

AN ANALYSIS OF STATE GUN CONTROL LAWS
AND THEIR EFFECT ON VIOLENT CRIME

By

Andrew J. Gray

An Abstract

of a thesis submitted in partial fulfillment
of the requirements for the degree of
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ABSTRACT

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This thesis investigates the effects of gun-control laws on the violent crime rates in each state in the United States, by using a cross-sectional and longitudinal design to analyze states during the time-periods of 2000-2001 and 2010-2011. Gun-control laws are and have continued to be an important, but emotional, political issue in the United States. This thesis explores differences each states' gun-control legislation, changes in legislation over a ten-year time period, the effect social and economic variables have on violent crime, and brief synopsis on the history of gun-control in the united states.

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Andrew J. Gray

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APPROVED:

Thesis Chair: Prof. Dane Miller

Thesis Committee Member: Dr. Randa Matusiak

Thesis Committee Member: Dr. Fran Reddington

ACCEPTED;

Chair, Department of Criminal Justice: Dr. Lynn Urban

UNIVERSITY OF CENTRAL MISSOURI
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An Analysis of State Gun Control Laws and their Effect on Violent Crime

Mass shootings, such as the ones carried out at Sandy Hook Elementary School in Newtown, Connecticut, and the Century Theater in Aurora, Colorado, have reignited the intense political debate over gun control laws in the United States (Faria, 2013). Few political debates in the United States are capable of generating conflict among people like the debate over gun control (McClurg, 2010). The debate over gun control laws revolves around the constitutionality and the efficacy of firearm and ammunition regulation (Krouse, 2007).

Unfortunately, much of the gun control debate revolves around the use of bad rhetoric based on fallacious arguments with little acceptance of the scholarly studies (McClurg, 2010). The debate over gun control is fought with the heart not with the mind (Kopel, 1995). Recognizing a need for firearm-related studies and in a response to these mass shootings, President of the United States Barak Obama issued 23 executive orders related to firearms, and directed federal government agencies to increase knowledge of firearm violence. Specifically, the executive orders sought to explore the causes of firearm violence, interventions to prevent such violence, and strategies to minimize the public health burden brought on by firearms (Institute of Medicine and National Research Council of the National Academies [IOM], 2013).

Importance of Study

While the firearm debate focuses on two areas, constitutionality and efficacy of gun control laws, the purpose of this study will focus on the later by evaluating gun control laws and their effectiveness of in reducing violent crime. It is important to evaluate legislative efforts to reduce violence through firearm restrictions in order to provide sound scholarly research to add to the field of study, and ultimately provide a basis for sound public policies and laws. Reliable scholarly studies on firearm violence and gun control are essential for the development of sound

policies. Currently, data regarding firearms is weak and it is difficult to develop research to answer questions regarding firearms, firearm violence, and to properly evaluate programs (IOM, 2013).

Research Questions

This thesis will attempt to answer numerous research questions. Do gun control laws directly affect crime rates by either lowering or increasing the overall violent crime rate? Will gun control laws affect specific types of crime and thus affect the overall violent crime rates though one specific category? Finally, is there a greater relationship between social or economic factors and violent crime rates than between gun control laws and violent crime?

Literature Review

The two most important questions regarding the regulation and restriction of the availability of firearms are the constitutionality of the regulation and restrictions of firearms, and gun control laws effective at crime control (Krouse, 2007). While the focus of this study is on the effectiveness of gun control laws on reducing crime, it is important to understand the basic basis for the right to own firearms and the legality of regulations on firearms in the United States.

The definition of gun control is very vague and can have a wide range of meanings and interpretations (Wellford, Pepper, & Petrie, 2004). Gun control laws can be broadly viewed as laws against the sale, possession, and use of certain types of firearms. This definition appears to some to run contrary to the Second Amendment's protection for the ownership and possession of firearms (Scheb & Scheb, 2008).

The constitutionality debate revolves around the interpretation of the Second Amendment of the Constitution of The United States. This amendment states: "A well regulated Militia, being necessary to the security of a free state, the right of the people to keep and bear arms, shall not be

infringed”. Two theories, "individual rights theory and "collective rights theory", have emerged regarding how the Second Amendment should be interpreted (Cornell University Law School, n.d.).

First, the “individual rights theory”, contends the passage, “the right of the people to keep and bear arms”, provides the individual person the right to own firearms and prohibits legislation restricting firearm ownership. The second theory, the “collective rights theory”, argues the passage, “A well regulated Militia”, was intended by the framers of the constitution to only prohibit Congress from passing laws restricting a state’s right to self-defense, not granting the individual’s right to own firearms (Cornell University Law School, n.d.).

United States v. Miller (1939), is a landmark ruling because it is viewed by many to be the first Second Amendment test case. In 1934, Congress passed the National Firearms Act (NFA), which was a firearms ban masquerading as firearms tax. NFA focused on perceived “gangster weapons”, and taxed the manufacture, sale, and transfer of machine guns, silencers, short-barreled rifles, and short-barreled shotguns. NFA required the registration of these firearms. The taxes levied against these weapons were often more than the value of the firearm, making owning of these firearms expensive. The registration aspect was directed at “gangsters” because it was doubtful any criminal would come forward to register their firearms and submit to being fingerprinted (Frye, 2008).

In this case, Jack Miller and Frank Layton, on April 18, 1938, were arrested by Arkansas and Oklahoma state police for carrying an unregistered sawed-off shotgun in violation of NFA. Miller was a prohibition era criminal, who engaged in numerous bank robberies throughout the Midwest. When he was arrested in connection to these bank robberies, he agreed to testify against his accomplices, in exchange for full immunity (Frye, 2008).

After narrowly avoiding prosecution by turning government informant, Miller was again involved in criminal actions. After being arrested and charged in 1938 with transporting an untaxed short-barreled shotgun in interstate commerce, Miller challenged the constitutionality of NFA under the Second and Tenth Amendments. The District Court held NFA, did in fact, violate Miller's Second Amendment right. On January 30, 1939, the government's appeal was accepted by the United States Supreme Court (Frye, 2008).

On May 15, 1939, the Supreme Court ruled 8-0 to reverse the lower court's ruling (Frye, 2008). The court ruled NFA did not violate the Second Amendment based on the idea the Second Amendment protects only the right to bear arms in the context of a well-regulated militia. A sawed-off shotgun has no "reasonable relationship to the preservation or efficiency of a well regulated militia" (Scheb & Scheb, 2008).

The *Miller* ruling is far from a definitive guide to the scope of the Second Amendment. Critics often have differing viewpoints on the *Miller* ruling and overall the ruling does not clearly adopt either theory of the Second Amendment (Frye, 2008).

Collective rights theorists, view the ruling as clear indication firearms should be stored only for militia purposes. Individual rights theorist, believe the court legitimized the individual's right to own firearms by recognizing Miller's claim of a Second Amendment violation. While others view the *Miller* ruling as simply permitting Congress to tax firearms and did not establish a guiding theory (Frye, 2008).

The general consensus is the *Miller* ruling demonstrates the Second Amendment allows for regulation of firearms and gives legislators plenty of leeway in making firearm regulations (Frye, 2008). For nearly seventy years, the *Miller* ruling was the only Supreme Court precedent on the interpretation of the Second Amendment, until the Supreme Court ruled on Washington

D.C.'s handgun ban in the landmark case, *District of Columbia v. Heller* (2008) (Cornell University Law School, n.d.).

For thirty-two years, Washington, D.C., had a statute banning handguns, widely viewed as the most stringent gun control measure in the United States. *Heller*, challenged the constitutionality of this statute under the Second Amendment. In a 5-4 decision, the Supreme Court ruled the Second Amendment did establish an individual's right to own firearms. The individual's rights to defense of self, family, and property is the central component of the Second Amendment. According to the Court's ruling handguns are the preferred firearm for protecting one's home and family, and are protected by the Second Amendment (O'Brien, 2011). The ruling struck down the Washington D.C. ban as unconstitutional (Cornell University Law School, n.d.). However, the Court emphasized the ruling did not apply to other firearms restrictions, including firearm possession by felons, or mentally ill, nor did the ruling apply to other banned weapons (O'Brien, 2011).

A similar law was struck down in *McDonald v. Chicago* (2010). In 1983, Chicago, Illinois enacted a law banning the possession of unregistered fire arms and required all gun owners to register firearms and re-register them annually (O'Brien, 2011). The law effectively banned all private citizens from owning firearms (Cornell University Law School, n.d.).

McDonald challenged the city of Chicago's law in court and the Court of Appeals for the Seventh Circuit upheld Chicago's law. However, the Supreme Court reversed the lower Court's ruling 5-4, citing *Heller*, further strengthening the position that the Second Amendment protects the individual's right to own firearms (O'Brien, 2011). More importantly, the *McDonald* ruling applied the Second Amendment to the states. The city of Chicago and Oak Park, Illinois, a suburb of Chicago, based their argument on the idea the Second Amendment does not apply to

the states therefore the law was constitutional. The Supreme Court ruled the Second Amendment is fully applicable to the states (O'Brien, 2011).

While the Supreme Court ruled that individuals do have the right to own firearms, and ruled that this right is applicable to the states, many have been critical of the Supreme Court for not fully taking on the issue of gun control laws. The court has left the interpretation of the Second Amendment up to the lower courts and in doing so, has left the application of the Second Amendment vague (Persky, 2010; Wellford et al., 2004).

Federal Firearm Laws

The majority of the burden of firearm regulations is left up to individual states, not the federal government (Gerney, Parsons, & Posner, 2013). In some instances, the federal government has passed gun control laws. The most notable federal regulations of firearms are the National Firearms Act (NFA) of 1934, the Gun Control Act (GCA) of 1968, and the Brady Handgun Violence Prevention Act of 1993 (Krouse, 2007).

The NFA of 1934 was originally designed to keep prohibition era gangsters from obtaining firearms. It was the only major firearms regulation until the enactment of the Gun Control Act of 1968 (GCA) (Krouse, 2007). NFA was a major influence on future federal firearms regulations including the GCA.

The GCA was intended to assist federal, state, and local law enforcement in reducing crime and violence, while not placing any unnecessary burdens on law-abiding citizens attempting to purchase firearms (Krouse, 2007). The GCA attempted to meet these goals through three major focus areas.

First, by “eliminating the interstate traffic in firearms and ammunition that had previously frustrated state and local efforts to license, register, or restrict ownership of guns”; eliminating

the interstate traffic of firearms was the “center piece of the law” (Zimring, 1975, p. 149). The GCA attempted to do so through federal restrictions on individuals who sell, manufacture, and import firearms as a business. The law requires these individuals to obtain a federal license in order to legally conduct business. Furthermore, the GCA prohibits mail-order firearm sales and the interstate sale of handguns (Krouse, 2007).

