WALKING IN THEIR SHOES:

AN EXAMINATION OF CONGRESSIONAL REPRESENTATION FROM 1989-2018

by

JASON S. BYERS

(Under the Direction of Jamie L. Carson)

ABSTRACT

In this dissertation, I seek to better understand how members of Congress represent their constituents. I use a combination of unique survey data to examine how voters would prefer their members of Congress to allocate their limited resources by utilizing a within the district or in Washington D.C. comparison. Next, I examine how members of Congress allocate their resources through examination of representational, legislative, and electoral resources to determine the representational style of each member of Congress. Lastly, I examine the geographic overlap that exists between state legislative and congressional districts to determine if an increase in overlap increases the probability of candidate emergence.

INDEX WORDS: Congress, Representation, Congressional Elections, Electoral Institutions

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B.A., College of Charleston, 2013

A Dissertation Submitted to the Graduate Faculty of The University of Georgia in Partial Fulfillment of the Requirements for the Degree

DOCTOR OF PHILOSOPHY

ATHENS, GEORGIA

2019

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CHAPTER 1

INTRODUCTION

Quality representation is something that is expected within the American political context. The Constitution established the representational link between voters and members of the U.S. House, which is a relationship that has been strengthened by the U.S. Supreme Court with cases involving congressional representation (see *Wesberry v. Sanders,* 376 U.S. 1 and *Baker v. Carr,* 369 U.S. 186). Additionally, the adoption of the Seventeenth Amendment to the Constitution, allowing for the popular election of senators, strengthened the representational link between the U.S. Senate and the voters in each state. Arguably the least representational system among elected offices in the U.S. government is Office of the President through the Electoral College.[1] Representation generally adheres to the notion that elected officials act according to their constituents and with relative independence. Pitkin (1967, 164-166) argues that representatives must "1) be able to act with independence; 2) act in the interest of constituents and normally in accord with their wishes; 3) if he acts contrary to their wishes, he must be prepared to explain why." Therefore, elected officials have to have some form of independence, while still being beholden to the will of their constituents. This dynamic leads to additional questions about the representational process and how constituents and representatives are able to remain linked with respect to how they view the demands of each side.

This dissertation is a collection of three essays that deals explicitly with the topic of congressional representation. I build upon the research of Richard Fenno with the express goal of

[1] Nevertheless, there have only been five out of 58 presidential elections in which the popular vote winner did not coincide with the Electoral College vote.

both extending and enhancing it with more systematic evidence. In particular, I present three essays examining congressional representation from three distinct perspectives. The main focus of this compilation is the examination of Fenno's (1978) constituency concentric circles and their impact on representation.

Representation and Members' Home Styles

In Richard Fenno's seminal work, *Home Style: House Members in Their Districts*, Fenno examines the relationship between a member's representational style and their constituents. He uses the method of "soaking and poking," which allows him to follow a number of members of Congress around to better understand how they interact with their constituents. In the process, Fenno uncovers a number of revelations pertaining to representation. First, members of Congress have four different constituencies that they are responsive to—the geographic constituency, the re-election constituency, the primary constituency, and the personal constituency. Each of the four constituencies mentioned fit together into four concentric circles (i.e., the geographic constituency being the largest outer circle and the personal constituency the smallest inner circle).

Second, Fenno defines two different phases of member representation, which are the expansionist and protectionist phases. During the expansionist phase, members of Congress work to secure more of the vote within their district, which they will continue to do until they feel that they have expanded beyond their most loyal supporters. Once they secure this goal and the expansionist phase has ended, members will move into the protectionist phase, where they try and remain as secure electorally as they can.

Using Fenno's *Home Style* as the foundation, as well as other works on congressional representation, I seek to build on this research and craft three articles that speak to three of the four constituency circles—the geographic, reelection, and primary constituencies—and to both phases

of representation—expansionist and protectionist.[2] The geographic constituency refers to the physical boundaries of the congressional district. Each congressional district has a physical boundary, which separates it from one another and defines the member's constituency. The geographic constituency is inherently the first thing that a member thinks about before running for office, and certainly once they are in office. The reelection constituency contains the group of individuals that would support the candidate in an election campaign. This constituency consists of voters who exert a reasonable expectation that they would turn out to vote in the candidate's favor; as such, these individuals might be open or persuaded to vote for the candidate. The primary constituency includes the hardcore supporters of the candidate. This constituency would be considered the base of support for the candidate—these are the individuals who will support the candidate and do not need to be persuaded to do so. In what is to follow, I attempt to observe the relationship between each constituency and phase of representation in a systematic manner through both theoretical and methodological innovations.

The first essay (Chapter 2), "Constituency Opinion on U.S. Representative's Congressional District Resource Allocation," utilizes a survey from the University of Georgia's Module for the 2016 Cooperative Congressional Election Studies (CCES) to assess how voters prefer their representatives allocate their limited resources. The survey examines how a voter would like to see a hypothetical representative (that represents their district) make decisions about splitting their resources between the congressional district and Washington, DC. The survey questions deal specifically with concerns that would reflect representation within the district, such as time spent in the district, a member's residency, and the influence of campaign donations. The use of the

[2] I do not attempt to observe the personal constituency because this is the inner most constituency circle to a candidate and is usually made up of family, personal friends, and those intimates that are closest to the candidate, which makes this relationship difficult to systematically observe.

Cooperative Congressional Election Studies (CCES) has the potential to offer invaluable insight into how voters in 2016 viewed representation and their opinion on how members should behave, with the potential downside of only providing insights on one election. To determine how voters view representation, I utilize a difference of proportions test between the different question types within each vignette. The difference of proportions test allows me to examine if there are statistical differences between the responses when compared to the different treatment questions. The results from this essay provide evidence for my theoretical expectations and demonstrate that voters prefer for their elected officials to allocate more resources within the district. The first essay focuses on the reelection constituency that Fenno (1978) discusses as part of the four concentric circles, where he details the demographics that a representative must focus on.

The second essay (Chapter 3), "Resource Allocation as Representation: An Examination of Legislators' Allocation of Resources," utilizes a survey of members of Congress and data collected from Member Representational Allowances (MRAs), as well as other data sources relating to legislative productivity, campaign donations, and measures relating to representation and legislative activity. The surveys were directly sent to all 435 members of Congress and a separate survey was sent to their chiefs of staff. These surveys focus on similar questions that were asked in the Chapter 2, but also ask the representatives to disclose how they actually allocate their resources between their district and Washington. The surveys within this chapter are intended to serve as a direct link to the survey introduced in Chapter 2, which focused on voter's opinions of resource allocation. More specifically, these surveys directly gauge how members of Congress view their own personal resource allocation between their districts and Washington. As such, these surveys provide a direct link between voter's opinions in 2016 and members of Congress who were present in Congress in 2016. The ultimate takeaway from the surveys within Chapters 2 and

3 will be whether or not voter's opinions and the actions of members of Congress are aligned with one another.

Based on the fact that the surveys only provide a snapshot of 2016, I also collect data relating to other sources to determine how representation has changed from 1989-2018. I follow Bernhard and Sulkin (2018) and establish the representational style of each member of Congress from 1989-2018, which extends their previous analysis. Once the representational style of each member is obtained, I investigate how different representational styles affect a member's electoral security, legislative productivity, and overall success. The goal of this essay is to establish a link between how voters want their representatives to behave, the actual behavior of the representative, and examine both the reelection and primary constituencies.

The third essay (Chapter 4), "Geographical Overlap and the Emergence of Strategic Candidates in Primary Elections, 1992-2016," utilizes primary election data, census data, and other data sources related to election outcomes. I utilize original data to examine candidate emergence in primary elections and their success. More specifically, this essay examines the role of the geographic constituency and candidate emergence in primary elections. I observe the emergence of state legislators—both state representatives and state senators—from their state districts and observe the overlap their districts have with the congressional district they emerge in. I calculate the geographical overlap between the two political districts and determine whether this overlap affects emergence. From there, I determine if geographical overlap ultimately affects the vote share of those candidates that decide to run in congressional primaries. I also add a case study of the comparison of geographic and population overlap for the 2010 primary elections where I utilize population overlaps from the 2010 decennial Census.

I observe this relationship from 1992-2016, which offers a sample across three decades of state legislative emergence into congressional elections to observe geographical overlap. I utilize a Heckman model to examine this relationship. The third essay focuses on the geographical constituencies that every representative has as described by Fenno (1978). I have a newly constructed data set to determine whether or not geographical constituency overlap affects the emergence of state legislators into congressional districts. In the spirit of the broader theme of this dissertation, the goal of this essay is to add to the literature on representation and better evaluate the representational connection within Fenno's geographic concentric circle.

Taken together, these essays offer a more complete story about representation and the effects that it has both on the voters and members of Congress. These essays attempt to take the theoretical and qualitative nuances that Fenno put forth in *Home Style* and test them in a more systematic manner. I think being able to test theories relating to the three major constituencies that Fenno describes will add to the literature on representation and allow further discussion of these phenomenon. It will also give me a chance to assess whether members' styles of representation have changed over time.

Based on the surveys utilized in this paper along with the novel approach to evaluating the geographic constituency, I am able to make an independent contribution to the literature regarding congressional representation. Also, I believe that these essays, while providing useful information to the literature, have the potential to further enhance research relating to representation. There is obviously more work to be done as it concerns constituent's opinions as well as how other factors such as nationalization, polarization, and election systems are ultimately affecting representation, and how this relationship has evolved over time. It is my hope that I am able to add to the representational literature by expanding Fenno's arguments in a systematic, empirical fashion.

CHAPTER 2

CONSTITUENCY OPINION ON U.S. REPRESENTATIVES' CONGRESSIONAL DISTRICT RESOURCE ALLOCATION

ABSTRACT:

In this article I examine how constituencies view the resource allocation of their members of Congress. In a new survey that was a part of the 2016 Cooperative Congressional Election Survey, I asked voters a series of questions related to the allocation styles of their representatives. The survey included 5 vignettes that revolved around issues related to a member's amount of time spent in the district, staff allocation, residence, and campaign donations. My findings suggest that voters prefer having their members of Congress allocate their resources within the district instead of in their Washington, DC offices in certain situations. These findings provide unique insights into voter preferences and how they perceive their elected members of Congress.

During the 2014 congressional primaries, House Majority Leader Eric Cantor (R-VA) lost his primary election in Virginia's 7th district to a little-known economics professor and Tea-Party sympathizer, Dave Brat. This loss came as a shock to the entire electoral system. Cantor was the incumbent, the House Majority Leader, and won his 2012 primary and general election campaigns with 78 and 58 percent of the vote, respectively. In the 2014 primary election race, Cantor also outspent Brat by a factor of 26 to 1.[3] All signs pointed to Cantor cruising to victory in the primary election and the subsequent general election. In June of 2014, however, Brat defeated Cantor by 11 percentage points, making it one of the most surprising electoral upsets in decades.

Much of the media coverage that surrounded Cantor's defeat revolved around his constituency's opinion that he was disconnected from the district.[4] He was viewed as someone who spent more time in Washington, concerned with his own political ambitions, instead of building relationships and fighting for his constituents' preferences. Even on Election Day, Cantor was not present in his district; he was instead in Washington, DC awaiting his assumed victory.[5] The opinions of Cantor's constituency have been mirrored in many elections over time. There are always mentions of members of Congress not "representing" the constituents in the right manner.

For example, Senator Pat Roberts of Kansas, came under voters' suspicions multiple times, based on his living arrangements. It is alleged that Senator Roberts owns a home in Dodge City, but that he actually rents this property out to tenants, while he is registered to vote at an address where he pays rent to two longtime supporters that he rooms with when he is in town. The senator even acknowledged that, "he did not have a home of his own in Kansas."[6] The stories pertaining

[3] http://www.msnbc.com/the-last-word/eric-cantor-loses-gop-primary-dave-brat
[4] http://www.cnn.com/2014/06/11/politics/why-eric-cantor-lost/
[5] http://www.cnn.com/2014/06/11/politics/why-eric-cantor-lost/
[6] https://www.washingtonpost.com/news/post-politics/wp/2014/02/07/pat-roberts-doesnt-have-his-own-home-in-kansas/?noredirect=on&utm_term=.a52b6a3cd768

to the residency of Senator Roberts surfaced when his opponent, Milton Wolf, claimed that the senator was out of touch with his constituents.

Similarly, Senator Evan Bayh, was placed in front of the court of public opinion based on his residency within the state of Indiana. Senator Bayh actually owns property in the state of Indiana, but he does not actively maintain his residency there. Senator Bayh and his family mainly stay in one of three homes that they own, that are not within the boundaries of Indiana. Most of the homes that the senator owns are in and around the Washington D.C. area with one property in Miami. Senator Bayh's residence has been a constant source of ire for the constituents of Indiana. In 1998, then gubernatorial candidate Bayh was sued in a court of law because his residency was in the state of Virginia. Similarly, in 2010, Bayh was again placed in the court of public opinion as his opponents ran negative ads related to his residency.[7] Both of the previous anecdotes provide evidence that voters are made aware of the decisions that members of Congress make as it pertains to the district. The constituents might not be aware of every decision that a member of Congress makes, as it pertains to their resource allocation between the district and Washington, but opponents of the members of Congress are more than willing to make these facts known to the voters.

Constituents have preferences for how their members of Congress behave as it pertains to resource allocation.[8] Both Mayhew (1974) and Fenno (1977, 1978) expand upon these ideas in their classic works and illustrate that members of Congress must do certain things for their constituencies to be reelected. The central premise of these seminal arguments is that voters are aware of the activities of their members; therefore, it is in the best interest of the member to ensure

[7] http://indianaexplained.com/evan-bayh-running-for-senate-from-indiana-but-where-does-he-live/
[8] For the purposes of this article, the term "resources" refers to members of Congresses time (i.e., spent in the district), staff allocation, living arrangements, and campaign donations.

that they are in good standing with their constituents. Voters realize and care about how members allocate their resources as it pertains to representation. This does not mean that every voter in every district expects the same levels of representation from their members, but the possibility exists that there are similarities or trends relating to this. This leads to the following research question: *how do voters respond to different representational styles via the allocation of resources*? Broadly, the underlying idea is to better determine how voters would prefer for their representatives to allocate their limited resources (i.e. in Washington D.C. or within the district).

Using original survey data from the 2016 Cooperative Congressional Election Study (CCES), I examine my main research question in an attempt to add to the literature on representation in Congress. Although the 2016 CCES survey data will only provide a snapshot into how voters think about their representatives, this research nevertheless has the opportunity to expand our understanding of constituency preferences. My goal is to be able to gain leverage over how different groups respond to certain stimuli—i.e., members' representation styles. From a methodological perspective, I use difference of proportion tests to determine the effect of different representation stimuli on the survey respondents from the 2016 CCES survey data. Using this survey design, I examine how constituents think their members of Congress should allocate their limited resources.

This article proceeds as follows. First, I introduce the theory and my theoretical expectations for how constituents think about representation and their perceived notions of how their representatives should behave when elected to Congress. Second, I outline the 2016 CCES survey data and discuss the questions that were asked and how they relate to the allocation of member resources. Lastly, I discuss my central findings before concluding and discussing the broader implications of my results in the context of studies of representation.

Literature Review

Elected officials, specifically members of Congress, represent the views – ideological, policy, and personal characteristics – of their constituents. Members of Congress are elected based on the fact that the public perceives that they will fully represent them once they are in Washington. In his seminal book, Mayhew (1974) posits members of Congress are "single minded seekers of reelection." Therefore, it is in their best interest to represent their constituents in such a manner that gains them a sufficient number of votes to win reelection. In its basic form, representation is acting in accordance with the people to ensure that their political needs are met (Jewell 1982; Mezey 2008; Harden 2015).

Mayhew (1974) describes the representational steps that members of Congress pursue in order to gain reelection. He posits that members of Congress engage in advertising, position taking, and credit claiming. Advertising allows members of Congress to get their face out to the public (i.e., through ribbon cutting ceremonies and interviews), position taking allows members to utilize their voting record to stake out policy position, and credit claiming allows members the opportunity to provide pork and casework to the district. All three elements are different strategies that members of Congress use in order to represent their constituents. Fenno (1978), by contrast, argues that members of Congress would like to achieve reelection, good public policy, and some form of power within the chamber. To do this, members adopt a "homestyle," which is the representational style they have with their constituents. For Fenno, members of Congress build trusting relationships with their constituents in order to ensure they are able to fulfill their goals. The main question is how do members of Congress provide adequate representation to their constituents? The extant literature has focused on multiple dimensions of representation, such as: representation through policy, representation through allocation, representation through

constituency service, and representation through descriptive forms (Miller and Stokes 1963; Kingdon 1973; Mayhew 1974; Fenno 1977, 1978; Fiorina 1974; Mayhew 1974; Jewell 1982; Cain, Ferejohn, and Fiorina 1987; Rosenthal 1998; Mezey 2008; Grimmer 2013a; Harden 2015).[9]

A large majority of the representation literature focuses on representation through policy. For this type of representation, elected officials vote on policy based on how their constituents want them to vote (Bartels 1991; Canes-Wrone, Brady, and Cogan 2002; Carson et al. 2010; Barker and Carman 2012). Through this avenue, representation occurs because members of Congress observe their constituency's policy preferences and support or oppose legislation based on those preferences. How do members of Congress adequately gauge the preferences of their constituents? First, they understand that certain norms have to be adhered to (Mayhew 1974; Fenno 1978). Members of Congress understand that they have to come back to the district and hold town hall meetings, conduct and observe public opinion, and listen to the concerns of their district (i.e., gain the trust of their constituents) in order to gauge what their constituents' policy preferences are (Stimson, Mackuen, and Erikson 1995; Althaus 1998; Bailey and Brady 1998; Ansolabehere, Synder, and Stewart 2001, 2008; Butler, Karpowitz, and Pope 2012).

Once the member is back in Washington, they have to adequately represent their constituents on policy issues most publicly through votes. Largely, the literature signifies that constituents are pleased when their members vote the way they want, based largely on the fact that the members are reelected.[10] This all hinges on the notion that voters are aware of what politicians are doing and that politicians will follow voter opinion. While most notably Campbell et al. (1960)

[9] These themes are found throughout the literature on congressional representation. Harden (2015) places them specifically in this grouping, and I adopt his scheme for my own research.

[10] For an example of scholarship that looks at members of Congress that do not align with the opinions of their constituencies, see Canes-Wrone, Brady, Cogan (2002) and Carson, Kroger, Lebo, and Young (2010).

find that members are not accountable to their constituencies, Miller and Stokes (1963) show that members of Congress do change their behavior based on constituency preferences (on this point, also see Erikson 1978; Stimson, Mackuen, Erikson 1995; Burden 2007; Bartels 2008; Ansolabehere and Jones 2010; and Grimmer 2013a). Members of Congress are acutely aware of the policy preferences of their constituents and they appear, based on the literature, to try and adhere to those preferences when voting in public.

