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The Diffusion of Abolishing the Death Penalty Among the American States

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ABSTRACT

In the past 13 years, 10 states have abolished their death penalty, and three currently have moratoriums on their death penalty. This research seeks to explore the possible reasons as to why these states have decided to abolish their death penalty during this specific time period, and why others have not. This research mirrors much of the literature regarding states adopting the death penalty, and supports that literature to an extent. This research is important since it can be generalizable to other policies that vary by state, especially policies that revolve around morality. A series of logistic regression models were used to examine the difference between states that have a death penalty and states that don't. These models show that the more liberal a state's government ideology and citizen ideology is, the more likely they are to not have the death penalty. Having a Democratic governor and a Democratic legislature also makes a state more likely to not have the death penalty. Lastly, the greater the number of neighboring states that don't have the death penalty, the higher a state's odds of also not having the death penalty. In addition, Cox hazard models were used to predict when a state would abolish its death penalty. Those results were similar to the logit results, except less of a diffusion effect was observed in three of the models. This was expected, as the literature suggests that states should be more responsive to their citizenry and political makeup rather than learning from other states.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

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Chapter 1

Introduction

On March 23rd, 2020 Colorado became the 22rd state to abolish their death penalty. In the past 13 years, 10 states have abolished their death penalty, and three currently have moratoriums on their death penalty policy. This trend is shown in figure 1 below. This pattern begs a question: Why have these states so suddenly decided to abolish their death penalty, why has that occurred during this time period, and why have other states not done so?

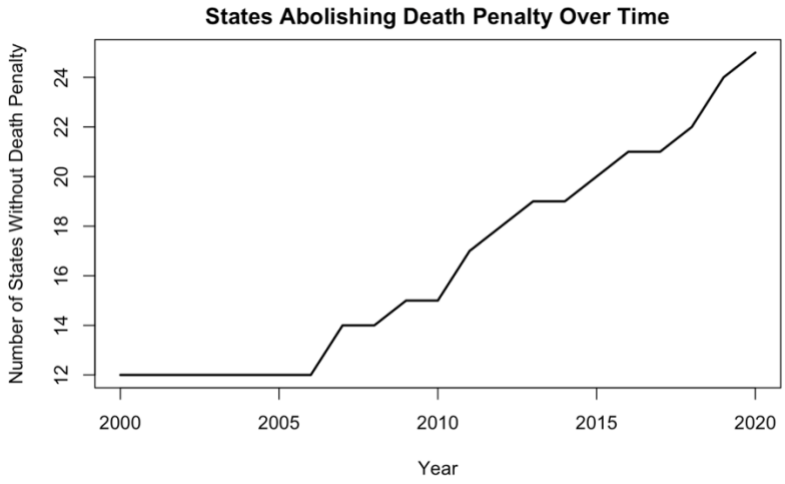

Figure 1. States Abolishing Death Penalty Over Time

While studies have already been completed on this topic, much of the existing literature has examined the trend of *adopting* the death penalty during the 1970s-90s following the U.S. Supreme Court decision in *Furman V. Georgia*, that reestablished the constitutionality of the death penalty in the states. It is interesting to see if their findings are generalizable to the *abolition* of the death penalty. It is also important to see if previous studies conducted earlier in time have similar results to my research during this more recent time period. My research

replicates and adds to the literature that tests internal determinants and regional diffusion as factors affecting death penalty policies. Internal determinants are the political and demographic makeup of a state and its citizenry; regional diffusion is the process where states learn and copy from their neighbors. This research will offer more insight into why and how states and their salient morality policies are different.

Viewed more broadly, this research is important in determining why laws and policies, specifically policies dealing with issues of morality, vary by state. The death penalty is both a highly salient issue and a morality policy. This research will thus be generalizable to other salient morality policies that vary by state, such as abortion policies, gun control, and various criminal rights policies. In addition, my findings could possibly assist in explaining why these policies vary by state as well.

Chapter 2

Literature Review

Much of the literature on policy diffusion mirrors work that tests internal determinants and regional diffusion on state lottery policy adoptions (Berry & Berry 1990). Those authors use event history analysis, a type of longitudinal analysis that measures whether and when a sample of states adopted the policy during a specific time period (Berry & Berry 1990, 398). I base my research design on these previous models that use event history analysis and include internal determinants and regional diffusion as explanatory variables.

Almost all the literature on death penalty policy diffusion focuses on the same time period: the years following the Supreme Court decision of *Furman V. Georgia*, which temporarily banned the death penalty nationally. When the ban ended in 1973, the adoption of the death penalty started to diffuse among the states, providing researchers a perfect opportunity to study policy diffusion. That literature studies diffusion during this period from many different angles. Mooney and Lee (1999a) examine the diffusion of death penalty adoption, but by looking at the comprehensiveness of the policies. The first case they use focuses on the changes in death penalty abolition from 1846 to 1969, splitting it up into three different waves of diffusion. Their second case focuses on death penalty re-establishment after the Supreme Court ruling in *Furman V. Georgia*, from 1972 to 1982. Another study done by Mooney and Lee (1999b) focuses on the differences between morality and non-morality death penalty policies as they diffuse. They examine three time periods: legislation making the death penalty discretionary for murder from 1838 to 1963, reestablishing the death penalty after *Furman V. Georgia*, and the abolition of the death penalty by states from 1846 to 1969. Jacobs and Carmichael (2002) focused on more internal determinants to explain why death penalty adoption diffused to some states and not

others. Their study focuses on the years following *Georgia V. Furman*; their dependent variable is the presence or absence of the death penalty by state for 1971, 1981, and 1991. Langer and Brace (2005) use court preferences and the ideology of the policymakers as internal determinants. They also study the years following *Georgia v. Furman*. Emmert and Traut (2003) examine internal determinants, regional diffusion, and temporal diffusion to explain the abolition of the death penalty for the mentally retarded. They examine the period from 1988, when Georgia first adopted the policy, to 2002, when the Supreme Court ruled to implement this policy nationally in *Atkins v Virginia*. Traut and Emmert (2003) did the same study but for abolition of the death penalty for juveniles. That study's time period is from 1973, when the first policy was adopted, to 2002, when the last policy was adopted. Mooney and Lee (2000) replicate their previous studies but focus on differentiating contentious and consensus policies. However, they study the cases both before and after *Furman V. Georgia*. My topic is heavily studied during this time period, but each study took a different approach.