Second, the Act was directed at “denying access to firearms to certain congressionally defined groups, including minors, convicted felons, and persons who had been adjudicated as mental defectives or committed to mental institutions” (Zimring, 1975, p. 149). The GCA forbids the sale to, transfer to, or possession of firearms by certain individuals including: convicted felons, drug users, mentally incompetent or individuals committed to mental institutions, individuals dishonorably discharged from the military, people illegally in the United States, people who have renounced their US citizenship, person under court ordered restraints for stalking or harassing domestic partners, and fugitives from justice (Scheb & Scheb, 2008).

Third, ending the importation of all surplus military firearms and all other guns unless certified by the Secretary of the Treasury as “particularly suitable for . . . sporting purposes” (Zimring, 1975, p. 149). This aspect proved to be the most difficult part of the law to enforce. It required the Secretary of the Treasury to define what weapons were considered non-sporting. This proved difficult to define and to avoid controversy not much was done regarding this part of the law (Zimring, 1975).

The Brady Handgun Violence Prevention Act of 1993, also known as the Brady Act, was passed as an amendment to the GCA of 1968. The primary purpose of the act was to establish a waiting period for handgun purchases and to create a national criminal background database for

firearm dealers to use before transferring firearms to non-federally licensed individuals (Pepke, 1995).

As a result of the Brady Act, the Federal Bureau of Investigation's (FBI) Criminal Justice Information Services (CJIS) maintains the National Instant Criminal Background Check System (NICS). The Brady Act requires federally licensed firearms dealers to contact the FBI or contact state authorities, who in turn contact the FBI, to determine the eligibility of potential customers. The FBI has up to three business days to conduct background check and determine eligibility. From the time the provisions of the Brady Act took effect through 2005, roughly 70 million background checks have occurred. 1,360,000 background checks, or 1.9%, have been denied (Krouse, 2007).

Even with attempts at federal firearms legislation, federal gun control laws act as the minimum standard for all states. Some states choose to enact stricter gun control measures. Many proponents of gun control regulations believe that federal regulations will be the only effective gun control laws (Krouse, 2007).

Gun Related Statistics

Private ownership of guns has been a part of American life since the inception of the United States (Wellford et al., 2004). American's are, without question, the heaviest armed civilian population of any developed country (Price, Thompson & Drake, 2004). For example, in contrast to the United States, the United Kingdom has banned all private ownership of handguns, with the exception of a few cases, such as antiques or gas-powered guns (Squires, 2002).

In 1994 the National Institute of Justice (NIJ), reported that 44 million Americans, approximately 35% of American households, owned firearms. By 1996 the number of firearms increased to approximately 242 million firearms, including 72 million handguns, 76 million

rifles, and 64 million shotguns. By 2000, Americans owned approximately 259 million firearms. This includes 92 million handguns, 92 million rifles, and 75 million shotguns (Krouse, 2007).

Guns and Homicide

A major focal point of the gun control debate in the United States, revolves around the relationship between guns and violent crime, specifically gun related homicides. Based on the Federal Bureau of Investigation's (FBI) annual Uniform Crime Reports (UCR), the overall violent crime rate had declined since the early 1980s. However, homicides and the number of firearm-related homicides have increased in recent years. Starting in 1993, firearm-related homicides saw a steady decrease by nearly 11% each year until 2000, when the number of known firearm-related homicides rose by 2% to 8,661. By the end of 2003, the number of firearm-related homicides increased 11.2% to 9,659. This was followed by a 3.2% decrease in firearm-related homicide, to 9,326, in 2004. In 2005, firearm-related homicides again increased 7.7% to 10,100 (Krouse, 2007). Overall it is estimated that around 60% of all homicides in the United States are committed using firearms (McDowall, 1995).

Guns and Other Crimes

While around 60% of all homicides are committed using firearms, the number of non-lethal crimes committed using firearms is significantly lower. According to NCVS data for the calendar year 2003, 5.4 million violent crimes occurred, 1.2 million of those involved the use of a weapon, and 367,000 involved firearms or roughly 7% of all violent crime (Krouse, 2007).

Guns and Self-Defense

The Supreme Court ruling in *Heller* established American citizens had a fundamental right to own firearms for self-defense (law.cornell.edu). Unfortunately, statistics regarding the

number of times firearms that are used in self-defense and the defense of family or property vary greatly and are often unreliable (Krouse, 2007).

According to the National Crime Victimization Survey (NCVS), just over 60,000 victims of violent crime used a gun to defend themselves, constituting 1% of all violent crime victims. Other estimates place the number of defensive gun uses much higher. According to one survey, four percent of all Americans have used a handgun in the past five years to avert a crime. Given those figures, researchers estimate there are at least 600,000 defensive uses of guns per year (LaFollette, 2000). Another survey, conducted by Florida State University criminology professor, Gary Kleck, estimated there were approximately 2.5 million defensive uses of firearms a year during the 1988-1993 time-frame (Krouse, 2007). Kleck and Gertz (1995); and Kates (1991) assert that defensive gun use is substantially more common than criminal gun use.

Numerous reasons may explain why statistics on defensive gun use vary. First, law enforcement agencies do not collect information on how often firearms are used in self-defense or in defense of property. Second, different research studies use different methodologies, which lead to different statistics depending on the methodology being. Third, criminal justice statistics represent what is reported, not the actual number of instances. Crime often goes unreported to law enforcement and both victims and offenders can be reluctant to disclose information to researchers. These issues can help account for difference between estimates on defensive gun use, with a low estimate being roughly 60,000 and high estimate of 2.5 million a year (Krouse, 2007).

The Debate For and Against Gun control Laws

The debate over gun control laws is not as simple as “for or against”. Many different perspectives exist and both sides of the gun control debate can produce evidence in support of

their position. Moreover, what empirical evidence does exist on the subject is difficult to assess and does not unequivocally support a single perspective (LaFollette, 2000). Often the same study is interpreted differently and presented as evidence supporting each of the theoretical positions (Kruschke, 1995). These factors make gun control a difficult subject to analyze. They also create issues when trying to draw conclusions about either perspective. The following is a summary and analysis of the major arguments from both gun control perspectives.

Supporters of Increased Gun control

Proponents of increased gun control laws hold many different positions on why the United States needs to have increased gun control and how gun control needs to be implemented to be effective. These reasons are very diverse and include the following: alternative interpretations of the Second Amendment; belief that fewer guns would mean a reduction in violence; the high rates of firearms being used in homicides; the successful reductions in violence in foreign countries with very restrictive gun law; and the belief that firearms pose serious risks to public health and have high economic cost to society.

Second Amendment Position of Gun control Advocates

The Supreme Court has ruled (*McDonald* and *Heller*) there is an individual right to own a firearm (Cornell University Law School, n.d.). However, proponents of increased firearm restrictions hold three different views on the interpretation of the Second Amendment different than the Supreme Court. First, the Second Amendment is outdated and obsolete, especially in today's world with highly trained professional police forces. Second, the Amendment was only intended to protect states' rights to keep a militia from being suppressed by the federal government, not the individual right the Supreme Court has ruled exists. Third, the Amendment

does grant a right to own a firearm, but the government is allowed to regulate firearms, specifically firearms not built specifically for hunting or sporting purposes (Krouse, 2007).

LaFollette (2000) presents further clarification on the belief that the Second Amendment grants the right to own firearms, but the government is allowed to regulate that right. This interpretation is based on the debate of “fundamental rights versus derivative rights”.

“Fundamental rights” are the rights specifically granted by the constitution which cannot be infringed upon. LaFollette (2000) presents freedom of speech as a fundamental right, and therefore, one which should not be regulated.

Derivative rights are rights granted to citizens based on a fundamental right. LaFollette (2000) contends drinking beer is a derivative right; we have a right to drink beer because we have a fundamental right to follow our interest. However, derivative rights differ from fundamental rights, because derivative rights can be regulated by the government. Many gun control advocates view the right to bear arms as a derived right, instead of a fundamental right, and therefore, subject to regulations. This position would allow for government regulation of firearms without violating the Second Amendment. However, LaFollette believes in order to regulate derived rights, like firearm ownership, there must be solid evidence showing society would benefit from controlling access to guns, much like there is solid evidence showing society benefits from the regulation of beer.

More Guns, More Violence

Gun control advocates have many different theoretical grounds justifying the regulation of firearms in America. One of the more prevalent perspectives is the theory that the more firearms in circulation, the more violence will occur. Studies have found that areas with high amounts of private gun ownership have higher murder rates (Duggan, 2001; LaFollette, 2001).

When gun ownerships increase in an area, there is a strong positive correlation with the murder rate. Limiting private ownership of firearms will have a significant effect on the number of murders. While the relationship between gun ownership and other types of violent crimes is weaker and often insignificant, increases in the homicide rate still have a significant influence on the overall violent crime rate. This suggests that guns influence crime rates primarily through increases in the homicide rate. It can be inferred that, by decreasing the number of guns in private hands, the violent crime rate can be significantly reduced by radically lowering the homicide rate (Duggan, 2001; LaFollette, 2001).

The main reason private ownership of firearms leads to increases in criminal gun possession and use is that private firearms are the source of the weapons found in illegal gun markets (Cook, Ludwig, Venkatesh, & Braga, 2007). Few criminals actually buy firearms from licensed dealers (Wright & Rossi, 1994). Instead, the majority of criminals receive firearms from illegal gun markets and unregulated secondary markets. Firearms can find their way into illegal gun markets and into the hands of criminals many different ways, however, a predominate number of firearms in these markets are stolen firearms from citizens. There are roughly 500,000 guns stolen each year. Therefore, an increase in gun ownership among law-abiding citizens has an effect on the availability of guns for criminals. The ease with which criminals can acquire their guns is bound to be much greater in those places where the gun ownership is highest among law abiding citizens (Duggan, 2001).

Lost and stolen firearms pose a substantial threat to public safety and to law enforcement. Those who steal firearms commit violent crimes with stolen guns, transfer stolen firearms to others who commit crimes, and create an unregulated secondary market for firearms, including a market for those prohibited from possessing a gun by law. In 2012 the Bureau of Alcohol,

Tobacco, Firearms, and Explosives, reported the National Crime Information Center (NCIC) received reports reflecting 190,342 lost and stolen firearms nationwide. Of those 190,342 lost and stolen firearms reported, 16,667 (9% of the total reported) were the result of thefts/losses from Federal Firearms Licensee (FFL). Of the 16,667 firearms reported as lost or stolen from a FFL, a total of 10,915 firearms were reported as lost. The remaining 5,762 were reported as stolen (Bureau of Alcohol, Tobacco, Firearms, and Explosives [ATF], 2013).

Legal, yet unregulated gun markets provide criminals opportunities to buy firearms. It is estimated that secondary gun markets are the source of 2 to 3 million firearm transactions. Organized gun shows are just a small part of this secondary market as firearms may also be sold between friends and family members (Wright & Rossi, 1994; Cook & Ludwig, 1996). A final way private gun ownership can affect the crime rate is by legally owned firearms being used in crimes. A small yet consequential number of crimes involving firearms are committed by individuals who legally purchased a firearm (Cook, et al., 2007).

