THESIS

DANGEROUS POLITICS? AN ANALYSIS OF THE RELATIONSHIP BETWEEN

POLITICAL AFFILIATION AND ASSAULTS ON POLICE OFFICERS IN AMERICAN

COUNTIES

Submitted by

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ABSTRACT

DANGEROUS POLITICS? AN ANALYSIS OF THE RELATIONSHIP BETWEEN

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The "War on Cops", a term that denotes a combination of anti-police rhetoric, thinking and politics, has been suggested as resulting in increased violence toward police officers nationwide (Mac Donald 2016). This allegedly began after a racially charged police shooting in Ferguson, Missouri in 2014. Using data from the 2012 Presidential election and the Federal Bureau of Investigation Law Enforcement Officers Killed and Assaulted (2013) report, this study examines the relationship between rates of assault on police officers and political affiliation as determined by the 2012 Presidential election using a stratified random sample of American counties. Findings indicate no statistically significant relationship exists between how a county voted in the 2012 Presidential election and its assault rate on police officers. However, findings do show that the type of weapons used to assault police officers vary significantly by geographic region, as does the average number, and average rate of assaults on police officers in county agencies in 2012.

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Finally, I want to acknowledge Ian Greenwood for his assistance with the technological aspects of this project. I found your help with Excel® and Stata® to be invaluable.

I dedicate this project to all the brave men and women of law enforcement who have lost their

lives in the line of duty and those still serving who continue to risk theirs. Thank you for your

service, Deputy Heath Gumm.

"It is not the critic who counts; not the man who points out how the strong man stumbles, or where the doer of deeds could have done them better. The credit belongs to the man who is actually in the arena, whose face is marred by dust and sweat and blood; who strives valiantly; who errs, who comes short again and again, because there is no effort without error and shortcoming; but who does actually strive to do the deeds; who knows great enthusiasms, the great devotions; who spends himself in a worthy cause; who at the best knows in the end the triumph of high achievement, and who at the worst, if he fails, at least fails while daring greatly, so that his place shall never be with those cold and timid souls who neither know victory nor defeat."

-Theodore Roosevelt

Excerpt from *Citizenship in a Republic*
Paris, France
April 23, 1910

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FPD Ferguson (Missouri) Police Department

WOI Without Injury

FBI Federal Bureau of Investigation

ATF Bureau of Alcohol, Tobacco, Firearms and Explosives

UCR Uniform Crime Reports

LEOKA Law Enforcement Officers Killed and Assaulted Database

USDHHS United States Department of Health and Human Services

CSU Colorado State University

NFA National Firearms Act

LCSO Larimer County (Colorado) Sheriff's Office

U.S. United States of America

FIPS Federal Information Processing Standard

NIAAA National Institute on Alcohol Abuse and Alcoholism

AEDS Alcohol Epidemiologic Data System

CHAPTER 1
INTRODUCTION

The headlines of today are often filled with many incidents involving law enforcement. Tales of police brutality, racial profiling and targeting, and corruption by law enforcement officials are reported often. Set against the backdrop of the Black Lives Matter movement and the recent events of police and civilian clashes in Ferguson, Missouri; Baltimore, Maryland, and other American cities, law enforcement issues continue to be at the forefront of the democratic conversation (Maguire, Nix, and Campbell 2016:1). Given the media attention to police corruption, use of excessive force and racial discrimination, it is easy to forget there is another side to the story. Police officers from coast to coast have referred to it as the rise of a *"War on Cops"*, a combination of anti-police rhetoric, thinking and politics resulting in increased violence toward police officers nationwide (Mac Donald 2016).

Policing is a dangerous job. Officers are often injured in the line of duty as they strive to protect and serve their communities, but how much of the violence against police officers is politically motivated? Are officers in more danger now than a decade ago? The answers to these questions are particularly difficult to discern given the oversaturation of commentary about police ethics and bias in the criminal justice system that have come to the foreground of American politics. While this study uses a quantitative approach to investigate these questions, it is first necessary to qualitatively understand some of the major incidents that have fueled disdain and fear on both sides of the recent criminal justice debate.

THE "WAR ON COPS": HEADLINING CASES OF VIOLENCE AGAINST OFFICERS

On August 9, 2014 eighteen-year-old Michael Brown and another individual were contacted by Officer Darren Wilson of the Ferguson, Missouri Police Department (FPD) shortly after "leaving Ferguson Market and Liquor ('Ferguson Market'), a nearby convenience store, where, at approximately 11:53 a.m., Brown stole several packages of cigarillos. As captured on the store's surveillance video, when the store clerk tried to stop Brown, Brown used his physical size to stand over him and forcefully shove him away. As a result, an FPD dispatch call went out over the police radio for a 'stealing in progress'" (Department of Justice 2015: 5). Upon contact, Brown assaulted Officer Wilson while he sat inside his patrol vehicle (Department of Justice 2015: 6). Wilson fired a shot at Brown, striking him in the hand, and pursued him while he ran down the roadway, eventually firing several more shots that struck Brown, killing him (Department of Justice 2015: 7). After the shooting, multiple local and federal agencies launched both independent and cooperative investigations into the incident, eventually resulting in a refusal to indict Officer Wilson for any criminal liability or civil rights violations (Department of Justice 2015: 4). Meanwhile, nationwide protests of racial discrimination at the hands of police spread across the country in reaction to the outcome. Michael Brown was black. Officer Wilson is white. Eyewitnesses' accounts conflicted with Officer Wilson's narrative of events. Some people were angry, others were not; but all were saddened.

Some officers reported an increase in their fear of becoming the next media sensation that resulted in a change of their tactics. Dubbed the Ferguson Effect (Wolfe and Nix 2016), officers around the country had a new worry.

In the cultural and economic heart of America on December 20, 2014, two on-duty New York City police officers, Rafael Ramos and Wenjian Liu were murdered by a gunman while

they sat parked in their patrol car. In speaking on the deaths of the fallen officers, President Barack Obama stated:

> "I unconditionally condemn today's murder of two police officers in New York City. Two brave men won't be going home to their loved ones tonight, and for that, there is no justification. The officers who serve and protect our communities risk their own safety for ours every single day – and they deserve our respect and gratitude every single day. Tonight, I ask people to reject violence and words that harm, and turn to words that heal – prayer, patient dialogue, and sympathy for the friends and family of the fallen" (The Associated Press 2014).

Two years later and 20 miles away from Ferguson, Missouri a four-year veteran of the St. Louis County Police Department, Officer Blake Snyder, was ambushed and killed by a teenager moments after he stepped out of his patrol vehicle. Missouri Governor Jay Nixon ordered all United States and Missouri flags to be lowered to half-staff in Officer Snyder's honor and remembrance (Bernhard and Martellaro 2016).

Another act of revenge against police came in Baton Rouge, Louisiana, on July 17, 2017 when three police officers were killed by a gunman who "intentionally targeted and assassinated" cops, according to police. The attack followed the death of Alton Sterling, a black man who was shot and killed during an altercation with Baton Rouge police officers on July 5.

Five officers were killed by a rooftop sniper in Dallas, Texas in July of 2016. The shooter opened fire on officers who were working a crowd control detail at a peaceful rally in remembrance of Alton Sterling and Philando Castile, two black men were previously killed by police in separate incidents in Louisiana and Michigan (Shoichet and Ellis 2016). Citizen reports detailed numerous accounts of police officers using their own bodies to shield innocent civilians

from gunfire (Massarella 2016). Shortly after the attack Dallas Police Chief David Brown publicly stated, "We [the police] don't feel much support most days. Let's not make today most days. . . Please, we need your support to be able to protect you from men like these, who carried out this tragic, tragic event" (Shoichet and Ellis 2016).

With incidents like these and the publicity they receive, it is understandable that police officers may feel they are being attacked more frequently and with greater force. Nationwide marches and protests against the police have created a sense of an unsupportive and sometimes hateful political environment (Mac Donald 2016:5).

It is important to keep in mind, however, that headlines are often misleading. There has been a lack of academic literature investigating whether the "*War on Cops*" has statistical basis in fact or may have been a result of law enforcement's perception of being targeted in a negative political environment. Heather MacDonald, the author of a recent book entitled "The War on Cops", examines these trends. However, MacDonald is a reporter with an educational background in English, not an academic social scientist. From the academic perspective, this begs the question of what role the political environment plays in the "*War on Cops*". In other words, how is violence against police officers connected to political attitudes and affiliations? This study will examine the relationship between the political affiliation of counties across the United States (as determined by the 2012 presidential election) and assault on peace officers with the intent of providing a basis for future examination of related topics in this continually changing area. Using previously collected data, occurrences of assault on peace officers will be examined alongside geographically corresponding information on political leanings during the 2012 presidential election to determine if there is a relationship between political (Democratic and Republican) preferences and police officer assault rates at the county-level.

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THE POLITICS OF POLICING

In the wake of numerous police shootings of both armed and unarmed citizens in the years

and particularly after the shooting death of Michael Brown at the hands of Officer Darren Wilson

of the Ferguson Police Department, law enforcement across America has experienced substantial

and often sensationalized media coverage of similar incidents (Mac Donald 2016:53). From the

perspective of many individuals in the law enforcement community, liberal-leaning media

coverage of police activity is regarded as unfair and contributing to social unrest by portraying

law enforcement in a negative light (Mac Donald 2016:57). As a result, some members of the

law enforcement community have expressed disdain for the way media outlets have covered

recent events with some going so far as to label media organizations as being responsible for

physical injuries inflicted upon officers in the line of duty (Mac Donald 2016; Smith 2016).

It is not so much the role of the media that is causing feelings of resentment in the law

enforcement community, as much as it is many officers' perception of the media as unfairly

liberal in their politics. Politically active Sheriff Justin Smith of Larimer County, Colorado, is

locally known for his controversial stance on state gun control legislation and other law

enforcement related issues. In a July 8, 2016 Facebook post Sheriff Smith wrote,

> "Hours ago, some self-serving politicians and reporters were taking politically
> calculated swings at America's police officers, knowing full well their
> irresponsible words increased the threat to the women and men who wear the
> badge. Tonight, numerous brave and dedicated Dallas police officers were
> wounded and killed and as far as I'm concerned those politicians and other flame
> fanners have blood on their hands for encouraging such divisiveness and hatred.
> It's absolutely inexcusable" (Smith 2016).

Sheriff's Smith's accusation that reporters are responsible for violence against police officers

reflects the idea that a relationship exists between political affiliation and assaults on peace

officers. There is anecdotal evidence from law enforcement officers detailing a perception of

increased aggressiveness from criminals on the streets, but how much, if any of these experiences of increased aggressiveness are empirically supported and how much is simply the result of a perceived increasingly hostile political environment? If there is an increase in assaults on police officers in an area, does it correlate with the political affiliation of the majority of residents in the same geographic space? These are the general questions this study aims to begin examining.

HISTORY BY THE NUMBERS

Thousands of police officers have been killed in the line of duty throughout American history (National Law Enforcement Officers' Memorial Fund 2017). Historical examination of killings of police officers show "police murder rates in the United States are characterized by distinct historical periods (1947 to 1971, 1972 to 1998) in which the structural correlates of police murder vary" (Batton and Wilson 2006). In good news, fewer police officers are killed on an annual basis in the last five years than yearly totals from previous decades. The rate of police officer fatalities has overall been declining since the mid-1970s (National Law Enforcement Officer's Memorial Fund 2016:1).

However, fatalities have been increasing for the last several years (National Law Enforcement Officer's Memorial Fund 2016:1). Data from the Preliminary Law Enforcement Officer Fatalities Report published by the National Law Enforcement Officer's Memorial Fund (2016:1) shows, "The 135 officer fatalities in 2016 is a 10 percent increase over the 123 who died in the line of duty last year and is the highest total since 2011, when 177 officers made the ultimate sacrifice [Figure 1.1][1]. Firearms-related incidents were the number one cause of death in

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[1] 2016 data was most recent available at time of research.

2016, with 64 officers shot and killed across the country. This represents a significant spike—56 percent—over the 41 officers killed by gunfire in 2015." In addition, "21 officer deaths were the result of ambush style attacks" (2016:1). When looking at the validity of the perception of the "*War on Cops*", the data provides the investigator with the most ambiguous and relatively common finding in social science; it depends. On one hand, an increasing number of police officers have died in the line of duty since 2011. However, this recent increase is part of an overall downward trend in officer fatality rates since the mid-1970s (See figure 1.1). In summation, it was more dangerous to be a police officer in 2016 than it was in 2011 in terms of fatality rates in the line of duty, but it was significantly more dangerous in 1975. Whether the recent uptick in fatality rates will continue in the years to come is dependent on a multitude of factors and is not the subject of this study. However, there is initially some support for the claim that it is more 'dangerous' to be a police officer in recent times, if those times are in fact relatively recent and we consider 'danger' to be synonymous with death.
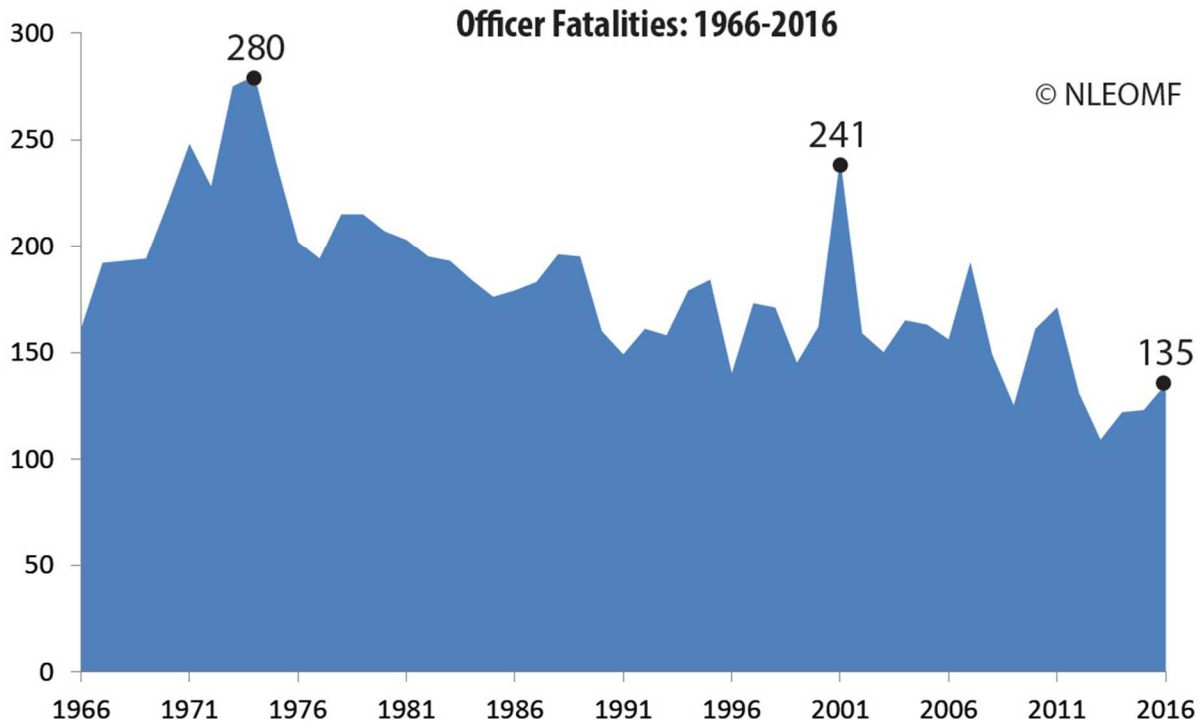
Figure 1.1 Officer Fatalities - National Law Enforcement Officers Memorial Fund (2016)
Data on assaults on police officers tell a similar, but not as drastic, a story of decline in the

long run. Assaults on police officers have been consistently decreasing (Sforza 2016: see figure

1.1). However, there has likely been an increase in the number of ambush attacks on police

officers (Kaste 2015). This has not been the case everywhere in the nation. In some states and

cities, the rate of assaults on police has gone up (Sforza 2016; Mac Donald 2016). In some

places a trend of increased violence applies to the community at large as well as police.

"Homicides jumped nearly 17 percent in 2015 in the largest 50 [American] cities, the biggest

one-year increase since 1993" (Mac Donald 2016).

Officers down

While assaults against police dropped 14 percent nationwide over the past decade, they soared 43 percent in California.

Assaults

California — 9,967

Nation — 50,212

Killed in the line of duty

California — 9

Nation — 86

Source: FBI Leoka

STAFF GRAPHIC
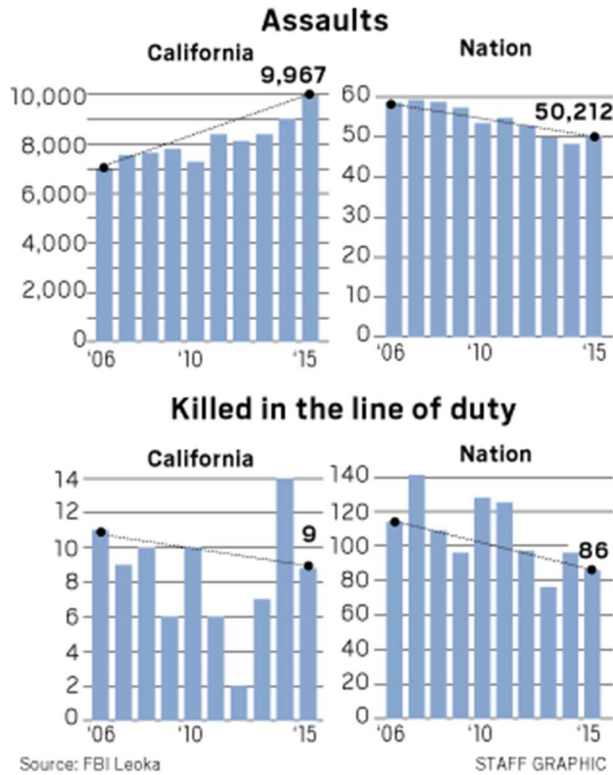
Figure 1.2 Mercury News (California) Citing the Federal Bureau of Investigation, The California Department of Justice and the California Department of Correction

As evidenced above, just as time periods make a difference in violence against police, so does place. Data on assaults on police officers looks different when it is broken down by geographic region. The rate of assault per 100 officers was highest in the Western geographic regions in 2013, followed by the Southern regions of the county (Federal Bureau of Investigation 2013). In terms of raw numbers, the South had the highest instances of violence against police officers, totaling 22,402 (Federal Bureau of Investigation 2013). However, officers were most likely to sustain injury during violent incidents in Western states (Federal Bureau of Investigation 2013).

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Table 1.1 Law Enforcement Officers Killed and Assaulted FBI Report (2013)

Table 65							
Law Enforcement Officers Assaulted							
Region and Geographic Division, 2013							
Area	Total [1]	per 100 officers	Assaults with injury	per 100 officers	of reporting agencies	Population covered	of officers employed
Number of victim officers	**49,851**	**9.3**	**14,565**	**2.7**	**11,468**	**247,084,964**	**533,895**
NORTHEAST	**6,556**	5.6	2,469	2.1	2,393	46,009,689	118,051
New England	**1,614**	8.5	602	3.2	594	8,536,751	19,013
Middle Atlantic	**4,942**	5.0	1,867	1.9	1,799	37,472,938	99,038
MIDWEST	**6,277**	8.9	2,049	2.9	2,702	37,006,086	70,710
East North Central	**2,696**	7.5	942	2.6	1,109	19,389,249	35,976
West North Central	**3,581**	10.3	1,107	3.2	1,593	17,616,837	34,734
SOUTH	**22,402**	10.3	5,767	2.7	4,647	96,252,982	217,527
South Atlantic	**14,580**	11.4	3,098	2.4	2,196	52,235,029	127,709
East South Central	**2,837**	8.8	993	3.1	977	14,430,213	32,248
West South Central	**4,985**	8.7	1,676	2.9	1,474	29,587,740	57,570
WEST	**14,616**	11.5	4,280	3.4	1,726	67,816,207	127,607
Mountain	**4,206**	11.9	1,181	3.3	605	18,344,218	35,367
Pacific	**10,410**	11.3	3,099	3.4	1,121	49,471,989	92,240

[1] Regional and divisional totals do not include data for the District of Columbia, Illinois, and Montana, which were
not available for inclusion in this table.

Part of the debate surrounding this issue comes down to disagreement over how to define the *"War on Cops."* Is the *"War on Cops"* limited to felonious murder of police officers in the line of duty or should assaults be included as well? Are historical trends in assaults and murder of police officers going back decades to be considered? In other words, the framing of the *"War on Cops"* is relative to the validity of the argument. Statistically, both assaults and killings of police officers are lower overall since the 1970s (National Peace Officer's Memorial Fund 2016). This would seem to imply that the *"War on Cops"* is largely imagined. However, ambush killings of police officers or 'assassination' of police officers simply because they are law enforcement personnel, has recently increased. If we frame the *"War on Cops"* in this way, the issue is no longer whether it is dangerous to be a police officer. Rather, the question becomes how much of the violence that we *now* observe being committed against police officers is a result of a negative political climate. In other words, would police officers be safer than they are now without a

negative political environment and sensationalized media coverage? A 2015 news article

entitled *Is There a 'War on Police'? The Statistics Say No* written for National Public Radio

summarizes this line of statistical thinking as voiced by Dr. Seth Stoughton of the University of

South Carolina:

> "Stoughton has been collecting and analyzing these data going back decades.
> He says 2014 looked bad in comparison with 2013 mainly because 2013 was so
> good.
>   '2013 was the safest year for police officers, ever,' he says. 'The safest year
> in *recorded history*.'
>   In fact, in the larger scheme of things, 2014 looks pretty normal. The number
> of murders of police was about the same as 2012, and actually a lot lower than
> 2011.
> The long-term trend is even more encouraging: On average, only about half as
> many police are murdered every year now, as compared with the 1970s.
>   Stoughton says some of that improvement is probably due to better training,
> better gear and radically improved trauma care for cops who are shot.
> But he says the numbers suggest officers are also facing fewer attacks: The
> number of assaults on police has also fallen, though not as sharply.
>   Stoughton says he's not saying police work isn't dangerous — it certainly is.
> And he also admits we may be seeing a few more ambush killings — cops
> attacked just because they're cops" (Kaste 2015).

Is contemporary America more dangerous for police officers? Ultimately, it depends on

where an individual officer is working, and the time frame of the analysis. However, on a

national scale in comparison to the last thirty years, it is better to be a police officer now than

earlier in history.