The literature on death penalty policy diffusion differentiates itself from the Berry and Berry (1990) article on state lotteries and other policies that diffuse. This is because the death penalty is a morality policy. Mooney and Lee (1999b) theorized that because of this, the death penalty will diffuse differently than non-morality policies. They showed that a de-moralized policy produces the normal s-shaped curved for diffusion, whereas a moralized policy does not follow this diffusion pattern (Mooney & Lee 1999b). They reason that when adopting morality policies, legislatures do not simply learn from and copy other states, but also pay attention to public opinion. They empirically show that the internal determinants of a state are a stronger predictor of whether a state will adopt a certain death penalty policy- more so than regional or

temporal diffusion (Emmert & Traut 2003). Some studies even find no significant regional effect (Jacobs & Carmichael 2002, Langer & Brace 2005, Traut & Emmert 2003).

Although all the literature agrees that the internal determinants of a state are the strongest predictors of adopting a death penalty policy, each study used different variables, and therefore came to slightly different results. Traut and Emmert (2003) found that ideology of the citizens and public opinion were important predictors, while state legislator ideology was not, when they studied the adoption of exempting juveniles from the death penalty. Their other study found that states that are liberal, have unified governments, and have public opposition to the death penalty are more likely to adopt the policy of exempting the mentally retarded from the death penalty (Emmert & Traut 2003, 118). Mooney and Lee (2000) showed that public opinion was the only predictor when the death penalty policy was a contentious policy, and that party activist ideology was the only influence when it was a consensus policy. Langer and Brace (2005) found that court ideological friendliness was most likely to result in adoption of the death penalty. If the court's ideology or the citizens differ with the policymaker, adoption is less likely (Langer & Brace 2005). They also found that the murder rate, being a southern state, prior adoption, and unified government increased adoption. Jacobs and Carmichael (2002) found that states were more likely to adopt the death penalty if they had a large black population, high economic inequality, and a strong Republican party in the legislature. They were less likely to adopt if public opinion favored liberal policies. They found no evidence connecting violent crime/murders and adoption, which contrasts with Langer and Brace. Mooney and Lee (1999a, 1999b) suggested that public opinion and certain events lead to adoption and abolition of the death penalty. Finally, Fisher and Pratt (2006), who unlike the other studies did not examine diffusion, concluded that states with a

traditionalistic political culture are more likely to have the death penalty and to have more executions.

Since my research focuses on the years from 2000 to 2020, it is also important to discuss the more recent literature that examined the death penalty in the 21st century. These studies tend to focus less on regional diffusion, and more on public opinion and the internal determinants of a state. Anderson et al. (2017) researched the variation in death penalty attitudes over time. They look at changes in public opinion and the factors that aided in this change. Their research design takes a quantitative trend analysis approach, focusing on age, period, and cohort effects. Their time period is from 1974 to 2014. Sarat et al. (2017) researched the change over time in arguments against capital punishment. They take a qualitative case study approach that evaluates Connecticut, Kansas, and Texas, selecting cases to include variation in region and history. Much of the literature on the death penalty is not qualitative in nature; therefore, this article offers a different perspective. Their time period is from 1990 to 2010. Garrett et al. researched the decline of the death penalty in America. They focus on the county-level as they seek to answer why only a few counties still use the death penalty (2017, 561). This research design uses longitudinal analysis, but looks at death sentencing not policy presence. Their time period is from 1990 to 2016. Garrett (2017) also conducted a case study which researched why the usage of the death penalty is declining in Virginia. In this comparative case study, he compared capital trials from 1996 to 2004 with capital trials from 2005 to 2015. Caron researched this question: "why a public policy that is significantly costlier than the alternative while usually resulting in the same outcome is still on the books in the majority of states?" (2021, 91). He used longitudinal analysis and looked at the effects direct democracy had on policy responsiveness regarding the death penalty during the period from 1961 to 2007.

Anderson et al. (2017) use the General Social Survey to assess public opinion. The dependent variable is a dichotomy measuring support of the death penalty. The respondents of this survey were asked: "Do you favor or oppose the death penalty for persons convicted of murder?". They assert that sex, race, and political affiliation drive variance in support of the death penalty. They also theorize that death penalty support varies across time periods, especially decreasing after 1994, that death penalty support will vary across birth cohorts, and that support will vary by age (Anderson et al. 2017, 836). Sarat et al. (2017) assert that public support for the death penalty, the usage of the death penalty, and states with the death penalty have all been decreasing. They theorize that this trend is in part because of abolitionists altering their "political and legal arguments and, in doing so, successfully reframed the death penalty debate" (Sarat et al. 2017, 758). Their article provides an alternative explanation of why states have been abolishing the death penalty by focusing on political and religious leaders influence through arguments and public statements. Garrett et al. theorize that murder rates, population, victim race, and demography explain the shift of death sentencing patterns (2017, 562). They also hypothesize that state and county level changes in those categories result in why some counties have more death sentences than others. Although they study the use of the death penalty and not its policy presence, it is still interesting to note that the explanatory variables they chose are much different than previous studies. For example, they do not focus on ideology or public opinion, which are the two most used variables within the death penalty literature. Garrett (2017) theorizes that the "changed understanding of what it takes to effectively litigate whether a person deserves death, together with improved resources for capital defenders in Virginia" explains the decline of the death penalty in Virginia in the past decade (Garrett 2017, 667). The possible explanations provided for this decline include exonerations of innocent prisoners affecting public

opinion towards the death penalty, the introduction of regional defense recourse centers in 2004, the decline of murders, and the decline of crime generally (Garrett 2017, 669). This article also mentions alternative explanations such as public opinion, cost, and geography (Garrett 2017, 714). Caron provides an alternative theory to why certain states have the death penalty, but is still in agreement with the literature that public opinion is a primary determinant since it is a salient issue (2021, 92). His article theorizes that direct democracies are more likely to have the death penalty, because direct democracies are more responsive to public opinion. Much of the literature asserts that public opinion of the death penalty is on the decline, but Caron's article claims that the public is still generally in favor of its use. It also theorizes that direct democracy indirectly influences policies because legislators are more responsive to the median voter (Caron 2021, 92). Lastly, Caron theorizes that not only will direct democracies be responsive to public opinion, but that their death penalty policies will be congruent with majority opinion. His model used also includes explanatory variables used by much of the literature such as neighboring states, traditionalist culture, citizen ideology, government ideology, homicide rate, and black population.

