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The Effect of Gerrymandering on State Social Policy

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Effects of Gerrymandering on State Social Policy

Abstract

Partisan bias occurs when one party gets something the other party does not. If a given district map results in one party gleaning a higher proportion of the legislative seats than the proportion of votes cast for that party, since this effect is only possible for one party, then partisan bias has occurred. It can be strategically produced via gerrymandering and is thought by many to circumvent the basic principles of democracy. This study uses recent state election results to compute a measure of partisan bias, as well as secondary data measuring the levels of five state social policies, to assess the effect of gerrymandering on those policies. It also tests whether the state's redistricting method is related to partisan bias. Partisan bias correlated with, and explained significant variance in, all five social policies measured. The redistricting method was related to the direction and intensity of partisan bias. The results indicate gerrymandering of state districts results in more extreme social policies than the majority of voters prefers.

Key Words: Partisan Bias, Gerrymandering, Social Policy

Introduction

Among the various strategies to win elections, research has shown gerrymandering of state legislative and senate districts to be one of the most powerful tools to influence the outcome of a given state election, theoretically allowing the party gleaning fewer votes to win a majority of the legislative seats, even if all other factors are equal (McGann, Smith, Latner and Keena, 2015; Best, Donahue, Krasno, Magleby and McDonald, 2018; Chen and Rodden, 2015; Beitz, 2019; Stephanopoulos and McGhee, 2015; Butera, 2015; Rush, 2020; Grofman and King, 2007;

McDonald and Best, 2015; Ansolabehere 2016; Nagle, 2015; Cox and Holden, 2011). Several useful statistics for measuring the strength of legislative power a given party will enjoy for a given election outcome have been proposed (McGann, Smith, Latner and Keena, 2015; Best, Donahue, Krasno, Magleby and McDonald, 2018; Chen and Rodden, 2015; Beitz, 2019; Stephanopoulos and McGhee, 2015; Butera, 2015).

Stephanopoulos and McGhee concluded that “Gerrymandering is fundamentally about the relationship between popular support and legislative representation—and manipulating this relationship to benefit one party and handicap its rival.” (Stephanopoulos and McGhee, 2018). I argue that fairness in a state election outcome is contingent on the resulting proportion of a party’s influence on the legislative processes approximating, within a subjectively determined margin of tolerance, the proportion of votes gleaned by that party’s candidates, a concept Stephanopoulos and McGhee refer to as proportional representation (Stephanopoulos and McGhee, 2018). I argue further that proportional representation, as measured by (% party seats - % party votes) for a given party in a given statewide election, best assesses the discrepancy between the amount of legislative influence the party is able to exercise and the proportion of votes cast for that party’s candidates, and is thus, the superior method for measuring partisan bias. Assuming all eligible voters have equal opportunities in the voting process and all votes are counted accurately, limiting proportional representation is the most valid criterion for achieving a democratic outcome to a given election.

State laws are traditionally passed by majority vote of an amalgam of representatives, each elected from one of many legislative districts in the state. Districts do not make their own state laws, so electing a state district representative professing a legislative agenda desired by a majority of voters in the district will not guarantee that the district will achieve the statewide

legislative agenda the district majority desires. District voters must rely on a majority of all district representatives with similar state legislative agendas getting elected in order to get their desired statewide policies. If district lines are drawn using a politically unbiased method, the majority policy preferences among all voters should closely reflect the majority voting behaviors among all state legislators. If most voters in the state want conservative social policies, then most of the state legislators elected should support conservative social policies, and vice versa.

Districts drawn to be heavily gerrymandered are the opposite of those drawn using randomized methods, presumably drawn with the specific intent of maximizing the number of resultant seats for a given vote outcome. This could result in an election where most of the voters support conservative social policies, but most of the legislators support liberal policies (Stephanopoulos and McGhee, 2018). And although randomly drawn district lines are not feasible, district lines can be intentionally drawn to maximize or minimize partisan bias. Therefore, since election results within a given district are largely irrelevant to outcomes of the statewide election, they are, thus, irrelevant to assessments of partisan bias. Only the statewide election outcome is relevant to partisan bias, which is why gerrymandering of state voting districts is such a powerful tool (Beitz, 2019; Forgette, Garner and Winkle, 2012). Since the legislative process occurs as a majority vote during a legislative session, what is important for majority-rule democracy is that the proportion of party representatives in the legislature roughly equate to the proportion of votes cast for that party in the general election. Whether deviation from this standard is intentional or unintentional is irrelevant (Chen and Rodden, 2015). The question that is difficult to answer empirically is, “What level of allowable bias is most desirable by the electorate?”

Much legislation involves compromise between the two dominant parties. The degree of reasonable compromise for a given party will tend to be inversely correlated to the relative strength of the party's representation. Parties with strong majorities will have little motivation to compromise, while parties with narrow majorities will need to compromise and make concessions to pass their legislative agendas. So, simply winning a majority of seats is not the only concern of party leaders. They want to win as many seats as possible to give them either the strongest majority or minority possible, allowing them unrestricted legislative power as the strong majority, or keeping them in a position to negotiate compromises as the weak majority or minority (Forgette, Garner and Winkle, 2012). Partisan bias gives a party more influence during these negotiations than their level of voter support justifies. These dynamics suggest that one critical factor for democratic "fairness" is a minimal level of partisan bias, as measured by the degree to which a party's legislative influence differs from the degree of party voter support. As Forgette et.al. pointed out, they also suggest that parties that practice gerrymandering glean more power to pass marginally favorable legislation on controversial social issues, such as abortion, gun control, LGBTQ rights, the death penalty and voter suppression (Forgette, Garner and Winkle, 2012).