Another dimension of representation is concerned with representation through allocation. Representation through allocation occurs as members of Congress are able to secure resources for their districts. Generally, this type of service is for the entire district or representative area. Mayhew (1974) discusses the use of credit claiming as a way to signal that members use this technique to gain favor with their voters. When members of Congress are able to gain federal money to send back to the district or they are able to cultivate policies that will impact their constituents, they are representing them through allocation (Mayhew 1974; Deering and Smith 1984; Cox and McCubbins 1986; Adler and Lapinski 1997; Ashworth and Beuno de Mesquita 2006, Grimmer 2013a, Grimmer, Westwood, Messing 2014). Voters prefer when their members of Congress are able to bring resources (i.e., federal money or policy) to their districts; this generally has been shown to have a positive influence on the reelection efforts of incumbents and is an indicator for why members keep doing it (Grimmer 2013a, 2013b). Members of Congress are engaging in representation because they are providing resources that are needed (i.e., federal project money or policies favorable to the district). Representation by allocation extends to the help the entire district.

Representation by constituency service can be thought of as synonymous with casework. This is defined as a member of Congress coming to the aid of one of their constituents and helping

them solve a problem (Fiorina 1977; Mayhew 1974; Fenno 1978). Generally, constituency service is helping an elderly constituent find their lost social security check, writing letters of recommendation for students who want to attend military colleges, or helping them cut through bureaucratic red tape (Harden 2015). Constituent service is much more personal than that of representation by allocation. Constituent service is generally handed out to one person or small group at a time, thus allowing members of Congress to claim all the credit for the deed, which hopefully gains or retains voters (Bond 1985; Fiornia 1981; Yiannakis 1981; Cain, Ferejohn, Fiornia 1987; Adler, Gent, Overmeyer 1998; Ashworth Bueno de Mesquita 2006). With constituency service comes the personal vote, which is the part of the vote that is attributed directly to a specific representative and could not be obtained by another official (see: Fiorina 1977a, 1977b; Alford and Hibbing 1981; Coates 1995; Cox and Katz 1996; Ansolabehere, Snyder, and Stewart 2000; Grimmer 2013a, 2013b). Elected officials are able to utilize the personal vote, during their reelection campaigns, because this subsection of their vote percentage is tied directly to them, and their competitor does not have the same advantage. Constituency service is used as a way to further benefit the elected official in the long run.

Lastly, members of Congress recognize that there can be representation through other descriptive forms. Generally, descriptive representation is concerned with the gender and race of the elected official as it related to their constituency (Bratton 2002; Box-Steffensmier, Kimball, Meinke, Tate 2003; Butler and Broockman 2011; Broockman 2013). The idea is that representation can be better achieved when both the elected official and the voters are alike. These trends have been shown to affect the opinions of the constituents and increase voter turnout (Swain 1993; Mansbridge 1999; Sanbonmatsu 2003; Banducci, Donovan, Karp 2004; Griffin and Keane 2006). Voters feel more empowered in the political sphere when they have a shared identity with their

elected officials (Bobo and Gilliam 1990). This form of representation is defined differently than the others mentioned above, but they provide important representational relationships that are utilized by elected officials.

There are multiple facets to representation. No single element would suffice and elected officials generally utilize a mix of elements to craft their own representational styles. It is the goal of the elected official to gain the trust of their constituents and craft a representational style that allows them to be successful (Fenno 1978). As the extant literature has shown, voters are aware of the activities of their elected officials and will hold them accountable. Therefore, it is in the best interest of the elected official to try and establish their "homestyles" in a manner that builds strong relationships with their constituents.

Representation and Constituency Opinion

In this chapter, I seek to better understand how constituents prefer their representatives to allocate scarce resources. Specifically, I am referring to resources that can be divided between the district and Washington. Fenno (1978) describes the actions that members of Congress take in order to appear similar to their constituents. He posits that legislators frequently return to their districts and meet with constituents to discuss issues that matter to them and that they ultimately look after their constituents' interests while in Washington. He describes the constituencies that members of Congress must endear themselves to in order to secure reelection. The second of these constituencies is referred to as the reelection constituency (Fenno 1977, 1978). If members are able to accurately fulfill their responsibilities in Washington and in their districts, they will cultivate a stronger personal vote allowing them to better achieve reelection (Cain et al. 1987; Ansolabehere et al. 2001).

What do constituents want from their representatives? Where do constituents want their representatives to allocate the bulk of their scarce resources?[11] Based on the extant literature, it is clear that voters, by way of reelecting incumbents, prefer for members of Congress to allocate their resources as much as possible back to the district (Mayhew 1974; Fenno 1978). Generally, members of Congress do this by voting for policies that the district prefers, generating policies that will benefit the district, and spending ample time in the district. Therefore, it seems clear that constituents will always prefer for their representatives to expend their resources in the district, compared to other places, such as in Washington. When members of Congress are absent from their constituencies, the voters notice. Recall, in 2013 and 2014, Representative Cantor's constituents' felt that they had been forgotten and that he was never in the district and was no longer considered "one of them" (Fenno 1977). Fenno (1977, 1978) argues that members of Congress must engage with their constituencies on a regular basis in order to build trusting relationships, which will lead to the representatives having more latitude to complete their electoral duties. Therefore, not only should the voters prefer for their members to expend resources in the district, the member should also want to cultivate this relationship as much as possible.

Based on Fenno's (1977, 1978) argument, it is clear that constituents are more inclined to have their representatives spend as much time in the district as possible. In order for voters to trust their elected officials, they must convey a sense of trust and appear as if they are "one of them" (Fenno 1977). Spending time in the district and ensuring that the representative is depicted as being a part of the district should strengthen the relationship that the representative has with their constituents. My expectations are that voters will want their members of Congress to devote more of their resources towards the district and away from Washington. I make the assumption that

[11] Recall, for the purposes of this article, the term "resources" refers to members of Congresses time (i.e., spent in the district), staff allocation, living arrangements, and campaign donations.

voters view representation in terms of "more" or "less," meaning that they will either receive more representational attention or less representational attention from their representative.[12] Based on the literature, I assume that voters will prefer more representational attention if given the choice of how they should allocate their time and attention.

The allocation of resources, by members of Congress, has the potential to be an opaque matter for constituents. Voters are not privy to all information about a member of Congress and unless they are specifically in tune with politics, they might never gain insight into the allocation styles of their representatives. How do voters gain knowledge of their resource allocation of their elected officials? The most common way that voters gain insights into their elected officials is from the campaign ads and public speeches from political opponents (Gerber, Gimpel, Green, and Shaw 2011). If a member of Congress does not appear to be representing their constituents in an adequate manner, the political opponents of the incumbents will do their due diligence to ensure that the voters are aware of any shortcomings of the incumbent.

Hypothesis

Based on the existing literature discussed above and the symbiotic relationship that exists between voters and their elected officials, I think that voters will always prefer for their members of Congress to expend more of their resources within the district than in Washington. The literature concerning representation has led me to the following hypotheses:

Hypothesis 1: *Given the choice, voters will choose to have their member of Congress to travel/visit more to the district, than in Washington D.C.*

Hypothesis 2: *Voters will prefer for their member of Congress allocate more of their staffers to the district, than in Washington D.C.*

[12] Representational attention refers to the resource allocation, ideological congruence, and overall attention to the constituents.

Hypothesis 3: *Voters will prefer that their member of Congress allocate more of their time within the district, than in Washington D.C.*

Hypothesis 4: *Voters will prefer that their member of Congress maintain their residency within the district, than in Washington D.C.*

Hypothesis 5: *Voters will prefer that their member of Congress receive their campaign donations from within the district, compared to receiving their campaign donations from outside the district.*

Data and Methods

I have outlined my theoretical expectations for how voters view the representation that they receive. Now, I provide the empirical evidence to justify my theoretical claims. Using a newly created survey, which was a part of the 2016 UGA module of the Cooperative Congressional Election Survey (CCES), I gain leverage over what constituents would want from their representatives with respect to the allocation of resources, either in Washington or in the district. With the CCES survey, I have access to both pre- and post-election questions. These questions will offer insight into specific characteristics of the survey respondents – most notably their partisan affiliation, gender, race, and socioeconomic status. Also, I have the UGA module in which my specific survey questions were implemented in the pre-election survey, which offers me the chance to study specific information related to representation. One should note, however, that the CCES survey is time bound and will only offer generalizability with respect to the 2016 election cycle. As is the nature of survey research, I will only be able to make claims about representation for the modern era, and specifically 2016.

Data

My data consist of five vignettes that ask various questions relating to the allocation of resources to 1000 survey respondents. The survey questions were set up in a manner where around

a third of the respondents would receive the "neutral representation" question and the other two-thirds of the respondents received either the "district representation" or "Washington D.C." treatment question.[13] Below is a table with a summary of the survey questions.

Table 2.1: Description of Survey Questions

Questions	Treatment Type	Question Framing
Travel/Visits	Neutral	The representatives will visit the district an average amount of times
	District	The representative will visit the district more than an average amount of times
	Washington	The representative will visit the district less than an average amount of times
Staff	Neutral	The representative will divide their staff evenly between your district and Washington D.C.
	District	The representative will allocate more of their staff in your district versus Washington D.C.
	Washington	The representative will allocate more of their staff in Washington D.C. versus your district
Time	Neutral	The representative has stated that he will divide his time between your district and Washington D.C. evenly
	District	The representative has stated that he will allocate more of his time in your district versus Washington D.C.
	Washington	The representative has stated that he will allocate more of his time in Washington D.C. versus in your district
Residence	Neutral	The representative owns property in your district and rents property in Washington D.C.; his primary residence is in your district
	District	The representative owns property in your district and routinely sleeps in his office versus buying/renting property in Washington D.C.; his primary residence is in your district
	Washington	The representative owns property in Washington D.C. and his primary residence is in Washington D.C.
Donations	Neutral	The representative receives his campaign donations equally from the within and outside the district
	District	The representative receives the majority of his campaign donations from within your district
	Washington	The representative receives the majority of his campaign donations from outside your district

[13] See appendix for a complete list of the questions, along with frequency tables, that were used in the 2016 CCES survey.

In general, the "district representation" treatment questions indicated that the representative would allocate more of their resources within the district. Conversely, the "Washington D.C." treatment questions indicated that the representative would allocate less of their resources within the district. Lastly, the "neutral representation" questions indicated that their representative would spend an average amount of their resources within the district (i.e. the average amount of resources were generally treated as the average amount based on a normal representative).

Method

Using the vignettes from above, I observe if there are any differences between the proportion of responses, both the agree and disagree responses, between each question type (i.e., "Neutral," "District," and "Washington"). Specifically, within each vignette, I conduct a difference of proportions test to determine if there are statistical differences between the responses of each question type. First, I examine whether the proportions for the two groups are statistically different from one another. Next, I examine if one of the proportions is greater than or less than the other proportion. I examine both of these because they provide different information that allows me to determine the differences that exists between the proportions for each group.

One thing that needs to be noted is how the questions were asked to the respondents. My CCES module was asked to 1000 respondents, but my vignettes were randomly divided over the 1000 respondents at about a third for each question (i.e., around 315-333 respondents out of 1000 were randomly asked one of the questions within one of the vignettes). This means that there exists the possibility that a respondent answered only questions relating to neutral, positive, or negative treatments. Based on the fact that it is randomized, this should not influence the validity of the survey or the responses that were obtained. Additionally, this should not affect the results that are

obtained with observing the differences between the groups when utilizing demographic information.

Results

For each vignette, I show a graphical depiction of the survey responses. From there, I observe if there are any differences between the "agree" and "disagree" groups across each question type.

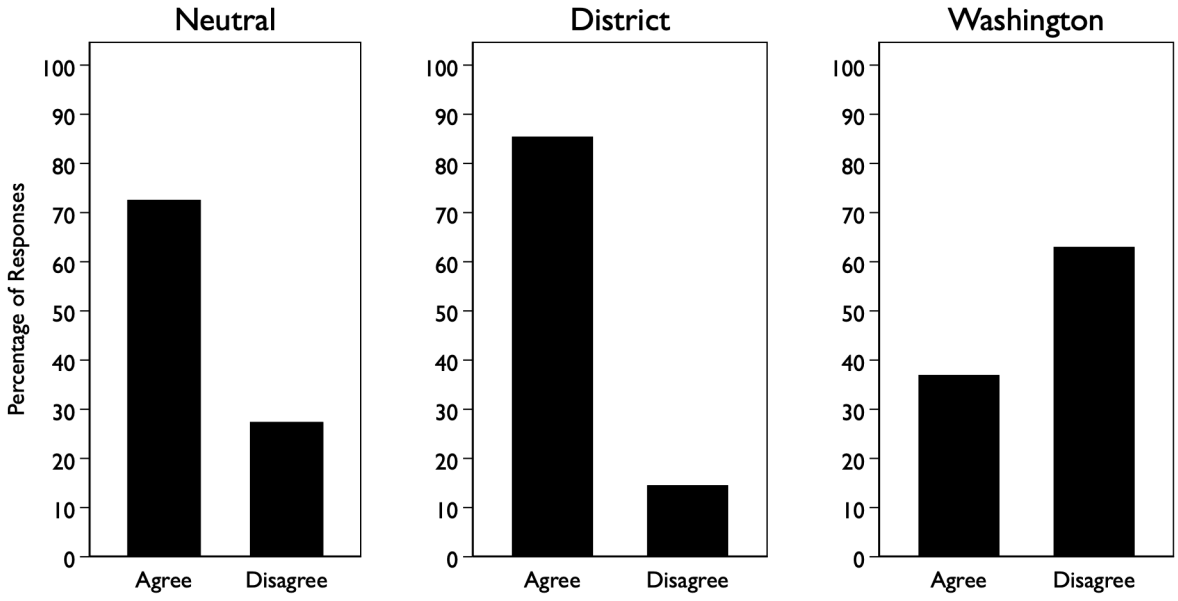
Vignette 1: Travel/Visits

Vignette 1 is concerned with the visits that a member of Congress will take to the voter's district this year. The questions, which were randomly assigned across the treatments, pose a scenario to the survey respondents to gauge how often they would want their representative to visit their district. The "Neutral" scenario provides the respondents with a representative that will travel to their district an average amount of times. Conversely, the "District" and "Washington" scenarios provide the respondents with a representative that will travel to their district more than the average and less than the average amount of times, respectively. Figure 2.1 displays a graphical representation of the responses from the respondents.

Focusing on the agree responses, across each question type, there are clear differences between each group. The respondents from the "District" question agreed with the statement at higher rates than the other two question types. Although, the responses from the "Neutral" question are more similar to the "District" question. Conversely, the agree responses from the "Washington" question are much lower than those of the other two groups. To examine these relationships further,

I conduct a difference of proportions test between the question types to determine if there is statistical difference between the responses and question types.[14]

Figure 2.1: Graph of Responses for Vignette 1



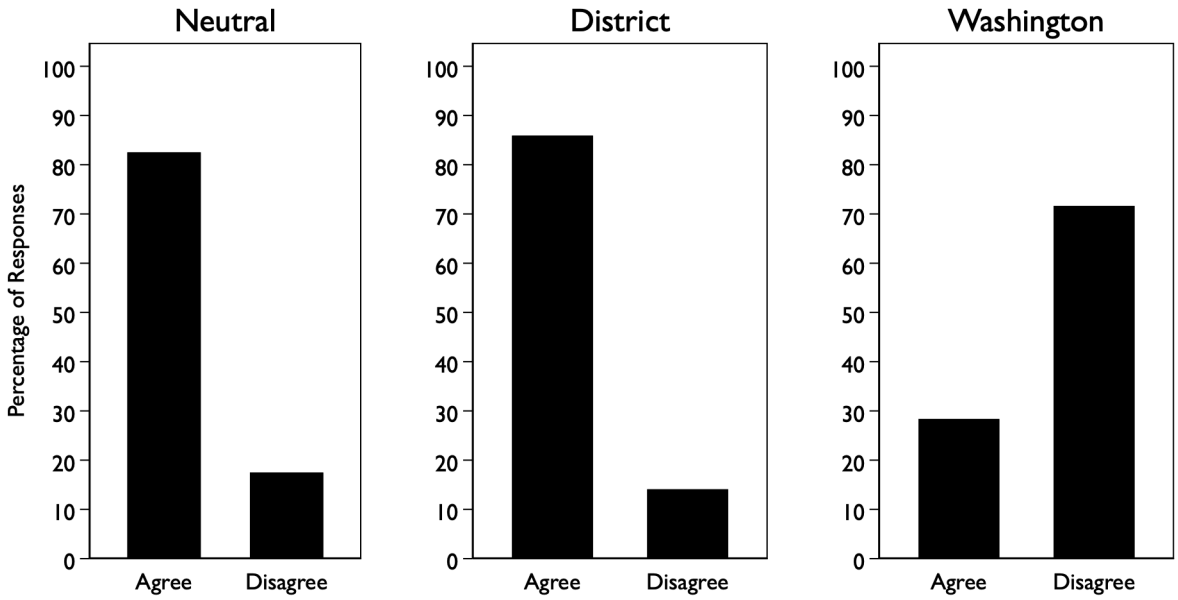
The proportion of responses that answered agree within the neutral question is 0.73 (143/197), while the proportion of responses that answered agree within the district and Washington questions is 0.85 (194/227) and 0.37 (71/192), respectively. For all three question types, I conduct a difference in proportions between the control question ("Neutral") and the treatment questions ("District" and "Washington") for the agree responses. First, I examine the differences between the "Neutral" and "District" question. There is a statistical difference between the two proportions, in that they do not equal one another ($p<0.05$). Similarly, the proportion of agree responses in the "District" question are statistically greater than the proportion of agree

[14] For the differences of proportions, I only include the "agree" and "disagree" responses and do not include the "Don't Know" responses to the proportions. This allows me to better examine the differences between the "agree" and "disagree" responses across the different question types.

responses in the "Neutral" question ($p<0.05$). The proportions of agree responses for both the "Neutral" and "District" questions are statistically different from and greater than the proportion of agree responses for the "Washington" question ($p<0.001$ and $p<0.001$, respectively).

Vignette 2: Staff Size

Figure 2.2: Graph of Responses for Vignette 2



Members of Congress have to allocate their staff to both their districts and to Washington. Staffers that are in the district help take care of constituency services from close proximity to the voters, while staffers in Washington help members with legislation and constituency work. Vignette 2 is associated with where voters want their representatives to allocate their staffers. In the "Neutral" question, the respondents are presented a scenario where their representative will evenly divide their staffers between the district and Washington. Alternatively, the "District" and "Washington" questions have the representatives allocating more of their staffers either to the

district or Washington D.C., respectively. Figure 2.2 illustrates the responses across the question types.