Case Sample: Fewer Guns, Fewer Homicides

Gun control advocates believe Australia provides the United States with a natural experiment in the effectiveness of how fewer firearms equates to less crime. Australia has many cultural similarities to the United States, including a history of private gun ownership and a frontier mentality (Martin, 2013). Australia, like the United States, has a large majority of the population living in urban areas (Cook & Ludwig, 2003). However, after multiple mass shootings including the Port Arthur, Hoddle Street, Queens Street, Surry Hills, Strathfield, and Central Coast massacres, pressure mounted to re-examine firearms and firearm violence in Australia (Martin, 2013).

In 1996, the Australian government passed the National Firearms Program Implementation Act (NFPIA) (Martin, 2013). Prior to the passage of NFPIA, Australia's firearm laws were left up to the states and territories, much like in the United States (Cook & Ludwig, 2003). NFPIA established uniform firearm licensing across all states and territories and established a government buyback program targeting specific weapons such as semi-automatic rifles. It is estimated that the government bought back more than 650,000 firearms, reducing the firearm stock by 20%. Overall, just over 750,000 Australians owned an individual firearms license, constituting just over 5% of the adult population. In the time period following the passing of NFPIA, Australia was able to significantly reduce both suicide and homicide rates (Martin, 2013).

Australia is not the only country providing the United States with an example of real world experiment in gun control. International studies examined firearm-related deaths in foreign countries with similar income levels as the USA. These studies showed the USA had significantly higher firearm mortality rate than countries in Europe, Asia, and Oceania (Krug, Powell, & Dahlberg, 1998). Hoskin (2001) believes these studies establish the link between high levels of lethal violence and high amounts of firearm availability. For example, Canada, Australia, and New Zealand all have a high number of privately owned firearms – though not at the level of the United States - but all have much more restrictive firearm regulations. It is believed these firearm regulations keep firearms out of the wrong hands and as a result reduce criminal gun usage (Hemenway, 1998).

Rejection of Self-Defense Claim

Another justification for the increased regulation of firearms comes from the rejection of the idea that firearm ownership provides a tangible benefit to society (e.g. provides self-defense

or reduces criminal offending). Ayres and Donohue (2003) and Black and Nagin (1998) dispute research findings supporting the proposition that “shall-issue” conceal and carry permits lowers crime rates and deters crime (e.g. Lott & Mustard, 1997). Ayres and Donohue (2003) asserts that based on statistical analysis it can no longer be concluded that shall-issue laws could feasibly reduce crime. While Black and Nagin (1998) contend findings supporting the idea that shall-issue laws can reduce crime such as Lott and Mustard (1997) should not be used to develop public policy.

Cost of Gun Violence

Further justification of increased firearm regulation comes from the economic cost of firearm violence. While the direct effect of personal suffering for the victims of firearm violence and their families should not be underappreciated, there must be consideration of the serious economic costs to the United States. There are many ways in which firearm violence has serious economic consequences. Cook and Ludwig (2000) examined the impact of the economics consequences. First, there are significant medical cost to the victim, both the initial medical treatments (e.g. surgery) and then the long term medical cost (e.g. therapy, rehabilitation). These medical treatment costs are estimated to be around 2 billion dollars year. Second, as a result of firearm violence, there is a significant loss of economic productivity. This includes loss of earnings, which alone is estimated to cost between 19 billion and 27 billion a year. Lastly, many other hidden costs of firearm violence needs to be considered, including victimization costs, law enforcement expenditures, and the costs of prosecuting and detaining offenders. Overall, Cook and Ludwig (2000) estimate firearm violence cost America roughly 100 billion dollars year.

Opponents of Gun Control

Opponents of gun control laws base their objections on various reasons. While there are many wide-range theoretical positions from which gun control opponents base their objections, only a handful of positions have come to the forefront in the debate over firearm regulations. These theories include the following: firearm ownership as a constitutional right; firearms serve a defensive purpose and are vital to the protection of one's self, family, and property, while acting as a deterrent to crime; previous firearm regulations have failed to produce any meaningful results and do not do what they were intended to do; and firearms and thus firearm regulations do not have any significant relationship to crime.

Constitutional Right to own Firearms

As mention above, the Constitution has been a key factor in both objections to gun control and a basis for gun ownership in the United States. The Supreme Court rulings in *Heller* and *McDonald*, established gun ownership and the ability to defend yourself, family, and property as a fundamental right protected by the Constitution (Cornell University Law School, n.d.). Many opponents have accused the Supreme Court of not doing enough to protect the Second Amendment (Scheb & Scheb, 2008). Popular beliefs in some segments of the population that are opposed to gun control view a well-armed citizenry as being essential for protection against a potentially tyrannical government. Individuals harboring this belief point to the fact an estimated 100-170 million people were murdered by their own governments in the 20th century. It is believed that firearms act as a deterrent to rogue government behavior, while providing the means for defense in the case of a government going rogue (Wheeler, 2001).

Guns Deter Crime

One of the most prominent arguments made by individuals opposed to firearm regulations are that guns actually deter a significant amount of crime. This theory is widely believed in the United States. Citizens buy more handguns when violent crime and civil disorder reduces confidence in personal security (McDowall & Loftin, 1983). The threat of encountering an armed victim during a crime may have a deterrent effect on the behavior of criminals. Research in both the field of criminology and economics supports the theory that criminal behavior can be altered by the threat of punishment (Cook & Ludwig, 2003). This revelation can be partly explained by the criminological Rational Choice Theory.

Rational Choice Theory focuses on which factors play a role in an offender's decision-making process. This theory includes weighing the risk and rewards in victim selection and finding a balance between these two factors. In other words, offenders attempt to minimize risks and maximize rewards in victim selection (Brantingham & Brantingham, 1984). Even violent offenders are selective when finding potential targets rarely choose armed victims because they pose too much risk to the offenders (Siegel, 1995).

Wright and Rossi (1994) surveyed prison inmates in ten different states regarding whether the defensive use of deadly force played a role in their decisions to commit their crimes. Of the inmates surveyed, 43% reported at some point in their lives they decided not to commit a crime because the potential victim was armed; 42% reported they have had a confrontation with an armed victim; and 38% admit to being scared off, shot at, wounded, or captured by an armed victim.

It may be concluded that allowing citizens without criminal records or histories of significant mental illness to carry concealed handguns deters violent crimes. For example, if the

rest country had adopted the right-to-carry concealed handgun provisions in 1992, at least 1,570 murders and over 4,177 rapes would have been avoided (Lott & Mustard, 1997). Plassmann and Whitley (2003) found a similar conclusion stating right-to-carry laws reduced crime and saved lives. When states had the right-to-carry laws in effect, the reduction in murders were between 1.5% and 2.3% for each year between 1977 and 2000; showing evidence of armed citizenry causing a reduction in crime.

Case Sample: More Guns, Less Crime: Kennesaw, Georgia

In March of 1982, the Kennesaw, Georgia City Council passed a city-wide ordinance requiring homeowners to own and keep a firearm inside the home. The exceptions for not owning a gun were households with physically or mentally ill persons, criminals, and or persons who conscientiously objected to owning a firearm. In the seven months after the passage of the ordinance, March 15, 1982 to October 31, 1982, there were just five residential burglaries reported, compared to 45 in the same period of the previous year. An 89% decrease in burglaries in so short a period is hard to explain away; something was clearly happening in Kennesaw that was not happening in the rest of the country (Kleck & Bordua, 1983).

Gun Laws Fail to Produce Results

Another criticism of possible future increases in firearm regulation is the idea gun control laws have little or no impact on crime. According to Kopel (1995) the world of academic criminology is increasingly coming to the conclusion that most gun control laws do little to protect public safety. Murry (1975) and Gius (2008), found little evidence to support the position gun control laws lower violent crime. Both studies point to the same possible explanation - firearms are used in only a small percentage of violent crimes and any gun control measures

targeting the prevention of violent crimes would at best prevent only a very small fraction of violent crimes.

It is possible the reason gun control laws fail to produce any meaningful decreases in rates of violent crime is that firearm prevalence is not correlated with crime rates. Many researchers point to crime and firearm ownership trends as proof. The United States saw a steady increase in violent crime during the 1960s and 1970s (Jacobs, 2002). The homicide rate steadily increased during the same time period. In 1950 the homicide rate in America was 4.6, or 7,020 estimated homicides; by 1960 the homicide rate was 5.1, or 9,110 estimated homicides. By 1970 the homicide rate was 7.9, or 16,000 estimated homicides; and by 1980 the homicide rate had increased to 10.2, or 23,040 homicides (Holmes & Holmes, 2001). However, during the 1990s, the United States saw an extraordinary drop in violent crime (Jacobs, 2002). The homicide rate in 1990 was 9.4 and there was an estimated 23,400 homicides; by 1998 there were 16,910 homicides and a homicide rate of only 6.3 (Holmes & Holmes, 2001). The number of privately owned firearms has continually increased by the millions since the 1950s. Therefore, it can be concluded, increases in private firearm ownership cannot account for the increase in crime during the 1960s, 1970s, and 1980s nor the decreases in violent crime during the 1990s (Jacobs, 2002).

Moody and Marvell (2005) also concluded firearms have no significant effect on crime and acknowledged two potential interpretations of their findings. First, criminals will use the tools available to them. If firearms are not available, the criminal will simply use other types of weapons and the crime will still happen, regardless of firearm accessibility. Secondly, criminals acquire firearms to commit crimes and citizens acquire firearms to protect themselves, their family, and property. As a result, these two factors balance each other out.

Case Sample: Gun Laws Fail to Produce Results: The Brady Act

The Brady Act was the most important gun control law passed in decades, and its supporters declared the law would significantly reduce firearm, specifically hand gun, violence in America (Jacobs, 2002). However, the Brady Act failed to have any significant effect on the crimes specifically targeted by the act, hand gun homicides and domestic homicides (Monroe, 2008).

Prior to the passing of the Brady Act, many states had already enacted laws similar to the Brady Act. By comparing states without preexisting Brady-type laws and states having preexisting Brady-type laws in the time period after the passing of the Brady Act, Monroe (2008), showed violent crime decreased in states with preexisting Brady-type laws more than states without preexisting Brady Act-type laws. These results run contrary to what would be expected from effective legislation. The law should produce significant decreases in states without preexisting Brady-type laws; leading to the conclusion that something other than the laws are responsible for the crime drop

Possible Explanations of Crime Other Than Guns

A number of other researchers have acknowledged firearm ownership appears to have little effect on crime (Moody & Marvell, 2005; Jacobs, 2002) and gun control seems to have little or no effect on violent crime (Monroe, 2008; Murry, 1975; Gius, 2008; Kopel, 1995). One fact is undeniable; America has a serious violent crime problem. While property crime rates in the United States do not differ significantly from other industrialized countries, such as the United Kingdom and Australia, the violent crime rate is significantly higher. However, only a few non-homicide violent crimes are committed using firearms, roughly less than 10%, so it

would be incorrect to conclude the high rates of gun ownership are the cause of all violent crime (Jacobs, 2002).