It is intuitive that party strength among voters and legislators within a given state creates the power to gerrymander. Parties in purple states will not be able to muster the political support for partisan gerrymandering, but states with high proportions of party voters, and thus legislators, will tend to have commanding control over drawing district lines, making partisan gerrymandering a tempting strategy. And if partisan bias gives a party more legislative clout than their proportion of party voters would otherwise have gleaned, we should expect to see the most extreme liberal and conservative social legislation in the states with the highest respective

partisan bias. This study attempts to test this theory. It analyzes the correlations between policy legislation and a measure of proportional representation to explain variance in each social policy. Finally, the study will test whether the redistricting method used by a given state is related to that state's level of partisan bias.

Six hypotheses will be tested with statewide election results data, as well as measures on the identified social policies for each state, to test the relationships graphed in figure 1. To test the first five hypotheses, multiple linear regression models will isolate the effects of proportional representation, with the percent of Republicans in the state's legislature used as a control variable. Data on the method of redistricting is used to test a sixth hypothesis that a state's redistricting method is related to the degree of proportional representation.

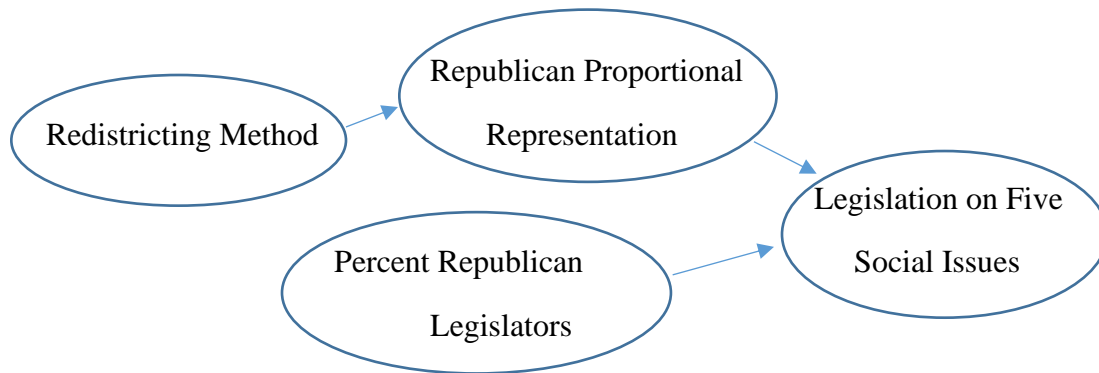


Figure 1

I hypothesize that:

1. Proportional representation will each explain a significant proportion of variance in state policies on hate crime.
2. Proportional representation will each explain a significant proportion of variance in state policies on the death penalty.

3. Proportional representation will each explain a significant proportion of variance in state policies on abortion.
4. Proportional representation will each explain a significant proportion of variance in state policies on gun control.
5. Proportional representation will each explain a significant proportion of variance in state policies on voter suppression.

The analysis will utilize multiple linear regression to measure the proportion of variance in social policy explained by the proportional representation measure, with the percent of party legislators in 2010 used as a control variable. I will compare standardized regression coefficients to assess the relative contributions of proportional representation and the percent of Republican legislators for explaining variance in the five state social policies.

6. The degree and direction of proportional representation will be related to the redistricting method used.

Comparing the mean proportional representation between the five methods of redistricting will assess whether and how the state's method for redistricting is related to partisan bias.

Review of the Literature

Partisan symmetry is a straightforward concept. It has been written about positively by several Supreme Court Justices (Stephanopoulos and McGhee, 2015). Originated by Andrew Gelman and Gary King, partisan symmetry is the necessitation that “the electoral system treat similarly-situated political parties equally, so that each receives the same fraction of legislative seats for a particular vote percentage as the other party would receive if it had received the same

percentage” (Groffman and King, 2007). McGann et al. claim that because partisan symmetry stipulates that a majority of voters must be able to win a majority of seats, violation of partisan symmetry implies that not all voters are equally protected (McGann, Smith, Latner and Keena, 2015). Best et al. claim that partisan symmetry is a more robust standard than other measures developed (Best, Donahue, Krasno, Magleby and McDonald, 2018). Symmetry can “...capture both the direction of the bias (for either the Democrats or the Republicans) and the magnitude of the bias...” (Burden and Smidt, 2020).

Charles Beitz claims that “partisan asymmetry violates majority rule” (Beitz 2019). Bernard Groffman and Gary King maintain that they know “of no published disagreement or even clear misunderstanding in the scholarly community about partisan symmetry as a standard for partisan fairness (Groffman and King, 2007).

Jowei Chen and Jonathan Rodden point out that partisan asymmetry can appear for nonpartisan reasons, namely “the application of traditional redistricting criteria, the protection of communities of interest ... or the protections of minority voting rights associated with the Voting Rights Act.” Asymmetry can also rear its head due to the geographical sorting of political partisans (Chen and Rodden ,2015). Chen and Rodden further argue that the ruling in LULAC implies that some method must be found for determining asymmetry that derives from legitimate reasons for partisan bias versus partisan attempts simply to gain an advantage (Chen and Rodden, 2015). Justice Kennedy appears to have concurred with Chen and Rodden when he offered the opinion that other tests besides asymmetry would be needed to determine whether gerrymandering had taken place. Kennedy, in keeping with his worries about invalidating a plan based on “a hypothetical state of affairs,” (Stephanopoulos and McGhee, 2016) expressed the worry that determining the amount of partisan bias present with the aid of partisan symmetry

would rely on “conjecture about where possible vote-switchers will reside,” a critique with which I concur. The Supreme Court has been more responsive in striking down racial gerrymanders (Butera, 2015).

