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## SUPeR Feature Article: Determining the Deterrent Impact of the Death Penalty

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# **SUPeR Feature Article: Determining the Deterrent Impact of the Death Penalty**

By Christina Martin, Class of 2018

## **ABSTRACT**

Since the founding of the United States of America, our government officials have been tasked with mandating and enforcing punishments in order to deter crimes and discipline those who have committed such crimes. Just what those punishments should be has been the center of many debates for hundreds of years. The death penalty, specifically, has had many strong supporters and critics over the years, and has had a long, evolving history. If one of the main reasons for a punishment to be inflicted on a criminal is deterrence, then, in theory, the death penalty should be a deterring mechanism for heinous crimes. It is important to ask, does the presence of the death penalty as a possible punishment for murder have a deterrent effect in the United States? By testing the dependent variable of murder rates against several independent variables through the use of a regression, the presence of the death penalty as a possible punishment for murder does not have a measurable deterrent impact on murder rates.

## **HISTORY**

Prior to the Declaration of Independence, capital punishment was enforced in all of the American colonies. From this time until present day, the usage, method, and reasoning for the death penalty has gone through a transformation. In 1608, Captain George Kendall was the first recorded person to be sentenced to death in the British North American colonies. As a punishment for spying on the Spanish government, Kendall was executed by firing squad in Jamestown, the Colony of Virginia (Waksman 2012). Over time, the reason for which a person may be put to death has been clarified and narrowed. Crimes such as horse stealing and kidnapping were once punishable by death. The state of Alabama has been one to frequently sentence its citizens to death for crimes other than murder. In 1822, Thomas Davis was put to death for counterfeiting (Niles 1822, 160) and in 1941, Frank Bass was sentenced to death for burglary (“Negro is First to...” 1941, 2). For the last fifty years, homicide has essentially been the only crime for which someone has been sentenced to death. The last person who was put to death for a crime other than homicide was executed for robbery on September 4, 1964. (Savage 2008). The death penalty is still a possible punishment in some states for crimes other than homicide, however, it is very rare. As of November 2008, there was only one person on death row who had not been convicted of murder. Other states limited the use of the death penalty very early on in their statehood. Pennsylvania, for example, was the first state to put limits on crimes punishable by death. In 1682,

William Penn, the founder of Pennsylvania, limited crimes punishable by death to murder (Woodham 2008).

While some states have set limits on the death penalty, other states have gone one step beyond this measure. Upon entering the Union, several states eradicated the death penalty as a form of punishment. The first state to completely abolish the death penalty was Rhode Island. In 1852, Rhode Island outlawed the death penalty for all crimes, including treason. Wisconsin followed one year later (Barak 2007, 174). Some states, like Alaska and Hawaii, abolished the death penalty before gaining statehood. In 1972, the Supreme Court intervened. For four years, from 1972 to 1976, a suspension was placed on the use of the death penalty as a result of the Supreme Court's decision in *Furman v. Georgia*. In 1976, *Gregg v. Georgia* put an end to the suspension, but mandated that states that employ the death penalty must comply with the Eighth Amendment's ban on cruel and unusual punishments. In this case, the Supreme Court also held that the death penalty did not violate the Fourteenth Amendment, which addressed citizenship rights and equal protection of the laws. After this new ruling, 37 states reinstated the death penalty under new statutes. The cases of *Furman v. Georgia* and *Gregg v. Georgia* were not the only ones that discussed the role of the Eighth Amendment in death penalty sentences. In 1986, *Ford v. Wainwright* clarified the role of the Eighth Amendment even further by making the execution of an insane prisoner unconstitutional.

In recent years, the debate surrounding the death penalty has become increasingly divided. As the support for the death penalty slowly diminishes, more and more states have decided to eradicate their use of the death penalty. In 2007, New Jersey became the first state to repeal the death penalty during what is called “the modern era” of capital punishment. The modern era refers to the use of the death penalty after it was reinstated in 1976. After the New Jersey State Commission reported that the death penalty “is inconsistent with evolving standards of decency,” New Jersey lawmakers voted 44 to 36 to repeal the death penalty and replace it with life in prison without parole (Richburg 2007). The opponents of the death penalty in New Jersey hoped that their actions would prompt other states to do the same, which is exactly what happened. After New Jersey repealed the death penalty, five states followed. In recent years, Pennsylvania Governor Tom Wolfe announced a moratorium for the death penalty. On August 13, 2015, Connecticut banned the death penalty, marking it the most recent state to repeal the death penalty as the Connecticut Supreme Court declared that the death penalty “no longer comports with contemporary standards of decency and no longer serves any legitimate penological purpose,” a statement very similar to the one in New Jersey (Berman 2015). Currently, the District of Columbia and 19 other states do not have a death penalty statute.