Simply focusing on firearm availability fails to account for other possible explanations of crime (Jacobs, 2002). Kwon, Scott, Safranski, and Bea (1997, p. 42) state that:

Studies of the effectiveness of gun control laws and regulations must not ignore other pertinent variables that may contribute to committing crimes, especially socioeconomic variables. Excluding these important variables from the model building process, and claiming that gun control laws and regulations are solely responsible for any change in crime rates, is too simplistic

Violence, and specifically firearm violence in American, is a very complicated and difficult subject. Certainly, there are many theories and factors which can help to explain Americans' penchant for violence with and without firearms (Jacobs, 2002). A wide range of theories and literature from many different academic disciplines, including criminology, sociology, economy, and psychology, attempt to explain the underlying factors causing crime and criminal behavior. These theories include the relationship between urban areas and crime; race and crime; how economic factors including unemployment, household income, poverty, and economic inequality is related to criminal behavior; and how law enforcement has an effect on crime.

Social Disorganization Theory

The relationship between crime and socioeconomic factors can possibly be explained by the Social Disorganization Theory. In the early years of criminology, most theories based on biological and psychological perspectives focused on the physical and psychological traits of

individuals as the root cause of crime. These early theorists believed the cause of crime was within individual offenders. These theorists ignored most or all social factors (Jeffery, 1959).

Social disorganization grew from the work of Ernest Burgess, who studied the city of Chicago, IL, not as a single city but as a city with many distinct areas. Burgess broke down the city into five distinct zones. The first zone in the middle of the city was the central business district. The second zone is transition and characterized by deteriorating residential housing occupied by generally poor individuals. The third zone is the workingmen's home and is occupied by individuals who were able to escape the transition zone. The fourth zone, residential zone, consists of single-family homes and expensive apartments. The commuters' zone is the last zone comprising of the outward expansion of the city as it grows. Burgess' concentric zones are important to criminology because Burgess noticed most of the crime happened in the poorer least desirable areas of the city, the transition zone (Paulsen & Robinson, 2009).

The developers of Social Disorganization Theory, Clifford Shaw and Henry McKay, used this previous research to explain the factors leading to the reason why the zone in transition had such high crime rate, specifically, juvenile offending. Shaw and McKay found delinquency, criminality, and other forms of anti-social behavior had roots in the physical and economic status of the neighborhood (Robinson, 1997).

According to Cattarello (2000), underlying environmental characteristics including urbanization, resident mobility, low socioeconomic status, broken families or single parent homes, etc., inhibit communities' social controls. This disorganization causes the weakening community friendships, less involvement in the community and community organizations, neighbors do not work together to address community problems, less supervision of youths, members of the community hold different values and find different behaviors acceptable, and

residents are less likely to intervene when they see wrongdoing or criminal behaviors. Furthermore, juveniles in socially disorganized neighborhoods are more likely to have deviant peers or criminal role models. This leads to a criminal transmission of values from one generation to the next.

Urban Areas

Social disorganization focuses on why specific segments of urban cities are plagued by high crime rates. As a result it should not be a surprise to see urban areas with significantly higher crime rates than suburban and rural areas. Both UCR data and NCVS data show a staggering 95% of all street crime in the United States takes place in metropolitan areas. Homicide, robbery, aggravated assault rates, and overall violent crime rates are higher in metropolitan areas than cities outside of metropolitan areas and rural counties (Paulsen & Robinson, 2009). DiIulio (1994), went so far as to say, “America does not have a crime problem; inner-city America does” (DiIulio, 1994, p. 1). High crime in urban areas highlight racial disparities to criminal offending and victimization rates, as most African-Americans live in metropolitan cities.

Race and Crime

With crime effecting inner cities at a greater rate than rural areas, the probability rate African-Americans will experience violent crime is 2.5 times higher than white Americans (DiIulio, 1994). Gun violence prevalence like violent crime prevalence is far from equal across all populations in America. There is a large over representation of young minority males (Cook & Ludwig, 2000). In fact, homicide is the leading cause of death for young African-Americans (Sampson, Morenoff, & Raudenbush, 2005). African-Americans are six-times more likely to be

victims of a homicide and are seven-times more likely to be the perpetrators of homicide than European-Americans (Jacobs, 2002; Holmes & Holmes, 2001).

This phenomenon extends beyond homicide statistics. Evidence has shown the rate of violent crime for African-Americans far exceeds the rate of violent crime for whites. For example, the violent crime arrest rates for African-American youths were five times higher and arrests for weapons violations three times higher than the arrest rates for white youths (DiIulio, 1994). Black/white population ratio and percentage of urban population have a strong positive influence on gun violence, which means that more urbanization and more black population have significantly higher rates of gun violence (Cheng, 2002).

Strong correlations exist between the percentage of population that is black and indicators of social disorganization (Martinez, Rosenfeld, & Mares, 2008). Blacks are more likely than whites or Mexican Americans to live in neighborhoods characterized by concentrated disadvantage, high legal/moral cynicism, and low collective efficacy (Sampson et al. 2005).

Economic Factors

A major aspect of social disorganization is the association between economic status and criminal offending (Paulsen & Robinson, 2009). According to Krivo and Peterson (1996, pp. 621-622):

Extreme neighborhood poverty and disadvantage are associated with unusually high levels of crime because the conditions that encourage criminal behavior are particularly pronounced. Further, mechanisms of social control that normally serve to discourage crime are especially lacking. In addition to the conditions that encourage crime, the concentration of poverty and other disadvantages results in fewer

networks of informal control, and fewer viable conventional community-based institutions that discourage crime. First, families, neighbors, and other primary groups are less likely to form networks whereby they watch over one another's property, intervene in crimes, and supervise youth activities (e.g., hanging out and truancy) that may evolve into crime... Further, extremely disadvantaged neighborhoods have relatively few working- and middle-class families to serve as social buffers cushioning the effect of uneven and poor economic conditions. This impedes the ability of communities to sustain basic institutional structures and various sources of social control. These qualitatively distinct features of the social environment lead to unusually high levels of crime.

There is also a known relationship between firearms related fatalities and socioeconomic factors such as poverty levels (Kwon et al., 1997). In their study on the effectiveness of gun control Kwon and Baack (2005) found that socioeconomic variables had a significant impact on the number of firearm related deaths.

From 1993-98, the United States had its longest period of sustained economic growth. Also during this time violent crime victimization rates fell 34%. While economic factors cannot be considered the sole influence on crime, it must be considered an important factor (LaFollette, 2001).

Economic Deprivation

Economic deprivation attempts to explain geographical differences in crime rates through economic difficulties faced in areas with high crimes rates. Two types of economic deprivation exist, absolute deprivation and relative deprivation (Paulsen & Robinson, 2009).

Messner, Raffalovich, and McMillan (2001) defined absolute deprivation as a lack of access to economic resources necessary to meet basic human needs. In their study of how economic deprivation affects changes in homicide arrest rates for juvenile offenders, Messner and colleagues (2001), identified unemployment, median family income, and poverty rates as indicators of absolute deprivation. They found absolute deprivation was positively associated with changes in homicide arrest rates.

Lee and Holoviak (2006) found support of the absolute deprivation theory stating unemployment and deteriorating labor market conditions can be positively correlated with increased both property and violent crime. There is also a well-documented correlation between poverty and crime. Evidence of time periods of strong economic growth (e.g. the United States in the 1990s) is often followed by declines in crime, especially violent crime (LaFollette 2001). Messner et al. (2001) noted economic deprivation is characterized by not having the economic resources to gain access to basic human needs. In other words, it may not necessarily be poverty alone causing crime, but a combination of factors accompanying poverty including poor nutrition, poor medical care, and poor education (Lafollette, 2001).

A second form of economic deprivation, relative deprivation, might be as responsible for the correlation between poverty and crime. Relative deprivation arises from comparisons between those in less fortunate situations to those better off. This deprivation has the ability to generate tension between socioeconomic classes and ultimately lead to conflict (Chalravarty, 2008). The wealth gap between the wealthy and the poor, also known as income inequality, is an example of relative deprivation (Paulsen & Robinson, 2009).

Positive correlations exist between the amount of income inequality and the area's crime rate. This relationship holds true for the relationship between income inequality and violent

crime (Hsieh & Pugh, 1993; Witt, Clarke, & Fielding, 1999). For example, among developed countries, the United States displays by far the greatest disparity between incomes of the top and bottom ten percent of its population, with violence occurring disproportionately among the bottom ten percent of the population (Wheeler, 2001). In other words, it can be expected poorer areas will have the highest rates of crime, especially street crimes (Paulsen & Robinson, 2009). Any attempt to understand or explain homicide violence must take into account the socioeconomic status of communities and neighborhoods with high rates of violence (Jacobs, 2002).

Law Enforcement Numbers

It is important to understand the relationship between law enforcement personnel numbers and crime, especially in the United States. The public believes hiring more police is an appropriate response to a perceived crime problem (Maguire, Snipes, Uchida, & Townsend, 1998). The general idea is police officers are responsible for combating crime and acting as a deterrent to crime (Marvell & Moody, 1996).

Future President Bill Clinton promised during his 1992 presidential campaign, if he were elected, he would hire 100,000 new law enforcement officers. In September of 1994, President Clinton signed in to law the single largest federal investment in local law enforcement, The Violent Crime Control and Law Enforcement Act known as the “Crime Act”. This Act gave 9 billion dollars to increase the number of law enforcement officers in America (Maguire et al., 1998; Marvell & Moody, 1996).

Deterrence theory is a more specific theory based on the Rational Choice Theory. This theory is based on the threat that legal sanctions (e.g. incarceration, fines, community service) will deter individuals from engaging in criminal behavior (Matthews & Agnew, 2008). Studies

conducted before the 1990s generally found little evidence that the number of law enforcement officers had any effect on crime. However, more complex studies conducted after the 1990s, using a variety of methodologies, have found a link between the number of law enforcement officers and crime. Most of the studies found that higher numbers of law enforcement officers, decreased the amount of property crime. However, the association between higher numbers of law enforcement officers and violent crime is significantly weaker (Bradford, 2011).

Methods

For this study a gun control index for each state acted as the independent variable; along with a number of social and economic control variables for each state. The violent crime rate for each state was the dependent variable.

A combination of a cross-section and time-series experimental design was used to examine if states with more firearm restrictions have higher or lower violent crime rates than states with fewer firearm restrictions. Most studies attempting to examine the relationship between gun control laws and crime have used either time-series or cross-sectional experiment designs. Time-series designs examine a single place such as a city, county, or state, over many years. Cross-sectional designs examine multiple areas at one single point in time. Both time-series and cross-sectional design have limitations. Cross-sectional designs are ineffective at determining if crime is a result of gun control laws or if gun control laws are a result from high crime rates. Time-series designs are limited in scope to only one specific area and do not allow the study to examine if similar crime patterns result elsewhere (Lott, 2000).