Anderson et al. (2017) find trends in death penalty support, which varied by age, time period, however, they found only a weak birth cohort effect (Anderson et al. 2017, 833). Across time periods, the violent crime rate also explained variation in public support for the death penalty (Anderson et al. 2017, 833); more specifically, high violent crime rates increased public support. They also found that support for the death penalty was high among whites, protestants, and republicans (Anderson et al. 2017, 833). They found exceptionally low levels of support towards the death penalty in 2012 and 2014 (Anderson et al. 2017, 855). Lastly, they find evidence that conservative political rhetoric increases support (Anderson et al. 2017, 857). Sarat

et al. (2017) found that the motivation of Connecticut abolishing their death penalty in 2012 stemmed from social and legal developments as well as a shift in abolitionist rhetoric during the 20th century (Sarat et al. 2017, 769). Connecticut was the fifth state within five years to abolish their death penalty. Sarat et al. found that by the end of the 20th century, 45% of the abolitionist arguments focused on morality and religion (Sarat et al. 2017, 769). They analyze statements leading up to the abolition, such as a 2005 public statement made by a reverend, a 2009 statement by a representative mentioning racial discrimination, and a 2012 statement by a state representative focusing on innocence and error. They found that even though Kansas still has the death penalty but has not used it since 1965, Texas still has the death penalty and regularly uses it, and Connecticut abolished the death penalty in 2012, abolitionists in all three states followed the same rhetorical pattern. This leads me to believe that rhetoric by political and religious officials follow the same patterns regardless of the state, therefore other factors must explain the variance in death penalty policy presence among states.

Garrett et al. (2017) conclude that urban, densely populous counties are strongly associated with death sentences. Counties with more black populations are strongly associated with death sentences. Counties with high homicide rates are strongly associated with death sentences. Lastly, they find that the number of prior death sentences is associated with death sentencing (Garrett et al. 2017, 562). They also note an important fact: since 2000, death sentences have declined by more than two-thirds (Garrett et al. 2017, 583). Garrett (2017) found that the introduction of regional defense resource centers resulted in the death penalty being used less in Virginia. He found that the use of experienced lawyers, plea deals, introduction of DNA testing, and longer trials resulted in less death sentences following 2004. He also agrees with much of literature that public opinion also decreases the use and presence of the death penalty, as

well as cost and crime rates. Finally, Caron (2021) finds that direct democracy increases the probability that a state will retain the death penalty. The study also concludes that this phenomenon occurs because direct democracy is the most responsive to public opinion. The presence of direct democracy was also found to result in policy congruence by closely following the majority opinion. This study found a significant explanatory factor for death penalty policy presence that the previous literature did not include.

In conclusion, the internal determinants of a state and diffusion factors are consistently shown to be relevant to studying states' death penalty policies; so I focus on these in my next chapter.

Chapter 3

Theory

Following the literature regarding death penalty adoption in the states, I theorize that both the internal makeup of the states and a regional diffusion effect played a part in determining why so many states have abolished their death penalty, and why some have not. My theory is shown graphically in figure 2.

Figure 2. Theory Chart

First, I theorize that there was a regional diffusion effect when the states were abolishing their death penalty, meaning that states learned from and copied each other, specifically their neighbors. This theory has explained the adoption of many different policies in America among the different states. The literature on the adoption of the death penalty and other morality policies, however, suggests that there will be little or no such effect due to the salience of these policies. At the same time, examination of Figure 3 shows a strong geographical component to

the diffusion of death penalty abolition over the past 20 years. For this reason, I chose to retain regional diffusion as a factor in my study. My hypothesis for testing regional diffusion is:

Hypothesis 1: The greater the proportion of neighboring states without the death penalty, the more likely that state is to also abolish the death penalty.

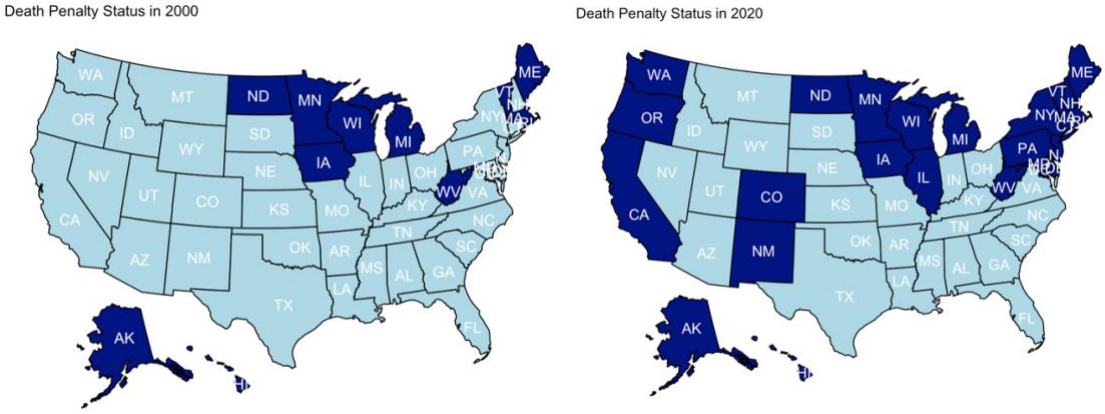

Figure 3. Change in Death Penalty Status from 2000 to 2020

I also theorize that certain internal determinants of a state will result in it abolishing the death penalty. The internal determinants I examine are party of the governor, citizen ideology, government ideology, and state legislative party. Specifically, more liberal and Democratic states will be more likely to abolish their death penalty since previous literature found the inverse to be true when states were adopting their death penalty in the late 1900s.

Some of the literature has found that the party of a state's governor has played a part in whether and when it adopted the death penalty or not. More specifically, having a Republican governor made it more likely for a state to adopt the death penalty. Therefore, I expect the inverse to happen: that having a Democratic governor will make a state more likely to abolish its death penalty. This is also rooted in the fact that governors are a part of the legislative process to enacting bills that abolish the death penalty. And specifically for the three states that have placed

moratoriums on their death penalty, the governors are the ones that enact those policies. My hypothesis for testing this theory is:

Hypothesis 2: States with a Democratic governor will be more likely to abolish the death penalty than those with a Republican governor.