One of the focuses of the debate regarding the death penalty has centered on the possibility of the innocent being executed as a result of a mistake in eyewitness testimony or

another common error in identifying and sentencing suspects of crimes. Since 1989, there have been 330-post conviction DNA exonerations in the United States. The average length of time that an exoneree spent on death row was 14 years. The leading causes of wrongful convictions include eyewitness misidentification, improper forensic science, false confessions, and informants (“DNA Exonerations Nationwide” 2015). Despite the possibility of an innocent person being executed, the death penalty continues on in many states. As of October 15, 2015, in 2015 alone, 24 inmates have been executed and since 1976 there have been a total of 1,418 executions (“Executions by Year” 2015). As of April 1, 2015, there are currently 3,002 inmates on death row (“Death Row Inmates” 2015).

When studying the death penalty, one will often become curious about the murder rate in states with the death penalty versus the murder rate in states without the death penalty. In considering this question, there are many factors to take into consideration other than simply the numerical murder rate. It is important to take into account the makeup of the state: whether it is mostly rural or urban, demographic factors, and the economic makeup of the state. The murder rate in states with the death penalty was at its peak in 1991 at 9.94%. In 2013, it was at its lowest at 4.72%. Examining the same years, states without the death penalty were at 9.27% in 1991 and at 3.88% in 2013 (“Deterrence” 2013). Many death penalty critics look solely at this percentage to claim that the death penalty does not lead to an increased deterrent rate. The debate surrounding the death penalty is

important today, and will continue to be important in the years to come. As the support for the death penalty has declined to its lowest favorability in 40 years, more and more wonder if the death penalty is a method of deterrence effective enough to maintain the punishment (Jones 2013).

## **LITERATURE REVIEW**

The death penalty is arguably the harshest punishment that a government can inflict on its citizens. Because of the severity of the death penalty, a continuous debate has focused on a central aspect of this punishment: its deterrent ability. There have been hundreds of studies focused on examining solely the deterrent effect of the death penalty; however it is very difficult to find a consensus among the many studies. While some conclude that executions save a large number of lives, others decree that executions do the opposite—they actually increase homicides. Still others find another answer—executions have no effect on homicide.

The various studies that attempt to measure deterrence use different techniques. Some studies compare murder rates in jurisdictions with capital punishment and those without, others compare murder rates in the same jurisdiction before and after capital punishment was an available sentence, and others compare murder rates before and after death sentences were given. Each of these techniques attempts to isolate the effect of the death penalty. In his report, Daniel Nagin wondered if the inherent limitations in the data led to the differences in findings (2014, 10). He noted that each of the studies that were

previously done regarding the death penalty had faults within their examination that was caused by a scarcity of data. This data scarcity led to a difficulty in employing rigorous testing. “Statistically, the cleanest way to estimate the effect of the death penalty would be to run an (unethical and impossible) experiment, executing convicts more vigorously in randomly selected states, and then comparing the changes in homicide rates across states” (Donohue and Wolfers 2006, 250).

Because researchers cannot employ this method, they have relied on other processes, most notably panel data studies, time series studies, and price theory studies. Panel data analyzes sets of states or counties measured over time, using regression to relate homicide rates to variations, over time and across states or counties. Cross-state comparisons present problems of their own. These studies do not hold enough factors constant, and “even states that appear similar can differ in many ways that are relevant for determining the homicide rate...murder rates respond to differences in incomes, racial composition, age of the population, urbanization, and population density” (Rubin 2002). Because Rubin was opposed to the cross-state comparison method, he examined county-level data because populations within counties are more homogenous. To Rubin, county homogeneity is able to bypass the negative factors of cross-state comparisons. Through his examination, Rubin found that each execution led to an average of eighteen fewer murders. However, Nagin believes that panel research is not a valid method of examination. He states “panel research



assumes that potential murderers respond to the objective risk of execution: but murderers do not know the risk, the data, or have the means to analyze it” (2014, 11). John Donohue and Justin Wolfers also find a significant fault in the claim that Rubin has made that one execution saves eighteen lives on average. They state that the instruments that the study employs do not run the regression that they claim to run, which skewed the results, and with the most minor tweaking, “one can get estimates ranging from 429 lives saved per execution to 86 lives lost” (Donohue and Wolfers 2006, 251).

