dusseault (2018), and Wellford et al. (2019) discussed in this chapter.

Unresolved Homicide from Local to Global

In returning to the focus of this dissertation, the analysis concludes with a review of prior research and N. Prabha Unnithan's 2020 Academy of Criminal Justice Sciences Presidential Address. Dr. Unnithan suggested that criminologists and administrative justice practitioners broaden our horizons to investigate cross-national dimensions of our respective interests. Beyond this, he recommends that unresolved homicides be analyzed in dimensions that contextualize statistical results. This study engages the first proposal by moving from cross-national homicide data to testing a measurement for cross-national unresolved homicide data. This will provide an opportunity for understanding the broader institutional and social dimensions of cold case events. This dissertation also engages the second recommendation by expanding on both the practical and theoretical framework of homicide and unresolved homicide by contrasting underlying social differences captured in publicly available cross-national data.

Dr. Unnithan's (2021) analysis begins with the definitional and contextual aspects of understanding cold case homicides as unique events unresolved by administrative justice institutions. The interactions between the surviving family members as co-victims and police personnel, should be taken into context when understanding declining homicide resolution rates in the U.S. over the past 60-years. Utilizing UNODC 2019 global homicide data, Dr. Unnithan (2021:759) presents a correlative analysis of homicide rates, formal contact rates, and conviction rates. The sample size for homicide rates and formal contact rates was 115 nations, as a match set of UN data. However, the conviction rate data were reduced to 64 nations, due to UN data reporting and collection limitations.

First, Unnithan (2021:760) found a mean cross-national homicide rate of 7.38 per 100,000, with a standard deviation of 13.59. Cross-national formal contact rates ranged from a minimum of

0.163 per 100,000 to a maximum of 50.793 per 100,000 (Unnithan 2021:760). This resulted in a mean formal contact rate of 6.059 with a standard deviation of 8.669 (Unnithan 2021:760). Finally, the conviction rate ranged from 0 to 32.949 per 100,000, with a mean rate of 2.848 and a standard deviation of 4.383 (Unnithan 2021:760). This information creates a general assessment tool where each nation can be seen as reporting lesser or greater values from these cross-national averages. They can also be interpreted as time series events, comparing year by year data trend results.

Unnithan (2021) goes on to conduct a bivariate analysis of the correlations between homicide rate and formal contact rate, and subsequently the secondary analysis of formal contact rate to conviction rate. The choice to remove outlier nations including Bermuda, Saint Kitts and Nevis, Trinidad and Tobago, Guatemala, and Nicaragua was implemented as each held very high or very low rates across one of the three measures. These adjusted findings result in a strong correlation between homicide rate and formal contact rate of 0.8091 ($N = 110$), significant at the 99% ($p \leq 0.01$). A weak to moderate correlation between homicide rate and conviction rate of 0.3233 ($N = 61$), significant at the 95% ($p \leq 0.05$). With a weak correlation between formal contact rate and conviction rate of 0.2625 ($N = 61$), significant at the 95% ($p \leq 0.05$).

For this non-random sample test of cross-national homicide, formal contact, and conviction data the bivariate correlation results display some unique findings. First, higher homicide rates are associated with higher formal contact rates and higher conviction rates. Second, higher formal contact rates are associated with higher conviction rates, albeit to a lesser degree. There is an overall positive relationship within policing and administrative justice activities (Unnithan 2021:761). This implies that effort to resolve homicides at a cross-national level occurs in a patterned manner and that police make substantial efforts to resolve homicides regardless of international location.

Contextualizing the above results within the scope of this dissertation, homicide cases are resolved through meso level law enforcement and micro level victim, offender, and witness interactions. The findings do not seek to describe or analyze aspects of how differing policing practices yield results. However, in the review Unnithan (2021) reveals that large scale law enforcement actions appear to be patterned with other social forces within a national context. The local to global perspective of unresolved homicide proposes that meso institutional and authoritative responses follow socio-cultural embedded macro bureaucratic patterns.

From Theory and Prior Research to Dissertation Methodologies

The prior chapters of this dissertation outline a framework, detail prior research, and establish the foundation for the present study. Unresolved homicide as a social action exists in an aggregate of patterned institutional activity that fails to achieve the desired results. Larger macro social forces frame institutional and individual responses to the commission and resolution of homicides. The specific details of the victims, the circumstances surrounding the murder, and the motivations of the offenders remain obscured in the large-scale analysis of law enforcement processes. Cross-nationally reported law enforcement data display that trends occur along meso institutionally established pathways. This raises the question of whether police conduct in resolving homicides has the potential to further affect subsequent homicide rates.

Unresolved homicide is the aberration of the process. Like the specter portrayed in the *Nemesis of Neglect* (Ripper Records (b) 2024), homicide is a complex and socially contextual criminal event. The recursive nature of unresolved homicide engages actions and reactions between the meso and micro social processes of investigations and outcomes. Like many social processes, homicide is an Ouroboros, the serpent eating its own tail in a transformative process of replication. Where meso level police institutions set standards of practice and protocol, they are

reflectively judged, in part, based on their failed actions. The studies discussed in this section show that even when police agency responses to homicides are proactive, focused, and conducted in earnest, many homicide investigations result in an unresolved cold case.

Over 40-years of academic investigation, Unnithan and his many co-authors identified the utility in analyzing homicide rates and resolutions as valid measures of institutional responses to specific social events. From the spectrum of lethal violence as homicide and suicide in an anomic framework to law enforcement and co-victim interactions, the significant impact of unresolved homicides cannot be underestimated. The taking of a life, the act of murder generates ripples of unexpected social consequences. For the co-victims it ushers in a lifetime of emotional turmoil. For law enforcement, it draws into question their authority, legitimacy, and their application of capable guardianship. At the broadest level, legal underperformance generates social change in transformative processes affecting cultural habitus.

These macro, meso, and micro level differences are identifiable in the discussion of the studies in the United States and Northern Europe. What appears to be subtle cultural, institutional, or social differences between industrialized, educated, economically stable nations result in observable changes in homicide rates. The discussion of qualitative assessments of co-victim and law enforcement interactions illustrates the underlying theoretical architecture outlining the connections between Weber (1947), Quinney (1970), and Cohen and Felson (1979). Failed institutional resolutions for apex crimes result in the reframing of the ability of law enforcement agencies as capable guardians. This occurs through the translation and distribution of symbolic meanings through micro level social and meso level media cycles of contestation. These forces then frame public responses to perceived police failures. The capable guardianship of police under a Routine Activities Theory perspective also relates to the second policing principle of Sir Robert

Peel. That the powers of the police to fulfill their functions and duties depends entirely on public approval (Law Enforcement Bulletin 2023).

A theoretical framework is a necessary element of the investigation and accommodates developing a methodology for analysis. The structure of testing these ideas requires the construction of valid and reliable observational units of analysis. The methodology of this dissertation will replicate aspects of prior research on homicide rates and then explore speculative testing. The basis for selection of the variables and the perspective for their interpretation will be organized under the local to global (Unnithan 2021) context of Routine Activities Theory as part of a set of interactions across macro, meso, and micro societal levels of analysis.

CHAPTER 5 - METHODOLOGY

To analyze unresolved homicide in a cross-national comparative context an original database was assembled from multiple independent datasets. This process began as part of my work as a research assistant for Dr. N. Prabha Unnithan's Academy of Criminal Justice Sciences (ACJS) 2020 Presidential Address. After completing the project, I identified that the data presented interesting quantitative possibilities. A process of exploring how the data could be utilized for a doctoral dissertation began with an analysis of the strengths or weakness of the available information. This led to a determination that utilizing a quantitative approach would present this research with some advantages and definitive limits.

Based on the Weberian theoretical framework outlined in the prior chapters, this type of quantitative data generates cross-national comparative snapshots of different nations, regions, and large-scale social systems. The research benefits from the broad scope in that it does not depend on one-to-one matches across policing practices, any specific structure of criminal justice, or a predetermined political system to produce comparative results. Each country differs at macro systems of governance and meso institution orientations of law enforcement. However, the analysis is conducted based on shared theoretical concepts. Assembling the database on internationally established terms, definitions, and measurements from the United Nations Office on Drugs and Crime (UNODC 2021) generates a baseline for evaluation and generalization.

Engaging a quantitative framework does limit the scope of the investigation, excluding the lived experiences that make up the aggregate data. Exactly how specific systems operate or what local factors condition outcomes cannot be determined. This type of data identifies outcomes and is not process oriented. The UNODC (2021) data provides documented criminal justice actions,

removed from the intimate context of social experience. For this analysis there are no single victims, no individual unresolved homicides, and consequently no insights into homicide detection methodologies. While these qualitative aspects are absent from this framework of analysis, the quantitative approach provides a cross-national overview. The goal of utilizing a cross-national perspective is to contextualize the results in a theoretical context that can contribute to a greater understanding of unresolved homicide as a unique criminal justice event.

Methodological Perspective

Establishing a clear structure for this assessment contributes to a broader scope of homicide analysis by outlining the assumptions and limitations of the research. On the most methodologically conservative spectrum, philosopher Karl Popper (1959) describes the character of conceptualization and evaluation of a scientific analysis as the creation of empirically falsifiable conjectures. In discussing this he states, “The initial stage, the act of conceiving or inventing a theory, seems to me neither to call for logical analysis nor to be susceptible to it. The question of how it happens that a new idea occurs to a man - whether it is a musical theme, a dramatic conflict, or a scientific theory - may be of great interest to empirical psychology; but it is irrelevant to the logical analysis of scientific knowledge.” (Popper, 1959:7).

Popper (1959:9-20) emphatically argues for the production of deductive, testable arguments, engaging the null hypothesis approach. He specifically addresses issues regarding inductive reasoning as generating logical errors in seeking to find validation from a predetermined ‘universal’ truth. He defines the scientific process as hinging on an epistemological methodology stating, “From a logical point of view, the testing of a theory depends upon basic statements whose acceptance or rejection, in its turn, depends upon our decisions. Thus, it is decisions which settle the fate of theories” (Popper, 1959:91). This results in the heavily moderated hypothetico-

deductive approach described by Lawson (2000:492) as, “If... and... then... and/but... therefore...” wherein scientific discoveries follow strictly logical observable or testable processes.

$$H_0: p = p_0 \text{ -versus- } H_r: p \neq p_0 \text{ tested as } (a \wedge b) \rightarrow c (\supset d) \therefore e$$

*The null hypothesis versus the researcher hypothesis tested as:
if a and b, then c, but the superset of d, therefore e.*

This is, however, not the only methodological approach at play in the larger context of this research. Rozeboom (1997) discusses the expansion of analytical approaches into abduction and explanatory induction (Harlow, Mulaik, and Steiger 2016). Based on the work of Charles Peirce (1839-1914), abduction is the “creation of explanations for observed phenomena, a mode of reasoning that not merely expands upon the information at hand (“ampliative” inference), as statistical generalization to relative frequencies in populations also does but hypothesizes why these observations have their distinctive character.” (Rozeboom 1997; Harlow, Mulaik, and Steiger 2016). From this, three propositions arise; (1) “Abduction consists in studying facts and devising a theory to explain them.” (Peirce, 1934:90), (2) “Abduction is the process of forming an exploratory hypothesis.” (Peirce, 1934:106), and (3) “Abduction must cover all the operations by which theories and conceptions are engendered.” (Peirce, 1934:414).

The abductive approach differs from Popper's (1959) conceptualization of inductive reasoning in that abductive reasoning seeks to identify and measure phenomenological constructs, while purely inductive reasoning relies on both prior and present direct observations of phenomenon. For this study, cross-national unresolved homicides are a greater total scientific concept than the sum of the incidents, because the incidents are always measured in context to macro and meso sociologically institutional outcomes. The assembly of phenomenon that construct unresolved homicide as a sociological fact are themselves overlapping patterns of other phenomena. A second criteria to consider within this methodological context is that abduction is a

broad approach, where Rozeboom (1997) would recommend further developing the approach to explanatory induction. Explanatory induction is an abductive process wherein the analysis takes into consideration the complexities of the concepts under observation.

This sets up a methodology to bridge the gap between descriptive and inferential statistics that plague the validity, reliability, and replication of research findings. If the sets of definitions capture or align with socio-cultural ideal types, then like things can be assessed from directed frameworks of analysis. One set of data expresses more than one outcome and competing frameworks of analysis generate a greater total amount of information. For this research, the effects of macro socio-political patterns are tested as correlative factors for meso criminal justice institutional responses to micro criminal incidence of homicide.

The unity of these concepts is explanatory abduction. This is the exchange or interchange of valid conclusions arising from different perspectives of the same observational unit. The strength of explanatory abduction is that it transforms null hypothesis testing structures to cooperating possible outcomes, given specific conditions. In total this has the potential to increase the robustness of future findings as they engage in refined inductive or deductive processes. The future potential of well-designed subset analysis or replication studies at a different scale fulfill an important methodological edict, “one ounce of replication is worth a ton of inferential statistics.” (Steiger 1990:176).

Both the spirit of this examination and the logic of the process applied from the methodological construction of the data are applied in context to Dr. Unnithan’s (2021) Local to Global research framework. The empirical aspects of this investigation are intended to follow Popper’s approach of replication and scoped findings based on null hypothesis model failures. The abductive interpretative aspects of the analysis expand into the socio-cultural elements of meaning

making through the cross-national comparison of clearly defined terms. This allows for all outcomes to occur dependent on the data under analysis, thus failing to reject or rejecting the null of a proposed hypothesis. As previously discussed in Chapter 2 when defining unresolved homicide, the measurable aspect of the variable is a construct of other Weberian ideal types. There are no international datasets that track global level unresolved homicide statistics. Unresolved homicide in a cross-national context is by necessity a derivative that must be calculated from observations based on measurable, replicable, and logical standards.

Data Selection for Dependent Variables

Data selection occurred based on the methodology for analysis which progresses from a hypothetico-deductive model to an experimental abductive approach. Although acts of homicide and their failed resolutions are active occurrences, restrictions to analyzing data emerge from delays in official reporting, lag in publications, and the cross-national context for analysis. In the United State, official reporting of crime data are frequently delayed by one to two years, depending on the reporting agency and publication cycle. For example, in 2024, the most up to date FBI NIBRS data is from 2023. In considering the scope of a cross-national perspective, there is potential for a significantly greater lag in data reporting and possible difficulties of navigating government information resources in dozens of foreign languages. Selecting the United Nations, Office on Drugs and Crime report (UNODC 2021) provides a publicly replicable dataset.

As discussed in Chapter 2, the UNODC *Global Study on Homicide* (2021) shares standardized definitions used by the FBI and European justice agencies. It reports cross-national data on three key independent variables of the analysis including (1) homicides, (2) formal contact to homicides, and (3) homicide convictions. The organization of homicide information follows a three-part tracking system. First, homicide is tracked as an intentional homicide occurrence count

and cross-reference rate estimates. Second, formal contact represents a counting of persons arrested or suspected of intentional homicide, by sex and age. Third, conviction documenting persons found legally guilty for intentional homicide, by sex. The data are organized into the UN country classification system based on the World Economic Situation and Prospects (WESP) nation-state categorization system.

It is important to note that the 2021 version of the UNODC data were selected specifically because all the reported events occurred before the 2020 global pandemic. The pandemic brought significant changes to macro governance, meso law enforcement, and micro social patterns of interaction. At the time of authoring this dissertation a 2023 UNODC publication makes several notes and includes a special focus on the effects of the pandemic on global crime. The preface of the publication states, “the study shows that 2021 was an exceptionally lethal year” (UNODC 2023:3). Because this study is focused on comparative crime rates that occur as part of stable social conditions, the data was limited to that pre-2020 timeframe.

With the choice to utilize pre-2020 UNODC data established, a maximum oldest reporting date criteria was selected. The UNODC (2021) report attempts to provide the most up to date information available. However, previously discussed reporting lag and outright missing data points are observable. With the goal of including as many nations as reasonably possible a maximum year distance of 2004 was selected. The oldest reporting data of 2004 accounts for three important methodological elements. First, it increases the overall potential of including as many nations as possible. Second, it allows for the inclusion of developing nations with varied standards of government reporting. Third, it increases the potential for all three dependent variables to be captured for a single calendar year, for any one nation. From this methodological decision, data were selected for as many countries as possible based on three criteria of the selection of the most

recent (1) homicide data, which was accompanied by the most recent (2) homicide formal contact data, and (3) the most recent homicide conviction data.

This resulted in a cross-national database consisting of 101 countries. There are 101 matches for (1) homicide data and (2) formal contact data by year. Subsequently there are 57 matched sets for (1) homicides, (2) formal contacts, and (3) convictions. In all the data ranged from 2017 to 2004. A majority of 70 nations' data ranged from 2017 to 2014, with the remaining 31 nations ranging from 2013 to 2004. The United Nations recognizes 194 countries, and the non-random sampling technique of this dissertation captures 52% of that population over a 13-year time span. This data sampling technique follows prior research in utilizing officially reported data in homicide rates (Unnithan 1983; Unnithan et al. 1994; Unnithan 2021; Liem et al. 2019, Braga and Dusseault 2018; Wellford et al. 2019; Rogers and Unnithan 2022).

The 101 nations in the study are categorized by the UN based on region and subregion for each country. The database is organized alphabetically by region, subregion, and nation. Under the region of Africa, subregion of East Africa contains Kenya, Mauritius, Mozambique, Uganda, the United Republic of Tanzania, and Zimbabwe. The African subregion of Northern Africa contains Algeria, Egypt, and Morocco. The African subregion of Southern Africa contains Botswana.

Under the region of the Americas, the subregion of the Caribbean contains Barbados, the Dominican Republic, Jamaica, and Trinidad and Tobago. The subregion of Central America contains Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, and Panama. The subregion of North America contains Canada and the United States of America. The subregion of South America contains Argentina, Bolivia, Chile, Colombia, Ecuador, Guyana, Paraguay, Peru, Suriname, and Uruguay.

Under the region of Asia, the subregion of Central Asia contains Kyrgyzstan, Tajikistan, and Turkmenistan. The subregion of Eastern Asia contains Hong Kong Special Administrative Region (China), Japan, and Mongolia. The subregion of South-Eastern Asia contains Malaysia, Myanmar, Singapore, and Thailand. The subregion of Southern Asia contains Bangladesh, Bhutan, India, Maldives, Nepal, and Sri Lanka. The subregion of Western Asia contains Armenia, Azerbaijan, Bahrain, Cyprus, Georgia, Iraq, Lebanon, Qatar, the State of Palestine, the Syrian Arab Republic, and Turkey.

Under the region of Europe, the subregion of Eastern Europe contains Belarus, Bulgaria, Czechia, Hungary, Poland, the Republic of Moldova, Romania, the Russian Federation, and Ukraine. The subregion of Northern Europe contains Denmark, Estonia, Finland, Iceland, Ireland, Latvia, Lithuania, Norway, Sweden, England and Wales (the United Kingdom section 1), and Scotland (the United Kingdom section 2). The subregion of Southern Europe contains Albania, Bosnia and Herzegovina, Croatia, Greece, Italy, Kosovo (under UNSCR 1244), Malta, Montenegro, Portugal, the Republic of North Macedonia, Serbia, and Spain. The subregion of Western Europe contains Austria, Belgium, France, Germany, Luxembourg, the Netherlands, and Switzerland.

The smallest region and subregion combination of the UN country categorization belongs to that of Oceania. The region of Oceania consists of a single subregion, Australia and New Zealand. Within this subregion Australia and New Zealand are the nations of Australia and New Zealand. While the geographic distinction is delineated in the UN data, it is important to remember that Australia, New Zealand, and Canada in the Americas are still members of the Commonwealth Realms of the United Kingdom. This is a feature that could potentially influence data result patterns relative to their cultural and bureaucratic similarities.

Homicide Rate

The UN data contains homicide rates, homicide total counts, homicide formal contact total counts, and homicide conviction total counts. This dissertation utilizes the homicide total count, homicide formal contact total count, and homicide conviction total count. The UN homicide rate is not used in the analysis. Instead, United Nations population data for each nation, by year, were added to the dataset from the associated UNODC (2021) reports. From this, a calculated homicide rate per 100,000 were generated for each nation (N = 101). As discussed in Chapter 2, homicides rates were calculated for each country using a standard formula.

$$\frac{\text{Total Number of Homicides}}{\text{National Population}} \times 100,000 = \text{Homicide Rate per 100,000}$$

Using this technique resulted in slight decimal differences between the UN estimated homicide rates and the dissertation database calculated homicides rates. The difference appears to be an artifact of a rounding technique to the nearest tenth used in the UN data. While some differences were minor, for example the United States homicide rate changed by -0.01, some changes were more dramatic. The UN estimated homicide rate for El Salvador was 105.20, while the calculated homicide rate was 104.79. Although the rounding techniques in the construction of the UN estimated homicide rates are unknown, there are differences in 96 of the 101 country homicide rates when rounding to the nearest thousandth using manual calculations.

Homicide Formal Contact Rate and Homicide Conviction Rate

Following these results, the same technique were instituted for calculating homicide formal contact rates and homicide conviction rates from the UN Data. For simplicity in discussing the data the terms formal contact and conviction will be used, bearing in mind that these represent data for crimes identified and categorized as homicides only. The subsequent retention of both the

frequency count data and calculated rate per 100,000 per population data allow for in-depth quantitative data interpretations between dependent variables and across independent variables.

$$\frac{\text{Total Number of Formal Contacts}}{\text{National Population}} \times 100,000 = \text{Formal Contact Rate per 100,000}$$

$$\frac{\text{Total Number of Convictions}}{\text{National Population}} \times 100,000 = \text{Conviction Rate per 100,000}$$

Data Creation of a Dependent Variable

The primary focus of this dissertation is to analyze unresolved homicide rates from a cross-national perspective. However, there is no cross-national database for cold case murders that interlocks with the UN data. After reviewing prior research, theoretical literature, and exploring data inclusion techniques, a decision to calculate an unresolved homicide count, proxy rate, and percentages were selected. There are many factors to consider in both the concept and the process where an unresolved homicide rate is constructed from the available UN (UNODC 2021) data.

First, the construction of an unresolved homicide measure as a representative rate, based on the difference between the homicide rate and formal contact rate is at best a proxy. This proxy measure is an abductive abstraction of the concept of the rate of homicide as the observed phenomenon at a micro level of reporting and the formal contact rate as the observed phenomenon of meso level law enforcement intervention. The unresolved homicide proxy measure does not capture the actual number of unresolved homicides, cold case murders, missing persons who are victims of homicide, or other forensic metrics. The unresolved homicide proxy measure represents a rate as the difference in the opportunities for the resolution of homicides by law enforcement.

As previously discussed in Chapter 2 under the dark figure of homicide, it is unlikely that the true total of victims will ever be known. However, to achieve a cross-national comparative

context for this analysis, the unresolved homicide proxy rate is calculated as the distance between documented homicides and law enforcement efforts to reach a resolution documented as homicide formal contacts. It should be noted that this is a speculative variable, and all hypothesis testing is conducted as a conjecture of potentialities. Whenever possible it is recommended that focused assessments of unresolved homicide use documented data. This dissertation seeks to establish a level of quasi-experimental validation for the unresolved homicide proxy rates through a set of confirmatory replication tests occurs in advance of the speculative analysis.

Second, the scope of data for each nation limits the contextualization or character of unresolved homicide data by year. This analysis cannot observe the totality of cold case homicide for any country and therefore is limited to findings that occur within a single calendar year. However, as Rogers and Unnithan (2022) discussed, homicide solvability experiences dramatic reductions between a 30-day and 1-year timeline. Although their research was limited to the State of Colorado, given the resources and the priority homicides are given in that area it is doubtful that any other jurisdictions would significantly out-perform a similar model of attrition. Therefore, it is likely that homicide cases across jurisdictions experience institutional entropy.

Third, prior studies and data relating to the resolution of cold case homicides after they reach the 1-year timeline are limited. When evaluating prior research for this dissertation, no single or synthesized set of best practices appeared to improve cold case homicide resolution frequencies. Consistent with Greenwood and Petersilia (1975), serious crimes are often resolved through the efforts and information obtained by first on scene responding law enforcement officers. This establishes the focus of this cross-national research in terms of Rogers and Unnithan's (2022) research on unresolved homicides per calendar year.

Fourth, the creation of the unresolved homicide data as a proxy is strictly limited to murders reported to law enforcement, documented, and recognized under United Nations definitions, within a given year, occurring within UN-determined country boundaries. The results of this analysis can only display comparative outcomes. The interpretations of data for any single region, subregion, or country are limited. This analysis is a broad review of potential differences, not changes over time. An analysis of change over time would necessitate multiple iterations of data, specific to a region, subregion, or country. Instead, this dissertation replicates prior cross-national studies on homicide and expands into exploring variable interactions with the unresolved homicide proxy.

Unresolved Homicide Proxy Rate

Considering the concerns and limitations mentioned, an unresolved homicide proxy rate for each nation was calculated. This measure represents the total number of homicides minus the total number of formal contacts. It is not a representation of documented events. Instead, it presents a measure for total variation between possible resolution responses. The equation for calculating the proxy of unresolved homicide rates used in this dissertation is outlined below.

$$\frac{(\text{Total Number Homicides} - \text{Total Number of Formal Contacts})}{\text{National Population}} \times 100,000 = \text{Unresolved Homicide Proxy Rate per 100,000}$$

The equation above yields both positive and negative results. Because the total number of homicides and total number of formal contacts varies. When the number of homicides is greater than the number of formal contacts, a positive spectrum of the unresolved homicide proxy rate is calculated. These are values greater than zero (0) and represent high homicide unresolved homicide proxy rates (High Homicide UHPR). The opposite is also true when the number of homicides is lower than the number of formal contacts. A negative spectrum of the unresolved

homicide proxy rate is calculated. In this study these are values of zero (0) or less and represent high formal contact unresolved homicide proxy rates (High Contact UHPR).

For example, in 2015 the country of El Salvador recorded 6,656 homicides, 2,704 formal contacts, with a population of 6,352,000. This results in a homicide rate of 104.79 per 100,000, a formal contact rate of 42.57 per 100,000, and an unresolved homicide proxy rate of 62.22 per 100,000. Comparing those results to that of the United States (US) with 17,413 homicides, 11,788 formal contacts, with a population of 323,016,000. The US results display a homicide rate of 5.39 per 100,000, a formal contact rate of 3.65 per 100,000, and an unresolved homicide proxy rate of 1.74 per 100,000. Contrasting values once more, the Netherlands reported 104 homicides, 3,100 formal contacts, with a population of 16,938,000. This resulted in a 0.61 per 100,000 homicide rate, an 18.30 per 100,000 formal contact rates and a -17.69 per 100,000 unresolved homicide proxy rate.

The above results do not mean that the Netherlands is resolving more homicides than occur in a reported calendar year. Nor are the figures in the Netherlands outliers, as low homicides and extremely high formal contacts into the 3,000's per year are a regular data pattern. Likewise, the figures in El Salvador are not necessarily outliers, again the numbers display consistency in long-term reporting patterns. The differences captured in the unresolved homicide dependent variable stands as a proxy for institutional or meso-level law enforcement responses. Where El Salvador and the US are in the High Homicide UHPR end of the spectrum, the Netherlands is in the opposed High Contact UHPR end of that same continuum.

There are no datasets that capture cross-national unresolved homicide figures as end of year totals. The unresolved homicide proxy rate represents the opportunity for institutional capable guardianship within a Routine Activities Theory (Cohen and Felson 1979) framework. It displays

the difference between homicide events and institutional responses, as the interaction distribution from the micro or direct-contact predatory violations to meso-level capable guardianship. From a theoretical perspective it is the creation of this variable that encapsulates the active and reactive engagement of Routine Activities Theory through meso law enforcement social action. If and whenever possible it is recommended that reported unresolved or cold case data be used in place of this proxy, however, that is not possible in a cross-national comparative research scope. In this case, unresolved homicide is representative of potential and does not necessarily denote institutional inability or any failures of law enforcement agencies.

Data Selection for Independent Variables

Following the recommendations from prior research a variety of independent variables were selected. Data were also selected in the context of Unnithan (1983) and Unnithan et al. (1994), as well as considerations that account for the theoretical constructs of Weber (1947), Quinney (1970), as well as Cohen and Felson (1979). The process of selecting independent variables was guided by the goals of confirmatory replication of analogous dependent variables and conducting a comparative analysis of the unresolved homicide proxy rate. From this income inequality, economic development, bureaucratic orientations, equality under the law, and variables examining meso level social forces were selected.