SUMMARY OF THEORY AND RESEARCH QUESTION

Mass media outlets have done most of the investigation into the statistical presence of the

"*War on Cops*" with little direct study or input from academia. This study will investigate these

ideas with the intent of providing an academic framework for future analysis of related law

enforcement and political issues. The complexity of the relationship between political affiliation

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and law enforcement makes it impossible for a single study to cover all areas of interest or methodological approaches. As a result, this study will simply act as an exploratory or starting point for the academic investigation into this arena that will help spur increased scholarly interest in this niche area of study. Therefore, this study will investigate if there is a relationship between political affiliation and assault on police officers at the county-level. Stated directly, I ask, *how does political affiliation at the county-level affect rates of assault on police officers in a given county?*

This research question hypothesizes a relationship between assault on police officers and political affiliation. As both ideas are relatively abstract, and encompassing many different elements and social implications, it is necessary to develop a specific hypothesis to serve as the basis for investigation into this question. This study will investigate the hypothesis that *predominately liberal (Democratic) counties have higher rate of assault on police officers than conservative (Republican) counties.* At first glance it would seem that conservative counties, which are more likely to have a higher rate of registered gun owners, would have a higher police assault rate because of the increased presence of deadly weapons. However, the connection between the presence of more firearms and violent crimes is not clear (Farley 2012:1). Rather, assaults on police officers tend to be higher in large urban centers, which, in general, are more politically liberal than rural areas. While population size is a potential factor in police assault rates, political ideology, which is to a degree is correlated with population density, is another potential factor. This study will investigate the extent to which there is a relationship between political affiliation and police assault rates exists in terms of correlational direction and strength when compared to numerous other county-level variables.

County-level control variables will be introduced to account for the possibility of the existence of a spurious relationship between assaults on police and political affiliation at the county-level. Relevant control variables were chosen based on a review of the literature of police assaults, their ability to be measured at the county-level, and the availability of secondary data. These variables include: a 2012 US Census population estimate, urbanization level, violent crimes, property crimes and total number of crimes reported to police in each county, 2012 county unemployment, number of National Firearms Act weapons registered by state, number of male officers in a department, number of female officers in a department, the officer rate per 1,000 people, and a five-year GINI index measure of inequality at the county-level. Relevant variables were selected to create a regression model that best fits the data. Existing academic literature on police assaults and political attitudes toward law enforcement that led to the identification of relevant variables are discussed in Chapter 2.

PURPOSE AND SCOPE

The purpose of this chapter is to formally review prior academic literature about police assaults, political affiliation, their relationship, and topics related to the intersection between the two. Much of this review is focused on establishing the relationship between the media and law enforcement, especially as it pertains to violent encounters involving police. This focus was chosen to collect research on the alleged *"War on Cops"* to determine the extent to which some law enforcement claims, as referenced in Chapter 1, are supported in the academic literature. Other topics of investigation include micro- and macro-level factors (Binder and Scharf 1980) that influence assaults on police officers (Covington et al. 2014), police officers' use of force against citizens (Brown and Langan 2001), and citizen voting behavior (Abramowitz and Saunders 2005). This review is organized by topic but the central themes of the structural influence of media and politics are present throughout.

FACTORS UNDERLYING VIOLENCE BETWEEN POLICE AND CITIZENS

Violence between police and citizens is not a common occurrence. Many factors contribute to making an encounter with police potentially more or less violent (Binder and Scharf 1980). Since my project examines rates of assault on police officers, it is first necessary to understand what factors are identified in the literature on policing that contribute to turning encounters violent. These factors include police personality, the number of officers present, offender characteristics, and other secondary data. This will allow us to utilize them as control variables,

if necessary, as we examine the posited relationship between political affiliation and violence against police.

Police Personality

Binder and Scharf (1980) examine various factors that contribute to the occurrence of violent encounters between police officers and citizens. Binder and Scharf (1980:111) write, "The violent police-citizen encounter, moreover, is considered a developmental process in which successive decisions and behaviors by either police officers or citizen, or both, make the violent outcome more or less likely. The emphasis upon mutual contributions in the encounter carries policy implications that have not always been carefully considered in the past." Much of this article examines the concept of the police personality; a common mode of thinking, feeling and acting that is supposedly utilized by law enforcement officers. Binder and Scharf's (1980) examination of this idea briefly grapples with the distinction between a police personality that is inherent in lower middle-class individuals who seek law enforcement employment and its development through socialization in training and interaction with other officers. Although this study frames the police personality and other attributes of officers within the context of violent police-citizen encounters, explanations for officer and offender behavior are more complex. Analysis of this behavior should include the additional macro-level factors that cannot be accounted for by the police personality alone. Within the context of this study, I believe the status of the media, as it pertains to local law enforcement agencies, is a crucial element in officer behavior, influencing the nature of interactions between police and citizens depending on the situation (Mac Donald 2016). Essentially, the factors discussed in this article are philosophical assumptions the researchers have made about the nature of law enforcement officers. Ontological assumptions regarding the nature of police work, law enforcement officers,

and offenders are necessary for the study of any topic, including the relationship between the media and the law enforcement community. Since there are thousands of police departments across the country and analysis is being done at the macro level, the study of the police personality would not be feasible in this study due to the differences in cultures across law enforcement agencies.

Number of Officers Present and Offender Characteristics

Using a more concrete approach, Covington, Huff-Corzine, and Corzine (2014) examine factors that are likely to increase the potential for offenders to assault police officers. Covington et. al (2014) acknowledge the role the media play in the safety of law enforcement officers when they write, "Although we hear more about violence committed by the police, violence against police officers is also a major problem in the United States." Despite the media not being the focus of this study, the authors' brief reference to its relationship with law enforcement within the context of factors that increase violence against police officers is significant. This demonstrates that although there is an acknowledged relationship between law enforcement and the media as it pertains to violence against police, it has not been as thoroughly studied as the other potential factors that Covington et al. (2014) and other criminological scholars have identified. For example, Covington et al. (2014) examine violence against police officers using the variables of number of officers involved, sex of the offender, physical size of the offender, and offender's alcohol consumption. The results of the study "indicate that the battery against one or more police officers is significantly more likely when multiple officers are involved, when offenders are women when offenders are larger than average as measured by body mass index (BMI), and when offenders are known to have recently consumed alcohol" (Covington et al. 2014:34). These variables seem to be more of the commonly identified factors when studying

violence against police officers. Incorporating the study of media coverage in to this analysis could uncover an additional possible causal factor that has been hiding in plain sight in the background of academic studies because it may influence public political attitudes (Morris 2007).

Secondary Data Sources and Defining Assault

When conducting research, it is important to carefully construct operational definitions to ensure the target variables represent what is being measured. The term 'assaults' is complex as there are different types of assaults and varying levels of severity, the most serious being murder. In law enforcement, deadly use of force can be used both against and by police officers. Brown and Langan (2001) offer a statistical analysis of the relationship between the killing of felons by police officers and the murder of police officers by felons. While these topics are related primarily by the fact that police officers and felons are involved in both (Brown and Langan 2001), there are statistical relationships between the two sets of variables that can be extrapolated when compared together over time and with other variables. Some of the relationships between these variables could be useful in establishing the nature of violence as it pertains to police officers in contemporary America. For example, Brown and Langan (2001) write that based on their statistical analysis "1 in 6 murders of a police officer result in the justifiable killing of the murderer. (Still, of all of the justifiable homicides by police only about 3% occur in connection with the murder of a police officer.)" This statistic helps outline the nature of the relationship between police and offender violence. While murder is a narrower classification of violence directed to police officers than assault, this statistic is still useful in illustrating the basic nature of the relationship between offenders and police when violence is involved. Separating out deadly encounters from other types of assaults may reveal interesting statistical correlations.

Assaults, regardless of their type, are best analyzed using existing secondary data because occurrences are frequent and dispersed across an entire county and different law enforcement agencies. Using previously collected data, such as that provided by the Federal Bureau of Investigation described below, helps solve this issue.

Shjarback and White's (2016) focus on the relationship between departmental professionalism and violent encounters between citizens and police officers. The methodology used to investigate this relationship may prove useful in the research of my own topic. Except for the Federal Bureau of Investigation's Uniform Crime Reports, there is little data to be examined surrounding police activity. However, the Bureau of Justice Statistics offers access to the Law Enforcement Management and Administrative Statistics (LEMAS) database that provides relatively detailed information on police activity and organization. In addition, Shjarback and White (2016) also referenced another possibly useful source of data on police officer assaults noting that "the Federal Bureau of Investigation (FBI) produces an annual report with descriptive information about officer deaths and assaults (called Law Enforcement Officers Killed and Assaulted or LEOKA), with summary data available online from 1996 to 2012 . . ."

In particular, Shjarback and White's (2016) use of the variable "reported rate of assault on police officers" is especially useful as this corresponds with the dependent variable in my research design. The basic structure of Shjarback and Michael's project seems deductive and similar to the approach I intend to take in this study. Their methodology in comparing variables in relation to their corresponding concepts will serve as a useful example in my own research design.

MEDIA COVERAGE OF POLICE

As evidenced above, the media, by reporting and commenting on crime, influences the public's perception of law enforcement. Some law enforcement officials may claim media coverage is a causal factor in a supposed increased in violence against officers. However, there is certainly an important media role in reporting on police-related violence and in influencing public opinion on the subject.

Media and Violence

In a 2008 article, Braun and Vliegenthart (2008) examine four factors that contribute to the violence-level of soccer supporters in the Netherlands. While soccer clearly falls within the confines of the world of sports rather than law enforcement, Braun and Vliegenthart (2008) examine how media coverage contributes to violent behavior among soccer fans. Since there has been little academic analysis of the relationship between the media and law enforcement as it pertains to violence, it is useful to examine the role of the media in fostering violence in another arena. Braun and Vliegenthart (2008:802) state that the relationship between the media and violence has been academically acknowledged in Western societies. Braun and Vliegenthart (2008:802) write, "In modern democracies, mass media is by definition the most salient and powerful line through which communication occurs and therefore has a large impact on the diffusion of violent group acts (Lipsky 1968)." Operating on the idea that this assumption is legitimate, Braun and Vliegenthart (2008:802) hypothesize that "In short, it can be argued that media coverage of fan violence inspires other fans." Is previous violence that is covered in the media a source of inspiration for future violent acts committed by individuals involved in areas of society outside soccer or other sports? While this question will not be directly examined in my work, it is possible that media portrayals of societal issues influence political affiliations of

residents. With the lack of empirical data on this topic, however, the opposite argument could also be made.

A common saying in contemporary broadcast news is "if it bleeds, it leads." This approach emphasizes our societal fascination with violence and our tendency to indulge in it for entertainment purposes. Media reports often cover violent topics and violence is prominent in American movies, television and popular culture. One of the primary ways individuals obtain both information and entertainment is through media outlets. In a 1993 article, Gamson and Wolfsfeld examine "the ways in which social movements interact with the news media and the outcomes for both parties." It is Gamson and Wolfsfeld's (1993) results that are particularly interesting within the context of my research. Gamson and Wolfsfeld (1993:116) found that "Movements are generally much more dependent on media than the reverse, and this fundamental asymmetry implies the greater power of the media system in the transaction." In this sense, according to the authors, media behavior has more of an impact on movement behavior than movement behavior has on media. Within the context of this statement, Gamson and Wolfsfeld (1993) define social movements as "a sustained and self-conscious challenge to authorities or cultural codes by a field of actors – organizations and advocacy networks – some of whom employ extra-institutional means of influence." When taking my own research in to account, this idea leads to the asking of several important questions. For example, the *Black Lives Matter* movement fits Gamson and Wolfsfeld's (1993) definition of a social movement that could engage in an asymmetrical transaction with the media system in that it is more dependent on the media than the media is on it. The *Black Lives Matter* movement no doubt challenges authorities and cultural codes by extra-institutional means, such as large-scale protests and events, many of which are televised and reported on by the media. Investigating the relationship

portrayal of this and other movements has on a county's political affiliation is interesting because it challenges the status quo of American policing. Challenging the status quo can be an activity supported by those on both sides of the aisle, but in this case, *Black Lives Matter* challenges primarily conservative philosophies about law enforcement.

Social Movements

In addition, it is appropriate to ask if the amount of media coverage of social movements such as Black Lives Matter increase aggression or violence towards police officers amongst individual members of the movement. Since different media outlets are often politically biased in favor of conservative or liberal ideologies (although these organizations may disagree among themselves), media influence could be part of a spurious relationship between political affiliation and assaults on police officers. While these questions are foundational to my research, there is no immediate confirmation that the ideas discussed in Gamson and Wolfsfeld's (1993) article are applicable to the unique relationship law enforcement shares with the media system. By its very nature, the relationship between law enforcement and the media seems to be more balanced than relationships between media outlets and social movements. While social movements rely on the media to get their message out and continue to generate a following, law enforcement continues to operate regardless of whether or not the media is reporting on their activities. While media portrayal of law enforcement has the potential to cast a negative public perception on a police agency, the relationship between law enforcement and the media system is not as one- sided as the media's association with social movements. Law enforcement can influence media behavior in that the media system relies on police agencies to provide them access to operations the of interest to the public, such as major criminal investigations, standard operating procedures, and department goals and initiatives. Poor media behavior is likely to decrease law enforcement

agencies' willingness to cooperate and provide easy access to highly sought-after information. As a result, the relationship between law enforcement and the media, while often adversarial, is more balanced than media transactions with other groups or movements.

MEDIA AND THE PRESIDENTIAL ELECTION

Assaults on police officers are only part of the equation. The other part of this study aims to examine political behavior at the county-level. Since counties are made up of individuals, it is useful to first understand briefly how individuals make voting decisions to determine if there are any macro-level characteristics which influence their choices. In a 2002 article, Beck, Dalton, Greene, and Huckfeldt discuss several factors that are likely to influence how individuals vote in Presidential elections. Since I am using 2012 Presidential election data to determine the political affiliation of counties, I believe it will be useful to understand how individuals within those counties make their decisions. Beck et. al (2002) state that "parties and secondary organization also [in addition to the media and interpersonal contacts] are influential, but only for less interested voters – who are more affected by social contexts in general." Keeping this in mind, the authors claim the factor that influences decision making the most is interpersonal discussion and contact between individuals (Beck et. al 2002). In other words, the media presentation and the overall social situation of an area are significantly less influential than anecdotal exchanges with others. This is significant because this may indicate that individual's actions, in this case voting for a candidate for the office of President, are not as influenced by the overarching political opinion of their geographic area as they are by micro-level social exchange. Within the context of my own study this may suggest that the political affiliation of a county may not have

as much of an effect on assaults on police officers in comparison to an individual's own personal experience dealing with and talking to others about law enforcement.

VOTING AND POLARIZATION

Voting by Party

While individual-level exchanges may affect how people vote in Presidential elections, it is important to also account for the macro-level factors contributing to voter behavior. As described by Abramowitz and Saunders (2005), political parties are paramount in determining voting behavior in the Presidential election process. The authors describe an America where political tensions are high and partisan sentiments have created a polarized country. According to Abramowitz and Saunders (2005), "evidence indicates that while some of the claims of culture war proponents are overstated, there are deep divisions in America between Democrats and Republicans, between red state voters and blue state voters, and between religious voters and secular voters. These divisions are not confined to a small minority of elected officials and activists, they involve a large segment of the public and they are likely to increase in the future as a result of long-term trends affecting American society." In other words, party politics matter and there is a deep division between Americans along red and blue (Republican and Democratic) lines. This lends a degree of credibility to my idea that using political affiliation as a predicting variable to anti-law enforcement behavior is possible because there is, according to these researchers, strong identifiable ideological differences between Republicans and Democrats in the United States.

The Rural and Urban Divide

Abramowitz and Saunders' (2005) suggestion that a strong party divide exists in the United States that may be related to Seth McKee's (2008) topic of study. McKee (2008) notes that there has been little academic study of the role of rural voters in Presidential elections. McKee (2008) explains that while media coverage of 'red' states is commonly referenced, there is not much data on how rural areas and politics affect the voting behaviors of their inhabitants beyond that fact that they tend to vote Republican. McKee (2008) writes, "But with a few exceptions (see Francia and Baumgartner 2005–2006; Gimpel and Karnes 2006), the political behavior of rural residents has been conspicuously absent thus far in a growing literature on the political role of place. This is quite surprising given the clamor in the popular press about 'red states' versus 'blue states; in the most recent Presidential contests."

This article is relevant to my research because it holds that the "role of place" as central to American voting patterns. While I am not attempting to predict the outcome of a Presidential election, I am planning to use place, as it corresponds with political affiliations, as an explanation for human behaviors. In this sense, the connection between county population density and voting behavior this study describes is essential in conducting as it acts as the ontological premise upon which my 'political affiliation' variable is constructed.

Geography of Political Parties

As it turns out, the relationship between political affiliation and urbanization level is not as simple as it is often described (Ambrosius 2016). Ambrosius (2016) investigates the conceptualization of red and blue counties as a way of measuring electoral results and formulating electoral projections in American Presidential elections. Ambrosius (2016) writes, "Locally, suburban and rural counties are often Red, urban counties Blue. This

overgeneralization misses the Republican share of urban centers and the Democratic share of suburban and rural counties." My hypotheses for this project are based on the standard assumptions that rural counties vote red and urban counties vote blue. However, I did not consider that many large cities, although they may vote primarily Democratic in local and state elections, they may have a conservative stronghold that diverges from the rest of the urban demographic in federal political contests or vice-versa. While Ambrosius (2016) does not specifically state that federal elections are different from local elections in terms of how the population votes, he does articulate a wide array of factors that create a unique political environment in federal elections. These factors are likely the result of American federalism and because politics at the federal level are constitutionally equipped to deal with some issues and not others. Local elections, due to their proximity to the people, have effects that can be more easily felt, creating a greater sense of accountability amongst registered voters. Ambrosius (2016) states that, "Regression analyses find that socio-demographic and cultural features account for most variation for all elections, while economic indicators add little explanatory power. In contrast to conventional thinking, economics mattered most in 2004, culture increased in importance in 2008-2012, and urban foreclosures positively influenced McCain in 2008." These are politically macro-level issues that the federal government would have jurisdiction over. As a result, it may not be completely fair to assume that how voters behave in federal elections would be an appropriate predicator of their behaviors in interactions with local and state level officials due to the large difference between federal and local policies.

The information gathered in this literature review was used to uncover concepts, theories, and organizations related to assaults on police officers and county-level political affiliation. From these findings, several variables were identified with the intent of including potentially

relevant (and possibly spurious) factors into the analysis of the relationship between political affiliation and assaults on police.

THEORY AND HYPOTHESES

The main purpose of this study is to investigate if there is a relationship between political affiliation and assault on police officers at the county-level. Stated in question form; *How does political affiliation at the county-level affect rates of assault on police officers?*

Every academic study operates on established epistemological and ontological grounds. Ontological assumptions are foundational to the investigation into social aspects of crime, including that which is committed against police officers in the line of duty. Ontology is "a set of assumptions about the nature of the context in which . . . knowledge must be acquired" (Hay 2006:3). This study was conducted with the ontological assumption that the political party system exists as an organizational structure in American society which can be studied and analyzed. The same assumption is made regarding the existence of formally organized local police departments.

Epistemologically speaking, this study falls within the realm of the realist mode as defined in Isaac Reed's 2011 work in sociological methodology entitled *Interpretation and Social Knowledge*. According to Reed (2011:8), in the realist epistemic mode, "theory points to the fundamental forces and relations of social life that lie beneath the surface phenomena that we observe, narrate, experience, and or/measure." The epistemic modes are characterized by the way theory interacts with evidence (Reed 2011:7). The realist mode observes superficial evidence with the intent of discovering deep underlying structures of social reality (Mahoney 2015).

In order to uncover the reality of the social relationship between these two concepts, this study is deductively structured, beginning with a broad research question and narrowing down theoretical concepts into measurable variables. These variables are then stated in the form of a hypothetical relationship to each other. This allows for an empirical examination of the stated relationship between variables. Correlations between variables will then be analyzed in relationship to the concepts that they are intended to measure in order to show support for or against the original theoretical claim.

This research question (How does political affiliation at the county-level affect rates of assault on police officers?) supposes a relationship between county politics and assaults on police officers. As both ideas are relatively abstract, and encompass many different elements, concepts, and social implications, it is necessary to develop hypotheses to serve as the predictive basis for investigation into this question.

Hypothesis One

This study will investigate if the predominately liberal (Democratic) counties have a higher rate of assault on police officers than conservative (Republican) counties. It can be assumed assaults on police officers tend to be higher in large urban centers, which are often more violent than rural areas (Duhart 2000:1), and are often more politically liberal than rural areas (Kron 2012:1). In addition to population as a potential factor in police assault rates, political ideology, which to a degree is correlated with population density, is another potential factor. This study will investigate the extent to which the theory of the relationship between political affiliation and police assault rates exists and its direction, while accounting for the potentially influential factors described above.

Breaking down the hypothesis that *liberal counties are more likely to have higher rates of assault on police officers than conservative counties*, two separate and distinct concepts and related variables emerge. The independent variable, political affiliation, influences the dependent variable, rates of assault on police officers. The concept of political affiliation is too abstract to measure empirically within the stated purpose and scope of this study because political preferences and voting behavior are complicated and relatively individualistic subjects. As a result, it is necessary to break this concept down further into quantitatively measurable variables.

The concept of assault on police officers is also relatively abstract. The concept, political affiliation, will be reduced to the way a majority of residents within a county voted, either Republican (conservative) or Democratic (liberal) in the 2012 Presidential election. This allows the concept of political affiliation to be empirically examined and quantified. Similarly, the concept of police assaults will be measured by the number of occurrences of assault on police officers within a year time span.

Hypothesis One: Counties that voted primarily Democratic in the 2012 presidential election will have higher rates of assault on police officers in 2013 than counties that voted primarily Republican.

Hypothesis Two

Prior literature on police assaults suggests the number of officers engaging a suspect may have an effect on assault rates (Covington et al. 2014). Larger, and likely more urban departments, have a greater number of officers available to respond to calls for service. Taking this into consideration, rural officers may be at a greater risk for assaults with injuries due to the smaller number of officers available to assist them on calls. Variations in political attitudes often

coincide with rural and urban differences (McKee 2008). McKee (2008) explains there is not much data on how rural areas and politics affect the voting behaviors of their inhabitants beyond that fact they tend to vote Republican. Are officers in more rural areas, that according to prior literature often tend to lean Republican, more or less likely to be assaulted than officers in urban, likely more Democratic, areas? What is the relationship between urbanization and assaults on police? These rural and urban demographic differences will be analyzed in Hypothesis Two.

Hypothesis Two: The mean rate of injury assault will be higher in more rural areas than in urban areas.

Hypothesis Three

Studies indicate Southern areas of the United States are often more violent than other regions (Gastil 1971). As a result, it seems assaults on police may be higher in Southern regions in alignment with the so called, "culture of violence" (Gastil 1971) in Southern states. Additionally, geography influences political behavior in elections (Ambrosius 2016). If geography and violence are correlated as Gastil (1971) suggests, and geography and politics are related as Ambrosius (2016) describes, is there a relationship between politics and violence (in this case, against the police) within the geographical context? This idea of regional variation in assault rates will be analyzed in Hypothesis Three.

Hypothesis Three: Southern counties will have a higher average number of assaults on police officers than other geographical areas.