Another way researchers have examined deterrence is through the use of time series studies. These studies examine only a single geographic unit, but this unit can be as large as a nation or as small as a city. Isaac Ehrlich used time series data to perform what he claimed to be an “objectively superior statistical test of capital punishment deterrence in the case of murder” (Passell 1975, 62). Through his examination of homicides and executions from 1933 to 1969, he found that each execution yielded eight fewer homicides, a 1.00% increase in the execution rate will reduce murders by about 0.06 percent (Donohue and Wolfers 2006, 249; Passell 1975, 63).

Today Ehrlich’s data is no longer held in high regard, but is instead cited to show the faults in time series data. Peter Passell and John Taylor have shown that his estimates were driven by attributing a sharp jump in murders from 1963 to 1969 to the post-1962 drop in executions, and that a

modest reduction in conviction rates associated with a rise in execution rates might reverse his findings (Donohue and Wolfers 2006, 249, 1975, 64).

Price theory studies are now regarded as the most viable way to measure deterrence. Many researchers believe that price theory is able to fill in where empirical evidence may be lacking. “Capital punishment is akin to a rise in the price of murder and hence might be expected to lessen the number of murders” (Donohue and Wolfers 2006, 252). The alternative to capital punishment in almost all cases is life in prison without the possibility of parole. Those who employ the method of price theory state that we have been examining the wrong question in regards to the death penalty and its deterrent effect. The question must be shifted to examine the deterrent effect of capital punishment when also taking into account the deterrent effect of life in prison without parole or other commonly used penalties.

Many studies have claimed to find a deterrent effect stemming from just the possibility of the death penalty as a punishment. Cass Sunstein and Adrian Vermeule once argued that “capital punishment is morally required given the significant body of recent evidence that capital punishment may well have a deterrent effect, possibly a quite powerful one” (Donohue and Wolfers 2006, 248), Hugo A. Bedau has also established that there is a general principle that we must follow when discussing the death penalty called the Minimal Invasion Principle. This principle “holds that if individual privacy, liberty, and autonomy are to be invaded

and violated, it must be because the end to be achieved is of undeniable importance to society” (Bedau 2002). Because Bedau claims to find conclusive evidence that the death penalty fails as a deterrent, he uses the minimal invasion principle to argue against the use of the death penalty.

Finally, there are many studies that simply end in stating that a deterrent effect of the death penalty is unable to be studied correctly, and therefore they remain unsure if the death penalty has a positive or negative deterrent effect. The National Research Council has been one to admit that research on the death penalty presented thus far cannot provide a reliable measure of deterrence. Because of this, it warns against influencing policy judgments about capital punishments by using research that claims a specified rate of deterrence (Nagin 2014, 10). Although this is a very unsatisfying conclusion, it may be the only viable one at this time and with the current research and available data.

## **THEORY SECTION**

Question: Does the presence of the death penalty as a possible punishment for murder have a deterrent effect in the United States?

Theory: There is no conclusive empirical proof that the death penalty is a better deterrent than the threat of life imprisonment. Most people who commit murders do not expect to be caught or do not carefully weigh the possible punishment of their action, as it is committed in a moment of passion. Furthermore, factors such as the demographics

of a given area will have a greater effect on the homicide rate, surpassing the effectiveness of the death penalty as a deterrent.

In order to examine the death penalty and its deterrent effect (the dependent variable), we must first examine the independent variables, and their effect on citizens of a state. In the United States, we see that different demographic areas and different economic classes have different homicide rates. Depending on the state that we are examining, we must control differently for these demographic and economic variables. I expect to find that people will kill at a similar rate regardless of the possible punishment, whether it is life in prison without parole or the death penalty.