All of the literature relating to this topic has found that public opinion in favor of the death penalty has made it more likely for a state to adopt the death penalty. This is because the death penalty is a salient morality policy, and citizens tend to care about these policies more so than other policies such as state lottery adoptions. The mechanisms for this are several. First, because the death penalty is an easy to understand policy, so that it is almost natural to have an opinion on this policy and its usage stemming from our personal morals. Second, officials care about what citizens think on salient topics such as this one for many reasons, a main one being their importance to reelection. Therefore, I expect that low or declining public opinion favoring the death penalty will make it more likely a state will abolish its death penalty. However, I cannot directly include public opinion as a variable in my models since state-level public opinion on this topic is seldom collected. When it is collected, it tends to be on a national-level and every few years which is not feasible for my research design. Therefore, I substitute public opinion with citizen ideology. Citizen ideology is not a perfect substitute, but it indirectly gets at the mechanism of citizen influence as described above. The literature has used citizen ideology in their models as well and found it to be significant. I would expect more liberal citizens to disapprove of the death penalty. My hypothesis for citizen ideology is:

Hypothesis 3: States with more liberal citizens will be more likely to abolish the death penalty than those with more conservative citizens.

The literature has also shown that government ideology has had an effect on states adopting the death penalty. Specifically, more conservative ideologies were associated with its adoption.

This is expected, since state governments are the ones enacting/retracting these policies, and the death penalty is more associated with conservative values. Therefore, I would expect the inverse to be true: that states with more liberal government ideologies would be more likely to abolish their death penalty. The hypothesis for this is:

Hypothesis 4: States with more liberal governments will be more likely to abolish the death penalty than those with more conservative governments.

The literature is divided regarding whether legislative party is significant variable for determining death penalty adoption. However, some studies have shown that legislative party is a predictor which would make sense since they are the ones who introduce and vote on bills that abolish the death penalty. So, I would expect states with Democratic legislatures to be more likely to abolish their death penalty as compared to states with divided or Republican legislatures. This is captured in this hypothesis:

Hypothesis 5: States with a Democratic legislature will be more likely to abolish the death penalty than those under Republican control.

Lastly, I provide a hypothesis that will compare the two components of my model to see which component has a stronger effect. Because the death penalty is a morality policy, and these types of salient policies tend to be more responsive to politics and public opinion, and less to learning from their neighboring states. I expect that:

Hypothesis 6: The internal determinant variables will have a stronger effect predicting the likelihood of abolishing the death penalty than will regional diffusion effects.

These hypotheses offer a possible explanation as to why states have abolished the death penalty within the past thirteen years. Previous literature on this topic have used similar hypotheses, finding that ideology, party identification, and public opinion were strong predictors of whether a state had the death penalty or not. More specifically, the literature suggested that

conservative/Republican attributes of a state made it more likely to adopt the death penalty; therefore, I expect that the inverse would be true with respect to its abolition. Regarding the general policy literature, it suggested that states learn from each other, especially their neighbors (Berry & Berry 1990). The literature regarding my topic tested my hypotheses for regional diffusion; therefore, so will I to see if I come to similar conclusions.

Chapter 4

Methodology

To test my hypotheses, I conduct two different sets of empirical analyses. The first is a logistic regression, which produces results that help explain why certain states have the death penalty and why others don't. The second test is a Cox survival analysis model of policy revocation. The existing literature uses the terms "survival analysis" and "event history analysis" interchangeably. This latter test helps explain why the thirteen states in question have abolished their death penalty.

For both analyses, I divide my variables and fit four different models for comparison. This is because the internal determinant variables are all in some way measuring similar concepts of state ideology, and thus raise concerns about multicollinearity. Therefore, each model includes the variable that measures diffusion, a murder rate control variable, and one of the four internal determinant variables: party of governor, citizen ideology, government ideology, and legislative party.

The unit of analysis is the state-year. Each variable is observed in each state, during each year from 2000 to 2020. The dependent variable is the death penalty status for each state,

provided by the Death Penalty Information Center (2022). These data are coded as a dichotomy: 0 if the state has the death penalty, 1 if the state does not have the death penalty. The three states that currently have moratoriums on their death penalty are coded as not having the death penalty. As of 2020, 25 states have the death penalty and 25 do not. In the time period studied, 13 states abolished their death penalty.

The party of the governor variable is coded as a 0 if s/he is a Republican, and 1 if s/he is a Democrat. These data come from Jacob Kaplan of University of Pennsylvania (Kaplan 2021). Some data is missing from Alaska and Minnesota since on a few occasions their governor was neither a Republican or Democrat.

Berry et al. (1998) provide a measure for citizen ideology and for state government ideology. They created these two measures for analyzing the connections between public preferences, ideology of government officials, and government policies (Berry et al. 1998, 327). This approach is similar to my research because I am assessing what influences death penalty policies. They compute an average based off citizen ideology in each district and congressional ideology provided by interest group ratings (Berry et al. 1998, 334). They measure state government ideology by calculating a weighted average of ideology scores of the governor and state legislature (Berry et al. 1998, 332-333). Citizen ideology is a score from 0 to 100, going from most conservative to most liberal. The mean value for this variable is 51. The minimum is 8.5 for Kentucky in 2002. The maximum is 97 for Connecticut in 2016. Government ideology is also a score from 0 to 100, going from most conservative to most liberal. The mean value is 45.5. The minimum value is 17.5 for Arizona in 2012. The maximum value is 73.6 for Massachusetts in 2009. As for ideology, the most reliable and valid measure would be direct access to citizens'

and leaders' attitudes through surveys, but these data are only collected in some states in certain years (Berry et al. 1998, 329). Therefore, Berry et al. (1998) created an imperfect measure, however still reliable and valid enough to use. To establish reliability, they test the components of their measure against each other. The conclusions from ADA scores and COPE scores used were highly correlated. They conclude from this that their measure is highly reliable. They go into detail regarding the construction of their measures of citizen ideology and state government ideology. They test the validity of their assumptions by providing detailed researched support for each one. Their measures are not perfectly valid; however, their assumptions tests leave me to believe that they are indeed measuring citizen ideology and state ideology in the best way possible. One last issue is that data is missing for some years.

State legislative party is coded as a 0 if the legislature's control is unified Republican, 0.5 if split, and 1 if under unified Democratic control. These data come from the National Conference of State Legislature website. Data is omitted from Nebraska since its legislature is unicameral and nonpartisan.