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CHAPTER 3
METHODS

This chapter outlines the methodology, operational definitions, and process of analysis used in this study. Information on the development of variables, the definition and use of terms, and the relationship between hypotheses, concepts and theories can be found in this section.

UNIT OF ANALYSIS

American counties will be the basic unit of analysis for this study. Counties are an appropriate unit of analysis for this study because they are geographically small and local in nature. This allows for a relatively micro-level analysis of political affiliation that will be able to account for differences between localities in the same state. In addition, nearly all counties are served by a sheriff's office. Many smaller cities or towns do not have their own police forces due to budgetary and administrative constraints. It would be difficult to compare data in smaller towns that may or may not have their own police force and may contract with another agency for the provision of law enforcement services. Analyzing counties, and their corresponding sheriff's offices, allows for a degree of uniformity during the data collection process. Incidents of assaults on police officers will be examined in each county during the full year of 2013 along with the political affiliation of the same counties as determined by how the majority of residents voted during the 2012 presidential election. This data represents the most chronologically close documentation to the period of shift in attitudes about police.

There are currently 3,144 counties or county equivalents in the United States (See figure 3.1). The number and size of counties in each state is as highly variable along with their incredibly diverse populations, resources and economics. Delaware, one of the geographically smallest

states in the Union, has only three counties while California, one of the largest, has 58. Some

moderately sized states, such as Georgia are smaller in area but have a larger number of counties,

with 159.
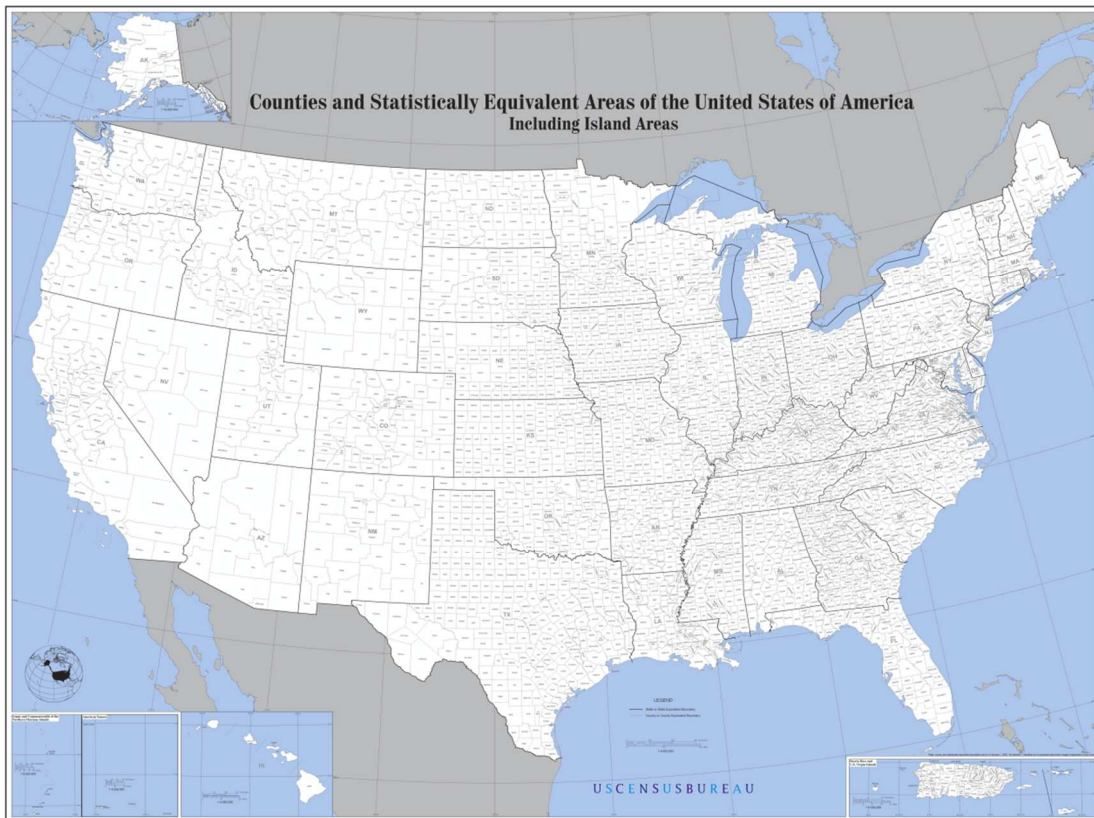
Figure 3.1 United States Census Bureau Map of Counties

SAMPLING METHODS

   A stratified sampling technique was employed to obtain a representative sample of counties

from each state. This method was chosen because literature showed political attitudes can

sometimes differ depending on the level of development in an area (Ambrosius 2016).

Stratifying the sample in this way helps account for differences in urbanization in a balanced

way. First, counties were sorted in to three urbanization categories: urban, suburban and

rural/noncore. Counties were sorted into these three categories based on the following criteria:

Urban: Counties in Metropolitan Statistical Areas (MSAs), as defined by the United States

Census Bureau, comprise one million or more population that:

1. Contain the entire population of the largest principal city of the MSA, or

2. Have their entire population contained in the largest principal city of the MSA, or

3. Contain at least 250,000 inhabitants of any principal city of the MSA.

-OR-

4. Counties in MSAs of one million or more population that did not qualify as large central

metro counties.

Suburban: Counties in MSAs of populations 999,999 or less but not classified under the

rural/noncore criteria below:

Rural/noncore: Counties in micropolitan statistical areas; or nonmetropolitan counties that did

not qualify as micropolitan.

   This classification system is a modified version of the 2013 National Center for Health

Statistics (NCHS) Urban-Rural Classification Scheme for Counties. The modified system and

the original 2013 NCHS system are described in greater detail in the Variables section below.

   After counties were sorted into one of these three categories based on their level of

urbanization, a random number generator was used to select counties. Every county's Federal

Information Processing Standard (FIPS) code number (a standardized geographical classification

system used by the federal government) in a single state was entered into the random number

generator. The random number generation program was run until one county's FIPS code for

each of the three levels of urbanization was selected. This process was repeated for all fifty states in the Union.

In some rural, geographically small or densely populated states there was no county that fell in to each category of urbanization. If there was no rural/noncore county in a state, a second suburban county within that state was randomly selected. In states where there was no county that meets the qualifications of the urban category, a second suburban county within the same state was randomly selected.

This selection method resulted in 150 counties, three from each of the fifty states in the Union. Of these 150 counties, 149 had enough data across all variables to be included in at least one statistical analysis. Denali Borough, Alaska, was the only county which did not provide enough data on crime statistics or local law enforcement to be useful.

This method was chosen based on the idea that the level of urbanization of a county would be an important intervening variable in the relationship between assaults on police officers and political affiliation at the county-level. This idea was predicated on the notion that large cities are often more violent places than rural areas due to the greater population and population density (Duhart 2000:1). As a result, it was necessary to stratify this sample to select a variety of counties at different levels of urbanization so that the sample would not have too many counties with a statistically higher or lower odds of having either comparatively higher or lower levels of criminal activity. Also, important to note is that this sampling technique was predicated on the hypothesis that more officers would be victims of assault in counties with more overall violent crime (See 2004 Violent Crime variable in Variables section of this chapter).

This sample was then weighted according to the total number of counties in each state and the total number of counties in each of the three levels in the modified urbanization level scheme

discussed above. This was done to ensure that no urbanization-level was over or underweighted

in the sample since some states are either overwhelmingly rural or urban. The breakdown of

county urbanization levels for each state upon which data was weighted is below in Table 3.1:

Table 3.1 Urbanization Levels by State (United States Census Bureau Scheme)

| State | Classification | | | Total |
	Urban	Rural/Non	Suburban	
AK	0	29	3	32
AL	7	38	22	67
AR	1	55	19	75
AZ	2	7	6	15
CA	16	21	21	58
CO	10	47	7	64
CT	3	1	4	8
DC	1	0	0	1
DE	1	0	2	3
FL	16	23	28	67
GA	29	85	45	159
HI	0	2	3	5
IA	0	78	21	99
ID	0	32	12	44
IL	17	62	23	102
IN	23	48	21	92
KS	5	86	14	105
KY	14	85	21	120
LA	8	29	27	64
MA	6	3	5	14
MD	13	5	6	24
ME	0	11	5	16
MI	10	57	16	83
MN	14	60	13	87
MO	16	81	18	115
MS	5	65	12	82
MT	0	51	5	56
NC	12	54	34	100
ND	0	47	6	53
NE	0	80	13	93
NH	2	7	1	10
NJ	16	0	5	21
NM	0	26	7	33
NV	1	13	3	17
NY	20	24	18	62
OH	20	50	18	88
OK	7	59	11	77
OR	5	23	8	36
PA	13	30	24	67
RI	5	0	0	5
SC	3	20	23	46
SD	0	58	8	66
TN	17	53	25	95
TX	35	172	47	254
UT	2	19	8	29
VA	48	54	33	135
VT	0	11	3	14
WA	5	18	16	39
WI	7	46	19	72
WV	1	34	20	55
WY	0	21	2	23
Total	436	1,980	731	3,147

120 unique strata were analyzed because of this sampling technique. In most cases, each stratum consists of one county that was selected within a state and for each urbanization category. Some stratum had two counties selected. This occurred if a state did not have a county at every level of urbanization. These issues created an unequal probability of selection for counties in the same state. To remedy this problem, counties that had too high of a probability of selection were underweighted in the analysis, and counties with too low of a probability of selection were overweighed in the analysis (Wicklin 2017). Weights were determined by taking the reciprocal of the probability of selection for each county. For example, Alabama is a state where all three levels of urbanization, (urban, suburban and rural/noncore) were present. In other words, Alabama contains three strata, each representing a different level of urbanization. The number of counties in Alabama contained within each stratum varies. Since Alabama is relatively rural compared to other states, there are more counties that fall in to the rural/noncore stratum than counties in the other two categories. There are 7 urban counties, 22 suburban counties and 38 rural/noncore counties in Alabama. Since there are more rural/noncore counties in the state, counties in the smaller stratum, in this case urban, were more likely to be selected when compared to counties from larger stratum. Assigning a weight to each selected county during analysis statistically corrected this problem by adjusting for the differing probabilities of selection. Since weights were based on the reciprocal of the probability of selection for each chosen county, the weighting scheme for all three counties selected for Alabama is shown in Table 3.2.

Table 3.2 Probability of County Selection in Alabama

67 counties in state	Number of Counties in Stratum	Probability of Selecting the Chosen County	Reciprocal of Probability of Selection	Weight
Jefferson County	7	1/7	7/1	7
Calhoun County	22	1/22	22/1	22
Macon County	38	1/38	38/1	38

In states where not all three urbanization categories were present, the chance of selection remained 1 divided by the number of counties in the stratum for one of the counties and became 2 divided by the number of counties in the second stratum for two of the counties. This probability distribution occurred in 30 of the 150 states. Alaska, where there was no county or county equivalent that fell into the urban category, is an example of a state where only two strata exist and the probability of selection for two of the three counties in the state is different as a result. The probability of selection for each county in Alaska is described in Table 3.3 below.

Table 3.3 Probability of County Selection in Alaska

32 counties in state	Number of Counties in Stratum	Probability of Selecting the Chosen County	Reciprocal of Probability of Selection	Weight
Anchorage	3	1/3	3/1	3
Denali	29	2/29	29/2	14.5
Dillingham	29	2/29	29/2	14.5

OPERATIONAL DEFINITIONS

The development of operational definitions in Sociology is an important methodological event in the discipline's history (Adler 1947:1). In theory, "operational definitions always specify exactly what they do, and what they do not, include. By using overt behavior of some sort, such as point to an object, or going through the operations which we use the new terms to designate . . . [we] avoid becoming involved in insoluble metaphysical questions of ultimate reality" (Adler 1947:1). While this absolutist view of operational definitions as being able to completely remove the problem of different interpretation of verbalized concepts is exaggerated, operational definitions do make terms and ideas significantly clearer. As a result, it is important to define terms relevant to this study in the clearest way to ensure that what is intended to be measured is what is being measured.

Law Enforcement Officers Killed and Assaulted (LEOKA) Definitions

Much of the secondary data examined in this study comes from the Federal Bureau of Investigation's (FBI) 2013 Law Enforcement Officers Killed and Assaulted (or LEOKA) report. To convey clarity regarding what the FBI statistics are meant to measure, concrete operational definitions for important measurable terms and concepts are provided below. Definitions are taken directly from the FBI's online LOKEA report and are referenced appropriately in Section 6, References.

<div align="center">Police/Peace Officer</div>

"The data in *Law Enforcement Officers Killed and Assaulted* pertain to felonious deaths, accidental deaths, and assaults of duly sworn city, university and college, county, state, tribal, and federal law enforcement officers who, at the time of the incident, met the following criteria.

1. They were working in an official capacity, whether on or off duty.

2. They had full arrest powers.

3. They ordinarily wore/carried a badge and a firearm.

4. They were paid from governmental funds set aside specifically for payment of sworn law enforcement representatives.

5. Officers who died are included if their deaths are directly related to injuries received during the incidents (Federal Bureau of Investigation 2013).

Assault

Data about assaults on police officers is taken from the LEOKA database and includes officers who were assaulted, both with and without injury, by firearms, knives, hands and feet or any other means. Officers who were killed as a result of their injuries are included in assault data.

Killed

"Officers who died are included if their deaths are directly related to injuries received during the incidents" (Federal Bureau of Investigation 2013).

United States Census Bureau Definitions

A significant amount of data was collected from various United States Census Bureau materials. Relevant operational definitions of terms and concepts are provided below. Definitions are taken directly from the Census Bureau's online methodology statements and are referenced appropriately in Section 6, References.

Population Estimates

"The calculated number of people living in an area as of a specified point in time, usually July 1st. The estimated population is calculated using a component of change model that incorporates information on natural increase (births, deaths) and net migration (net domestic

migration, net international migration) that has occurred in an area since the latest decennial census" (United States Census Bureau 2016)

Income

"'Money income' is the income received on a regular basis (exclusive of certain money receipts such as capital gains and lump-sum payments) before payments for personal income taxes, social security, union dues, Medicare deductions, etc. It includes income received from wages, salary, commissions, bonuses, and tips; self-employment income from own nonfarm or farm businesses, including proprietorships and partnerships; interest, dividends, net rental income, royalty income, or income from estates and trusts; Social Security or Railroad Retirement income; Supplemental Security Income (SSI); any cash public assistance or welfare payments from the state or local welfare office; retirement, survivor, or disability benefits; and any other sources of income received regularly such as Veterans' (VA) payments, unemployment and/or worker's compensation, child support, and alimony" (United States Census Bureau 2016).

Gini Index

"The Gini index, or index of income concentration, is a statistical measure of income inequality ranging from 0 to 1. A measure of 1 indicates perfect inequality, i.e., one household having all the income and rest having none. A measure of 0 indicates perfect equality, i.e., all households having an equal share of income" (United States Census Bureau 2016). Other studies have shown general poverty may be associated with crime rates (Ajimotokin, Haskins, and Wade 2015). The degree to which poverty exists in an area, and the disparity between the wealthiest and most marginalized populations can be measured using the Gini index to determine is disparity is another factor in crime rates.

Metropolitan Statistical Area

"A geographic entity delineated by the Office of Management and Budget for use by federal statistical agencies. Metropolitan statistical areas consist of the county or counties (or equivalent entities) associated with at least one urbanized area of at least 50,000 population, plus adjacent counties having a high degree of social and economic integration with the core as measured through commuting ties" (United States Census Bureau 2016).

Micropolitan Statistical Area

"A geographic entity delineated by the Office of Management and Budget for use by federal statistical agencies. Micropolitan statistical areas consist of the county or counties (or equivalent entities) associated with at least one urban cluster of at least 10,000 but less than 50,000 population, plus adjacent counties having a high degree of social and economic integration with the core as measured through commuting ties" (United States Census Bureau 2016).

FIPS Classification Code

A two-character code to differentiate between various classes of populated places, other geopolitical and census units, and institutional facilities. The class code structure distinguishes between active, inactive and nonfunctioning local governments, and also identifies close relationships between entities. For example, an incorporated place may serve as the statistical equivalent of a county. Class codes exist for counties; county subdivisions; subminor civil divisions; places; consolidated cities; Alaska Native Regional Corporations; American Indian, Alaska Native, and Native Hawaiian areas; and American Indian tribal subdivisions.

Unemployed

"All civilians 16 years old and over are classified as unemployed if they (1) were neither "at work" nor "with a job but not at work" during the reference week, and (2) were actively looking

for work during the last 4 weeks, and (3) were available to accept a job. Also included as

unemployed are civilians who did not work at all during the reference week, were waiting to be

called back to a job from which they had been laid off, and were available for work except for

temporary illness" (United States Census Bureau 2016).

<div align="center">Unemployment Rate</div>

"Represents the number of unemployed people as a percentage of the civilian labor force"

(United States Census Bureau 2016).

National Firearms Act (NFA) Definitions

Although its data only comprises one variable in this study, (See NFA Registered Weapons

by State in Variables section), what is and is not considered to be a National Firearms Act

trackable weapon is complicated. The Bureau of Alcohol, Tobacco, Firearms and Explosives'

(ATF) defines what constitutes tracked weapons in its NFA Handbook. A general definition of

firearms is included and further explanations of each tracked weapon type are below.

> "The NFA defines the specific types of firearms subject to the provisions of the
> Act. These definitions describe the function, design, configuration and/or
> dimensions that weapons must have to be NFA firearms. In addition to describing
> the weapon, some definitions (machinegun, rifle, shotgun, any other weapon)
> state that the firearm described also includes a weapon that can be readily restored
> to fire. A firearm that can be readily restored to fire is a firearm that in its present
> condition is incapable of expelling a projectile by the action of an explosive (or,
> in the case of a machinegun, will not in its present condition shoot automatically)
> but which can be restored to a functional condition by the replacement of missing
> or defective component parts. Please be aware that case law is not specific but
> courts have held that the 'readily restorable' test is satisfied where a firearm can
> be made capable of renewed automatic operation, even if it requires some degree
> of skill and the use of tools and parts" (Bureau of Alcohol, Tobacco, Firearms and
> Explosives 2016:5).

<div align="center">Shotgun</div>

"A shotgun is a firearm designed to be fired from the shoulder and designed to use the energy

of the explosive in a fixed shotgun shell to fire through a smooth bore either a number of

projectiles or a single projectile for each pull of the trigger.10 A shotgun subject to the NFA has a barrel or barrels of less than 18 inches in length" (Bureau of Alcohol, Tobacco, Firearms and Explosives 2016:5).

Weapon Made From a Shotgun

"A weapon made from a shotgun is a shotgun type weapon that has an overall length of less than 26 inches or a barrel or barrels of less than 18 inches in length" (Bureau of Alcohol, Tobacco, Firearms and Explosives 2016:6).

Rifle

"A rifle is a firearm designed to be fired from the shoulder and designed to use the energy of an explosive in a fixed cartridge to fire only a single projectile through a rifled barrel for each single pull of the trigger. A rifle subject to the NFA has a barrel or barrels of less than 16 inches in length" (Bureau of Alcohol, Tobacco, Firearms and Explosives 2016:6).

Weapon Made From a Rifle

"A weapon made from a rifle is a rifle type weapon that has an overall length of less than 26 inches or a barrel or barrels of less than 16 inches in length" (Bureau of Alcohol, Tobacco, Firearms and Explosives 2016:7).

Any Other Weapon

"Firearms meeting the definition of "any other weapon" are weapons or devices capable of being concealed on the person from which a shot can be discharged through the energy of an explosive. Many "any other weapons" are disguised devices such as pen guns, cigarette lighter guns, knife guns, cane guns and umbrella guns" (Bureau of Alcohol, Tobacco, Firearms and Explosives 2016:7).

Machinegun

"Firearms within the definition of machinegun include weapons that shoot, are designed to shoot, or can be readily restored to shoot, automatically more than one shot without manual reloading by a single function of the trigger (Bureau of Alcohol, Tobacco, Firearms and Explosives 2016:9)."

"Of all the different firearms defined as NFA weapons, machineguns are the only type where the receiver of the weapon by itself is an NFA firearm. As a result, it is important that the receiver of a machinegun be properly identified. Many machineguns incorporate a 'split' or 'hinged' receiver design so the main portion of the weapon can be easily separated into upper and lower sections. Additionally, some machineguns utilize a construction method where the receiver is composed of a number of subassemblies that are riveted together to form the complete receiver" (Bureau of Alcohol, Tobacco, Firearms and Explosives 2016:9).

Silencer

"A firearm silencer and a firearm muffler are defined as any device for silencing, muffling, or diminishing the report of a portable firearm. Firearm silencers are generally composed of an outer tube, internal baffles, a front end cap, and a rear end cap" (Bureau of Alcohol, Tobacco, Firearms and Explosives 2016:15.

"The definition of a silencer also includes any combination of parts, designed or redesigned, and intended for use in assembling or fabricating a firearm silencer or firearm muffler" (Bureau of Alcohol, Tobacco, Firearms and Explosives 2016:15).

Destructive Device

"The destructive device definition contains different categories that address specific types of munitions. Each category describes the devices subject to the definition based on the material

contained in the item, the dimensions of the bore of certain weapons, and a combination of parts for use in converting the described items into destructive devices" (Bureau of Alcohol, Tobacco, Firearms and Explosives 2016:16).

Unserviceable Firearm

"An unserviceable firearm is a firearm that is incapable of discharging a shot by the action of an explosive and is incapable of being readily restored to a firing condition . . . It is important to remember that rendering a firearm unserviceable does not remove it from the definition of an NFA firearm. An unserviceable NFA firearm is still subject to the import, registration, and transfer provisions of the NFA" (Bureau of Alcohol, Tobacco, Firearms and Explosives 2016:19).

Curios or Relics

"Curios or relics are firearms that are of special interest to collectors. NFA firearms can be classified as curios or relics under the same criteria used to classify conventional firearms as curios or relics. An NFA firearm that is recognized as a curio or relic is still an NFA "firearm" and is still subject to the registration and transfer provisions of the NFA" (Bureau of Alcohol, Tobacco, Firearms and Explosives 2016:20).

VARIABLES

All the variables examined in the course of this study are listed below. Relevant definitions, source of the data and coding are explained in detail.   A statistical breakdown for each individual variable can be found in the Appendix, Section 7.