Income Inequality

Income inequality is analyzed using the Gini coefficient for each country. This deviates from the measures of Unnithan (1983); however, it is based on publicly available data and utilized as a common technique. This makes retrieving a Gini coefficient for most nations replicable and interpretable in a cross-national context. The primary source of data for retrieving the Gini Coefficients was the World Bank (2023). However, the World Bank information was missing

specific data by year for some nations. To include as many nations as possible, multiple techniques were evaluated for integrating alternative data. Before discussing those processes, however, it is important to understand what a Gini coefficient represents and how it is calculated.

A Gini coefficient is a relative measure of income inequality. The Gini coefficient ranges from 0 (zero) to 100, where 0 represents perfect equality and 100 represents perfect inequality (Sitthiyot & Holasut 2020). The Gini coefficient relies on the Lorenz curve of wealth distribution and the imposition of definite limits on the integral function of the measurement. From this the Gini coefficient is calculated as the difference of the distance from the line of equality to the cumulative score of a population as $G = A / (A+B)$. Where A is the distance from the cumulative measure to the line of equality, and B is the measure of the area below cumulative total. The Gini coefficient is expressed mathematically as, $G = 1 - 2 \int_0^1 L(x)dx$, accounting for the 0 to 1 function of the definite integral function (Sitthiyot & Holasut 2020).

Out of 101 countries selected for a specific year dependent variables (homicide, formal contact, and conviction), 41 did not have matching Gini coefficients from the accompanying World Bank (2023) data. These 41 missing cases were resolved in three ways. First, 34 nations were missing year-specific Gini scores. For example, suppose data were missing for the selected year of 2016. It was subsequently observed that data were available for 2014, 2015, 2017, or 2018. An exploratory process of determining whether it was necessary to collect 2016 data from a secondary source or if a process of imputing an average Gini coefficient from the observable scores in the World Bank (2023) data could be conducted.

The Gini coefficients of eight nations were selected, representing an approximate 25% sample of the missing data. Data gathered from secondary sources was compared to imputed Gini scores. The sample nations included Scotland, England and Wales, Australia, New Zealand,

Bosnia and Herzegovina, the State of Palestine, Türkiye, and the Syrian Arab Republic. The countries were selected based on the availability of English language publication between governmental and non-governmental reporting from Google search results. In the case of the United Kingdom categories of Scotland, as well as England and Wales exact figures were retrieved from official government sources (The Scottish Government 2024). Because England and Wales are a unified group under the dependent variable definitions, the Gini coefficient represented in the data are an average between the two items. Exact year data for Australia and New Zealand were also retrieved from government resources (Australian Institute of Health and Welfare 2023; Australian Bureau of Statistics 2023). Gini data for Bosnia and Herzegovina, the State of Palestine, Türkiye, and the Syrian Arab Republic were independently retrieved from non-government sources (BTI 2016; Federal Reserve Bank of St. Louis 2024; Index Mundi 2024; and Knoema Data Appliance 2024).

The differences between the secondary source Gini coefficients discussed above and the averaged imputed scores based on the World Bank (2023) data was assessed. The decision to utilize World Bank (2023) data imputation for the remaining 26 nations was selected for three reasons. First, the differences between the secondary source data Gini coefficients and the calculated scores were minimal. Second, many of the 34 nations identified did not have readily available English language secondary sources, especially some African regions. Third, methodologies for imputing Gini coefficients can be instituted systematically using the World Bank (2023) information which establishes continuity across available data points in the analysis. This in turn reduces potential errors from utilizing sources outside the World Bank (2023).

The Gini coefficients of 26 countries were imputed using a 5-year timeframe averaging technique. The data imputation method involves calculating the desired year Gini coefficient in a

process of averaging the nearest two, three, or four scores, so far as they were within a 5-year timeframe. This 5-year data selection window was instituted to keep the calculated Gini scores within a half-decade framework of estimation error. Data imputation averages were conducted for the nations of Algeria, Argentina, Azerbaijan, Bangladesh, Botswana, Chile, Egypt, Iraq, Jamaica, Japan, Lebanon, Maldives, Malta, Mauritius, Mexico, Morocco, Mozambique, Nepal, Nicaragua, Qatar, Sri Lanka, Tajikistan, Turkmenistan, Uganda, the United Republic of Tanzania, and Zimbabwe. While this is an imperfect solution to resolving the missing Gini coefficients issue, it is simple, replicable, and provides expanded analysis opportunities.

Beyond these 34 nations missing data by year, there were 7 nations completely missing Gini coefficients from the World Bank (2023) dataset. This category included Bahrain, Barbados, Guyana, Hong Kong, Singapore, Suriname, and Trinidad and Tobago. Secondary sources were obtained to provide Gini coefficients for each of these nations. For Hong Kong, country specific data for 2019 from World Economics (2024) was utilized to impute the desired 2017 Gini coefficient. Information from the World Inequality Database (2024) was used to obtain country specific Gini data imputation for Bahrain, while Guyana, Singapore, Suriname, and Trinidad and Tobago. Each figure utilized regional imputations for their Gini data. Finally, a United Nations (2016) sub-regional program document for Barbados provided country specific Gini coefficients for imputation.

In preparing the data for this analysis, the Gini coefficients necessitated the most labor to research, calculate, and verify. The techniques described above were conducted with a focus on transparency and consistency as guiding principles. As Unnithan (1983) utilized a constructed measure of income inequality, this dissertation uses recognizable sources for the Gini coefficient. However, the choice to use a standardized variable to represent income inequality necessitated

researching multiple sources and using techniques of imputation to complete the dataset. When possible, it is best to utilize year specific documented data, however, in a cross-national context that technique would result in an approximate 50% loss in sample size.

Economic Development

The remaining independent variables were all obtained from *Varieties of Democracy* Version 13 or V-Dem v13 (2023). V-Dem v13 (2023) maintains 27,555 unique country data identifiers across 202 nations or self-ruling territories. This includes 483 V-Dem indicators or indices and 59 additional variables from other data sources, resulting in 542 total points of information. In all, the V-Dem v13 dataset tracks 6,804,810 individualized bits of information focusing on political, bureaucratic, civil society, and justice related variables in a cross-national context categorized by nation and year. The organization of the data creates a 1-for-1 match between the UNODC (2021), World Bank (2023), and V-Dem v13 (2023) information.

Economic development is represented by Gross Domestic Product per capita (GDPpc). GDPpc represents the value of finished domestic goods and services produced within the geographic boundaries of a country, divided by the population of that nation. This most closely approximates a nation's economic output at the per-person level. The use of the GDPpc deviates from Unnithan's (1983) research, where he utilized the Gross National Product per capita (GNPpc). The primary difference is that GNPpc includes economic activity beyond the geographic boundaries of a country. While the differences are subtle, this research utilizes the GDPpc because the prior research on homicide and unresolved homicide outlined in this dissertation all contextualize it as a local geographic event.

Of the 101 nations in this analysis, 2 were missing GDPpc in the V-Dem v 13 dataset. Data Commons (2024) was utilized as a secondary source to retrieve GDPpc information for Hong

Kong and Palestine. It should be noted that both Hong Kong and Palestine exist within complex socio-political spheres. Each location is viewed as subordinate or independent based on specific geo-political perspectives. For example, the United Nations does not recognize Hong Kong, however, the UN collects data specifically focusing on Hong Kong (Potter 2021). China is the country that represents Macao, Taiwan, and Hong Kong at the United Nations assemblies. This is despite the ongoing contestation for independence and democratic self-governance (Potter 2021).

In the case of Palestine, the occurrence of significant cultural, religious, political, ideological, and military conflicts with Israel cannot be understated. The Council on Foreign Relations (2024) outlines the conflict, beginning in 1948 and continuing to the present. As of June of 2024, the State of Palestine is recognized by 145 of the 193 member states of the United Nations. However, formal recognition between Israel and the Palestinian Authority is based only on the Oslo I Accord of 1993 (Council on Foreign Relations 2024). With these discrepancies in context, both Hong Kong and Palestine were included in this analysis, as they both met the criteria for inclusion necessary for dependent variable selection.

Deliberative Democracy Index

An essential element to consider in this analysis was Unnithan's (1983) theoretical focus on anomie and the current framework of Routine Activities Theory across social strata. Unnithan (1983) conceptualized systemic frustration-anomie as an exploratory factor for understanding lethal violence (i.e., suicide rates plus homicide rates). This dissertation varies in two significant ways. First, there is no analysis of suicide and subsequently no need to account for the internalized micro-social effect of increased material desires beyond the capacity for satisfaction. Second, under a Routine Activities Theory perspective, homicide is an event that occurs in the absence of

capable guardianship. The strict externalized conflict orientation requires different, but conceptually analogous macro-social indicators.

After reviewing the V-Dem v13 dataset, the index of deliberative democracy was selected to represent a nation's potential macro political social force. The deliberative democracy index measures (1) common good motivated political decisions, (2) respectful political dialogue, and (3) the degree to which political decisions are made without emotional appeals based on divisive solidarity attachments, parochial interests, or coercion (V-Dem v13 2023, 45). V-Dem data are based on a panel, typically of five experts, from each country, each year. Through the combination of a pool of over 3,700 researchers providing their expertise, the observational or evaluation metrics they report build the complete dataset. The primary idea of utilizing this as a measure is to observe how broader levels of political engagement could affect homicide rates, formal contact rates, conviction rates, and unresolved homicide proxy rates.

The underlying theoretical concept in this dissertation is that adequate capable guardianship is connected to meso police institutional capacity generated from a macro bureaucratic structure. Which is an artifact of politically participatory opportunities in a national context. For example, institutional requirements that law enforcement agencies respond to the public are structurally bound to some degree of political participation in a society. Admittedly this is predicated on the concept that a deliberative and politically engaging society is a safer society. However, greater levels of civic political engagement can present opportunities for resistance to or alternatives to criminal activities. Returning to the earlier expansion of Unnithan's (1983) ideas of systemic frustration-anomie, Agnew (2005) highlights that anomic strain towards the commission of crime shares linkages with limitations to opportunity, ability, and attainment.

The deliberative democracy index is the broadest possible measure of civilian and governmental political interaction. Across all four dependent variables, it is conceivable that greater deliberative democracy index values could predict changes in homicide rates, formal contact rates, conviction rates, and unresolved homicide proxy rates. For example, greater overall levels of political engagement in a nation could affect homicide rates by influencing perceptions of police capable guardianship which mitigate micro direct-contact predatory violations. Subsequently, if meso level law enforcement agencies experience political pressures from social movements, the effect could generate greater efforts towards achieving capable guardianship in a post-homicide event. The combination of the above factors will in turn lower unresolved homicide proxy rates through the patterned process of deliberative political action.

It is also possible that a social context for deterrence is established. At least in so much as people living within a country believe that the police can resolve a homicide. This could result in higher deliberative democracy index scores translating to a greater perception of legitimized state actions, from which witnesses could engage with police at some increased frequency. This would also reduce the desirability to commit a murder or transform offender beliefs in the ability to avoid detection by engaging rational choice or deterrence principles. The addition of the deliberative democracy index displays the connection between Routine Activities Theory and macro bureaucratic political forces. The greater the level of political participation within a nation, the greater the stakes for each member of society and meso institutions to conform to some concept of the general good.

Mass Mobilization

In paralleling Unnithan's (1983) analysis of socio-structural determinants of lethal violence (i.e., suicide rates plus homicide rates), this dissertation uses an analogous measure of the cultural

legitimation of violence. Unnithan (1983) used a square root transformation of a composite five item scale assessing “the number of assassinations, strikes, anti-government demonstrations, guerrilla attacks, and riots” from Banks (1971). In this dissertation the V-Dem v13 variable mass mobilization represents measures of non-state actor political mobilization within a country, including demonstrations, strikes, protests, riots, and sit-ins. Mass mobilization captures both the frequency and extent of civil instability. While it is not an exact match to the measure used by Unnithan (1983), it represents similar concepts related to social unrest.

100 cases out of the data set of 101 cases were available; however, mass mobilization for Iceland was not present. There are no available secondary sources to retrieve an analogous measure to mass mobilization found in the V-Dem v13. This contrasts with the missing Gini coefficients and GDPpc measure that were retrieved or imputed from alternate sources. Given these circumstances, the mass mobilization data for Iceland was imputed from averaging figures from the most similar Nordic nations within the V-Dem v13 dataset. National similarity is based on United Nations and V-Dem v13 categorizations, as well as similarities in Gini coefficients and GDPpc scores. The nations of Denmark, Finland, Norway, and Sweden were used to calculate the score for Iceland. The mass mobilization scores for each nation were averaged and the result was rounded to the nearest ordinal score of the mass mobilization scale.

$$\begin{aligned} &(\text{Denmark } 1) + (\text{Finland } 1) + (\text{Norway } 0) + (\text{Sweden } 0) = 2 \\ &2 / 4 = \text{Score Average } 0.5 \\ &\text{The Score Average } 0.5 \text{ is rounded to } 1 \\ &\text{Iceland Imputed Mass Mobilization Score} = 1 \end{aligned}$$

The choice to impute the score for Iceland was determined on the basis that averaging a single ordinal score, based on data similarity was advantageous to removing the nation ahead of analysis. Because each of the Nordic nations has a cross-nationally low Gini coefficient, high GDPpc, and low mass mobilization scores, it is reasonable to assume that Iceland would not differ

significantly on this single metric. Iceland has not experienced significant civil conflicts, destabilization to its government, economic decline, mass migration, or other factors related to social unrest preceding the 2016 dependent variable selection date. As such, the figure was imputed for inclusion in the current analysis.

The Gini coefficients, GDPpc, deliberative democracy index, and mass mobilization independent variables were each selected to provide a reasonable replication of Unnithan's (1983) regression analysis on homicide rates in a cross-national perspective. The analysis in this dissertation requires moving into a speculative theoretical testing framework. Additional variables were selected to represent specific meso level observational units that could affect the expanded meso level Routine Activities Theory perspective. These variables are utilized in the third phase of hypothesis testing to explore possible dimensions of law enforcement capable guardianship in a cross-national context.

Enforcement of Laws

As discussed in the chapters above, apex crimes including homicide operate within a social context. Although a murder is a physical act, there are larger social conditions that contextualize the act of homicide and the resulting consequences. This returns us to the discussions of Beccaria (1764) and Quetelet (1831) in understanding the co-operative nature of creating, enforcing, and socially enculturating the law so significantly that macro and meso social patterns become habitus at a micro individual level. These interactions build the cultural *verstehen* of public interpretations of the law, civilian opinions regarding those who enforce the law, and socially construct the perceptions of motivated offenders who violate the law. Culturally informed beliefs concerning every aspect of the law consequently provides the parameters for behaviors. This is ingrained to such an extent that in highly legally rational societies, absolute belief in legal culpability extends

beyond individual legal knowledge. Perhaps more simply stated as, “ignorance of the law is no excuse, in any country” (Jefferson 1787).

The V-Dem v13 (2023:178) provides data that specifically evaluates the transparency and predictable enforcement of laws at a national level. It assesses whether the laws of a land are clear, well publicized, coherent, or internally consistent, stable across time, and enforced in a predictable manner. Using this variable allows for an assessment of the perception of the application of laws in a cross-national context. As discussed above, the theoretical underpinnings of Routine Activities Theory demand an assessment of capable guardianship. In this case, an evaluation of perceptions can be assessed across homicide rates, formal contact rates, conviction rates, and unresolved homicide proxy rates. The underlying presupposition would be that higher levels of transparency and predictability will be negatively correlated with homicide rates and positively correlated with formal contact and conviction rates. Further, predictable and transparent legal codes should hold a significant effect with lower unresolved homicide proxy rate measures observable as High Contact UHPR. This enforcement of the law variable provides an indicator of how legal policies at the macro level are engaged as meso law enforcement capable guardianship, thereby affecting micro direct-contact predatory violations.

Impartial Public Administration

A key aspect to the capable guardianship of macro bureaucracies or meso law enforcement agencies is the public and micro personal sense of institutional legitimacy. The degree to which public interactions with bureaucratic representatives are seen as rigorous and impartial is critical to establishing their validity as public administrators. The V-Dem v13 (2023:178-179) dataset contains a cross-national measure of this concept in evaluating the extent to which public administration is characterized by arbitrariness, bias, nepotism, cronyism, or discrimination.

Increasing scores across this variable represent the respect and the equal application of the law by public officials through bureaucratic rationality, limited basis, or administrative predictability.

Impartial public administration represents multiple aspects of Routine Activities Theory outlined in Chapter 3 and Chapter 4. Not only does this function to the benefit of legitimizing law enforcement agencies in responding to or resolving homicides cases, but it also sets public social standards for expected action. The behaviors of detective assigned to homicide cases operate with some engagement of legally rational expectations for how representatives of the state act in such a way to uphold the law. As an independent variable in this cross-national analysis, it highlights the social context of what ought to happen from a meso institutional evaluation perspective.

This impartial public administration variable is included to expand on the capable guardian concept of meso level policing activities. There is a difference between the enforcement of law and impartial public administration. Where the enforcement of law examines the habitus of legal-rationality, impartial public administration broadly enculturated social expectations of bureaucracy. In a Routine Activities Theory perspective, it is possible that the social expectations exert unique forces that are not captured under the concept of the rule of law. As such meso level policing capable guardianship represented could hold patterned relationships with bureaucratic administrative practices.

Public Service Distribution

In evaluating the ability of an individual, community, police agency, or state to engage capable guardianship, an assessment of available services is included to provide meso to micro interaction context. The V-Dem v13 (2023:211-212) dataset contains a measure of this concept assessing whether basic public services including primary education, clean water, healthcare, and security are equally distributed across socio-economic class. The framework of Routine Activities

Theory is underpinned by the interactions between motivated offenders and suitable targets. In this case, the unequal distribution of public services expresses potential risk factors for the victims of homicide. A consistent and predictable lack of public services generates increased opportunities for micro direct-contact predatory violations in the absence of capable guardianship.

The work of Anderson (1999) focuses on poverty, inner-city social disorganization, and self-help violence displays the opportunity for harmful interactions to converge in context to a lack of social support systems. As individuals find themselves unable to access normative systems for public services, new social and cultural patterns emerge out of a sense of conflict or survival. These systems propagate antisocial behaviors and generate contra-culture movements like gangs, mafias, and cartels. Each failed interaction in accessing public services necessitates the creation of a surrogate or replicant system. The divergence from public services then also creates greater opportunities for further criminogenic behaviors. For example, if a group is unable to access clean drinking water, the necessity for a replacement to that public service will outweigh safety or security concerns in selecting how a solution is achieved.

Including a public services distribution variable allows for a third dimension of assessing a Routine Activities Theory perspective. It is possible that lower ratings, representing greater forms of inequality, will correlate with higher rates of homicide. This could reveal that in a cross-national perspective, nations suffering basic public services inadequacies cannot simply police their way out of apex criminal events. It is also possible that low rating of public service distribution will correlate with higher unresolved homicide proxy rate measures. Which would provide a possible macro system level explanation for a portion of the absence of capable guardianship in context to interactions between motivated offenders and suitable targets.

When reviewing the variables used in this dissertation the homicide rate, formal contact rate, and conviction rate were selected following similar procedures to Unnithan's 2021 analyses. This allow confirmatory correlation and regression analyses of the assembled data. The unresolved homicide proxy rate is developed as a measure of potential meso law enforcement capable guardianship. The inclusion of a Gini coefficient, GDPpc, deliberative democracy index, and mass mobilization as independent variables analogous to Unnithan's 1983 research allows for a confirmatory perspective. The addition of the enforcement of the law, impartial public administration, and public services distribution independent variables expands the research of this dissertation into a new theoretical dimension of analysis. The core concept is that the macro forces of the first set of independent variables compete with the meso theoretical concepts represented in the second set of independent variables to exert some predictive effect on the dependent variables.

Variable Operationalization

The database for this analysis were constructed following the above descriptions and compiled as a Microsoft Excel spreadsheet. Information from the United Nations UNODC (2021), World Bank (2023), V-Dem v13 (2023), and secondary sources were documented as reported. Any missing data identified in the variables was imputed using the processes described above. This created 101 matched sets of data across all the variables displayed in Appendix A. The exception to this is the homicide conviction rates dependent variable set which contain 57 cases, based on the original UNODC (2021) data limitations. Finally, the database was converted to a Stata Statistical Software for Data Science format file. Changes made to the database to facilitate the statical programming and the program code used in the analysis are displayed in Appendix B. For example, the region, subregion, and country names were replaced with a categorical numeric

system ranging from 1 to 123 to accommodate data management and an analysis of each category using Stata software.

Dependent Variables

The homicide rate is an interval level of measure representing murders reported to law enforcement, documented, and recognized under United Nations definitions, per 100,000 persons, within a given year, occurring within an UN-determined country boundary. The homicide formal contact rate is an interval level of measure representing homicide offenders identified, associated, or arrested as reported by law enforcement per 100,000 persons, following UN definitions, year, and boundaries. The homicide conviction rate is an interval level of measure representing offenders found criminally guilty as reported by administrative justice organizations per 100,000 persons, following UN definitions, year, and boundaries. The unresolved homicide proxy rate is an interval level of measure representing a calculated measure of homicide events minus the formal contact events per 100,000 persons, based on the UN homicide and formal contact data.

Independent Variables

The independent variables are divided into two sets. The first set consists of variables included to conduct a confirmatory analysis in alignment with that of Unnithan's 1983 assessment. The second set is a group of variables included to expand the analysis of the four dependent variables. The first set consists of the Gini coefficient, the gross domestic product per capita (GDPpc), the deliberative democracy index, and the mass mobilization measurement. The second set consists of transparent laws with predictable enforcement, rigorous and impartial public administration, and access to public services distributed by socio-economic class measures.

In the first set, the Gini coefficient is a bounded interval level of measure representing income inequality ranging from 0 or absolute equality to 100 or absolute inequality. Gross

domestic product per capita is a measure of per-person allocation for domestic economic output, within a given nation, based on population. It is based on 2020 U.S. dollar value, where the measure for each country is rounded to the nearest dollar and multiplied by 0.001. This is done to maintain the ratio of value while reducing the intervals from tens of thousands to tens of differences. The deliberative democracy index is a bounded interval level of measure representing pro-social public political engagement ranging from 0 or low democratic engagement to 1 or absolute inequality. Mass mobilization is tracked at an ordinal level of measurement, with 0 (zero) representing virtually no events to 4 designating many large-scale and small-scale events.

The second set independent variable of transparent laws with predictable enforcement is an ordinal level assessment ranging from 0 (zero) representing non-existent transparency or predictability and arbitrary enforcement to 4 representing very strong transparency or predictability and non-arbitrary enforcement. The rigorous and impartial public administration is an ordinal measurement of public official engagement and equitable authority. It is tracked from 0 (zero) representing that public officials do not respect the law and engage in rampant biased administration to 4 representing public official respect for the law and limited bias in administering the law. Access to public services distributed by socio-economic class measures is also an ordinal measurement where 0 (zero) represents extreme inequality in access and quality of public services to 75% or more of the population to 4 representing national equality wherein less than 5% of the population lacks access to basic public services.

Hypotheses

As discussed above the strengths and limitations of a quantitative analysis are contextualized within the available data, theoretical framework, and opportunity for a null hypothesis testing. There is negligible risk in conducting a study where the outcomes are

predetermined and therefore, little reward in a broader scientific context. Informed by the research previously discussed, this dissertation investigates both the validation of the assembled database and explores novel analytical opportunities. This dissertation focuses on two categories of hypotheses, nine confirmatory and four speculative.

The confirmatory hypotheses by the work of Dr. Unnithan from 1983, 1994, and 2021. They seek to identify similar patterns of correlations, interactions, and estimates found when analyzing cross-national homicide rates. This begins with the 2021 bivariate correlation analysis and then engages in an expanded replication of the 1983 and 1994 homicide rate regression analysis. This dissertation further develops the ideas of Dr. Unnithan by extending the assessment of the first set of independent variables across homicide rates, formal contact rates, and conviction rates. The analysis concludes by introducing the second set of independent variables designed to explore new meso level interactions which includes an assessment of the unresolved homicide proxy rate. This creates three categories of hypothesis analysis: (1) confirmatory correlative hypotheses, (2) confirmatory regression hypotheses, and (3) speculative abductive regression hypotheses.

Confirmatory Correlative Hypotheses.

Hypothesis 1: Correlations among measures of homicide rate and homicide formal contact rate will be strong, positive, and significant beyond the 95% ($p \leq 0.05$).

Hypothesis 2: Correlations among measures of homicide rate and homicide conviction rate will be moderate, positive, and significant beyond the 95% ($p \leq 0.05$).

Hypothesis 3: Correlations among measures of homicide formal contact rate and homicide conviction rate will be weak, positive, and significant beyond the 95% ($p \leq 0.05$).

Confirmatory Regression Hypotheses.

Hypothesis 4: Social inequality measured with Gini coefficients will hold a significant predictive relationship with homicide rates.

Hypothesis 5: Economic development measured with gross domestic product per capita will hold a significant predictive relationship with homicide rates.

Hypothesis 6: Social bureaucracy measured with the deliberative democracy index will hold a significant predictive relationship with homicide rates.

Hypothesis 7: Social conflict measured with mass mobilization will hold a significant predictive relationship with homicide rates.

Hypothesis 8: The predictive relationships of hypotheses 4 through 7 will display significant results with homicide formal contact rates.

Hypothesis 9: The predictive relationships of hypotheses 4 through 7 will display significant results with homicide conviction rates.

Evaluating these nine hypotheses acts as sets of indicators for a further abductive speculative investigation. A subsequent analysis can only occur if the results outperform a null hypothesis or results of no difference. Because some of these results have been achieved previously, these first seven hypothesis tests assist in the preliminary assessment of the dataset in achieving parity with prior research. As the theoretical propositions of Weber (1947), Quinney (1970), and Cohen and Felson (1979) all predict that unique social interactions should produce unique outcomes, replicating the prior work of Unnithan (1983; 1994; 2021) will accommodate a second theoretical framework analysis of the unique data patterns.

Expanding out from this replication investigation four speculative abductive hypotheses are conducted to review how the additional independent variables perform in predicting the dependent variables. This begins with a replication of the second set of confirmatory regression analyses and concludes with introducing the second set of independent variables to assess their relationships with the unresolved homicide proxy rate.

Speculative Abductive Hypotheses

Hypothesis 10: The predictive relationships of hypotheses 4 through 7 will display significant results with the unresolved homicide proxy rates.

Hypothesis 11: Legal rationality measured by the transparent and predictable enforcement of laws will hold significant predictive relationships with the dependent variables.

Hypothesis 12: Equality of governance measured by impartial public administration will hold significant predictive relationships with the dependent variables.

Hypothesis 13: Equity of civic inclusion measured by the distribution of public services by socio-economic class will hold significant predictive relationships with the dependent variables.

In reviewing the thirteen hypotheses above, it is important to note that there are multiple steps needed to conduct each test. The steps are to (1) confirm the validity of this dataset and analysis through bivariate findings analogous to those of Unnithan 2021. (2) To replicate the Unnithan 1983 and 1994 results from a Routine Activities Theory framework. (3) To introduce a speculative abductive measurement technique in the analysis of unresolved homicide proxy rates.

The assessment of homicide rates provides context to the overall analysis in conversation with prior research. The analysis of homicide formal contact rates and homicide conviction rates are theoretically important because they provide a hierarchical perspective for understanding the macro and meso interaction levels of variables in assessing a Routine Activities Theory perspective. The creation and testing of the unresolved homicide proxy rate is an exploration into dark figure of homicide research. The cross-national context of the overall study provides a benchmark for understanding how larger social systems, such as bureaucracies, affect meso institutional responses to micro criminal patterns.

Data Limitations

This dissertation is limited by multiple data-related and observational factors. Issues with missing data created the necessity to find secondary sources or impute figures. Imputing data or retrieving information from secondary sources across 44 variables is imperfect. However, missing data and limitations to retrieving Gini coefficients is a known factor in the analysis of inequality. Both secondary data and imputation techniques provided similar results. The decision to impute the data based on World Bank information is again a technique that maintains the accessibility and replicability of this research. It would of course be advisable to use the most accurate data possible, however, in the context of a cross-national perspective that may not be achievable. Regional analysis across Africa as well as subregions of Asia and the Americas present limitations to finding accurate and current figures. When evaluating the reliability and validity of cross-national data, this dissertation relies on pre-existing definitions and limited observations. The decision to utilize United Nations, World Bank, and Varieties of Democracy data as the primary sources was determined based on public access. While the data may contain flaws, the research conducted in this study is replicable and comparable to other large-scale cross-national research projects.

The social strata i.e., macro, meso, and micro framework of Routine Activities Theory is novel in the investigation of cross-national homicide. While Routine Activities Theory is often studied and applied only to micro level interactions, the underlying theory indicates that all the necessary macro and meso social elements be in place for the direct-contact predatory violations to occur. Applying Routine Activities Theory to a cross-national data analysis project is an approach that relies on a multi-level theoretical perspective. Every point of contact from the murder event to the police intervention, to a possible criminal conviction represents sets of micro events occurring in meso institutional spaces, under the direction of macro social bureaucracies.