Using a combination of a cross-section and time-series experimental design helped resolve many of the limitations. To do this all fifty states were compared (cross-sectional) at two different points in time (time-series). The two points in time were 2000-2001 and 2010-2011. All

independent variables used data from the year 2000 and 2010; with the violent crime rate (dependent variable) using data from the years 2001 and 2011. The independent variables, including gun control laws, were expected to have a greater impact on the following years due to the fact laws need time to take effect on the crime rate.

All variables were based on state level statistics. The reason for using state level data to examine the effectiveness of gun control laws was some federal gun control laws exist, but most of the burden of firearm regulation was left up to the individual states. Because of this burden, states had different amounts of firearm regulations (Gerney, Parsons, & Posner, 2013).

Operational Definition of Variables

The definition of violent crime used was established by the Federal Bureau of Investigation (FBI) and all crime statistics were based on the FBI's Uniform Crime Reports (UCR). The FBI definition for violent crime used included murder, non-negligent manslaughter, forcible rape, robbery, and aggravated assault (Federal Bureau of Investigation [FBI], 2010). The four individual violent crime categories were combined to create a total number of violent crimes for each state in a calendar year. The state's population is used to create the violent crime rate was based on 100,000 inhabitants. Each individual violent crime category, murder and non-negligent manslaughter, forcible rape, robbery, and aggravated assault was also examined individually to determine if gun control laws significantly affected an individual crime category.

A secondary violent crime rate variable developed used only forcible rape, robbery, and aggravated assault, and excluded murder rates. The use of a secondary violent crime category determined if Duggan (2011) was correct in concluding gun control only affects violent crime by significantly lowering the homicide rate. By removing homicide and non-negligent manslaughter

from the equation, determinations were made on the effects of gun control on other violent-crime categories.

Operational Definition of Gun Control

Gun control laws were viewed as a whole; not as individual laws and regulations. In previous research, no single gun-related law in a state could be linked to gun violence. However, examination of the comprehensiveness of states' gun control laws appeared to have an effect on crime (Kwon & Baark, 2005). The Bureau of Alcohol, Tobacco, Firearms, and Explosives State Laws and Published Ordinances from the years 2000 and 2010 were used to determine each state's gun control laws.

To determine the strength or weakness of states' gun laws, this study used a modified approach based on the method developed by the Law Center to Prevent Gun Violence. Other researchers, Gerney, Parsons, and Posner, (2013) have used Law Center to Prevent Gun Violence's method and noted how comprehensive and well-researched this method was when determining the strength and weakness of state's gun laws. Only slight modifications were made to tailor the method for this study.

The Law Center to Prevent Gun Violence pinpointed 29 specific types of regulations believed to be effective at reducing firearm violence. The 29 regulations have been placed into seven different categories: laws prohibiting certain people from owning firearms, dealer and purchasing regulations, responsible gun ownership laws, banning or regulation of firearms, laws restricting where firearms may be possessed, and laws restricting lawmakers from passing firearm regulations counting against the states' strength of gun laws.

In this study a point was awarded to each state. if the state had a law corresponding with one of the 29 types of regulations. The states with the most points have the strongest gun control

laws, while the states with fewer points were determined to have the weakest gun control laws. The 29 types of regulations were viewed as broad umbrella categories with many more specific laws falling under the broad term. For example, a state may have had multiple laws which could have been placed under one regulation, but the state received only one point for each regulation.

The first category of firearm restrictions used in this study consisted of laws prohibiting certain people from owning firearms. This category included individuals with mental health issues, those considered minors, convicted of certain misdemeanors, drug or alcohol abusers, juvenile offenders, and domestic violence offenders.

Laws prohibiting individuals with mental health issues from owning firearms may include those individuals with a commitment to mental health institutions, either voluntarily or court ordered, those found not guilty by reason of insanity by a court of law, those diagnosed with a serious mental illness by a trained professional, and those suffering from a serious mental defect.

Minor laws included the prohibition of firearm possession by individuals under a state mandated age. Falling under this category were laws regulating the selling, transferring, or loaning of firearms to minors.

Laws preventing offenders convicted of specific types of misdemeanors may include, but are not limited to, misdemeanor drug or alcohol convictions, or violent misdemeanors. Any laws preventing people convicted of misdemeanors from owning a firearm, regardless of the misdemeanor, qualified in this category.

Prohibition of firearm ownership by drug and alcohol abusers included laws prohibiting individuals convicted of drug or alcohol related offense, those who have been committed, either voluntarily or by court order, to a drug or alcohol rehabilitation center; or laws prohibiting

“habitual” drug users or alcoholics from buying firearms. Laws targeting known drug addicts, habitual drunkards, individuals convicted of a drug or alcohol related offense, individuals entering rehabilitation facilities, either court ordered or voluntarily, for drug or alcohol offenses, or individuals suspected of drug trafficking were prohibited from gun ownership.

Laws preventing juvenile offenders from owning firearms included juvenile offenses leading to incarceration, violent juvenile offenses, drug, weapon or alcohol offenses committed as a minor, or serious juvenile offenses as defined by the state. This category included these offenses, even where records had been expunged by the state.

The last law in this category pertains to any law designed to prevent domestic violence offenders or individuals at a high risk of committing domestic violence from owning a firearm. Conviction of domestic violence against a partner or child, a court ordered restraining order to remain away from a domestic partner, and conviction of stalking or harassing a domestic partner or former domestic partner were part of the category. Included in this category are laws requiring immediate confiscation of firearms when law enforcement were called to a scene where domestic violence was suspected, or those involving a civil lawsuit for a domestic dispute.

A second category of laws incorporated firearm dealers and purchasing regulations. These included mandatory background checks, dealer licensing, record keeping of gun sales, purchasing licenses, regulated sales of multiple firearms, mandatory waiting period, laws requiring a basic safety course before being able to own a firearm, and background checks at gun show purchases.

Mandatory background check laws included any law requiring licensed gun dealers, pawnshops, or any other business where firearms were sold to conduct a background check before completing the transfer of firearm. The criminal history check, mental health check, or a

court records check would account for the laws in this category. The check could be performed by any state or federal law enforcement agency, mental health agency, local law enforcement agency, or any other state agency mandated with conducting background checks by the state.

Dealer licensing included mandated licensing requirements to sell firearms in the state. This would not include federal licensing requirements, only the requirements mandated by the state.

Record-keeping of gun sales included any law requiring a gun dealer, pawnshops, or any other business selling firearms to keep and maintain records of the selling of firearms. Included in this category were the requirements for firearms dealers to send a receipt of purchase to a specific local or state law enforcement agency, a mandated length of time in which firearms dealers must hold on to purchase records, or require firearm dealers to produce purchase records to any law enforcement agency at any given time. Record requirements for just a specific type of weapon, such as assault weapons or handguns, or for all firearms, were part of this category.

Laws mandating purchasing licenses require individuals looking to purchase a firearm to apply for a state issued license in order to legally purchase a firearm in the state. These laws can be for a specific type of weapon, such as assault weapons or handguns, or for any type of firearms.

Regulated sales of multiple firearms were laws targeting the purchase of multiple firearms at a single transaction. These laws included waiting periods between firearm purchases, limiting the number of firearms which can be purchased at a single transaction, or requiring further background investigations or statement of intent or reason for needing to purchase multiple firearms.

Mandatory waiting period laws were state laws requiring a specific amount of time to pass between purchasing of a firearm and when the purchaser could take possession of the firearm. Waiting periods on ammunition were also included within this category. Waiting period laws may be specific to a certain type of firearm or to all firearms.

State laws requiring individuals to successfully complete a basic firearms safety course before being able to own or purchase a firearm were also reviewed. Regardless of safety course standards set (e.g. length of course, thoroughness), whether or not the course could be taken from a private organization, or if it had to be taught by a government agency (e.g. sheriff's department, state police), or if it only pertained to specific types of weapons (e.g. handguns) or if it pertained to all firearms, it would nonetheless count as one point.

Lastly, laws mandating background checks for all gun shows taking place inside the state were also examined. These laws required all gun show firearm sellers to complete the same type of background check required of gun dealers in the state.

Responsible gun ownership laws were regulations placed on gun owners with intent of ensuring safe handling and care of firearms. This included safe storage laws, firearm safety standards, reporting of lost or stolen weapons, concealed carry permits, and firearm registration.

Safe storage laws were laws pertaining to the storage of firearms in a home when the firearm is not in use. Those laws included mandatory gun safe ownership for all gun owners, mandatory gun safe ownership for individuals with children living in the home, and criminal sanctions for recklessly storing a firearm, or any manner allowing a child to possess the firearm.

The required reporting of lost and stolen weapons by gun owners to law enforcement included the required reporting of missing weapons within a certain time from the date the owner knows the weapon is missing, reporting of firearms lost or stolen along with a description and

identification number, and penalties for failing to report lost or stolen weapons to law enforcement.

Regulations concerning the carrying of a concealed weapon included regulations which required individuals to first obtain a concealed carry permit before being legally allowed to carry a concealed firearm in public. The standards set by the state to obtain the permit, the licensing procedure, or the regulations accompanying the permit, did not matter, except that the state had a requirement of being licensed before carrying a concealed weapon.

Lastly, a group of regulations which mandated registration of firearms with a state government agency was also examined. This group included specific types of weapons, such as assault weapons or handguns, or for all legally owned firearms.

The fourth category of regulation involved those which banned or regulated specific types of firearms and ammunition. This group included provisions which banned or regulated assault weapons, high capacity magazines, fifty-caliber rifles, ammunition bans, or regulations which required the micro-stamping of firearms.

The banning or regulation of assault weapons encompassed a wide ranging set of laws. First, assault weapons were a broad category of weapons and states having different definitions of what constitutes an assault weapon. For this study the exact weapons referred to as “assault weapons” did not matter. Only the use of the term “assault weapon” in the law was relevant. Second, either the outright banning of assault weapons or the regulation of these weapons qualified under this category. These regulations referred to, among other things, limits on the number of assault weapons which could be owned, increased background checks, mandatory registration of these firearms, or requiring of a permit issued by the state in order to own or sell these weapons.

The banning or regulation of high capacity magazines also encompassed a wide range of laws. Again, however, the state's definition of what constituted a “high capacity magazine” did not matter for the purposes of this research. Only the reference to “high capacity magazines” in the law was relevant. Either the outright banning of high capacity magazines or the regulation of these magazines qualified.

The banning of fifty-caliber rifles meant all rifles firing fifty-caliber ammunition. This included a ban on the transportation, sale, or possession of fifty-caliber rifles.

Ammunition bans regulations included prohibitions on the transportation, sale, or possession of specific types of ammunition. Any ammunition ban qualified regardless of the type of ammunition being banned.