Societal Variables

Urbanization Code

The variable *Urbanization Code* was created to factor in different levels of urbanization into the relationship between assaults on police officers and county-level political affiliation. Previously published literature indicates crime is higher in more urbanized areas (Malik 2016). As a result, it is important to include this variable in analysis since assaults on police are crimes just like assaults on civilians. This categorical variable has three levels: urban, suburban and rural/noncore. Urban counties were coded as one, suburban were coded as two, and rural/noncore counties were coded as three. This classification system was developed from the 2013 National Center for Health Statistics (NCHS) Urban-Rural Classification Scheme for Counties. The original classification system from the 2013 NCHS Urban-Rural Scheme had six categories of urban development based on population and other parameters. The urbanization level variable used in this study is a modified version of the 2013 NCHS system and has been reduced to three categories of urbanization in order to simplify statistical analysis. The original 2013 NCHS classification system is below in Figure 3.2.
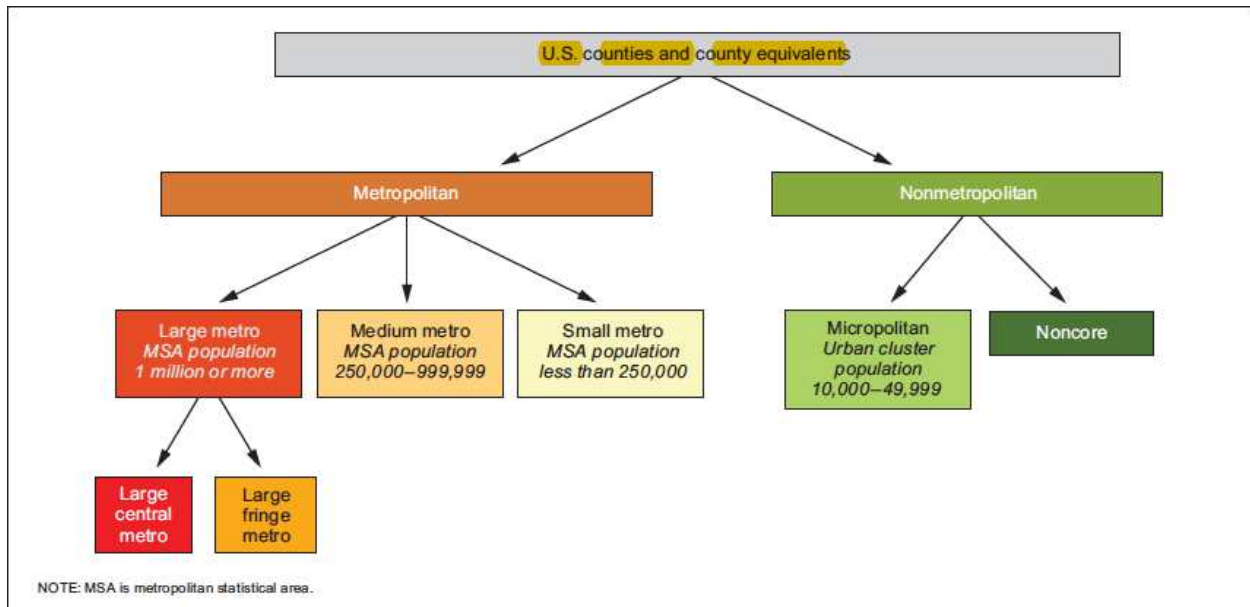
Figure 3.2 National Center for Health Statistics 2013 Urban-Rural Classification Scheme for Counties

The modified classification system used to develop this variable reduces the six 2013 NCHS categories above to three hybrid categories. The new categories are created from the following combinations of 2013 NCHS categories:

Table 3.4 Modified Urbanization Code Variable Scheme

Original NCHS 2013 Scheme	Urbanization Code Variable
Large Central Metro and Large Fringe Metro	Urban (1)
Medium Metro and Small Metro	Suburban (2)
Micropolitan and Noncore	Rural/Noncore (3)

2012 Population Estimate

A 2012 population estimate for each county was obtained from the United States Census Bureau. The Census Bureau creates this estimate using an established and consistent methodology:

> "The population estimate at any given time point starts with a population base (the last decennial census or the previous point in the time series), adds births, subtracts deaths, and adds net migration (both international and domestic). The

individual methods we use account for additional factors such as input data availability and the requirement that all estimates be consistent by geography and age, sex, race, and Hispanic origin" (United States Census Bureau 2016).

This methodology is illustrated in the graphic provided by the United States Census Bureau below in Figure 3.3:

Figure 3.3 United States Census Bureau Population Methods (2016:1)
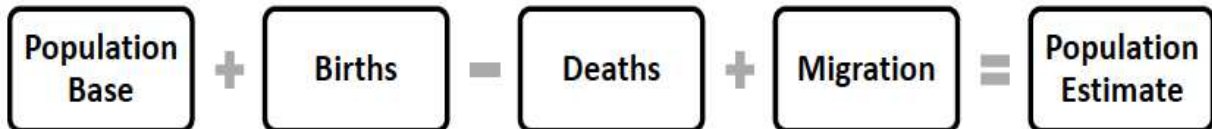
The United States Census Bureau claims their population estimates are reliable and methodologically sound. As described by the Census Bureau,

"Each year, the United States Census Bureau produces and publishes estimates of the population for the nation, states, counties, state/county equivalents, and Puerto Rico. We estimate the resident population for each year since the most recent decennial census by using measures of population change. The resident population includes all people currently residing in the United States.

With each annual release of population estimates, the Population Estimates program revises and updates the entire time series of estimates from April 1, 2010 to July 1 of the current year, which we refer to as the vintage year. We use the term "vintage" to denote an entire time series created with a consistent population starting point and methodology. The release of a new vintage of estimates supersedes any previous series and incorporates the most up-to-date input data and methodological improvements.

The population estimates are used for federal funding allocations, as controls for major surveys including the Current Population Survey and the American Community Survey, for community development, to aid business planning, and as denominators for statistical rates. Overall, our estimates time series from 2000 to 2010 was very accurate, even accounting for ten years of population change. The average absolute difference between the final total resident population estimates and 2010 Census counts was only about 3.1 percent across all counties" (United States Census Bureau 2016:1).

2012 Presidential Election

This variable was used to operationalize and measure county-level political affiliation. Every county was coded as either "zero" or "one". Zero represents counties where the majority of individuals voted for the Democratic candidate, Barack Obama, in the 2012 Presidential election. One represents counties where the majority of individuals voted for the Republican candidate, John McCain. For this variable, the term *majority* means that over fifty percent of voters selected either the Republican or Democratic candidate for the federal position of President or more voters chose one party over the other (in cases where a third-party candidate had a statistically significant proportion of votes). Third party candidates captured an overall small percentage of the vote in each county and there were no cases where the third-party candidate's support was statistically overwhelming when compared to support for either the Democratic of Republican candidate. In other words, there was a clear preference in each county for either the Democratic or Republican candidate regardless of how any third-party candidate performed in every selected county.

All data contained in this variable was obtained from the online Politico journalism database entry entitled *Election Results 2012 By State and County* published on November 6, 2012. Politico is an online magazine that authoritatively covering politics in the United States.

2012 Unemployment

Unemployment estimates for each county were taken from available 2012 United States Census Bureau data. This data set was chosen because it occurred in the same year as the 2012 Presidential Election variable, the explanatory variable in this study. Unemployment is represented as a percent of the population of a county that is not working in adherence to the

United States Census Bureau (2016) definition of unemployment and unemployment rates described above in the Operational Definitions section.

This variable was included because several studies show a positive correlation between crime rates and unemployment among other variables (Ajimotokin et. al 2015). According to a 2015 study conducted by Ajimotokin et. al (2015), "there is a positive correlation between both violent and property crime, not only with unemployment rate, but also with GDP per capita, high school graduation rates, police officers per 100,000 inhabitants, and poverty rate."

2012 GINI Index

The GINI Index as a measure of income concentration. The higher the index number, the more concentration of income there is in the area of study. This variable can also be thought of as a measure of income inequality in a county such that the higher the index number, the more inequality there is in a county. This data is averaged over five years, from 2008 to 2012. This time spread was chosen because income inequality is not a variable that changes quickly, but may have a significant amount of influence over the course of half a decade. Income inequality, or the perception of it, may also influence how voters in a county make their decisions in the presidential election. At the state level, "a fixed-effects analysis links higher income inequality to lower voter turnout and also to a stronger Democratic vote" (Galbraith and Hale 2008:1). Since states are comprised of counties, it is possible this trend may be observed at the county-level as well.

Alcohol

Prior literature shows suspects who assaulted police officers in the line of duty were often under the influence of alcohol (Covington et al. 2014). To account for the variable in this analysis, data on alcohol consumption was collected from the National Institute on Alcohol

Abuse and Alcoholism (NIAAA). All data was obtained from NIAAA Surveillance Report #104: Apparent Per Capita Alcohol Consumption: National, State, and Regional Trends, 1977-2014 (Haughwout et. al 2016). Since it is not realistic to measure the exact number of alcoholic beverages every individual in a county consumes in a one-year period, the most representative data on alcohol consumption comes from alcohol sales (Haughwout et. al 2016:2). According to NIAAA Report #104 authors Haughwout et. al (2016:2), "AEDS [Alcohol Epidemiologic Data System] makes every effort to obtain alcoholic beverage sales data from all States and the District of Columbia because sales data more accurately reflect actual consumption of alcoholic beverages than do production and shipments data from beverage industry sources." The NIAAA collected data for *Surveillance Report #104* using the following sources and methodology:

> "This surveillance report on 1977–2014 apparent per capita alcohol consumption in the United States is the 30th in a series of consumption reports produced annually by the National Institute on Alcohol Abuse and Alcoholism (NIAAA). Findings are based on alcoholic beverage sales data, collected from the States or the National Alcohol Beverage Control Association by the Alcohol Epidemiologic Data System (AEDS), and various reports produced by beverage industry sources. Population data from the U.S. Census Bureau are used as denominators to calculate per capita rates" (Haughwout 2016:1).

The data collected used in this study collected from this source is from the year 2012 and is represented as a per capita rate consistent with the methodology described above.

Crime and Weapon Registration Statistics

2004 Violent Crimes

The United States Census Bureau's 2007 County and City Data Book publication includes data on violent crimes reported to the police in 2004. This variable is composed of the total number of violent crimes reported to the police by county in 2004 as indicated by this Data Book. The purpose of "The County and City Data Book is a convenient summary of statistics on the social and economic structure of the counties and cities of the United States. It is designed to

serve as a statistical reference and guide to other data publications and sources" (United States Census Bureau 2007:V). 2004 was the most recent data available at the county-level for violent crimes since the Data Book is not routinely published. The Census Bureau's statement on statistical reliability for the County and City Data Book is below:

> Statistical reliability and responsibility—The contents of this volume were taken from many sources. All data from either censuses and surveys or from administrative records are subject to error arising from a number of factors: sampling variability (for statistics based on samples), reporting errors in the data for individual units, incomplete coverage, nonresponse, imputations, and processing error. The Census Bureau cannot accept the responsibility for the accuracy or limitations of the data presented here, other than those for which it collects. The responsibility for selection of the material and for proper presentation, however, rests with the Census Bureau" (United States Census Bureau 2007:V).

2004 Property Crimes

The 2004 Property Crimes variable was also obtained from the United States Census Bureau's 2007 County and City Data Book (See 2004 Violent Crimes section above). This variable is composed of the total number of property crimes reported to the police by county in 2004 as indicated by this Data Book. 2004 was the most recent data available at the county-level for property crimes since the Data Book is only published intermittently.

2004 Total Crimes

The 2004 Total Crimes variable is a composite of the 2004 Property Crimes variable and the 2004 Violent Crimes variable for each selected county. To create this composite, the 2004 Property Crime value was added to the 2004 Violent Crime value for each county in order to create a new composite value. All data contained in this variable is from the United States Census Bureau County and City Data Book (see 2004 Violent Crimes for source details).

NFA Registered Weapons

The NFA Registered Weapons variable is the total number of qualifying registered weapons in each state. These data are distributed by the Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) as a result of their regulatory duty to enforce the National Firearms Act (NFA). The purpose and history of the NFA as written in the ATF's National Firearms Act Handbook (2016:1):

> "The NFA of 1934. The NFA was originally enacted in 1934. Similar to the current NFA, the original Act imposed a tax on the making and transfer of firearms defined by the Act, as well as a special (occupational) tax on persons and entities engaged in the business of importing, manufacturing, and dealing in NFA firearms. The law also required the registration of all NFA firearms with the Secretary of the Treasury. Firearms subject to the 1934 Act included shotguns and rifles having barrels less than 18 inches in length, certain firearms described as "any other weapons," machineguns, and firearm mufflers and silencers.
> While the NFA was enacted by Congress as an exercise of its authority to tax, the NFA had an underlying purpose unrelated to revenue collection. As the legislative history of the law discloses, its underlying purpose was to curtail, if not prohibit, transactions in NFA firearms. Congress found these firearms to pose a significant crime problem because of their frequent use in crime, particularly the gangland crimes of that era such as the St. Valentine's Day Massacre. The $200 making and transfer taxes on most NFA firearms were considered quite severe and adequate to carry out Congress' purpose to discourage or eliminate transactions in these firearms. The $200 tax has not changed since 1934.
> As structured in 1934, the NFA imposed a duty on persons transferring NFA firearms, as well as mere possessors of unregistered firearms, to register them with the Secretary of the Treasury. If the possessor of an unregistered firearm applied to register the firearm as required by the NFA, the Treasury Department could supply information to State authorities about the registrant's possession of the firearm. State authorities could then use the information to prosecute the person whose possession violated State laws. For these reasons, the Supreme Court in 1968 held in the Haynes case that a person prosecuted for possessing an unregistered NFA firearm had a valid defense to the prosecution - the registration requirement imposed on the possessor of an unregistered firearm violated the possessor's privilege from self-incrimination under the Fifth Amendment of the U.S. Constitution. The Haynes decision made the 1934 Act virtually unenforceable."

Importantly, the AFT's tracking of NFA weapons is not a complete registry of all firearms in a state. ATF tracking does not include private possession and ownership of some types of

firearms and related weaponry. According to the ATF, "under the amended law, there is no mechanism for a possessor to register an unregistered NFA firearm already possessed by the person" (Bureau of Alcohol, Tobacco, Firearms and Explosives 2016:1). Extensive information on what type of weapons qualify under the NFA and are tracked by the ATF are provided in the Operational Definitions section above.

Some states have firearms registry laws while others do not. As a result, ATF tracking of NFA data is the most nationally consistent measure of weaponry per state, although it does not provide a total number of weapons (firearm or otherwise) owned or registered in each state.

Officer Characteristics

<div align="center">Number of Male Officers</div>

This variable represents the raw number of male officers in each Sheriff's Department that is being studied. Data was obtained from the Federal Bureau of Investigation's 2013 Law Enforcement Officers Killed and Assaulted (LEOKA) report.

<div align="center">Number of Female Officers</div>

This variable represents the raw number of female officers in each Sheriff's Department that is being studied. Data was obtained from the Federal Bureau of Investigation's 2013 Law Enforcement Officers Killed and Assaulted (LEOKA) report.

<div align="center">Total Number of Officers in Agency</div>

This variable represents the personnel size of each county's corresponding law enforcement agency. This variable is the sum of the total number of male and female officers in the agency. This variable was created from data provided by the FBI's Law Enforcement Officers Killed and Assaulted 2013 publication.

Proportion of Male Officers

The Proportion of Male Officers variable represents the number of male officers in a department in relation to the number of female officers in the same agency. The Number of female officers in each agency was added to the number of male officers in each agency. The total number of male officers in the agency was then divided by the sum number of male and female officers in the department (Number of Officers in Agency variable) resulting in a proportion on a scale of 0 to 1. This variable thus shows the proportion, easily converted to a percent, of male officers in a department compared to female officers. This variable was created from data provided by the FBI's Law Enforcement Officers Killed and Assaulted 2013 publication.

Proportion of Female Officers

The Proportion of Female Officers variable represents the number of female officers in a department in relation to the number of male officers in the same agency. The Number of female officers in each agency was added to the number of male officers in each agency. The total number of female officers in the agency was then divided by the sum number of male and female officers in the department (Number of Officers in Agency variable) resulting in a proportion on a scale of 0 to 1. This variable thus shows the proportion, easily converted to a percent, of female officers in a department compared to male officers. This variable was created from data provided by the FBI's Law Enforcement Officers Killed and Assaulted 2013 publication.

Officer Rate per 1,000 People

This variable represents the total number of officers in an agency when compared to 1,000 people as a rate. In other words, this is a representation of how many law enforcement officers in a studied Sheriff's Office there are per 1,000 citizens. The rate is displayed with one decimal

point (i.e. 45 = 4.5) Data was obtained from the Federal Bureau of Investigation's 2013 Law Enforcement Officers Killed and Assaulted (LEOKA) report.

Assaults on Police Officers

Officers Killed Felony Total

This variable was created from the FBI's LEOKA data and represents the total number of officers who were killed in the commission of felonious acts as defined by the FBI (see Operational Definitions section) in 2013. Data for each selected county Sheriff's Office agency was collected by the FBI for each month of 2013. The total number of officers feloniously killed in each month was added together to produce a sum total of officers feloniously killed in the year for each selected agency. Original variables for the number of officers feloniously killed in each month of 2013 by county agency are also included (See Section 7 Appendix).

Officers Killed Accident Total

This variable was created from the FBI's LEOKA data and represents the total number of officers who were killed in accidents as defined by the FBI (See Previous Operational Definitions Section) in 2013. Data for each selected county Sheriff's Office agency was collected by the FBI for each month of 2013. The total number of officers accidentally killed in each month was added together to produce a sum total of officers accidentally killed in the year for each selected agency. Original variables for the number of officers accidentally killed in each month of 2013 by county agency are also included (See Section 7 Appendix).

Officers Assaulted Firearms Total

This variable was created from the FBI's LEOKA data and represents the total number of officers who were assaulted with firearms as defined by the FBI (See Operational Definitions Section) in 2013. Data for each selected county Sheriff's Office agency was collected by the

FBI for each month of 2013. The total number of officers assaulted with firearms in each month was added together to produce a sum total of officers assaulted with firearms in the year for each selected agency. Original variables for the number of officers assaulted with firearms in each month of 2013 by county agency are also included (See Section 7 Appendix).

Officers Assaulted Knife Total

This variable was created from the FBI's LEOKA data and represents the total number of officers who were assaulted with knives as defined by the FBI (see Operational Definitions section) in 2013. Data for each selected county Sheriff's Office agency was collected by the FBI for each month of 2013. The total number of officers assaulted with knives in each month was added together to produce a sum total of officers assaulted with knives in the year for each selected agency. Original variables for the number of officers assaulted with knives in each month of 2013 by county agency are also included (See Section 7 Appendix).

Officers Assaulted Other Total

This variable was created from the FBI's LEOKA data and represents the total number of officers who were assaulted in other ways as defined by the FBI (See Operational Definitions Section) in 2013. Data for each selected county Sheriff's Office agency was collected by the FBI for each month of 2013. The total number of officers assaulted in other ways in each month was added together to produce a sum total of officers assaulted in other ways in the year for each selected agency. Original variables for the number of officers assaulted in other ways in each month of 2013 by county agency are also included (See Section 7 Appendix).

Officers Assaulted Hands and Feet Total

This variable was created from the FBI's LEOKA data and represents the total number of officers who were assaulted with hands or feet as defined by the FBI (See Operational

Definitions Section) in 2013. Data for each selected county Sheriff's Office agency was collected by the FBI for each month of 2013. The total number of officers assaulted with hands or feet in each month was added together to produce a sum total of officers assaulted with hands or feet in the year for each selected agency. Original variables for the number of officers assaulted with hands or feet in each month of 2013 by county agency are also included (See Section 7 Appendix).

<center>Officers Assaulted Resulting in Injury Total</center>

This variable was created from the FBI's LEOKA data and represents the total number of officers who were assaulted resulting in injury as defined by the FBI (See Previous Operational Definitions Section) in 2013. Data for each selected county Sheriff's Office agency was collected by the FBI for each month of 2013. The total number of officers assaulted resulting in injuries for each month was added together to produce a sum total of officers assaulted resulting in injuries in the year for each selected agency. Original variables for the number of officers assaulted resulting in injuries in each month of 2013 by county agency are also included (See Section 7 Appendix).

<center>Officers Assaulted Without Injury Total</center>

This variable was created from the FBI's LEOKA data and represents the total number of officers who were assaulted without injury as defined by the FBI (See Previous Operational Definitions Section) in 2013. Data for each selected county Sheriff's Office agency was collected by the FBI for each month of 2013. The total number of officers assaulted without injury in each month was added together to produce a sum total of officers assaulted without injury in the year for each selected agency. Original variables for the number of officers

assaulted without injury in each month of 2013 by county agency are also included (See Section 7 Appendix).

Officers Assaulted Total

This variable was created from the FBI's LEOKA data and represents the total number of officers who were assaulted in any manner, with or without injury, as defined by the FBI (See Previous Operational Definitions Section) in 2013. Data for each selected county Sheriff's Office agency was collected by the FBI for each month of 2013. The total number of officers assaulted in any manor, with or without injury, in each month was added together to produce a sum total of officers assaulted in any manor, with or without injury in the year for each selected agency. Original variables for the number of officers assaulted in any manner, with or without injury in each month of 2013 by county agency are also included (See Section 7 Appendix).

Geographic Variables

These variables are geographical classifications for each state as determined by the United States Census Bureau State Geographical Classification System. Regions include the 1) Northeast, 2) Midwest, 3) South and 4) West. Regions are coded in the data in the same order as listed here. Divisions are further subdivisions of each region and include the following states:

Northeast

Division 1: Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont

Division 2: New Jersey, New York, and Pennsylvania

Midwest

Division 3: Illinois, Indiana, Michigan, Ohio, and Wisconsin

Division 4: Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and South Dakota

South

Division 5: Delaware, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, District of Columbia, and West Virginia

Division 6: Alabama, Kentucky, Mississippi, and Tennessee

Division 7: Arkansas, Louisiana, Oklahoma, and Texas

West

Division 8: Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming

Division 9: Alaska, California, Hawaii, Oregon, and Washington

VARIABLE SELECTION

Data was analyzed using the Stata/IC Statistical Package produced and licensed by Stata Corporation LLC. The variables used in regression analysis were chosen based on the degree to which they correlated with the rates of assault on police officers. Since weights were used to even out disparities in the probability of selection among selected counties, the Stata IC statistical package was unable to compute an accurate correlation matrix. Instead of choosing high correlating variables from an unweighted matrix, each explanatory variable was regressed with the response variable (assaults on police officers) in order to determine the existence, strength and direction of the relationship. Almost all the variables chosen had some degree of correlation with the response variable and were included in the sample. The variables that were included in each regression can be found in Chapter 4, Findings and Analysis.

The property crime, violent crime, total crime and assaults on police variables were all represented as rates. As a result, the Population and Total Number of Officers in Agency variables were dropped from analysis because their presence was already factored into the

regression equation when they were used to convert the corresponding raw number variables into rates. The violent crime rate was determined to be the most important crime rate variable (when compared to property crimes and total crimes). As a result, the property crime and total crime rate for each county was not included in the analysis due to a low degree of correlation with the response variable.