From this perspective Routine Activities Theory is the examination of multiple dependent variables simultaneously reacting to larger independent variable forces.

Conducting the Analyses

With methodological information, definitions, calculations, operationalizations, and limitations in context, this dissertation moves to an analysis of the hypotheses. The process is conducted in the order it occurred, documenting any changes to the dataset, and subsequent outcomes. The first two phases of the analysis assess the results in context to each hypothesis, upon which the third phase of speculative testing is based. The results are reported in tables and figures associated with the discussion of each process or hypothesis test. The data used in this study and a description of each variable are available in Appendix A and Appendix B.

CHAPTER 6 - UNRESOLVED HOMICIDE: A CROSS-NATIONAL ANALYSIS

A review of prior research and theoretical frameworks for examining unresolved homicide in a cross-national perspective led to the selection of variables and the creation of testable hypotheses. As discussed in the above chapter, the data were assembled into a single Microsoft Excel database. This included the primary data from the United Nations UNODC (2021), the World Bank (2023), Varieties of Democracy (v13 2023), as well as any necessary imputed or secondary source information. Four dependent variables were selected for analysis, homicide rate, formal contact rate, homicide conviction rate, and the calculated unresolved homicide proxy rate.

The creation of this proxy measure was necessary for three reasons. First, large-scale cross-national comparative unresolved homicide figures are not available. Whether this is due to lack of reporting, absence of documentation, or some deprivation of official law enforcement agencies, information regarding cold cases at a cross-national level is not readily accessible. Second, As Quetelet (1831) discussed in understanding the duties of the police to a society, the institutional response to murder is a display of law enforcement ability. For this study, analyzing that gap with a proxy measure bridges theoretical concepts with an observable metric. Third, a proxy measure of unresolved homicide provides a position to contrast variations of police agency responses to homicide by nation. Where low or high homicide rates or formal contact rates are each one dimension of an analysis, the unresolved homicide proxy rate is a multidimensional nexus of analysis.

Next, four independent variables were selected to provide an analogous match to the prior research to of Unnithan (1983; 1994) in examining cross-national social predictive indicators of lethal violence (i.e., suicide rates plus homicide rates). This first set of independent variables

consists of a Gini coefficient representing inequality, gross domestic product per capita (GDPpc) representing economic development, a deliberative democracy index representing public political participation, and mass mobilization representing civil unrest at a national level. The Gini coefficient and GDPpc each required imputation or secondary sources to complete the dataset. A single measure of mass mobilization for Iceland was calculated to fill in that piece of missing data.

Finally, three independent variables were selected to expand on the theoretical framework to provide insight into patterns across each dependent variable. The variables include measures of the transparency and predictable enforcement of laws, the rigor and impartiality of public administration, and the equal distribution of public services. Each variable was selected to represent macro and meso level social conditions that precede anti-social interaction leading to homicide. They also relate to public perceptions of social action and the ability of law enforcement as an institution. The analysis was conducted so the results of the first set of independent variables are known, then compared to prior research, and subsequently act as control variables for the introduction of the second set of independent variables.

Descriptive Statistics

The selection and construction of the dataset resulted in 101 matched data points by year across all the variables of the analysis with one exception. Each matched set of data across homicide conviction rate and all seven independent variables contains 57 matched data points by year. This difference is the result of the UNODC (2021) data containing only 57 measures across the 101 countries selected for the analysis. The following discussion will make note of this difference as it becomes relevant, and all data visuals document this feature.

Table 1 (below) displays the descriptive statistical results for the dependent variables. We can observe that for the 101 calculated homicide rates they range from a minimum score of 0.193

(Singapore) to 104.786 (El Salvador) per 100,000 persons. The mean homicide rate is 6.735 per 100,000 people with a standard deviation of 13.433. Homicide formal contact rates based on 101 measures display a minimum of 0.204 (Japan) to 42.569 (El Salvador) per 100,000 persons. The formal contact rate mean is 5.123 per 100,000 people with a standard deviation of 6.310. Across the 57 observations of conviction rates the minimum range was 0 (Barbados) to a maximum of 32.949 (Nicaragua) per 100,000 persons. Homicide conviction rates displayed a mean of 3.015 per 100,000 people with a standard deviation of 4.601.

Table 1. Descriptive Statistics of the Dependent Variables

	N	Minimum	Maximum	Mean	Standard Deviation
Homicide Rate	101	0.193	104.786	6.735	13.433
Formal Contact Rate	101	0.204	42.569	5.123	6.310
Conviction Rate	57	0	32.949	3.015	4.601
Unresolved Homicide Proxy	101	-19.231	62.217	1.612	9.557

The unresolved homicide proxy rate range across 101 observations resulted in a minimum of -19.231(Suriname) a maximum of 62.217 (El Salvador) per 100,000 persons. The unresolved homicide proxy rate has a mean of 1.612 with a standard deviation of 9.557. It is important to remember that the minimum and maximum scores are affected by the calculation technique in generating the proxy measure. As such, scores of less than zero represent high formal contact unresolved homicide proxy measures (High Contact UHPR). Scores of greater than zero represent the opposite as high homicide unresolved homicide proxy measures (High Homicide UHPR). The broader range represents the multidimensional nexus of these two variables.

An initial analysis of the first set of independent variables were conducted and are displayed in Table 2 (below). However, a review of the data from Table 1 and Table 2 presented the possibility of statistical outliers within the original data selection. The country of El Salvador stood out as presenting the maximum value for both homicide rate and formal contact rate.

Table 2. Descriptive Statistics of the Independent Variables Set One

	N	Minimum	Maximum	Mean	Standard Deviation
Gini Coefficient	101	24.90	68.00	37.790	9.167
Gross Domestic Product per capita	101	1.314	85.872	21.951	18.169
Deliberative Democracy Index	101	0.011	0.880	0.504	0.251
Mass Mobilization	101	0	4	1.901	1.285

These two measures are integral for the analysis of the unresolved homicide proxy rate measurement. To evaluate the potential for bias effects through skewing analytic results, a scatter plot with a trend line (line of best fit) was created. Graph 1 (below) shows the Gini coefficient as the x-axis and homicide rate as the y-axis. Overall, this graph represents a positive relationship between increasing inequality and increasing homicide rates. Reviewing the data we observe that El Salvador holds a Gini coefficient of approximately 40, a near average score, with a homicide rate of over 100 which is nearly double the next highest score.

After analyzing this information, the decision to drop El Salvador from the analysis was selected. While removing El Salvador does reduce the representation of Central American nations by 15%, the kurtosis of this single indicator affecting both homicide rates and homicide formal contacts rates presents a significant outlier to the overall analysis. Removing El Salvador changes the sample size of the analysis to 100 for all variables, except those related to homicide conviction rate which maintain their 57-nation representation.

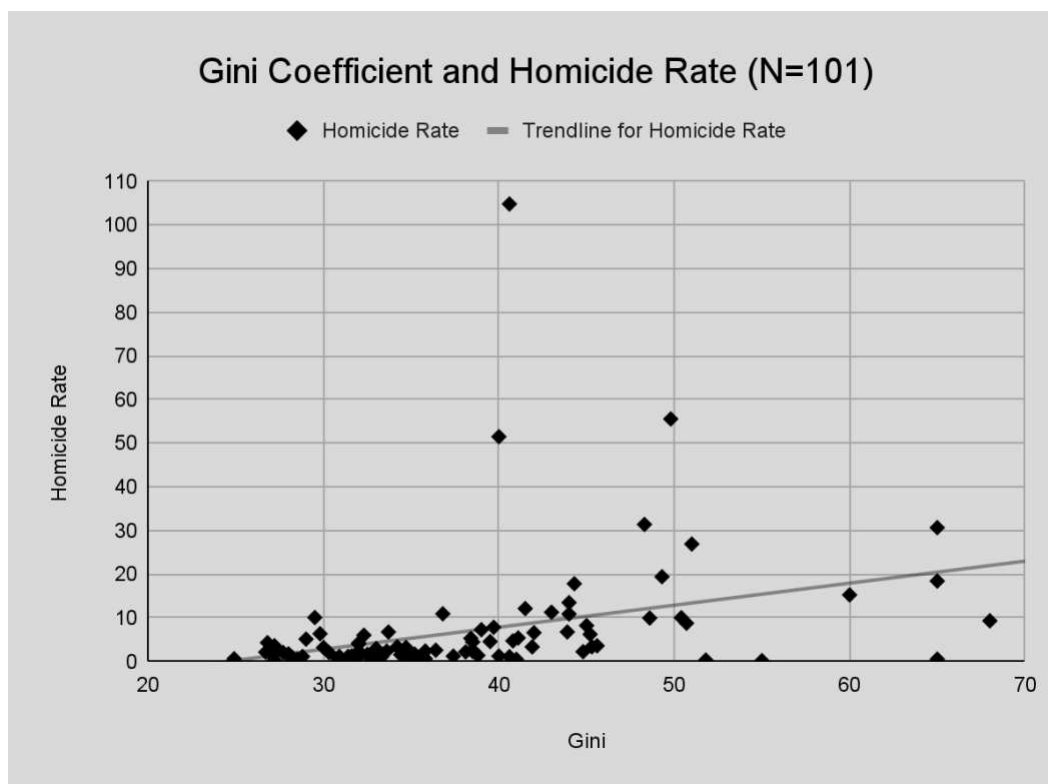


Figure 3. Gini Coefficient and Homicide Rate Bivariate Graph.

Table 3 (below) displays the revised descriptive statistical results for the four dependent variables. We can now observe that of the 100 calculated homicide rates they range from a minimum score of 0.193 (Singapore) to 55.549 (Honduras) per 100,000 persons. The mean homicide rate is 5.754 per 100,000 people with a standard deviation of 9.175. Homicide formal contact rates based on the revised 100 measures display a minimum of 0.204 (Japan) to 28.543 (Suriname) per 100,000 persons. The formal contact rate mean is 4.749 per 100,000 people with a standard deviation of 5.091. The 57 observations of homicide conviction rates remain unchanged with a minimum range of 0 (Barbados) to a maximum of 32.949 (Nicaragua) per 100,000 persons. Homicide conviction rates continue to display a mean of 3.015 per 100,000 people with a standard deviation of 4.601.

Table 3. Revised Descriptive Statistics of the Dependent Variables

	N	Minimum	Maximum	Mean	Standard Deviation
Homicide Rate	100	0.193	55.549	5.754	9.175
Formal Contact Rate	100	0.204	28.543	4.749	5.091
Conviction Rate	57	0	32.949	3.015	4.601
Unresolved Homicide Proxy	100	-19.231	36.749	1.006	7.402

The revised unresolved homicide proxy rate range across 100 observations resulted in a minimum of -19.231(Suriname) a maximum of 36.749 (Honduras) per 100,000 persons. The revised unresolved homicide proxy rate has a mean of 1.006 with a standard deviation of 7.402. Again, the negative and positive representations of the unresolved homicide proxy rate scores continue to represent the diversity of homicide rate and formal contact rate interactions as High Contact UHPR and High Homicide UHPR.

The removal of El Salvador also resulted in lower maximum range scores for homicide rates, homicide formal contact rates, and unresolved homicide proxy rate measures. This lowered the mean and standard deviations for these three variables. Overall, the removal of El Salvador provides a greater level of observational consistency across the variables while maintaining the diversity of the remaining data. A comparison of Table 2 (above) and Table 4 (below) shows that the resulting descriptive statistics between the 101 item and revised 100 item sample of the first set of independent variables are nearly identical.

Table 4. Revised Descriptive Statistics of the Independent Variables Set One

	N	Minimum	Maximum	Mean	Standard Deviation
Gini Coefficient	100	24.90	68.00	37.762	9.209
Gross Domestic Product per capita	100	1.314	85.872	22.118	18.183
Deliberative Democracy Index	100	0.011	0.880	0.504	0.252
Mass Mobilization	100	0	4	2.590	1.055

Similarly, Graph 2 (below) visualizes how the removal of El Salvador resulted in a minimal transformation of the trend line, resulting in a minor decrease while still displaying a positive relationship between increasing inequality measured by the Gini coefficients and increasing homicide rates. The combination of these two items supported the decision to remove El Salvador from the analysis. All subsequent descriptions in this analysis will be based on the 100-nation or 57-nation sample sizes previously described across the four dependent variables.

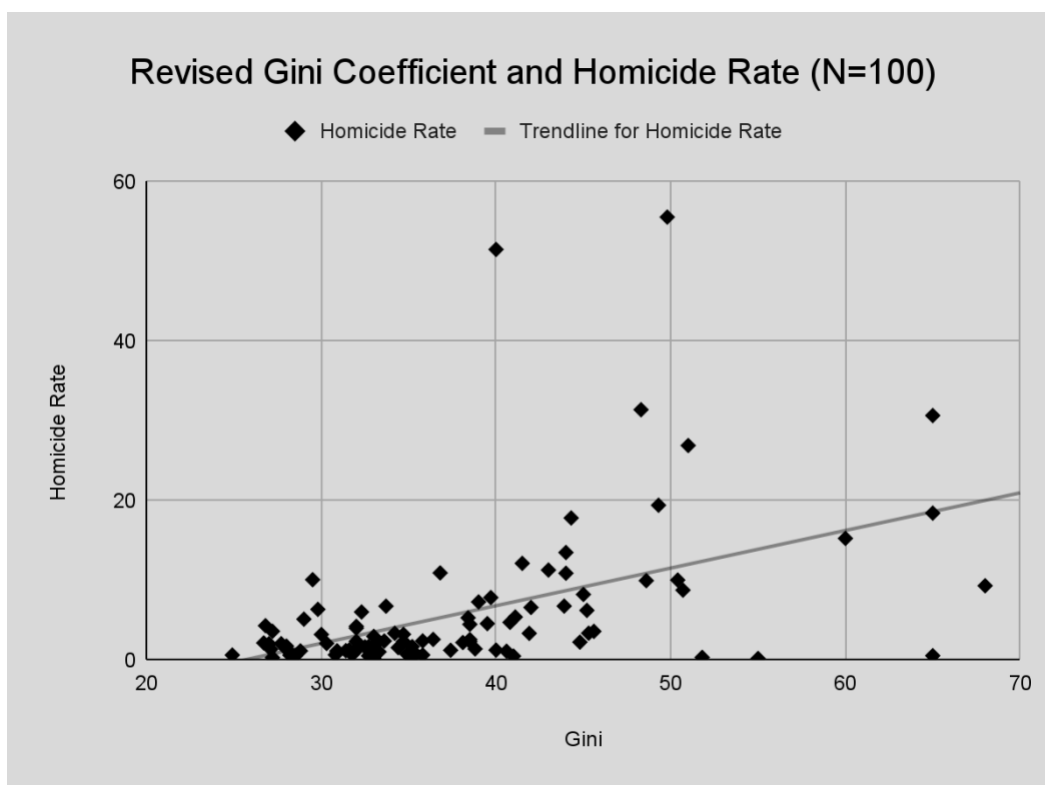


Figure 4. Revised Gini Coefficient and Homicide Rate Bivariate Graph.

Table 5 (below) visualizes the entire revised set of descriptive statistics results. The first set of independent variable results begin with the Gini coefficient. The Gini coefficient ranges from a minimum score of 24.90 (Czechia or the Czech Republic) representing low inequality to 68.00 (Suriname) representing high inequality. The mean Gini coefficient score is 37.762 with a standard deviation of 9.209. The Gross Domestic Product per capita (GDPpc) measurement ranges

from a minimum of 1.314 (Mozambique) to a maximum of 85.872 (Qatar) represented as 1/1000 of the total value of goods and services produced in a nation per capita in 2020 US dollars. The mean GDPpc score is 22.118 with a standard deviation of 18.183.

Table 5. Revised Descriptive Statistics for all Variables in the Analysis

	N	Minimum	Maximum	Mean	Standard Deviation
<i>Dependent Variables</i>					
Homicide Rate	100	0.193	55.549	5.754	9.175
Formal Contact Rate	100	0.204	28.543	4.749	5.091
Conviction Rate	57	0	32.949	3.015	4.601
Unresolved Homicide Proxy	100	-19.231	36.749	1.006	7.402
<i>Independent Variables Set 1</i>					
Gini Coefficient	100	24.90	68.00	37.762	9.209
Gross Domestic Product per capita	100	1.314	85.872	22.118	18.183
Deliberative Democracy Index	100	0.011	0.880	0.504	0.252
Mass Mobilization	100	0	4	2.590	1.055
<i>Independent Variables Set 2</i>					
Enforcement of Law	100	0	4	2.800	0.974
Impartial Public Administration	100	0	4	2.590	1.055
Public Service Distribution	100	0	4	2.590	1.138

The deliberative democracy index displays results ranging from a minimum of 0.011 (Turkmenistan) representing very low democratic interactions to a maximum of 0.880 (Switzerland) representing broad and egalitarian participation in a political democracy. The mean score of the deliberative democracy index is 0.504 with a standard deviation of 0.252. The measurement of mass mobilization displays a range from a minimum of 0 (zero) (16 total nations) representing low to no civil unrest to a maximum of 4 (11 total nations) representing high frequency and magnitude public protests. The mean score for mass mobilization is 2.590 with a standard deviation of 1.055.

The second set of independent variables in the descriptive statistics are also based on the 100 case sample size measurements. The transparent and predictable enforcement of laws displays a range from a minimum of 0 (zero) (Turkmenistan) representing non-existent transparency and predictability to a maximum of 4 (27 nations) representing non-arbitrary transparency and predictability. The enforcement of laws has a mean score of 2.800 with a standard deviation of 0.974. The rigor and impartiality of public administration displays a range with a minimum score of 0 (zero) (Turkmenistan and Iraq) representing bias and arbitrary public administration to a maximum of 4 (22 nations) representing limited incidence of malfeasance. Impartial public administration displays a mean of 2.590 with a standard deviation of 1.055. Lastly, access to public services distributed by socio-economic class ranged from a minimum of 0 (zero) (Tajikistan) representing that more than 75% of the population lack access to basic public services of good quality to a maximum of 4 (27 nations) representing that less than 5% of the population lack access to basic public services of good quality. Public service distribution displays a mean score of 2.590 with a standard deviation of 1.138.

The descriptive statistics in this analysis represent approximately 50% of the nations or sovereign states currently recognized by the United Nations. The distribution of scores provided by these variables shows the diversity of measurements across a spectrum of social, political, and criminological metrics. The above descriptions inform the research of some unique and shared characteristics among the non-random sample population. Where a single or handful of countries at the low or high end of a range present unique indicators, dozens of nations also group at far ends of some measurements. The patterns with the highest concentrations are represented by 27 countries maximizing the ordinal measures of enforcement of laws and public service distribution. Most of these countries are industrialized nations in the Americas, Asia, Europe, and Oceania.

Bivariate Correlation Analysis of the Dependent Variables

The first step in analyzing the data was to investigate the first three hypotheses of the dissertation. To evaluate the bivariate correlations among the 100 non-random sample population of nations the data were analyzed using Stata. Table 6 (below) displays the results of the bivariate correlation analysis across the dependent variables. The homicide rate and the homicide formal contact rate (0.5921) display a strong, positive, and statistically significant correlation at the 99.9% ($p \leq 0.001$) level. This displays that in a cross-national context as homicide rates increase there is an increase in homicide formal contact rates. The bivariate correlation between homicide rate and homicide conviction rate (0.2462) results in a weak, positive, non-significant correlation. The results of the analysis do not exhibit a correlational linkage between these two measures.

Table 6. Bivariate Correlation Matrix of Dependent Variables

(N=100)	Homicide Rate	Formal Contact Rate	Conviction Rate (N=57)	Unresolved Homicide Proxy
Homicide Rate	1.0000			
Formal Contact Rate	0.5921***	1.0000		
Conviction Rate (N=57)	0.2462	0.4548***	1.0000	
Unresolved Homicide Proxy	0.8323***	0.0461	0.0763	1.0000

Note: * $p \leq .05$; ** $p \leq .01$; *** $p \leq .001$

The bivariate correlation between homicide formal contact rate and homicide conviction rate (0.4548) is moderate, positive, and statistically significant at the 99.9% ($p \leq 0.001$) level. This expresses that in a cross-national context as formal contact rates increase there is an increase in conviction rates. The results of the three analyses of bivariate correlations described above are in general alignment with the findings of Unnithan (2021). Homicides rates displayed a slight decrease in correlation strength and significance with formal contact rates. Formal contact rates displayed a slight increase correlation strength and significance with conviction rates.

Additional bivariate correlation tests were conducted for the unresolved homicide proxy rate measurement. This resulted in a strong to robust, positive, statistically significant correlation at the 99.9% ($p \leq 0.001$) level between homicide rate and the unresolved homicide proxy rate (0.8323). Both the correlative results for the unresolved homicide proxy rate and the formal contact rate (0.0461) or the conviction rate (0.0763) display very weak to minimal, positive, non-significant interactions. This displays that in a cross-national context as homicide rates increase there is an increase in the unresolved homicide proxy rate, beyond a correlation with higher order meso or macro measures of homicide formal contact rates or homicide conviction rates.

Given the similarity of results across the homicide rate, formal contact rate, and conviction rate bivariate correlations to those of Unnithan (2021) the decision to proceed with further analytical techniques was affirmed. Had the bivariate correlation tests failed to achieve similar patterns of strength, direction, and significance the validity of the dataset would be called into question. However, given the similarities, which utilized different techniques for non-random sample population selection from the same UNODC (2021) source it is probable that the findings of the bivariate analysis of this dissertation are valid.

Bivariate Correlations for all Variables

The next step in evaluating the data is to conduct bivariate correlation tests for all the variables in the analysis. The results will assist in understanding the relationships between the variables and the identification of potentially disruptive autocorrelations. The bivariate correlations are conducted in a single Stata analysis; however, the descriptions will follow the three-category construct of the overall project. This consists of the dependent variables, the first set of independent variables, and the second set of independent variables all of which are displayed in Table 7 (below).

Table 7. Bivariate Correlation Matrix for all Variables in the Analysis

(N=100)	HR	FCR	CR (N=57)	UHPR	GC	GDPpc	DDI	MM	EoL	IPA	PSD
<i>Dependent Variables</i>											
Homicide Rate	1.0000										
Formal Contact Rate	0.5921***	1.0000									
Conviction Rate (N=57)	0.2462	0.4548***	1.0000								
Unresolved Homicide Proxy	0.8323***	0.0461	0.0763	1.0000							
<i>Independent Variables Set 1</i>											
Gini Coefficient	0.4735***	0.4050***	0.1934	0.3084**	1.0000						
Gross Domestic Product per capita	-0.3068**	-0.3586***	-0.3409**	-0.1337	-0.1631	1.0000					
Deliberative Democracy Index	-0.0761	-0.0933	-0.2430	-0.0302	-0.1478	0.5102***	1.0000				
Mass Mobilization	-0.1631	-0.0509	-0.0423	-0.1672	-0.0285	-0.2661**	-0.0725	1.0000			
<i>Independent Variables Set 2</i>											
Enforcement of Law	-0.1794	-0.2436*	-0.3987**	-0.0548	-0.0978	0.5820***	0.7793***	-0.1030	1.0000		
Impartial Public Administration	-0.0954	-0.2094*	-0.3589**	-0.0257	-0.0425	0.5880***	0.7247***	-0.2059*	0.8430***	1.0000	
Public Service Distribution	-0.4257***	-0.3834***	-0.3783**	-0.2640**	-0.3822***	0.6771***	0.3462***	-0.3011**	0.5903***	0.6242***	1.0000

Note: * $p \leq .05$; ** $p \leq .01$; *** $p \leq .001$

Homicide Rate Bivariate Correlations

The correlations and interactions across the four dependent variables are described in detail in the above section. Table 7 (above) expands on this analysis for each variable. The correlations between homicide rate and the first set of independent variables displays mixed results. The Gini coefficient (0.4735) provides a moderate, positive, and statistically significant correlation at the 99.9% ($p \leq 0.001$) level with homicide rate. This can be interpreted as increases in inequality correspond to increases in homicide rates. Gross domestic product per capita (GDPpc) (-0.3068) displays a moderate, negative, and statistically significant correlation at the 99% ($p \leq 0.01$) level correlation with homicide rates. This shows that increases in GDPpc are associated with decreases in homicide rates. The correlations for both the deliberative democracy index (-0.0761) and mass mobilization measurements (-0.1631) resulted in minimal, negative, non-significant results.

The bivariate correlations across the second set of independent variables and homicide rates presented only one significant result. The public service distribution measurement (-0.4257) provides a moderate, negative, and statistically significant correlation at the 99.9% ($p \leq 0.001$) level with homicide rate. This can be interpreted as increases in access and quality of public services occur in a nation, there is a corresponding decrease in homicide rates. Neither the enforcement of law (-0.1794) or impartial public administration (-0.0954) achieved significance, each presenting weak to minimal, negative, non-significant results.

Homicide Formal Contact Rate Bivariate Correlations

The correlations between homicide formal contact rate and the first set of independent variables also shows mixed results. The Gini coefficient (0.4050) provides a moderate, positive, and statistically significant correlation at the 99.9% ($p \leq 0.001$) level with formal contact rate. This can be interpreted as meaning that increases in inequality correspond to increases in formal contact

rates. The GDPpc (-0.3586) displays a moderate, negative, and statistically significant correlation at the 99.9% ($p \leq 0.001$) level correlation with formal contact rates. This shows that increases in GDPpc are associated with decreases in formal contact rates. The correlations for both the deliberative democracy index (-0.0933) and mass mobilization measurements (-0.0509) resulting in minimal, negative, non-significant results.

The bivariate correlations across the second set of independent variables and formal contact rates presented multiple significant results. The enforcement of law measurement (-0.2436) provides a weak, negative, and statistically significant correlation at the 95% ($p \leq 0.05$) level with formal contact rate. This can be interpreted as increases in transparent and predictable enforcement of laws corresponds to a decrease in formal contact rates. The impartial public administration measurement (-0.2094) resulted in a weak, negative, and statistically significant correlation at the 95% ($p \leq 0.05$) level with formal contact rate. This can be interpreted as increases in impartial public administration occur, there is a corresponding decrease in formal contact rates. The public service distribution measurement (-0.3834) displays a moderate, negative, and statistically significant correlation at the 99.9% ($p \leq 0.001$) level with formal contact rate. This can be interpreted as increases in access and quality of public services occur in a nation, there is a corresponding decrease in formal contact rates.

Homicide Conviction Rate Bivariate Correlations

The correlations between homicide conviction rate and the first set of independent variables also displays a third set of mixed results, within the variant 57 item non-random sample population. The Gini coefficient (0.1934) provides weak, positive, and non-significant results with conviction rates. The GDPpc (-0.3409) resulted in a moderate, negative, and statistically significant correlation at the 99% ($p \leq 0.01$) level correlation with conviction rates. This shows

that increases in GDPpc are associated with decreases in conviction rates. The correlations for both the deliberative democracy index (-0.2430) and mass mobilization measurements (-0.0423) display weak to minimal, negative, non-significant results.

The bivariate correlations across the second set of independent variables and conviction rates also exhibited several significant results. The enforcement of law measurement (-0.3987) provides a moderate, negative, and statistically significant correlation at the 99% ($p \leq 0.01$) level with conviction rate. This can be interpreted as increases in transparent and predictable enforcement of laws corresponds to a decrease in conviction rates. The impartial public administration measurement (-0.3589) provides a moderate, negative, and statistically significant correlation at the 99% ($p \leq 0.01$) level with conviction rate. This can be interpreted as increases in impartial public administration occur, there is a corresponding decrease in conviction rates. The public service distribution measurement (-0.3783) provides a moderate, negative, and statistically significant correlation at the 99% ($p \leq 0.01$) level with conviction rate. This can be interpreted as increases in access and quality of public services occur in a nation, there is a corresponding decrease in conviction rates.

Unresolved Homicide Proxy Rate Bivariate Correlations

The correlations between the unresolved homicide proxy rate and the first set of independent variables reveals mixed results. The Gini coefficient (0.3084) provides a moderate, positive, and statistically significant correlation at the 99% ($p \leq 0.01$) level with unresolved homicide proxy rates. This can be interpreted as showing that increases in inequality correspond to increases in the unresolved homicide proxy rate. The GDPpc (-0.1337), the deliberative democracy index (-0.0302), and mass mobilization measurements (-0.1672) each display weak to minimal, negative, non-significant results.