The proportion of neighboring states without the death penalty is a proportion ranging from 0 to 1. The mean value is .275, meaning the average percent of neighboring states that don't have the death penalty is 27.5%. In deciding how to classify neighboring states, I turned to Berry and Berry who tested internal determinants and regional diffusion for state lottery adoptions. They propose a definition of neighboring states as "immediate neighbors i.e., states that share a boundary" (Berry & Berry 1990, 404). An advantage of using Berry and Berry's definition of regional diffusion is that I do not have to assign states to regions arbitrarily, a practice they denounce: "the choice of how to define regional clusters remains largely arbitrary. Furthermore,

whenever predesignated regions with fixed boundaries are defined, some states that border each other necessarily wind up in different regions. So, in testing a regional influence hypothesis, the impact of some neighboring states would inevitably be ignored" (Berry & Berry 1990, 403). Their measure overcomes these challenges. However, this measure only accounts for whether states abolished the death penalty in response to their regional neighbors and no other states. This is a problem because states do not just learn from and copy their neighbors. California may want to mirror New York's policies, just as Pennsylvania may want to mirror Illinois'.

Finally, the murder rate in each state is added as a control variable. This data, from the FBI's Uniform Crime Report, is originally in the form of a rate per 10,000 citizens. For analysis, these data have been divided by 10 in order to better compare the results with the other variables. The mean value is 4.5. The minimum value is .5 for North Dakota in 2008. The maximum value is 14.2 for Louisiana in 2007.

Chapter 5

Results and Analysis

Table 1 displays logit regression results from my four models. My variables in each model are statistically significant and support my hypotheses. The more liberal a state is, the more likely it is that it doesn't have the death penalty. In addition, the more neighbors a state has that do not have the death penalty, the more likely it is that that state also does not have the death penalty. However, hypothesis 6 predicted that the internal determinant variables would hold more significance than my diffusion variable. This is not necessarily the case since all variables are significant at the highest level with the p-values less than .001.

Table 1. Odds a State Will Not Have the Death Penalty

	Model 1	Model 2	Model 3	Model 4
(Intercept)	-1.01 ***	-4.59 ***	-2.60 ***	-1.24 ***
	(0.26)	(0.53)	(0.39)	(0.28)
Prop Neighbors	3.14 ***	1.45 ***	2.46 ***	2.81 ***
	(0.30)	(0.35)	(0.32)	(0.33)
Murder Rate	-2.78 ***	-3.62 ***	-3.46 ***	-3.05 ***
	(0.45)	(0.55)	(0.50)	(0.51)
Governor Party	0.63 ***			
	(0.17)			
Citizen Ideology		0.09 ***		
		(0.01)		
Government Ideology			0.05 ***	
			(0.01)	
Legislative Party				1.71 ***
				(0.22)
AIC	886.29	618.85	743.83	669.17
Log Likelihood	-439.15	-305.42	-367.91	-330.58
Num. obs.	957	816	864	752

*** p < 0.001; ** p < 0.01; * p < 0.05

Note: This table represents the logistic odds ratio results. The numbers shown are the coefficients, the odds ratios are provided within the text below.

The results from model 1 support hypotheses 1 and 2. To interpret the coefficients as odds ratios I use this process:

1. Exponentiate the coefficient
2. If the resulting value is greater than one, subtract one from it.
3. Or if the resulting value is less than one, subtract it from one.
4. Convert the result to a percentage

A 1 unit increase in the proportion of neighboring states without the death penalty is associated with an increase of 221% in the odds of a state not having the death penalty. A 1 unit increase in this variable is a change from having all neighboring states with the death penalty to having all neighboring states without the death penalty, which is a relatively large increase. In

other words, we would expect the odds of a state whose neighbors all had gotten rid of the death penalty to be 23 times higher than the odds for a similar state where none of the neighbors had gotten rid of the death penalty. States with democratic governors have 87.8% more odds of not having the death penalty than states with republican governors.

The results from model 2 support hypotheses 1 and 3. A 1 unit increase in the proportion of neighboring states without the death penalty is associated with an increase of 326% in the odds of a state not having the death penalty. A 1 unit increase in citizen ideology is associated with an increase of 9.4% in the odds of a state not having the death penalty.

The results from model 3 support hypotheses 1 and 4. A 1 unit increase in the proportion of neighboring states without the death penalty is associated with an increase of 1070.5% in the odds of a state not having the death penalty. A 1 unit increase in government ideology is associated with an increase of 5.1% in the odds of a state not having the death penalty.

The results from model 4 support hypotheses 1 and 5. A 1 unit increase in the proportion of neighboring states without the death penalty is associated with an increase of 1561% in the odds of a state not having the death penalty. States with democratic legislatures have 452.9% more odds of not having the death penalty than states with republican legislatures.

Figure 4 shows the change in proportion of neighboring states without the death penalty and the odds ratio for a state not having the death penalty associated with each model. Across all models, an increase in proportion of neighboring states without the death penalty is associated with an increase in odds that a state will also not have the death penalty.