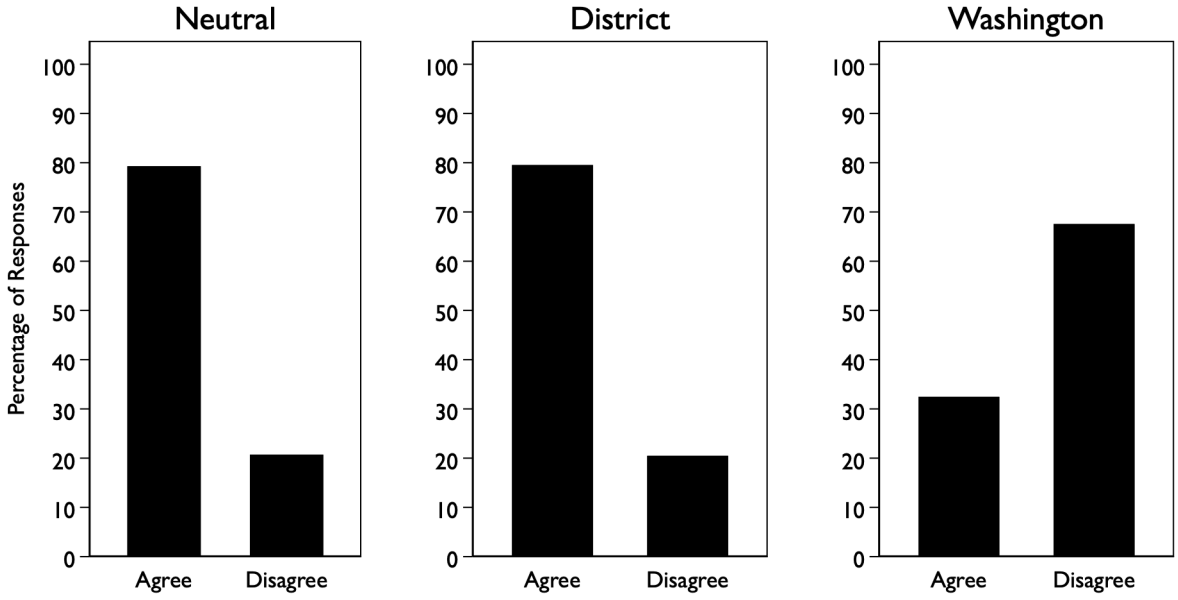
As is demonstrated in Figure 2.2, the responses across the "Neutral" and "District" question types are very similar. Based on the data depicted in Figure 2, both the agree and disagree responses are almost even, with respect to the "Neutral" and "District" questions, which provides a unique insight into how voters think about how their representatives should allocate their staffers. The most noticeable differences, across the response categories, occur between the "Neutral" and "District" questions compared with the "Washington" question. From the descriptive evidence above, it appears that the respondents are willing to have their representatives either evenly split their staff between the district and Washington or commit more of their staff to the district.

The proportion of agree responses across the different question types of "Neutral," "District," and "Washington" are 0.83 (184/223), 0.86 (189/220), and 0.28 (57/201), respectively. As was noted above, the proportion of agree responses between the "Neutral" and "District" question types is very similar. The difference in proportion test between the two groups indicates that there is no statistical difference between the two groups. Similarly, neither one of the question types, as it pertains to the agree responses, is statistically greater than the other group. Conversely, both the "Neutral" and the "District" question types are statistically different and greater than the "Washington" question ($p<0.001$ and $p<0.001$), based on the agree responses. These findings suggest that respondents appear to be in different between their representative splitting their staff evenly between the district and Washington or by having more of the staff in the district. But, it does appear that respondents are not willing to have their representative allocate a majority of their staff to only Washington.

Vignette 3: Time

Vignette 2.3 focuses on the amount of time that a member will spend in their district or in Washington. The questions for this vignette are similar in nature to those that were asked in the first vignette.

Figure 2.3: Graph of Responses from Vignette 3



The first vignette is related to the number of visits that the representative will take to the district each year, but vignette 3 focuses on the total amount of time that the representative will spend either in the district or Washington. Figure 3 depicts the responses across groups. Both vignettes are similar in nature, but the questions are different enough that they could elicit different response from the respondents. The "Neutral" scenario posits that the voter's representative will divide their time equally between the district and Washington. Whereas, the "District" scenario describes a representative who will spend the majority of time in the district and the "Washington" scenario has the representative spending the majority of their time in D.C.

The proportion of the agree responses across the question types are very similar between the "Neutral" and "District" groups, with the most noticeable differences being between "Washington" question type and the other two. The proportion of agree responses for the three groups is 0.79 (199/251) for "Neutral," 0.80 (167/210) for "District," and 0.32 for the "Washington" group. As is expected, based on the information from Figure 3, there are no statistical differences between the proportion of agree responses of the "Neutral" and "District" question types. Alternatively, both the "Neutral" and "District" groups proportion of agree responses are statistically different and greater than the responses of the "Washington" group ($p<0.001$ and $p<0.001$). The results suggest that the respondents would rather their representatives to either split their time evenly between the district and Washington or spend more of their time in the district. Conversely, it does not appear that the respondents would prefer for their representative to spend more time in Washington.

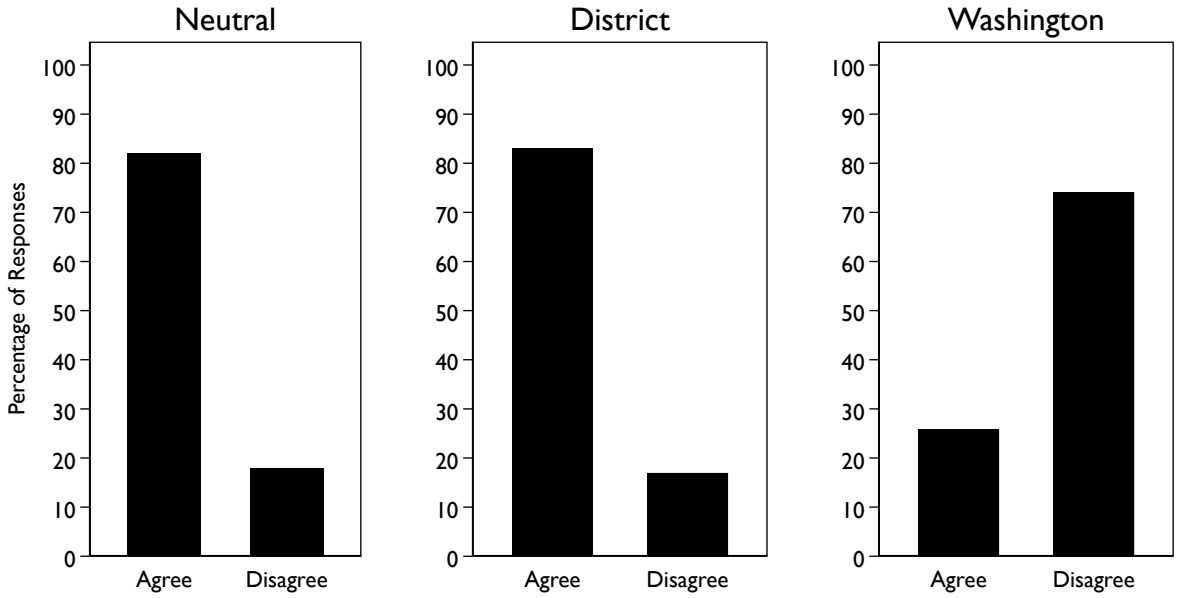
Vignette 4: Residence

As alluded to in the introduction, voters are keenly aware of where their members of Congress live and if they are not, they will be informed by anyone who campaigns against them. Even though there are no regulations stating where members of Congress must live, it appears that almost all members keep a residence in the districts that they represent – at least in the modern Congresses. The scenarios in vignette 4 focuses on the residency (i.e., where the representatives live) of members of Congress. Figure 2.4 depicts the nature of the survey responses.

The survey respondents are presented with three different scenarios: the neutral scenario presents the respondents with the information that the representative owns property in their district and rents property in Washington D.C.; but his primary residence is in their district. The district scenario proposes that the representative owns property in the respondent's district, but routinely

sleeps in his office versus buying/renting property in Washington D.C.; with his primary residence is in the respondent's district. Lastly, the Washington scenario depicts that the representative owns property in Washington D.C. and his primary residence is in Washington D.C.

Figure 2.4: Graph of Responses from Vignette 4



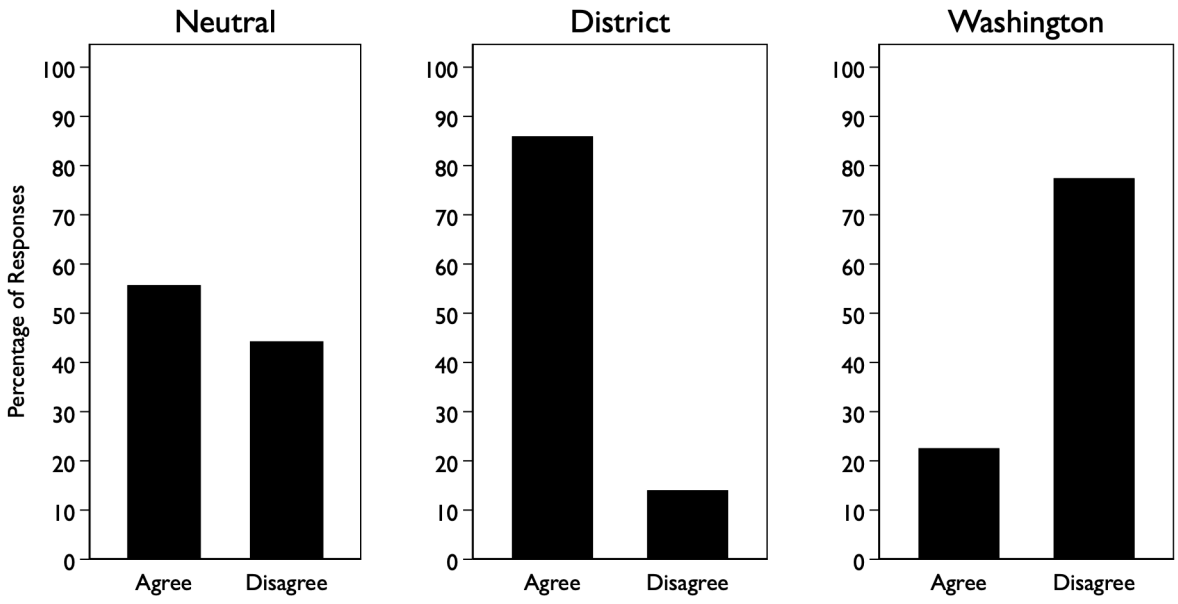
As it pertains to a representative's residency, the respondents agreed with both the "Neutral" question and the "District" question at similar rates. Largely, the respondents do not appear to agree that a member of Congress should maintain a primary residence in Washington. The proportion of agree responses across the question types is 0.82 (210/256) for "Neutral," 0.83 (186/224) for "District," and 0.25 (58/224) for the "Washington" question. As is depicted in figure 2.4, there is not a lot of difference between the agree responses between the "Neutral" and "District" groups. Accordingly, there exists no statistical relationship between the two proportions of these groups. Conversely, there does exist statistical differences between the "Neutral" and "District" groups and the "Washington" group. The proportion of agree responses is statistically

different between the "Neutral" and "District" questions and the "Washington" question ($p<0.001$). Similarly, the agree responses in the "Washington" group are statistically less than the responses in the other two groups ($p<0.001$).

Vignette 5: Campaign Donations

Campaign donations are essential to congressional campaigns. They allow members of Congress to pay for their campaigns and issues associated with effectively running their operations. Congressional campaigns are expensive and require large sums of money in order to successfully help a legislator's chances at reelection.

Figure 2.5: Graph of Responses for Vignette 5



Increasingly, campaign donations, for representatives, are coming from outside of the congressional district. Vignette 5 is concerned with the attitudes of voters as it relates to where campaign funds originate. The neutral scenario proposes that the representative collects his campaign donations equally from within and outside of the district. Alternatively, the district and Washington scenarios indicate that their representative collects the majority of their donations

from within or outside of the district, respectively. Figure 2.5 illustrates the responses for vignette 5.

Noticeable differences appear across the question types as it relates to vignette 5. It appears that the respondents would rather their representative's campaign contributions come from within the district than split across in-district and out of district means or from only outside of the district. The proportion of respondents that agree with the question, across each group, is 0.56 (127/228) for "Neutral," 0.86 (196/228) for "District," and 0.23 (51/226) for the "Washington" question. The difference of proportions between the "Neutral" and "District" groups is statistically different ($p<0.001$). Likewise, the proportion of agree responses for the "District" question is greater than those of the "Neutral" question ($p<0.001$). As noted above, respondents appear to want their representatives to gain the majority of their campaign donations from within the district, compared to have it split evenly between in-district and out of district sources. Similarly, the differences of proportions between the "Washington" group and the "Neutral" and "District" groups is statistically significant, signifying that they are not equal to one another ($p<0.001$). Also, the proportion of agree responses in the "Washington" group is statistically less than those found in the other two groups ($p<0.001$). Substantively, the respondents do not appear to want their representatives to gather their campaign donations from outside of the district.

Conclusion

Based on the congressional representation literature, it is generally assumed that voters will prefer to have their elected officials expend a majority of their resources in the district compared to Washington, DC. I conduct a unique survey, from the 2016 CCES, and ask questions to voters pertaining to the division of time that representatives spend in the district and in Washington. The overall trend from the survey responses is that voters want to have their representatives allocate as

many resources to the district as possible. For the most part, my theoretical expectations were met. A majority of the respondents answered each question, within the vignettes, as I expected. Voters want their representatives to be ever present in the district. However, it should be noted that for vignettes 2, 3, and 4, the respondents appear equally willing to have their representatives either split their resource between the district and Washington or allocate more of the resource in the district. The results from these vignettes provide a unique insight into how voters perceive how their representatives allocate their resources.

The implications of this study are straightforward. On the one side, voters appear to require as much attention from their representatives as possible. But, this has the potential to be negative for the members themselves. If voters are requesting more and more of the scarce resources that elected officials have, are they able to conduct their jobs in a proficient manner? One only has to look at members in Congress to see that the collegiality of the chamber has been increasingly going downhill in recent decades. Long gone are the days where members, from different parties, would eat lunch/dinner together or rent housing together. Members of Congress are in a constant reelection bid, which requires their full attention to their districts. As such, how are they able to accurately keep track of what is happening in Washington? On the other side, it does appear that voters are content to have their representatives split their resource evenly across the district and Washington. This has implications for the how members of Congress should allocate their resources. If members of Congress are aware that their voters are content with them splitting their resources across the district and Washington, they might feel that they have more latitude to spend time in Washington focusing on legislation and their relationships with other legislators instead of constantly having to make it back to the district for every free moment.

Future research should expand on this subject and determine if members of Congress' legislative careers on Capitol Hill, outside of the district, are suffering because of the constant campaigning that they find themselves conducting in order to get reelected. Similarly, future research should determine if members of Congress are actually living up to the expectations of voters, as it pertains to their time spent in the district. Are members of Congress actually devoting most of their working lives spending time in the district and building trusting relationships with their constituents in the modern era? The area of congressional representation has multiple avenues left for exploration based on the findings reported in this chapter.

CHAPTER 3

RESOURCE ALLOCATION AS REPRESENTATION:
AN EXAMINATION OF LEGISLATORS' ALLOCATION OF RESOURCES

ABSTRACT:

Previous research on representation in the U.S. Congress has examined a variety of facets of representatives' interactions with their constituents. One issue that has received comparatively less attention in the literature is the relationship between a member's resource allocation and his or her representational style. To help bridge the gap in this representative-constituency linkage, I examine how members' allocation of resources, both in the district and Washington D.C., affects their representational style. To examine this relationship more systematically, I use Members' Representational Allowances, which are publicly reported figures on how members of Congress allocate their budget and staff. I supplement this information with additional measures of legislative productivity (e.g., bill introduction and sponsorship) to evaluate the representational styles of members of Congress from 1989-2018. Methodologically, I use k-means cluster analysis to congregate representatives with similar patterns in their resource allocation to determine the representational style with which they most closely correspond.

On December 12, 2012, the *USA Today* reported that Senator Jerry Moran (R-KS) spent 99.4% of his federally appropriated budget for fiscal year 2012. It should be noted that Moran initially received a discretionary budget of around $3 million.[15] The article also mentions that when the senator's staffers were asked about the expenses, they stated that, "Moran spends that much because he has to travel back and forth to Kansas to meet his constituents."[16] The aforementioned *USA Today* article suggests that the main reason for the enormous spending of Moran was in direct relation to his constituency services and representation. Similarly, on February 9, 2015, the *USA Today* reported once again on the spending habits of a specific member of Congress. In that article, the focus was upon Representative Aaron Schock (R-IL), who reportedly spent more than $102,000 in fiscal year 2013 on travel to his district. As was the case with the example from above, Representative Schlock defended his expenditures by stating that, "My job is to get around my district as much as possible and visit with the citizens of central Illinois."[17][18]

The trend that is evident from these two anecdotes is that members of Congress are aware that they need to be visible in their districts. They use the money that is allocated to them to travel back to their districts to ensure that they maintain a presence within the district, while still trying to be productive in Washington. Members of Congress are aware of the need to cultivate a "homestyle" with their constituents, and to do this, they must be productive both in the district and in Washington.[19] I seek to build on this notion and expand our knowledge of representation and its effects on members of Congress by examining the activities of members of Congress and ascribing

[15] http://library.clerk.house.gov/reference-files/114_20150106_Salary.pdf
[16] http://www.usatoday.com/story/news/politics/2012/12/25/senate-spending-jerry-moran-begich-shelby/1779281/
[17] http://www.usatoday.com/story/news/politics/2015/02/09/schock-charter-top-flier/22994721/
[18] Representative Schock would later resign from Congress in 2014 because of an investigation into whether he misused federal funds in order to remodel his Washington office after *Downton Abbey* (see Jacobson and Carson 2016, 114).
[19] For more information on legislative homestyles, see Fenno (1977, 1978).

a representational style to each member based on their resource allocation, legislative productivity, and other political and representational activities. Additionally, I use these representational styles to examine the effect they have on member's general election vote share and whether the member faces a quality challenger.

Members of Congress are given a discretionary budget at the beginning of each year that is used for representational purposes. They have the ability to pay staffers, send mail via their franking privileges, and pay for their travel back and forth to their district. The members are not required to split their money in any fashion; how they allocate it is entirely up to them. Members of Congress are not required to engage in legislative activity, collect campaign donations, or interact with their colleagues within the chamber, but they do so in order to secure reelection through their representational styles. Mayhew (1974) discusses the ultimate goal for a member of Congress is to gain reelection. Members are able to successfully gain reelection by establishing an electoral connection with their constituents. Members of Congress are able to establish the electoral connection with their constituents by utilizing the resources that the institution of Congress makes available to them – a presence in the district, legislative productivity, and the allocation of resources. The institution of Congress is set up to help facilitate the reelection efforts of its members, therefore, members can craft their representational styles around these advantages and create a unique representational relationship with their constituents. This insight leads to the following research question that is systematically examined in this chapter: *how does the representational style of a member of Congress affect their electoral goals*?

In order to examine this research question, I collect data from 1989-2018 on Member' Representational Allowances (MRA), legislative productivity measures, and other measures of representational and legislative activities. From these data, I gauge how different members of

Congress allocate their time and resources, and the effects that this has on their careers (i.e., vote shares, and type of challenger). This study draws upon the recent work of Bernhard and Sulkin (2018) and attempts to expand upon the analysis that they conducted on congressional representational styles.[20] I examine legislative activity that corresponds to representational and legislative duties in order to determine the factors that make up a legislator's representational style. From there, I use cluster analysis on the information that I collected for each member and determine the representational style that they best fit. Lastly, I use the member's representational style in two predictive models, to determine how they affect the member's vote share and the probability that they face a quality challenger.

This chapter proceeds as follows: first, I introduce the extant literature and my theoretical expectations for how constituents think about representation and their perceived notions of how members should behave with respect to their resources. Second, I describe the data in greater detail and examine the factors that went into the cluster analysis and how these factors shape a member of Congress' representational style. Next, I attempt a replication of Bernhard and Sulkin (2018), I conduct analysis of original data from the 111th to the 115th Congress, and conclude with a cluster analysis of all members from the 101st through the 115th Congresses. Lastly, I examine how the clusters that the members are assigned to affect their vote shares in the general election and whether they face a quality candidate.