The bivariate correlations across the second set of independent variables and homicide rates presented only one significant result. The public service distribution measurement (-0.2640) provides a moderate, negative, and statistically significant correlation at the 99% ($p \leq 0.01$) level with unresolved homicide proxy rates. This can be interpreted as meaning that increases in access and quality of public services occur in a nation, there is a corresponding decrease in unresolved homicide proxy rates. Neither the enforcement of law (-0.0548) or impartial public administration (-0.0257) achieved significance, each presenting minimal, negative, non-significant results.

Independent Variable Set One Bivariate Correlations

The Gini coefficient resulted in only one significant bivariate correlation across all the independent variable interactions. The public service distribution measurement (-0.3822) provides a moderate, negative, and statistically significant correlation at the 99.9% ($p \leq 0.001$) level with Gini coefficients. This can be interpreted as opposed but mutual measurements of inequality. As inequality measured by the Gini coefficients increases, indicators of public service distribution decrease. Inversely, as measures of public service distribution increases, Gini coefficients decline. This intuitively makes sense in that both items are measuring inequality, across different dimensions. The GDPpc (-0.1631), the deliberative democracy index (-0.1478), mass mobilization measurements (-0.0285), enforcement of law (-0.0978), and impartial public administration (-0.0425) each display weak to minimal, negative, non-significant results.

GDPpc achieved significant results with every independent variable, beyond the previous non-significant results with the Gini coefficient. The deliberative democracy index (0.5102) provides a moderate, positive, and statistically significant correlation at the 99.9% ($p \leq 0.001$) level with GDPpc. This can be interpreted as increases in deliberative democracy correspond to increases in per person allocations of domestic economic output. The mass mobilization measure

(-0.2661) resulted in a weak to moderate, negative, and statistically significant correlation at the 99% ($p \leq 0.01$) level with GDPpc. This can be interpreted as increases in civil unrest correspond to decreases in per person allocations of domestic economic output.

Across the second set of independent variables, a pattern of significant bivariate interaction emerged. The enforcement of law measurement (0.5820) provides a moderate, positive, and statistically significant correlation at the 99.9% ($p \leq 0.001$) level with GDPpc. The impartial public administration measure (0.5880) exhibits a moderate, positive, and statistically significant correlation at the 99.9% ($p \leq 0.001$) level with GDPpc. The public services distribution metric (0.6771) displays a moderate, positive, and statistically significant correlation at the 99.9% ($p \leq 0.001$) level with GDPpc. Overall, this can be interpreted as meaning that increases in transparent predictable law enforcement, unbiased administration, and access to quality public services each correspond to increases in per person allocations of domestic economic output.

The deliberative democracy index bivariate correlates with the last remaining independent variable in the first set which resulted in a minimal, negative, non-significant interaction with mass mobilization (-0.0725). The second set of independent variables each display significant interactions. The enforcement of law measurement (0.7793) provides a strong, positive, and statistically significant correlation at the 99.9% ($p \leq 0.001$) level with the deliberative democracy index. The impartial public administration measure (0.7247) displays a strong, positive, and statistically significant correlation at the 99.9% ($p \leq 0.001$) level with the deliberative democracy index. The public services distribution metric (0.3462) holds a moderate, positive, and statistically significant correlation at the 99.9% ($p \leq 0.001$) level with the deliberative democracy index. Overall, this can be interpreted as increases in measures of deliberative democracy appear to

achieve patterned results in cross-national measures of increased transparent and predictable law enforcement, unbiased administration, and access to quality public services.

Mass mobilization displays mixed results with the second set of independent variables. The enforcement of law measurement (-0.1030) results in non-significant interactions with mass mobilization measures. The impartial public administration measure (-0.2059) resulted in a weak, negative, and statistically significant correlation at the 95% ($p \leq 0.05$) level with the mass mobilization measures. The public services distribution metric (-0.3011) provides a weak to moderate, negative, and statistically significant correlation at the 99% ($p \leq 0.01$) level with the mass mobilization. Overall, this can be interpreted as increases in unbiased administration and access to quality public services each correspond to decreases in civil or social unrest.

Independent Variable Set Two Bivariate Correlations

Finally, the remaining interactions between the second set of independent variables express an interlocking set of concepts based in the meso institutional theoretical framework of analysis. As such the resulting statistically significant results were expected and interpreted as confirmatory in that they measure different dimensions of underlying meso bureaucratic concepts. The enforcement of law measures was associated with the impartial public administration (0.8430) and public services distribution (0.5903) metrics in a moderate to strong, positive, and statistically significant correlation at the 99.9% ($p \leq 0.001$) level. Lastly, impartial public administration holds a strong, positive, and statistically significant correlation at the 99.9% ($p \leq 0.001$) level with the public services distribution (0.6242) measurement. In total, this reveals that the directional orientation of the ordinal measures from the Varieties of Democracy (2023) data. Each item in the second set of independent variables tracks public access and civic participation. In a cross-national perspective, these variables were expected to correlate with the deliberative democracy index.

Evaluating the results of the bivariate correlations indicates that the independent variables chosen for the dissertation provide opportunities for further analysis. Bivariate associations that achieved higher levels of strength and significance were expected, as interlocking elements of the theoretical framework. Based on these findings the decision to move forward with a confirmatory analysis of Unnithan's (1983; 1994) research was affirmed. This process engages hypotheses 4 through 9 to investigate the predictive potential of the independent variables.

Confirmatory Regression Model Analysis

As discussed in Chapters 4 and Chapter 5, Dr. Unnithan conducted a time series, multiple stepwise regression tests of independent variable social predictors of lethal violence (i.e., suicide rate plus homicide rate). In both his 1983 independent work and the 1994 research with colleagues, measures of social inequality and economic development held significant predictive relationships. This dissertation operationalizes the methodology of Unnithan's research to conduct two-stage multiple linear regression models. The first stage is to assess the ability of the current dataset to replicate the 1983 and 1994 findings. However, it should be noted that this study only focuses on homicide rates and not lethal violence (i.e., suicide rate plus homicide rate). As described in this chapter, independent variables set one is constructed to accommodate this difference.

Confirmatory Regression Analysis of Homicide Rates

Table 8 (below) displays the first set of linear regression results. Under the heading of homicide rate, we can see that the overall model was significant with a likelihood ratio χ^2 (chi-squared) value of 34.24, significant at the 99.9% ($p \leq 0.001$) level, with a pseudo- R^2 value of 0.3147. The χ^2 represents the goodness of fit of the overall model. In this case the first set of independent variables explains approximately 34% of the variation, beyond 0.1% of random chance. The pseudo- R^2 value of 0.3147 is an indicator that will be examined to determine changes

in performance of independent variable set one and set two, as the secondary analysis of each dependent variable in completed.

Table 8. Confirmatory Linear Regression Analyses

(N=100)	Homicide Rate	Formal Contact Rate	Conviction Rate (N=57)	Unresolved Homicide Proxy
Gini Coefficient	0.43***	0.20***	0.06	0.23**
Gross Domestic Product per capita	-0.19***	-0.12***	-0.09†	-0.07
Deliberative Democracy Index	5.15	3.02	-0.86	2.13
Mass Mobilization	-1.63**	-0.50	-0.51	-1.12*
Likelihood ratio χ^2	(4) 34.24***	(4) 28.42***	(4) 14.89†	(4) 14.18**
Pseudo R ²	0.3147	0.2540	0.0835	0.1057

Note: † $p \leq .10$; * $p \leq .05$; ** $p \leq .01$; *** $p \leq .001$ (two-tailed tests)

Three of the four independent variables from set one display significant results. The β (beta) coefficient results show that for every 1 unit increase of the Gini coefficient, there is a predicted 0.43 unit increase in homicide rate, significant at the 99.9% ($p \leq 0.001$) level. When considering the scale of the Gini coefficient possible range from 0 to 100 and the homicide rate measurement per 100,000 people; a 10-point increase in inequality as measured by the Gini coefficient predicts 4.3 persons killed per 100,000 increase in a cross-national perspective.

The next measure of GDPpc resulted in a β coefficient of -0.19, significant at the 99.9% ($p \leq 0.001$) level. This can be interpreted as a 1 unit increase in the GDPpc measurement predicting a decrease in homicide by 0.19 units. This is nearly a ratio where every \$5000.00 U.S. dollar increase in GDPpc predicts a cross-national homicide rate decrease of 1 unit.

The deliberative democracy index failed to achieve significance in the linear regression model on homicide rates. The mass mobilization β coefficient of -1.63, significant at the 99% ($p \leq 0.01$) level was a notable finding. Mass mobilization is an ordinal measure with 5-points ranging

from 0 to 4. Within the context of the measurement, cross-national homicide rates decrease as civil unrest increases, but only as far as a maximum change -8.15 across the ordinal measure from 0 to 4. Changes in the homicide rate have a maximum potential to be affected by the Gini coefficient and GDPpc, with moderated potential change in association with mass mobilization.

The results of the linear regression test of independent variable set one on homicide rate displays similar results to those found by Unnithan (1983; 1994). This analysis addresses the concepts evaluated in hypotheses 4 through 7. Based on the similarity of the results to the prior research of Unnithan and his associates the decision to proceed with testing the concepts outlined in hypothesis 8 and hypothesis 9 was affirmed. Both the formal contact rates and the conviction rates were analyzed in separate linear regression tests using independent variable set one.

Regression Analysis of Homicide Formal Contact Rates

The information on Table 8 (above) visualizes the linear regression results for homicide formal contact rates at a cross-national level of analysis. Under the heading of formal contact rate, we can see that the overall model was significant with a χ^2 value of 28.42, significant at the 99.9% ($p \leq 0.001$) level, with a pseudo- R^2 value of 0.2540. The χ^2 goodness of fit of the overall model displays that independent variable set one explains approximately 28% of the variation, beyond 0.1% of random chance. Two of the four independent variables from set one achieved significance.

β coefficient results show that for every 1 unit increase of the Gini coefficient, there is a predicted 0.20 unit increase in formal contact rate, significant at the 99.9% ($p \leq 0.001$) level. Again, accounting for the scale of the Gini coefficient, a 10-point increase in inequality as measured by the Gini coefficient predicts increased formal contact unit increase of 2. The GDPpc measurement displays a β coefficient of -0.12, significant at the 99.9% ($p \leq 0.001$) level. An interpretable ratio of every \$10,000.00 U.S. dollar increase in GDPpc results in a predicted cross-national formal

contact rate decrease of 1.2 units. Both the deliberative democracy index and mass mobilization measurement failed to achieve significance in the linear regression model on formal contact rates.

Regression Analysis of Homicide Conviction Rates

The final extension of the confirmatory linear regression tests are displayed on Table 8 (above). Under the heading of conviction rate, we can see the non-random sample size is restricted to 57 and that the overall model failed to achieve significance at the minimum requirement of the 95% ($p \leq 0.05$) level. However, the results were significant at the 90% ($p \leq 0.10$) level, which provides an opportunity to evaluate the interactions within the overall linear regression model. The resulting χ^2 value of 14.89 was significant at the 90% ($p \leq 0.10$) level, with a pseudo- R^2 value of 0.0835.

One of the four independent variables from set one displays significant results. The GDPpc β coefficient of -0.09, is significant at the 90% ($p \leq 0.10$) level. If the significance were greater, the interpretation of this value would be that for every \$10,000.00 U.S. dollar increase in GDPpc, there would be a predicted cross-national conviction rate decrease of 1 unit. The Gini coefficient, deliberative democracy index, and mass mobilization measurement failed to achieve significance in the linear regression model on conviction rates.

Evaluation of Confirmatory Regression Model Analysis

The subsequent analyses of homicide formal contact rates and homicide conviction rates utilizing the same linear regression model of independent variable set one reveals two distinct results. First, the effects of inequality and economic development display results beyond their original conceptualization to examine homicide rates. Second, the effect size of independent variable set one appears to be contextualized in the hierarchical order of the dependent variables. As the law enforcement and the administrative justice processes grow in complexity from

homicide rates to formal contact rates unique patterns emerge as meso level institutional actions increase. The secondary movement from formal contact rates to conviction rates displays even greater articulations and complexities of meso to macro level bureaucratic social forces.

This suggests that the effect pattern is similar to ripples in a pond. The central impact of homicide rates experiences the most intense interactions across the independent variables. As the dependent variable broadens to the next level, homicide formal contact rates, the independent variables decrease in their effect size. Finally, this reaches the broadest and most hierarchical level of dependent variable, the homicide conviction rates, where the independent variables of the first set are diminished in their statistical significance. Like ripples in a pond the initial splash is moderated by the greater forces of the larger pond. The closer the criminal justice apparatus is to the criminal event the more they share variability. This means the same macro forces that contextualize micro direct-contact predatory violations for homicide under Routine Activities Theory exert some social forces on meso law enforcement homicide formal contacts. From this, homicide conviction rates display a diminished interaction due to their embedded meso institutional position which depends on the outcomes of police action.

Speculative Regression Analysis Testing

With confirmation of the linear regression results on homicide rates from independent variable set one and patterned observations across the other two dependent variables the decision to continue the analysis was affirmed. This choice engages hypothesis test 10, which requires the speculative evaluation of the unresolved homicide proxy rate in a linear regression across independent variable set one. Utilizing the same techniques, the linear regress analysis of independent variable set one on the unresolved homicide proxy rate was conducted.

Speculative Regression Analysis of Unresolved Homicide Rates

The linear regression results for the first speculative hypothesis (10) can be found on Table 8 (above). Under the heading of unresolved homicide proxy, we can see that the overall model was significant with a likelihood ratio χ^2 value of 14.18, significant at the 99% ($p \leq 0.01$) level, with a pseudo- R^2 value of 0.1057. The χ^2 goodness of fit metric displays that the first set of independent variables explains approximately 14% of the variation, beyond 1% of random chance.

Two of the four independent variables from set one display significant results. The β coefficient shows that for every 1 unit increase of the Gini coefficient, there is a predicted 0.23 unit increase in homicide rate, significant at the 99% ($p \leq 0.01$) level. When accounting for the range of the Gini coefficient, a 10-point increase in inequality predicts a 2.3 persons killed per 100,000 increase in the unresolved homicide proxy rate. Mass mobilization resulted in a β coefficient of -1.12, significant at the 99% ($p \leq 0.01$) level. Mass mobilization is an ordinal measure with 5-points ranging from 0 to 4. A 1 unit increase in the ordinal scale of mass mobilization would result in a predicted 1.12 decrease in the unresolved homicide proxy rate in a cross-national perspective. Again, the mass mobilization ordinal scale is bound between 0 and 4, as such the overall effect size has limitations. Both GDPpc and the deliberative democracy index failed to achieve significance in this linear regression model.

The results of the linear regression test of independent variable set one on unresolved homicide proxy rates displays similar results to those found in prior evaluations of homicide rates. Up to this point hypotheses 1 through 10 showed results sufficient for a comparative analysis of the findings in context to research discussed in Chapter 4. However, the framework of this dissertation is to explore macro, meso, and micro variable interactions. To achieve this, independent variable set two will be introduced as a part of a multiple linear regression model. The

results are intended to display further variations in the hierarchy of administrative justice outcomes captured in the unresolved homicide proxy rate as a dependent variable.

Exploratory Regression Model Analysis

The introduction of independent variable set two presents multiple linear regression testing models for all four dependent variables. The result of the prior analysis visualized in Table 8 (above) can be compared to the linear regression results of a multiple independent variable set model shown in Table 9 (below). For each linear regression model the same Stata coding was utilized as in the testing the produced the Table 8 (above) results, with the addition of the three independent variables of the second set. The following multiple linear regression tests analyze hypotheses 11 through 13.

Table 9. Exploratory Multiple Linear Regression Analyses

(N=100)	Homicide Rate	Formal Contact Rate	Conviction Rate (N=57)	Unresolved Homicide Proxy
<i>Independent Variables Set 1</i>				
Gini Coefficient	0.31***	0.20**	0.02	0.12
Gross Domestic Product per capita	-0.08	-0.06 †	-0.02	-0.02
Deliberative Democracy Index	11.80	11.40**	7.23	0.39
Mass Mobilization	-1.88**	-0.50	-0.20	-1.37*
<i>Independent Variables Set 2</i>				
Enforcement of Law	-2.45	-1.86 †	-2.19	-0.59
Impartial Public Administration	1.49	-0.76	0.44	2.26
Public Service Distribution	-3.28**	-0.60	-1.03	-2.68**
Likelihood ratio χ^2	(7) 42.09***	(7) 35.16***	(7) 24.59*	(7) 21.15**
Pseudo R ²	0.3768	0.3023	0.1381	0.1515

Note: † $p \leq .10$; * $p \leq .05$; ** $p \leq .01$; *** $p \leq .001$ (two-tailed tests)

Exploratory Regression Analysis of Homicide Rates

Table 9 (above) displays the first set of exploratory multiple linear regression results. Under the heading of homicide rate, we can see that the overall model was significant with a likelihood ratio χ^2 value of 42.09, significant at the 99.9% ($p \leq 0.001$) level, with a pseudo- R^2 value of 0.3768. The χ^2 goodness of fit metric expresses that the combination of the two sets of independent variables explains approximately 42% of the variation, beyond 0.1% of random chance. The pseudo- R^2 value of 0.3768 is greater than that of the regression that used only independent variable set one and produced a pseudo- R^2 value of 0.3147.

The pseudo- R^2 in this analysis is a representation of an adjusted R^2 value produced by Stata during the linear regression process that attempts to create a more conservative estimate of the ability of the independent variables to determine changes across the dependent variable. This adjusted R^2 value accounts for variations between the number of observations and the number of predictors. If the number of observations remains the same as the number of predictors goes up the distance between the R^2 value and the pseudo- R^2 (adjusted R^2) has a greater likelihood of diverging. It is possible in comparing multiple linear regression models to identify cases where including more independent variables as predictors increases the likelihood ratio χ^2 while at the same time producing a proportionally lower pseudo- R^2 . This would result in the greater explanation of a dependent variable using more independent variables, while accounting for less actual change in that dependent variable. It is simply an artifact of explaining more aspects of a dependent variable by relating it more broadly to other variables. Not necessarily explaining more critical variant aspects of that specific dependent variable.

Across all the models in this dissertation the importance of the pseudo- R^2 will be discussed in context to the performance of each multiple linear regression model in comparison to another

dependent variable matched linear regression model. In this case, the pseudo-R² value of 0.3768 in Table 9 (above) shows some indication that the multiple linear regression is performing better at explaining variation in cross-national homicide rates than the linear regression shown in Table 8 (above) with a pseudo-R² value of 0.3147.

Three of the seven independent variables, two from set one and one from set two, achieved significant results. The β coefficient results display that for every 1 increase of the Gini coefficient, there is a predicted 0.31 unit increase in homicide rate, significant at the 99.9% ($p \leq 0.001$) level. When considering the scale of the Gini coefficient a 10-point increase in inequality predicts a 3.1 persons killed per 100,000 increase in cross-national perspective. Mass mobilization resulted in a β coefficient of -1.88, significant at the 99% ($p \leq 0.01$) level. Within the bounds of the ordinal measurement, cross-national homicide rates decrease as civil unrest increases. The public services distribution measurement produced a β coefficient of -3.28, significant at the 99.9% ($p \leq 0.001$) level. Again, this is an ordinal level of measure wherein greater access to quality public services predicts significant reductions in cross-national homicide rates.

Exploratory Regression Analysis of Homicide Formal Contact Rates

The information in Table 9 (above) visualizes the multiple linear regression results for formal contact rates at a cross-national level of analysis. Under the heading of formal contact rate, we can see that the overall model was significant with a χ^2 value of 35.16, significant at the 99.9% ($p \leq 0.001$) level, with a pseudo-R² value of 0.3023. In this case it appears that the multiple linear regression model is performing better at explaining formal contact rates than the prior linear regression model with a pseudo-R² value of 0.2540.

Two of the seven independent variables, both from set one display significant results. However, two other independent variables, one from set one and one from set two nearly achieved

significant results. The β coefficient results display that for every 1 unit increase of the Gini coefficient, there is a predicted 0.20 unit increase in homicide rate, significant at the 99% ($p \leq 0.01$) level. Again, increases in inequality predict increases in the formal contact rate. The deliberative democracy index appears significant for the first time with a β coefficient of 11.40, significant at the 99% ($p \leq 0.01$) level. This independent variable is a bounded interval level of measure ranging from 0 to 1. In context to this multiple linear regression analysis, the difference across the entire measure results in an increase of approximately 11 units of the formal contact ratio in a cross-national perspective. A contrasting way of thinking about this interaction is to conceive that a 0.1 unit increase on the deliberative democracy index would result in an approximate predicted 1 unit increase in the formal contact rate.

The two independent variables that nearly achieved significance are GDPpc and the enforcement of law. The GDPpc β coefficient of -0.06, is significant at the 90% ($p \leq 0.10$) level. This central idea is that GDPpc was significant in the first linear regression model, but lost significance once the second set of independent variables was introduced in the multiple linear regression model. The enforcement of law measurement results in a β coefficient of -1.86, significant at the 90% ($p \leq 0.10$) level. Despite failing to achieve significance in the model, the presence of this independent variable appears to moderate the effects of GDPpc. This represents some possibilities that the impartial and predictable enforcement of the law diminishes the homicide formal contact rate.

Exploratory Regression Analysis of Homicide Conviction Rates

The exploratory multiple linear regression analysis of homicide conviction rates is described on Table 9 (above). Again, this analysis is specific to the restricted non-random sample size of 57 items. The resulting χ^2 value of 24.59 was significant at the 95% ($p \leq 0.05$) level, with

a pseudo-R² value of 0.1381. However, none of the independent variables achieved significance. When we compare the pseudo-R² value in the first analysis of 0.0835 to the pseudo-R² value in this analysis of 0.1381 in context to the associated χ^2 values of 14.89 and 24.59 respectively; it is likely that we have identified a failed regression analysis test.

While it initially appears that the independent variables of the analysis are explaining some variance within the conviction rate, the minimal increase of the pseudo-R² value in comparison to the increase of the likelihood ratio χ^2 value would lead to the conclusion that the overall set of independent variables are not performing adequately. While the independent variables are in fact explaining social, economic, or political concepts surrounding the measurement of conviction rates, they are not analyzing conviction rates directly. Despite this failure to provide a valid analysis of homicide conviction rates, we can utilize this multiple linear regression to understand underlying theoretical orientations of hierarchical social institutions.

Exploratory Regression Analysis of Unresolved Homicide Proxy Rates

The final set of data shown on Table 9 (above) is the exploratory multiple linear regression results for the unresolved homicide proxy rate. Under the heading of unresolved homicide rate, the result was a χ^2 value of 21.15, significant at the 99% ($p \leq 0.01$) level, with a pseudo-R² value of 0.1515. The χ^2 goodness of fit metric displays that the combination of the two sets of independent variables explains approximately 21% of the variation, beyond 1% of random chance. The pseudo-R² value of 0.1515 is greater than that of the regression that used only independent variable set one and produced a pseudo-R² value of 0.1057.

Two of the seven independent variables, one from set one and one from set two, display significant results. Mass mobilization resulted in a β coefficient of -1.37, significant at the 95% ($p \leq 0.05$) level. Within the bounds of the ordinal measurement, cross-national unresolved homicide

proxy rates decrease as civil unrest increases. The public services distribution measurement produced a β coefficient of -2.68, significant at the 99% ($p \leq 0.01$) level. Again, this is an ordinal level of measure wherein greater access to quality public services predicts significant reductions in cross-national unresolved homicide proxy rates. The remaining five independent variables including the previously important Gini coefficient failed to produce significant results.

The findings of the multiple linear regression results of the unresolved homicide proxy rate dependent variable produced unique outcomes in the overall analysis. This is due in part to the construction of the variable itself, which contains both positive and negative measures. To interpret the results of this exploratory variable with greater focus, a tertiary analysis was necessary. To conduct subsequent multiple linear regressions of positive and negative aspects of the unresolved homicide proxy rate, systematic testing steps were introduced beyond the original scope of the analysis. The abductive analysis seeks to further explore interactions of the independent variables with a split model of the unresolved homicide proxy rate.

Abductive Regression Analysis Testing

Further analysis of the unresolved homicide proxy rate will be conducted from an abductive approach. Because the unresolved homicide proxy rate is a composite dependent variable of observed differences the analysis needs to be contextualized as existing without direct observation. This incomplete observational context can only provide suggestions to the interactions occurring through an abductive logical process. Within the limitations of how the variable is constructed and operationalized for analysis, any findings are limited to inferences. Where many of the findings of this research can be compared to prior research, the results of the abductive regression split model analysis are conjectures conducted to explore unknown outcomes.

The first step in conducting the abductive multiple linear regression analysis was to divide the unresolved homicide proxy rate (UHPR) into two categories. One representing high homicide UHPR and one representing high formal contact UHPR. There were also three cases where the unresolved homicide proxy rate was 0 (zero) (Barbados, Bahrain, and Iceland). This means that the number of reported homicides and the number of reported formal contacts were identical. For example, in 2016, Iceland reported 1 homicide and 1 formal contact. Whether these numbers are representative, or these three nations only reported equal numbers of homicides and formal contacts is unknown. However, the key feature of these three cases is that they are not high homicide UHPR. This means they do not show a disparity in a greater number of homicides than formal contacts. As such, these three cases were included in the high formal contact UHPR category.

The data for unresolved homicide proxy rates was divided in Stata into two categories. First, all cases of unresolved homicide proxy rates with measures of 0 (zero) or lower designated as High Contact UHPR. This group represents more homicide formal contact events than homicide events reported by a country to the UN in the selected year of the analysis. Second, all cases of unresolved homicide proxy rates with measure greater than 0 (zero) designated as High Homicide UHPR. This group represents incidents where there were more homicide events than homicide formal contact events reported by a country to the UN in the selected year of the analysis.

Each set was subsequently tested using a two-phase regression technique. The first phase evaluated the effects of independent variable set one and the second phase built the multiple linear regression technique of including independent variable set two. The two subsets of unresolved homicide proxy rates maintain the revised 100 item dependent variable count used in the prior

tests. The process is defined as the abductive unresolved homicide multiple regression split model due to the observational limitations and conjecture-based results.

Descriptive Statistics for the Abductive Analysis

Table 10 (below) shows the abductive analysis of unresolved homicide proxy rates. First, the descriptive statistics are shown to provide sample size and information on how the two subsets vary. Second, the stepwise multiple linear regression of each subset is provided for review.

Table 10. Abductive Multiple Linear Regression Split Model Analyses

Descriptive Statistics	N	Min.	Max.	Mean	Standard Deviation
High Contact UHPR	48	-19.231	0.000	-2.329	4.195
High Homicide UHPR	52	0.035	36.749	4.085	8.367
Regression Analysis	High Contact UHPR IV set 1	High Contact UHPR IV set 2		High Homicide UHPR IV set 1	High Homicide UHPR IV set 2
<i>Independent Variables Set 1</i>					
Gini Coefficient	-0.14*	-0.14*		0.38**	0.26†
Gross Domestic Product per capita	0.07	0.03		-0.08	-0.01
Deliberative Democracy Index	-3.83	-7.91†		2.95	9.17
Mass Mobilization	0.12	0.40		-1.65†	-1.74†
<i>Independent Variables Set 2</i>					
Enforcement of Law		-1.93			-1.72
Impartial Public Administration		3.69**			0.82
Public Service Distribution		0.14			-2.75†
Likelihood ratio χ^2	(4) 12.17	(7) 28.59*		(4) 28.77**	(7) 35.52**
Pseudo R ²	0.0400	0.1609		0.2270	0.2527

Note: † $p \leq .10$; * $p \leq .05$; ** $p \leq .01$; *** $p \leq .001$ (two-tailed tests)

The upper portion of Table 10 (above) describes the resulting descriptive statistics for both sets of data. The High Contact UHPR ranged across 48 observations resulting in a minimum of -19.231 (Suriname) a maximum of 0 (zero) (Barbados, Bahrain, and Iceland) per 100,000 persons. The High Contact UHPR has a mean of -2.329 with a standard deviation of 4.195. The High Homicide UHPR ranged across 52 observations resulting in a minimum of 0.035 (Lithuania) a maximum of 36.749 (Honduras) per 100,000 persons. The High Homicide UHPR has a mean of 4.085 with a standard deviation of 8.367.

The descriptive statistics reveal some important differences between the two categories. These differences are observable in the mean, with the High Contact UHPR averaging approximately -2 and the High Homicide UHPR averaging approximately 4. In context to the standard deviations for the High Contact UHPR at approximately 4 and the High Homicide UHPR at approximately 8. Overall, the distribution of the High Homicide UHPR scores is nearly double the scope of the High Contact UHPR scores. Although these are only descriptive statistics, the observations suggest that social forces affecting High Contact UHPR and High Homicide UHPR outcomes exert different effect sizes. From an abductive perspective, the inference would be to expect differences in patterns of independent variable interactions across macro or meso theoretical frameworks observable in the results of the multiple linear regression models.