Micro-stamping of firearms referred to the engraving of a firearm in a manner so when a bullet was fired from the weapon, it left a small identifying mark on the bullet. Microstamping laws were defined as any law which required new weapons to be micro-stamped before they could be sold in the state.

Regulations regarding trigger locking mechanisms included mechanisms which prevented the firearm from being fired, more commonly referred to as a gun safety. These laws included state mandated trigger locking mechanisms and the minimum standards the mechanism had to meet before being sold in the state.

The next category of laws included prohibitions on where firearms could be possessed. It is important to note that these governed only public places and did not refer to private property restrictions. States were awarded points when they had a law prohibiting the carrying of firearms in specific public places. These laws included prohibition of firearm possession in bars, in places of worship, or on educational campuses.

Bars referred to places where alcohol was sold and consumption was the main purpose of the establishment. Places of worship included any religious establishment, for example, churches, synagogues, mosques, or temples. Educational campuses referred to all public educational facilities in the state. This included daycares, preschools, K-12 and college campuses. Furthermore, this grouping included all property and transportation systems (e.g. school buses) owned or used by colleges or school districts.

The final category of state laws examined included those laws which sought to regulate to the applicability of laws. In this case a point was awarded if a state did not have laws against municipal or county regulation of firearms. In some states it was illegal for local governments to establish firearm ordinances. For this study, a point was awarded when a state allowed local regulation. The second type of laws were ordinances purporting to nullify federal weapons laws. When a state had laws which sought to prohibit enforcement of federal weapons regulations or sought to nullify federal firearms laws, the state received a negative point and a point was subtracted from the state's total.

Operational Definition of Social and Economic Variable

Black/African-American populations were defined as individuals, who identified themselves as either black or African-American on the 2000 and 2010 census. The state Black/African-American population rate was determined by the percentage of each state's population who identified themselves as either black or African-American. This data was obtained for the United States Census Bureau's 2000 and 2010 national census.

It has been assumed states with a higher the number of law enforcement employees would have lower crime rates. The research accounted for the number of law enforcement agents per 1,000 inhabitants of the state. The data was obtained from UCR data for the years

2000 and 2010 and census data from the years 2000 and 2010 to determine the state population for 2000 and 2010.

Urban cities were operationally defined as having a population over 100,000 living within city limits. The total number of urban cities in each state will be counted using the 2000 and 2010 national census data.

Economic inequality was measured using the yearly average of all 50 states' unemployment rates, poverty rates, economic inequality index, and median household income. Yearly state unemployment rates were based on The Bureau of Labor Statistics annual state unemployment reports. The annual state unemployment rate was determined by averaging the unemployment rates for all 12 months of the year (Bureau of Labor Statistics).

State poverty rates for the year 2000 and 2010 were based on poverty data from United States Census Bureau. The Census Bureau defined poverty as the percentage of individuals whose annual income before tax, falls below a set of dollar values known as poverty thresholds. The Census Bureau determined poverty thresholds using number of factors including family size, number of children, and age (United States Census Bureau).

The United States Census Bureau assigns each state a score for 0-1, with 0 being perfect distribution of wealth and 1 being perfect inequality. This index score was known as a state Gini coefficient. States' 2000 and 2010 Gini coefficient was used for this study. Median household income was determined by using the 2000 and 2010 data provided by the Census (United States Census Bureau).

Statistical Analysis

Several regression analyses were used to test the relationship between gun control laws and crime. For each of the 12 crime categories - 2001 violent crime rate, 2011 violent crime rate,

2001 homicide rate, 2011 homicide rate, 2001 forcible rape rate, 2011 forcible rape rate, 2001 robbery rate, 2011 robbery rate, 2001 aggravated assault rate, 2011 aggravated assault rate, 2001 secondary violent crime rate, and 2011 secondary violent crime rate – three regression analysis models were developed. The first model uses only gun control levels as the predictor variable. The second models uses all of the social and economic variables (law enforcement numbers, black/African-American population, urban cities, unemployment rate, poverty rate, GINI coefficient, and median household income) as the predictor variables, but excludes gun control levels. The third model uses both the social and economic and gun control levels as the predictor variables.

Results

The mean for all independent variables were analyzed and the amount of change in the 10 years from for each variable was determined. The mean number of law enforcement officers saw an increase of .042, from 3.258 in 2000 to 3.3 officers per 1,000 inhabitants in 2010. The African-American population increased .498 percent, from a mean of 10.764 percent of the states' population in 2000 to 11.262 percent in 2010. The number of urban cities increased from a mean of 4.76 urban cities per state in 2000 to 5.4 per state in 2010, for a .64 increase. The unemployment rates substantially increased from a mean of 3.878 percent unemployed in 2000 to 8.73 in 2010, for a 4.852 increase. Poverty rates also saw an increase from an 11.942 percent living in poverty in 2000 to 14.664, for a 2.722 increase. The Gini index increased from a mean .446 in 2000 to a mean of .454 in 2010, for a .008 increase. The median household income increased from a mean of \$41,773.50 in 2000 to \$49,880.07 in 2010, indicating an \$8,106.57 increase over 10 years (see Table 1).

The 2011 crime rates decreased from their 2001 levels. Violent crime decreased from 412.967 in 2001 to 352.746 in 2011, a decrease of 60.23. The murder rate decreased from 4.668 in 2001 to 4.206 in 2011, for a decrease of .462. Forcible rape decreased 2.876 percent from 33.182 in 2001 to 30.306 in 2011. Robbery rate also decreased from 109.658 in 2001 to 86.44 in 2011, for a decrease of 23.218. Aggravated assault decreased from 273.502 in 2001 to 231.78 in 2011, a decrease of 4.72. The secondary violent crime rate decreased from 416.342 in 2001 to 348.526 in 2011, a change of -67.816 (see Table 1).

The gun law strength increased in the 10 years from 2000 to 2010. In 2000 the mean strength of gun laws was 6.8 and 2010 the mean strength was 7.88, constituting a change of 1.08 (see Table 1).

Table 1

Variable Means and Changes

<u>Variable</u>	<u>2000</u>	<u>2001</u>	<u>2010</u>	<u>2011</u>	<u>Change</u>
LEO	3.258	—	3.3	—	.042
Black/African-American	10.764	—	11.262	—	.498
Urban Cities	4.76	—	5.4	—	.64
Unemployment	3.878	—	8.73	—	4.852
Poverty	11.942	—	14.664	—	2.722
GINI	.446	—	.454	—	.008
MHI	41,773.50	—	49,880.07	—	8,106.57
Violent Crime	—	412.976	—	352.746	-60.23
Murder	—	4.668	—	4.206	-.462
Rape	—	33.182	—	30.306	-2.876
Robbery	—	109.658	—	86.44	-23.218
Aggravated Assault	—	273.502	—	231.78	-4.72
Secondary Violent Crime	—	416.342	—	348.526	-67.816
Gun Control	.068	—	7.88	—	1.08

Note. LEO = number of law enforcement officers, MHI = Median household income

Violent Crime Rate 2001

The first model, using year 2000 gun control levels as the only predictor variable, was not significant at either the .05 or the .01 levels. The second model, using all of the 2000 social and

economic variables, was significant at the .05 and .01 levels with a significance value of .003. Of the predictor variables, the number of law enforcement officers was significant at the .05 and .01 levels with a value of .005 and a standardized coefficient of .407. The third model utilizing all predictor variables was significant at the .05 and .01 levels with a significance value of <.000. Of the predictor variables, the number of law enforcement officers was significant at the .01 level and urban cities were significant at the .05 level only with significant values of .004 and .049 and standardized coefficients of .402 and .004 (see Table 2).

Table 2

Standardized Coefficients – Violent Crime Rate 2001

<u>Variable</u>	<u>Gun Control Only</u>	<u>Social and Economic</u>	<u>All</u>
LEO	—	.407**	.402**
Black/African-American	—	.182	.186
Urban Cities	—	.198	.251*
Unemployment	—	.236	.230
Poverty	—	.082	.021
GINI	—	.047	.175
MHI	—	.002	.090
Gun Control	.068	—	-.238

Note. LEO = number of law enforcement officers, MHI = Median household income

*Means variable was significant at .05 level

**Variable was significant at both .05 and .01 level

Homicide Rate 2001

The first regression model, using only gun control levels as the predictor variable, was not significant at either the .05 or .01 levels. The second model, using only the social and economic variables as the predictor variables, was significant at the .05 and .01 levels with a significance value of <.000. Of the predictor variables, black/African-America rate, was

significant at the point .05 and .01 level with a significance value of <.000 and a standardized coefficient of .651.

The third model, with both gun control levels and the social and economic variables as the predictor variables, was significant at the .05 and the .01 levels with a significance value of <.000. Of the predictor variables, the percentage of black/African-Americans, was significant at .05 and .01 with a significance value of <.000 and standardized coefficient of .652. The number of urban cities was nearly significant at the .05 level with a significance value of .052 and a standardized coefficient of 1.999. In this model, the gun control index was not significant at either the .05 or .01 levels with a significance value of .366 and standardized coefficient of -.107 (see Table 3).

Table 3

Standardized Coefficients – Homicide Rate 2001

<u>Variable</u>	<u>Gun Control Only</u>	<u>Social and Economic</u>	<u>All</u>
LEO	—	.067	.065
Black/African-American	—	.651**	.652**
Urban Cities	—	.187	.211
Unemployment	—	.141	.138
Poverty	—	.371	.344
GINI	—	-.165	-.108
MHI	—	.140	.179
Gun Control	.076	—	-.107

Note. LEO = number of law enforcement officers, MHI = Median household income

*Means variable was significant at .05 level

**Variable was significant at both .05 and .01 level

Forcible Rape Rate 2001

The first regression model with gun control levels as the only predictor variable was not significant. The second model, with only social and economic variables acting as the predictor variables, was significant at the .05 level but not at the .01 level with a significance value of

.016. Poverty rate and median household income were significant at the .05 level with a significance value of .046 and .031 and standardized coefficients of .716 and .580 respectively. The GINI coefficient of economic inequality was significant at both the .05 and .01 levels with a significance value of .008 and a standardized coefficient of -.599.

The third model, utilizing both gun control levels and social and economic variables as the predictor variables, the model was significant at the .05 level, but not at the .01 level with a significance value of .011. Of the predictor variables, only the median household income, was significant at the .05 level, but not the .01 level with a significance value of .013 and a standardized coefficients of .682. Both, the GINI coefficient of economic inequality and the poverty rate, were nearly significant with a significance value of .057 and .067 and standardized coefficients of -.450 and .645 respectively. Gun control was not significant with a significance value of .100 and a standardized coefficients of -.279 (see Table 4).