Congressional Representational Style Literature Review

Much of the current literature on congressional representation stems from Fenno's *Home Style*, but Matthews (1959) posited the notion that members of Congress were either work horses or show horses (see also Payne 1980; Ornstein 1983). The implication of this dichotomy is that

[20] I would like to thank Dr. Sulkin for her willingness to engage in conversation with me, about this topic, and for her willingness to share all of her data.

there are two types of legislators, those who conducted the work of the chamber and those who remained in the public eye. Over time, this led to an increase in the literature that focuses on representation where the conclusion of *dynamic* representation is examined (Cambell et al. 1960; Miller and Stoke 1963; Erikson 1978; Stimson, Mackuen, Erikson 1995; Burden 2007; Bartels 2008; Ansolabehere and Jones 2010; and Grimmer 2013a).[21]

Mayhew (1974) speaks to this issue as well, with his arguments regarding the electoral connection. The electoral connection relies on the notion that members of Congress engage in advertising, position taking, and credit claiming. Advertising allows members of Congress to participate in activities, such as franking, ribbon cutting ceremonies, and other constituency meet and greets. Advertising relies on an elected official making themselves visible to their constituents (Abramowitz 1975; Cover and Brumberg 1982; King 1991; Grimmer 2013a; Evans and Hayden 2017). Credit claiming allows members of Congress to engage with their constituents by providing constituency services, by allocating funds to the district, and by implementing policies that are important to the district. Credit claiming provides the mechanism that allows members of Congress to cultivate the personal vote and provide services to both individuals and the district as a whole (Fiorina 1977a; Bond, Covington, and Fleisher 1985; Swift 1987; Engstrom and Vanberg 2010; Grimmer, Messing, Westwood 2012, Grimmer 2013a, 2013b).[22] Credit claiming is an essential part of the elected official and constituency relationship. Last, position taking allows elected officials to stake out their own policy preferences in a public setting. Position taking allows the member of Congress to showcase their preferences to their constituencies in a direct manner (Cox and McCubbins 1993; Box-Steffensmeier, Arnold and Zorn 1997; Koger 2003; Bovitz and Carson

[21] For an example that shows that elected officials are more likely to act on service than policy, see Bulter, Karpowitz, and Pope (2012).
[22] For a comparative look at credit claiming see, Cain, Ferejohn, and Fiorina (1984); Samuels (2002); Crisp, Jensen, Rosas, and Zeitzoff (2010); and Cruz and Schneider (2017).

2006; Wilson 2009; Milita, Ryan, and Simas 2014). All parts of the electoral connection are essential to a member of Congress' representational style and, ultimately, their goals as legislators (i.e., reelection, influence in the chamber, and passing public policies).

Fenno (1978) takes a closer look at how representatives behave with their constituents within the district and also while they are in Washington. His approach moves the representation literature away from merely examining how members of Congress respond to their constituents by focusing on how members of Congress interact with their constituents (see, also, Cavanagh 1982; Johannes 1983; Cain, Ferejohn, and Fiorina 1984; Taggart and Durant 1985; Parker 1986; Fenno 2000; Meinke 2009; Friedman 2012; Hassell and Monson 2016). Fenno (1977, 1978) is able to show that not every member of Congress follows the same representational style. He explains that there are many different ways to gain reelection but that members of Congress ultimately must find their own style. More importantly, elected officials must find a way to gain the trust of their constituents in order to be able to successfully gain reelection and complete their legislative tasks. Both Mayhew (1974) and Fenno (1978) illustrate that members of Congress must adopt their own styles, which their constituencies find agreeable, to maintain their desire for reelection.

Parker and Goodman (2009, 2013) demonstrate how members of Congress interact with their constituents by examining Members' Representational Allowances and determine that incumbents are rewarded for their allocation of resources towards the district (i.e., travel back home, franked mail, etc.). Parker and Goodman (2009) find that constituencies are aware of the resources that members of Congress expend in the district and there are positive correlations between voters' views of their elected official based on the amount of resources they expend in the district. They do find that more constituent style service within the district lowers the voter's

perceptions of any policy expertise by the members. The results indicate that more time spent in the district contributes to less policy focus.

Similarly, Parker and Goodman (2013) examine the representational styles of members of the Senate and use office expenditures to gauge if the public is aware of their representational styles. Parker and Goodman find that the public is aware of the representational styles of their elected officials, but their simple use of office expenditures fails to establish the "one of us" connection that members seek (Fenno 1977; Parker and Goodman 2009, 2013). The goal of any style of representative is to gain reelection. To accomplish this, they must build a relationship with their constituencies that encourages them to vote for the elected official. Resource allocation helps members of Congress to bridge this gap and create a constituency that is willing to vote for them (Grimmer 2010; Herrick 2011; Grose, Malhotra, and Van Houweling 2015; Lazarus and Steigerwalt 2018). Resource allocation is only part of the equation, since voters are still bound by issues such as partisan id and overall interest in politics (Sulkin, Testa, and Usry 2015; Lapinski, Levendusky, Winneg, and Jamieson 2016; Ragusa 2016).

Bernhard and Sulkin (2018) extend this research by observing the representational and legislative activities of members of Congress from the 101st through the 110th Congresses and determine that each member of Congress has a unique representational style that can be decided by examining how they allocate their resources, vote on legislation, and their action on other activities related both to their districts and Washington. Bernhard and Sulkin (2018) utilize different measures of representational and legislative activity – i.e., staff size in the district, fundraising, voting percentages in Congress – to carefully craft the legislative style of members of Congress. They utilize cluster analysis in order to allow the data to cluster around the number of representational styles (Sewell, Chen, Bernhard, and Sulkin 2016; Bernhard, Sewell, Sulkin 2016).

In a similar vein, they use the representational styles to determine how they affect members from an electoral standpoint. The authors advanced the representational literature by expanding it past simple observations of members of Congress and using multiple data points to quantitatively create a member's representational style (see Mayhew 1974 and Fenno 1978, 2000). Instead of examining representation from a single angle, the authors try and examine representational styles with a multifaceted approach, which allows for a better understanding of a member's overall representational style.[23]

Types of Representational Action by Legislators

There are multiple actions with which members of Congress engage in order to be well-rounded representatives. All members of Congress engage in similar activities as their colleagues, but certain members engage in certain activities more than others. Bernhard and Sulkin (2018) identify eight indices, comprised of various combinations from 16 variables, of legislative activity that potentially indicate a member's representational style. The activities that they identify are all things that members of Congress must do in order to be successful. Also, and most importantly, these activities are all things that are controlled by the members themselves, indicating that if they participate more or less in one of these areas, this is done at their own will. I utilize these legislative activities that were first operationalized by Bernhard and Sulkin (2018).[24] As mentioned, I rely heavily on the innovations by Bernhard and Sulkin (2018) to guide my expansion of their work. Below, I outline the eight indices that summarize the legislative activities of members of Congress. Across the eight indices, there are 16 different variables that members of Congress engage in that

[23] For related work on congressional representation, see Miller and Stokes 1963; Kingdon 1973; Fiorina 1974; Jewell 1982; Cain, Ferejohn, and Fiorina 1987; Rosenthal 1998; Mezey 2008; Grimmer 2013a; Fridkin and Kenney 2014; Harden 2015.

[24] The categories that are listed below are drawn directly from Bernhard and Sulkin (2018). Additonally, all data for the 101st through the 110th congresses were obtained directly from Dr. Sulkin. All data that was collected for the 111th through the 115th congress was collected by the author.

shape their representational styles. Based on the number of actions that members of Congress can engage in, I expect there to be variation on all of the measures, which will allow me to distinguish between legislators and group those that are more similar together.[25]

Home Front

One activity that members of Congress must pay particular interest to is the interactions that they have with their constituents. Members of Congress must build relationships with their constituents in order to establish a connection and ultimately the personal vote (Mayhew 1974; Fiorina 1977a; Fenno 1978; Cox and Katz 1996; Ansolabehere, Snyder, and Stewart 2000; Grimmer 2013a). One chief of staff relayed to me that their member, "goes home every weekend," and that the member, "is only in DC when the House is in session." Another chief of staff stated that their member "is in the district everyday there are no votes on the Hill." Members of Congress, while it varies, are very in tune with how much time needs to be spent with the constituents. Members possess vast resources that are given to them for representational purposes, which they can utilize in order to engage with their constituents.

The Members' Representational Allowance provides them with the institutional resources in order to perform representational activities (Parker and Goodman 2009). These allowances give members the chance to travel back to their districts, utilize franked mail, provide salaries for district staffers, and perform other duties related to representation. The activities listed here pertain directly to measures that occur in the district. I employ two measures for constituent servants: the number of district offices and the percent of staffers in the district. The data for the number of

[25] The categories that are utilized in this study are the same categories that are utilized by Bernhard and Sulkin (2018). I add to the data collection process by extending their analysis and any insights into the results are my own. The 8 indices, which are made up from the 16 variables, are all information obtained from Bernhard and Sulkin (2018). I make no claim that these indices or categories are my own. I build upon their work, but I utilize information that they originally obtained. I did change the name of the eight indices and extend the data to include the 111th through the 116th congresses.

district offices was obtained from Bernhard and Sulkin (2018) for the 101st through the 110th congresses. Additionally, the data for the 111th through the 115th congresses was obtained from the Official United States House of Representatives Telephone Directory.[26]

Showboat

Members of Congress participate publicly in order to accomplish representational goals. Elected officials can use their voices with speeches on the congressional floor, newspaper articles, television interviews, and other outlets to engage with policy and their constituents.[27] Floor speeches in Congress allow members to engage in position taking, which informs their constituents of their policy views (Maltzman and Sigelman 1996; Hill and Hurley 2002; Highton and Rocca 2005; Miler 2010; Quinn et al. 2010). Members can use their time in the public sphere to discuss policies that are important to their constituents or stake out their own issue area to provide their constituents with the confidence that their elected official is hearing their views (Rocca 2007). Members of Congress will use public messages to connect with their constituents and display their policy preferences. In order to gauge a member's public persona, I collect information relating to the number of one-minute speeches and bylines that members of Congress have each Congress. The data for one-minute speeches and bylines was obtained from Bernhard and Sulkin (2018) for the 101st through the 110th congresses. For the 111th through the 115th congresses, I obtained the number of one-minute speeches that members of Congress gave from the Congressional Roll-Call Record.[28] The Congressional-Roll Call Record keeps an active record of all speeches that are delivered on the floor of Congress. This information was obtained for every member serving in

[26] For the 111th through the 115th congresses, HeinOnline was utilized as the primary source for the telephone directory information. The directories contain the name of each member of Congress, their district offices, and the name of each staffer. Additionally, the Member' Representational Allowance was used in order to examine the number of staffers on the representative's pay roll.
[27] For a comparative look at floor debates and speeches, see Proksch and Slapin (2015).
[28] https://www.congress.gov/congressional-record

the 111th through the 115th congresses. Additionally, I obtained the number of bylines for each member of Congress, by examining all major newspapers in the United States through ProQuest's "US Newsstream" database. I searched all authorships by each representative's name (or chosen name (i.e., if a member of Congress was named James but goes by Jim), to determine the number of newspaper articles that each one of them produced during a given congress.

Party Voter

A major priority of legislators is voting. Part of their legislative responsibilities are to read legislation that has been introduced by other members and then vote on that legislation when it makes its way to the floor for consideration. Even though voting is a major part of a legislator's responsibilities, they are not required to vote with their parties or their leadership. Within the chamber, there are norms and procedures that increase the likelihood that members will vote with their parties and leadership such as the leadership enticing members to vote with them, especially on highly partisan pieces of legislation (Cox and McCubbins 1993; Poole and Rosenthal 1997; Lebo, McGlynn, and Koger 2007). Voting along party lines or with the leadership differs from member to member.[29] In order to determine the loyalty of members, I gather information on the percentage of party votes and the percentage of leadership votes for each member across Congress. To determine if members of Congress voted with their parties or with their leadership, I examined their individual roll-call votes for each bill from the 111th through the 115th congresses.[30] The percentage of party voting, for each member, was calculated by examining the number of votes where a particular member voted with their party, when a majority of the two parties voted against one another (Bernhard and Sulkin 2018). Similarly, a member's leadership voted was counted as

[29] For examples where the public punishes their elected officials for voting with their parties in excess, see Carson et al. (2010).
[30] This information was obtained from roll-call data collected by voteview.com

the percentage of votes where the member voted with their party's leadership, when the entire party's leadership voted against the opposition party's leadership.[31]

Party Giver

Members of Congress must fundraise money in order to run successful campaigns. One thing that they do with the money they raise is contribute it to other people, usually of their party, that are also running for Congress, or they donate the money to Hill committees, which are responsible to doling out money to candidates (Snyder 1989; Heberlig and Larson 2012; Pearson 2015). Donating money to fellow partisans or to a Hill committee is not something that is required of members. They may be asked, but remember, they are generally taking their own money and making these donations, which takes money away from their own reelection campaigns. Donating money towards other people's campaigns can signal support for the individual or as just a way to support the party. To determine how much money members donate, I collect the amount of money they donated to their colleagues and to Hill committees. This information was obtained from the Federal Election Commission, which maintains records of all monies donated by a political candidate.

Policy Focus

The members of Congress who are most interested in policy are going to have the largest policy agendas. They are going to focus on their agendas when they interact with their constituents (Sulkin 2009). Generally, these members will have policy specialties that separate them from other members (Sinclair 1986; Rohde 1988). Overall, policy experts should be more likely to engage in policy that they are experts in, which should filter to their committee assignments (Deering and Smith 1997; Volden and Wiseman 2014). Therefore, these members will have large agendas and

[31] The measures of a member's party voting and leadership voted were obtained from Bernhard and Sulkin (2018) for the 101st through the 110th congresses.

focus on multiple policy areas. To measure policy expertise, I collect information relating to the size of a member's overall policy agenda and the percent of member legislation introduced that is referred to their own committees. The size of the members policy agenda and the number of bills that were referred to their own committee was collected from Adler and Wilkerson's "Congressional Bills Project" for the 111th through the 114th Congresses.[32] Additionally, the information was collected from congress.gov for the 115th Congress.

Fundraising

An important factor to the career of a member of Congress is the amount of money that they are able to collect in campaign donations. The amount of money that members are able to collect via campaign contributions helps them electorally when it comes to potential challengers and influence (Box-Steffensmeier 1996; Goodliffe 2001; Heberling and Larson 2012). Fundraising is basically required of members if they want to have successful campaigns, but the amount of money that they obtain will vary. Not every member of Congress wants to spend the time it takes to make connections and secure money from donors. In order to gauge how much time members of Congress expend in collecting donations, I code the total amount of money that they received for an election cycle (i.e., the total amount of money they collect for each specific election). The total amount of money that a member of Congress raised, for a given election cycle, was obtained from the Federal Election Commission for all members of the 111th – 115th Congresses.

Bipartisan

In modern times, bipartisanship is lower than it was in the past. Congress is at record levels of polarization and reaching across the aisle does not occur like it once did (Poole and Rosenthal 1997; Baker 2015; Harbridge 2015). Therefore, members of Congress who actively try and engage

[32] http://www.congressionalbills.org

members of the opposite party could be going against the majority of their party or their constituents (see Harbridge, Malhotra, and Harrison (2014) for a look at public opinion on bipartisanship). Bipartisanship appears to be on the decline, but certain legislation still gathers support from both sides of the chamber. To measure the bipartisanship of elected members, I observe the percentage of bills they cosponsor that were introduced by members of the opposite party. This measure was calculated from bill cosponsorship information obtained from the congressional website, congress.gov, for the 111th and 112th Congresses. Bipartisan bill cosponsorship information was obtained from every congressional report card, via govtrack.us, for the 113th through the 115th Congresses.

Lawmaker

One of the most important parts of a legislator's representational responsibility is lawmaking. Elected officials need to be present in order to vote and for the most part they are. Abstentions are generally a rare event for members of Congress and the voting records of members of Congress have been examined thoroughly (Fiorina 1974; Kingdon 1989; Arnold 1990; Bianco, Spence, and Wilkerson 1996; Canes-Wrone et al. 2002; Carson 2005). The other parts of lawmaking are the number of bills that are introduced, the number of bills that are cosponsored, and the number of amendments that a member of Congress makes. The introduction of bills and amendments are a way for members of Congress to create good public policy, but they are also ways for members of Congress to take favorable positions. These measures of the lawmaking process are included as elements of policy creation for members of Congress. To determine the number of roll-call votes that a member was present for, I examined each individual member's roll-call record and divided the number of actual votes taken (i.e., there were in the chamber) by

the number of total votes that were possible for a given Congress.[33] Similarly, I examined the legislative records of each member of Congress to determine the number of bills they introduced, cosponsored, and the number of amendments for a given Congress.[34]

Table 3.1: List of Indices for Representational Styles

Index	Components
Home Front	Number of District Offices Percentage of Staff in District
Showboat	One-Minute Speeches Bylines (Articles with MC Name in Byline)
Party Voter	Percentage of Party Vote Percentage of Leadership Vote
Party Giver	Money to Hill Committee Money to Colleagues
Policy Focus	Agenda Size Percentage of Measures Referred to Own Committee
Fundraising	Total Receipts
Bipartisan	Percentage of Coalitions that are Bipartisan
Lawmaker	Number of Introductions Number of Cosponsorships Number of Amendments Percentage of Roll Calls Present

Analyzing Members' Legislative Activity with Cluster Analysis: A Replication

In accordance with Bernhard and Sulkin (2018), I have established the preceding indices which give an indication of the representational styles that members of Congress are providing their constituents. The question then becomes how to establish groupings for members based on the indices noted above? The main point of interest in this essay is to determine which representatives are more alike as it pertains to representational actions and to determine which representatives are different. One way in which to group together observations that are similar is

[33] This information was obtained from voteview.com.
[34] This information was obtained from congress.gov.

to use cluster analysis (Imai 2017). Cluster analysis is a procedure that allows for the discovery of groups, within the data, that are similar. There are multiple types of cluster analysis algorithms, but one of the most utilized algorithms is the k-means algorithm.

K-means cluster analysis is an iterative algorithm, which repeatedly performs an operation on a dataset until there are no longer noticeable differences produced in the results (Imai 2017). The main point of the k-means algorithm is to separate the data into *k* different groups, which are similar in nature. The basic operation for the k-means algorithm is to calculate a centroid, which is the within group mean for a certain group; this process is completed by assigning each observation to a cluster and computing the within group mean (Hartigan and Wong 1979). Based on the fact that the k-means algorithm is an iterative process, this assignment of observations to cluster is repeated multiple times, until the within group mean is minimized for all observations.