Multiple Linear Regression Analysis of High Contact UHPR

The linear regression results for the first abductive regression analysis can also be found Table 10 (above). Under the heading of the High Contact UHPR IV set 1, we can see that the overall model was not significant. The resulting likelihood ratio χ^2 value was 12.17, with a pseudo- R^2 value of 0.0400. However, the Gini coefficient did produce a significant result. The β coefficient results display that for every 1 unit increase of the Gini coefficient, there is a predicted

0.14 unit decrease in the High Contact UHPR, significant at the 95% ($p \leq 0.05$) level. The suggestion of this finding is that as inequality increases, the High Contact UHPR moves closer to 0 (zero). The interaction may appear counterintuitive due to how the variables are coded for the analysis. The core concept is that greater inequality influences the High Contact UHPR to be diminished, or that income inequality appears to generate disparities in homicide rates and homicide formal contact rates in a cross-national perspective. This finding is an inferential conjecture unsubstantiated by the level of significance in the overall model, however, it is an indicator for future research.

As we move to the multiple linear regression model under the heading High Contact UHPR IV set 2, we can see significant results. This model produces a χ^2 value of 28.59, significant at the 95% ($p \leq 0.05$) level, with a pseudo- R^2 value of 0.1609. The χ^2 goodness of fit metric displays that the independent variables explain approximately 28% of the variation, beyond 5% of random chance. Two of the seven independent variables, one from set one and one from set two, display significant results. There is also one variable from independent set one that nearly achieves significance. First, the β coefficient results show that for every 1 unit increase of the Gini coefficient, there is a predicted 0.14 unit decrease in the High Contact UHPR, significant at the 95% ($p \leq 0.05$) level. This is the same result found in the first abductive regression of the High Contact UHPR. Again, the inference is that as inequality diminishes the High Contact UHPR.

The impartial public administration index achieved a β coefficient of 3.69, which is significant at the 99% ($p \leq 0.01$) level. In this case the inference is that within the ordinal bounds of the variables, a 1 unit increase in the impartial public administration measurement results in increases in High Contact UHPR. Another context to understand this finding is that greater impartial public administration measurements appear to relate to some ratio of greater reported

homicide formal contact events with lower reported homicide events. Or simply, some significant difference in the interactions across the micro individual and meso law enforcement social interactions that result in a net decrease in unresolved homicide proxy measures.

The independent variable that nearly achieved significance is the deliberative democracy index with a β coefficient of -7.91, significant at the 90% ($p \leq 0.10$) level. This represents a slight inference that political engagement or representation of the populace at a national level could be a significant predictor of homicide resolution and subsequently lower unresolved homicide events. This would translate into some participatory habitus in society where interactions between micro level individuals and meso level law enforcement institutions are predicated on the state serving the interests of the people.

In the framework of this analysis, the conjecture of the multiple linear regression of the High Contact UHPR IV set 2 is that unresolved homicide events that present a negative or zero rate are a unique category. When reviewing the 48 countries that constitute this collection of data by UN region designations some patterns emerge. 5 out of 10 African nations in the study display High Contact UHPR. The Americas displayed a pattern of 4 out of 23 counties. Asia presented 17 out of 27 countries with High Contact UHPR. While the pattern in Europe was 21 out of 39 nations. Finally, both countries in Oceania were in the High Contact UHPR category.

Without further analysis of critical between-nation differences in polity, social structure, culture, and law enforcement agency specific information it would be guesswork to assess this pattern. However, the fact that nations in the Americas do not follow patterns found in the other regions is a potentially important observation. Most countries in the Americas do not present a High Contact UHPR, including metrics from both the United States and Canada. However, abductive logic limits the generalizability of these findings.

Multiple Linear Regression Analysis of High Homicide UHPR

The results of the abductive regression tests for the high homicide unresolved homicide proxy rates are described on Table 10 (above). Under the heading of High Homicide UHPR IV set 1, the overall model was significant with a likelihood ratio χ^2 value of 28.77, significant at the 99% ($p \leq 0.01$) level, with a pseudo- R^2 value of 0.2270. The χ^2 goodness of fit metric displays that the first set of independent variables explains approximately 28% of the variation, beyond 1% of random chance. The β coefficient results show that for every 1 increase of the Gini coefficient, there is a predicted 0.38 unit increase in the High Homicide UHPR, significant at the 99% ($p \leq 0.01$) level. The inference of this finding is that as inequality increases, the High Homicide UHPR increases. The other independent variable that nearly achieved significance is the mass mobilization measurement with a β coefficient of -1.65, significant at the 90% ($p \leq 0.10$) level. The suggestion of this interaction is that as mass mobilization events increase across the ordinal scale, the High Homicide UHPR decreases.

As we move to the multiple linear regression under the heading High Homicide UHPR IV set 2, we can again see significant results. This model produces a χ^2 value of 35.52, significant at the 99% ($p \leq 0.01$) level, with a pseudo- R^2 value of 0.2527. The χ^2 goodness of fit metric displays that the combined set of independent variables explains approximately 35% of the variation, beyond 1% of random chance.

Three of the seven independent variables, two from set one and one from set two, presented mixed significant results. Each variable only reached the 90% percentile of predictive reliability, which permits only inferential interpretations of the interactions. The Gini coefficient provided a β coefficient of 0.26, significant at the 90% ($p \leq 0.10$) level. Again, expressing increasing inequality as affecting increases in High Homicide UHPR. The mass mobilization metric resulted

in a β coefficient of -1.74, significant at the 90% ($p \leq 0.10$) level. Again, suggesting that as mass mobilization events increase across the ordinal scale, the High Homicide UHPR decreases. Finally, the public services distribution measurement provided a β coefficient of -2.75, significant at the 90% ($p \leq 0.10$) level. The context of the inferential interaction is that as access to quality public services increases, the High Homicide UHPR decreases.

A review of the 52 countries that constitute this category of data by UN region designations again shows specific patterns. Five out of ten African nations in the study display High Homicide UHPR. The Americas displayed uniqueness in that 19 out of 23 countries fit this pattern. Asia presented 10 out of 27 countries with High Homicide UHPR. Finally, the pattern in Europe was that 18 out of 39 nations are within this category.

This proposes that there are some important differences in political, systematic, and social conditions that format the pattern of High Homicide UHPR across nations. Many industrialized, low Gini Coefficient, high GDPpc countries can be found in this category. For example, Canada, Japan, Qatar, the Russian Federation, Denmark, Ireland, England and Wales, and Germany each display High Homicide UHPR scores of less than 1. Each of these hold scores in the tenths (1/10) or hundredths (1/100) range, hovering just above a score of 0 (zero). In contrast the United States achieves a High Homicide UHPR score of 1.74 (2016).

Taken together, this suggests that within the High Homicide UHPR there are important differences between countries. As previously discussed, it is likely that this is in part an artifact of how the data are reported and/or collected by the United Nations. However, it is also possible that there are substantive differences in the social strata interactions of law enforcement agencies across nations that affect homicide rates, homicide formal contact rates, and subsequently unresolved homicide proxy rates.

Overview of the Results

This dissertation conducted multiple analyses across three phases of testing. First, confirmatory replications of results from prior research were conducted to observe the interactions and validity of the database. Second, confirmatory, speculative, and exploratory regression testing was conducted to assess the theoretical framework presented in the dissertation. Finally, an abductive analysis of the unresolved homicide proxy rate was introduced to accommodate a further investigation in a cross-national perspective.

The results of the confirmatory replications revealed that the database assembled for this dissertation appears analogous with those utilized in prior research. The bivariate correlation results of the first three dependent variables provided similar results to those of Unnithan (2021). Both the Unnithan (2021) research and this study utilized the same UNODC (2021) data source. However, the selection criteria for the nations, by year, were conducted independently and produced unique results. Despite the differences within the methodological processes, the similarity of the results affirmed the decision to move forward with subsequent testing.

The second phase of confirmatory, speculative, and exploratory regression testing began with an evaluation of the homicide rates under an analogous methodological orientation to that of Unnithan and his colleagues (1983; 1994). The results of the linear regression analysis of homicide rates again displayed that the database and variable selection of this research produced similar results. Based on the confirmatory findings of the regression analysis of the homicide rate, a subsequent quasi-experimental regression analysis of the homicide formal contact rate, homicide conviction rate, and unresolved homicide proxy rate were conducted. This process produced mixed findings that provided the opportunity for further theoretical assessment.

Finally, the unresolved homicide proxy rate was analyzed from an abductive perspective to explore cross-national differences in homicide rates and formal contact rates. In dividing the unresolved homicide proxy rate into two categories, High Contact UHPR and High Homicide UHPR, distinct variations of independent variable effects can be observed. Within the context of the limitations of the data and analysis, the introduction of an abductive perspective provides new insights for cross-national comparative criminology. The construction of the unresolved homicide proxy rate and the quasi-experimental multiple linear regression testing expand the practical and theoretical potential for comparative assessments of cross-national criminal justice metrics.

Conclusion of the Analysis

The theoretical framework of this investigation engaged a glocal perspective of macro bureaucracy represented by the first set of independent variables competing for significance with meso institutional independent variables to produce significant relationships with documented dependent variable micro direct-contact predatory contact violations. With the completion of the testing the analysis moves to summarizing the results of each hypothesis stated in Chapter 5. Overall, it appears that the selection, construction, and testing of the database of this study is valid. A comparison of findings with prior research produced broadly confirmatory results. The exploratory analysis yielded mixed results that appear to scale in a manner predicted within a macro Weberian bureaucracy, meso institutional policing, and micro Routine Activities Theory perspective. The speculative phase of variable testing produced novel findings that expand on current cross-national criminological testing of homicide rates, homicide formal contact rates, homicide conviction rates, and unresolved homicide proxy rates in context to creating operationalizable measures in a cross-national perspective. Considering the findings, a theoretical assessment is necessary to provide a conclusion to the research results.

CHAPTER 7 - DISCUSSION OF THE FINDINGS

Reaching the conclusion of the analysis involves both an evaluation of the hypotheses presented in Chapter 5 and a discussion of those findings in context to the theoretical framework of the dissertation. This chapter will begin with an assessment of the successes or failures of the test results followed by interpreting the meanings of the results. The three areas of hypothesis testing are the confirmatory correlative, confirmatory regression, and speculative abductive. The examination of the results will be conducted in the order they occurred in Chapter 6.

Confirmatory Correlative Hypotheses Results

The first hypothesis stated that correlations among measures of homicide rate and homicide formal contact rate will be strong, positive, and significant beyond the 95% ($p \leq 0.05$). The testing and analysis conducted in Chapter 5 and shown on Table 6 (above) provides cause to reject the null hypothesis. It appears that the bivariate analysis is in alignment with the prior research of Unnithan (2021). An evaluation of hypothesis two, however, did not yield the expected results. This study proposed correlations among measures of homicide rate and homicide conviction rate as moderate, positive, and significant beyond the 95% ($p \leq 0.05$). Table 6 (above) shows a weak, positive, non-significant set of results, which mirrors the pattern found in the Unnithan (2021) research. This results in a failure to reject the null of the second hypothesis. However, this finding does affirm prior research, supporting that homicide rates and homicide conviction rates do not correlate cross-nationally.

Finally, the third hypothesis stated that correlations among measures of homicide formal contact rate and homicide conviction rate will be moderate, positive, and significant beyond the 95% ($p \leq 0.05$). The results in Table 6 (above) provide evidence to reject the null hypothesis.

Again, this is in alignment with the prior findings of Unnithan (2021) and affirms a general pattern of bivariate correlations. Homicide rates and formal contact rates display significant bivariate correlations. Subsequently, formal contact rates and conviction rates display significant bivariate correlations cross-nationally.

The patterns that emerged from the bivariate correlation analysis were analogous to those of Unnithan (2021). These findings led to further investigation of the unresolved homicide proxy rate by affirming the overall adequacy of the current research. By rejecting the null of the first and third hypotheses, while failing to reject the null of the second, necessary steps of deductive testing produced definitive results. Although the data for this dissertation and the Unnithan (2021) study are from the same source, the variations in criteria for data selection presented differentiated results. However, the patterned similarity of the findings supports an overall assessment of system or hierarchical administrative justice operations. With these findings achieving success within the hypothetical framework the second phase of testing was conducted.

Confirmatory Regression Hypotheses Results

The second step in the dissertation analysis was to replicate the finding of Unnithan from 1983 and 1994. The first set of independent variables was used in a linear regression analysis of the homicide rate. The fourth hypothesis posited that social inequality measured with Gini coefficients will hold significant relationships with homicide rates. The decision to reject the null of hypothesis four is based on the results in Table 8 (above). As predicted, measures of inequality affect measures of homicide rates. In this case, rising inequality affects increases in homicide rates from a cross-national perspective. Next, the decision to reject the null of hypothesis five was based on results where measures of economic development (GDPpc) appear to hold a significant

predictive relationship with homicide rates. Increases in gross domestic product per capita affects decreases in homicide rates.

The decision to fail to reject the null of hypothesis six that social bureaucracy measured with the deliberative democracy index will hold a significant predictive relationship with homicide rates was based on the linear regression test results. The relationship did not appear significant or predictive. The decision to reject the null of hypothesis seven was based on the findings that social conflict measured with mass mobilization failed to hold a significant predictive relationship with homicide rates. The results support a significant predictive relationship between civil unrest and decreased homicide rates. This finding is unique from the Unnithan 1983 results, where systematic frustration as the analogous measure was dropped from the analysis due to high intercorrelation with other dependent variables.

The decision to reject the null for hypotheses four, five, and seven, while failing to reject the null for hypothesis six were determined by the results of the linear regression analysis on homicide rates. Where the findings for inequality (hypothesis 4) and economic development (hypothesis 5) were expected in context to the prior research, the significant predictive interaction of social conflict (hypothesis 7) was a new finding. Beyond the results themselves, the negative relationship between civil unrest and homicide rate presents new outcomes and research opportunities. The findings presented replications of prior research from Unnithan 1983 necessary to continue hypothesis testing. From this assessment the next two hypotheses were investigated.

Confirmatory Social Strata Regression Hypotheses Results

The methodology of testing both homicide formal contact rates (hypothesis 8) and homicide conviction rates (hypothesis 9) using the first set of independent variables is to assess the macro-Weberian bureaucratic theoretical framework. The main concept is that micro direct-

contact predatory violations of homicide in a cross-national context should share some broad social indicators. These indicators could exhibit differential predictive significance as they move from the smallest interaction of homicide rates to the largest interaction of homicide conviction rates. As the levels of engagement move from direct-contact predatory violations to meso institutional police capable guardianship, the predictive ability of independent variables should display different patterns of significance.

In this case a determination to reject the null of hypothesis eight that the predictive relationships of hypotheses 4 through 7 will display significant results with homicide formal contact rates was established. In reviewing Table 8 (above), we can see that inequality and economic development both exert significant predictive forces as seen in the analysis of homicide rates and found in Unnithan's 1983 research on homicide rates. At the same time social bureaucracy and social conflict measurements failed to produce significant predictive results. Inequality and economic development appear to hold significant relationships with homicide rates while operating in a diminished capacity for producing significant relationships on homicide formal contact rates. This shows the potential for novel theoretical interactions between a micro and meso level of institutional bureaucracy in a cross-national analysis of homicide.

Finally, the decision to fail to reject the null for hypothesis nine in positing that the predictive relationships of hypotheses 4 through 7 will display significant results with homicide conviction rates was made based on the overall failure of the linear regression model. Although the model failed to achieve significance, the results contribute to the overall research. It is logical that expanding a micro Routine Activities Theory perspective to the meso institutional level of conviction rates resulted in a failed analysis. Although homicide rates, formal contact rates, and conviction rates all appear as interlinked processes within the criminal justice system, it appears

that the administrative characteristics of conviction rates are not affected by the same macro indicators. Failing to reject the null for hypothesis nine is an important finding in and of itself. This displays that criminal justice systems may be dependent on or embedded within differential macro bureaucratic social forces.

Following the deductive methodological underpinnings of Popper (1959), the first set of three linear regression tests were conducted to support or oppose the continuation of the investigation. The mixed results, null hypothesis decisions, and the interpretation of their meanings supported continuing the analysis. The prior findings on homicide rates of Unnithan 1983, 1994, and 2021 have been successfully replicated. The results for homicide formal contact rates and homicide conviction rates displayed patterned findings proposed by the theoretical framework of the dissertation. The decision to move forward with speculative tests under an abductive context was determined based on these outcomes.

Speculative Abductive Hypotheses Results

Chapters 5 and Chapter 6 discussed the construction of the unresolved homicide proxy rate is based in abductive logic utilizing available data to build a testable variable in the absence of direct observation. Where Chapters 2, 3, and 4 each engaged the theoretical, practical, and contextual difficulties of measuring a missing figure of crime, this dissertation makes the attempt to present a reasonable proxy for a comparative analysis in a cross-national perspective. Best practices would inform researchers that they should utilize direct measures and data whenever available. However, that is not possible in this context and therefore a replicable and verifiable system for constructing a proxy measure is outlined in Chapter 5. As described in Chapter 6, the unresolved homicide proxy rate is an abductive measure which can only yield speculation, conjectures, and inferences.

The decision to reject the null for hypothesis ten that the predictive relationships of hypotheses 4 through 7 will display significant results with the unresolved homicide proxy rates was made based on the results shown on Table 8 (above). Two of the four independent variables display significant predictive relationships. The unique results of the linear regression of the first set of independent variables include a significant positive relationship with inequality and a significant negative relationship with social unrest. As inequality rises, the unresolved homicide proxy rate also rises. As the social unrest measure rises, the unresolved homicide proxy rate declines. Although two of the four independent variables in the first set do not yield significant predictive results, there was no presumptive reason to believe they should.

Abductive reasoning informs us that the unresolved homicide proxy rate is a construct of two other observable measures, the homicide rate minus the homicide formal contact rate. As such the measure is susceptible to the strengths and flaws of both contributing measures. In this case, it appears that the unresolved homicide proxy rate follows the patterns of both variables, with some unique interactions. These interactions will be explored further, once the results of all thirteen hypotheses are discussed. To continue the evaluation, the second set of independent variables was introduced into the regression tests. Each dependent variable underwent analysis with all seven independent variables. This creates a comparative set of multiple linear regression results comparable between Table 8 (above) and Table 9 (above).

Enforcement of Laws Results

Table 9 (above) displays the results for the introduction of the three independent variables of set two. The results of hypothesis eleven fail to reject the null in arguing that legal rationality measured by the transparent and predictable enforcement of laws will hold significant relationships with the dependent variables. Results for the homicide rate, homicide conviction rate, and

unresolved homicide proxy rate displayed no significant predictive relationships. However, there was a near significant predictive relationship between the enforcement of law and homicide formal contact rate. The interaction infers that as enforcement of the law becomes more impartial and predictive there is a decline in the rate of homicide formal contacts in a cross-national perspective.

Although these findings are not significant and hypothesis eleven failed to receive support, the interaction at the point of formal contact rate is suggestive. It is possible that impartial and predictive enforcement of laws generates differential patterns of how police agencies operate at a meso level, which subsequently affects homicide formal contact rates. Whether this is an artifact of how the data are reported to the United Nations or an interaction contextualized by other significant predictive relationships, like inequality for example, it is a novel inferential finding. Although the enforcement of law measure did not present the desired results, it conceptually contributes to meso law enforcement perspective of Routine Activities Theory and administrative justice interactions proposed in this study.

Impartial Public Administration Results

The decision to fail to reject the null for the equality of governance hypothesis twelve, measured by impartial public administration proposed to hold a significant predictive relationship with the dependent variables is based on the results described on Table 9 (above). Across each of the four multiple linear regressions of the dependent variables, impartial public administration failed to achieve any significant predictive relationships. Where this dissertation advocated for equality of governance as part of a meso institutional Routine Activities Theory perspective, the results did not support this theoretical framework. Although hypothesis twelve was not supported, this variable was retained in the overall analysis as part of the abductive process in testing the unresolved homicide proxy rate.

Distribution of Public Services Results

Based on the results detailed in Table 9 (above) the decision to reject the null of hypothesis thirteen was determined. The equity of civic inclusion measured by the distribution of public services by socio-economic class holds a significant predictive relationship with some of the dependent variables. There were significant relationships between the distribution of public services, the homicide rate, and the unresolved homicide proxy rate. This was a new and unexpected result. In each case as the distribution of quality public services improves, there is a decline in the homicide rate and a decline in the unresolved homicide proxy rate.

This interaction also appears to disrupt or moderate the effect of inequality measured by the Gini coefficient. The multiple linear regression results in Table 9 (above) appear to perform better in predicting the dependent variables with the addition of a focused measure of inequality, captured in a meso level equity of civic inclusion measure. As outlined in the framework of this dissertation's meso institutional extension of Routine Activities Theory, both macro and meso level bureaucratic social action contextualize homicide events. Where Anderson (1999) examined the antisocial interaction propagated through urbanized immiseration, the inclusion of a measure of public services distribution appears to capture this concept in a cross-national perspective.

It is not simply the inequality of a nation measured by a Gini coefficient or analogous metric. It is the lived experience of masses of people either receiving or experiencing deprivation of civil assistance that exerts some social force on micro direct-contact predatory violations. Lacking capable guardianship is arguably a measurable multiplicity of overlapping social constructs. It is not only a state of inequality, poverty, residential instability, or micro level vulnerabilities, it is a state of social disorganization. Lived inequality diminishes the capacity of

both individuals and meso level law enforcement agencies from engaging in capable guardianship. Even in the context of the most serious crimes with irreversible outcomes.

The observed result that occur with the introduction of distribution of public services is an important finding for both the analytical and theoretical framework of this dissertation. This finding for the homicide rate and the unresolved homicide proxy rate is a highlight of the overall analysis. It contributes to the replicated findings of prior research, displays unique interactions with the abductive measure, and presents opportunities for further theoretical investigation. With the conclusion of the failing to reject the null for hypotheses eleven and twelve, as well as rejecting the null for hypothesis thirteen, the research presented some final considerations.

Although the unresolved homicide proxy rate performed adequately and in concert with the homicide rate, the construction of the abductive dependent variable presented the opportunity for an additional set of tests. Building unresolved homicide proxy rate resulted in a dispersion of data points across a High Contact UHPR and High Homicide UHPR spectrum. Where High Contact UHPR represented more formal contacts than homicides, High Homicide UHPR represented more homicides than formal contacts. The decision to conduct a final set of split model multiple linear regression tests on these two unique categories produced further results.

Abductive Split Model Multiple Linear Regression Results

Following the conclusion of evaluating the hypotheses of the dissertation, the decision to conduct a subsequent analysis of the unresolved homicide proxy rate was affirmed. The dependent variable presented some unique findings and possessed some distinct characteristics. While it is based on the UNODC (2021) data, the proxy measure displays wide variation in a cross-national perspective. This diversity across the measure presented an opportunity to examine differences between nations reporting High Contact UHPR and High Homicide UHPR results. The implication

being that there are some important and unaccounted for differences or patterns occurring which have been previously unrecognized. To conduct the analysis, the 100-item non-random sample was split into two groups. Splitting this measure does generate concerns regarding the suitability of using a set of simple multiple linear regression tests. The original 100-item non-random sample was drawn from a possible 194 population, dividing the sample in half further diminishes any statistical certainty of the observed results. However, this research is conducted as an exploration of possibilities out of an already limited data resource.

First, all nations that presented an unresolved homicide proxy score of zero (0) or lower were designated as High Contact UHPR and second any countries displaying an unresolved homicide proxy scores of greater than zero (0) were designated as High Homicide UHPR. There were 48 cases of High Contact UHPR scores and 52 cases of High Homicide UHPR. This was unintentionally balanced in nearly splitting the original sample in half. This presented two comparable items for further analysis. An analysis of the descriptive statistics on Table 10 (above) displays the varied ranges in minimum and maximum scores as well as unique characteristics for each subset of data. The mean and standard deviation scores for the High Homicide UHPR subgroup are nearly double those of the High Contact UHPR subgroup. This finding suggests that interactions within each subgroup are unique. Or simply, that there is a differential distribution of scores between the nations in the High Contact UHPR and High Homicide UHPR categories.

To investigate this difference, two sets of multiple linear regressions were conducted. Two for the High Contact UHPR subgroup and two for the High Homicide UHPR subgroup. In each case the same analytical technique of introducing independent variable set one, interpreting the results, and then introducing independent variable set two was conducted. The overall findings presented mixed results that were purely abductive explorations of the data. Any significance

achieved in an overall test or by the variables within can only be interpreted as inferences of possible relationships.

In the multiple linear regression analysis of the High Contact UHPR subgroup in Table 10 (above) there are two categories differentiated as IV set 1 and IV set 2. This references the theoretical and methodological articulations of independent variable set one and independent variable set two, respectively. IV set 1 failed to achieve significance, however, the measure of inequality (Gini coefficient) displays a predictive relationship. This is like the results of the 100-item unresolved homicide proxy rate found in Table 8 (above) and dissimilar from the results found in Table 9 (above). IV set 2 of High Contact UHPR achieves an overall significant predictive correlation. The multiple linear regression displays significant predictive relationships across inequality (Gini coefficient), social bureaucracy (deliberative democracy index), and equality of governance (impartial public administration).

The abductive inferential findings can be interpreted as expressing interactions between macro social forces that condition meso level law enforcement actions. As inequality increases, unresolved homicide proxy rates worsen and move closer to zero. Greater levels of participatory social bureaucracy appear to condition significant decreases in unresolved homicide proxy rates. However, ratings of higher rigor and impartiality in the public administration exert some social action towards diminishing High Contact UHPR scores towards zero.

Overall, among nations that reported zero or a High Contact UHPR a balancing act of contradictions appears. This returns to Quetelet's (1831) commentary on policing, in that an effective and equitable system of law enforcement would resolve every homicide in proportion. As High Contact UHPR represents a greater reporting of formal contact than homicides each year, it is likely that there is variation by country in how that figure is achieved.

For example, the two largest High Contact UHPR scores in the subgroup are Suriname (-19.23) in South America and the Netherlands (-17.69) in Western Europe. When accounting for the findings in this dissertation and prior research on homicide rate and homicide formal contact rates the importance of inequality and economic development cannot be understated. Where Suriname (2004) has a Gini coefficient of 68 and GDPpc of 9.156, the Netherlands (2015) scores a Gini coefficient of 28.2 and GDPpc of 45.724.

It is unlikely given the differences in these two large scale social indicators that Suriname and the Netherlands achieved High Contact UHPR though the same macro bureaucratic strategies or meso law enforcement practices. The abductive implication is that cross-national differences in homicide rates and homicide formal contact rates are possibly more complex than current models account for, especially in the developing world. Where Suriname (2004) displayed a homicide count of 46 with a formal contact count of 141 and a population of 494,000, the Netherlands (2015) displayed a homicide count of 104 with a formal contact count of 3,100 and a population of 16,938,000. In comparing these two cases we see that Suriname has a limited population, low homicide count, and low homicide formal contact count, while the Netherlands has a low homicide count, extremely high homicide formal contact count, and lower population in a global context. This is a circumstance that displays both unique data interactions and potential differences in administrative justice pathways that can unintentionally produce similar results.

While this dissertation is limited in its ability to provide an explanation for the multiple linear regression results on High Contact UHPR, the implications present future research opportunities. These results and example present some important considerations and possibilities for further analysis. For example, in a cross-national perspective it could be important to create a logical system for ordering, ranking, or categorizing nations ahead of conducting an analysis.

Creating systematic groupings of nations that share key demographic, political, or criminal justice indicators could reveal previously unobserved results in testing the effects of social variables on homicide or unresolved homicide measures. In any case the multiple linear regression analysis comparing IV set 1 and IV set 2 for High Contact UHPR produced informative abductive results.

Turning to the High Homicide UHPR subgroup in Table 10 (above) it is again divided into two categories differentiated as IV set 1 and IV set 2. In this case both models produced significant predictive relationships. Following a hybrid pattern found in Table 8 (above) and Table 9 (above), the High Homicide UHPR rate subgroup displays interactions with inequality, social unrest, and equity of civic inclusion. As inequality (Gini coefficient) rises the High Homicide UHPR subgroup metrics increase. An increase in social unrest (mass mobilization) posits a decline in the High Homicide UHPR subgroup. The final abductive inference is that increases in equity of civic inclusion (public services distribution) condition a decrease in the High Homicide UHPR subgroup.

The High Homicide UHPR subgroup has a broader set of scores, higher mean, and greater standard deviation than the High Contact UHPR counterpart. In considering a possible inferential examination of patterns contained within the High Homicide UHPR subgroup, a baseline measurement for delineation was selected. Using the United States of America as a reference group with a positive unresolved homicide proxy rate of 1.74, the next whole number was selected. A review of patterns greater or less than a positive unresolved homicide proxy rate of 2 or more per 100,000 was investigated.