## **METHODOLOGY**

*Question:* Does the presence of the death penalty as a possible punishment for murder have a deterrent effect in the United States?

**Deterrent:** A type of disincentive that discourages or is intended to discourage someone from doing something, the use of punishment as a threat to keep people from doing a certain crime.

*Hypothesis:* The death penalty has little or no measurable deterrent effect in the United States.

*Variables:*

INDEPENDENT VARIABLES (all of the following are state level data):

- Presence of the death penalty: whether or not a state has the death penalty as an available punishment for murder
- Frequency with which the death penalty is used: how frequently those on death row are executed
- Frequency that the death penalty is given as a sentence: how frequently those who commit capital crimes are sentenced to the death penalty
- Number of those currently on death row
- Poverty rate
- Urban population rate
- State and local law enforcement per 100,000 residents
- Registered firearms per 1,000 residents
- Unemployment rate
- Percent of population between the ages of 16 and 24

DEPENDENT VARIABLE: Murder Rate

### *Measuring Deterrence:*

- Ran multiple regressions on SPSS
  - Used several different models to see if the significance of one variable was the result of its own or the result of another variable in the model
  - Refrained from running a test with more than two variables dealing directly with the death penalty to protect against multicollinearity

### *Other necessary definitions:*

- Homicide: The only definition of homicide throughout this paper will be homicide that is included under what is consider capital homicide
  - In most states, this is first-degree murder
  - Others use aggravated murder (Ohio)
  - Others simply use murder or capital murder (Texas and Alabama)
  - Capital murder in the United States usually means murder involving one or more of the following factors
    - Victim is a police officer, firefighter, paramedic, child

- Committed during commission of another violent felony (burglary, sexual assault, kidnap)
- Multiple murders committed pursuant to one another
- Murder-for-hire

In order to examine my theory, I looked at a variety of variables that can affect the murder rate in a state, as well as explain the deterrent effect of the death penalty. There are many different statistical ways to examine the death penalty. These methods include state panel data, time series studies, and price theory studies. While I would have ideally liked to examine at least one study using each of these statistical methods, I did not have time to do so in a month and a half. For this reason, I focused on running a specific type of test in SPSS, a regression, to allow me to see the significance and correlation of my many different independent variables. I also searched for data that did not have a substantial time difference. For example, I did not want my data on the poverty level of a state to come from the year 2000 when my data for the number of inmates on death row was from the year 2012. I was able to keep all of my data within five years of each other.

## FINDINGS

**Table 1: Results of Regression Examining Murder Rate  
against Independent Variables**

	1	2	3	4	5	6
Constant	- 746.483 (610.78 1)	- -425.091 (559.289)	- -290.048 (162.233)	- 194.940 (125.36 6)	- 219.215 (183.05 1)	- 497.647 (573.67 6)
Death Pen.	108.377 (98.519)	X	X	X	-53.166 (55.661)	X
# Ex.	X	42.682 (16.389)*	X	X	X	X
# Sent.	X	X	32.960 (4.945)** *	X	X	X
#DeathRow	X	X	X	2.193 (.212)** *	2.194 (.228)** *	X
Pov. Rate	23.554 (18.210)	X	X	X	X	31.643 (16.431)
Urb. Pop.	8.776 (3.637)*	5.444 (3.147)	X	X	2.825 (1.838)	9.313 (3.592)*
Police	X	X	.177 (.431)	.414 (.332)	X	X
Guns	-1.224 (1.622)	-.528 (1.554)	-.913 (1.268)	-1.166 (.972)	-.558 (.899)	X
Unemploy	45.255 (36.750)	85.948 (28.151)* *	61.856 (22.160)* *	37.427 (17.508) *	36.650 (16.927) *	40.257 (35.951)
Perc. 16-24	-44.248 (56.577)	-33.338 (52.201)	X	X	X	-66.275 (53.156)
R <sup>2</sup>	.371	.392	.621	.777	.789	.348
N	50	50	50	50	50	50

\* = Significant at .05 level \*\* = Significant at .01 level \*\*\* = Significant at .001 level

## DISCUSSION

Through examining the results of the regression, we are able to draw several conclusions. First, there are many independent variables that do not have any significant impact on murder rates, including the percent of the population between ages 16 and 24, the number of registered firearms per 1,000 citizens, the number of state and local law



enforcement per 100,000 residents, and the poverty rate. Let us first begin with a discussion of the topic at hand—the death penalty. As presented in the findings section in Table 1, the number of executions per year, the number of death sentences given per year, and the number of inmates on death row per state are all significant variables. Beginning with the number of executions per year, it is significant at the .05 level and is positively correlated to the dependent variable, murder rates. Both the number of death sentences given per year and the number of inmates on death row per state are significant—at the .001 level, and are also both correlated in a positive way to the dependent variable. At first glance, this may look like we have just found the answer to our question. As more death sentences are given, there are more murders.