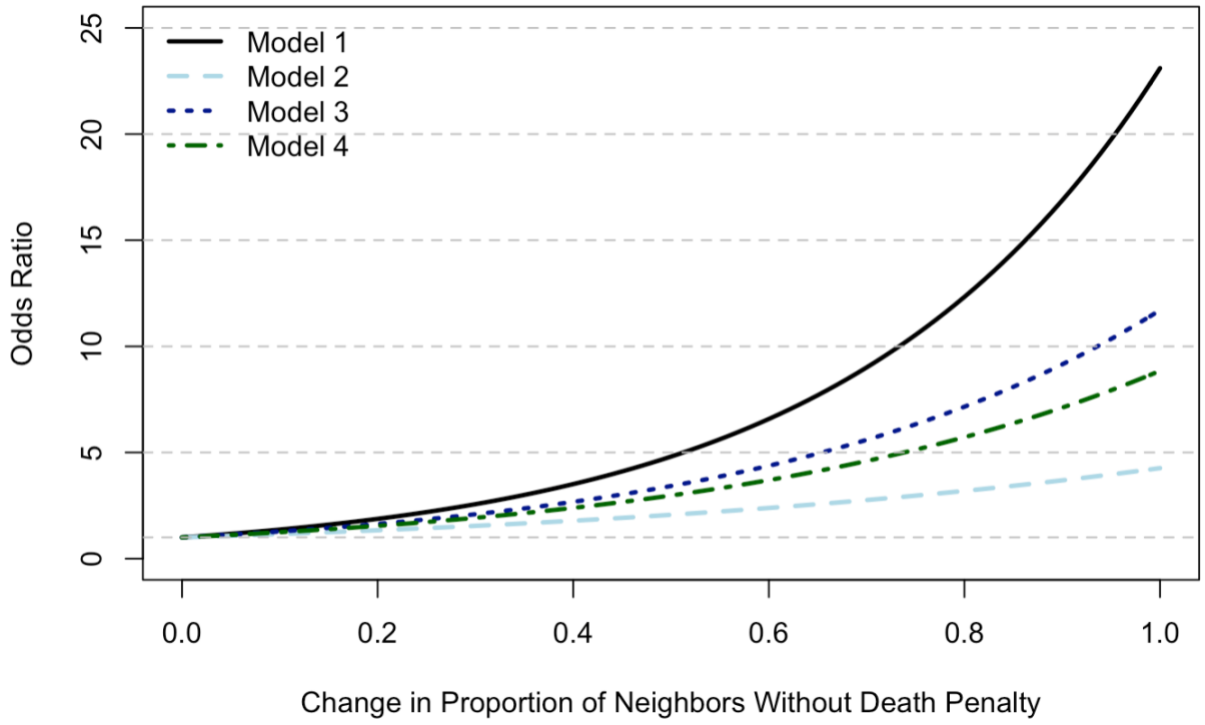

Figure 4. Odds a State Will Not Have the Death Penalty

Table 2 displays Cox hazard models for survival analysis. These results are similar to the results from the logit regression, however there are some notable differences. These models are not giving odds for whether a state has a death penalty or not, but are used to estimate probabilities for when states will abolish their death penalty in relation to the varying values of the variables over time. Exponentiating the coefficients is needed for interpretation.

Table 2. Odds a State Will Abolish Their Death Penalty

	Model 1	Model 2	Model 3	Model 4
Prop Neighbors	2.72 ***	0.29	1.48 *	1.49 *
	(0.74)	(0.92)	(0.74)	(0.76)
Murder Rate.	-1.24	-1.35	-1.90	-3.08 *
	(1.19)	(1.30)	(1.23)	(1.42)
Governor Party	1.25 *			
	(0.50)			
Citizen Ideology		0.10 ***		
		(0.02)		
Government Ideology			0.07 ***	
			(0.02)	
Legislative Party				2.14 ***
				(0.60)
AIC	135.33	107.74	117.95	119.98
R^2	0.03	0.06	0.04	0.05
Num. events	21	19	19	20
Num. obs.	698	613	642	531

*** p < 0.001; ** p < 0.01; * p < 0.05

Note: This table represents results from cox hazard models for survival analysis.
These models predict the odds a state will stay in my dataset before it abolishes its death penalty.
The odds ratios calculated from these coefficients are provided in the text below.

Model 1 supports hypotheses 1 and 2. A 1 unit increase in the proportion of neighboring states without the death penalty makes the odds of a state abolishing their death penalty 15 times higher. A state having a Democratic governor makes the odds of a state abolishing their death penalty 3.5 times higher than a state with a Republican governor.

Model 2 supports hypothesis 3. A 1 unit increase in citizen ideology makes the odds of a state abolishing their death penalty 1.1 times higher. This might not seem like a large increase, but keep in mind that citizen ideology is ranged from 1 to 100. So a 1 unit increase on this scale is relatively small. This model is the only one where the proportion of neighboring states is not significant. The possible reasoning for this will be discussed later.

Model 3 supports hypotheses 1 and 4. A 1 unit increase in the proportion of neighboring states without the death penalty makes the odds of a state abolishing their death penalty 4.4 times higher. A 1 unit increase in government ideology makes the odds of a state abolishing their death penalty 1.07 times higher. Government ideology is also ranged from 1 to 100, so a 1 unit increase is relatively small.

Model 4 supports hypotheses 1 and 5. A 1 unit increase in the proportion of neighboring states without the death penalty makes the odds of a state abolishing their death penalty 4.4 times higher. A 1 unit increase in state legislative party, from Republican to Democratic, makes the odds of a state abolishing their death penalty 8.5 times higher. The figures below show the survival curves for how long it is expected for a state to 'survive', or in other words, last without abolishing their death penalty for this model. Figure 5 shows the difference in survival probability for when all of a state's neighbors have the death penalty compared to when none of a state's neighbors have the death penalty, and for only when the legislative party of that state is Democratic.

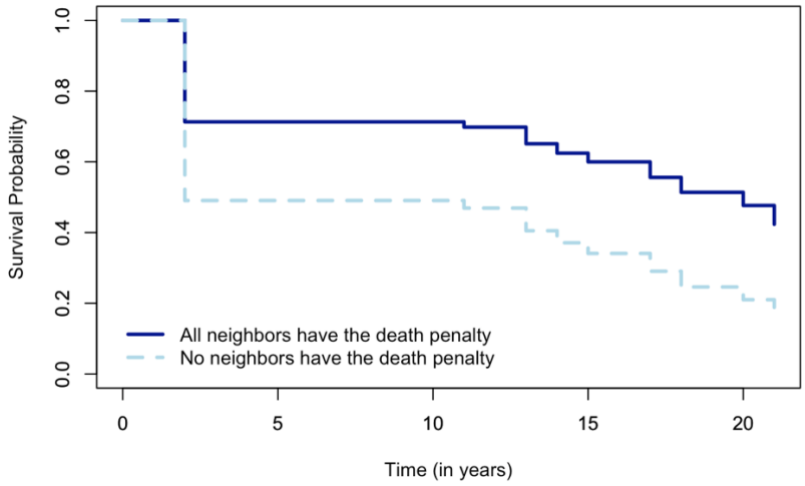

Figure 5. Survival Curve for States with a Democratic Legislature

Figure 6 also shows the difference in survival probability for when all of a state's neighbors have the death penalty compared to when none of a state's neighbors have the death penalty, but for only when the legislative party of that state is Republican. When we split these up by party, there still is a diffusion effect, just much less prevalent for when only looking at states with Republican legislatures. This trend is similar for all four models.