First, there are 17 out of 52 countries in the High Homicide UHPR subgroup that achieved a score of 2 or more. Of these 17 nations, 14 of them are in the Americas. Specifically, 3 out of 4 Caribbean nations, 5 out of 7 Central American countries, and 6 out of 10 South American states.

The Eastern African nations of Uganda and Tanzania as well as the Western Asia country of Iraq were the outliers in the selected criteria. Using the conjectures of this abductive pattern, there is something unique occurring within the Americas as 14 out of 21 non-random sample items exhibit increased High Homicide UHPR scores. A cursory review of Gini coefficients and GDPpc scores in the Americas displays similarities with many African and Asian countries. Inferring that some other activity beyond inequality and economic development could affect patterns across homicide rates and homicide formal contact rates.

From a broader cross-national perspective, these findings connect with the observations of the High Contact UHPR subgroup in presenting the possibility that there are divergent pathways in achieving similar reported administrative justice outcomes. While many nations experiencing inequality and lower economic development present reasonably low (below 2 per 100,000 persons) unresolved homicide proxy rates, most nations in the Americas present a differential pattern. Again, the consideration of systematizing cross-national comparative models of criminal events, with homicide being the principal focus of analysis, is recommended as a logical step for future research.

The overall results of the abductive examination of the unresolved homicide proxy rate raise some interesting possibilities. Again, it should be noted that this type of assessment deviates from the strict and often-recommended deductive approach argued for by Popper (1959). However, without taking a leap into calculating and analyzing speculative data it is unlikely to foster advances or achieve unexpected results. In this case, the unresolved homicide proxy rate appears to have produced the opportunity for both a practical and theoretical examination of cross-national comparative data. With the initial findings supporting or contradicting the hypotheses

complete and a discussion of the implications of the abductive analysis of variables, the discussion moves to the theoretical implications of the findings.

Theoretical Implications of the Findings

To provide clarity on the theoretical implications of the findings, an outline of the decisions regarding each hypothesis are presented below. This provides an apparatus for understanding the outcomes, without referencing prior sections of the dissertation. The items below match those listed in Chapter 5, with the addition of the findings from Chapter 6. The subsequent analysis of the theoretical aspects extrapolated from this data returns to the sociological and criminological topics discussed in Chapters 3 and Chapter 4.

Confirmatory Correlation Theoretical Findings

Reject the null - Hypothesis 1: Correlations among measures of homicide rate and homicide formal contact rate will be strong, positive, and significant beyond the 95% ($p \leq 0.05$).

Fail to reject the null - Hypothesis 2: Correlations among measures of homicide rate and homicide conviction rate will be moderate, positive, and significant beyond the 95% ($p \leq 0.05$).

Reject the null - Hypothesis 3: Correlations among measures of homicide formal contact rate and homicide conviction rate will be weak, positive, and significant beyond the 95% ($p \leq 0.05$).

The results of the hypothesis testing generate both confirmatory and contributive information in the analysis of homicide rates, homicide formal contact rates, homicide conviction rates, and provided a novel framework for examining unresolved homicide rates with a cross-national proxy metric. The first theoretical implication returns to the prompt given by Dr. Unnithan in his 2020 Academy of Criminal Justice Sciences Presidential Address, that criminologists and administrative justice practitioners broaden our horizons to investigate cross-national dimensions of our respective interests and that unresolved homicides be analyzed in dimensions that contextualize the results.

The pattern of findings across hypotheses one through three supports Unnithan's (2021:762) research of patterned significant positive correlations. In this discussion of scaling up (i.e., considering the cross-national evidence) and expanding out (i.e., examining alternative relevant and complementary measures for the phenomenon) the findings in this dissertation affirm the potential for both suggestions. While this is more of an analytical standard than a theoretical one, the opportunity to engage any theory-driven framework derives its foundation in deductive replication. Where Unnithan (2021) deliberately avoided discussions of the criminal or administrative justice rates of any specific nation, this dissertation finds that important patterns emerge in cross-national perspective. The social strata comparison of countries introduced the necessity for further investigation into divergent pathways that achieve comparable results.

Micro to Meso Theoretical Implications

From a Routine Activities Theory (Cohen and Felson 1979) perspective, the first three hypotheses provide a context for interactions of capable guardianship operationalized at the meso institutional level of law enforcement. The homicide rate in each nation shows that at some point murders occur, despite the potential self-engaged capable guardianship of a victim or socially constructed deterrence represented by law enforcement. In the process of murders being reported to the police, the meso agency level social forces appear to affect homicide resolutions. This rearticulates the concept of capable guardianship from a micro level individual or social deterrence interaction to a meso level law enforcement characteristic.

The formal contact rate becomes a second measurement of capable guardianship, wherein meso level law enforcement provide a post-homicide resolution. The positive significant correlation identified in hypothesis one displays that at some level there is a cross-national pattern of capable guardianship, enacted by meso level law enforcement agencies on micro direct-contact

predatory violations. While this finding was expected, it also reveals that policing extends beyond maintaining socially normative interactions or moderating antisocial behaviors. There is a social expectation that law enforcement possesses the ability to resolve irreversible crimes that occur outside of their presence.

Meso to Macro Theoretical Implications

As Quinney (1970) discussed in *A Social Theory of Crime*, the complexities of understanding the set and setting of criminal events is part of a much larger network of enculturated social understandings. The movement from meso level law enforcement agency capable guardianship to macro level administrative justice outcomes operationalized as homicide conviction rates displays aspects of this declining aggregate. Homicide rates do not correlate to homicide conviction rates. Returning to Quetelet's (1831) conceptualization of a well-functioning police force, the articulation of correlation from homicide rate to homicide formal contact rate, and that formal contact rate to homicide conviction rate represents an ideal type concept of Weberian (1947) bureaucratic inevitability. This further articulates the idea of patterned social forces creating that iron cage of bureaucracy which serves to provide outcomes and rationalizations whereby members derive social meaning (Weber 1992:123).

The confirmatory findings for the first three hypotheses support prior research. They also expand on the sociological and criminological understanding of process and interpretation of social action at an institutional level. Across the social strata from the micro to the meso and then macro, the correlating hierarchy of homicide, criminal justice, and administrative justice affirms two interlocking theoretical elements of this study. There is evidence to suggest that bureaucratic linkages extend the concept of capable guardianship from Routine Activities Theory in a cross-

national perspective. Consistent patterns presented in the non-random sample of nations provides context for the importance of meso law enforcement homicide resolutions at a global scale.

Confirmatory Regression Theoretical Findings

With the first set of hypotheses providing practical and theoretical findings, the analysis of the second phase of the dissertation engages a more theoretical framework. Utilizing the prior research of Unnithan and his associates (1983; 1994) as a roadmap for a focused analysis of social indicator variables effect on apex criminal events, four primary and two secondary comprehensive hypotheses underwent linear regression testing. Determinations to reject or fail to reject the null for each hypothesis are outlined below.

Reject the null - Hypothesis 4: Social inequality measured with Gini coefficients will hold a significant predictive relationship with homicide rates.

Reject the null - Hypothesis 5: Economic development measured with gross domestic product per capita will hold a significant predictive relationship with homicide rates.

Fail to reject the null - Hypothesis 6: Social bureaucracy measured with the deliberative democracy index will hold a significant predictive relationship with homicide rates.

Reject the null - Hypothesis 7: Social conflict measured with mass mobilization will hold a significant predictive relationship with homicide rates.

Reject the null - Hypothesis 8: The predictive relationships of hypotheses 4 through 7 will display significant results with homicide formal contact rates.

Fail to reject the null - Hypothesis 9: The predictive relationships of hypotheses 4 through 7 will display significant results with homicide conviction rates.

The results of hypotheses four through seven replicate the work of Unnithan and his associates (1983; 1994) in researching lethal violence (i.e., suicide rates plus homicide rates) in a cross-national perspective. However, this dissertation differs in context from that prior research. The focus of this analysis excludes suicide rates and subsequently utilizes a different theoretical framework. Where Unnithan et al. (1983; 1994) assessed anomic social interactions, the current

study sought to operationalize opportunity theory with some integration of Weberian bureaucracy. Analogous variable replacements were used with success in producing mixed significant results.

The combination of predictive effects on homicide rate results by inequality, economic development, and social conflict provide some distinct context to the findings in this dissertation. Inequality and economic development operate as predicted by Unnithan (1983; 1994). Inequality increases homicide rates and economic development appears to diminish them. However, this analysis conceptualized and operationalized the variables differently, excluding complex procedures of composite measures or algorithmic variable adjustment techniques. This is in part due to the advantages of replicating a study in consideration of the researcher's recommendations and advances in publicly available data reporting.

However, the larger theoretical context is that capable guardianship under Routine Activities Theory provides an opportunity-based explanation for increases and decreases in homicide rates in a cross-national context. Inequality or the lack of available resources is exactly the type of variable that Routine Activities Theory would propose for expanding criminal opportunities. When examined through a lens of overlapping theoretical perspectives, the failures of bureaucracy under Weber (1947), the lived experience of deprivation discussed by Anderson (1999), and the interactions between micro and meso level social meaning making discussed by Quinney (1970) each contribute to expand the concept of capable guardianship as possibly holding linkages to meso institutional law enforcement outcomes.

The Interaction of Micro Crimes and Meso Law Enforcement

A poorly functioning police force (Quetelet 1831) failing to achieve socially desired outcomes (Quinney 1970) results in a fostering of contra-culture beliefs (Anderson 1999). These in turn increased the opportunity for direct-contact predatory crimes (Cohen and Felson 1979). A

poorly functioning police force derives from a dysfunctional bureaucracy, which can be observed indirectly through inequality and economic development. While the social bureaucracy measurement of the deliberative democracy index was not supported as a significant predictor of homicide rates, criminal opportunity under Routine Activities Theory is situational. Democratic participation is not necessarily a protective factor within a Routine Activities Theory perspective.

A measurement of common good political decisions reached in a public and rational manner does not directly translate to safety against criminal opportunity. As Cohen and Felson (1979) discuss, motivated offenders and suitable targets are assumed to be abundant. It is the imposition of capable guardianship that determines the capacity for criminogenic opportunity. We can conceptualize this in context to how bureaucratic decisions exert a trickle-down effect across a Routine Activities Theory framework. For example, the Eighteenth Amendment to the Constitution of the United States prohibited the manufacturing, distribution, sale, or consumption of alcohol. This resulted in the unintentional creation of a large criminal-controlled segment of the American economy. This left law enforcement at a loss to combat broader criminal events in part due to the failed bureaucracy that generated the problem. Bureaucratic prohibition is not law enforcement; however, prohibition can generate criminal opportunity.

It is unlikely that any cross-national jurisdiction is engaging in direct bureaucratic efforts to increase homicide rates. Instead, political decisions made at the macro level generate unintended social outcomes. A functional and peaceful civil society is predicated on predictability and trust. Disruptions to those patterns create criminal opportunities for violations that occur in the absence of the police as capable guardians. These first three hypotheses each present logical meso extensions to a Routine Activities Theory perspective. However, the results of operationalizing an indicator of social conflict presented a new dimension to the overall analysis.

Beyond the Routine Activities Theory perspective, the Weberian bureaucratic theoretical framework can be used to analyze possible social action processes occurring between the micro and meso strata. As meso level law enforcement practices and capacity are to some extent determined by macro bureaucratic forces, micro level direct-contact predatory violations occur in context to macro and meso level forces. Homicide as a social action appears to vary dependent on law enforcement practices and bureaucratic engagement. From a Weberian perspective this is logical because challenges to authority occur in moments of social contestation. For example, if the police are unable to resolve homicides, it is perceived that law enforcement is inadequate. This contestation provides space for alternative actors to exert power and authority. Even to the extent that inadequate policing generates a vacuum power where disorder and lawlessness become the baseline for social action. Once this authority and power are abdicated the disjuncture between social action towards the violation of the law and social action counter to the violation of the law are diminished.

Sutherland (1947) describes the sixth proposition of Differential Association Theory as delinquency occurring in relationship with definitions favorable or unfavorable to the violation of the law at a micro sociological level. Failures of meso institutional law enforcement capable guardianship provides a context for potential increases in criminal acts that emerge from the contestation of legitimate authority. The failures of law enforcement to provide adequate discouragement for acts of violence plays a role in the balance of favorable and unfavorable social action of direct-contact predatory violations. The meso level capable guardianship theoretical perspective exposes the delicate action and reaction co-operational social forces that contextualize homicide resolutions as both difficult and paramount meso level law enforcement phenomenon.

Where Unnithan (1983) experienced disruptive intercorrelations in his measure of social conflict, the present analysis achieved some interesting counterintuitive results. Social conflict or civil unrest measured with the mass mobilization dependent variable presented a significant negative relationship with homicide rates. Upon initial evaluation it seems odd that higher measurements of social conflict would drive homicide rates down. However, Routine Activities Theory could provide some explanation. First, conflict between unified public social groups and the government may divert criminal opportunity as aggression towards the state. This kind of transference would indicate that motivated offenders could selectively reference state actors or apparatuses as targets for transgression. Or perhaps civil unrest causes potential suitable targets to change their personal or group levels of capable guardianship, thereby reducing their opportunity to be victimized. Yet still, mass mobilization could represent a disconnect between the public and meso law enforcement agencies as state actors. This could generate a detachment in reporting crimes to the police, which can include failure to report murders. It is also conceivable that law enforcement agencies could be overwhelmed by the social disorganization of civilian antisocial behaviors, which results in a failure to address or document criminal events.

This investigation does not conclude which, if any, of the above ideas is valid. However, it displays an important social strata effect on how homicide rates are affected by macro level variable indicators. It appears that the meso level capable guardianship of law enforcement agencies is conditioned by indirect non-bureaucratic and direct bureaucratic social action. Where the underlying cause of mass mobilization could be related to greater Weberian forces, the act of civil unrest itself appears to disrupt the capable guardianship of meso level policing.

The Interaction of Meso Law Enforcement and Macro Administrative Justice

The linear regression tests conducted in hypotheses eight and nine continue to display the concept that capable guardianship of law enforcement is captured at a meso bureaucratic level. Results for homicide formal contact rates replicate those of homicide rate linear regression analysis where inequality and economic development predict cross-national results. As homicides are reported to the police at an international level, the ability to make formal contact to resolve a murder are conditioned by macro bureaucratic forces. In essence, the capable guardianship of meso level law enforcement agencies are being preformatted at national levels.

Both inequality and economic development as independent variable measures capture a breadth of social concepts. However, outside of a sociological theoretical perspective there is no direct reason to conclude that homicide resolutions, operationalized as formal contact rates, should be dependent on macro level predictors. It is conceivable that resource allocation or government expenditures on law enforcement budgets affect the ability of the police to resolve crimes. However, the previously discussed case of the Boston Police Department serves as an example of how problem-oriented policing can only operate so far as bureaucratic support and legitimacy extend beyond point of contact resolution tracking measures (Braga and Dusseault 2018). For long-term homicide resolutions to achieve patterns of effectiveness, all interconnected aspects of administrative justice require support and oversight.

Interpreting the results of hypothesis eight also requires understanding the failure of hypothesis nine to achieve required levels of correlation significance. The linear regression of the first set of independent variables failed to predict cross-national trends in homicide conviction rates. As discussed, this is in part due to the social strata macro distance that administrative justice resolutions maintain from meso law enforcement action and micro homicide events. In this case

the failure to reject the null of hypothesis nine displays a relational interaction of selection bias which can be discussed from a Routine Activities Theory perspective. The independent variables selected for this phase of the analysis were operationalized to highlight possible capable guardianship social actions. While there is the broad context that criminal convictions can function as a deterrent to crime from a rational choice perspective, it is not necessarily true that formal contact events result in criminal convictions.

The ability of a police agency to resolve a homicide under the broad umbrella of formal contact and gather enough evidence to substantiate a criminal conviction in any jurisdiction is process oriented. This research was not designed to analyze the mechanisms or interactions of the police and the judicial systems. The larger theoretical context of hypothesis eight and nine is that capable guardianship of law enforcement is captured within the micro and meso interaction of homicide and formal contact. The meso and macro interactions of formal contact and convictions appear to follow different social action networks. Levels of capable guardianship engaged by law enforcement during a post homicide event do not appear to extend beyond the purview of those agents or that department.

With another six hypotheses presenting interpretable results in a Routine Activities Theory framework, the analysis of the unresolved homicide proxy rate began with an exploratory abductive analysis of the first set of independent variables. These results were examined to identify the intersection of homicide rate and homicide formal contact rate, based on the theoretical context of capable guardianship previously discussed. The framework of this dissertation observes capable guardianship when the police can provide a resolution after a homicide event occurs.

Exploratory Abductive Theoretical Findings

To better understand unresolved homicide theoretically as a social action, the unresolved homicide proxy rate was constructed and analyzed. As a measure constructed from two prior observations, the unresolved homicide proxy rate metric is an estimate of abductive distance. It is an attempt to understand some dark figure of capable guardianship, where lesser or greater outcomes are allowed to generate new patterns for interpretation. In all, four hypotheses were tested, ranging from replication of the steps of the confirmatory regression analysis to the addition of new social predictors. While only two hypotheses (10 and 13) were substantiated, a subsequent speculative split model test produced novel results. The decisions to reject or fail to reject the null for each hypothesis analyzed in this third phase of investigation are outlined below.

Reject the null - Hypothesis 10: The predictive relationships of hypotheses 4 through 7 will display significant results with the calculated proxy measures of unresolved homicide rates.

Fail to reject the null - Hypothesis 11: Legal rationality measured by the transparent and predictable enforcement of laws will hold significant predictive relationships with the dependent variables.

Fail to reject the null - Hypothesis 12: Equality of governance measured by impartial public administration will hold a significant predictive relationship with the dependent variables.

Reject the null - Hypothesis 13: Equity of civic inclusion measured by the distribution of public services by socio-economic class will hold a significant predictive relationship with the dependent variables.

The first results in this exploratory phase of analysis revealed that the calculated unresolved homicide proxy rate responded to inequality and social conflict in a pattern like that of homicide rates and formal contact rates. From a theoretical standpoint this makes sense in that the measure is a composite of the others. However, a Routine Activities Theory framework of analysis can be applied in identifying unique patterns from the results. For example, increasing inequality continues to affect some increase in unresolved homicide proxy rates at levels closer to homicide

formal contact rate than homicide rate. While rising inequality affects rising homicide rates, unresolved homicide proxy rate presents a moderated model. Inequality appears to affect the capable guardianship of meso level law enforcement across formal contact resolutions.

The unresolved homicide proxy rate is also affected by social conflict in that interactions identified in the homicide rate analysis carry over at some level. Where the argument was made that under Routine Activities Theory that civil unrest moderated homicide events or homicide reporting, the same appears true for unresolved homicide proxy rates. However, the findings of hypothesis ten are limited in their theoretical utility, because the analysis is replicating the significant findings of homicide rate (hypotheses four and seven) and homicide formal contact rate (hypothesis eight). It is the next phase of testing that brings about unique results for the unresolved homicide proxy rates.

In analyzing hypotheses eleven, twelve, and thirteen important theoretical differentiations become evident. The introduction of legal rationality, equality of governance, and equity of civil inclusion were designed to identify aspects of capable guardianship of meso level law enforcement agencies affected by macro level social forces. The results of the multiple linear regressions across homicide rate, homicide formal contact rate, and homicide conviction rate expands possible theoretical interpretation. It is not only the interactions between the independent variables and the dependent variable within each analysis, but the abductive comparison across tests that highlights important differences.

When assessing homicide rates, measures of economic development no longer appear significant when distribution of public service metrics are introduced. From a Routine Activities Theory perspective this moves the focus of suitable target vulnerability from a purely economic concept to that of social support. As discussed by Anderson (1999) the conditions for criminal

behavior are socially constructed. This analysis shows that homicide rates can be disrupted through an adequate and accessible structure of public services. From this there is the possibility of assessing the capable guardianship of both meso law enforcement institutions and greater nation state social apprentices. As micro level needs are met to some satisfactory degree, extreme direct-contact predatory violations are reduced.

This is a novel conceptualization of capable guardianship as larger social forces that deter crime through passive but pervasive means. As apex crimes exist in an overlapping framework of theoretical predictors, from strain to self-control, or social disorganization to opportunity, the panacea may be found the relief of human immiseration. This is to say that micro individual level capable guardianship against being a suitable target or meso level authority of the state to induce rational choice deterrence theory is only a partial solution to the ever-present set of antisocial forces that emerge from the opportunity for crime.

This conclusion finds some support through the further theoretical elements presented in the multiple linear regress of homicide formal contact rate, homicide conviction rate, and the unresolved homicide proxy rate. When examining the formal contact rate, economic development decreases in significance while indicators of social bureaucracy and legal rationality reveal increased interactions. The capable guardianship of meso level law enforcement operationalized as a homicide formal contact rate appears to be conditioned by macro egalitarian political forces and some impartial application of the law. Each of these aspects allude to some conditioning element of public policy where the ability of the police to resolve homicides is socially constructed.

Whether this is an artifact of the Thomas theorem as a statement that, “if men define situations are real, they are real in their consequences” (Thomas and Thomas 1928, 572) or the Pareto Principle applied to justice (Kaplow and Shavell, 2003), capable guardianship of law

enforcement at a cross-national level is affected by macro and meso level social forces. As the model of analysis moves to homicide conviction rate, all significant interactions are lost. The distance between capable guardianship and administrative justice criminal resolutions disappears. The failure expresses support for a Routine Activities Theory limited capable guardianship model, where meaningful interventions must be engaged at the correct level of social interaction. Returning to the thematic representations of punishment, even those of Cain and Abel, conviction rates represent a different level of analysis. In context to an evaluation of homicide rate or apex criminal events, punishment, retribution, or just deserts are at least one observational and theoretical step away from the social conditions that organize interactions between motivated offenders, suitable targets, and the application of capable guardianship.

The multiple linear regression analysis of the unresolved homicide proxy rate reveals some unique findings regarding inequality and economic development. The primary theoretical perspective is that capable guardianship diminishes at the point of micro interactions, specific to distribution of public services. This is both the social action moment of opportunity for motivated offenders and the failure point for meso level law enforcement agencies. Lower levels of social equity and inclusion generate conditions favorable to criminogenic opportunities. Under Routine Activities Theory this provides every possible articulation of harm from robbery to assault, from victimization to murder.

As meso level law enforcement responses change, increasing or decreasing, changes in micro social actions occur. Erickson and Haggerty (1997) identified this in context to policing as experiencing a transition between early order maintenance duties and modern risk management practices. Where an order maintenance ideology engaged some level individual social morality, risk management focuses on dangers to institutional organizations. When the ability to engage

capable guardianship at the micro level is lost, meso level policing is relegated to acting on the interests of the state, regardless of whether law enforcement efforts result in meaningful outcomes. The unresolved homicide proxy rate analysis displayed new information revealing the effects of bureaucratic patterns that appear to affect both homicide events and law enforcement responses.

Split Model Theoretical Findings

In a final effort to explore the utility of the unresolved homicide proxy rate measure, a split analysis of negative and positive patterns was evaluated. The set of multiple linear regressions displayed two distinct outcomes. For countries in the High Contact UHPR group inequality, social bureaucracy, and equality of governance produced abductive conjectures of conditioning. Across the High Homicide UHPR group inequality, social conflict, and equity of civic inclusion exhibited inferential abductive results. In all this suggests that differences in capable guardianship in post homicide events is contextualized within meso level law enforcement social action.

For countries with higher formal contact rates, capable guardianship is the result of the application of state authority in a meso level law enforcement capacity. For nations with higher homicide rates, it is suggested that the absence of capable guardianship is linked to specific patterns of inequality. In the background of both findings is the Weberian bureaucratic structure that conditions macro, meso, and micro social forces. At the meso and micro interaction level, homicide resolutions are contextualized in the capable guardianship of law enforcement agencies.

Where the prior research of Stretesky et al. (2016) reviewed communication, Wellman and Meitl (2021) examined social engagement, Braga and Dusseault (2018) analyzed best practices, Wellford et al. (2019) and Greenwood et al. (1975) focused on clearance factors, the common element is the structure under which police work is conducted. The social, cultural, and bureaucratic articulation of police work conditions the capable guardianship of law enforcement.

The resolution of homicide exists as a derivative of the social architecture situated within the lexicon of a nation. While murder is always abhorrent and homicide is always a crime, the social conditions that preformat victimization opportunities or the possibilities for law enforcement resolutions operate beyond the control of any single set of social actors.

This is not to say that crime prevention, deterrence, investigations, resolutions, or adjudications are by any means futile endeavors. The analysis of social strata from a Routine Activities Theory perspective presents the idea that achieving both lower unresolved homicide rates and lower homicide rates are interrelated concepts that depend on the ability of law enforcement agencies and equity of civic participation achieved in a bureaucratic context.

The articulation between a macro-Weberian, meso bureaucratic, and micro Routine Activities Theory perspectives is complex. Understanding cross-national comparative criminological data also presents some significant challenges. One of the intended purposes of this dissertation is to propose that these theoretical ideas are interrelated. As previously discussed, there are numerous frameworks for analyzing unresolved homicides. Where Unnithan (1983; 1994) engaged an Durkheimian anomic perspective, this research operationalizes a Weberian bureaucratic approach. The findings of this study highlight that engaging a Routine Activities Theory perspective at the micro and meso levels of analysis reveals intriguing patterns of interactions.

Limitations of the Study

The findings of this dissertation presented ideas based on a specific framework of analysis. The study began with the idea of satisfying two primary goals: that of expanding the cross-national investigation of homicide, and, for finding novel methodologies to examine unresolved homicides. Utilizing publicly available data, following the recommendations of prior research, and employing

a theoretical perspective that could account for within and between social strata interactions achieved both confirmatory and emergent results. However, portions of this research included new and previously untested variables. This incorporated abductive logic out of necessity to conduct research based on limited observational units.

A defining limitation of this study is the breadth of the work. Comparative cross-national research is complex in that there are both a limited number of possible observation items and sources of data. As discussed in prior chapters, the decision to use information from either the United Nations or the World Health Organization required research and consideration. Once the United Nations data set was selected, further complexities in data identification, management, and missing items had to be resolved. The cross-national perspective of the dissertation can present broad findings for global trends that can contextualize the what, where, and when of an analysis. However, it reveals little in understanding the who, why, and how that exists at the social event-level of investigation.

The replication of elements from three prior studies on cross-national homicide rates provided informative results. As suggested by Dr. Unnithan (2021), a greater level of research into cross-national crime and homicide would build out a broader understanding of the patterns observed in this and prior studies. Where this dissertation utilized seven out of the thirteen hypotheses to replicate findings, future reproductions could focus on developing more sophisticated techniques for examination. For example, the choice to replicate social bureaucracy and social conflict variables produced mixed results across the analysis. Future iterations of this research could select different variables and analyze those interactions in the presence of inequality and economic development.

The addition of analyzing formal contact rates and conviction rates added a layer of complexity to understanding the application of the theoretical framework. For this dissertation, it was deemed necessary due to the convergence of the available data and the desired scope of scaling up a Routine Activities Theory framework. However, future examinations could simply utilize one or two aspects and perform a deeper analysis of that specific interaction. For example, focusing research from a top down, or convictions first, operational perspective could reveal administrative justice linkages vital to the differentiating homicide adjudication outcomes.

The creation of the unresolved homicide proxy rate was the culmination of researching the dark figure of crime (Biderman and Reiss 1967), the dark figure of homicide (Minkler et al. 2024), the problem of the missing (Quinet 2007), and the lack of international cold case homicide reporting. The considerations that went into the creation of the unresolved homicide proxy rate were substantial and involved months of testing. The final application of the measure and abductive split model analysis was a decision of best fit and replicability. It is likely that it is a limited and flawed measurement in need of further testing. However, it does perform in statistical testing and produces unique results. I recommend that whenever possible official or observable cold case or unresolved homicide data be used in an analysis. However, in the absence of or in comparison to those measures the unresolved homicide proxy rate can be deployed as long as the analysis remains abductive.

The limits of the United Nations data generated the necessity to select alternative international sources for political, social, economic, and descriptive information. The choice to use the Varieties of Democracy dataset was made because it is also publicly available and promotes possible replication or validation of this research. However, the Varieties of Democracy database is not specifically built for sociological or criminological investigation. Many of the variables

overlap or aggregate to build alternative indexes based on similar concepts. There is the disadvantage that variable interactions at the applicable level could in and of themselves be artifacts of the data construction. For example, in this study the results of the public services distribution measure provided interesting and new outcomes. However, that measurement is made up of multiple evaluations across basic public services, security, primary education, clear water, and healthcare. While each of these is important, research focused exclusively on security might be a more fitting indicator.