The equation below presents a k-means cluster analysis model. Recall, k-means cluster analysis defines clusters such that the total intra-cluster variation is minimized (Imai 2017). The algorithm formulated by Hartigan and Wong (1979) defines the total within-cluster variation as the sum of squared distances (Euclidean distances) between observations and the corresponding centroid.

$$W(k_c) = \sum_{x_i \epsilon C_k} (x_i - \mu_k)^2$$

Where $x_i$is a data point that belongs to the cluster C_k and where μ_k is the mean value of the points assigned to the cluster C_k. All x_i are assigned to a given cluster such that the sum of squares distance of the observation to their assigned cluster centers (μ_k) is minimized. The total within cluster variation is defined below:

$$\sum_{k=1}^{k} W(C) = \sum_{k=1}^{k} \sum_{x_i \epsilon C_k} (x_i - \mu_k)^2$$

Cluster analysis allows for the grouping of data that are similar to determine what makes observations different from other observations. For this analysis, I utilize k-means cluster analysis on the eight indices from above to discover the representational patterns of members of Congress.[35] One thing to note about k-means cluster analysis, is that it is an unsupervised algorithm, indicating that there is little in the way of prior researcher decisions to the clusters that are produced. Additionally, the research sets the number of clusters, before the algorithm defines the clusters, which can be seen as largely devoid of substantive theory. In many ways, this is correct. K-means operates by allowing the data to produce the clustering patterns, therefore, allowing the data to "speak for itself." The k-means method would seem to indicate that different researchers might obtain different clusters, which very well could occur. Even with this caveat, k-means clustering allows the data to determine the number of unique clusters, which many not be readily seen by a researcher.

Results from the Replication of Bernhard and Sulkin (2018)

In this section, I attempt to replicate the results of Bernhard and Sulkin (2018). I utilize the same data set that they used in order to examine their results, before I move forward with my own data. The Bernhard and Sulkin (2018) data examine the allocation of resources by members of Congress from the 101st Congress to the 110th Congress. There are a total of 4,429 observations (or 1041 unique members of Congress) that are examined in the analysis. Additionally, based on the nature of k-means cluster analysis, the longitudinal features of the data are not taken into

[35] See, Hartigan and Wong (1979); Imai (2017); and https://codeahoy.com/2017/02/19/cluster-analysis-using-k-means-explained/

account.[36] Based on the fact that I am trying to replicate the process of Bernhard and Sulkin (2018) as closely as possible, I assign the same number of clusters (5) to the algorithm and examine the results below. One thing to make note of is the differences between the two approaches that were used by Bernhard and Sulkin (2018) and those that are found here. First, they utilized longitudinal k-means clustering, whereas, I will only be utilizing standard k-means clustering analysis. The differences between the two methods has the potential to shift the results.[37] Similarly, this means that my sample sizes will be artificially inflated relative to what is reported in Bernhard and Sulkin (2018), but the results will hopefully be substantively similar. The results from the replication are below.

Table 3.2: K-Means Clustering with Five Clusters and Sizes:

	Policy Specialist	**Party Soldier**	**District Advocate**	**Party Builder**	**Ambitious Entrepreneur**
Size	1825	568	1246	106	551

Table 3.2 provides the number of observations that fit into each cluster. These results generally replicate the study of Bernhard and Sulkin (2018), but there are noticeable differences. For instance, the members of Congress do not always match to their criteria, which has shifted some of the groups around. For instance, in their study, the category with the least number of members is the Ambitious Entrepreneur. Upon observing the clustering outputs, it appears that the lowest level that is present in the replication is the Party Builder category. Table 3.3 reveals the

[36] Not taking the longitudinal nature of the data into account does present problems. For instance, if a representative served from the 101st through the 110th congresses, then they would have 10 separate observations that would be clustered. Therefore, one representative could be clustered with themselves multiple times or spread out across the different groups. This is a problem that is inherit in k-means cluster analysis and is something that I have tried to remedy.

[37] It should be noted that I have attempted multiple times to replicate the Bernhard and Sulkin (2018) results, but I have been unsuccessful. I am currently attempting to solve the issue of longitudinal k-means clustering analysis.

five different categories, which correspond to the five clusters from above, that showcase where the observations fit based on their representational data. One result that occurs from the cluster analysis is the cluster mean that is supplied for each observation, which depicts how well they fit in each index. The higher the cluster mean, the better the fit, whereas the lower the cluster mean the worse the fit is.

Table 3.3: K-Means Cluster Means

Indices	Policy Specialist	Party Soldier	District Advocate	Party Builder	Ambitious Entrepreneur
Home Front	-0.026	0.347	-0.036	-0.279	-0.121
Showboat	0.063	-0.159	-0.109	0.612	0.139
Party Voter	-0.384	2.010	-0.170	-0.529	-0.160
Party Giver	-0.052	-0.225	-0.141	4.440	-0.053
Policy Focus	0.182	-0.126	-0.174	-0.072	0.090
Fundraising	-0.350	-0.090	-0.281	1.003	1.713
Bipartisan	0.755	-1.222	-0.716	0.389	0.340
Lawmaker	0.089	-0.100	-0.013	-0.151	0.037

Note: Highlighted cells indicate areas where members in each cluster group exhibit higher cluster means than others.

For the most part, I am able to replicate the work of Bernhard and Sulkin (2018), but the results are less than perfect. For example, I am unable to fully justify some of the clusters based on the criteria that they establish. For instance, the best cluster fit for District Advocates does not score the highest for the "Home Front" category, but otherwise would not fit anywhere else. Now, it does appear that I was able to replicate the correct clustering for Policy Specialist, Party Builders, and Ambitious Entrepreneurs. The two categories that are the most substantively different are those for the Party Soldier and the District Advocate, but based on the criteria, these were the closes fit based on their cluster means. Again, it should be mentioned that the methods that are being utilized are slightly different, which could explain the difference in results.

Another important thing to note is the number of clusters that are utilized from above. In their original work, Bernhard and Sulkin (2018) utilize five clusters, but when examining the elbow method and the silhouette method, I found that the optimal number of clusters for the data was three or four. Based on this information, it could be that the data are not well clustered into five distinct categories and that this relates to the differences in the results that I have obtained. It should be noted that all members of Congress engage in all of the activities that make up the 8 indices from above. Therefore, the clustering of these categories may prove difficult.

Cluster Analysis of Members of Congress from the 111th to the 115th Congress

In this section, I utilize cluster analysis to examine the representational styles of members of Congress from the 111th to the 115th Congress. Similar to the analysis from above, I will be utilizing the same eight indices, along with k-means cluster analysis to examine the how members of Congress have allocated their resources. The data on members of Congress from the 111th to the 115th Congress yields at total of 2226 observations (or 765 unique members of Congress). As was shown earlier, I will conduct standard k-means cluster analysis to examine the representational style of members of Congress.

As mentioned in previous sections, I utilize k-means cluster analysis to differentiate between the representational styles of members of Congress. Like many clustering algorithms, the researcher has to specify beforehand the number of clusters that will be created. Therefore, it would appear that this is subjective, which it certainly is, but there are methods that allow for the data to speak to the number of clusters that are present in the data and create a more objective measure and find the optimal number of clusters. To determine the optimal number of clusters that should be used in the cluster analysis, I utilize the Silhouette Method and the Elbow Method. The Silhouette Method determines the optimal number of clusters, k, by taking the one that maximizes

the average silhouette over a range of possible values for k (Rousseeuw and Kaufman 1990).[38] The Silhouette Method determines the quality of the clusters based on how well the observations fit within each cluster; therefore, the larger the average silhouette, the better that the observations fit within each cluster.[39] Similarly, the Elbow Method works by trying to explain the variance that is explained by each additional cluster. Once the number of clusters does not provide additional information for the clustering process, the Elbow Method "breaks" in a manner that allows the researcher to determine the optimal number of clusters.

Figure 3.1 displays the average silhouette graph. The graph shows the average silhouette width on the y-axis (i.e., the number of clusters that maximize the width is the optimal number of clusters that should be used) and the optimal number of clusters to be utilized on the x-axis. For these data, the optimal number of clusters, based on the Silhouette Method, is two clusters.

Figure 3.2 observes the Elbow method to determine the optimal number of clusters that should be utilized in the k-means cluster analysis. It does not appear that there is a clear break in the number of clusters that should be utilized based on the Elbow Method. There is a slight break when the number of clusters equals three, but there is noticeable decay from clusters four and five. Therefore, it appears that any number of clusters from three to five could be utilized. Another piece of information that the Elbow method provides is an examination of how well the data are sorted

[38] The Silhouette Method is similar to the Elbow Method. The Elbow Method, similarly to the Silhouette Method allows a research to find the optimal number of clusters. The Elbow Method works by examining the variance that is explained by adding more clusters. Generally, the optimal number of clusters is the number of clusters that can be used before the addition of another cluster that does not increase the variance explained or the model fit.

[39] The Silhouette Method works by examining how well the observations fit into their cluster. The clustering algorithm that is used, does not matter, just that they data are partitioned into separate parts. From there, the Silhouette Method examines the how similar an object is to the other objects that it was clustered with and compares that to how dissimilar the object is with those objects that are within the other clusters. A value is added to each cluster, ranging from -1 to +1, indicating how well each object was assigned to their cluster, with higher values indicating a better fit (Rousseeuw 1987).

into clusters. Based on the graph in Figure 3.2, it would appear that the data might not be sorted very well, because the line never makes a clear break. Utilizing both the silhouette Method and the Elbow Method have provided valuable insight into the number of clusters needed.

Figure 3.1: The Silhouette Method to Determine the Optimal Number of Clusters for 111th-115th Congresses

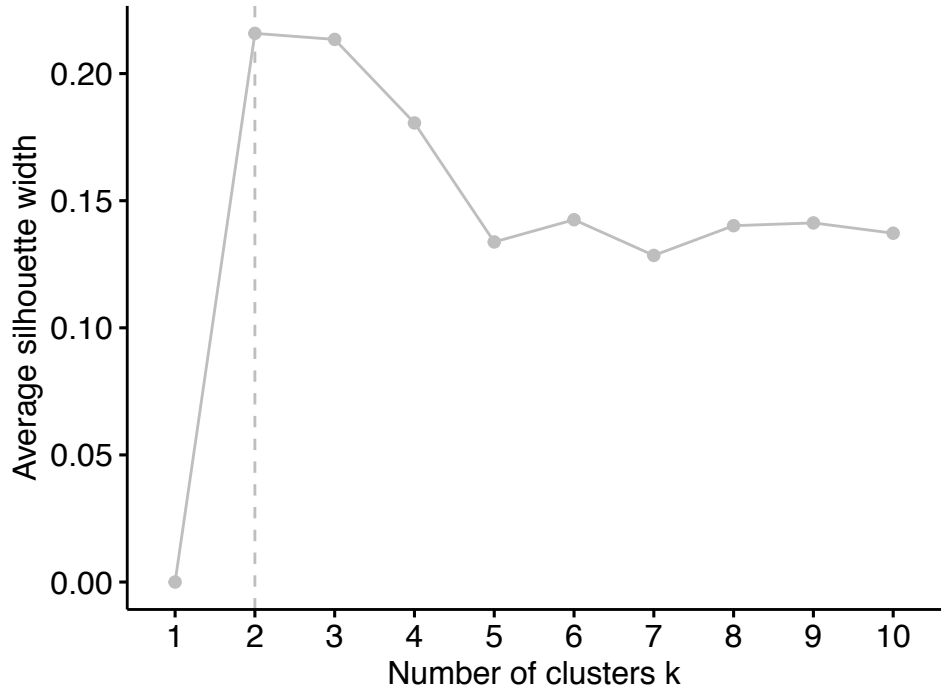
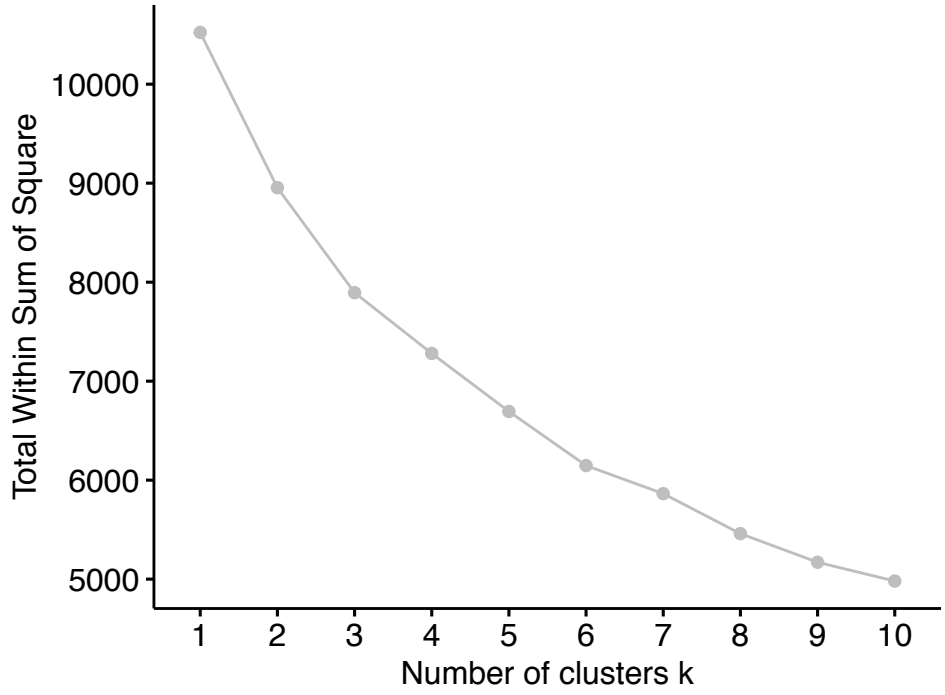


Figure 3.2: The Elbow Method to Determine the Optimal Number of Clusters for 111th-115th Congresses



Based on the inconclusive information presented in Figures 3.1 and 3.2, and the prior number of clusters utilized by Bernhard and Sulkin (2018), I use four clusters as the optimal number of clusters for the representational data for the 111th through the 115th congresses.[40] Therefore, I utilize k-means cluster analysis with four clusters chosen as my optimal number of clusters. To perform k-means analysis, the data have to be appropriately formatted to ensure that the analysis will calculate properly. Recall, that I have 16 representational variables that have been condensed into 8 indices. I condense the 16 variables to alleviate concerns about weighting, based on the fact that certain indices have more variables than others (Bernhard and Sulkin 2018).

[40] Bernhard and Sulkin (2018) have a really small cluster that could be absorbed by other clusters. Therefore, it would appear that four clusters would fit the data appropriately. Therefore, I utilize four clusters.

Basically, I take the variables and combine them within their respective index, which gives me a composite score within each index. From there, each observation within each index is standardized. The standardization allows the results of the clustering analysis to not be dependent on how each variable is measured (Imai 2017).

Table 3.4 displays some summary statistics about the cluster analysis and a breakdown that corresponds to where the observations fall based on their cluster means from the analysis. Recall, the optimal number of clusters was determined to be four based on the evidence from the Silhouette and Elbow Methods. Therefore, four clusters were chosen, and the results are displayed below. To continue the theme from above and provide continuity, I continue to utilize the titles and phrases to describe the clusters as are found in Bernhard and Sulkin (2018).

Table 3.4: K-Means Clustering with Four Clusters and Sizes:

	Party Soldier	**Party Builder**	**Policy Specialist**	**District Advocate**
Size	763	36	1126	139

The representational data that were used for the analysis is noisier than data that might appear elsewhere. Many members of Congress engage in multiple facets of representational activities that could possibly place them in multiple different clusters. For the most part, the cluster analysis performs as is expected. One result that occurs from the cluster analysis is the cluster mean that is supplied for each observation, which depicts how well they fit in each index. The higher the cluster mean, the better the fit, whereas the lower the cluster mean the worse the fit is.

I utilize four different categories, which correspond to the four clusters from above, that showcase where the observations fit based on their representational data.[41] Party Soldiers tend to

[41] In a similar way that the indices and variables were borrowed from Bernhard and Sulkin (2018), I also borrow their technique when describing the cluster analysis results. I base the characterization of my clusters on the foundation that was created by Bernhard and Sulkin (2018).

have high cluster means for the Showboat, Party Voter, and the Fundraising indices, while they tend to have low means on the Party Giver indices. Generally, these members follow the party line and ensure that the party comes first. Policy Specialist members correspond to high means on Party Voter and the Policy Focus indices. These representatives appear to vote heavily with their party, but they have broad policy agendas and have a lot of legislation referred to their own committees. Policy Specialists also have low means for Showboat, Party Giver, and the Fundraising indices. District Advocate members score the highest cluster mean on the Home Front index and showcase low means on the Party Voter index. Lastly, Party Builders have the highest mean for the Party Giving index and relatively lower means for the other indices. These members raise a lot of money for their party and their colleagues.

Table 3.5: K-Means Cluster Means

Indices	Party Soldier	Party Builder	Policy Specialist	District Advocate
Home Front	-0.066	-0.111	-0.016	0.409
Showboat	0.040	0.331	-0.024	-0.114
Party Voter	0.039	0.044	0.300	-2.337
Party Giver	-0.051	3.703	-0.064	-0.144
Policy Focus	-0.029	-0.576	0.121	-0.342
Fundraising	-0.024	3.802	-0.117	0.004
Bipartisan	0.860	-0.560	-0.687	1.184
Lawmaker	0.105	-0.478	0.014	-0.418

Note: Highlighted cells indicate areas where members in each cluster group exhibit higher cluster means than others.

In general, the results from the cluster analysis appear to behave correctly. The only category that provided any issue with categorizing was the cluster for Party Soldier. This could definitely be a factor based on the notion that the number of clusters needed to be changed. Based on the evidence from the Silhouette and Elbow Methods, three clusters would have potentially provided a better fit for the data. Other than this, it would appear that most of the other observations clustered around areas that we would expect based on how the members allocate their resources.

The results from the replication study and the ones presented above provide some interesting comparisons. For instance, in both analyses, the largest cluster was for the Policy Specialist category. This would appear to indicate that members of Congress are actively engaging in their legislative responsibilities and are focused on provided useful lawmaking contributions. Additionally, the Party Builder category was the smallest for each cluster analysis. This could be a factor of the move away from the party centered elections and a move toward more candidate centered elections.[42] Another interesting difference pertains to that of the District Advocate. In the replication study, District Advocates comprised of the second largest category, but were the third largest category in the updated study. This effect could simply be based on the different number of clusters, but it could also signal that it is harder to stand out as a district advocate if every member of Congress is participating in the same activities to gain reelection and ward off challengers. Both analyses have created useful insights into the representational styles of members over a large time span.

Combined Analysis from the 101st Through the 115th Congresses

In this next section, I aim to aggregate the data that I collected with the data that was collected by Bernhard and Sulkin (2018). Therefore, this data set would range from the 101st through the 115th congresses, which yields a total of 6,644 observations (or 1,418 unique members of Congress). The goal of this section is to estimate a k-means cluster analysis on the aggregate data, to determine the representational styles of the members of Congress, then to utilize the clusters that are obtained to estimate models relating to the members experiences with general elections. For the most part, the information provided by the clusters will be used as a way to determine how the different groups impact election results and the presence of a quality challenger.

[42] The argument could be made that we are currently moving back towards more party center elections based on the current levels of polarization and nationalization, but this is not the scope of this piece.

The first step in the process is to estimate the cluster analysis. Again, I rely on the Silhouette and Elbow Method to determine the number of clusters that should be utilized. Figure 3.3 displays the results of the Silhouette Method. Recall, the Silhouette Method determines the optimal number of clusters, k, by taking the one that maximizes the average silhouette over a range of possible values for k (Rousseeuw and Kaufman 1990). Therefore, the number of clusters that the Silhouette Method determines is the one that fits the data the best.