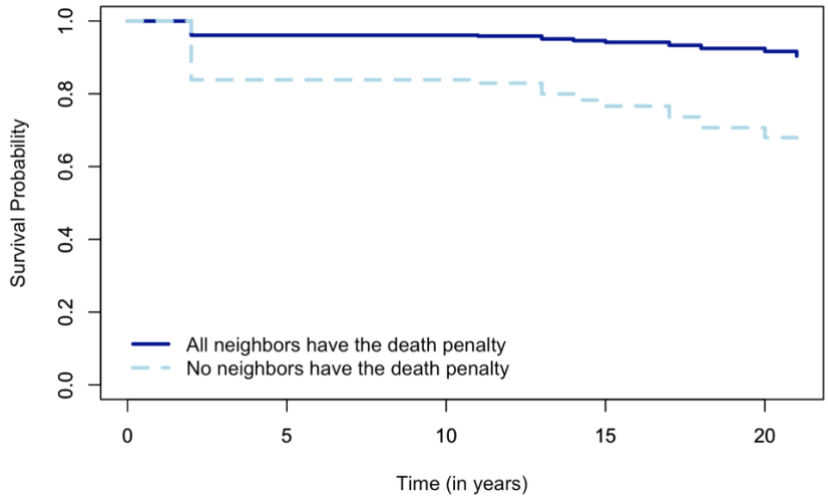

Figure 6. Survival Curve for States with a Republican Legislature

Chapter 6

Discussion

Overall, I found support for my first five hypotheses, while my sixth hypothesis remains up for debate. Every variable was statistically significant at the highest level in my logistic regression. Across all four models, there is support for hypothesis 1 that there is a regional diffusion effect in determining whether states have the death penalty or not. This gives support to the prediction that states learn from and copy their geographical neighbors in determining whether or not they should have the death penalty. However, as seen in figure 4, the strength of this regional diffusion effect is conditioned by the internal determinants of a state. For example, increasing the proportion of neighboring states without the death penalty increased the odds a state would not have the death penalty more in model 1 when party of the governor was included. In contrast, increasing the proportion of neighboring states without the death penalty increased the odds a state would not have the death penalty a lot less in model 2 when citizen ideology was included. This perhaps stems from the idea that citizen ideology/public opinion is more relevant in determining death penalty status rather than states copying their neighbors. This is where the debate revolving around hypothesis 6 comes in to play. At first glance one would think that the internal determinants of a state and a regional diffusion effect were both equally factors in determining whether a state has the death penalty or not due to every variable being highly statistically significant. However, the fact that the regional diffusion effect is lessened by including citizen ideology offers support that perhaps regional diffusion is not as strong of a predictor as the internal determinants of a state. Regarding the internal determinant variables, all four hypotheses were supported. States with Democratic governors had higher odds of not

having the death penalty compared to states with Republican governors. States with more liberal citizens had higher odds of not having the death penalty. States with more liberal governments had higher odds of not having the death penalty. Lastly, states with Democratic control of the legislature had higher odds of not having the death penalty.

Similar conclusions can be drawn from the survival analysis results, however there was only a regional diffusion effect in three out of the four models. So overall we can say that the greater proportion of neighbors without the death penalty makes a state more likely to abolish its death penalty. However, when citizen ideology and proportion of neighboring states without the death penalty were in the same model, the proportion of neighbors variable was not significant. This is somewhat similar to what was observed in the previous regression with there being a lesser diffusion effect when paired with citizen ideology. A regional diffusion effect was most significant in model one with governor party also in the model.

The most significant variables in predicting states abolish their death penalty in the time period observed were citizen ideology, government ideology, and legislature party. States with more liberal citizens were more likely to abolish their death penalty. States with more liberal governments were more likely to abolish their death penalty. Lastly, states with a Democratic unified legislature were more likely to abolish their death penalty. Party of the governor was also significant, just not as much as the others. States with Democratic governors were more likely to abolish their death penalty compared to states with Republican governors.

Figures 5 and 6 gave some insight into how the observed regional diffusion effect is conditioned by the internal determinants of a state. Overall, states were more likely to abolish their death penalty as the proportion of their neighboring states without the death penalty also increased. However, this effect was seen less for when the legislature was Republican as seen in

figure 6, comparing it with figure 5. A potential reasoning for this is that perhaps many states that neighbor each other, are also similar in ideology and/or partisanship. For example, perhaps states with Democratic legislatures who neighbor each other all decide to abolish their death penalties. This could be because they are copying each other, or it could just be because they are both Democratic in nature. That trend shown of the regional diffusion effect being conditioned by legislature party is similar for the other three variables. This makes me conclude that the regional diffusion effect observed interacts with these political and ideological attributes of the states, and that these predictors might not necessarily all be independent of each other. Regardless, we can still say that neighboring states abolishing their death penalty is correlated with a state abolishing its own death penalty. Whether this connection is casual or not is up for debate.

Chapter 7

Conclusion

In conclusion, my research supports my predictions that there was a regional diffusion effect, along with certain political and ideological attributes of the states, that led to many states abolishing their death penalty within the past 20 years. States with higher proportions of neighboring states who have abolished their death penalty increased the odds the state would also have abolished its death penalty. More liberal and Democratic states with more liberal citizenry increased the odds that a state would abolish its death penalty. Citizen ideology was one of the most significant predictors, giving support to the notion that states do listen to their citizenry and make policy decisions based on their opinions.

I have also concluded that this research supports the idea that states learn from and copy each other with regards to policy making decisions. This finding is significant since previous research found that a regional diffusion effect is usually not present for morality policies such as the death penalty. My research also supports the idea that ideology and partisanship can explain why states have different policies. I recommend that future research on state policy variance, especially regarding salient morality policies, to include similar predictors in their studies to see if my findings can be generalizable to other policy domains. For the specific topic of death penalty variance, I recommend that more analyses be done in the future since it is expected that more states will continue to abolish their death penalties. If so, these studies should try to include a more accurate measure of public opinion/mood since I was only able to use citizen ideology. Citizen ideology was found to be a very significant predictor in my study, therefore public opinion should be as well, especially since the literature found it to be the most significant.

Finally, my research also provides us with possible predictions about the death penalty to come. I predict more states will abolish their death penalty relatively soon. With respect to my findings, it would make sense for these states to be Democratic and liberal states, or states becoming more liberal over time. It would also make sense for these to be states whose neighbors have abolished their death penalty relatively recently. Since 2020, this has already occurred. On March 21st, 2021, Virginia abolished its death penalty. By looking at figure 3 again, you can see that every state directly above Virginia has abolished their death penalty. I expect this trend to continue.

BIBLIOGRAPHY

Anderson, A.L., Lytle, R. and Schwadel, P. (2017), Age, Period, and Cohort Effects on Death Penalty Attitudes in The United States, 1974–2014. Criminology, 55: 833-868.

Berry, F., & Berry, W. (1990). State Lottery Adoptions as Policy Innovations: An Event History Analysis. The American Political Science Review, 84(2), 395-415. doi:10.2307/1963526

Berry, William D., Evan J. Ringquist, Richard C. Fording, and Russell L. Hanson. "Measuring Citizen and Government Ideology in the American States, 1960-93." American Journal of Political Science 42.1 (1998): 327– 348.