According to the Forgette, Garner, and Winkle, what seems to be the result of this wave of gerrymandering are political agendas controlled “by the legislative majority or the governor.” This is as opposed to the historical pattern of “bipartisan coalition formation” within state legislatures (Forgette, Garner and Winkle, 2012). The obvious result of this increasingly one-party control within states is increasing polarization, along with increasingly partisan policy agendas.

Cracking and packing are the terms used for how gerrymandering divides (cracks), and clumps together (packs), its political victims. Today, Democrats tend to cluster in cities, while Republican voters are often spread over large, rural districts (Chen and Rodden, 2013). This natural packing of Democratic voters generally puts them at a disadvantage even before partisan gerrymandering is considered (Chen and Rodden, 2015). The different methods for detecting gerrymandering discussed in this paper all attempt to detect excessive cracking and packing. Some researchers suggest that electoral happiness should be a consideration when redistricting plans are drawn (Brunell, 2006). To maximize happiness, they suggest drawing lines to pack districts with “like-minded partisans.” This would also serve to minimize the level of cracking that would be possible (Brunell, 2006).

What are the consequences of gerrymandering besides electoral representation that doesn’t exactly match the will of the voters? Joshua Butera asserts that it leads “to less democratic institutions and more polarized representatives” (Butera, 2016). Adam Cox, professor of law at NYU, argued the same point when he said it was likely that, “partisan

gerrymanders will lead to more polarized congressional delegations” (Cox, 2004). It ensures that legislature’s “policies and actions will often not align with nationwide policy preferences” (Butera, 2015). Due to the nature of a gerrymandered race, the advantaged candidates for political office will only face real competition in their party’s primary.

The “efficiency gap,” developed by Nicholas Stephanopoulos and Eric McGhee, is a well-known method for measuring a potential gerrymander. Stephanopoulos and McGhee argue that the efficiency gap is a better tool than other standards for several reasons. First, it can summarize in a single number “all of the packing and cracking decisions that go into a district plan.”¹ Second, use of the efficiency gap does not rely on “counterfactual analysis,” which directly addresses Justice Kennedy’s concern about another metric and the overturning of electoral maps based on what might result “in a hypothetical state of affairs” (Stephanopoulos and McGhee, 2015).

Although the efficiency gap holds promise in terms of feasibility, it has been critiqued. Chief Justice Roberts, in the ruling from a 2018 case, *Gill v. Whitford*, wrote that the efficiency gap does not measure harm done to individual voters, but instead “measures something else entirely: the effect that a gerrymander has on the fortunes of political parties” (Rush, 2020). Scholars of gerrymandering have offered their criticisms, as well. These criticisms range from “manageability difficulties” to the lack of a normative gauge for assessing when an efficiency gap is too large (Best, Donahue, Krasno, Magleby and McDonald, 2018). Though Stephanopoulos and McGhee have proposed thresholds beyond which a districting plan is unconstitutional, other scholars critique the efficiency gap’s need for “using a relative

comparison to the historical record of elections in the same jurisdiction or to elections in other jurisdictions.” Best et al. claim that this is liable to “perpetuate gerrymanders in earlier years” (Best, Donahue, Krasno, Magleby and McDonald, 2018). Other authors, such as Benjamin Cover of the University of Idaho School of Law, argue that the very metric “is in tension with important democratic values.” Stephanopoulos and McGhee admit to three weaknesses in their metric: in very lopsided districts, the results can be unexpected; inconsistency from one election cycle to the next; and it can be thrown off by uncontested seats (Stephanopoulos and McGhee, 2015). While acknowledging these limitations, the authors believe these can easily be overcome.

Although the Supreme Court found partisan gerrymandering to be justiciable in 1986, no plan in the intervening years has been found to be unconstitutional, despite social scientists often regarding them as egregious gerrymanders (Stephanopoulos and McGhee, 2015; Grofman and King, 2007). What stood in the way for some time was the lack, according to the justices, of a useful and practical standard by which to measure whether an unconstitutional gerrymander took place. In the tentative way of the Court, it was judged that, were a “manageable rule” to be devised, it could be used in a future case (Grofman and King, 2007). A 2006 case that appeared before the Court, *LULAC v. Perry*, resulted in several opinions from the bench reacting favorably to the concept of partisan symmetry, though with the caveat that it be used in conjunction with other measures. The Court has struggled to determine, were a measure to be adopted, how to gauge what level of deviation would render a plan unconstitutional (Grofman and King, 2007).

Despite the Court’s difficulty in deciding upon legal standards, former justices and past rulings of the Court stress the urgency of devising some way of combatting the undemocratic practice of partisan gerrymandering (Best, Donahue, Krasno, Magleby and McDonald, 2018;

McGann, Smith, Latner and Keena, 2015). “Partisan gerrymandering has become such a dark art that retired Justice John Paul Stevens proposed a constitutional amendment to curb it (Best, Donahue, Krasno, Magleby and McDonald 2018).