Table 4

Standardized Coefficients – Forcible Rape Rate 2001

<u>Variable</u>	<u>Gun Control Only</u>	<u>Social and Economic</u>	<u>All</u>
LEO	—	.029	.023
Black/African-American	—	.045	.049
Urban Cities	—	.005	.068
Unemployment	—	.187	.181
Poverty	—	.716*	.645
GINI	—	-.599**	-.450
MHI	—	.580*	.682*
Gun Control	-.234	—	-.279

Note. LEO = number of law enforcement officers, MHI = Median household income

*Means variable was significant at .05 level

**Variable was significant at both .05 and .01 level

Robbery Rate 2001

The first regression model (only gun control) was significant at both the .05 and .01 levels when using robbery rate as the dependent variable with a significance value of .003 and a standardized coefficient of .417.

The second regression model for only economic and social variables was significant at the .05 and .01 levels with a significance value of <.000. The number of law enforcement officers and the GINI value of economic inequality were significant at the .05 level, but not at the .01 level with significances values of .021 and .049 and standardized coefficients of .263 and .294 respectively. The black/African-America rate was significant at both the .05 and the .01 levels with significance value of .004 and a standardized coefficients of .370.

The third regression model, using the gun control levels and all social and economic variables as the predictor variables, was significant at both the .05 and the .01 levels with a significance value of <.000. Of the predictor variables, the percentage of black/African-Americans, was significant at both the .05 and .01 levels with a significance value of .004, and a standardized coefficients of .369. The number of law enforcement officers was significant at only the .05 level with a significance value of .022 and a standardized coefficients of .264. Gun control index was not significant at either the .05 or the .01 levels with a significance value of .746 and standardized coefficients of .037 (see Table 5).

Table 5

Standardized Coefficients – Robbery Rate 2001

<u>Variable</u>	<u>Gun Control Only</u>	<u>Social and Economic</u>	<u>All</u>
LEO	—	.263*	.264*
Black/African-American	—	.370**	.369**
Urban Cities	—	.196	.188
Unemployment	—	.192	.198
Poverty	—	-.160	-.151
GINI	—	.294	.274
MHI	—	.211*	.197
Gun Control	.417**	—	.037

Note. LEO = number of law enforcement officers, MHI = Median household income

*Means variable was significant at .05 level

**Variable was significant at both .05 and .01 level

Aggravated Assault 2001

The first regression model, using only gun control levels as the predictor variable, was not significant at either the .05 or the .01 levels. The second regression model with only economic and social variables as predictor variables was significant at the .05 and .01 levels with a significance value of .001. Only the number of law enforcement officers was significant at the .05 and .01 levels with a significance value of .010 and a standardized coefficients of .179.

The third model with both the gun control index and social and economic variables was significant at the .05 level and the .01 level with a significance value of .001. Of the predictor variables, only the number of law enforcement officers is significant with a significance value of .010 and a standardized coefficients of .403. The gun control index was not significant with a significance value of .147 and a standardized coefficients of -.227 (see Table 6).

Table 6

Standardized Coefficients – Aggravated Assault Rate 2001

<u>Variable</u>	<u>Gun Control Only</u>	<u>Social and Economic</u>	<u>All</u>
LEO	—	.408**	.403**
Black/African-American	—	.179	.182
Urban Cities	—	.150	.201
Unemployment	—	.221	.215
Poverty	—	.140	.082
GINI	—	-.094	.027
MHI	—	-.051	.032
Gun Control	-.021	—	-.227

Note. LEO = number of law enforcement officers, MHI = Median household income

*Means variable was significant at .05 level

**Variable was significant at both .05 and .01 level

Secondary Violent Crime Rate 2001

The first regression model with gun control levels as the only predictor variable was not significant with a significance value of .440, and a standardized coefficients of .112. The second regression model for only economic and social variables as the predictor variables was significant at the .05 and .01 levels with a significance value of <.000. The only significant variable at any level was the number of law enforcement officers. The variable was significant at both the .05 and .01 levels with a significance value of .006 and had standardized coefficients of .390.

The third regression model, using the gun control index and all social and economic variables as the predictor variables, was significant at both the .05 and the .01 levels with a significance value of <.000. Of the independent variables, only the number of law enforcement officers was significant with a significance value of .007, making it significant at both the .05 and the .01 levels. The gun control index was not significant at either the .05 or the .01 levels with a significance index of .225 and a standardized coefficients of -.172 (see Table 7).

Table 7

Standardized Coefficients – Secondary Violent Crime Rate 2001

<u>Variable</u>	<u>Gun Control Only</u>	<u>Social and Economic</u>	<u>All</u>
LEO	—	.390**	.387**
Black/African-American	—	.258	.260
Urban Cities	—	.176	.215
Unemployment	—	.238	.234
Poverty	—	.094	.050
GINI	—	-.008	.084
MHI	—	.068	.131
Gun Control	.112	—	-.172

Note. LEO = number of law enforcement officers, MHI = Median household income

*Means variable was significant at .05 level

**Variable was significant at both .05 and .01 level

Violent Crime Rate 2011

When using gun control levels as the only predictor variable, the model was not significant at either the .05 or .01 levels. In the regression model, using only social and economic variables as the predictor variables, the model was significant at both the .05 and .01 levels with a significance value of .003. None of the predictor variables were significant at either .05 or .01 levels.

The regression model, using all of the predictor variables, had a significance value of .004, making it significant at both the .05 and .01 levels. Of the predictor variables, only the GINI economic inequality index was significant at .05 with a significance value at .043 and standardized coefficients of .274. Gun control levels were not significant and had a significance value of .261 and standardized coefficients of -.205 (see Table 8).

Table 8

Standardized Coefficients – Violent Crime Rate 2011

<u>Variable</u>	<u>Gun Control Only</u>	<u>Social and Economic</u>	<u>All</u>
LEO	—	.245	.219
Black/African-American	—	.174	.247
Urban Cities	—	.045	.135
Unemployment	—	.235	.306
Poverty	—	-.203	-.321
GINI	—	.257	.247*
MHI	—	-.321	-.324
Gun Control	.063	—	-.205

Note. LEO = number of law enforcement officers, MHI = Median household income

*Means variable was significant at .05 level

**Variable was significant at both .05 and .01 level

Homicide Rate 2011

In the first regression model, with gun control levels as the only predictor variable, the model was not significant at either the .05 or .01 levels. In the second regression model with only social and economic variables as the predictor variables, the model was significant at the .05 and .01 levels with a significance value of <.000. The percentage of black/African-Americans was significant at both the .05 and .01 levels, having a significance value of <.000, and standardized coefficients of .492. Both the number of law enforcement officers and the poverty rate were significant at the .05 level with a significance values of .049 and .038, and standardized coefficients of .213 and .441, respectively.

With both the social and economic variables and the gun control levels as the predictor variables, the model was significant at the .05 and .01 levels with a significance value of <.000. Of the predictor variables, only the percentage of black/African-America was significant with a significance value of <.000 and a standardized coefficients of .539. Gun control levels were not

significant with a significance value of .313 and a standardized coefficients of -.131 (see Table 9).

Table 9

Standardized Coefficients – Homicide Rate 2011

<u>Variable</u>	<u>Gun Control Only</u>	<u>Social and Economic</u>	<u>All</u>
LEO	—	.213*	.196
Black/African-American	—	.492**	.539**
Urban Cities	—	.019	.006
Unemployment	—	-.046	-.001
Poverty	—	.441*	.365
GINI	—	-.058	-.048
MHI	—	.056	.054
Gun Control	-.034	—	-.131

Note. LEO = number of law enforcement officers, MHI = Median household income

*Means variable was significant at .05 level

**Variable was significant at both .05 and .01 level

Forcible Rape 2011

The first regression model using only gun control levels as the predictor variable, the model was significant at both the .05 and .01 levels. The model had a significance value of .003 and a standardized coefficients of -.418.

In the second regression model, using only social and economic variables was not significant at either the .05 or .01 levels with significance value of .070. None of the predictor variables were significant at the .05 or .01 levels.

The regression model, using both the social and economic variables and gun control levels as the predictor variables, the regression model was significant at the .05 level, but not at the .01 level with a significance value of .030. None of the predictor variables were significant at either the .05 and .01 levels. However, gun control levels were nearly significant at the .05 level with a significance value of .051 and a standardized coefficient of -.386 (see Table 10).

Table 10

Standardized Coefficients – Forcible Rape Rate 2011

<u>Variable</u>	<u>Gun Control Only</u>	<u>Social and Economic</u>	<u>All</u>
LEO	—	-.237	-.286
Black/African-American	—	-.251	-.112
Urban Cities	—	-.062	.108
Unemployment	—	-.117	.016
Poverty	—	-.078	-.301
GINI	—	.159	.190
MHI	—	-.387	-.392
Gun Control	-.418	—	-.386

Note. LEO = number of law enforcement officers, MHI = Median household income

*Means variable was significant at .05 level

**Variable was significant at both .05 and .01 level

Robbery Rate 2011

The first regression model using only gun control levels as the predictor variable was significant at the .05 and .01 levels. The significance value was $<.000$ and the standardized coefficients was .580.

The second regression model using only the social and economic variables was significant at the .05 and .01 levels with a significance value of $<.000$. Of the variables, both black/African-America rate and the unemployment rate were significant at the point .05 and .01 level with a significance value of .001 and $<.000$ and a standardized coefficient of .421 and .445, respectively. The GINI coefficient of economic inequality was significant at .05 with significance value of .042 and a standardized coefficient of .199.

When using all of the predictor variables, the regression model was significant at both the .05 and .01, with a significance value of $<.000$. Of the predictor variables, the number of law enforcement officers, percentage of black/African-Americans, and gun control levels were

significant at the .05 level with significance values of .049, .014, and .024, and standardized coefficients of .211, .316, and .293, respectively (see Table 11).

Table 11

Standardized Coefficients – Robbery Rate 2011

<u>Variable</u>	<u>Gun Control Only</u>	<u>Social and Economic</u>	<u>All</u>
LEO	—	.174	.211*
Black/African-American	—	.421**	.316*
Urban Cities	—	.144	.015
Unemployment	—	.445**	.345**
Poverty	—	-.276	-.107
GINI	—	.199*	.176
MHI	—	.006	-.002
Gun Control	.580**	—	.293*

Note. LEO = number of law enforcement officers, MHI = Median household income

*Means variable was significant at .05 level

**Variable was significant at both .05 and .01 level

Aggravated Assault Rate 2011

In the first regression model, using gun control levels as the only independent variable, the model was not significant at either the .05 or .01 levels. The second regression model, using only social and economic variables was significant at the .05 level with a significance value of .048. None of the predictor variables are significant at either the .05 or the .01 levels.

The third regression model, using both gun control levels and social and economic variables, the analysis was significant at the .05 level with a significance value of .024. None of the predictor variables were significant at .05 or the .01 level. The gun control level had a significance index of .069 and a standardized coefficients of -.356 (see Table 12).