Figure 3.3: The Silhouette Method to Determine the Optimal Number of Clusters for 101st-115th Congresses

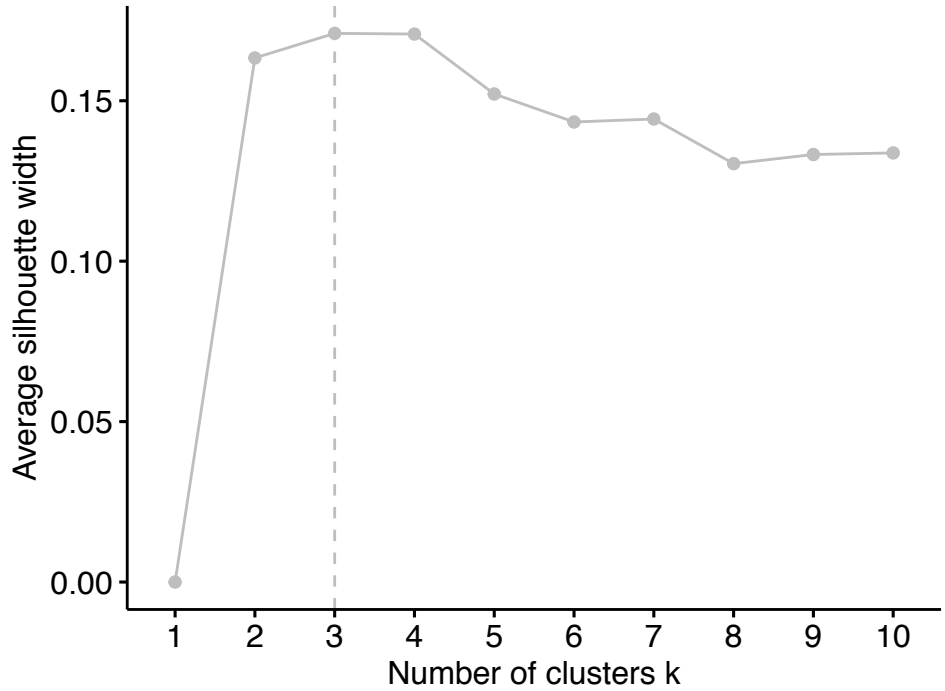


Figure 3.3 displays the average silhouette graph. The graph shows the average silhouette width on the y-axis (i.e., the number of clusters that maximize the width is the optimal number of clusters that should be used) and the optimal number of clusters to be utilized on the x-axis. For these particular data, the optimal number of clusters, based on the Silhouette Method, is three clusters.

Figure 3.4: The Elbow Method to Determine the Optimal Number of Clusters for 101st-115th Congresses

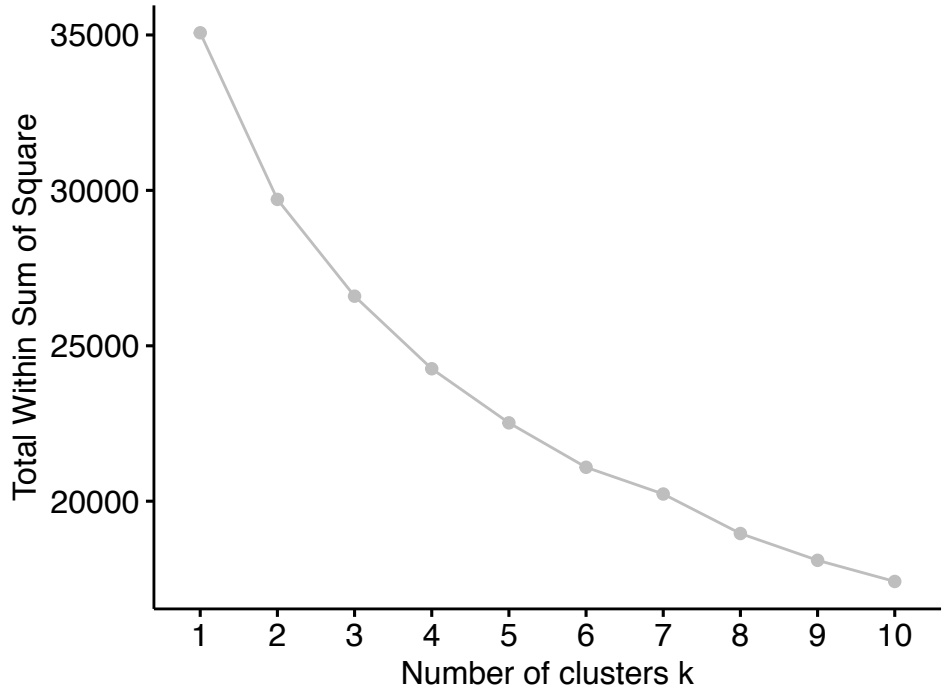


Figure 3.4 provides us with a similar problem that we encountered in Figure 3.2, it is unclear where a clean break is in the "elbow." Again, it appears that the optimal number of clusters exists somewhere between three and five clusters. Additionally, it does appear that there is a decay (or smoothing out process) that occurs after the fourth cluster. Therefore, I think that the appropriate thing to do, would be to utilize four clusters as the optimal number of clusters to maintain consistency with the analysis from above.

Table 3.6 displays the clusters and the counts that exist within them. Again, I follow the lead of Bernhard and Sulkin (2018) and utilize their names for the clusters that are presented below. I think that this allows for better comparison and continuity of the process. Recall, based on the information gathered from the Silhouette and Elbow Method, I decided to utilize four clusters in this analysis. The results from the analysis are below. The clusters that are presented below were

the hardest of the three different analyses to place. Using Bernhard and Sulkin's (2018) criteria, multiple groups appear to overlap one another, making clean clusters almost impossible to detect. I think that the main reason for this complication is based on the fact that there are so many observations, which corresponds to the same member being treated as an individual observation, no matter how many times they are in the data set.[43] This is a potential limitation of this study and requires further research in order to solve this problem. The clusters that are presented will not adhere perfectly to the guidelines set out by Bernhard and Sulkin (2018), but they are as close as possible.

Table 3.6: K-Means Clustering with Four Clusters and Sizes:

	Party Soldier	**Party Builder**	**Policy Specialist**	**District Advocate**
Size	825	132	3110	2293

Table 3.6 displays the cluster means for the k-means cluster analysis. As mentioned above, the classification of these clusters (based on the criteria set forth by Bernhard and Sulkin (2018)) was difficult to access. I think that will all of the multiple data points, from each member, the clusters were less obvious to detect and left a large number of overlapping groups. For Policy Specialists, they were placed in their cluster based on their highest score responding to the Policy Focus index. Similarly, the District Advocates were placed in their cluster based on the high score corresponding to the Home Front index. The members in the Party Soldier group were classified in this manner based on their mean scores for Showboat (where they scored high), Fundraising (where they scored high), and Party Giver (where they scored low). Lastly, the Party Builder's were placed in their category based on the means from the Showboat and Party Giver indices. As previously

[43] For instance, it is possible that a representative that has served from the 101st Congress to the 115th Congress would have 15 different data points that are being clustered. This could result in them being placed in the same cluster all 15 times, but it could mean that they are spread out across the clusters.

mentioned, the classifications for these data points were more difficult than previous analyses, based mainly on the fact that it appears that members were able to overlap one another and obfuscate the clusters.

Table 3.7: K-Means Cluster Means

Indices	Party Soldier	Party Builder	Policy Specialist	District Advocate
Home Front	-0.144	-0.228	-0.026	0.097
Showboat	0.138	0.548	0.035	-0.116
Party Voter	-0.168	-0.367	-0.407	0.690
Party Giver	-0.057	4.628	-0.064	-0.139
Policy Focus	0.077	-0.153	0.054	-0.035
Fundraising	1.662	1.169	-0.338	-0.208
Bipartisan	0.245	0.237	0.617	-0.918
Lawmaker	0.050	-0.187	0.061	-0.041

Note: Highlighted cells indicate areas where members in each cluster group exhibit higher cluster means than others.

Additionally, thinking back to a major limitation with this data and method, having a member serve as multiple data points does not allow for us to gather a clear picture of their representational style. The representational style of a member might follow a distinct pattern, but broken down by Congress, it might appear to change more than it actually does. Further research is needed in order to fully examine the representational styles of members of Congress, through cluster analysis. It may also be the case that cluster analysis is not the correct way in which to study the representation styles of members of Congress, based on the fact that they all basically engage in the same activities.

How do the Representational Styles of Members Affect their General Elections?

The last avenue to explore, as it pertains to the representational styles of members of Congress, is to determine whether or not they have an effect on the actual member. Recall, while it appears that all members of Congress are engaged in similar activities (as it relates to their representation of their constituents), there are subtle differences that were illuminated by the

cluster analysis from above. The four clusters of styles, for members of Congress, that were discovered were the Party Soldier, Party Builder, Policy Specialist, and District Advocate. Based on the clustering, it would appear that certain members of Congress devote their time and resources differently, as it relates to their relationships with their constituents. Therefore, the obvious question is, how do these different styles affect the reelection efforts of the members? In the section, I explore how the representational style of a member of Congress affects the vote share they receive in the general election and whether or not they are more likely to face a quality challenger.

In the first model, an OLS model, I examine how the different styles affect the vote share that the member receives in the general election. In order to examine how the representational style affects the member's vote share, I examine the general election that occurs after the member's activities were recorded (i.e., for the member's activities that were recorded for the 101st Congress, I examine the general elections for 1990). Observing the general election that occurs after the member's activities were recorded, allows for the direct examination of how the member's style affected their electoral success, after their two years in Congress. In order to observe this relationship, I utilize general election data from 1990 through 2018 (see Jacobson and Carson (2016)). The dependent variable is the recorded two-party vote share that each member of Congress received in the election. In the second model, using a logit model, I examine how the member's representational style affect the emergence of a quality challenger. The dependent variable is coded as 1 if the challenger is a quality candidate and 0, otherwise.[44] Additionally, for both models, the main independent variable is the cluster – Party Soldier, Party Builder, Policy

[44] I utilize the coding scheme of Jacobson and Carson (2016) to determine if a challenger is a quality candidate. Basically, if a challenger has every served in an elected position, then they are considered a quality candidate.

Specialist, and District Advocate – that the member was placed into by the cluster analysis. Each member was placed exclusively into only one cluster; therefore, I can directly examine how being a part of one cluster affects the members' general election outcome. Recall, members who were placed into the Party Soldier category were more likely to score higher on the Showboating and Fundraising indices, while they were more likely to score lower on Party Giver index. Those in the Party Builder category scored highly on the Showboating and Party Giver indices. Next, those in the Policy Specialist category were more likely to score higher on the Policy Focus index. Lastly, District Advocates scored the highest on the Home Front index.

In addition to the dependent and main independent variables, I utilize a number of control variables. *Previous Incumbent Vote Share* corresponds to the vote share that the incumbent (or potentially the incumbent's party) received in the previous general election. The previous vote share of the incumbent provides useful information for how the incumbent (or their party) has been performing, which provides useful information for how they may perform in future elections. The *freshman* variable controls for whether or not the member of Congress was a freshman during the election cycle (i.e., this was their first attempt at reelection). Freshman members of Congress have not had the time to adequately establish themselves with their constituencies (Mayhew 1974; Canes-Wrone, Brady, Coogan 2002). Therefore, they may experience lower overall vote shares, either from their lack of an incumbency advantage or from quality challenges from the opposition party. Additionally, I include measures of *incumbent spending* and *challenger spending*. These measures are able to capture how well the incumbent is doing, with respect to their challenger, based on the fact that both incumbent spending and challenger spending have been shown to generally result in the challenger performing better in the election (Jacobson 1978). *Incumbent Presidential Vote* corresponds to the vote share received by the incumbent's party in the

presidential election. This variable allows for the examination of the ideological preferences of the district. I also include a measure of candidate quality. Quality candidates have been shown to perform better in general elections than their amateur counterparts (Jacobson and Kernell 1983; Jacobson 1989; Jacobson and Carson 2016); therefore if an incumbent has to face a quality challenger, this could negatively affect their vote share. Lastly, for both models, I include congressional fixed effects and robust clustered standard errors for each member of Congress, based on the fact that they may appear more than once in the data.

Member's Vote Share Model

Table 3.7 examines the vote share that members of Congress received in congressional general elections from 1990-2018. Recall, the dependent variable is the vote share that each incumbent received in the election and the main independent variable of interest in the cluster in which they were assigned by the cluster analysis. I find that the vote share for members of Congress is affected by the cluster they are a part of, their previous vote share in the general election, whether they are a freshman member, the amount of money they spend in the election, the amount of money spent by the challenger, the vote share received by presidential candidates from the incumbent's party, and by the presence of a quality challenger.[45]

[45] I estimated a F-Test to determine if the cluster variable provided any unique information to the model and fit the data well compared to the model without the variable. The p-value for the F-Test was 0.02, indicating that the model with the cluster variable fit the data better than the model without it. Therefore, it appears that the cluster variable provides useful information to the model.

Table 3.8: Examination of Member's Vote Share, 1990-2018

	Coefficient (S.E)
Party Builder	2.459
	(1.26)
Policy Specialist	0.348
	(0.442)
District Advocate	0.972*
	(0.459)
Previous Incumbent Vote Share	0.234*
	(0.015)
Freshman	1.796*
	(0.423)
Incumbent Spending	-0.359*
	(0.121)
Challenger Spending	-1.714*
	(0.142)
Incumbent Presidential Vote Share	0.422*
	(0.018)
Quality Challenger	-6.343*
	(0.311)
Intercept	32.074*
	(1.448)
R-Squared	0.463
Observations	6,253

Note: * indicates $p<0.05$. Congressional fixed effects are omitted. Standard errors are clustered on the members of Congress.

As it relates to the group that member was clustered with, the members of the District Advocate cluster is statistically significant and positively signed, indicating that these members' vote shares are increased compared to the baseline (Party Soldiers) all else equal. For District Advocates, their vote share increases 0.972 points compared to the baseline. This result makes intuitive sense. Members who spend the most amount of their resources on their districts should be rewarded with higher vote shares because they are connecting directly with their constituents. Second, members in the Party Builder and Policy Specialist clusters do not appear to have their vote shares affected based on their clustering. Next, the incumbent's previous vote share affects

their current vote share. As incumbent's previous vote share increases, their current vote share increases by 0.232 points. The freshman variable is positive and statistically significant. If an incumbent is a freshman, their vote share increases 1.796 points.

Both the incumbent spending and challenger spending variables are significant and negative. These variables provide further evidence of the negative effects of incumbent spending – a decrease of 0.359 points for every 500,000 dollars spent (for the incumbent) – and the negative effects of the challenger's spending – a decrease of 1.714 points for every 500,000 dollars spent (for the incumbent). The presidential vote share of the incumbent's party positively affects the incumbent's vote share in the congressional election. As the presidential vote for the incumbent's party increases, the incumbent's congressional vote share increases 0.422 points. Lastly, if the incumbent member faces a quality challenger, then their vote share decreases by 6.343 points. Overall, these results provide insight into the relationship between a member's representational style and the vote share that they receive in the general election. As would be expected, members who are District Advocates experience an increase in their vote share compared to the baseline.

Quality Challenger Model

Table 3.8 presents the results from the quality challenger model, which examines whether the member of Congress faced a quality challenger in their reelection bid. Recall, that the dependent variable is measured as a 1 if the challenger is a quality candidate and a 0 otherwise. The main independent variable corresponds to the cluster that the member of Congress was placed into by the clustering analysis – Party Soldier, Party Builder, Policy Specialist, or District Advocate. Additionally, I utilize the same control variables as was present above. The probability of an incumbent facing a quality candidate is related to incumbent's previous general election vote

share, the amount of money spent by both the incumbent and the challenger, and the presidential vote share received by the incumbent's party.[46]

Table 3.9: Presence of a Quality Challenger in a General Election, 1990-2018

	Coefficient (S.E)
Party Builder	-0.605
	(0.364)
Policy Specialist	-0.005
	(0.116)
District Advocate	0.205
	(0.116)
Previous Incumbent Vote Share	-0.021*
	(0.003)
Freshman	0.028
	(0.087)
Incumbent Spending	0.060*
	(0.024)
Challenger Spending	0.171*
	(0.025)
Incumbent Presidential Vote Share	-0.026*
	(0.004)
Intercept	0.935*
	(0.307)
AIC	5763.094
Log-Likelihood	-2858.546
Observations	6,253

Note: * indicates $p<0.05$. Congressional fixed effects are omitted. Standard errors are clustered on the members of Congress.

When examining the presence of a quality challenger, I find no evidence that the cluster that the member of Congress is in affects the probability of the particular member facing a quality challenger. The incumbent's previous general election vote share is negative and significant. Substantively, at the lowest level of the incumbent's previous vote share, there is around a 41

[46] I estimate a F-Test to determine if the cluster variable provided any unique information to the model and fit the data well compared to the model without the variable. The p-value for the F-Test was 0.002, indicating that the model with the cluster variable fit the data better than the model without it. Therefore, it appears that the cluster variable provides useful information to the model.

percent probability of the incumbent facing a quality candidate. Alternatively, at the highest level of the incumbent's pervious vote share, there is around a 10 percent probability of the incumbent facing a quality candidate. For incumbent spending, the probability of the incumbent facing a quality candidate moves from 15 percent to 83 percent, when moving from the minimum of incumbent spending to the maximum. Similarly, as the amount of money that a challenger spends increases, the probability of the challenger being a quality candidate increases from 15 percent to 95 percent. Lastly, the probability of a member of Congress facing a quality candidate decreases as the presidential candidate of the incumbent member's party vote share increases. Substantively, as the presidential candidates' vote share moves from its lowest to the highest, the probability of the incumbent facing a quality candidate moves from 38 percent to around 7 percent. Unfortunately, I do not find any evidence that the cluster that a member was assigned has an effect on whether or not the member faces a quality candidate, but I am able to find additional evidence to support the literature surrounding the emergence of quality candidates in congressional elections.

Conclusion

Mayhew (1974) and Fenno (1978) describe the actions and relationships that members of Congress must incorporate into their representational habits in order to effectively represent their constituents in order to gain reelection. Fenno (1978) describes the representational home styles that elected officials adopt in order to cultivate relationships with their constituents. Members utilize the relationships to garner a personal vote and a sense of trust between themselves and their constituents. There are numerous activities that members of Congress must engage in, in order to successfully represent their constituents, but my findings indicate that they do not have to be the same activities. Substantively, I build on research first pioneered by Bernhard and Sulkin (2018)

to examine a comprehensive list of representational responsibilities that members of Congress engage in throughout their congressional careers. Using k-means cluster analysis, I provide insights into how different members of Congress conduct their representational responsibilities and how their actions provide systematic evidence of their representational styles. Substantively, I have created representational "clusters" that provide information about how each member performs their representational duties. Certain members of Congress are more focused on being Party Soldiers and expend resources – these members take care to follow the party line and raise exceedingly high rates of campaign donations for themselves – in order to maintain this representational style. Similarly, certain members of Congress have spent their time crafting their legislative agendas and becoming experts in the legislative arena (i.e., Policy Specialist). Members who expend their limited resources on collecting campaign donations that can be sent back to the party, to help other during the electoral season, have a representational style that focuses on building the party. Lastly, members who expend their resources within the district are those members that have geared their representational styles to focus more on their constituents. The results provide systematic insights into the representational styles of members of Congress.