McDonald and Best concur, adding that the voters for a party which faces a gerrymandered disadvantage suffer “harm because its party is treated unfairly” (McDonald and Best, 2016). Charles Beitz adds that gerrymandering effects the “value of the votes of some voters for both candidates of both parties, while simultaneously disadvantaging all voters for one party, taken as a group, and advantaging those for the other in the jurisdiction as a whole.” Beitz also points out that candidates of the parties, as individuals, face advantages or disadvantages based on a gerrymander (Beitz, 2019). Arguments can be made that negatively affecting political parties is essentially the same as negatively affecting individuals, for, after all, political parties are composed of many individuals with common aims. The Court, however, has consistently shown itself to be unsympathetic to this approach. In a gerrymandering case coming before the Court in 2018, Chief Justice Roberts opined that “this Court is not responsible for vindicating generalized partisan preferences. The Court’s constitutionally prescribed role is to vindicate the individual rights of the people appearing before it” (Rush, 2020).

Grofman and King argue that the point of redistricting is to ensure equitable treatment of citizens (Grofman and King, 2007). Redistricting is necessary because people move and switch party allegiance, among other considerations. Gerrymandering inverts the purpose of redistricting. Though each state must perform the redistricting process every ten years, some states have different rules regarding that process. In general, Southern states have less “formally declared redistricting principles” and are more likely to use the legislature for redistricting, as compared with non-southern states (Forgette, Garner and Winkle, 2012).

Fairness would seem to be a fundamental aspect of a representative government. If a party receives a certain share of votes, it seems appropriate that they receive a similarly sized share of the seats being contested. Surprisingly, there is some debate over this.

The argument has been made by McGann et al. that a two-party system should adhere to the standard of majority rule; that is, any party that wins a majority of a vote must also win at least 50% of the available seats. They further argue that the “cancellation property, the property positing that if two parties have the same vote total, they must be allocated the same number of seats,” is a requirement of any system that purports to treat all of its citizens fairly. The authors contend that what partisan symmetry measures is fair treatment of political parties and that fair treatment of political parties necessitates fair treatment of individual voters for those parties (McGann, Smith, Latner and Keena, 2015). Chen and Rodden claim that it is possible to determine the likely fairness of a redistricting plan, that is, whether it treats opposing parties the same, or symmetrically (Chen and Rodden, 2015).

Beitz contends that gerrymandering is inherently unfair because it distorts the representation in the legislature of the political interests of the people. The unfairness that results from this political distortion places an “electoral disability” on the disadvantaged voters. Beitz also points out that the damage done to the electoral power of some voters due to the accident of geographical sorting is every bit as consequential as deliberately crafted partisan gerrymandering. The propensity of such an unfair system is for it to be less responsive to changes in the will of the electorate (Beitz, 2019). Forgette et.al. claim that election “standards prescribed by Congress and the federal courts emphasize equality and fairness in voting policies and procedures” (Forgette, Garner, and Winkle, 2012).

As noted above, McDonald and Best insist that when an election is held in a gerrymandered district “the supporting group of voters suffers harm because its party is treated unfairly” (McDonald and Best, 2015). Fairness is considered by some researchers, such as John Nagle of Carnegie Mellon University, to be so obvious a desired goal that their paper assumes partisan fairness to be the principal goal of redistricting. Nagle points out that competitiveness is not necessarily the same thing as fairness. He claims that minimizing partisan bias is the “quantifiable criterion” of fairness (Nagle, 2015).

The remaining difficulty is deciding how much bias is constitutionally acceptable. Many authors suggest parameters for minimal partisan bias and methods for addressing plans that exceed this threshold (Grofman and King, 2007; Nagle 2015; Stephanopoulos and McGhee, 2018). Stephanopoulos and McGhee offer a standard of “two seats for congressional plans and 8 percent for state house plans.” Gaps larger than this would be unlawful unless they could be demonstrated to result from “the consistent application of legitimate policies or were inevitably due to the states’ political geography” (Stephanopoulos and McGhee, 2015). Other plans suggest different thresholds, but are equally subjective (Grofman and King, 2007).

Grofman and King suggest several thresholds to be used in conjunction with their preferred standard for measuring partisan bias, the partisan symmetry standard. They propose that, among other possibilities, the Court could “require plans with as little partisan bias as practicable,” “disqualify plans with partisan bias that deviate from symmetry by at least one seat,” or “disqualify only those plans with egregious levels of partisan bias, defined in terms of a specified percentage threshold” (Grofman and King, 2007). The bottom line seems to be that, while social scientists can devise and refine methods for detecting partisan gerrymandering, it is up to the Court to decide what is and what isn’t acceptable levels of deviation from a norm.

The Supreme Court has been open to using the concept of “departure from symmetry” to assess unconstitutional gerrymandering (Stephanopoulos and McGhee, 2015). Three problematic questions for the Court are 1) what is the best measure of partisan bias, 2) what is the threshold of that measure for ruling a redistricting plan unconstitutional, and 3) whether “a gerrymandered district has harmed the litigant” (Butera, 2015).

Several academics in the realm of gerrymandering have proposed guidelines to determine the answer to the question posed by the Court in their ruling in *Vieth*: “how much political motivation and effect is too much” (Stephanopoulos and McGhee, 2015)? Researchers have mostly focused on the question of political affect. In that vein, several thresholds have been suggested, each deemed to answer that question by use of the researcher’s preferred standard of measurement.