While we can rule out to some degree that the more executions per year, the more sentences per year, and the more inmates on death row per state will decrease the murder rate, as they are not correlated in a negative way, we cannot say with complete certainty that the presence of the death penalty actually causes higher murder rates. The results of this regression could mean that as a state has more murders, they will likewise give out more death sentences to accompany those murders. Like stated before, it could also mean that the death penalty simply has no deterrent impact on murder rates.

There are two other variables that are included in this regression that are also statistically significant, and therefore

interesting to examine in regards to a state's murder rate. Both the rate of urban population and the rate of unemployment are statistically significant and correlated in a positive manner to murder rates. So, from this data it is possible to construe that as a state has a higher urban population or a higher rate of poverty, it will also have a higher rate of murders.

## **DIFFERENCES BETWEEN MODELS**

While the overarching conclusion that we can draw from the regression test as a whole is that we can reject the null hypothesis, we can also look more closely at each model on its own to understand the different ways that the independent variables interact with each other.

### *Model One:*

The purpose of this model is to examine if the existence of the death penalty as a possible punishment for capital crimes impacts murder rates. Many states, although they are technically "death penalty states" (they have the death penalty listed as a possible punishment), have not employed this punishment for several years. This test does not account for that. The variable of "death penalty" does not differentiate between states who employ the death penalty frequently and states that just have the death penalty according to their laws. This model also examines all of the other independent variables that do not deal with the death penalty except for the number of law enforcement. The result is a relatively strong  $R^2$  at .371, and the variable of urban

population significant at the .05 level and positively correlated to the dependent variable.

*Model Two:*

This model attempted to examine the impact of the death penalty more precisely by switching out the “death penalty” variable with the number of executions per year per state. This helped to move away from states who may still have the death penalty as a possible punishment, but have not been executing anyone. This led to two variables being significant—both number of executions and unemployment rate. The R2 was at almost the same explanatory level.

*Model Three:*

This model tinkered with the death penalty variable used once again, by switching number of executions with number of sentences. As there are more people sentenced with the death penalty each year than those actually executed per year, I expected to see that impact this model. The variable for number of sentences per year became the most significant, correlated in a positive way with the dependent variable, and the unemployment rate remained significant. The aspect of this model that changed the most was the R2, as its explanatory power increased from .392 to .621.

*Model Four:*

In this model I switched to the last variable for the death penalty, the number of inmates on death row per state. Like the number of sentences per year, this variable was also extremely significant—to the .001 level. Although the

significance for the unemployment rate dropped in this model, the R2 increased.

*Model Five:*

Although I wanted to refrain as much as possible from running two variables that dealt directly with the death penalty in one model, I wanted to try it once to see what the impact of these two variables together would be. The result was the highest R2 and explanatory power out of all six models. Along with this, there were two significant variables—the number of inmates on death row and the unemployment rate, with the number of inmates remaining very significant at the .001 level and the unemployment rate significant at the .05 level.

*Model Six:*

Finally, we arrive at our last model. I wanted to run a test where there were no death penalty variables included to see if the other variables that had been significant during previous models would remain significant. I also noticed that I had not taken the variable for guns out of the model, so I also decided to remove this variable. The result was a much lower R2 than the previous model; however it was still relatively strong. The unemployment rate was no longer significant, leaving only urban population as the significant variable.

## **CONCLUSION**

The findings of this study are critical, and very important to lawmakers, as ideally, they would only want to

uphold laws that are sensible, necessary, and effective. As my research comes to the conclusion that there is no deterrent effect that comes from the death penalty, the reasons for its use in our society need to be reexamined. We cannot claim that we employ a certain punishment solely because of its deterrent ability if it does not, in fact, deter.

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