REGRESSION METHODS

The number of police officers assaulted in all counties' samples was represented as a rate by dividing it by the total number of police officers in each county's corresponding law enforcement agency. This assault rate variable was coded as the response variable and was regressed with numerous explanatory variables including: urbanization level, political affiliation at the county-level, the total number of NFA registered weapons in each state, alcohol sales in each state, a county-level GINI index measure of income inequality, violent crime and property crimes rates, the officer rate per 1,000 county population (represented as part the officer assault rate), the proportion of female police officers in each agency, a Census Bureau measure of unemployment, geographical region and subdivision, and the total number of counties in each state. This regression method explained approximately .30 or 30% of the variation in the assault rate data. This regression method was repeated using different assault rate related variables such as the rate of assault on police officers using firearms, knives, hands and feet and other methods of attack. There was a significant difference in the amount of variation in response variable data that was explained though linear regression with these explanatory variables. Numerous explanatory variables were used in order to reduce the likelihood that relationships between rates of assault on police officers and political affiliation at the county-level are spurious.

WEAKNESSES AND LIMITATIONS

As with any study that uses counties as a unit of analysis, there are countless variables and attributes that make each locality unique. Many factors exist other than the explanatory variable examined here that could influence the response variable when counties are the unit of analysis. For example, is the high number of assaults on police officers in a given county caused by political affiliation, a high amount of media coverage of police activity, race, population density, police training or another factor creating a spurious relationship between the two variables of examination? An extraordinarily large number of factors could contribute to the relationship between assaults on police officers and political affiliation. Although statistical techniques and prior literature have been carefully examined and applied to determine the most likely and influential spurious variables, this type of social science research is not able create a true experimental environment in which all factors can be controlled for or removed (Neuman 2011). As a result, it is possible there is are variables that influence in the relationship of interest that have not been identified in this study.

In studying any topic, "we must fit a concept to the specific type of unit we wish to analyze, like a glove fitting over a hand" (Neuman 2011:68). In this study, using the county as the unit of analysis was both beneficial and problematic. The benefits of analyzing this relationship at the county-level are discussed above but it is necessary to also put forward the drawbacks. Counties are a relatively small geographical unit when compared to states and countries; hence there is a high degree of variation between counties when it comes to factors such as race, class and socioeconomic status that are difficult to control for.

Analyzing counties also created data collection issues in this study. Some counties do not fully report crime statistics to the Federal Bureau of Investigation's Uniform Crime Report or the

Law Enforcement Officers Killed and Assaulted (LEOKA) database. Other counties do not submit any statistics at all. In some cases, there were numerous counties from a state that did not provide complete or any statistical information. This problem was not only limited to crime statistics but other variables of analysis as well. In cases where a selected county did not provide sufficient data, another county in the same state classified at the same urbanization level according to the United States Department of Health and Human Services was selected. In some instances, the newly selected county did not yield more complete data across all variables than the previously selected county, such as was the case with Denali Borough, Alaska.

This study only included data from county Sheriff's Offices for agency statistics. For example, the number of officers assaulted in Valencia, New Mexico in 2013, 22, only includes deputies of the corresponding county Sheriff's Office. Numbers of assaults from individual towns, cities or villages within Valencia County are not included unless an assault occurred within a municipal jurisdiction, was committed against a Sheriff's Deputy, and the Sheriff's Office chose to record it as a county-level incident.

Results of the research methodology discussed above will be examined and discussed in the next chapter.

CHAPTER 4
FINDINGS AND ANALYSIS

The findings, and subsequent analysis, of each hypothesis as described in Chapter 2 is

organized numerically in this section.

HYPOTHESIS ONE: REGRESSION FINDINGS

Overall Assault Rate

A linear regression of the relationship between a county's assault rate on police officers in

2013 and 2012 presidential election results (coded as either Democratic or Republican based on

the party which won a simple majority in that county) revealed there is an association between

how a county voted in the 2012 Presidential election and assaults (See Table 4.1). With no other

variables present, how a county voted in the 2012 Presidential election explains approximately

5.82% of the variation of the data of the police officer assault rate. This implies there is an

association between the two variables as a statistically significant proportion of the assault rate

data (5.82%) is explained by county voting preferences in this model. Without any other

variables included in the regression, the coefficient for the relationship between how a county

voted in 2012 and the assault rate per 100 officers is -.4868. This means that for every unit

increase in the Presidential Election variable, we expect to see an approximate 4.86 decrease in

the assault rate on police officers with a 95% confidence interval (.05 significance level). In this

model, counties that voted Democratic were coded as zero and counties that voted Republican

were coded as 1. As a result, these results can be interpreted as meaning that Republican

counties have a 4.86% lower rate of assault on police officers than Democratic counties. A two-

tailed p-value test yields a result of .0047. Although close, since this is less than the .05

significance level, the coefficient is statistically likely different from zero. Results of the t-value

test (t=-2) are is less than 1.96 and indicates the coefficient is different from zero. In summation,

county political affiliation as determined by the 2012 Presidential election appears to be

statistically significant in explaining the assault rate on police officers.

Table 4.1 Linear Regression of Police Officer Assault Rates (Response Variable) and 2012
Presidential Election (Explanatory Variable)

```
Linear regression                               Number of obs   =        137
                                                F(1, 135)       =       4.01
                                                Prob > F        =     0.0471
                                                R-squared       =     0.0582
                                                Root MSE        =     8.6045
```

AssaultRate	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf. Interval]	
1.PresidentialElection	-4.868446	2.430179	-2.00	0.047	-9.674593	-.0622994
_cons	7.366421	2.356452	3.13	0.002	2.706083	12.02676

PRESIDENTIAL ELECTION KEY: 0 = County Voted Democratic   1 = County Voted
Republican

As indicated in Table 4.1 above, there appears to be a statistically significant relationship

between how a county voted in the presidential election and the rate of assault on police officers.

However, this analysis does not provide the whole picture. It is possible that there are multiple

intervening variables affecting the relationship between political affiliation and the assault rate

that have not yet been accounted for. To determine the degree to which the association between

these two control variables is attributable specifically to political affiliation over other spurious

factors, numerous additional explanatory variables were added to the regression model. These

variables include violent crime rate, regional division as defined by the US Census Bureau, level

of urbanization, unemployment, a GINI index measure of income inequality, the number of

National Firearms Act registered weapons by state, the proportion of officers in each department

that are female, the amount of alcohol consumption by state, and the number of counties in each state (See Table 4.2). These variables were chosen because other studies (See Chapter 2) have identified their potential effect on the dependent variable.

This expanded regression model, which explains approximately 30% of the variation in the assault rate, shows there are other variables related with the assault rate on police officers. The strongest relationship is the proportion of officers in a department that are female. For every unit increase in proportion of officers in a department who are female, we see a 32.5 unit reduction in the assault rate. In other words, this model indicates the higher the proportion of female officers there are in a police agency, the lower the assault rate. This is also the only variable, aside from geographic division, that is a statistically significant predictor in this model with a P statistic of 0.009. However, the model itself displays a Prob > F of .0224, significantly less than the .05 alpha level. This indicates that there is still a statistical relationship between the response variable (assault rate) and the explanatory variables (See Table 4.2) with the inclusion of additional variables.

With the introduction of other explanatory variables, the relationship between political affiliation at the county-level and the assault rate on police officers changes. The coefficient indicates a weaker association between the two variables. With the additional explanatory variables included, Republican counties assault rate on police officers is 2.14% less than the assault rate in Democratic counties. However, the P value for Presidential Election is 0.404, well over the 0.05 statistical significance level cutoff. In other words, the correlation coefficient between how a county voted in the 2012 Presidential election and the assault rate on police officers is not statistically significant (See Table 4.2). This means that the initial statistically

significant relationship between county political affiliation and the assault rate on police officers is actually spurious, with one or more intervening variables that affect the relationship.

Table 4.2 Linear Regression of Assault Rate (Response Variable) and Explanatory Variables

```
Linear regression                              Number of obs   =        129
                                               F(18, 110)      =       1.90
                                               Prob > F        =     0.0224
                                               R-squared       =     0.2971
                                               Root MSE        =     7.7234
```

AssaultRate	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf. Interval]	
VCrimeRate	765.0567	313.3583	2.44	0.016	144.0541	1386.059
Division						
Mid-Atlantic	3.91818	4.366404	0.90	0.371	-4.735007	12.57137
East North Central	5.033311	3.658635	1.38	0.172	-2.217244	12.28387
West North Central	.8435709	2.449404	0.34	0.731	-4.010572	5.697714
South Atlantic	9.422711	5.135491	1.83	0.069	-.7546269	19.60005
East South Central	2.910063	3.972157	0.73	0.465	-4.961821	10.78195
West South Central	4.108316	4.297034	0.96	0.341	-4.407397	12.62403
Mountain	12.62569	4.315676	2.93	0.004	4.073031	21.17834
Pacific	18.11904	10.37	1.75	0.083	-2.431872	38.66996
UrbanizationCode						
2	-1.118306	1.999937	-0.56	0.577	-5.081711	2.8451
3	-4.406367	1.966236	-2.24	0.027	-8.302985	-.509749
1.PresidentialElection	-2.144526	2.558452	-0.84	0.404	-7.214778	2.925726
Unemployment	-.3188659	.2777648	-1.15	0.253	-.8693306	.2315988
GiniIndex	8.746218	21.95928	0.40	0.691	-34.77193	52.26436
NFARegisteredWeaponsbyState	-.0000183	.0000178	-1.03	0.306	-.0000536	.000017
PorpFemale	-32.56262	12.25185	-2.66	0.009	-56.84292	-8.282326
Alcohol	3.192899	2.542392	1.26	0.212	-1.845526	8.231324
NumberofCountiesinState	.0319799	.034801	0.92	0.360	-.0369875	.1009473
_cons	-6.887671	8.749015	-0.79	0.433	-24.22617	10.45082

Assaults With and Without Injury

As evidenced by Figures 4.1 and 4.2 below, assaults resulting in injury to the police officer do not make up the majority of assaults against agents of any county police agency that was sampled. There is a degree of variation in terms of what percentage of assaults resulted in injury in counties throughout the sample.
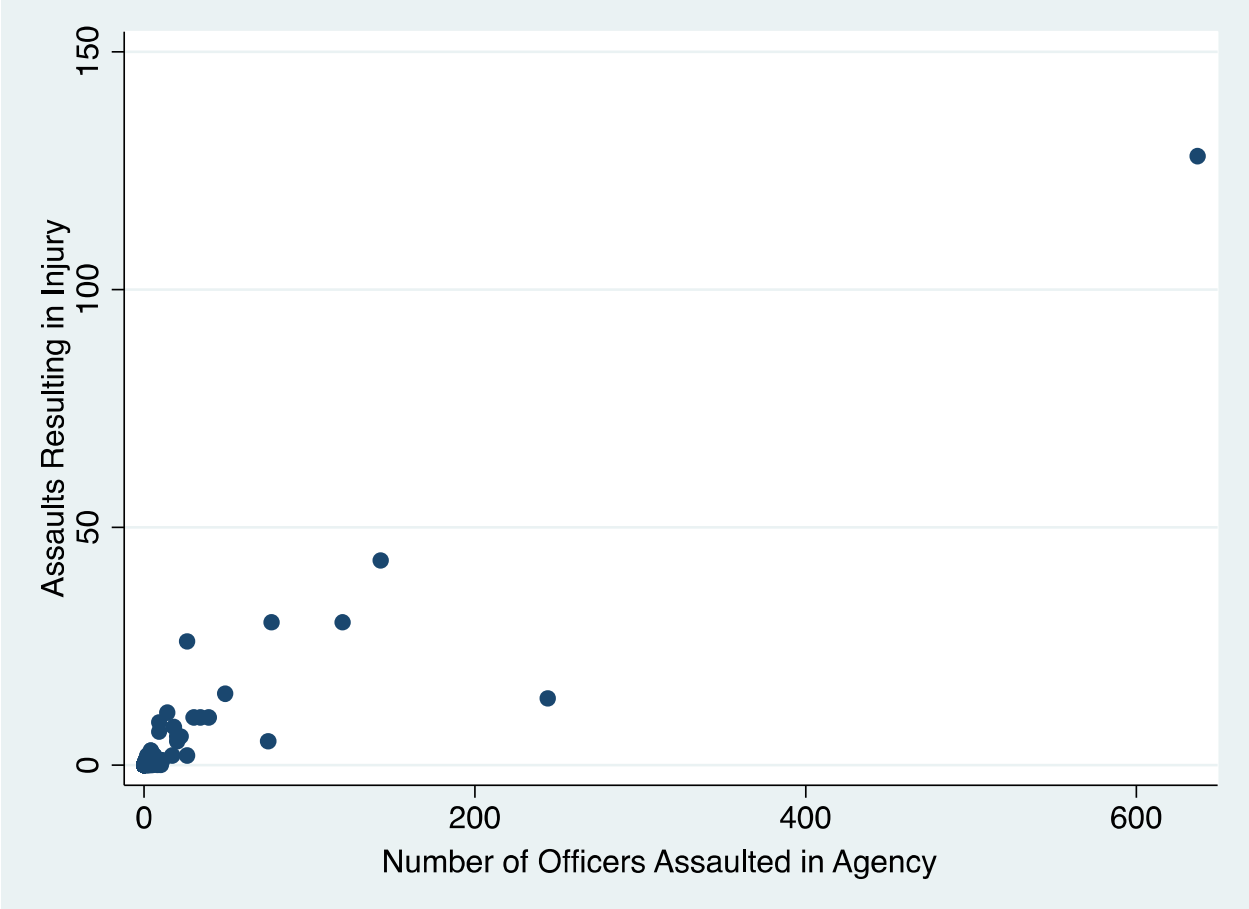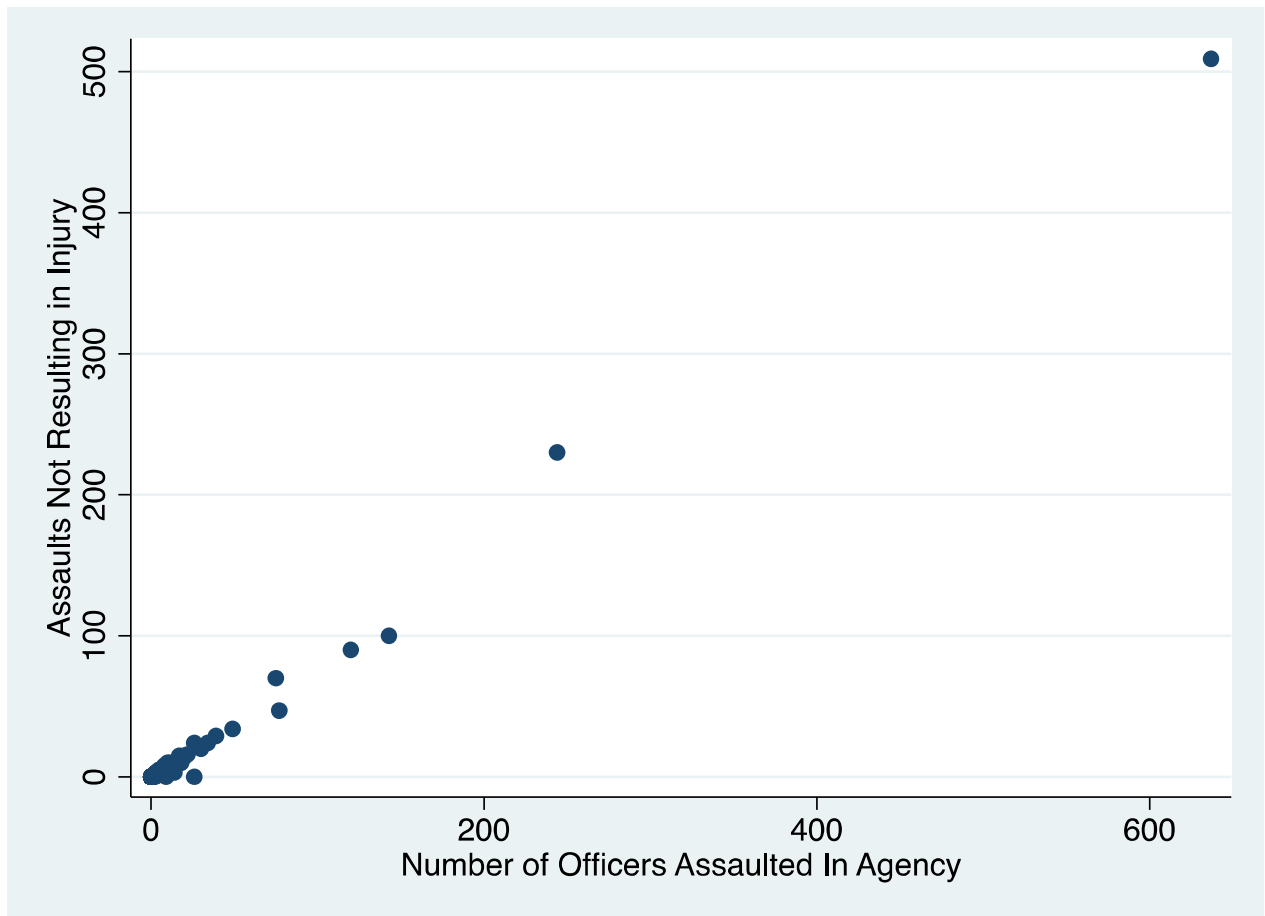
Figure 4.1 Scatterplot of Assaults with Injury

Figure 4.2 Scatterplot of Assaults Not Resulting in Injury

A linear regression analysis between the police officers assault with injury rate (response variable) and county political affiliation as determined by the 2012 Presidential election did not produce a model that indicated a statistically significant relationship between the two variables of interest (See Table 4.3). Likewise, the regression model of the relationship between assault on police officers without injury rate (response variable) and political affiliation also did not show a statistically significant relationship between the two variables (See Table 4.4). This leads one to conclude that the political affiliation of a county is not an important indicator in whether an assault on a police officer will result in injury.

Political affiliation was also determined to not be a statistically significant predictor of the assault rate with firearms, knives or other methods.

Table 4.3 Linear Regression of Police Officer Assault Rates with Injury (Response Variable) and 2012 Presidential Election (Explanatory Variable)

```
Linear regression                          Number of obs   =        137
                                           F(1, 135)       =       3.25
                                           Prob > F        =     0.0735
                                           R-squared       =     0.0940
                                           Root MSE        =     4.3672
```

AssaultInjuryRate	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf. Interval]	
1.PresidentialElection	-3.203369	1.776121	-1.80	0.074	-6.71599	.309251
_cons	3.832855	1.762968	2.17	0.031	.3462469	7.319463

PRESIDENTIAL ELECTION KEY: 0 = County Voted Democratic   1 = County Voted Republican

Table 4.4 Linear Regression of Police Officer Assault Rates Without Injury (Response Variable) and 2012 Presidential Election (Explanatory Variable)

```
Linear regression                          Number of obs   =        137
                                           F(1, 135)       =       1.31
                                           Prob > F        =     0.2537
                                           R-squared       =     0.0131
                                           Root MSE        =     6.3494
```

AssaultWOIRate	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf. Interval]	
1.PresidentialElection	-1.665077	1.45259	-1.15	0.254	-4.537853	1.207699
_cons	3.533566	1.358246	2.60	0.010	.8473733	6.219758

PRESIDENTIAL ELECTION KEY: 0 = County Voted Democratic   1 = County Voted Republican

Assaults with Hands and Feet

Of all of the types of weapons used to assault police officers, the only category that yielded a statistically significant model with county political affiliation as the explanatory variable was the regression with the rate of assault on police officers with hands and/or feet. This model shows that county-level political affiliation is a significant predictor of the hands and feet assault rate as

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indicated by the Prob > F = .0143 (See Table 4.5). In this model, the violent crime rate and the proportion of female officers in an agency are statistically significant predictors of assaults on police in which a suspect uses hands and/or feet. For each unit the violent crime rates increases, the rate of assault on police using hands and/or feet increases by 5.71 units. This indicates the overall violent crime rate of a county has a significant impact on the rate of assault involving hands and feet. These are the most common means of assaulting a police officer. As a result, the higher number of occurrences of assaults of this type increases its proportion of the violent crime rate since assaults of this type would be classified as violent offenses by the reporting law enforcement agency.