I also support Charles Beitz when he argues that, to the voters for a party, the gerrymandering of a particular district matters little, what matters is the relative strength of the party in the legislature. Thus, all voters for a party, whether they reside in a district disadvantaged due to gerrymandering or not, suffer the consequence of the decreased voting strength of their party (Beitz, 2019). Forgette, Garner, and Winkle claim that “there is significant variation in the rate of two-party electoral contestedness between national and subnational elections.” Incumbents of local and state legislative offices run uncontested races much more often than incumbents for national or state-wide offices. Forgette, Garner, and Winkle argue that state legislative districts are more open to partisan manipulation, thanks to the fact that they have smaller populations and the stipulations regarding equality of populations between districts are not as stringent (Forgette, Garner, and Winkle, 2012). Adam Cox argues that the differences between redistricting at the state and federal level are critical distinctions.

This stems from the fact “that state legislative redistricting plans affect the composition of the entire legislature, while congressional redistricting plans affect the composition of only a subpart of the legislature.” Acknowledging this allows the Court to “adopt a systemwide account of the harm caused by the partisan gerrymander.” The only way to observe the problems that gerrymandering causes, according to Cox, is by “understanding the electoral consequences of redistricting for congressional representation as a whole” (Cox, 2004).

While proportional representation seems to be the democratic ideal, “Congress and the courts have made clear that proportional representation is not mandated by law.” Burden and Smidt note that studies of “swings” in elected seats show larger changes “than a proportional response would generate (Burden and Smidt, 2020). The Court has said that “failure of proportional representation alone does not constitute impermissible discrimination under the Equal Protections Clause.” The Court further stated that “a finding of unconstitutionality must be supported by evidence of continued frustration of the will of a majority of the voters” (Rush 2020). This research suggests just such frustration.

Methodology

This study utilizes a quantitative method of analysis, using secondary data from official state agencies of the most recent state election results to calculate levels of proportional representation. Secondary data from special interest organizations were also used to calculate correlations between proportional representation and the extent of legislation on controversial social policies.

Republican proportional representation is calculated by summing the total percentage of Republican votes for state representatives or senators minus the total percentage of seats won. Only votes and seats for Democratic and Republican candidates were included in the data. The

measure of proportional representation is the mean of the computed measures for the legislatures and senates.

Secondary data for election results were obtained from official government sources regarding state legislature elections. Most of the data are from the 2020 elections, but for states with no state elections in 2020, the most recent state office election data were used. Vote totals for each party candidate are gathered on a district-by-district basis. In the majority of states, the office of the Secretary of State (SOS) compiles these data, which are easily accessible via the SOS websites. In all cases, the official state government sources were used. URLs for all election results data are provided in Appendix A.

The districting system in most states results in a general election that involves a single candidate from each party competing against one another. This was the system in place for the majority of elections analyzed in this paper. In the case of an uncontested election, the votes for the sole candidate in that race were added to their party's total, as was the legislative seat that they won, while zero votes and seats were given to the uncontested opposition. States with multimember districts were treated similarly to those with single member districts. The total votes obtained by each party and the total seats awarded to each party were calculated.

Percent of House Members Republican 2010 (Appendix C)

URL: https://www.ncsl.org/documents/statevote/LegisControl_2010.pdf

The secondary data used to calculate the Percent of Republican House Members in 2010 came from the National Conference of State Legislators (NCSL).

Secondary data concerning the social policy variables were collected from several sources described below.

State Voter Suppression Index (Appendix D)

URL: <https://www.theguardian.com/us-news/ng-interactive/2019/nov/07/which-us-states-hardest-vote-suppression-election>

The secondary data used to calculate the State Voter Suppression Index came from *The Guardian*, which had compiled data from “The Sentencing Project, National Conference of State Legislatures, ACLU, Brennan Center, and state legislature websites, with precedence going to information posted on each state’s secretary of state website” (Adolphe, Salam, & Rao, 2020, para. 5). Each state’s scores in four categories were summed, resulting in a total number of voter restrictions ranging from the lowest possible score of 4, signifying the least restrictive, to the highest possible score of 14, indicating the most restrictive.

State Hate Crime Index (Appendix E)

URL: <https://www.naacp.org/wp-content/uploads/2017/09/Hate-Crimes-laws-by-state.pdf>

The secondary data used to calculate the Hate Crime Law Index came from the Washington Bureau of the National Association for the Advancement of Colored People (NAACP). The NAACP scored each state based on whether it had laws in place enhancing penalties for crimes motivated by a particular purpose, including race, religion, or ethnicity, sexual orientation, gender, gender identity, disability, political affiliation and age, as well as laws that criminalized interference with religious worship (Hate Crime Laws, n.d.). The higher the value, the greater the legal protection for these discriminated categories.

State Death Penalty Index (Appendix F)

URL: <https://www.bjs.gov/content/pub/pdf/cp18st.pdf>

The secondary data used to calculate the Death Penalty Legality Index came from the Bureau of Justice Statistics (BJS). Those states with no statute authorizing the death penalty were coded as 0. The higher the value of this variable, the greater the authorization and use of the death penalty by that state.