My results build on and advance the literature on congressional representation by providing a systematic view of representational habits across members of Congress. Bernhard and Sulkin (2018) provide the avenue for this type of research as it pertains to congressional representation and have allowed other researchers to build upon their work. My results provide evidence that members of Congress develop representational habits, throughout their careers, that they rely on when trying to cultivate relationships with their constituents and other members in Congress. Substantively, my results provide systematic quantitative analysis of Fenno's (1978) argument pertaining to representative home styles and bridges the gap in the literature wherein multiple

facets of representation have been analyzed separately. Methodologically, my results advanced the idea of examining representation in the aggregate across members and multiple facets of representational activities. Although, it should be noted, that there are limitations with the analysis that I conducted. Primarily, the longitudinal nature of the data needs to be taken into account to ensure that the data are accurately clustered.

Moving forward, the representational literature should consider the added benefits of examining congressional representation from an aggregate level. One area that could benefit from future studies is taking this type of research back in time and examining patterns of representation over broad measures of time (i.e., during times when polarization was not a dominant feature as it is in the modern Congress). Similarly, examining how individual members' campaign donations are affected by their representation styles and whether or not their donations come from within the district or not based on their styles could advance this research. Overall, this work had benefited from previous work on congressional representation.

CHAPTER 4

GEOGRAPHICAL OVERLAP AND THE EMERGENCE OF STRATEGIC CANDIDATES IN PRIMARY ELECTIONS, 1992-2016

ABSTRACT:

Previous research on congressional elections has examined the strategic motivations behind candidate emergence. One issue that has received little attention in the literature to date is the relationship between candidate emergence and geographic constituency overlap. To help bridge this gap, I examine how the geographical overlap between state lower and upper chamber districts with U.S. House districts affect the emergence of experienced, or "quality," challengers in congressional primary races. I calculate the geographical overlap between state lower and upper chamber districts with each U.S. House district within each state. I examine state legislator emergence in congressional primaries for every U.S. House district from 1992 to 2016 to determine if geographic overlap influences challenger emergence. My findings suggest that greater levels of geographic overlap affect state legislator emergence and ultimately vote share, raising important implications for elections and democratic representation.

The 2012 congressional elections presented a rare opportunity for potential challengers. The congressional districts had been redrawn, based on the 2010 decennial Census, and many incumbents were deciding whether or not to seek reelection. This scenario was in full effect across the nation, but no more so than in Georgia's 9th congressional district. Based on population changes stemming from the 2010 decennial Census, incumbent Tom Graves decided to seek reelection in Georgia's 14th district, which had been redrawn and now included his family's home. Once Representative Graves decided to not seek reelection in the old 9th district, this created an opening for challengers to decide to run and compete for the seat. In the 2012 congressional primary elections, there were a total of four challengers that emerged in Georgia's 9th congressional district – three Republicans and one Democrat.

The Republicans that emerged were state Representative Doug Collins, local media personality Martha Zoller, and retired school principal Roger Fitzpatrick. The sole candidate to emerge in the Democratic primary was Gainesville, Georgia lawyer Jody Cooley. On the Republican side, the vote was split evenly between Collins and Zoller with both candidates receiving roughly 41 percent of the vote, while Fitzpatrick garnered around 17 percent of the remaining vote. In the state of Georgia, if a candidate does not receive over 50 percent of the vote in a primary election, this triggers a runoff election between the two highest vote earners. As such, Collins and Zoller participated in a runoff a few months after the primary election. In the Republican runoff, Collins was able to obtain 55 percent of the vote with Zoller garnering the remaining 45 percent, resulting in Collins receiving the Republican nomination. Cooley, who ran unopposed, received the nomination for the Democratic Party. Doug Collins went on to handily defeat Jody Cooley by garnering 76 percent of the two-party vote share in the general election.

Although Doug Collins was able to secure the nomination and ultimately defeat Martha Zoller, the contest was close early on during the congressional primaries. The preceding example provides an opportunity to carefully consider the candidates' backgrounds and determine what set them apart from one another. Doug Collins was a quality challenger since he had previously served as a Georgia state legislator. Martha Zoller, by contrast, would be considered an amateur candidate since she was a local media personality and lacked any prior elective experience.[47] As such, both candidates would have a certain degree of name recognition within the district. One difference between the two, however, is that Doug Collins' state legislative district was fully encompassed in Georgia's 9th congressional district making up 5 percent of the total area of the congressional district. Therefore, Collins had both the campaign experience and higher name recognition stemming from the overlap in voters between his old state legislative district and the congressional district. Collins used his experience and strategically chose to seek election at the opportune time, which resulted in his election to the 113th Congress.

This example provides a useful illustration of Fenno's (1978) conception of a geographic constituency. If a state legislator shares a sizeable percentage of a geographic constituency with the congressional district they decide to run in, then there is an increased probability that they will be electorally successful. The intuition behind this notion is that the state legislator will already have favorable name recognition with many of the voters who overlap in both their previous state legislative district and the congressional district. This recognition also provides the basis for the following research question: *To what extent does the percentage of geographical overlap influence candidates' decisions to run in congressional primaries*? *Furthermore, once candidates have*

[47] For the purposes of this work, I utilize Jacobson's (1989) definition of a quality candidates/challengers. Any candidate that has previously held elected office is considered a quality candidate/challenger. Alternatively, any candidate that has never previously held elected office is considered an amateur candidate/challenger.

emerged, how does the level of geographical constituency overlap affect their vote share? In this article, I offer evidence that the geographical overlap of a state legislator's district with a congressional district provides an incentive for candidate entry decisions and will, ultimately, affect their overall vote share when they decide to run for higher office.

In order to evaluate my research questions, I have constructed a new data set of candidate entry decisions and geographical constituency overlap in primary elections for the U.S. House of Representatives from 1992-2016. Specifically, I examine entry decisions of state representatives and state senators during this period. I focus on state legislators because they have identifiable districts that are encompassed by U.S. congressional districts, making them readily available for analysis. From a methodological standpoint, I utilize a Heckman selection model that proceeds in two stages. The first stage is a probit model that determines if geographical overlap has an effect on candidates' decision to run for Congress. In the second stage, I employ a linear regression model in the outcome equation, to examine whether candidates with greater geographic constituency overlap perform better with respect to their primary election vote share.

This article proceeds as follows. First, I discuss the theoretical mechanism associated with candidate entry decisions and geographical overlap. I also expand on how this relationship should culminate in an increase in candidate vote share. Next, I describe the data and methods that are utilized. Lastly, I discuss the results and conclude by outlining the broader implications of my findings for how we understand congressional representation.

Strategic Candidate Emergence in Congressional Elections

Candidates, specifically quality candidates, have been shown to behave strategically when deciding when to emerge in congressional elections (Jacobson and Kernell 1983; Jacobson 1989;

Jacobson and Carson 2016).[48] Strategic candidates weigh the costs and benefits of running for higher office before they ultimately decide to run (Schlesinger 1966, Rohde 1979). Multiple factors are considered before candidates decide to run for office, including the presence of an incumbent, national level factors (i.e., presidential approval and presidential vote share within the district), local factors, economic issues, and factors relating to the individual candidate's personal ambition (Hogan 2004; Maestas et. al. 2006; Thomsen 2014). Before quality candidates decide to run, they must possess some political ambition in order to move to higher office, but before deciding to run, the candidates have already weighed the pros and cons of their actions based on the current political climate.

The strategic ambition literature posits that when the costs of emergence are outweighed by the probability of success, candidates will be more likely to run (Black 1972; Rohde 1979; Maisel and Stone 1997). Candidates for office are generally considered to be progressively ambitious (i.e., those who hope to hold a more prestigious office) but also strategic in their decisions to seek higher office (Schlesinger 1966, Rohde 1979). Rohde (1979) shows that the decision to run is the product of calculating the risks inherent in seeking a certain office, the willingness of a candidate to bear those risks, the value of the seat that is being sought, and the probability of winning that seat based on the current political environment. When the decision to run is costless, for instance, individuals will almost always seek higher office. Subsequent research has shown that such decisions often entail an opportunity or political cost, which is why individuals exhibit strategic behavior (Jacobson 1989; Carson 2005; Fulton et al. 2006).

Quality candidates will seek elective office when their probability of success is at its highest (Jacobson and Kernell 1983; Bond, Covington, and Fleisher 1985; Jacobson 1989, Maisel

[48] For information pertaining to the strategic nature of amateur candidates, see Banks and Keiweit (1989) and Canon (1990, 1993).

and Stone 1997; Maestas et al. 2006; Carson and Williamson 2018).[49] Banks and Kiewiet (1989) demonstrate that quality challengers will most likely wait until the incumbent House member exits the office (through retirement, election to a higher office, or death) before seeking to represent that district. Quality candidates have considered the costs and the benefits of running and seek to minimize the cost as much as possible. The presence of an incumbent creates the greatest cost. Incumbents are rarely defeated, in either primary or general elections, with reelection rates generally above 90 percent. Therefore, open seat contests provide an excellent strategic opportunity for quality candidates (Jacobson 1989; Squire 1989b; Gaddie and Bullock 2000; and Boatright 2014).

Similarly, quality candidates will seek higher office when both local and national level factors are advantageous to them because of the increase in the probability of success (Jacobson 1989; Stone et al. 2004; Carson 2005; Carson and Roberts 2005). Jacobson (1989) discusses the effects of national partisan tides and how when one of the parties is favored at a national level, this incentivizes copartisan quality challengers to emerge (see Thomsen 2014).[50] Similarly, it has been shown that local conditions, such as previous vote share of the incumbent, economic factors, and district-level issues will affect the overall success of a quality candidate who decides to run for office (Green and Krasno 1988; Jacobson 1989; Hogan 2004; Jacobson and Carson 2016). Ultimately, quality candidates strategically decide when they should run for higher office and situate themselves for the best possible outcome, which is receiving their party's nomination and victory in the general election.

[49] For a somewhat different perspective on the influence of quality challengers, see Born (1986).
[50] For further discussion of the effects of national partisan tides, see Jacobson (2014, 2015).

Geography and Congressional Emergence

Every elected office has a geographic region in which they are responsible for the representation of the voters that reside in that region. At present, the literature concerning geographic regions and Congress has yet to provide a systematic view over multiple election cycles. In Richard Fenno's seminal 1978 book, *Homestyle: House Members and Their Districts*, he describes how members of Congress interact with their districts and describes the importance of their four constituencies – the geographical, reelection, primary, and personal constituencies. The focus here will be on the first—the geographical constituency. This is the largest of the four constituencies defined by Fenno, and it is the one that encompasses the others. The geographical constituency determines the boundaries for the legislator, governs their reelection constituency, and directly influences their representational style.[51] Therefore, the geographical constituency would be an important factor of an emerging candidate's decision calculus.

There is a vast extant literature that explores the effects of redistricting on incumbent's overall success, which does pertain to differences in geographic overlap, but the focus of these studies is not exclusively on emergence (Ansolabehere, Synder, and Stewart 2000; Desposato and Petrocik 2003; Crespin 2005; Engstrom 2006; Carson et al. 2007; Hayes and McKee 2009; Carson, Crespin, and Williamson 2014).[52] In a similar vein, Gimpel, Lee, and Kaminski (2006), Darmofal (2006); and Gimpel, Lee, and Pearson-Merkowitz (2008) examine the geographic and spatial connectivity of campaign contributions and voter turnout in congressional elections. These studies

[51] In this instance, representational style refers to how a member of Congress interacts with their constituency. Fenno (1978) discusses how members of Congress interact differently with certain groups of people, especially when thinking about how these groups will ultimately vote.
[52] For a study that focuses on redistricting and candidate emergence, see Hetherington, Larson, and Globetti (2003).

utilize the changes in geographic overlap between districts and over donor bases, but they do not specifically model how geographic overlap affects candidate emergence.

Carson et al. (2011) and Carson et al. (2012) observe the effects of geographic overlap on candidate emergence more directly. Specifically, Carson et al. (2011) examine state legislator emergence patterns in the 2004 and 2006 general elections. They discover a relationship between geographic overlap and emergence but are unable to provide evidence of an effect on candidate vote share. Similarly, Carson et al. (2012) examine the emergence patterns of state legislators in congressional primary elections in 2004 and 2006. They once again discover an important relationship between geographic overlap and emergence, but find no evidence to support the relationship between geographic overlap and candidate success. In related work, Gimpel, Lee, and Thorpe (2011) examine the emergence patterns of statewide officials. They are primarily concerned with where candidates emerge from and provide evidence that most candidates are from urban areas (densely populated) and tend to not be from rural areas. Currently, the literature concerned with geographic overlap and candidate emergence is devoid of a more systematic investigation of this relationship.

State Legislator Entry Decisions and Geographical Overlap in Primary Elections

Fenno (1978) discusses the geographic constituency as the largest of the four concentric circles that an elected member of Congress must maintain, with other constituencies within the geographic. Within the geographic constituency, members of Congress work to cultivate their personal vote to gather as many voters as possible. Mayhew (1974) describes the "electoral connection" as the culmination of events wherein members of Congress have utilized their resources to gain a personal vote with their constituents. The electoral connection influences the ways in which members of Congress work for, and with, their constituents to ensure that they

achieve reelection. The personal vote reflects the ways that members of Congress endear themselves to their constituents in an effort to get reelected. The personal vote is thus directly related to the elected official and accounts for a subset of the votes that they receive during each election (Fiorina 1977a, 1977b; Alford and Hibbing 1981; Cain, Ferejohn, Fiorina 1987; Coates 1995; Cox and Katz 1996; Ansolabehere, Snyder, and Stewart 2000; Grimmer 2013a, 2013b).[53] Generally, elected officials utilize means that are not readily available to their voters, such as helping them cut through the bureaucracy, going door-to-door to cultivate actual relationships, and holding public meetings (Fiorina 1977a; Fenno 1978). The personal vote that elected officials develop is a part of their overall vote share that they are directly responsible for. Theoretically, this is the part of the overall vote that a new official would not possess, because they have not yet established a personal vote with the constituents. The geographic overlap between state legislative districts and congressional districts provides a unique opportunity to evaluate the personal vote that state legislators could potentially use to their advantages.

If a state legislator's district overlaps significantly with the congressional district that he or she decides to run in, the legislator should already be well known by potential voters in the corresponding congressional district. Theoretically, the candidate should have a representational advantage over other candidates, because they already are familiar to many of the constituents within the congressional district (Berkman 1994; Maisel and Stone 1997; Ansolabehere, Snyder, and Stewart 2000; Carson et al. 2011, 2012). Another way in which geographic overlap is important is by thinking about the overall terrain that is shared between the state legislative district and the congressional district. Increasing overlap between a state legislative district and a

[53] For a comparative perspective on the personal vote, see Cain, Ferejohn, and Fiorina (1984); Golden (2003); and Sugart, Valdini, and Suominen (2005).

congressional district would ensure that challenger (i.e., the state legislator) is more familiar with the actual geographic area, which implies that that the challenger would have a better sense of the economy, media markets, and the microculture that exist in the district. As Tobler (1970) set forth with his first Law of Geography, "Everything is related to everything else, but near things are more related than distant things."

Relatedly, assuming that geographic overlap corresponds with population overlap, we can assume an increase in the geographic overlap will result in many positives for both a legislator and representation.[54] For instance, an increase in geographic overlap should correspond to an increase in name recognition as a result of the overlap of the voting population, which has the potential to greatly assist a state legislator who is thinking about running for Congress (Cover and Brumberg 1982; Mann and Wolfinger 1980). Therefore, state legislators should utilize their geographic overlap with congressional districts as a strategic cue in the decision-making process when determining whether or not to emerge in a congressional primary election.

In a similar vein, state legislators want to ensure that their probability of success is high because of what they are potentially giving up by running in a congressional election. When a state legislator decides to run for higher office, it likely means giving up their current seat in the state legislature (Bianco 1984). As such, candidate emergence should be linked with probability of success. There are many indicators that potential candidates view in order to gauge their probability of success. As discussed previously, the geography that a state legislator shares with

[54] I operationalize geographic overlap by examining land-area overlap, presuming land-area overlap out to be similar to population-based overlap of constituents. For an examination of the correlation between geographic overlap and population overlap between state legislative and congressional districts, please see the methods section. I examine the geographic overlap and population overlap between state legislative and congressional districts for the 2010 decennial Census. The results suggest that the two overlaps are highly correlated and that examining geographic overlap is picking up on similar information as would be achieved by population overlaps.

the congressional district that he or she emerges in is one such indicator. Another, equally important, signal that state legislators utilize is the presence of an incumbent (Jacobson and Kernell 1983; Jacobson and Carson 2016). If there is an incumbent present in the contest, state legislators could decide against emerging in the congressional primary election (Kazee 1983; Banks and Kieweit 1989; Squire 1989b; Epstein and Semsky 1995; Box-Steffensmier 1996; Ashworth and Bueno de Mesquita 2008; Carson et al. 2012; Boatright 2014; Jacobson and Carson 2016). The cost of challenging an incumbent is high and has the potential of partisan backlash, especially if the challenger is from the same party as the incumbent. Therefore, we should see more quality challengers (i.e., state legislators) emerge in congressional primary elections when there are open seats all else equal.

Based on the strategic nature of quality challengers, state legislators should emerge in congressional primary elections when they have the greatest probability of victory. State legislators can utilize their geographic overlap between their state legislative districts and the congressional districts, in which they emerge, along with information pertaining to the presence of an incumbent to increase their probability of emergence. Similarly, they should be able to utilize this same information to enhance their potential vote share. Generally, quality candidates outperform their amateur counterparts in elections (Banks and Kieweit 1989; Jacobson 1989; Jacobson and Carson 2016). Quality challengers are able to separate themselves from amateur candidates because they have run campaigns in the past; therefore, they understand how to effectively garner votes. Similarly, state legislators have conducted campaigns in the past and should be able to utilize this information in future campaigns. If a state legislator has observed the political landscape – realize their geographical overlap with the congressional district and do not have to face an incumbent – and has decided emerge in a congressional primary, they should be able to increase their vote

shares based on the shared constituency that exists between their old state legislative district and the new congressional district.

Hypotheses

Based on the strategic emergence literature, the calculus of candidate entry hinges on the probability of success outweighing the cost. The geographic overlap that exists between a state legislator's district and the congressional district that they run in should provide insight into the probability of success. State legislators are already beholden to a percentage of the congressional district's voting pool. This signifies that state legislators have previously cultivated a personal vote with a proportion of the voters in the congressional district, which should provide them with a strategic advantage. State legislators are able to gain valuable insight into their probability of success based on their geographic overlap with the congressional district, which other candidates—both quality and non-quality—will not easily be able to obtain.[55] Therefore, if a candidate shares a greater percentage of geographic overlap with the congressional district in which they run, this should mitigate the cost of emergence and increase their probability for success. In sum, the geographical overlap of a state legislative district and a congressional district should influence emergence and overall vote share, which has led me to evaluate the following hypotheses.

Hypothesis 1: As the geographical intersection between a state legislative district and a U.S. congressional district increases, the probability that a state legislator emerges in the primary election increases, especially in the presence of an open seat.

[55] The terms "quality" and "non-quality" candidates refer to the electoral background of the candidate. All quality candidates have previous electoral experience (i.e., state legislators, judges, city council) and all non-quality or amateur candidates do not have prior elective experience. See Jacobson (1989) for further explanation.