Table 12

Standardized Coefficients – Aggravated Assault Rate 2011

<u>Variable</u>	<u>Gun Control Only</u>	<u>Social and Economic</u>	<u>All</u>
LEO	—	.258	.213
Black/African-American	—	.051	.179
Urban Cities	—	.000	.157
Unemployment	—	.118	.241
Poverty	—	-.141	-.346
GINI	—	.230	.259
MHI	—	-.377	-.382
Gun Control	-.137	—	-.356

Note. LEO = number of law enforcement officers, MHI = Median household income

*Means variable was significant at .05 level

**Variable was significant at both .05 and .01 level

Secondary Violent Crime Rate 2011

The regression model, using gun control levels as the only predictor variable was not significant at either the .05 or .01 levels. The second regression model, using only social and economic variables, was significant at the .05 and .01 levels with a significance value of .004. None of the social and economic variables were significant with the GINI coefficient of economic inequality being the close to being significant with a value of .053 and a standardized coefficients of .261.

Using both gun control levels and social and economic variables, the regression analysis was significant at the .05 and .01 levels with a significance value of .004. The only significant predictor variable was the GINI coefficient of economic inequality with a significance level of .041 and standardized coefficients of .278 (see Table 13).

Table 13

Standardized Coefficients – Secondary Violent Crime Rate 2011

<u>Variable</u>	<u>Gun Control Only</u>	<u>Social and Economic</u>	<u>All</u>
LEO	—	.245	.219
Black/African-American	—	.168	.242
Urban Cities	—	.046	.136
Unemployment	—	.239	.309
Poverty	—	-.212	-.330
GINI	—	.261	.278*
MHI	—	-.325	-.328
Gun Control	.064	—	-.205

Note. LEO = number of law enforcement officers, MHI = Median household income

*Means variable was significant at .05 level

**Variable was significant at both .05 and .01 level

Discussion

The results of this study indicate gun control laws have little effect on violent crime. This supports the conclusions of Murry (1975), Guis (2008), Jacobs (2002), and Kopel (1995), who also found little evidence of gun control legislation preventing or reducing violent crime. A possible explanation of this phenomenon is firearms are used in only a very small fraction of violent crimes (Krouse, 2007).

These results run contrary to gun control advocates' view of more guns leads to more violence, specifically, the research of Duggan (2001) and LaFollette (2001) concluding fewer gun control laws leads to more gun ownership and ultimately more homicides. This study found no significant relationship between gun control laws and homicide rates when gun control was tested as the only independent variable. The same relationship was found when tested with all the social and economic variables.

The variables where gun control levels were significant included the 2011 forcible rape rate when ran as the only independent variable, the 2011 robbery rate when ran with all social

and economic variables, and both the 2001 and 2011 robbery rate when ran as the only independent variable.

The 2010 gun control levels had a significant effect on the 2011 forcible rape rate, predicating a -.418 change in the forcible rape rate for every one-unit increase in the number of gun control laws. When gun control levels were used along with social and economic variables, gun control levels had a significance value of .051.

Gun control levels appear to have most effect on the robbery rate, being significant for the years 2001 and 2011. Gun control levels were significant in 2011 when analyzed as both the only independent variable and with social and economic variables. Gun control levels were significant in 2001 when analyzed as the only independent variable. However, unlike the significant effect gun control had on decreasing the forcible rape rate, the robbery rate actually increased with increasing gun control levels.

This finding adds some credibility to the theory; guns have a deterrent effect on crime, specifically robbery. This would appear to support to Lott and Mustard (1997) and Plassmann and Whitley (2003), who both contend increasing the number of citizens carrying firearms could deter a number of crimes each year. Furthermore, these results appear to lend credence to the theory of Kennesaw pertaining to Georgia's requirement of each household owning a firearm caused the significant drop in crime.

The positive relationship between gun control and robbery rates is strongly supported by the Rational Choice Theory. Criminals weigh the risks of criminal behavior. When selecting potential targets, the threat of encountering an armed victim will likely reduce criminal activity. This is supported by Wright and Rossi (1994) and their study of prison inmates. A high number of inmates reported being prevented from completion of a crime by armed civilians and a high

number of inmates admitted to choosing not to commit a crime due to the possibility of an armed victim.

It is important to note that gun control levels in 2001, unlike in 2011, were no longer significant when analyzed with all social and economic variables. This gives more support to the idea that social and economic variables have more influence on crime rates than gun control laws.

Of all of the violent crime categories, homicide rates could reasonably be expected to be the most effected by gun control levels. Previous research and homicide statistics suggested the more gun control laws limiting the number of privately owned firearms, there would be a reduction in the homicide rate. McDowall (1995) estimates around 60% of all homicides committed used firearms. Duggan (2001) and LaFollette (2001) both found levels of firearm ownership positively correlated with homicide rates. However, results of this study indicated there was no significant relationship between gun control levels and homicide rates. Given the previous research by McDowall (1995), Duggan (2001), and LaFollette (2001), it would be expected to see only a negative relationship where crime increases and gun control levels decrease. The relationship fluctuated, depending on the regression model, between a small positive and small negative relationship.

Ultimately, only the robbery rate appears to be regularly effected by gun control laws. However, results of this study indicate social and economic variables are stronger predictors of violent crime.

When the percentage of black/African-Americans in the state population was used as the variable in all regression models, there was a positive relationship in both the 2001 and 2011

homicide rates. The positive relationship indicates the higher the percentage of population identified as black/African-America, the higher the homicide and robbery rates.

Previous literature and crime statistics indicated a significantly higher rate of violence, specifically gun violence, in the African-American community as compared to other races in the United States (DiIulio, 1994; Cook & Ludwig, 2000; Sampson et al., 2005; Jacobs, 2002; Holmes & Holmes; 2001; and Cheng, 2002). Kwon and Baack (2005) conducted a similar study and also found the percentage of black/African Americans in a state was positively associated firearm deaths. With one possible explanation of the high rates of the African-American criminal offending is African-Americans are more likely to be living neighborhoods and environments associated with social disorganization characteristics (Martinez et al., 2008; and Samson et al., 2005).

Economic factors, which are highly associated with social disorganization (Krivo & Peterson, 1996) often proved to significantly predict crime rates. This lends more support to the Social Disorganization Theory of Crime serving as a better indicator of violence than gun control levels.

The Gini coefficient was positively associated with the 2011 violent crime rate, robbery rate, and secondary violent crime rate. High levels of social inequality predicted higher violent crime rates, robbery rates, and secondary violent crime rates when ran in the regression models utilizing all independent variables including gun control laws. For the 2001 crime rates, the GINI coefficient was positively associated with robbery rate; however, it was negatively associated with forcible rape rate.

According to Chalravarty (2008) the wealth gap created tension between socioeconomic classes and could lead to conflict between the classes. This conflict based out of social inequality

may help explain the relationship between poverty and crime. Poverty rate was positively associated with the 2001 forcible rape rate and the 2011 homicide rate, when only social and economic variables acted as the independent variables.

Unemployment rate was positively associated with the 2011 robbery rate, when social and economic variables were the only independent variables. Kwon and Baack (2005) found unemployment to have a strong positive association with firearm deaths; however, this study found unemployment to have a weak positive relationship with the 2001 homicide rate and an almost nonexistent, negative relationship with the 2011 homicide rate. This variation could be due to Kwon and Baack (2005) using firearm related deaths, while this study used all homicides, regardless of weapon used. It did not take into account all firearm deaths, like those resulting from suicides and accidents.

Median household income was positively associated with the 2001 forcible rape rate, with social and economic variables as the only independent variables as well as when all independent variables were tested. This is the opposite of what was expected to occur. The expected result was more crime would occur in areas with low income; not an increase in crime in areas with higher incomes. This could support the theory indicating relative economic deprivation is more important than absolute economic deprivation. Further testing and research would be needed to reach this conclusion with any confidence.

The number of law enforcement personnel was positively associated with the 2001 robbery rate, aggravated assault rate, and secondary violent crime rate in both regression models using only social and economic variables and when all independent variables were used. The number of law enforcement officers was also positively associated with the 2011 homicide rate when only social and economic variables were used and the 2011 robbery rate when all

independent variables were used. This is contrary to what would be expected; the increase in law enforcement numbers should decrease the violent crime rate.

The first possible explanation for this outcome is that, as crime increases, policy makers respond by increasing the number of law enforcement officers. It is impossible to tell if crime causes law enforcement numbers to increase or if law enforcement numbers cause crime to increase. Second, because this study uses UCR data, which only represent the number of crimes reported to law enforcement, it is possible increased law enforcement only affects the amount of crime that is reported not the actual amount of crime. It does however, merit more study to determine the effect law enforcement has on crime.

Policy Implications

As previously stated sound policy is based on empirical evidence and current public policy needs to be evaluated in order to determine the effectiveness of legislative efforts to reduce crime. Based on the results of this study, it can be inferred that developing policies addressing the underlying causes of crime, like social disorganization and economic deprivation, are potentially more effective at reducing crime than policies focused solely on restricting or reducing private ownership of firearms.

Kwon and Baack (2005) concluded that the causes of gun violence are extremely complicated and no single variable, like gun control, can comprehensively explain crime. Furthermore, social and economic programs will be able to reduce firearm violence.

Other researchers have reached similar conclusions. LaFollette (2001, p. 38) stated: "...perhaps most importantly, though, we should take steps to lessen the social conditions that prompt crime." However, LaFollette did not outright dismiss gun control as a crime reduction policy option. Instead, LaFollette concluded certain types of firearm restriction combined with

efforts to reduce the underlying causes of crimes could prevent number of firearm deaths. A similar position to LaFollette (2001) was reached by Jacob (2002, p. 214), who concluded:

Violence is a multifaceted and deeply entrenched phenomenon in American society... In any event, gun controls can only be one part, probably only a small part, of remedying the multifaceted violence problem... The broader effort must involve individuals, families, schools, churches, media, corporations and political institutions and especially those neighborhoods that are the locus of the most intense violence. To change the patterns of violence in a violent society will require more than a better gun policy, it will require changing society.

Conclusion

As mass shootings and firearm related deaths continue to be an issue in the United States more studies evaluating existing firearms laws and evaluating the underlying causes of crime are vitally important to ensure that effective public policies can be implemented to curb firearm violence in America. With such an emotional topic, it is unlikely the intense debate over firearm ownership, the relationship between firearms and crime, and the interpretation of the Second Amendment will cease anytime in the foreseeable future. Unfortunately, the current literature on the subject of gun control does not support either side of the firearms debate.

The goal of this study was to examine three questions; do gun control laws directly affect crime rates; will gun control laws affect specific types of crimes; finally, is there a greater relationship between social or economic factors and violent crime rates than between gun control laws and violent crime?

The results of this study lead to the conclusion that the high the level of firearm restrictions is not associated with low rates of violent crime. In fact the most significant

relationship between levels of gun control and crime, is a positive relationship between higher levels of gun control and higher robbery rates. Furthermore, aside from robbery, gun control laws do not appear to have any significant relationship to any of the violent crime categories. However, social and economic variables show far more association with violent crime than gun control. Thus, it is important to study the underlying causes of crime, to understand why this relationship exists, because ultimately, the most effective policies will be ones, which, account for social and economic factors associated with crime.

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