URL: <https://www.guttmacher.org/article/2019/08/state-abortion-policy-landscape-hostile-supportive>

State Abortion Policy Index (Appendix G)

The secondary data used to calculate the Policies Allowing Abortion Index came from the *Guttmacher Institute*, a think tank focused on “advancing sexual and reproductive health and rights.” (About Guttmacher, 2021) The *Guttmacher Institute* scored states “based on whether they had policies in effect in any of six categories of abortion restrictions and any of six categories of abortion measures that protect or expand abortion rights and access.” (Nash, 2021, para. 8) Based on a state’s overall score, they were graded on a seven-place scale measuring hostility or support regarding abortion rights. The higher the value, the greater the availability of abortion.

State Gun Control Index (Appendix H)

URL: <https://www.nraila.org/gun-laws>

The secondary data used to calculate the Gun Control Law Index came from the National Rifle Association’s (NRA) Institute for Legislative Action, a lobbying arm of the NRA. The NRA scored each state on a five-level classification based on the ease with which an individual can obtain a permit to carry a firearm. No state received a score qualifying it into the most

restrictive level, so the index used in our correlations has only four levels. The higher the value, the greater the restrictions on gun ownership.

State Redistricting Method (Appendix I)

URL: <https://ballotpedia.org/Redistricting>

The secondary data used to determine the state's redistricting method came from the Ballotpedia webpage "State-by-State Redistricting Procedures." (Redistricting, n.d.) Ballotpedia categorized each state into one of five general classifications of redistricting method.

The analysis will include correlation analysis of the social policy variables with the measures of proportional representation, which also will be used to test the first five hypotheses using multiple linear regression. The percent of Republicans in the state legislature in 2010 is used as a control variable. These legislators should be the ones who drew the current district lines and established current state social policy legislation. Although additional control variables, not the least of which is what Levendusky calls "the partisan sort," would better allow the analysis to show the pure effects of gerrymandering, the multiple regression analysis method requires at least 25 cases per independent variable to allow for sufficient variance (Levendusky, 2009). With only 50 cases (states), only one control variable is feasible. Hypothesis 6 will be tested by comparing the mean proportional representations of the five methods for redistricting.

Analysis

Correlations

		Total Proportional Representation	Gun Control Law Index	Policies Allowing Abortion Index 2019	Death Penalty Legality Index 2018	Hate Crime Law Index 2017	State Voter Suppression Index 2020
Total Proportional Representation	Pearson Correlation	1	-.566**	-.626**	.338*	-.623**	.451**
	Sig. (2-tailed)		.000	.000	.018	.000	.001
	N	49	49	49	49	49	49
Gun Control Law Index	Pearson Correlation	-.566**	1	.429**	-.303*	.420**	-.282*
	Sig. (2-tailed)	.000		.002	.033	.002	.048
	N	49	50	50	50	50	50
Policies Allowing Abortion Index 2019	Pearson Correlation	-.626**	.429**	1	-.434**	.485**	-.689**
	Sig. (2-tailed)	.000	.002		.002	.000	.000
	N	49	50	50	50	50	50
Death Penalty Legality Index 2018	Pearson Correlation	.338*	-.303*	-.434**	1	-.323*	.519**
	Sig. (2-tailed)	.018	.033	.002		.022	.000
	N	49	50	50	50	50	50
Hate Crime Law Index 2017	Pearson Correlation	-.623**	.420**	.485**	-.323*	1	-.354*
	Sig. (2-tailed)	.000	.002	.000	.022		.012
	N	49	50	50	50	50	50
State Voter Suppression Index 2020	Pearson Correlation	.451**	-.282*	-.689**	.519**	-.354*	1
	Sig. (2-tailed)	.001	.048	.000	.000	.012	
	N	49	50	50	50	50	50

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Table 1

Table 1 shows the correlations between the measures of Republican proportional representation and the five social policy measures. Data analyzed includes 50 cases, the 50 United States. The dependent variables are the ordinal measures on the five social policy laws. The independent variable is the measure of proportional representation. The correlations are all in the hypothesized direction, with proportional representation tending to strongly correlate with the state social policies.

Multiple OLS Linear Regression Analyses

Hypothesis 1: Proportional representation will each explain a significant proportion of variance in state policies on hate crime.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.656 ^a	.430	.406	1.628

a. Predictors: (Constant), Percent of House Members Republican 2010, Total Proportional Representation

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	92.105	2	46.053	17.385	.000 ^b
	Residual	121.854	46	2.649		
	Total	213.959	48			

a. Dependent Variable: Hate Crime Law Index 2017

b. Predictors: (Constant), Percent of House Members Republican 2010, Total Proportional Representation

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	5.538	.820		6.756	.000
	Total Proportional Representation	-.102	.028	-.488	-3.674	.001
	Percent of House Members Republican 2010	-.034	.019	-.247	-1.857	.070

a. Dependent Variable: Hate Crime Law Index 2017

Table 2

Table 2 shows that almost half (.430) of the variance in the dependent variable state hate crime policy is explained by the two independent variables. The Beta values show proportional representation to be explaining considerably more variance than the control variable, percent Republican legislators. The data support hypothesis 1.

Hypothesis 2: Proportional representation will each explain a significant proportion of variance in state policies on the death penalty.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.538 ^a	.290	.259	.946

a. Predictors: (Constant), Percent of House Members Republican 2010, Total Proportional Representation

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	16.794	2	8.397	9.374	.000 ^b
	Residual	41.206	46	.896		
	Total	58.000	48			

a. Dependent Variable: Death Penalty Legality Index 2018

b. Predictors: (Constant), Percent of House Members Republican 2010, Total Proportional Representation

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.190	.477		-.398	.692
	Total Proportional Representation	.007	.016	.065	.436	.665
	Percent of House Members Republican 2010	.036	.011	.500	3.371	.002

a. Dependent Variable: Death Penalty Legality Index 2018

Table 3

Table 3 shows that some of the variance (.290) in the dependent variable state death penalty policy is explained by the two independent variables. The Beta values show the control variable, percent Republican legislators, to be explaining most of the variance in death penalty policy. The data weakly support hypothesis 2.