Caron, C. (2021). Public Opinion and Death Penalty Policy Under Direct Democracy Institutions: A Longitudinal Analysis of the American States. American Politics Research, 49(1), 91–105.

Death Penalty Information Center. State by State. Death Penalty Information Center, 2022, https://deathpenaltyinfo.org/state-and-federal-info/state-by-state.

Emmert, C. F., & Traut, C. A. (2003). Bans on Executing the Mentally Retarded: An Event History Analysis of State Policy Adoption. State and Local Government Review, 35(2), 112–122. https://doi.org/10.1177/0160323X0303500204

Federal Bureau of Investigation. (2019). Crime in the U.S. FBI: Uniform Crime Report. https://ucr.fbi.gov/crime-in-the-u.s/

Fisher, P., & Pratt, T. (2006). Political Culture and the Death Penalty. Criminal Justice Policy Review, 17(1), 48–60. https://doi.org/10.1177/0887403405279932

Garrett, B. L. (2017). The decline of the Virginia (and American) death penalty. Georgetown Law Journal, 105(3), 661+.

Garrett, B. L., Jakubow, A., & Desai, A. (2017). The American Death Penalty Decline. Journal of Criminal Law and Criminology, 107(4), 561+.

Jacobs, D., Carmichael, J. T. (2002). The political sociology of the death penalty: A pooled time-series analysis. American Sociological Review, 67, 109-131.

Jordan, Marty P. and Matt Grossmann. 2020. The Correlates of State Policy Project v.2.2. East Lansing, MI: Institute for Public Policy and Social Research (IPPSR).

Kaplan, Jacob. (2021). United States Governors 1775-2020: united_states_governors_1775_2020.csv. Ann Arbor, MI: Inter-university Consortium for Political and Social Research. hhttps://doi.org/10.3886/E102000V3-82580

Langer, L. and Brace, P. (2005), The Preemptive Power of State Supreme Courts: Adoption of Abortion and Death Penalty Legislation. Policy Studies Journal, 33: 317-340. doi:10.1111/j.1541-0072.2005.00118.x

Mooney, C., & Lee, M. (1999a). Morality Policy Reinvention: State Death Penalties. The Annals of the American Academy of Political and Social Science, 566, 80-92. Retrieved October 10, 2020, from http://www.jstor.org/stable/1048844

Mooney, C., & Lee, M. (2000). The Influence of Values on Consensus and Contentious Morality Policy: U.S. Death Penalty Reform, 1956-82. The Journal of Politics, 62(1), 223-239. Retrieved October 11, 2020, from http://www.jstor.org/stable/2647605

Mooney, C. Z., & Lee, M.-H. (1999b). The Temporal Diffusion of Morality Policy: The Case of Death Penalty Legislation in the American States. Policy Studies Journal, 27(4), 766. https://link.gale.com/apps/doc/A62026166/GIC?u=psucic&sid=GIC&xid=f9de3d7c

National Conference of State Legislatures. (2022). State Partisan Composition. National Conference of State Legislatures, https://www.ncsl.org/research/about-state-legislatures/partisan-composition.aspx#Timelines

Sarat, A., Kermes, R., Cambra, H., Curran, A., Kiley, M., & Pant, K. (2017). The Rhetoric of Abolition: Continuity and Change in the Struggle Against America's Death Penalty, 1900-2010. Journal of Criminal Law and Criminology, 107(4), 757+.

Traut, C.A. and Emmert, C.F. (2003), Death Penalty Exemptions for Juveniles: An Event History Analysis of State Policy Adoption. Politics & Policy, 31: 296-312. doi:10.1111/j.1747-1346.2003.tb00150.x

Academic Vita
Autumn Mueller

EDUCATION

Schreyer Honors College, The Pennsylvania State University — **University Park, PA**
College of the Liberal Arts — *May 2022*
Bachelor of Arts in Political Science — Dean's List: 7/7 semesters
Enhanced Minor in Sociology

Paterno Fellows Program
- Honors program including advanced academic coursework, thesis, ethics study, and leadership/service commitment.

Kim Anderson Memorial Scholarship — 2020-2021 , 2021-2022
- Recognized as an outstanding Political Science student who has achieved superior academic records and manifest promise of outstanding academic success, two years in a row.

National Political Science Honorary Society - Pi Sigma Alpha
- Recognized for high academic achievement in the field of political science.

EXTRACURRICULAR ACTIVITIES

Club Sports Council — **University Park, PA**
Volunteer Chair — *August 2021-Present*
- Coordinate community service events for all 42 club teams, and represent interests of all teams.
- Hear club sports' disciplinary appeals and vote on outcomes and remedies.

Penn State Club Field Hockey — **University Park, PA**
Vice President — *April 2021-Present*
- Organize team events such as tryouts and tournaments, communicate with the club sports office, assist in planning and financing for the season, and assist in overseeing and leading the team.

THON Chair — *September 2020-February 2021*
- Facilitated my team's fundraising for THON, an event that benefits pediatric cancer.
- Communicated and planned events with my team's THON child, who has pediatric cancer.

Social Chair — *January 2019-December 2019*
- Organized weekly social events for my team with other teams at Penn State.

Epsilon Sigma Alpha - Service Organization — **University Park, PA**
Recruitment Team Member — *September 2020-May 2021*
- Facilitated and planned recruitment for new members over Zoom. Informed the potential new members about my service organization and our efforts to fundraise for St. Jude's Hospital.

Social Chair — *September 2020-May 2021*
- Planned weekly social events with other organizations.

Phi Alpha Delta Pre-Law Fraternity — **University Park, PA**
Member — *April 2021- December 2021*
- Contribute to and attend meetings regarding pursuing and preparing for a legal career.

RESEARCH PROJECTS

Independent Research Project - "Did More Diverse States Have More Competitive Elections in 2016?"
- Constructed theories and designed studies, learned how to quantify concepts, and how to test theories using descriptive analysis, hypothesis testing, correlation, and regression analysis with R.
- Researched and produced an original research project on the 2016 Presidential election.

Senior Honors Thesis - "The Diffusion of Abolishing the Death Penalty Among the American States"
- Produced an original thesis that explores why certain states abolished their death penalty in the 21st century.
- Used R programming language to empirically test hypotheses and produce results.

SKILLS
- Microsoft Excel, Word, and Powerpoint
- R programming language