Table 4.5 Linear Regression of Assault Rate on Police Officers Using Hands and/or Feet (Response Variable) and Explanatory Variables

```
Linear regression                          Number of obs    =        129
                                           F(17, 111)       =       2.04
                                           Prob > F         =     0.0143
                                           R-squared        =     0.2730
                                           Root MSE         =     .06907
```

AssaultRateHandsFeet	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf. Interval]	
VCrimeRate	5.716475	2.161506	2.64	0.009	1.433308	9.999643
Division						
Mid-Atlantic	.0426609	.0438998	0.97	0.333	-.0443294	.1296513
East North Central	.0465412	.0392952	1.18	0.239	-.0313248	.1244072
West North Central	.0222926	.0215431	1.03	0.303	-.0203964	.0649817
South Atlantic	.0931259	.0541795	1.72	0.088	-.0142343	.2004862
East South Central	.0354032	.0426052	0.83	0.408	-.0490218	.1198283
West South Central	.0582942	.0519891	1.12	0.265	-.0447257	.161314
Mountain	.0902882	.0354804	2.54	0.012	.0199814	.160595
Pacific	.1533919	.1000147	1.53	0.128	-.0447938	.3515777
UrbanizationCode						
2	-.0100162	.0177622	-0.56	0.574	-.0452133	.0251808
3	-.0363376	.0168489	-2.16	0.033	-.0697249	-.0029504
1.PresidentialElection	-.022417	.0236894	-0.95	0.346	-.069359	.0245251
Unemployment	-.0029666	.002477	-1.20	0.234	-.007875	.0019417
GiniIndex	-.0778615	.2147565	-0.36	0.718	-.5034159	.3476929
NFARegisteredWeaponsbyState	-6.52e-08	8.31e-08	-0.78	0.434	-2.30e-07	9.95e-08
PorpFemale	-.2793569	.1102547	-2.53	0.013	-.4978338	-.0608799
Alcohol	.0271587	.0209593	1.30	0.198	-.0143735	.0686909
_cons	.0152628	.0713979	0.21	0.831	-.126217	.1567425

HYPOTHESIS TWO: TRENDS BY URBANIZATION LEVEL

The second hypothesis posits the mean rate of injury assault will be higher in more rural areas than in urban areas. Each county was sorted in to one of three levels of urbanization: urban, suburban and rural/noncore. These categories were developed using a modified version of the United States Department of Health and Human Services Rural and Urban County Classification System (See Chapter 3, Methods). Each urbanization level was analyzed to determine the mean rate of assault on police officers resulting in injury. The rate of assault resulting in injury was

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determined by dividing the number of assaults resulting in injury by the number of officers in the agency. Each agency was then classified into appropriate categories and averaged to determine the mean rate of injury assault at each level of urbanization. Regression analysis shows the mean rate of assault with injury is higher in rural counties than in urban and suburban counties. The mean rate of assault with injury in the rural/noncore counties is approximately 2.3 compared to 1.8 in suburban counties and 1.6 in urban counties (See Figure 4.3 below). Rural counties are often more conservative in their politics than urban counties are, but there are often hold out areas with a county that vote differently (Ambrosius 2016). In summation, the second hypothesis that the mean rate of injury assault will be higher in more rural areas than in urban areas in this sample is supported by the data as shown in Figure 4.3. Officers in rural sampled counties in 2012 experienced a higher rate of assault on average than officers working in suburban or urban counties. This may be because officers in rural counties are often working farther away from each other to patrol a large geographical space. As a result, it may take longer for backup to arrive in many rural agencies than it does in urban and suburban ones. Therefore, a suspect who is engaged in a physical altercation with a police officer may have more time to inflict injury before additional law enforcement units arrive to assist the original officer.
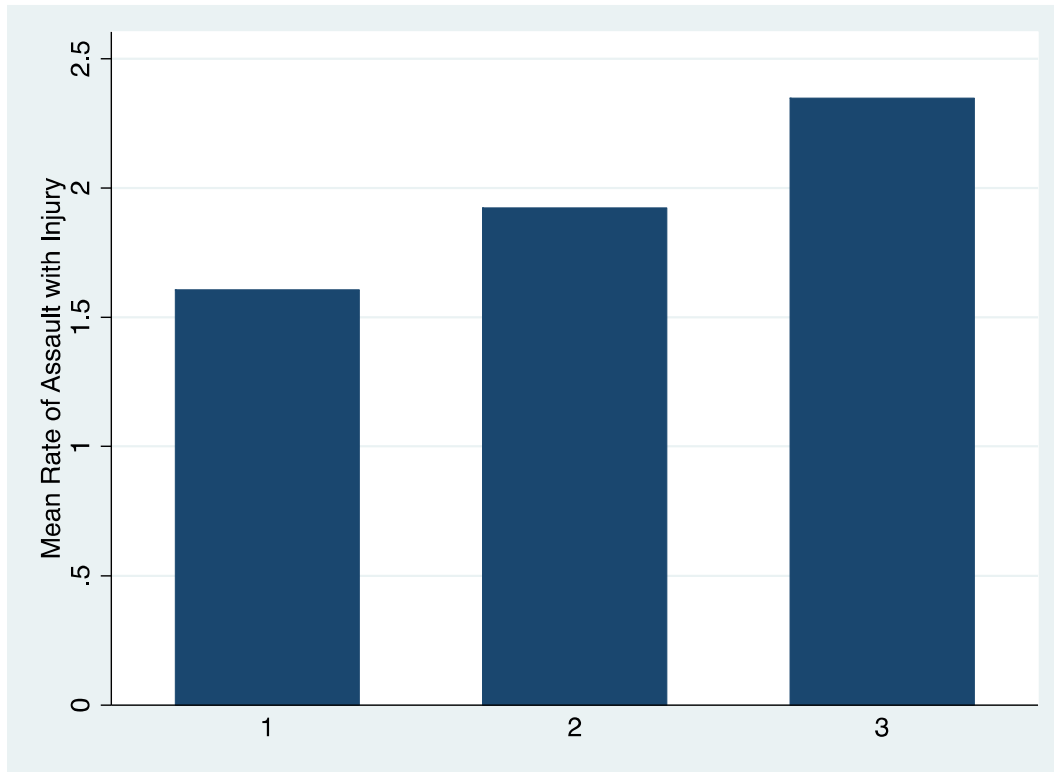
Figure 4.3 Mean Rates of Assault with Injury by Urbanization Level
KEY: 1=Urban   2=Suburban   3=Rural

HYPOTHESIS THREE: TRENDS BY GEOGRAPHIC REGION

Mean Assault Rate Trends

Occurrences of assault on police officers vary in part due to the number of police officers in an agency. Logically, two cities that are perfectly identical across all imaginable variables, except for the number of police officers patrolling the streets, would have different rates of assault on police. In the city with more officers on patrol, there are greater opportunities to assault police because there are more of them to attack. Analyzing assault rates by geographical region allows the differing number of police officers in a region to be accounted for because the assault rate is comprised of the number of occurrences divided by the number of officers in the department. For rate of injury assault, non-injury assault, and assault of any kind, the data

represented per 100 police officers. The mean number of assaults on police officers by region is examined in the next section of this chapter.

Figure 4.4 shows the mean assault rate on police officers by region. The Western region of the United States experienced a significantly higher rate of assaults on police than any other region. In fact, the average assault rate in the West is more than the combine averages of the three other regions and is nearly three times higher than the second highest average, the South. In other words, police officers in these sampled counties in 2012 on average experienced 15 assaults per county in which they worked in the Western United States while agencies in the South, Midwest and Northeast experienced approximately 5, 2 and 2.5 respectively per 100 officers. According to Nelsen et. al (1994), previous "Studies by O'Carroll and Mercy and by Kowalski and Petee challenge the long-held view that the South leads the nation in homicide rates." Examination of assault rates by geographic region in this study indicate this may also be the case for police officer victims. In addition, "O'Carroll and Mercy find that when killings by state are disaggregated by race, the West has the highest levels of homicide for whites, blacks, and other races. Kowalski and Petee conclude that homicide rates in the South and the West have converged" (Nelsen et. al 1994). While this study does not examine race, it appears assault rates of the South and West have converged on other variables as well.
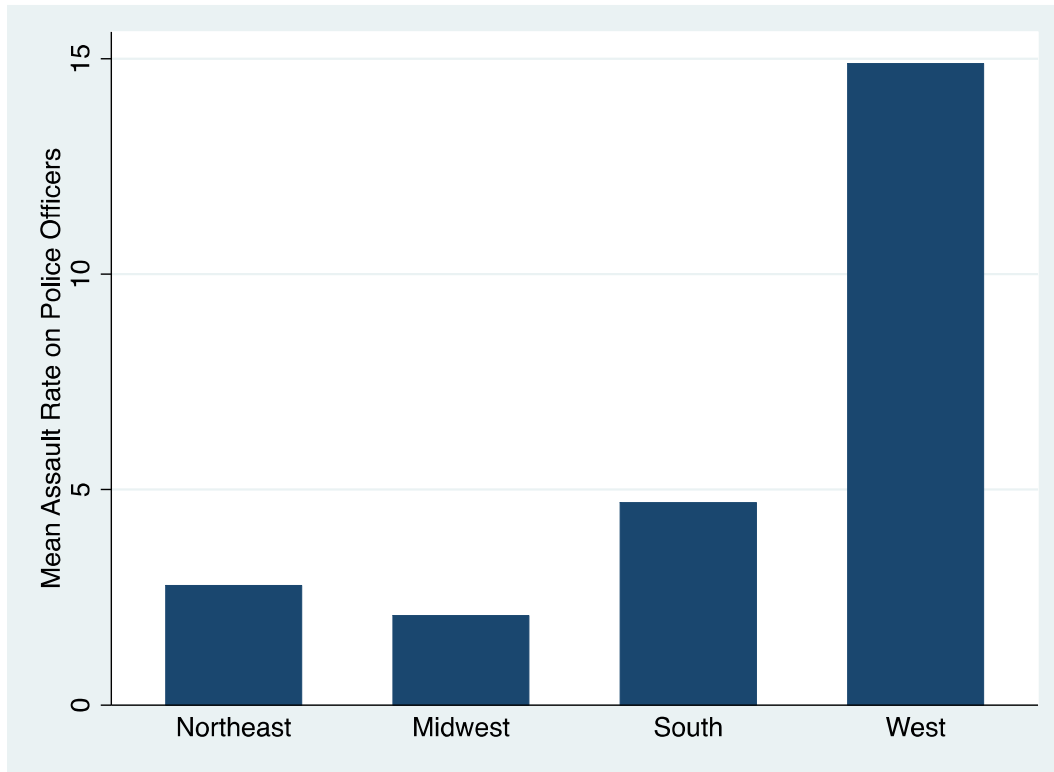
Figure 4.4 Mean Assault Rate on Police Officers by Region

Analysis of the mean rate of assault with injury yields another surprising trend. Officers in the West face a significantly higher average injury rate when they are assaulted than officers anywhere else in the United States. The rate in the West is more than five times higher than that of the Midwest or the South. In 2012, Western counties had on average approximately 5 assaults resulting in injury while the Northeast had approximately 1.5 assaults per 100 officers. The Midwest and South saw an average of less than 1 assault resulting in injury per 100 officers in 2012 (See Figure 4.5). The disparity among the mean rates of injury assault makes this finding interesting. Since the data are represented as a rate per 100, they are comparable between counties with different size law enforcement agencies and regions regardless of the number of officers employed therein. Current data do not causally explain why the rate of assault per 100 officers in the West is more than five times higher than that of the Midwest and the South, or why the Northeast is higher than the two previously referenced regions. Is it possible that the

West is a more violent region overall, and injury assaults are higher because of the rate of assaults of any type itself being higher on average? The data reflect this hypothesis, but I am unable to explain why the average rate of assault, injury or overall, is higher in the West.
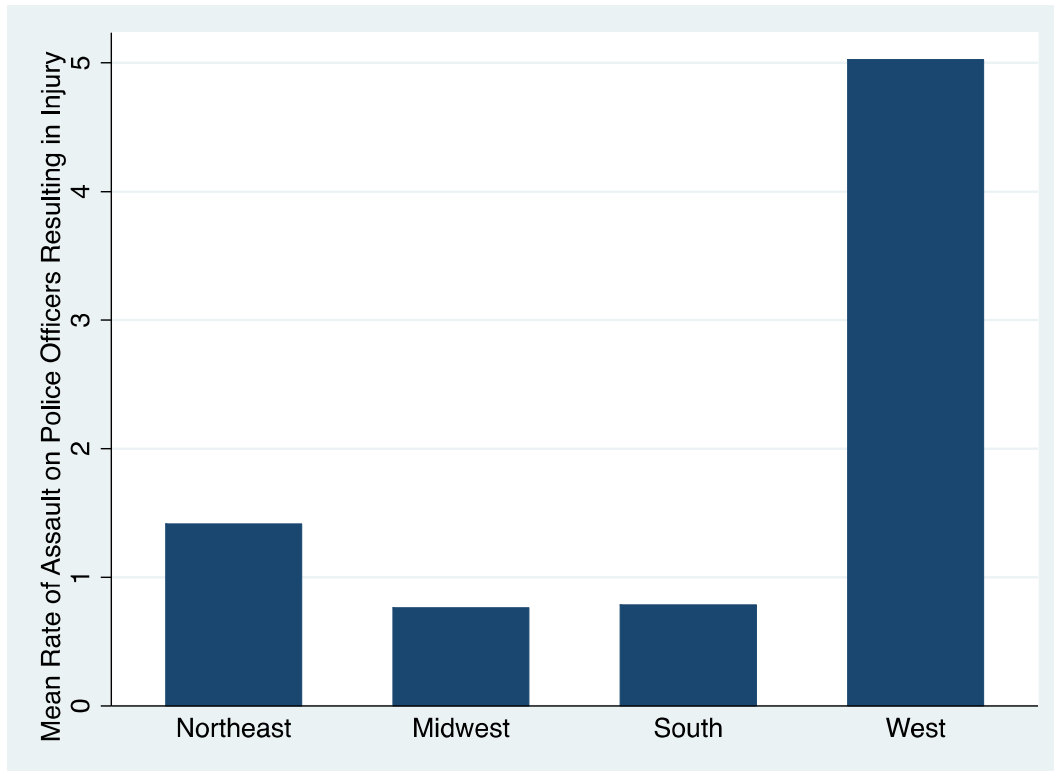

Figure 4.5 Mean Rate of Assault on Police Officers Resulting in Injury by Region

When broken down by weapon type, the data show the mean rate of assault on police officers with firearms is highest in the South, and second highest in the West followed by the Midwest and then the Northeast (See Figure 4.6). However, the mean assault rate with firearms is relatively similar for the West and the South. There are no instances of assault with firearms or knives in the Northeast region. Rather, the rate of assault in this region is highest for the category of attacks with hands and/or feet (See Figure 4.8).

The assault rate with knives tells a different story in comparison to the firearms rate. Rates of assault with knives are nearly the same in the Midwest and the South. However, the West has the highest average rate of assault with knives as it does in every category of weapons used (See

Figure 4.7). In terms of the mean assault rate with deadly weapons, it was safest for officers to work in the Northeast in 2012 since there were no occurrences of assault with either knives or firearms during this year in the sampled counties. On the other extreme, the mean assault rate for all weapon types and overall is higher in the Western region of the United States (See Figure 4.9). In other words, it was more dangerous in terms of the overall assault rate, with or without injury, to be a police officer in the Western sampled counties in 2012 than anywhere else in the country.
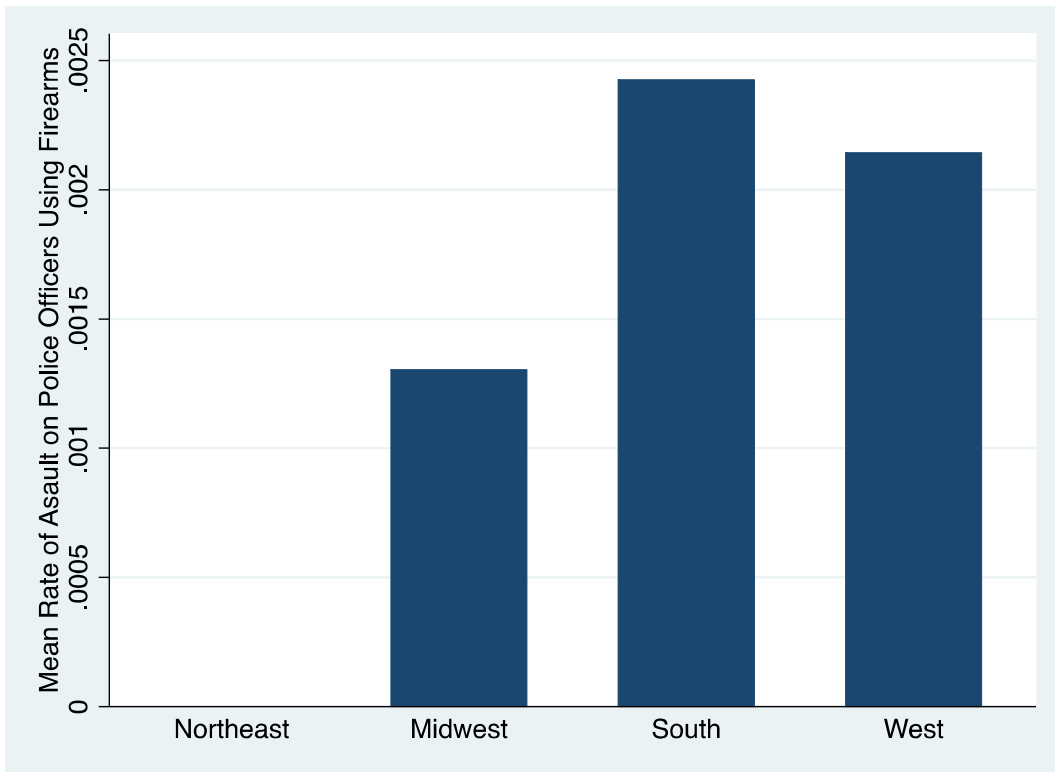
Figure 4.6 Mean Rate of Assault on Police Officers Using Firearms by Region
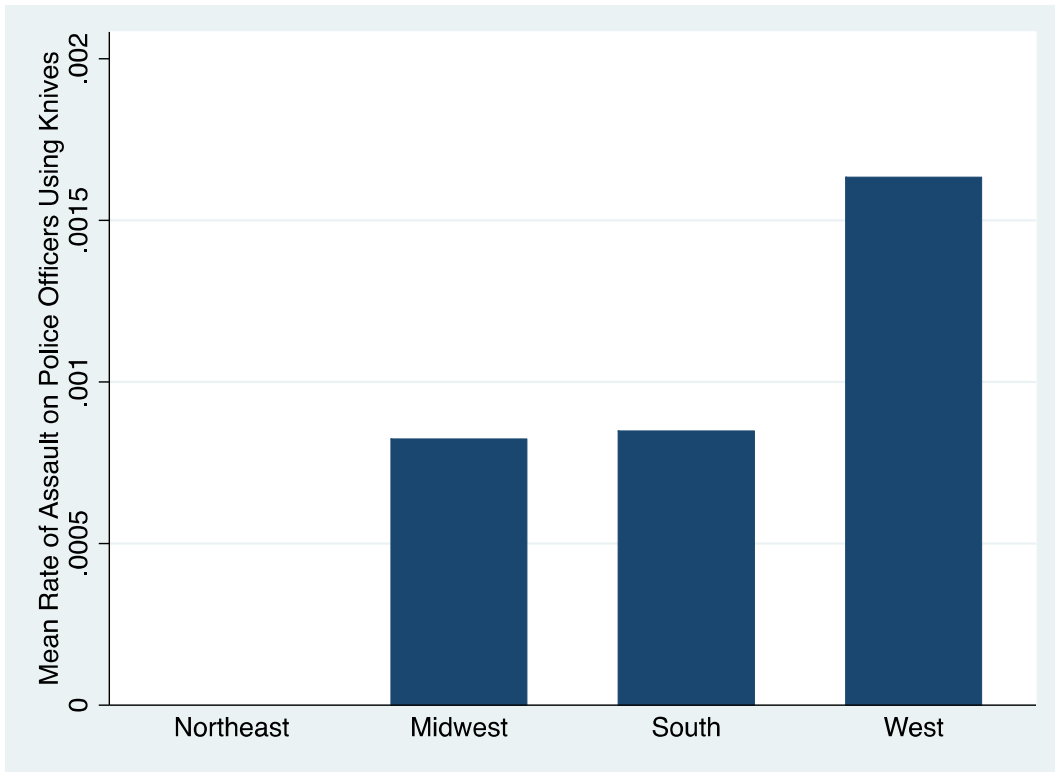
Figure 4.7 Mean Rate of Assault on Police Officers Using Knives by Region
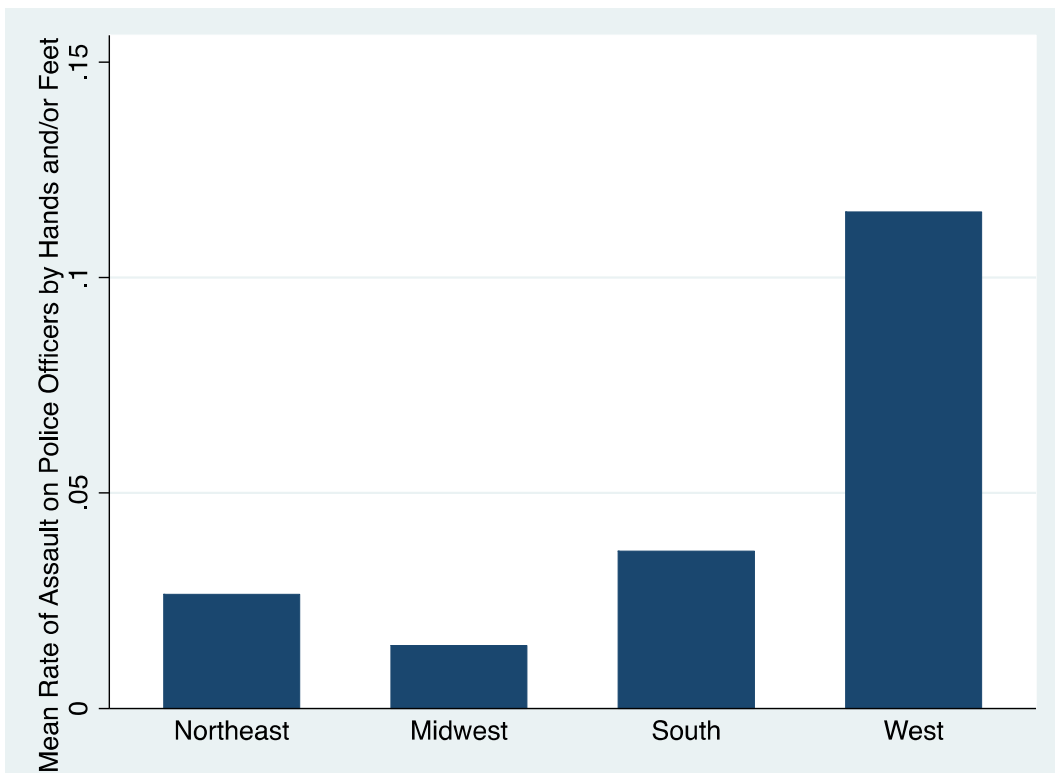
Figure 4.8 Mean Rate of Assault on Police Officers Using Hands and/or Feet by Region
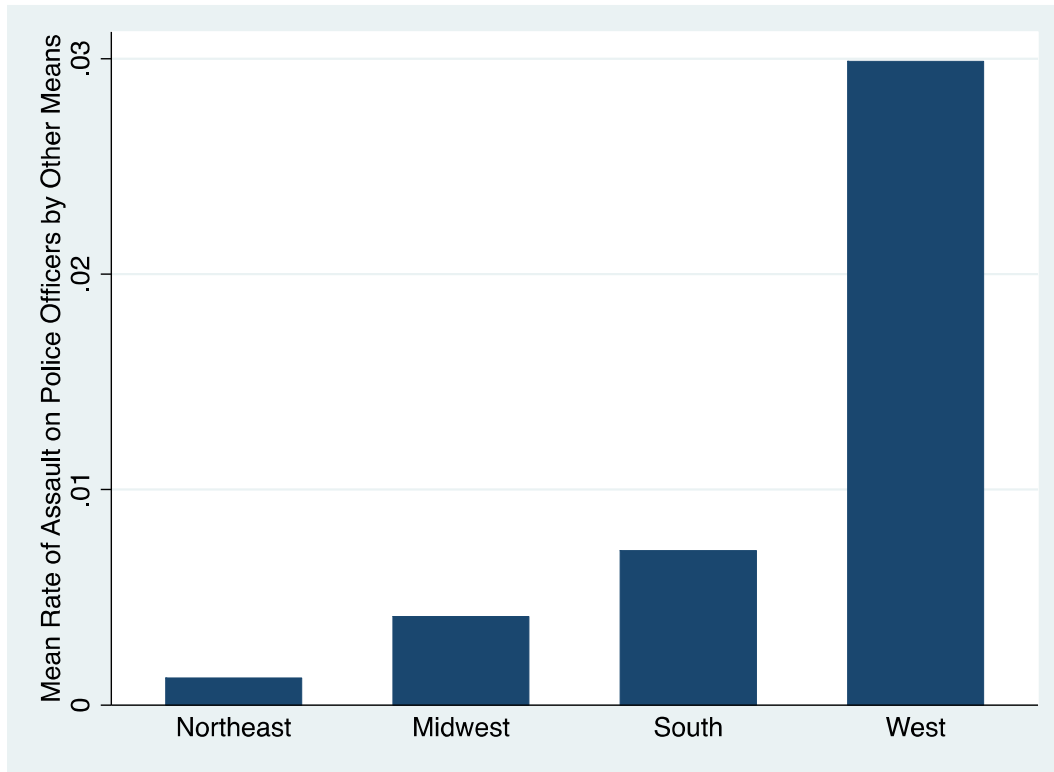
Figure 4.9 Mean Rate of Assault on Police Officers by Other Means

Mean Number of Assaults

The third research hypothesis predicted that Southern counties will have a higher average number of assaults on police officers than other geographical areas. To investigate the validity of this hypothesis, it is necessary to examine the mean number of assaults across all the United States Census Bureau geographical regions (See Figure 4.10 below). Prior research conducted by Gastil (1971) and Nisbett (1993), indicate homicidal violence was highest in the South potentially due to cultural variables. This topic was further examined by Nelsen et. al (1994) who suggested the Western United States is more violent than the South when certain factors are examined. This study supports Nelsen's (1994) finding that the Western United States has overtaken the South, at least in violence committed against police officers.