Hypothesis 3: Proportional representation will each explain a significant proportion of variance in state policies on abortion.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.628 ^a	.394	.368	1.318

a. Predictors: (Constant), Percent of House Members Republican 2010, Total Proportional Representation

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	52.041	2	26.020	14.969	.000 ^b
	Residual	79.959	46	1.738		
	Total	132.000	48			

a. Dependent Variable: Policies Allowing Abortion Index 2019

b. Predictors: (Constant), Percent of House Members Republican 2010, Total Proportional Representation

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.809	.664		5.736	.000
	Total Proportional Representation	-.097	.022	-.590	-4.311	.000
	Percent of House Members Republican 2010	-.007	.015	-.064	-.469	.641

a. Dependent Variable: Policies Allowing Abortion Index 2019

Table 4

Table 4 shows that .394 of the variance in the dependent variable state abortion policy is explained by the two independent variables. The Beta values show proportional representation to be explaining considerably more than the control variable, percent Republican legislators. The data support hypothesis 3.

Hypothesis 4: Proportional representation will each explain a significant proportion of variance in state policies on gun control.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.647 ^a	.419	.394	.787

a. Predictors: (Constant), Percent of House Members Republican 2010, Total Proportional Representation

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	20.524	2	10.262	16.589	.000 ^b
	Residual	28.456	46	.619		
	Total	48.980	48			

a. Dependent Variable: Gun Control Law Index

b. Predictors: (Constant), Percent of House Members Republican 2010, Total Proportional Representation

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.206	.396		8.093	.000
	Total Proportional Representation	-.036	.013	-.360	-2.687	.010
	Percent of House Members Republican 2010	-.025	.009	-.376	-2.800	.007

a. Dependent Variable: Gun Control Law Index

Table 5

Table 5 shows that .419 of the variance in the dependent variable state gun control policy is explained by the two independent variables. The Beta values show proportional representation to be explaining about the same proportion of variance as the control variable, percent Republican legislators. The data support hypothesis 4.

Hypothesis 5: Proportional representation will each explain a significant proportion of variance in state policies on voter suppression.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.457 ^a	.209	.174	2.181

a. Predictors: (Constant), Percent of House Members Republican 2010, Total Proportional Representation

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	57.794	2	28.897	6.072	.005 ^b
	Residual	218.900	46	4.759		
	Total	276.694	48			

a. Dependent Variable: State Voter Suppression Index 2020

b. Predictors: (Constant), Percent of House Members Republican 2010, Total Proportional Representation

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	7.016	1.099		6.385	.000
	Total Proportional Representation	.096	.037	.404	2.578	.013
	Percent of House Members Republican 2010	.014	.025	.087	.557	.580

a. Dependent Variable: State Voter Suppression Index 2020

Table 6

Table 6 shows that some (.209) of the variance in the dependent variable voter suppression policy is explained by the two independent variables. The Beta values indicate that proportional representation is explaining almost all of this variance. The data strongly support hypothesis 5.

ANOVA Analysis

Hypothesis 6: The degree and direction of proportional representation will be related to the redistricting method used.

To assess the degree to which the independent variable, a state’s method for redistricting, might affect the dependent variable partisan bias, the mean level of proportional representation between the five established methods of redistricting were compared. The results are shown in Table 7.

Report

Total Proportional Representation			
State Redistricting Method			
2020	Mean	N	Std. Deviation
Legislature Dominant-Subj to Veto	5.6846	22	9.05593
Non-Politician Commission	-3.0087	9	9.32009
Politician Commission	7.2511	5	9.33676
Legislature Dominant-No Veto	-.0625	4	7.93650
Legislature Dominant-Subj to Advisory Commish Veto	-4.9903	6	13.16147
Hybrid	1.2072	3	7.40558
Total	2.1973	49	10.10683

Table 7

Table 7 shows considerable variation in the dependent variable, mean proportional representation, depending on the independent variable method of redistricting. States using a non-politician commission tended to have highest Democratic bias, while those using the legislature dominant subject to veto, and especially those with a politician commission, tended to have highest Republican bias. Those that are legislature dominant with no veto averaged the least amount of bias. These results support the hypothesis and suggest that the power to

determine the method of redistricting can give either party an advantage in acquiring favorable partisan bias, perhaps by selecting a method that will best facilitate effective gerrymandering,

Conclusions

Comparative analysis of state redistricting methods showed it be a strong correlate to the type and strength of partisan bias, suggesting that parties can gain an advantage by establishing a redistricting method that best facilitates partisan gerrymandering for their party.

The analysis also found moderate to strong correlations in the hypothesized directions between the measure of proportional representation and state policies on abortion, gun legislation, hate crimes, voter suppression and death penalty policy. Proportional representation explained significant levels of variance in voter suppression and the death penalty, but was a particularly strong factor in explaining variance in the remaining social policies. All the research hypotheses were, to varying degrees, supported by the data.

Since the unit of analysis for the study is state governments and our data included all 50 state governments in the target population, the data are descriptive, and measures of statistical significance are irrelevant. State legislature percentages were computed for those elected in the 2010 election, so these legislators should be the ones that drew the district lines for the 2018 through 2020 elections.