The theoretical framework has limitations as well. This study discussed the prior focus of Unnithan (1983; 1994) on Durkheimian anomie, operationalized as systemic frustration. The suggestion to utilize the subsequent work of Agnew's General Strain Theory (2005) could be a viable avenue for analysis. The selection of Routine Activities Theory (Cohen and Felson 1979) and the attempt to scale up the application of capable guardianship from micro direct-contact predatory violations to post-homicide capable guardianship by law enforcement agencies is an exploration of theoretical possibilities. While it appears that it is theoretically sound in the context of this analysis, it is not the only approach and perhaps not the best approach if, for example, research is focused on producing policy implications.

Closing the Dissertation

This dissertation both completed the research agenda to replicate prior findings and evaluated a new unresolved homicide measurement. The predicted correlations occurred as expected. The confirmatory linear regression models produced the desired patterns. The speculative and exploratory phases of investigation provided ample opportunities for theoretical analysis. Even the theoretical complexity of discussing interactions across social strata revealed new possibilities in analyzing unresolved homicide from a cross-national perspective. The findings

display that the capabilities of the criminal justice system to resolve a homicide is a complex interrelationship between macro bureaucratic forces, meso law enforcement ability, and micro social conditions.

This research sought to meet the challenge outlined by Unnithan (2021) in exploring global to local homicide patterns. The theoretical framework and breadth of cross-national analysis displayed unique glocal findings. While the limitations and speculative elements of the research are important factors to keep in mind, this investigation was a success. Investigating unresolved homicides at a level beyond a police jurisdiction, a county, a province, a state, or even a single nation is a complex task. Unresolved homicides exist in a unique social space among criminal justice outcomes. The cross-national perspective for understanding unresolved homicide is a pathway for understanding how to increase safety at both the global and local levels. This research provides a greater context for understanding interactions that occur from macro social factors to meso policing actions, and subsequently from meso policing outcomes to micro social events.

CHAPTER 8 - CONCLUSION

In the process of conducting the analysis and writing this dissertation a foundational narrative emerged. It begins with the early Weberian concepts of bureaucracy and a discussion of homicide as a unique institutionally bound social event. The cold case resolution of the Siobhan McGuinness homicide and the work of Dr. Unnithan provided direction for this analysis. From this an objective to scale up and expand out an assessment of unresolved homicide further contextualized the research process. The operations of the analysis moved step by step through a replication and validation process, which culminated in the testing of original ideas. This investigation displays a level of advancement in understanding unresolved homicide from a local to global perspective.

In this case, the work of Unnithan and his colleagues over the prior forty years established the foundation of both a cross-national perspective for analysis and an architecture for studying unresolved homicide. Although homicide is often thought of as a commonly investigated criminal event, research into unresolved homicide remains unique in the broader criminological context. While there are many studies on specific aspects, regions, processes, or outcomes, research that attempts to focus on linkages, causes, and social origins of unresolved homicide are limited. It appears that this is in part due to the nature of cross-national data or difficulties in accessing restricted information from law enforcement. However, cross-national research on differences in unresolved homicide patterns by country revealed unique characteristics. The analytic results and theoretical arguments in this dissertation present the opportunity for policy implications and provide recommendations for future research.

Policy Implications

Research in a cross-national comparative context is difficult in part due to numerous limitations. The United Nations Office on Drugs and Crime is an adequate and a developing resource for further research. However, expanding the quality and amount of available data could improve the international analysis and discussion of crime. Although there is no one size fits all criminological data set, moving towards cross-national data documentation using the examples of the Federal Bureau of Investigations National Incident-Based Reporting System or the European Homicide Monitor could provide richer sources of information.

At the cross-national level of analysis, this study reveals that there are underlying complexities to unresolved homicide measurement. Understanding the safety of individuals and the capacity or ability of law enforcement agencies is vital in analyzing criminal justice patterns. For example, in the United States it is likely that civilians overestimate the training, time, and scientific complexity of police work in homicide resolution. Where it would be optimal for every homicide to be resolved through the identification, retrieval, and analysis of material evidence, it is unlikely that is the case. Similarly, in many countries it is possible that little if any specialized training or technology is used in homicide resolutions. In subregions of Africa, the Americas, Asia, and Eastern Europe, police work is more like that of the United States some decades ago. This observation is not intended to diminish the labors of law enforcement agencies in those regions. However, the difference between 21st century and 20th century policing are a reality.

Among industrialized, developed, and socio-politically complex countries, it appears that forces of bureaucracy and anomie are involved in conditioning homicide events. As such, serious consideration should be given to political changes that result in institutional law enforcement transformations. Providing police officers and agencies with the training, resources, personnel,

technology, forensic scientific support, and administrative oversight is a complex but productive recommendation to improve homicide resolutions. This investment in law enforcement is a long-term commitment to engaging capable guardianship in reducing unresolved homicides at the single most impactful intersection of state action and civilian socialization.

Across the spectrum of law enforcement models, supervisory oversight, transparency, accuracy in reporting, and communication appear to be the critical factors for social meaning making in the legitimacy of homicide resolutions. The observed patterns of the results in this dissertation display that there are nations that appear interrelated across homicide resolutions. However, they display vast inequality, economic development, social stability, and capable guardianship of law enforcement differences. Where Unnithan (2021) proposed an expanded analysis of homicide and unresolved homicide at a cross-national level, the quantitative analysis of this dissertation affirms that suggestion by finding substantial international variation.

Perhaps the largest policy implication that could be drawn from this research is that each nation and jurisdiction, down to the police precinct or detective, should seek to better understand their place within the pattern of unresolved homicides. Where large scale cross-national research allows for one level of comparison, it is the minutiae of micro sociological or local level events that build that aggregate measure. If a specific neighborhood, district, area, town, or city displays distinct outlier characteristics the examination of uniqueness provides some level of in-depth information necessary to understand larger patterns. A greater focus on tracking homicide, homicide formal contact, homicide conviction, and unresolved homicide data, with specific metrics at 30-days, 90-days, 6-months, 1-year, and beyond timeframes could provide the necessary information for improving local police performance.

The abductive analysis of the split model unresolved homicide proxy rate provides limited but novel insight into cross-national patterns. There appears to be a pattern among High Homicide UHPR below 2 per 100,000 persons that could provide some context for an initial benchmark for agency evaluations. Setting practical goals of combating crime through a combination of a Routine Activities Theory and meso law enforcement policy could assist in creating long-term reductions in homicide. The impact of resolving both active homicides and cold case homicides displays the capable guardianship of law enforcement agencies and actively transforms public perceptions of the abilities of the police. Because both elements are needed to foster continued engagement, expectations, and reinforcement, an understanding of policing at a meso institutional levels captures the concepts of social communication and public beliefs that can contribute to High Contact UHPR and High Homicide UHPR patterns.

Many factors discussed within a framework of policy implications would require future research. Policing engages elements of politics, sociology, criminology, psychology, mental health, physical health, inequality, education, and underlying human biology. The breadth of information that police officers and law enforcement agencies need to collect and collate into a comprehensible narrative of data and action is overwhelming. No single officer, agency, or governing body can be fully apprised of the total scope of criminality and prepared for the diversity of criminogenic behaviors. However, understanding the interconnections between the homicide and police response from a social perspective is a pathway for broadening general safety and the public good through an application of meso level capable guardianship.

Recommendations for Future Research

This dissertation was informed by the work of Unnithan (1983; 1992; 1994; 2021) and global research on homicide, policing, and unresolved homicide. Future work in this area can

benefit from replicating the findings of Unnithan (1983; 1992; 1994; 2021) as a baseline for analysis. Measures of inequality and economic development are foundational factors to include in future modeling for homicide resolutions. Across quantitative, qualitative, or a mixed model of analysis, understanding the underlying social patterns that influence homicide events in a geographic area are integral. Unresolved homicides appear to occur in identifiable and unique patterns of social, economic, and political phenomenon that exert conditioning factors with consequential outcomes.

With this dissertation as a template, region and subregion data could undergo analysis to identify patterns of police enforcement and unresolved homicide events. With a focus on homicide and formal contact, a larger number of nations could be included in the analysis. This would provide a larger non-random sample size for both variables and the construction of a larger database of the unresolved homicide proxy measures. Variations between and within regions or subregions could lead to further frameworks of analysis or some refinement of including macro socio-political level indicators. Cross-national level research of homicide and unresolved homicide appears to generate patterns, both consistent and observable over time, which allows for numerous opportunities of time-series comparative findings.

Building a hybrid analysis of this dissertation's results and Unnithan 1983 work could expand the single cross-sectional approach to a multi-observation across time in a longitudinal model. With enough data points distributed across region and subregion a comparative trend across time effect could be observed. Where this dissertation provides an abductive inference that lived experiences of inequality (i.e., equitable distribution of public services) appear to exert an effect separate and unique from a Gini coefficient measurement; a longitudinal data model could express some validity or magnitude of that conjecture.

Conducting research similar to that of Unnithan (1994) in analyzing differences within nations that have ample standardized homicide metrics would be another approach to understanding a meso social force law enforcement model for unresolved homicide. Whether that research was conducted by focusing on the United States using the Federal Bureau of Investigations National Incident-Based Reporting System, or European nations using the European Homicide Monitor or Eurostat database, a complete or partial replication of this dissertation could produce relevant findings. Identifying the application of differentiating sociological or criminological models for testing within nations with a high volume of data could provide insight into analyzing nations with scarce or missing data.

The inclusion of advanced 21st Century technologies is a topic that this dissertation mentioned very briefly. From the resolution of cold case homicides through the analysis of minuscule amounts of DNA, to advances in video surveillance or facial recognition technology, to upcoming integrations of robotics or cybernetics it is likely that industrialized nations will see reductions in crime rates. However, resolving a homicide only manages to engage capable guardianship by law enforcement in a post-event scenario. The capable guardianship of the state through policing at the meso level or improving the capable guardianship of the individual at the micro level necessitates complex changes in social inequality. While homicide rates or unresolved homicide figures are not common heuristics for understanding inequality, integrating metrics of social disparities into criminological research provides a broader scope for understanding large scale patterns in criminal offending and law enforcement.

This dissertation sought to fill a gap in both the analysis and understanding of unresolved homicides from a cross-national perspective. The research found mixed success in adopting the recommendations of prior literature, replicating findings, and implementing new techniques that

achieved initial levels of validity. Within a cross-national context, adopting a position of investigating unresolved homicide patterns over time as opposed to seeking an immediate solution-based perspective has the potential for increasingly impactful scientific contributions. The example of the Boston Police Department exemplary improvements, followed by catastrophic failure is a cautionary allegory. A more complete system level understanding of social factors linked to homicide patterns can provide greater level of assurance and stability for crime fighting initiatives.

Summation

This research explored possibilities for understanding unresolved homicide from a cross-national perspective based on the available data. It is impossible to overstate the seriousness of murder and the multiple layers of complication that accompany large-scale state interventions that seek to provide a resolution to a tragedy. In some ways it is easier for law enforcement institutions and governments to conceive of and discuss homicide than it is to address the complexities of unresolved homicide. However, the two are intrinsically linked. This dissertation supports the conclusion that unresolved homicide outcomes are achieved by law enforcement agencies based on institutionally organized pathways dependent on larger social forces.

The social action that Weber (1947) discusses are the macro social forces that contextualize our lived experiences. Extending this concept to the writings of Bourdieu (1990), our norms, even those of crime, victimization, or law enforcement, are contextualized in how we conceive and internalize reality. Our very sense of safety hinges on our appraisal of social meanings as we apply them to ourselves or others. Even our sense of appropriate or unfitting just deserts allow for social, cultural, group (class, party, status), and individual layers of interpretation. It is likely that variations in habitus exert some explanatory factors in the ambient emergence of unresolved homicides in different global locations.

While there are real limitations to law enforcement training, ability, resources, and technology the social explanatory factors highlighted in this dissertation represent long-rhythm indicators of deviant or undesirable collective outcomes. It is doubtful that any modern society, even those engaged in fundamental, authoritarian, or totalitarian styles of governance desire anomic normlessness which fosters civic destabilization. The intricacies of assemblages of social action generate effervescent and unintentional outcomes. As we deploy resources to achieve one goal, latent problems arise. It is as if there is a socially constructed continuum of anomie and equitable actualization from which we can observe some disjuncture between political intentions and manifest outcomes.

As a society we are often unaware of the hazards of social action, in so much as we often are unable to reference their origins. This is to say that there is no set of waves that moves the sea, it is the sea that generates the waves. At the same time, we experience a sense of participation or autonomy without independent control of the conditions of our existence. The same conditions apply from the micro individual experience to the meso institutional experience. The police in any jurisdiction are the synthesis of their governing bureaucracy, their procedural operations, and evolving contested meanings based on their performance. The large-scale analysis of the results of cross-national unresolved homicide patterns provides an opportunity for reflection and change.

Unnithan (1983; 1992; 1994; 2021) was correct in contributing to the identification of how anomie plays a role in driving lethal violence and homicide. Perhaps this dissertation is correct in presenting an extension of Routine Activities Theory beyond the individual. In linking macro governance and meso law enforcement actions a new concept of capable guardianship emerges as a specific social response to criminal events. The social actions, reactions, and reifications of outcomes occur, occur again, and change. Correspondingly, the study of crime, homicide, and

unresolved homicide should follow the same path. Advancing or addressing the successes and difficulties in understanding homicide as a socially constructed and socially resolved phenomenon.

Unresolved homicide extends beyond the dark figure of crime and outside the dark figure of homicide to a space between meso level law enforcement notification and action. At a meso institutional law enforcement level an unresolved homicide is a crime that occurs as a failure of capable guardianship and not simply the absence of capable guardianship. The victims of homicides deserve justice, and the institutions tasked with resolving crimes act within a complex framework of social action. Further understanding the social forces that generate the opportunity for an unresolved homicide to occur and the characteristics that contribute to increasing resolutions can generate a glocal scope for meaningful change.

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Subsection: Intentional Homicide: [dp-intentional-homicide-victims | dataUNODC](#)

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APPENDIX A: DISSERTATION DATASET

Country Categorical Variables				Data Used in the Construction of the Dependent Variables				
Region	Subregion	Country	Year	Homicide Count (UN Data)	Formal Contact Count (UN Data)	Conviction Count (UN Data)	Country Population (UN Data)	Unresolved Homicide Count
Africa	Eastern	Kenya	2015	2261	2,047	missing	47,878,000	214
Africa	Eastern	Mauritius	2011	32	111	7	1,251,000	-79
Africa	Eastern	Mozambique	2009	823	707	missing	22,895,000	116
Africa	Eastern	Uganda	2014	4473	2,398	missing	36,912,000	2,075
Africa	Eastern	Tanzania	2015	3746	2,362	missing	51,483,000	1,384
Africa	Eastern	Zimbabwe	2004	1356	1,412	missing	12,020,000	-56
Africa	Northern	Algeria	2015	542	971	906	39,728,000	-429
Africa	Northern	Egypt	2011	2703	3,002	missing	84,529,000	-299
Africa	Northern	Morocco	2015	431	494	missing	34,664,000	-63
Africa	Southern	Botswana	2010	303	265	missing	1,987,000	38
Americas	Caribbean	Barbados	2015	31	31	0	285,000	0
Americas	Caribbean	Dominican Republic	2014	1810	1,295	missing	10,165,000	515
Americas	Caribbean	Jamaica	2010	1447	559	missing	2,810,000	888
Americas	Caribbean	Trinidad & Tobago	2015	420	77	20	1,370,000	343
Americas	Central	Costa Rica	2014	477	302	203	4,795,000	175
Americas	Central	El Salvador	2015	6656	2,704	missing	6,352,000	3,952

Figure 5. Data Used in the Construction of the Dependent Variables

Country Categorical Variables				Data Used in the Construction of the Dependent Variables				
Region	Subregion	Country	Year	Homicide	Formal Contact	Conviction	Country Pop	Unresolved
Americas	Central	Guatemala	2014	4998	253	326	15,923,000	4,745
Americas	Central	Honduras	2016	5150	1,743	400	9,271,000	3,407
Americas	Central	Mexico	2013	23063	13,784	4,827	118,827,000	9,279
Americas	Central	Nicaragua	2010	785	790	1,919	5,824,000	-5
Americas	Central	Panama	2016	405	390	missing	4,037,000	15
Americas	Northern	Canada	2016	612	480	missing	36,383,000	132
Americas	Northern	USA	2016	17413	11,788	missing	323,016,000	5,625
Americas	South	Argentina	2015	2837	1,147	1,694	43,075,000	1,690
Americas	South	Bolivia	2016	686	669	missing	11,032,000	17
Americas	South	Chile	2016	612	240	1,490	18,209,000	372
Americas	South	Colombia	2015	12782	6,432	4,412	47,521,000	6,350
Americas	South	Ecuador	2014	1311	914	missing	15,952,000	397
Americas	South	Guyana	2016	142	43	19	771,000	99
Americas	South	Paraguay	2014	578	531	331	6,600,000	47
Americas	South	Peru	2013	2013	1,052	768	29,774,000	961
Americas	South	Suriname	2004	46	141	missing	494,000	-95
Americas	South	Uruguay	2016	268	223	missing	3,424,000	45
Asia	Central	Kyrgyzstan	2015	305	330	256	5,959,000	-25
Asia	Central	Tajikistan	2011	126	116	missing	7,698,000	10
Asia	Central	Turkmenistan	2006	203	154	222	4,810,000	49

Country Categorical Variables				Data Used in the Construction of the Dependent Variables				
Region	Subregion	Country	Year	Homicide	Formal Contact	Conviction	Country Pop	Unresolved
Asia	Eastern	Hong Kong	2017	24	37	2	7,306,000	-13
Asia	Eastern	Japan	2017	306	260	missing	127,503,000	46
Asia	Eastern	Mongolia	2016	184	192	198	3,056,000	-8
Asia	South-Eastern	Malaysia	2006	588	133	159	26,202,000	455
Asia	South-Eastern	Myanmar	2015	1152	1,625	missing	52,681,000	-473
Asia	South-Eastern	Singapore	2017	11	14	missing	5,708,000	-3
Asia	South-Eastern	Thailand	2017	1787	6,470	missing	69,210,000	-4,683
Asia	Southern	Bangladesh	2006	4166	6,614	missing	140,921,000	-2,448
Asia	Southern	Bhutan	2016	9	19	missing	737,000	-10
Asia	Southern	India	2016	42678	86,031	18,062	1,324,517,000	-43,353
Asia	Southern	Maldives	2013	3	17	missing	416,000	-14
Asia	Southern	Nepal	2006	610	923	261	26,067,000	-313
Asia	Southern	Sri Lanka	2017	486	473	missing	21,128,000	13
Asia	Western	Armenia	2017	70	61	27	2,945,000	9
Asia	Western	Azerbaijan	2017	201	235	missing	9,845,000	-34
Asia	Western	Bahrain	2008	6	6	missing	1,115,000	0
Asia	Western	Cyprus	2008	9	29	4	1,082,000	-20
Asia	Western	Georgia	2010	187	113	153	4,099,000	74
Asia	Western	Iraq	2013	3339	1488	1873	33,157,000	1,851
Asia	Western	Lebanon	2013	236	665	missing	5,913,000	-429

Country Categorical Variables				Data Used in the Construction of the Dependent Variables				
Region	Subregion	Country	Year	Homicide	Formal Contact	Conviction	Country Pop	Unresolved
Asia	Western	Qatar	2006	5	4	missing	1,023,000	1
Asia	Western	State of Palestine	2005	83	425	16	3,578,000	-342
Asia	Western	Syrian Arab Republic	2004	426	393	missing	17,828,000	33
Asia	Western	Türkiye	2016	2665	10,142	missing	79,828,000	-7,477
Europe	Eastern	Belarus	2014	340	486	464	9,432,000	-146
Europe	Eastern	Bulgaria	2016	79	72	82	7,152,000	7
Europe	Eastern	Czechia	2017	66	68	82	10,641,000	-2
Europe	Eastern	Hungary	2016	202	197	175	9,753,000	5
Europe	Eastern	Poland	2015	298	448	248	38,034,000	-150
Europe	Eastern	Republic of Moldova	2014	175	106	146	4,073,000	69
Europe	Eastern	Romania	2016	306	258	900	19,796,000	48
Europe	Eastern	Russian Federation	2016	15864	15,089	missing	145,275,000	775
Europe	Eastern	Ukraine	2006	2958	2,661	missing	46,607,000	297
Europe	Northern	Denmark	2016	56	36	19	5,711,000	20
Europe	Northern	Estonia	2006	91	127	missing	1,349,000	-36
Europe	Northern	Finland	2016	74	98	54	5,498,000	-24
Europe	Northern	Iceland	2016	1	1	missing	332,000	0
Europe	Northern	Ireland	2008	51	32	missing	4,416,000	19
Europe	Northern	Latvia	2015	67	163	54	1,998,000	-96
Europe	Northern	Lithuania	2016	153	152	145	2,890,000	1

Country Categorical Variables				Data Used in the Construction of the Dependent Variables				
Region	Subregion	Country	Year	Homicide	Formal Contact	Conviction	Country Pop	Unresolved
Europe	Northern	Norway	2016	27	33	missing	5,251,000	-6
Europe	Northern	Sweden	2017	113	315	143	9,905,000	-202
Europe	Northern	England & Wales UK	2006	710	687	372	53,729,000	23
Europe	Northern	Scotland UK	2016	65	81	23	5,389,000	-16
Europe	Southern	Albania	2017	58	48	95	2,884,000	10
Europe	Southern	Bosnia & Herzegovina	2016	45	58	92	3,386,000	-13
Europe	Southern	Croatia	2016	44	46	70	4,209,000	-2
Europe	Southern	Greece	2016	84	115	missing	10,615,000	-31
Europe	Southern	Italy	2015	469	1,063	516	60,578,000	-594
Europe	Southern	Kosovo	2016	38	106	67	1,778,000	-68
Europe	Southern	Malta	2004	7	2	4	403,000	5
Europe	Southern	Montenegro	2016	28	22	51	627,000	6
Europe	Southern	Portugal	2016	66	54	92	10,326,000	12
Europe	Southern	North Macedonia	2014	35	25	40	2,078,000	10
Europe	Southern	Serbia	2016	123	128	105	8,854,000	-5
Europe	Southern	Spain	2016	294	333	missing	46,634,000	-39
Europe	Western	Austria	2016	57	58	32	8,747,000	-1
Europe	Western	Belgium	2015	230	203	245	11,288,000	27
Europe	Western	France	2017	824	981	missing	64,843,000	-157

Country Categorical Variables				Data Used in the Construction of the Dependent Variables				
Region	Subregion	Country	Year	Homicide	Formal Contact	Conviction	Country Pop	Unresolved
Europe	Western	Germany	2016	963	824	320	82,194,000	139
Europe	Western	Luxembourg	2016	5	3	2	579,000	2
Europe	Western	Netherlands	2015	104	3,100	missing	16,938,000	-2,996
Europe	Western	Switzerland	2017	45	48	missing	8,456,000	-3
Oceania	ANZ	Australia	2017	203	245	139	24,585,000	-42
Oceania	ANZ	New Zealand	2013	46	50	32	4,519,000	-4

Country Categorical Variables				Dependent Variable 01	Dependent Variable 02	Dependent Variable 03	Dependent Variable 04
Region	Subregion	Country	Year	Homicide Rate (per 100,000) Calculated	Formal Contact Rate (per 100,000) Calculated	Conviction Rate (per 100,000) Calculated	Unresolved Homicide Proxy (per 100,000) Calculated
Africa	Eastern	Kenya	2015	4.72	4.28	missing	0.45
Africa	Eastern	Mauritius	2011	2.56	8.87	0.56	-6.31
Africa	Eastern	Mozambique	2009	3.59	3.09	missing	0.51
Africa	Eastern	Uganda	2014	12.12	6.50	missing	5.62
Africa	Eastern	Tanzania	2015	7.28	4.59	missing	2.69
Africa	Eastern	Zimbabwe	2004	11.28	11.75	missing	-0.47
Africa	Northern	Algeria	2015	1.36	2.44	2.28	-1.08
Africa	Northern	Egypt	2011	3.20	3.55	missing	-0.35
Africa	Northern	Morocco	2015	1.24	1.43	missing	-0.18
Africa	Southern	Botswana	2010	15.25	13.34	missing	1.91
Americas	Caribbean	Barbados	2015	10.88	10.88	0.00	0.00
Americas	Caribbean	Dominican Republic	2014	17.81	12.74	missing	5.07
Americas	Caribbean	Jamaica	2010	51.49	19.89	missing	31.60
Americas	Caribbean	Trinidad & Tobago	2015	30.66	5.62	1.46	25.04
Americas	Central	Costa Rica	2014	9.95	6.30	4.23	3.65
Americas	Central	El Salvador	2015	104.79	42.57	missing	62.22

Figure 6. Dependent Variable Data

Country Categorical Variables				DV 01	DV 02	DV 03	DV 04
Region	Subregion	Country	Year	Homicide Rate	Contact Rate	Conviction Rate	Unresolved Proxy
Americas	Central	Guatemala	2014	31.39	1.59	2.05	29.80
Americas	Central	Honduras	2016	55.55	18.80	4.31	36.75
Americas	Central	Mexico	2013	19.41	11.60	4.06	7.81
Americas	Central	Nicaragua	2010	13.48	13.56	32.95	-0.09
Americas	Central	Panama	2016	10.03	9.66	missing	0.37
Americas	Northern	Canada	2016	1.68	1.32	missing	0.36
Americas	Northern	USA	2016	5.39	3.65	missing	1.74
Americas	South	Argentina	2015	6.59	2.66	3.93	3.92
Americas	South	Bolivia	2016	6.22	6.06	missing	0.15
Americas	South	Chile	2016	3.36	1.32	8.18	2.04
Americas	South	Colombia	2015	26.90	13.54	9.28	13.36
Americas	South	Ecuador	2014	8.22	5.73	missing	2.49
Americas	South	Guyana	2016	18.42	5.58	2.46	12.84
Americas	South	Paraguay	2014	8.76	8.05	5.02	0.71
Americas	South	Peru	2013	6.76	3.53	2.58	3.23
Americas	South	Suriname	2004	9.31	28.54	missing	-19.23
Americas	South	Uruguay	2016	7.83	6.51	missing	1.31
Asia	Central	Kyrgyzstan	2015	5.12	5.54	4.30	-0.42
Asia	Central	Tajikistan	2011	1.64	1.51	missing	0.13
Asia	Central	Turkmenistan	2006	4.22	3.20	4.62	1.02

Country Categorical Variables				DV 01	DV 02	DV 03	DV 04
Region	Subregion	Country	Year	Homicide Rate	Contact Rate	Conviction Rate	Unresolved Proxy
Asia	Eastern	Hong Kong	2017	0.33	0.51	0.03	-0.18
Asia	Eastern	Japan	2017	0.24	0.20	missing	0.04
Asia	Eastern	Mongolia	2016	6.02	6.28	6.48	-0.26
Asia	South-Eastern	Malaysia	2006	2.24	0.51	0.61	1.74
Asia	South-Eastern	Myanmar	2015	2.19	3.08	missing	-0.90
Asia	South-Eastern	Singapore	2017	0.19	0.25	missing	-0.05
Asia	South-Eastern	Thailand	2017	2.58	9.35	missing	-6.77
Asia	Southern	Bangladesh	2006	2.96	4.69	missing	-1.74
Asia	Southern	Bhutan	2016	1.22	2.58	missing	-1.36
Asia	Southern	India	2016	3.22	6.50	1.36	-3.27
Asia	Southern	Maldives	2013	0.72	4.09	missing	-3.37
Asia	Southern	Nepal	2006	2.34	3.54	1.00	-1.20
Asia	Southern	Sri Lanka	2017	2.30	2.24	missing	0.06
Asia	Western	Armenia	2017	2.38	2.07	0.92	0.31
Asia	Western	Azerbaijan	2017	2.04	2.39	missing	-0.35
Asia	Western	Bahrain	2008	0.54	0.54	missing	0.00
Asia	Western	Cyprus	2008	0.83	2.68	0.37	-1.85
Asia	Western	Georgia	2010	4.56	2.76	3.73	1.81
Asia	Western	Iraq	2013	10.07	4.49	5.65	5.58