Examining means of assaults across regions allows for a simple comparison of the general trend of assaults that occur in each part of the United States. When interpreting these results, it is

essential to keep in mind that the mean number of assaults on police officers in each weapon

category represents the average number of assaults of that type in all of the counties in the given

regional category during the 2012 calendar year. These results are therefore developed from the

sample of counties that was selected using the stratified random sampling method described in

Chapter 3, Sampling Methods.

In a comparison of means of assault occurrences, the evidence does not support the

hypothesis that Southern counties will have the highest mean number of assaults on police

officers than other regions. While the Southern geographical regions have a significantly higher

assault average than the Northeast or Midwest alone or combined, the Western geographical

region has a slightly higher assault mean: slightly over 20 assaults on average for the counties in

this division (See Figure 4.10). Counties in the Southern region have approximately 18 assaults

on average, while the Northeast and Midwest regions averaged approximately 1.5 assaults in this
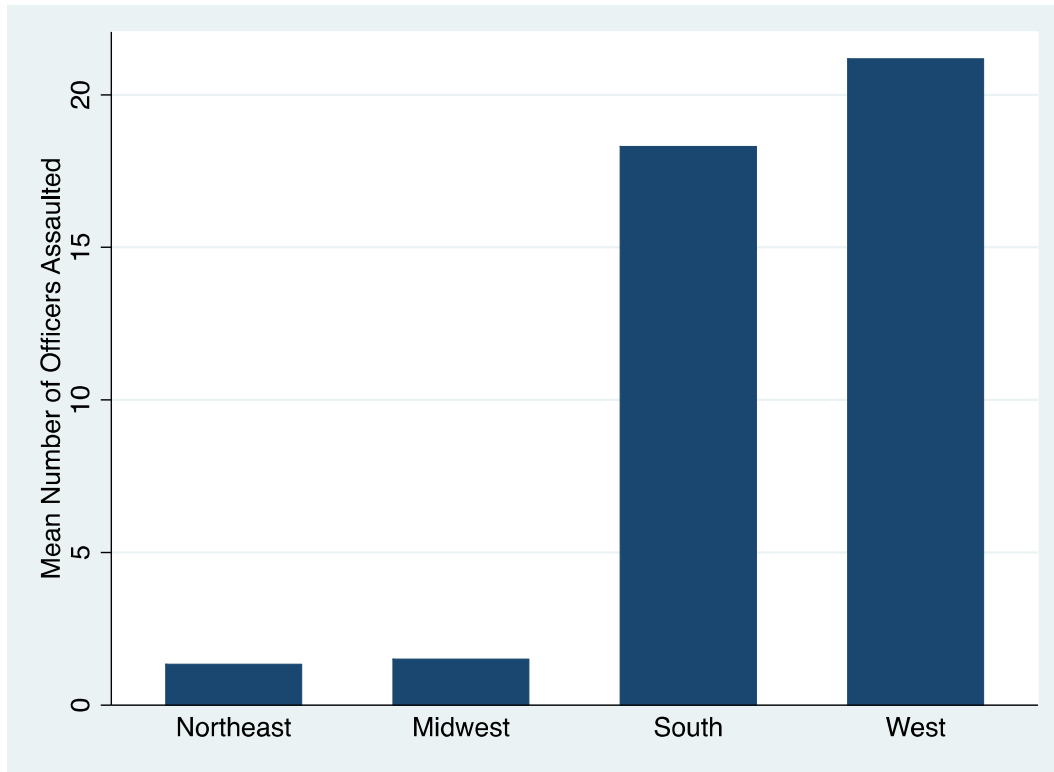
sample.

Figure 4.10 2012 Mean Number of Officers Assaulted by Region

Breaking down the Census Bureau regions further into geographical divisions shows the most significant influence on the mean number of assaults in the Southern and Western regions come from the South Atlantic area in the South and the Pacific area in the West (See Figure 4.11). While a substantial proportion of the higher mean in the West comes from the Mountain region, the influence of the Pacific region in the high mean number of assaults on police officers is nearly three times that of the Mountain division. Other regions in the county show relatively similar results. Overall, it appears that more assaults occur on average in the West and the South than in the Midwest and the Northeast. In other words, it appears to be more dangerous in terms of average assaults on law enforcement to be a police officers in the West and South than it does in other parts of the county (See Figures 4.10 and 4.11). In addition, more assaults occur on average by a large margin in the South Atlantic and Pacific areas of the United States than any other area.
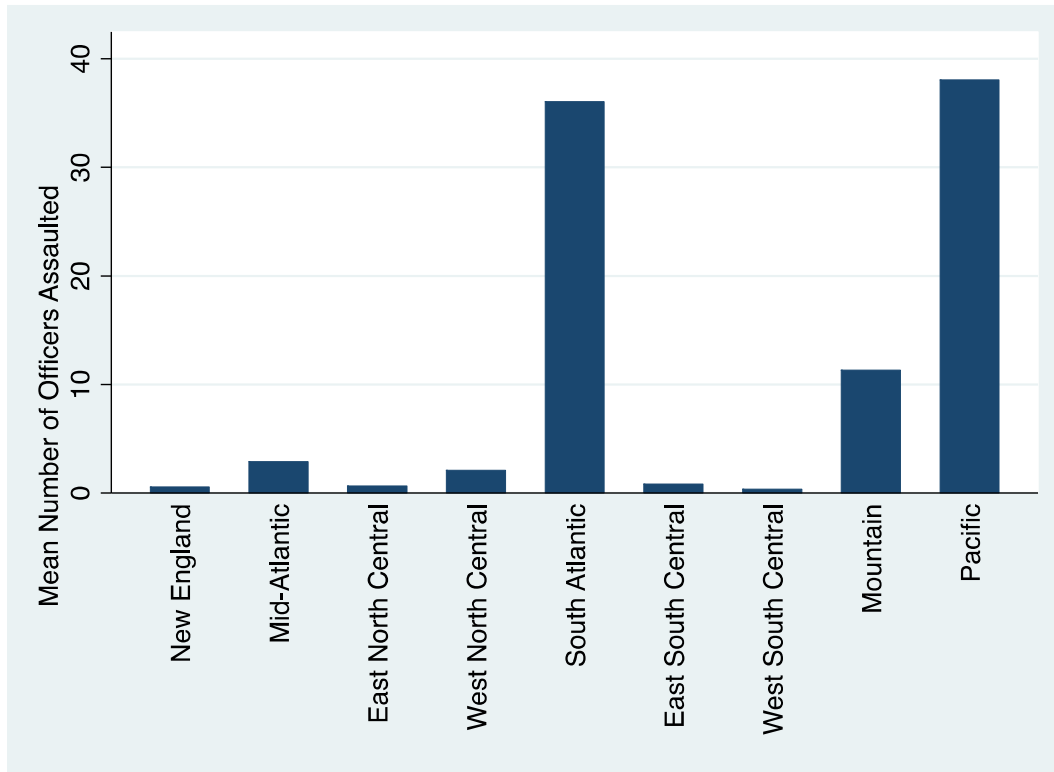
Figure 4.11 2012 Mean Number of Officers Assaulted by Regional Division

Simply stating that on average more assaults occur in the Western and Southern regions of the United States does not tell the whole story. Weapons and circumstances are variable across regions as well. One of the most surprising regional trends observed in this study is the mean number of assaults on police officers using firearms. As seen in Figure 4.12 below, there is a high degree of variation in the mean number of assaults on police officers involving firearms. The mean number of firearm-involved assaults on police was nearly four times higher in Western counties than in the South, the next highest regional mean for firearms-related assaults. The Northeast region did not have any occurrences of firearms related assaults in the sampled county-level agencies in 2012. In summation, it appears that Western counties were on average significantly (nearly four times) more likely to have officers assaulted with a firearm than Southern counties.

Further investigation of these findings is warranted. While this study provides a statistical basis for the existence of a disparity of firearm-related assaults against officers across regions, the social, economic and political causes of this trend and the extent to which it is present in the population is beyond the scope of this project and remains undetermined. There is significant variation in how states track possession of firearms. Some states require registries of certain weapon types, licenses for concealed carry, and prohibitions on certain magazine and firearms sizes and styles. Other states, such as Texas for example, do not have a state registry, do not track firearms sales from person to person and do not require a permit to carry a shotgun or rifle openly in a non-threatening way as to not cause alarm.

When broken down further by geographical region, the average number of occurrences of gun violence against police officers is nearly evenly distributed between Mountain and Pacific states in the Western region (See Figure 4.13). These two geographic divisions experienced approximately 7 firearm related assaults on police officers in their sampled counties in 2012. This trend does not reflect the mean assault with firearms rate that showed the South had the highest rate of assault on police officers involving firearms.
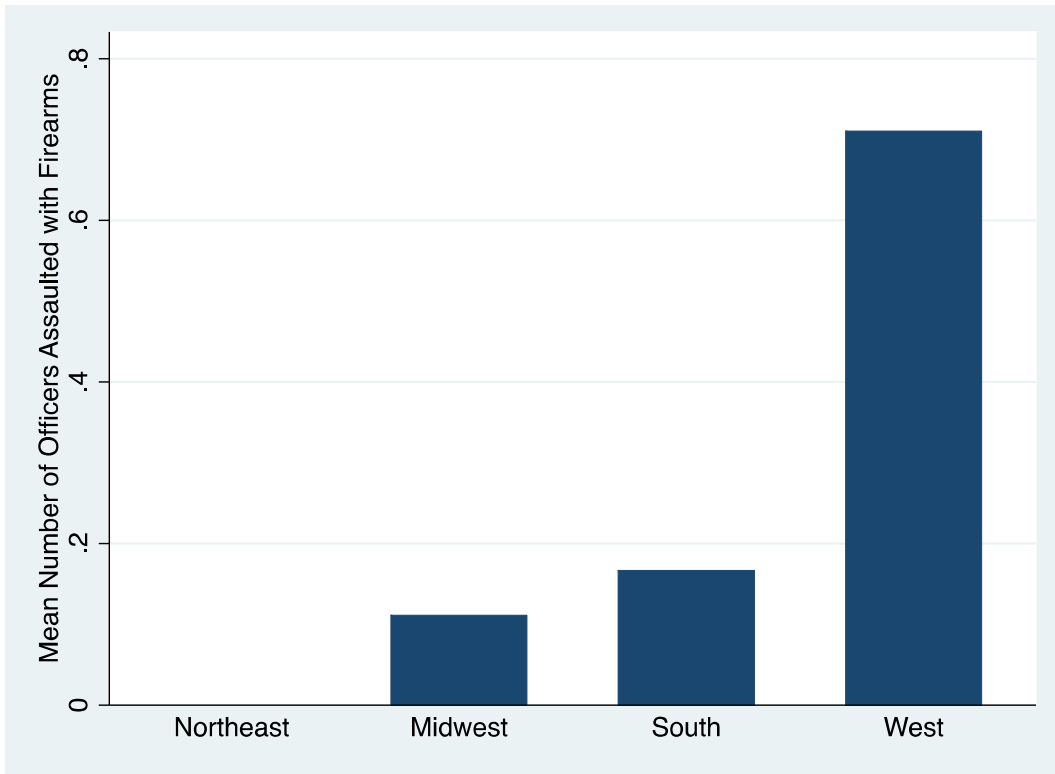
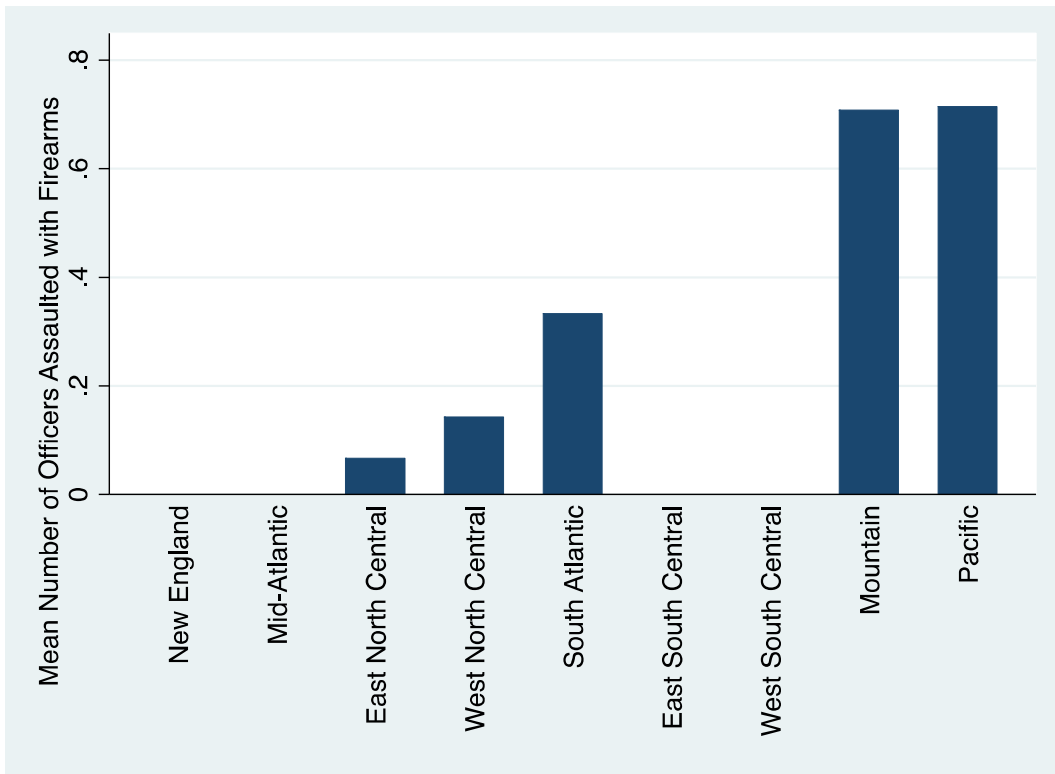Figure 4.12 2012 Mean Number of Assaults on Police Officers Committed Using Firearms by Region

Figure 4.13 2012 Mean Number of Assaults on Police Officers Committed Using Firearms by Regional Division

A very similar trend is observed in the mean number of officers assaulted with knives across geographical regions, except that the overall averages for knife assault in all regional categories were lower than firearms means. Most assaults with knives are concentrated in the South Atlantic, Mountain and Pacific regional division as show in Figure 4.14. The Pacific geographic division had a slightly higher average number of knife assaults in its sampled counties than the Mountain region, making this trend different from firearms related assaults (See Figures 4.14 and 4.15). There were no occurrences of knife related assaults in any of the sampled counties in the Northeast regional, a trend on par with the lack of firearms assaults throughout the year in that region.
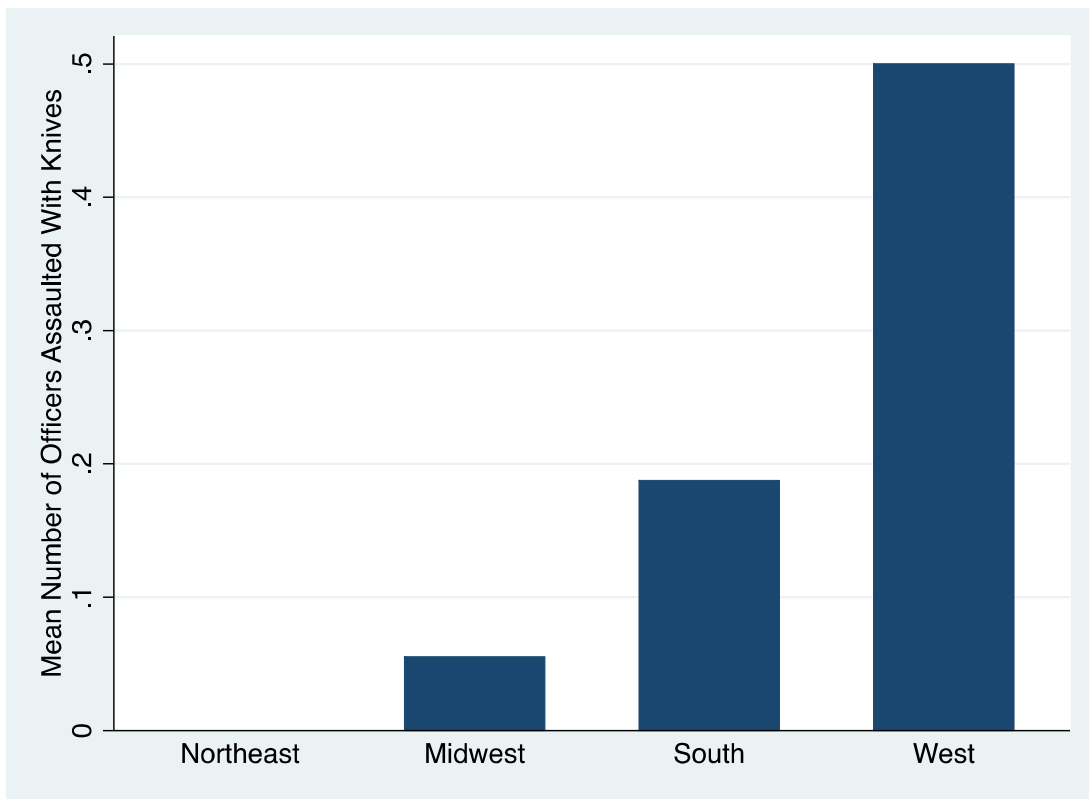

Figure 4.14 2012 Mean Number of Assaults on Police Officers Committed Using Knives by Region
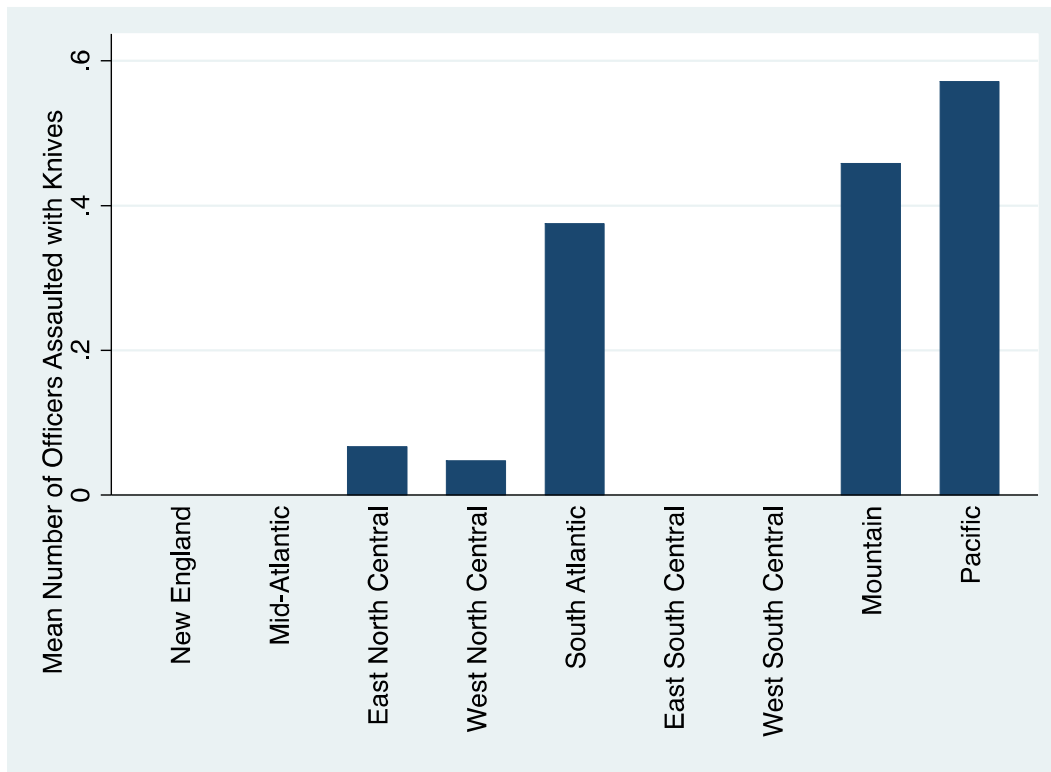
Figure 4.15 2012 Mean Number of Assaults on Police Officers Committed Using Knives by Regional Division

Analysis of the mean number of assault on police officers that were committed using hands and/or feet again shows the highest averages in the Southern and Western regions (See Figure 4.16). The Northeast and Midwest Regions are comparable to each other with the mean number of assault for attacks with hands and/or feet around 2. Southern and Western regions are comparable to each other with mean assault rates around 16. Assaults on police officers by suspects using their hands and/or feet as weapons are the most common type of assault analyzed in this study, and the most prevalent in every region.