The results strongly suggest that a truly democratic system of electing government legislators must control for the partisan bias resulting from gerrymandering (Beitz, 2019; Stephanopoulos and McGhee, 2015; Butera, 2015; Rush 2020; Grofman and King, 2007; Ansolabehere, 2016; Brunell, 2006). A democratic electoral process requires that the state policies desired by a majority of voters in a given state are reliably represented by the resultant

body of state legislators. Deviations from this standard represent partisan bias, which is largely under the control of the ruling party within that state at the time when district lines are redrawn after each decennial census. This paper has presented evidence suggesting that partisan bias produced by gerrymandering can give a party disproportional power to implement its social policy agenda. Strong partisan bias may even allow a party to implement a policy to which the majority are opposed. Our research suggests that democracy, specifically the need to suppress the “tyranny of the minority,” is contingent on an electoral system that at least minimizes partisan bias to an acceptable level of tolerance. An effective policy for minimizing partisan bias would systematically place a subjective, but legally defined, threshold of allowable partisan bias (Best, Donahue, Krasno, Magleby and McDonald, 2018; Chen and Rodden, 2015; Stephanopoulos and McGhee, 2015; Butera, 2015; Grofman and King, 2007; Chen and Rodden, 2013; Petry, 2015).

This threshold would provide the party drawing the district lines, presumably the party with the greatest representation, some advantage. But the party drawing lines would be constrained by law to draw lines that will not exceed a legally established allowable partisan bias limit in the subsequent elections. Although it is possible for an overly confident party to accidentally exceed the bias limit in the election results, the data now available should allow astute party gerrymanderers to draw districts that give their party a distinct advantage, yet stay reliably under the set limit.

Although there are a variety of remedial measures that could be taken if the election resulted in partisan bias exceeding the limit, including multi-member districts, ranked choice or limited voting methods, the remedial measure could provide the minority party with a large enough remedial advantage so as to make this rare (McGann, Smith, Latner and Keena, 2015;

Rush, 2020; Butera, 2015; Grofman and King, 2007; Nagle, 2015; Cox, 2004). One possible remedial measure for a majority party exceeding the partisan bias limit could be allowing the minority party to redraw the lines after the election occurs, presumably to match some lower bias threshold, still giving the majority party some partisan advantage, but not as much as they might have gleaned if their original redistricting model had not exceeded the bias limit. Another possible corrective measure might be to overturn districts won by the majority party, presumably those with the closest margins of victory, since the stronger the majority, the more dissatisfaction with overturning the district outcome. Just enough of these districts could be overturned to reduce partisan bias to under the prescribed tolerance limit.

Another method which could be explored hypothetically or experimentally would be to have party representatives take turns drawing groups of districts, giving the dominant party an advantage by going first. The number of districts a party would draw on its turn would be proportional to its representation in the legislature. Each party would have proportional opportunities to pack and crack, resulting in similar proportions of packed and cracked districts for each party and effectively limiting partisan bias. This method would also preclude the need for a bias criterion for establishing constitutionality.

Our basic democratic principles call for partisan bias to be addressed immediately. Any form of selecting legislators that results in minority control of the legislature is, by definition, undemocratic. There are feasible methods for measuring and controlling partisan bias caused by gerrymandering, and this study suggests that this may be necessary to maintain the principle of majority rule as applied to social policies of great importance to many citizens (McGann, Smith, Latner and Keena, 2015; Best, Donahue, Krasno, Magleby and McDonald, 2018; Chen and Rodden, 2015; Burden and Smidt, 2020; Stephanopoulos and McGhee, 2015; Butera, 2015;

Rush, 2020; Grofman and King, 2007; Ansolabehere, 2016; Nagle, 2015; Cox, 2004; Brunell, 2006). Partisan gerrymandering results in the “frustration of the will of the voters” by denying the majority their otherwise legal right to their preferred statewide social policies (Rush, 2020).

Further research should look at the effects of partisan bias on economic policy.

Republicans and Democrats have both social and economic agendas, and there is reason to suspect that partisan bias may be forcing minority economic policy on the majority of voters. Do states with more Republican partisan bias tend to get more of their state revenues from regressive sources such as sales tax, while states with more Democratic partisan bias tend to get revenue from progressive sources like income tax? These hypothetical results would further support the argument that partisan bias is harming not only citizens’ social welfare, but also their economic freedom, providing the Court with justification to rule partisan gerrymandering unconstitutional and being open to allowing experimental methods to regulate redistricting under federal oversight, and thus limit gerrymandering for the purpose of gaining a legislative advantage.

This research offers valuable information for practitioners in higher education with the goal of promoting a more democratic society. Not only does the research point out the democratic dysfunction of minority rule that can and does occur as a result of gerrymandering, it offers suggested remedies that can be tested and measured empirically for making the will of the voters better reflected in the legislative decisions made. Academic discussions should focus on political strategies for gaining voter and legislator approval for eliminating gerrymandering. Because the party in power benefits from gerrymandering, its members have little incentive to eliminate it. The minority party is unable to muster the votes to eliminate gerrymandering, especially when it is hobbled by the additional effects of gerrymandered districts, suggesting that a nationwide movement to eliminate gerrymandering of state and federal voter districts driven by

an overall desire for a truly democratic government is needed for change. The Academy is the ideal venue for these discussions and promoting social activism.

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