Country Categorical Variables				DV 01	DV 02	DV 03	DV 04
Region	Subregion	Country	Year	Homicide Rate	Contact Rate	Conviction Rate	Unresolved Proxy
Asia	Western	Lebanon	2013	3.99	11.25	missing	-7.26
Asia	Western	Qatar	2006	0.49	0.39	missing	0.10
Asia	Western	State of Palestine	2005	2.32	11.88	0.45	-9.56
Asia	Western	Syrian Arab Republic	2004	2.39	2.20	missing	0.19
Asia	Western	Türkiye	2016	3.34	12.70	missing	-9.37
Europe	Eastern	Belarus	2014	3.60	5.15	4.92	-1.55
Europe	Eastern	Bulgaria	2016	1.10	1.01	1.15	0.10
Europe	Eastern	Czechia	2017	0.62	0.64	0.77	-0.02
Europe	Eastern	Hungary	2016	2.07	2.02	1.79	0.05
Europe	Eastern	Poland	2015	0.78	1.18	0.65	-0.39
Europe	Eastern	Republic of Moldova	2014	4.30	2.60	3.58	1.69
Europe	Eastern	Romania	2016	1.55	1.30	4.55	0.24
Europe	Eastern	Russian Federation	2016	10.92	10.39	missing	0.53
Europe	Eastern	Ukraine	2006	6.35	5.71	missing	0.64
Europe	Northern	Denmark	2016	0.98	0.63	0.33	0.35
Europe	Northern	Estonia	2006	6.75	9.41	missing	-2.67
Europe	Northern	Finland	2016	1.35	1.78	0.98	-0.44
Europe	Northern	Iceland	2016	0.30	0.30	missing	0.00
Europe	Northern	Ireland	2008	1.15	0.72	missing	0.43

Country Categorical Variables				DV 01	DV 02	DV 03	DV 04
Region	Subregion	Country	Year	Homicide Rate	Contact Rate	Conviction Rate	Unresolved Proxy
Europe	Northern	Latvia	2015	3.35	8.16	2.70	-4.80
Europe	Northern	Lithuania	2016	5.29	5.26	5.02	0.03
Europe	Northern	Norway	2016	0.51	0.63	missing	-0.11
Europe	Northern	Sweden	2017	1.14	3.18	1.44	-2.04
Europe	Northern	England & Wales UK	2006	1.32	1.28	0.69	0.04
Europe	Northern	Scotland UK	2016	1.21	1.50	0.43	-0.30
Europe	Southern	Albania	2017	2.01	1.66	3.29	0.35
Europe	Southern	Bosnia & Herzegovina	2016	1.33	1.71	2.72	-0.38
Europe	Southern	Croatia	2016	1.05	1.09	1.66	-0.05
Europe	Southern	Greece	2016	0.79	1.08	missing	-0.29
Europe	Southern	Italy	2015	0.77	1.75	0.85	-0.98
Europe	Southern	Kosovo	2016	2.14	5.96	3.77	-3.82
Europe	Southern	Malta	2004	1.74	0.50	0.99	1.24
Europe	Southern	Montenegro	2016	4.47	3.51	8.13	0.96
Europe	Southern	Portugal	2016	0.64	0.52	0.89	0.12
Europe	Southern	North Macedonia	2014	1.68	1.20	1.92	0.48
Europe	Southern	Serbia	2016	1.39	1.45	1.19	-0.06
Europe	Southern	Spain	2016	0.63	0.71	missing	-0.08
Europe	Western	Austria	2016	0.65	0.66	0.37	-0.01

Country Categorical Variables				DV 01	DV 02	DV 03	DV 04
Region	Subregion	Country	Year	Homicide Rate	Contact Rate	Conviction Rate	Unresolved Proxy
Europe	Western	Belgium	2015	2.04	1.80	2.17	0.24
Europe	Western	France	2017	1.27	1.51	missing	-0.24
Europe	Western	Germany	2016	1.17	1.00	0.39	0.17
Europe	Western	Luxembourg	2016	0.86	0.52	0.35	0.35
Europe	Western	Netherlands	2015	0.61	18.30	missing	-17.69
Europe	Western	Switzerland	2017	0.53	0.57	missing	-0.04
Oceania	ANZ	Australia	2017	0.83	1.00	0.57	-0.17
Oceania	ANZ	New Zealand	2013	1.02	1.11	0.71	-0.09

Country Categorical Variables				Independent Variables Set 1				Independent Variables Set 2		
Region	Subregion	Country	Year	Gini Coef.	Gross Domestic Product per capita	Deliberative Democracy Index	Mass Mobil.	Enforcement of Law	Impartial Public Admin.	Public Service Dist.
Africa	Eastern	Kenya	2015	40.8	2.954	0.417	1	3	3	1
Africa	Eastern	Mauritius	2011	38.5	19.235	0.72	3	3	3	4
Africa	Eastern	Mozambique	2009	45.6	1.314	0.347	2	3	1	1
Africa	Eastern	Uganda	2014	41.5	1.937	0.283	1	2	2	1
Africa	Eastern	Tanzania	2015	39	2.268	0.381	1	3	3	3
Africa	Eastern	Zimbabwe	2004	43	2.273	0.179	4	1	1	1
Africa	Northern	Algeria	2015	28	12.118	0.238	3	2	1	3
Africa	Northern	Egypt	2011	30	8.008	0.231	4	1	1	1
Africa	Northern	Morocco	2015	40	7.597	0.259	3	2	2	2
Africa	Southern	Botswana	2010	60	12.259	0.582	0	3	4	3
Americas	Caribbean	Barbados	2015	44	16.461	0.657	1	3	3	4
Americas	Caribbean	Dominican Rep.	2014	44.3	12.669	0.478	2	2	2	1
Americas	Caribbean	Jamaica	2010	40	7.063	0.649	0	3	3	1
Americas	Caribbean	Trinidad & Tobago	2015	65	30.789	0.634	0	3	3	3
Americas	Central	Costa Rica	2014	48.6	15.021	0.863	3	4	4	3
Americas	Central	El Salvador	2015	40.6	5.279	0.468	1	2	2	1
Americas	Central	Guatemala	2014	48.3	6.598	0.377	1	2	2	1

Figure 7. Independent Variable Data

Country Categorical Variables				Independent Variables Set 1				Independent Variables Set 2		
Region	Subregion	Country	Year	Gini Coef.	GDPpc	Delib. Dem	Mass Mobil.	Enfor. Law	Pub Admin.	Ser Dist.
Americas	Central	Honduras	2016	49.8	4.635	0.294	1	2	2	1
Americas	Central	Mexico	2013	49.3	15.571	0.49	3	2	2	1
Americas	Central	Nicaragua	2010	44	3.971	0.305	1	1	1	1
Americas	Central	Panama	2016	50.4	22.916	0.626	1	3	3	2
Americas	Northern	Canada	2016	32.7	45.297	0.763	1	4	4	4
Americas	Northern	USA	2016	41.1	57.62	0.815	3	4	4	2
Americas	South	Argentina	2015	42	17.254	0.585	4	3	3	2
Americas	South	Bolivia	2016	45.2	5.707	0.45	3	3	2	2
Americas	South	Chile	2016	45.3	22.596	0.815	3	4	3	2
Americas	South	Colombia	2015	51	13.22	0.563	3	3	3	1
Americas	South	Ecuador	2014	45	10.39	0.35	1	3	2	2
Americas	South	Guyana	2016	65	9.955	0.409	1	2	3	1
Americas	South	Paraguay	2014	50.7	8.533	0.324	3	2	2	1
Americas	South	Peru	2013	43.9	10.026	0.642	2	3	2	1
Americas	South	Suriname	2004	68	9.156	0.643	1	3	2	1
Americas	South	Uruguay	2016	39.7	20.33	0.832	2	4	4	3
Asia	Central	Kyrgyzstan	2015	29	4.619	0.393	2	2	2	3
Asia	Central	Tajikistan	2011	32.5	2.86	0.077	0	1	1	0

Country Categorical Variables				Independent Variables Set 1				Independent Variables Set 2		
Region	Subregion	Country	Year	Gini Coef.	GDPpc	Delib. Dem	Mass Mobil.	Enfor. Law	Pub Admin.	Ser Dist.
Asia	Central	Turkmenistan	2006	32	9.801	0.011	0	0	0	2
Asia	Eastern	Hong Kong	2017	51.8	46.2	0.274	3	3	3	3
Asia	Eastern	Japan	2017	33	38.83	0.745	1	4	3	4
Asia	Eastern	Mongolia	2016	32.3	8.786	0.573	2	2	3	2
Asia	South-Eastern	Malaysia	2006	44.8	17.526	0.238	3	2	1	2
Asia	South-Eastern	Myanmar	2015	38.1	5.074	0.31	3	2	2	1
Asia	South-Eastern	Singapore	2017	55	69.316	0.355	0	4	4	4
Asia	South-Eastern	Thailand	2017	36.4	16.216	0.036	1	1	1	1
Asia	Southern	Bangladesh	2006	33	2.013	0.173	4	2	1	1
Asia	Southern	Bhutan	2016	37.4	10.412	0.484	0	3	3	4
Asia	Southern	India	2016	34.7	6.135	0.403	3	3	2	1
Asia	Southern	Maldives	2013	34.9	12.633	0.266	4	2	1	3
Asia	Southern	Nepal	2006	32	1.621	0.205	4	3	3	1
Asia	Southern	Sri Lanka	2017	38.5	12.103	0.475	3	3	2	2
Asia	Western	Armenia	2017	33.6	11.263	0.269	2	2	2	2
Asia	Western	Azerbaijan	2017	27	14.198	0.061	1	1	1	3
Asia	Western	Bahrain	2008	65	30.189	0.133	3	2	2	2
Asia	Western	Cyprus	2008	31.7	30.729	0.746	0	4	3	4

Country Categorical Variables				Independent Variables Set 1				Independent Variables Set 2		
Region	Subregion	Country	Year	Gini Coef.	GDPpc	Delib. Dem	Mass Mobil.	Enfor. Law	Pub Admin.	Ser Dist.
Asia	Western	Georgia	2010	39.5	8.155	0.355	3	3	3	3
Asia	Western	Iraq	2013	29.5	10.331	0.254	4	2	0	1
Asia	Western	Lebanon	2013	32	11.74	0.372	3	2	1	2
Asia	Western	Qatar	2006	41	85.872	0.077	0	2	2	4
Asia	Western	State of Palestine	2005	34.7	1.543	0.418	4	2	2	2
Asia	Western	Syrian A Rep.	2004	35.8	4.976	0.031	1	1	1	2
Asia	Western	Türkiye	2016	41.9	21.251	0.099	3	1	1	2
Europe	Eastern	Belarus	2014	27.2	20.259	0.092	0	1	2	4
Europe	Eastern	Bulgaria	2016	40.6	17.978	0.557	2	3	3	3
Europe	Eastern	Czechia	2017	24.9	34.551	0.696	0	3	3	3
Europe	Eastern	Hungary	2016	30.3	23.006	0.354	3	2	3	3
Europe	Eastern	Poland	2015	31.8	23.491	0.68	3	3	3	3
Europe	Eastern	Rep. of Moldova	2014	26.8	6.246	0.525	2	3	2	3
Europe	Eastern	Romania	2016	34.4	17.065	0.647	1	3	2	3
Europe	Eastern	Russian Fed.	2016	36.8	24.392	0.134	2	2	1	2
Europe	Eastern	Ukraine	2006	29.8	8.918	0.45	2	2	2	3
Europe	Northern	Denmark	2016	28.2	45.648	0.879	1	4	4	4
Europe	Northern	Estonia	2006	33.7	22.966	0.772	0	4	4	4

Country Categorical Variables				Independent Variables Set 1				Independent Variables Set 2		
Region	Subregion	Country	Year	Gini Coef.	GDPpc	Delib. Dem	Mass Mobil.	Enfor. Law	Pub Admin.	Ser Dist.
Europe	Northern	Finland	2016	27.1	38.561	0.791	1	4	4	4
Europe	Northern	Iceland	2016	27.2	50.542	0.732	1	4	3	4
Europe	Northern	Ireland	2008	30.9	48.059	0.726	0	4	3	4
Europe	Northern	Latvia	2015	34.2	23.523	0.721	0	3	4	4
Europe	Northern	Lithuania	2016	38.4	27.579	0.686	1	3	3	4
Europe	Northern	Norway	2016	28.5	58.446	0.869	0	4	4	4
Europe	Northern	Sweden	2017	28.8	47.827	0.878	0	4	4	4
Europe	Northern	England & Wales	2006	32	37.58	0.758	4	4	4	3
Europe	Northern	Scotland UK	2016	32	39.556	0.73	4	4	4	3
Europe	Southern	Albania	2017	33.1	10.684	0.264	2	3	2	2
Europe	Southern	Bosnia & Herzeg.	2016	33	10.569	0.368	2	2	2	2
Europe	Southern	Croatia	2016	30.9	21.337	0.543	3	3	3	3
Europe	Southern	Greece	2016	35	23.867	0.748	3	3	3	3
Europe	Southern	Italy	2015	35.4	32.083	0.808	1	3	3	4
Europe	Southern	Kosovo	2016	26.7	7.083	0.41	2	2	2	2
Europe	Southern	Malta	2004	28	24.441	0.672	1	3	3	3
Europe	Southern	Montenegro	2016	38.5	14.964	0.388	3	3	3	3
Europe	Southern	Portugal	2016	35.2	26.628	0.839	2	4	3	3

Country Categorical Variables				Independent Variables Set 1				Independent Variables Set 2		
Region	Subregion	Country	Year	Gini Coef.	GDPpc	Delib. Dem	Mass Mobil.	Enfor. Law	Pub Admin.	Ser Dist.
Europe	Southern	North Macedonia	2014	35.2	12.092	0.259	3	3	2	3
Europe	Southern	Serbia	2016	38.8	12.765	0.277	3	3	3	3
Europe	Southern	Spain	2016	35.8	33.425	0.749	4	3	3	3
Europe	Western	Austria	2016	30.8	43.987	0.755	1	4	4	4
Europe	Western	Belgium	2015	27.7	41.208	0.804	3	4	4	4
Europe	Western	France	2017	31.6	39.926	0.825	3	4	4	4
Europe	Western	Germany	2016	31.4	44.002	0.852	3	4	4	4
Europe	Western	Luxembourg	2016	31.7	83.823	0.835	1	4	4	4
Europe	Western	Netherlands	2015	28.2	45.724	0.81	2	4	3	4
Europe	Western	Switzerland	2017	32.7	55.473	0.88	1	4	4	4
Oceania	ANZ	Australia	2017	32.8	47.525	0.821	1	4	4	4
Oceania	ANZ	New Zealand	2013	33.3	33.836	0.768	1	4	4	3

APPENDIX B: DATA CODING DOCUMENTATION

The following notes, coding schema, and documentation reference the data construction, management, and analysis of the dissertation Unresolved Homicide: A Cross-National Comparison. All missing data in the Stata dataset are coded as (.).

Variable Coding Descriptions

Country Region Codes - title: region

Numeric codes for identifying data by UN defined global Region from UNODC (2021).

Categorical level of measurement. (1-5)

Africa = 1 Europe = 4
Americas = 2 Oceania = 5
Asia = 3

Country Subregion Codes - title: subregion

Coded as continuous numeric from region for data identification.

Categorical level of measurement. (6-22)

East Africa = 6	South-Eastern Asia = 15
Northern Africa = 7	Southern Asia = 16
Southern Africa = 8	Western Asia = 17
Caribbean = 9	Eastern Europe = 18
Central America = 10	Northern Europe = 19
Northern America = 11	Southern Europe = 20
South America = 12	Western Europe = 21
Central Asia = 13	Australia and New Zealand = 22
Eastern Asia = 14	

Country Name Codes - title: country

Coded as continuous numeric from Region and Subregion for data identification.

Categorical level of measurement. (23-123)

Kenya = 23	Tajikistan = 57	Ukraine = 91
Mauritius = 24	Turkmenistan = 58	Denmark = 92
Mozambique = 25	Hong Kong = 59	Estonia = 93
Uganda = 26	Japan = 60	Finland = 94
Tanzania = 27	Mongolia = 61	Iceland = 95
Zimbabwe = 28	Malaysia = 62	Ireland = 96
Algeria = 29	Myanmar = 63	Latvia = 97
Egypt = 30	Singapore = 64	Lithuania = 98
Morocco = 31	Thailand = 65	Norway = 99
Botswana = 32	Bangladesh = 66	Sweden = 100
Barbados = 33	Bhutan = 67	England & Wales = 101
Dominican Republic = 34	India = 68	Scotland = 102
Jamaica = 35	Maldives = 69	Albania = 103
Trinidad and Tobago = 36	Nepal = 70	Bosnia & Herzegovina = 104

Costa Rica = 37	Sri Lanka = 71	Croatia = 105
El Salvador = 38	Armenia = 72	Greece = 106
Guatemala = 39	Azerbaijan = 73	Italy = 107
Honduras = 40	Bahrain = 74	Kosovo = 108
Mexico = 41	Cyprus = 75	Malta = 109
Nicaragua = 42	Georgia = 76	Montenegro = 110
Panama = 43	Iraq = 77	Portugal = 111
Canada = 44	Lebanon = 78	North Macedonia = 112
United States of America = 45	Qatar = 79	Serbia = 113
Argentina = 46	State of Palestine = 80	Spain = 114
Bolivia = 47	Syrian Arab Republic = 81	Austria = 115
Chile = 48	Türkiye = 82	Belgium = 116
Colombia = 49	Belarus = 83	France = 117
Ecuador = 50	Bulgaria = 84	Germany = 118
Guyana = 51	Czechia = 85	Luxembourg = 119
Paraguay = 52	Hungary = 86	Netherlands = 120
Peru = 53	Poland = 87	Switzerland = 121
Suriname = 54	Republic of Moldova = 88	Australia = 122
Uruguay = 55	Romania = 89	New Zealand = 123
Kyrgyzstan = 56	Russian Federation = 90	

Data Year Code - title: year

Source: UNODC (2021).

Listed by calendar year for the data of each country.

Interval level of standard numeric measurement.

Homicide Rate Code: homicide_r

Source: UNODC (2021).

A calculation of the total number of homicides divided by the population of that country.

Interval level of standard numeric measurement.

Formal Contact Rate Code: contact_r

Source: UNODC (2021).

A calculation of the total number of formal contact events related to homicide events divided by the population of that country.

Interval level of standard numeric measurement.

Conviction Rate Code: convict_r

Source: UNODC (2021).

A calculation of the total number of homicide convictions divided by the population of that country.

Interval level of standard numeric measurement.

***Unresolved Homicide Rate* Code: unresolved_r**

A calculation of the total number of homicides minus the total number of formal contact events, then divided by the population of that country from the UNODC (2021) sources.

Interval level of standard numeric measurement.

***Gini Coefficient* Code: gini**

Sources: World Bank (2023); World Economics (2024) Hong Kong (country specific data imputation); World Inequality Database (2024) for Bahrain (country specific data imputation), Guyana (regional imputation), Singapore, Suriname (regional imputation), and Trinidad & Tobago (regional imputation); United Nations (2016) for Barbados (country specific data imputation).

A measure of income inequality within each nation.

Bounded interval level of measurement. (0 to 100).

Numeric measurement.

***Gross Domestic Product Per Capita* Code: gdp_pc**

Sources: V-Dem v13 (2023); Data Commons (2024) for Hong Kong & Palestine.

(v-dem13: e_gdppc)

A measure of a per-person allocation for domestic economic output.

Interval level of measurement.

Measured in US dollars.

***Deliberative Democracy Index* Code: delib_dem**

Source: V-Dem v13 (2023). (v-dem13: v2xca_academ)

A measure of common good political decision reached in a public and rational manner.

Interval level of measurement. (0-1)

***Mass Mobilization* Code: mob**

Source: V-Dem v13 (2023). (v-dem13: v2cagenmob_ord)

A measure of frequency and magnitude of events of mass social unrest.

Ordinal level of measurement. (0-4)

0: There have been virtually no events.

1: There have been several small-scale events.

2: There have been many small-scale events.

3: There have been several large-scale and small-scale events.

4: There have been many large-scale and small-scale events.

Note: Mass Mobilization for Iceland is not present in the dataset. There is no available analogous measure to Mass Mobilization from the V-Dem. For example, missing Gini coefficients and GDPpc measure were retrieved from analogous alternate data sources. Given these circumstances, the Mass Mobilization data for Iceland has been imputed from averaging and rounding the data from the most similar Nordic nations within the V-Dem dataset. Nation similarity is based on United Nations and V-Dem dataset categorization, similarity in Gini coefficients and GDPpc. The nations include Denmark, Finland, Norway, and Sweden. To calculate the data, the Mass Mobilization scores for each nation were averaged, and the result was rounded to the nearest Ordinal score on the above scale.

(Denmark 1) + (Finland 1) + (Norway 0) + (Sweden 0) = 2
 2 / 4 = Score Average 0.5
 The Score Average 0.5 is rounded to 1
 Imputed Iceland Mass Mobilization Score = 1

Transparent Laws with Predictable Enforcement Code: law_predict

Source: V-Dem v13 (2023). (v-dem13: v2cltrslw_ord)

A measure of whether laws are clear, well publicized, coherent / consistent, stable from year to year, and predictably enforced.

Ordinal level of measurement. (0-4).

0: Transparency and predictability are almost non-existent. The laws of the land are created and/or enforced in completely arbitrary fashion.

1: Transparency and predictability are severely limited. The laws of the land are more often than not created and/or enforced in arbitrary fashion.

2: Transparency and predictability are somewhat limited. The laws of the land are mostly created in a non-arbitrary fashion, but enforcement is rather arbitrary in some parts of the country.

3: Transparency and predictability are fairly strong. The laws of the land are usually created and enforced in a non-arbitrary fashion.

4: Transparency and predictability are very strong. The laws of the land are created and enforced in a non-arbitrary fashion.

Rigorous and Impartial Public Administration Code: imp_admin

Source: V-Dem v13 (2023). (v-dem13: v2clrspet_ord)

A measure of public official engagement and impartiality.

Ordinal level of measurement. (0-4).

0: The law is not respected by public officials. Arbitrary or biased administration of the law is rampant.

1: The law is weakly respected by public officials. Arbitrary or biased administration of the law is widespread.

2: The law is modestly respected by public officials. Arbitrary or biased administration of the law is moderate.

3: The law is mostly respected by public officials. Arbitrary or biased administration of the law is limited.

4: The law is generally fully respected by the public officials. Arbitrary or biased administration of the law is very limited.

Access to Public Services Distributed by Socio-Economic Position Code: pub_ser

Source: V-Dem v13 (2023). (v-dem13: v2peapsecon_ord)

A measure of equality of access to basic public services, security, primary education, clear water, and healthcare.

Ordinal level of measurement. (0-4).

0: Extreme. Because of poverty or low income, 75 percent (%) or more of the population lack access to basic public services of good quality.

1: Unequal. Because of poverty or low income, 25 percent (%) or more of the population lack access to basic public services of good quality.

- 2: Somewhat Equal. Because of poverty or low income, 10 to 25 percent (%) of the population lack access to basic public services of good quality.
- 3: Relatively Equal. Because of poverty or low income, 5 to 10 percent (%) of the population lack access to basic public services of good quality.
- 4: Equal. Because of poverty or low income, less than 5 percent (%) of the population lack access to basic public services of good quality.

Stata Programming Code

(in Google Fira code font)

```
*****
*****
*** Ian D:. Greenwood
*** 2024 Dissertation
*** Unresolved Homicide: A Cross-National Comparison
*** Coding for analysis

set more off

*** Homicide Rates Calculated (Interval)
sum homicide_r
tab homicide_r
*** Checking your data for Outliers and Errors
tab homicide_r, m nolabel

*** Contact Rates Calculated (Interval)
sum contact_r
tab contact_r
*** Checking your data for Outliers and Errors
tab contact_r, m nolabel

*** Conviction Rates Calculated (Interval)
sum conviction_r
tab conviction_r
*** Checking your data for Outliers and Errors
tab conviction_r, m nolabel

*** Unresolved Homicide Rates Calculated (Interval)
sum unresolved_r
tab unresolved_r
*** Checking your data for Outliers and Errors
tab unresolved_r, m nolabel

*** Gini Coefficients (Interval)
sum gini
tab gini
*** Checking your data for Outliers and Errors
tab gini, m nolabel
```

```

*** Gross Domestic Product per capita (Interval)
sum gdp_pc
tab gdp_pc
*** Checking your data for Outliers and Errors
tab gdp_pc, m nolabel

*** Academic Freedom Index (Interval)
sum delib_dem
tab delib_dem
*** Checking your data for Outliers and Errors
tab delib_dem, m nolabel

*** Mass Mobilization (Ordinal)
sum mass_mob
tab mass_mob
*** Checking your data for Outliers and Errors
tab mass_mob, m nolabel

*** Predictable Law Enforcement (Ordinal)
sum law_predict
tab law_predict
*** Checking your data for Outliers and Errors
tab law_predict, m nolabel

*** Impartial Public Administration (Ordinal)
sum imp_admin
tab imp_admin
*** Checking your data for Outliers and Errors
tab imp_admin, m nolabel

*** Access to Public Services (Ordinal)
sum pub_ser
tab pub_ser
*** Checking your data for Outliers and Errors
tab pub_ser, m nolabel

*****
*** Data Checking for Outliers for Dependent Variables
*****
sum homicide_r contact_r conviction_r unresolved_r gini gdp_pc delib_dem
mass_mob law_predict imp_admin pub_ser

*****
*** Graphing for Relationships & Outliers for Dependent Variables
*****
*** [Mathematical Representation]
*** Units of {x} effects on Units of {y}

```

```
graph twoway scatter contact_r homicide_r, mlabel (contact_r) || lfit contact_r
homicide_r
```

```
graph twoway scatter contact_r unresolved_r, mlabel (contact_r) || lfit
contact_r unresolved_r
```

```
graph twoway scatter conviction_r homicide_r, mlabel (conviction_r) || lfit
conviction_r homicide_r
```

```
graph twoway scatter conviction_r contact_r, mlabel (conviction_r) || lfit
conviction_r contact_r
```

```
graph twoway scatter conviction_r unresolved_r, mlabel (conviction_r) || lfit
conviction_r unresolved_r
```

```
*****
```

```
*** Data Editing for Outliers
```

```
*****
```

```
*** Drop El Salvador
```

```
drop if country==38
```

```
*****
```

```
*** Data Reporting Unnithan 2021
```

```
*****
```

```
sum homicide_r contact_r conviction_r unresolved_r gini gdp_pc delib_dem
mass_mob law_predict imp_admin pub_ser
```

```
*****
```

```
*** Bivariate Correlation Test - Unnithan 2021 Replication Models
```

```
*****
```

```
*** For Unnithan 2020 Replication Models, Report only homicide_r contact_r
conviction_r
```

```
*** For Unnithan 1983 Replication Model and 2024 Dissertation Routine Activities
Theory Speculative Models, Report all
```

```
*** 95% test
```

```
pwcorr homicide_r contact_r conviction_r unresolved_r gini gdp_pc delib_dem
mass_mob law_predict imp_admin pub_ser, sig star(0.05) obs
```

```
*** 99% test
```

```
pwcorr homicide_r contact_r conviction_r unresolved_r gini gdp_pc delib_dem
mass_mob law_predict imp_admin pub_ser, sig star(0.01) obs
```

```
*** 99.9% test
```

```
pwcorr homicide_r contact_r conviction_r unresolved_r gini gdp_pc delib_dem
mass_mob law_predict imp_admin pub_ser, sig star(0.001) obs
```

```
*****
```

```
*** Regression Models
```

```
*****
```

```
*** Unnithan 1983 Replication Models
```

```
regress homicide_r gini gdp_pc delib_dem mass_mob
```

```

regress contact_r gini gdp_pc delib_dem mass_mob
regress conviction_r gini gdp_pc delib_dem mass_mob
regress unresolved_r gini gdp_pc delib_dem mass_mob

*** 2024 Dissertation Routine Activities Theory Speculative Models
*** Homicide Rate
regress homicide_r gini gdp_pc delib_dem mass_mob law_predict imp_admin pub_ser
regress contact_r gini gdp_pc delib_dem mass_mob law_predict imp_admin pub_ser
regress conviction_r gini gdp_pc delib_dem mass_mob law_predict imp_admin
pub_ser
regress unresolved_r gini gdp_pc delib_dem mass_mob law_predict imp_admin
pub_ser

*****
*** Data differences for + & - unresolved homicide proxy
*****
sum unresolved_r if unresolved_r<=0
sum unresolved_r if unresolved_r>0

*** Model for unresolved_r < 0.1
drop if unresolved_r<=0
sum unresolved_r
regress unresolved_r gini gdp_pc delib_dem mass_mob
regress unresolved_r gini gdp_pc delib_dem mass_mob law_predict imp_admin
pub_ser

*** Clear data and load clean Stata data file
*** Model for unresolved_r > 0
drop if unresolved_r>0
sum unresolved_r
regress unresolved_r gini gdp_pc delib_dem mass_mob
regress unresolved_r gini gdp_pc delib_dem mass_mob law_predict imp_admin
pub_ser
*****

```