Further analysis of this trend by regional division shows that most assaults that comprise the mean in the Northeast Region come from the Mid-Atlantic area (See Figure 4.17). The South Atlantic area comprises the majority of the hands and feet related assaults in the South and the Pacific area is responsible the majority of assaults in the West.
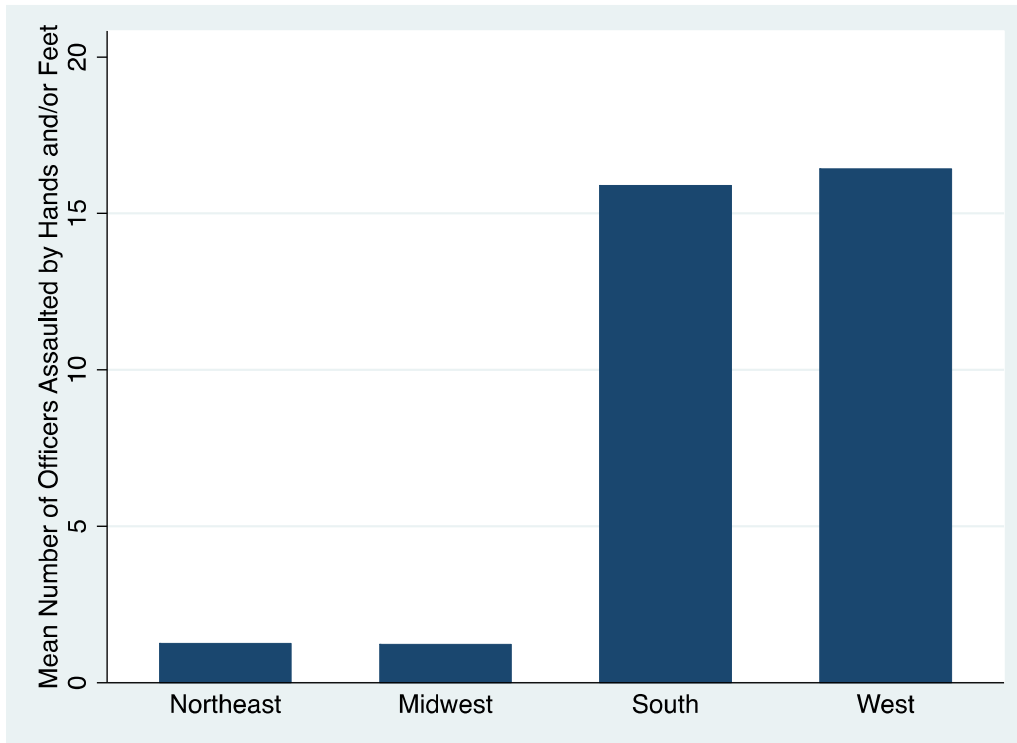
Figure 4.16 2012 Mean Number of Assaults on Police Officers Committed Using Hands and/or Feet by Geographic Region
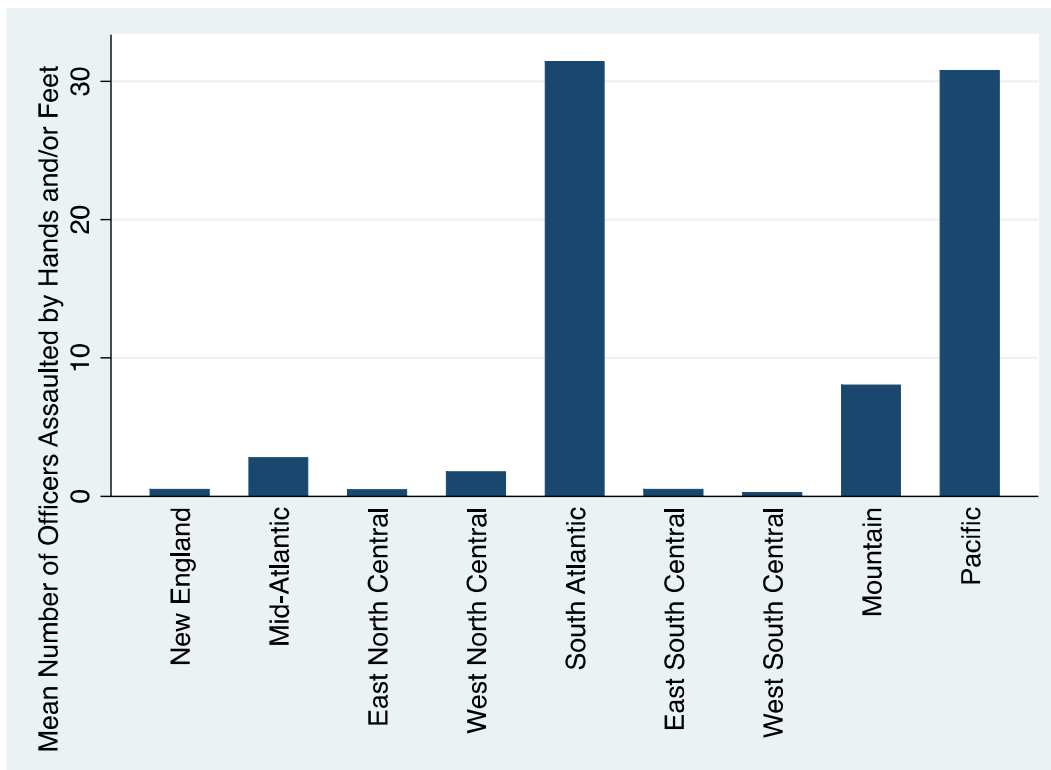

Figure 4.17 2012 Mean Number of Assaults on Police Officers Committed Using Hands and/or Feet by Regional Division

Assault means per region for attacks on police committed in ways other than with hands, feet, guns or knives, are not very different from other modes of assault. The mean number of assaults of this type are still highest in the West and second highest in the South. The Northeast and Midwest regional means for assaults on police using other methods remain very low, averaging significantly less than one across both regions (See Figure 4.18).

Further geographic division again shows these types of assault are most common in the South Atlantic and Pacific areas, followed by the Mountain division at approximately half the average of the South Atlantic area (See Figure 4.19)
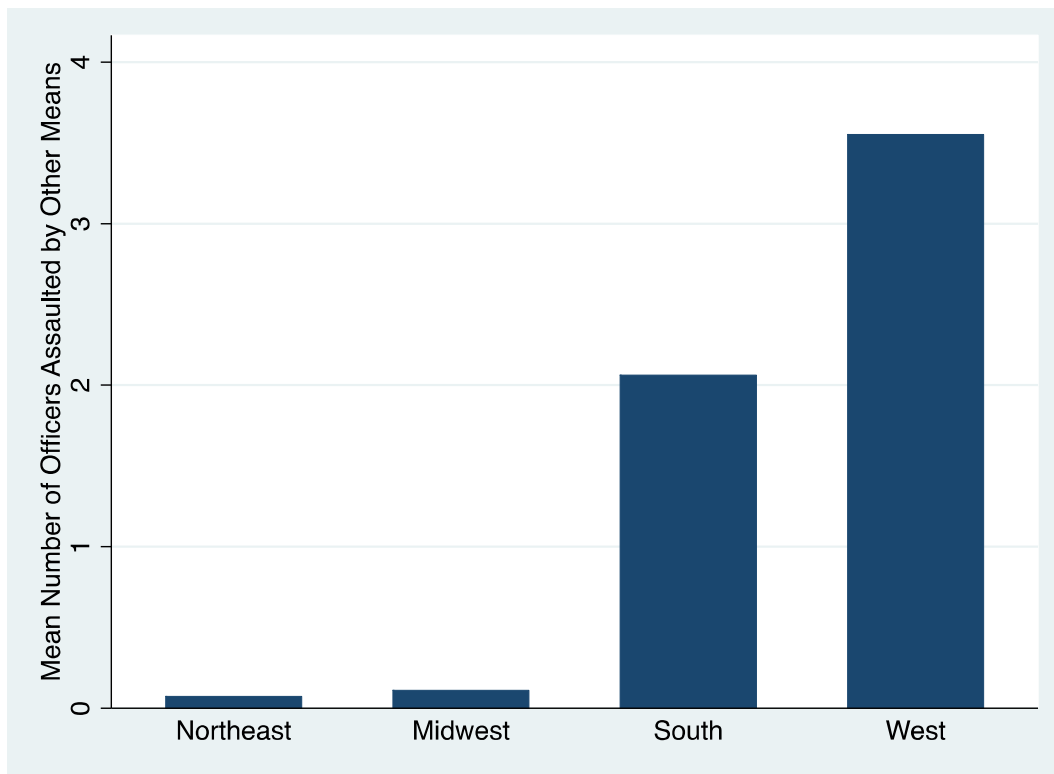

Figure 4.18 2012 Mean Number of Assaults on Police Officers by Other Means by Geographic Region
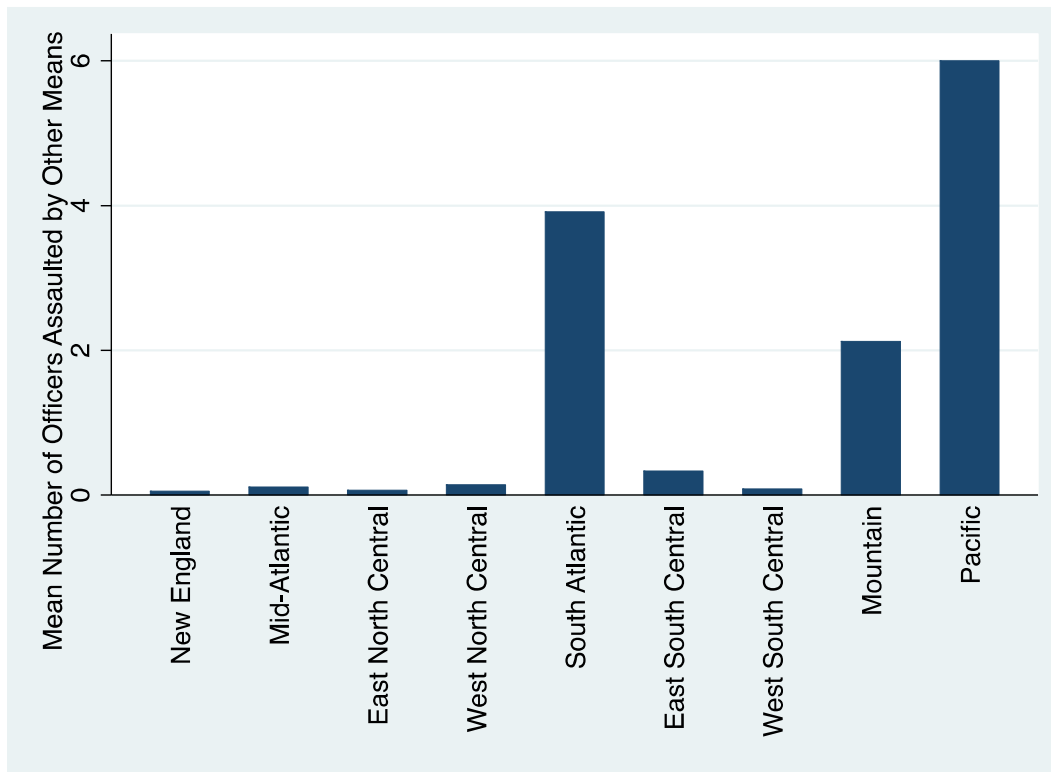
Figure 4.19 2012 Mean Number of Assaults on Police Officers by Other Means by Regional Division

In summary, findings pertaining to geographical division of the average number of assaults of different types are unexpected and interesting. Assaults with firearms are the highest in the Western region despite the averages for assaults of all types being relatively similar between the West and the South. In other words, officers in the sampled counties in the year 2012 were, on average, were significantly more likely to be assaulted with a firearm if they worked in the West than if they worked in the South or any other region in terms of number of occurrences. However, officers in the South were almost equally as likely to be assaulted as officers in the West when any type of assault, firearms or otherwise, were included in the analysis. According to this sample of counties in 2012, an officer in the West should be far more concerned about violent suspects armed with firearms and knives than officers in the other regions of the county;

whereas, the greatest threat to officers in the South is suspects assaulting them using strikes by hands and/or feet.

In this particular sample, the safest region to be a police officer is the Northeast in terms of number of occurrences of assault. Officers in the sampled counties from the Northeast, on average, experienced a fraction of the assaults that officers in the Southern or Western parts of the county did. The biggest threat to officers in this region were strikes from a suspect's hands and/or feet. Trends were similar in the Midwest, although the average number of assaults was slightly higher than in the Northeast.

The hypothesis that Southern counties will have the highest average number of assaults on police officers is not supported by the data. In all categories of assault, the South had the second highest assault average behind the West in this sample. Due to the proximity of the means of the South and West in all categories of assault, the conclusion that the South has the highest means of assault of not supported. Rather, the South and West were similar in many instances of mean assault rate comparisons[1].

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[1] This study examined political differences between counties, not regions of the country.

CHAPTER 5
CONCLUSION AND SUGGESTIONS FOR FUTURE RESEARCH

CONCLUSION

The perceived "War on Cops" has become an important issue in the study of law enforcement and police organizations across the county. From the law enforcement perspective, the current national political environment surrounding the policing profession is negative with claims of police officers' excessive use of force, racial discrimination and targeting, and aggressive tactics filling the minutes of the twenty-four-hour news cycle (Gramlich and Parker 2017). Anecdotally, as officers across the country may attest to, a nationwide "War on Police" is developing in the wake numerous sensational and negative portrayals of police actions in the media. Dubbed the "Ferguson Effect" (Wolfe and Nix 2016:1), officers may be reluctant to do their jobs for fear of negative media attention or violence against them. In a 2016 article entitled *The Alleged "Ferguson Effect" and Police Willingness to Engage in Community Partnership*, researchers Scott Wolfe and Justin Nix stated "The Ferguson Effect hypothesis suggests that officers are conscious of the negative publicity surrounding their profession, understand that their actions could be recorded by the public at any given time, and become less willing to do their job to avoid being accused of racial profiling or excessive force. In turn, this de-policing leads to increases in crime."

While there is no statistical evidence to support an increase in crime resulting from the "Ferguson Effect", it has "only been supported by anecdotal evidence and guesswork. Although the Ferguson Effect on crime rates is an empirical question awaiting research scrutiny, early indicators suggest that observing such a relationship is unlikely" (Wolfe and Nix 2016:1). This means the perception of a negative political environment exists in the police community.

Keeping this in mind, the next question becomes *how do politics affect the safety of police officers in the context of the perceived "War on Cops"?* This question is the one this study sought to answer. The "War on Cops" allegedly started after the events in Ferguson, Missouri in 2014 (See Chapter 1). As a result, this study uses data from 2012 to examine the time when politics began to shift. Statistics show that, in terms of fatalities, it is more dangerous to be a police officer now than it was when the so called "War on Cops" began (See Chapter 1). However, it is substantially safer to be a police officer now (in terms of fatalities) than at any point in the last thirty years, excluding the time since 2012.

Crime rates have gone up in some cities, and down in others (Mac Donald 2016). Along with these trends, a negative political environment continues to exist surrounding the law enforcement profession. How much of the violence against police officers is related to politics? Political ideas and affiliations are often regional, or geographically situated. Geographically speaking, the results of this study show there is a greater likelihood of being assaulted to be a police officer in the West and South than it is in other regions of the county; thus, being an officer in those two regions is relatively more dangerous. Officers in the West faced significantly more assaults involving weapons on average in 2012 than any other region of the county. This trend was especially true in the Pacific area as defined by the Census Bureau. The hypothesis that Southern counties will have higher average numbers of assaults on police officers than counties in other regions is rejected due to the higher average occurrences of all types of assault on officers in the Western geographical region. Moreover, average number of assaults on officers in the Southern region was exceptionally close to the mean of the Western region.

This is not to say the previously established trend of high rates of violence in the South (Gastil 1971) does not carry over to assaults on police officers. Police are certainly the victims

of a high number of assaults in the South. Although the assault rate is lower compared to the Western United States, it is higher than other places throughout country. However, rates of violence, particularly homicide, in the South may be high as a result of cultural variables (Gastil 1971; Ousey and Lee 2010) and not necessarily police actions or attitudes. In a 1971 study conducted by Raymond Gastil, "results revealed that the degree of Southernness in the culture of the population of the [Southern] States accounts for more of the variation in homicide rates than do other factors such as income, education, percent urban, or age." More research is needed to further clarify the causes of these trends.

When data is represented as a rate per 100 officers, officers in the West face a significantly higher average injury rate when they are assaulted than officers anywhere else in the country. This rate is more than five times higher than that of the Midwest or the South. In addition, officers in rural sampled counties in 2012 experienced a higher rate of assault on average than officers working in suburban or urban counties. There are numerous potential causes for this trend that are not able to be answered using the data examined in this study. It is possible access to medical care is delayed in Western states due to the large expanses of open land in some county areas. Police agencies could potentially send less officers to volatile calls in Western counties than in other parts of the county. This may increase the chance of officers being injured in the line of duty. More research is needed to clarify the nature and cause of this trend.

When additional explanatory variables are not included, there is a statistically significant relationship between county political affiliation and the rate of assault on police officers. In terms of politics as a variable that drives assault rates on police officers, results indicate county political affiliation as determined by the 2012 Presidential election is not a statistically significant predictor of the assault rate on police officers when additional explanatory variables

are included in regression. As a result, the relationship between the two variables appears to be spurious as the statistical significance of political affiliation in predicting the assault rate on police officers disappears once additional explanatory variables are factored in to the regression equation. Hence, county political affiliation is not a significant variable for predicting assault rates on police officers. The data do not support the hypotheses that rates of assault on police will be higher in counties that voted Democratic in the 2012 Presidential election than in counties that voted Republican.

While the primary purpose of this study was to see if a relationship between political affiliation and assault rates on police officers existed at the county-level, speculation as to the lack of a statistically significant relationship between these two variables may spur future research. At the county-level, there are variables that influence violent crime against police far more than general political attitudes. In this sense, a general sense of living in a Republican or Democratic county seems to have little influence when compared to the general culture of a place and the existence or absence of other social factors. While crime rates in general may respond to political policies implemented by either party, it seems that violence against the police may be apolitical. In other words, politically aligned attitudes about police does not translate into violence against them, so much as it may protests against law enforcement or rallies in support of police.

Geographical differences in assaults may be partially accounted for by variables within the police agencies themselves. Different regions of the country may tend to train their officers in a certain way that predisposes them to be more vulnerable to certain kinds of attacks. In addition, different regions of the county may be more apt to attack police in different ways. For example, some states have more restrictive firearms laws than others potentially increasing or decreasing

the possibility of a suspect assaulting an officer with a firearm. Similarly, laws surrounding the use and carrying of knives, both concealed and open vary by states. The prevalence and cultural acceptability of weapons could also vary by state and county and this may also help explain the trends observed in this study. While no empirical evidence generated from this study supports these explanations, this conjecture opens numerous pathways for additional research in the area of police assaults and their causes.

POLICY RECOMMENDATIONS

Research informed policy is an important aspect of organizational operation. Research informed policy is where academic examination and practical application merge. Both are mutually dependent and have the potential to influence one another. In this study, real world events led to academic examination. The results of this investigation may be used to influence future practices. How each reader interprets and applies this research to their own situation or organization will vary, but several policy recommendations clearly emerge from this research.

First, changes can be made to officer training to reflect the most common threats in their region. For example, one major differences between the Pacific region and the New England area is that officers in the Pacific are assaulted with knives far more often. Based on this data, officers in the Pacific area may benefit from more training in knife defense than officers in New England since these types of assaults occurred with higher frequency. This does not preclude agencies in New England from training their officers to respond to knife assaults because these attacks, while few occurred during the examined time, as still possible and threaten officer's safety. Similar training conclusions can be made in the other studied regions.

Second, law enforcement organizations have the potential to improve morale and contribute to agency culture. If the "war on cops" is not influencing assaults on police officers, at least as of 2012, officers may feel more supported and valued by their communities. Perhaps American citizens are not as anti-police as it may sometimes feel to line level officers. Sharing empirical evidence to support this trend may improve officer moral and positively contribute to an agency culture of service.

SUGGESTIONS FOR FUTURE RESEARCH

A lack of a statistically significant correlation between county-level political affiliation and assaults on police officers should not be taken as absolute evidence that a politically or ideologically inspired "War on Cops" does not exist. As discussed in Chapter 1, how the "War on Cops" is defined is essential to determining statistical validity. Although no relationship exists at the county-level, additional work needs to be done to determine the influence of political affiliation on the individual, the state and the nation within the context of violence against police officers.

Comparison of mean numbers and rates of assault on police officers overall, with injury, without injury and by weapon type, showed variation across Census Bureau defined regions and divisions. Current data models were not able to identify the cause of this trend, despite other variables being accounted for. The sociological discipline would be enhanced from further investigation into the causal source of this trend to better understand the data that was observed in this study.

AFFILIATIONS AND FUNDING DISCLOSURE

Disclosure of researcher positionality is emerging as an important part of scientific credibility (Ravitch and Carl 2016). In the spirit of full disclosure, I believe it is important to state that my interest in this topic was spurred by my connection to the law enforcement profession.

For several years, I have volunteered as a member of an Auxiliary unit with a municipal law enforcement agency. In addition, I have three years of seasonal work experience as a Park Ranger. This research is my own and is in not affiliated with any law enforcement agency.

I did not receive any funding, monetary or otherwise, from any individual, institution or organization to conduct this research.

I have, in good faith, attempted to conduct this research in the most unbiased way possible in accordance with academic standards at Colorado State University.

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Variable Name	Description	Coding
Region	Census Bureau Regions	1=Northeast 2=Midwest 3=South 4=West
Division	Census Bureau Divisions	1=New England 2=Mid-Atlantic 3=East North Central 4=West North Central 5=South Atlantic 6=East South Central 7=West South Central 8=Mountain 9=Pacific
Alcohol	Alcohol Sales by State	
UrbanizationCode	Level of Urbanization	1=Urban 2=Suburban 3=Rural/noncore
PopEstimate	Census Bureau Population Estimate for County	
PresidentialElection	How County Voted in 2012 Presidential Election	0=Democratic 1=Republican
ViolentCrimes	Number of Violent Crimes Reported to Police in County	
PropertyCrimes	Number of Property Crimes Reported to Police in County	
TotalCrimes	Total Number of Crimes Reported to Police in County	
Unemployment	Percent of County Population Defined by Census Bureau as	

	Unemployed	
GINIIndex	Measure of Income Inequality	
NFARegisteredWeaponsbyState	Total Number of National Firearms Act Registered Weapon in State	
MaleOfficers	Number of Male Officers in Agency	
FemaleOfficers	Number of Female Officers in Agency	
OfficerRateper1000	Number of Officers per 1,000 County Residents	
NumberofOfficersinAgency	Number of Officers in Agency	
PropMale	Proportion of Officers in an Agency that are Male	
PropFemale	Proportion of Officers in an Agency that are Female	
NumberofCountiesinState	Total Number of Counties and County Equivalents in State	
NumberofCountiesinStatebyUrbanizationo	Number of Counties in State at Each Urbanization Level	
sampweight	County Weights Equal to Inverse of Probability of Selection	
AssaultRate	Number of Assaults Divided by Number of Officers in Each Agency	Graphs Represent Rate Per 100 Officers
AssaultWOIRate	Number of Assaults Without Injury Divided by Number of Officers in Each Agency	Graphs Represent Rate Per 100 Officers
AssaultInjuryRate	Number of Assaults With	Graphs Represent Rate Per 100 Officers

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	Injury Divided by Number of Officers in Each Agency	
VCrimeRate	Number of Violent Crimes Reported to Police Divided by 1,000 County Population	Graphs Represent Rate of Violent Crime Per County Resident
AssaultRateFirearms	Number of Assaults With Firearms Divided by Number of Officers in Each Agency	Graphs Represent Rate Per Officer
AssaultRateKnives	Number of Assaults With Knives Divided by Number of Officers in Each Agency	Graphs Represent Rate Per Officer
AssaultRateHandsFeet	Number of Assaults With Hands and/or Feet Divided by Number of Officers in Each Agency	Graphs Represent Rate Per Officer
AsasultRateOther	Number of Assaults With Other Methods Divided by Number of Officers in Each Agency	Graphs Represent Rate Per Officer
YearOfficersAssaultedTotal	Total Number of Police Officers Assaulted in this Sample in 2012	
YearOfficersAssaultedFirearmsTotal	Total Number of Police Officers Assaulted with Firearms in this Sample in 2012	