Hypothesis 2: As the geographical intersection between a state legislative district and a U.S. congressional district increases, the percentage of the vote share won by the state legislator who emerges increases, especially in open seat races.

Why State Legislators?

As previously mentioned, I observe the geographic overlap between state legislative and congressional districts. I chose to examine state legislative districts for a number of reasons. First, state legislative districts have district boundaries that are clearly defined by each state.[56] These boundaries overlap with congressional districts and therefore share a similar constituency with the congressional district. Second, state legislators typically account for a plurality of the candidates that emerge in congressional primary elections. After all, state legislatures can be thought of as the stepping-stone to Congress given the similarities in workload. For the 115th Congress, 220 Representatives were former state legislators. Generally, the position of state legislator mirrors the activities (i.e., campaigning, writing and passing legislation, and working with an executive) that they will find at the federal level.

From 1992-2016, as noted in Table 4.1, state legislators accounted for roughly 50 percent of all quality candidates that decided to run in congressional primary elections. Similarly, state legislators accounted for over 50 percent of the quality candidates that ultimately won their primary elections, which is also shown in Table 1. The literature posits that quality challengers should perform better than their amateur counterparts, and Table 1 indicates this especially as it relates to state legislators. The percentage of successful quality candidates is high, within each group, but state legislators are more likely to emerge and then be successful than the other high

[56] Other elected officials also have defined electoral boundaries, but they are not as easily accessible in comparison to state legislative boundaries.

quality candidates. These impressive results are a result of their skill sets that were earned as state legislators.

State legislators are potentially the best-suited candidates, among all quality candidates, to run for U.S. Congress.[57] They are generally already performing similar tasks to that of their federal counterparts and are serving in many of the same representative roles as well. For instance, state legislators have clearly defined districts that they must represent in order to secure reelection. Similarly, their main responsibilities include crafting legislation that not only benefits their own constituents, but also benefit the people of their state. The correlation between the task that state legislators perform is very similar to that of members of Congress, which helps explain why so many state legislators decide to run for Congress at some point in their career.

Table 4.1: Backgrounds of Candidates Running in Primary Elections, 1992-2016

	Emergence		Winning	
Previous Elected Office	**Frequency**	**Percent**	**Frequency**	**Percent**
Treasurer	13	0.45	9	0.62
Sheriff	29	1.00	17	1.17
Alderman	21	0.72	4	0.27
State Commissioner	80	2.75	41	2.81
State's Attorney	31	1.07	18	1.24
Attorney General	5	0.17	5	0.34
Former Senator	1	0.03	0	0.00
Former House Member	83	2.86	47	3.23
Previous Incumbent	34	1.17	22	1.51
City Council Member	319	10.97	129	8.85
District Attorney	27	0.93	11	0.75
Judge	46	1.58	25	1.72
Mayor	277	9.53	117	8.03
State Wide Elected	59	2.03	38	2.61
Other Elected Office	443	15.24	225	15.44
State Legislator	1,439	49.50	749	51.41

[57] It could be argued that former members of the U.S. Congress are the best-suited candidates for election to the U.S. Congress, since they were already a part of the legislative body, but these members rarely make up a large quantity of candidates that emerge in congressional primary elections.

Data and Measurement

I have presented the theoretical justification for candidate entry decisions as related to geographic overlap between constituencies. Now, I provide the empirical evidence in support of my theoretical expectations. I created a unique data set for candidate emergence among state legislators and geographical overlap. My data consists of all state legislative districts, both lower and upper chambers, from 1992-2016.[58] The data contain all geographic overlaps between every state legislative district and congressional district from 1992-2016.[59] Similarly, the data contain specific information for every state legislator that emerged in a congressional primary during my time frame.[60] This data set allowed me access to candidate and primary election specific information, such as emergence, vote share, open seat status, primary type (rules regulating the primary process), and other district related information.

I also utilized Jacobson and Carson's (2016) general election data set, which provides valuable information related to the congressional district itself, such as presidential two-party vote and incumbent specific characteristics. Finally, I take advantage of the National Conference of State Legislatures (NCSL) and the Census Bureau's data sets, for the purposes of information related specifically to each state legislature. Ultimately, I have crafted a unique data set that allows me to gain leverage over my specific research questions relating to the effects of geographic overlap on state legislator emergence and vote share. The data that are presented here have never

[58] I have data for every state from 2002 through 2016. For the years of 1992-2000, I do not have geographic overlap information for the following states: Hawaii, Kentucky, Maine, Maryland, Minnesota, New Jersey, and Texas. There are two facets to this missing data. First, the Census bureau only has state legislative and congressional district shapefiles back to 2000 and in the year 2000 not all of the states participated. Second, GPS (Global Positioning System) was not implemented for the public until the Clinton Administration, therefore, this type of mapping did not regularly occur in earlier time periods.
[59] I obtained overlap information from shape files collected from the Census Bureau (2000-2016) and Dr. Winburn of the University of Mississippi (1992-1998).
[60] I thank Jamie Carson for sharing data on congressional primary elections for this project.

been previously collected or analyzed and allow me to take advantage of the uniqueness of the geographic overlap between state legislative and congressional districts.

As mentioned, the extant literature pertaining to the geographic constituencies is lacking a systematic approach to this research question (see Carson et al. 2011 and 2012). Therefore, I seek to expand this literature and quantitatively examine how the geographic constituency influences emergence strategy and ultimately success. In order to accurately observe the overlap between a state legislator's district and the congressional district that they ran in, I use the Census Bureau's geographical Tiger/Line Shapefiles.[61] The shapefiles draw the boundaries of each state's legislative districts in latitude and longitude depicting what the geographic boundaries of each look like on a two-dimensional map. The Census Bureau also has shapefiles of each congressional district, which also use latitude and longitude to depict the geographic boundaries similar to a two-dimensional map. To accurately measure land area overlap between state legislative districts and U.S. congressional districts, I convert the latitude and longitude coordinates to eastings and northings. Eastings and northings project coordinates in distance measures, kilometers in this case, which ensure that north-south distances are equivalent to east-west distances, which is not true for latitude and longitude.

Once the eastings and northings for both the state legislative and congressional districts are generated, I calculated the overlap between the two. To create the geographical overlap measure, I superimposed the geographic coordinates of the state legislative districts onto the congressional district. This implies that the total area of the congressional district is the denominator and the total area of the state legislative district, that overlaps the congressional district, is the numerator.[62]

[61] https://www.census.gov/geo/maps-data/data/tiger-line.html

[62] Having the congressional district as the denominator allows me to accurately assess the overlap that exists between the state legislative and congressional districts. It also allows me to know the percent of overlap that the state legislative district has with the congressional district. If I used the state legislative

Therefore, I am examining the percentage overlap of the state legislative district with the congressional district where a state legislator emerges in a primary election. With my measure of overlap, I want to evaluate how much of a constituent foothold a state legislator has in the congressional district he or she may run in. To what degree can a state legislator potentially carry his or her incumbency advantage to an election for a higher office? By seeing the percentage of a congressional district that is composed of the state legislator's existing district, we can measure the electoral foothold the state legislator has when running for Congress. I present the formula for geographical overlap below:

$$Overlap_{ij} = \frac{State\ Legislative\ District_{it} \cap Congressional\ District_{jt}}{Congressional\ District_{jt}}$$

I take the intersection of $state\ legislative\ district_i$ at time t and $congressional\ district_j$ at time *t* and divide it by $congressional\ district_j$ at time *t* to compute the overlap measure. Based on the formula from above, every state legislative district and congressional district combination is examined and the geographical overlap between the two are calculated for each election year in the data set. The unit of analysis is the individual state legislative district. Based on the overlap formula, the state legislative district can potentially have multiple overlap values depending on how many congressional districts the state legislative district overlaps. Therefore, I take the maximum overlap that exists between a state legislative and congressional district to represent the geographical overlap. From a theoretical perspective, the

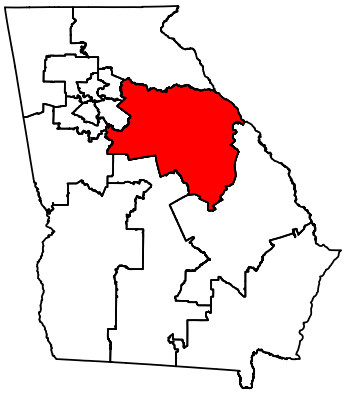
district as the denominator, I would not be able to calculate the same measure. Instead, I would be measuring how much of the congressional district overlaps with the state legislative district, which would not accurately reflect the goal of this article.

maximum overlap should send the clearest signal to a state legislator as to which House district to run in. Using the maximum overlap allows the unit of analysis, the state legislative district, to have one unique observation. Theoretically, based on a multitude of factors, a state legislator might not emerge in the congressional district that has the greatest overlap. Generally, this would occur in an instance where another strategic cue provided information to the state legislator other than purely the overlap between their state legislative district and congressional district (i.e., an open seat or a redistricting year).

Figure 4.1 illustrates this using the state of Georgia and the state's 10th congressional district. The bolded lines indicate the 14 congressional districts that are within the state. The shaded area depicts the 10th congressional district. For this particular district, there are a total of nine state senate districts that overlap with the 10th congressional district. Also, there are a total of twenty-two state house districts that overlap with the 10th congressional district.[63] Once I superimposed the state's legislative districts onto the congressional districts, I calculated the overall geographic overlap of the state's district on a congressional district. This overlap corresponds to the amount of geographical space that each state's legislative district occupies within a congressional district.

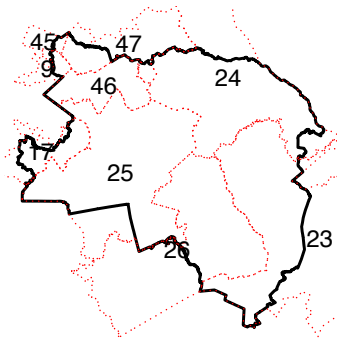
[63] The maps that are used to visually illustrate how the geographic overlap measure was calculated were created using geographic shapefiles of both geographic areas.

Figure 4.1: State of Georgia with the 10th Congressional District Highlighted for 2016



As a way to gain a useful measure of overlap for a state district, I use the maximum overlap of a state legislative district with a congressional district. For example, if a state legislative district overlaps multiple congressional districts, the overlap that corresponds to the state legislative district's maximum is used. This allows for a consistent measure across all observations and corresponds to the theoretical mechanism. Figure 4.2 provides a useful illustration of how this measure is calculated.

Figure 4.2: Georgia's 10th Congressional District with State Senate Districts for 2016



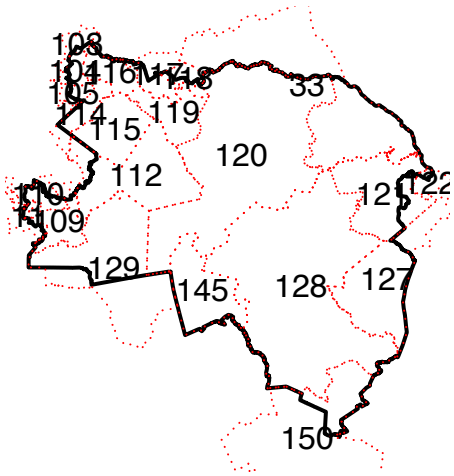
Senator	District	Overlap
Sen. Jones	25	28.00%
Sen. Stone	23	21.16%
Sen. Anderson	24	21.00%
Sen. Lucas	26	15.98%
Sen. Cowsert	46	6.49%
Sen. Strickland	17	3.45%
Sen. Ginn	47	2.79%
Sen. Martin	09	0.66%
Sen. Unterman	45	0.33%

As an example, observe Figure 4.2 from above. State Senator Jones' senate district, district 25, overlaps with congressional district 10 at 28 percent. State Senator Unterman's district, district 45, overlaps with congressional district 10 at 0.33 percent. Therefore, in the dataset, the maximum overlap for state Senator Jones would be 28 percent and correspond to congressional district 10. Alternatively, the maximum overlap for state Senator Unterman would be 23 percent and correspond to congressional district 7. This is the measure that is used for state districts that did not experience a state legislative candidate running for higher office as well as the measure in congressional district where state legislators did ultimately emerge.

Similar to the state senate districts, the state house districts are coded in the same way. Figure 4.3 displays Georgia's 10th congressional district and the 22 state house districts that overlap with it. Based on the state senate example below, Representative Jackson's district's maximum overlap is 25.18, which corresponds to Georgia's 10th congressional district. Alternatively,

Representative Barr's district maximum overlap is 3.94 percent, which corresponds to Georgia's 7th congressional district.

Figure 4.3: Georgia's 10th Congressional District with State House Districts for 2016



Representative	District	Overlap
Rep. Jackson	128	25.18%
Rep. Rhodes	120	22.00%
Rep. Belton	112	6.63%
Rep. McCall	33	6.59%
Rep. Holmes	129	6.57%
Rep. Prince	127	5.82%
Rep. Fleming	121	5.09%
Rep. Williams	145	4.78%
Rep. Williamson	115	3.64%
Rep. Hatchett	150	2.77%
Rep. Wallace	119	2.69%
Rep. Welch	110	2.00%
Rep. England	116	1.68%
Rep. Kirby	114	1.18%
Rep. Gonzalez	117	0.95%
Rep. Rutledge	109	0.72%
Rep. Efstration	104	0.58%
Rep. Frye	118	0.34%
Rep. Chandler	105	0.31%
Rep. Cauble	111	0.20%
Rep. Barr	103	0.09%
Rep. Lott	122	0.09%

The examples displayed in Figures 4.2 and 4.3 should illustrate that there are multiple district overlaps that occur for both the state senate and house districts in each state.[64] Similarly, these examples should clarify the maximum overlap measure that is calculated and used in the estimation techniques. Recall, that quality candidates are strategic when deciding when to run for office. Quality challengers run for office when the probability of success is at its greatest. To determine their probability of success, quality candidates use certain cues – open seats, weak incumbents, and national tides – to help them decide if they should risk the cost of entering into an election. The measure that I have created for the maximum geographic overlap between a state legislative district and a congressional district should serve as another cue to help potential candidates gauge their probability of success.

Data

To adequately model candidate entry decisions, I utilize many control variables that have been shown to have a theoretical impact on emergence calculus and ultimately the success of state legislators. *Open Seat* indicates whether or not the incumbent member of the House was seeking reelection. As previously discussed, quality challengers are strategic and we would expect an increase in their emergence in open seat races since they do not feature an incumbent (Jacobson 1989; Gaddie and Bullock 2000; Jacobson and Carson 2016). *Freshman* indicates if the incumbent is running for reelection for the first time. Freshman members have not fully galvanized their electoral bases and may not be able to take full advantage of the electoral connection that more senior members have previously established (Fenno 1978; Mayhew 1974). Therefore, an incumbent's freshman status might send a signal to quality challengers that they are vulnerable and potentially beatable. I also control for the partisan preferences of the congressional district as

[64] See the appendix for a different look on the overlap between state legislative and congressional districts.

well. *Lagged President Vote* refers to the presidential vote share that was received by the congressional incumbent's party in the previous presidential election. Recall, that strategic candidates emerge when national tides are in their favor. The extant literature measures national tides using presidential vote share as a proxy for the partisanship of the district (Jacobson and Carson 2016).

In light of prior work by Banks and Kiewiet (1989), we know that many candidates in primary elections will emerge even when they are from the opposite party that controls the district. We use out-party status as a way to capture this phenomenon. *Out-Party* status indicates whether or not the primary race is of the same party as the party that controls the district. This variable is coded 1 for the opposite party's primary and 0 for the incumbent party's primary. *Term Limits* indicates if a particular state imposes term limits on the state legislature. Term limits have been shown to have effects on how state legislatures operate and the turnover of its members (Carey, Niemi, and Powell 1998; Moncrief, Niemi, and Powell 2004). Therefore, state legislators that have to work within the confines of term limits might have to adjust their emergence calculus to account for this institutional difference, compared to state legislators that do not have to account for term limits.

Legislative Professionalization is a continuous measure that corresponds to the professionalism of a particular state's legislative body. Professionalism is measured by multiple factors such as length of session, number of members, whether or not the legislators are paid, along with other factors. The professionalism of a state's legislative body has differing effects on the behavior of its members (Squire 2007; 2017). State legislators that exist in states with lower levels of professionalism in their legislature should have different strategic motivations than those from states with higher levels of professionalism (Maestas et. al 2006). For example, if a state has lower

levels of professionalism, the legislators have more incentives to remain within the legislature. Alternatively, state legislators from states with higher levels of professionalism have fewer incentives to remain in the chamber and are potentially more likely to run for a House seat. Lastly, the *number of candidates* variable is a measure of the number of candidates vying for the party's nomination in a given primary.

Method

In order to adequately answer my research question, I utilize a Heckman selection model. The Heckman selection model is a two-stage model that models the selection process that exists in data where certain information is known only about a subset of the population. For instance, the degree of overlap with congressional districts and a myriad of other variables can be collected for all state legislative districts. Alternatively, information relating to how well a state legislator performed in an election for the U.S. House of Representatives is censored to only those candidates that *actually* ran in the primary elections. Why is this a problem? First, the issue is related to the fact that the data has non-random sample selection. Specifically, the data are censored in that there is only full information for those candidates that decided to run in a primary election, which creates an instance of endogeneity that needs to be taken into account. To model vote shares, in the second equation, without accounting for the fact that whether or not a state legislator runs (and is thus observed) is a strategic decision that would introduce selection bias into the results. Basically, the state legislators who do not run likely make this decision because they would do poorly in the election. If we do not account for that likely situation, then our results will be biased on account of self-selection issues. The Heckman model corrects for this by estimating a probit model in the first stage—in this case, the first stage determines whether or not geographical overlap affects the strategic emergence of state legislators. The first stage of the model predicts the likelihood of

emergence utilizing an exclusion restriction. The exclusion restriction that is normally utilized in the Heckman model is the use of one or more variables in the selection equation that does not appear in the outcome equation, which can be thought of as similar to an instrumental variable. Next, the model calculates the inverse Mills ratio for each observation in the selection equation. In the second stage of the model, the inverse Mills ratio, which was calculated in the first stage, is used as a predictor in the second stage equation, which alleviates the selection bias. Therefore, the Heckman model provides a way to examine censored data but acquire reliable estimates.

In the selection equation (the first stage of the Heckman model) I utilize the following variables to better understand a state legislator's decision to run in a primary election – Geographic overlap, Open Seat, Incumbent Presidential Vote, Term Limit, Legislative Professionalism, Freshman, and the interaction between Geographic Overlap and Open Seat. In the outcome equation (the second stage of the Heckman model) I utilize the following variables to understand how geography affects a state legislator's vote share in a primary election once they have decided to run – Geographic Overlap, the Number of Candidates, the Out-Party status of the candidate, Open Seat, and the interaction between Geographic Overlap and Open Seat.

Results

Table 4.2 reports the results of the candidate emergence and vote share model for state legislators from 1992-2016. In primary elections during this period, I find that candidate emergence is related to the geographic overlap between a state legislative district and a congressional district along with the presence of an incumbent, the presidential vote share received in the district by the incumbent's party, whether the state has term limits, the legislative professionalism of the state legislature, and the presence of a freshman incumbent. The results provide evidence in support of my first hypothesis and follow conventional theoretical norms.

Table 4.2: Heckman Selection Model of State Legislative Success in Congressional Primary Elections, 1992-2016

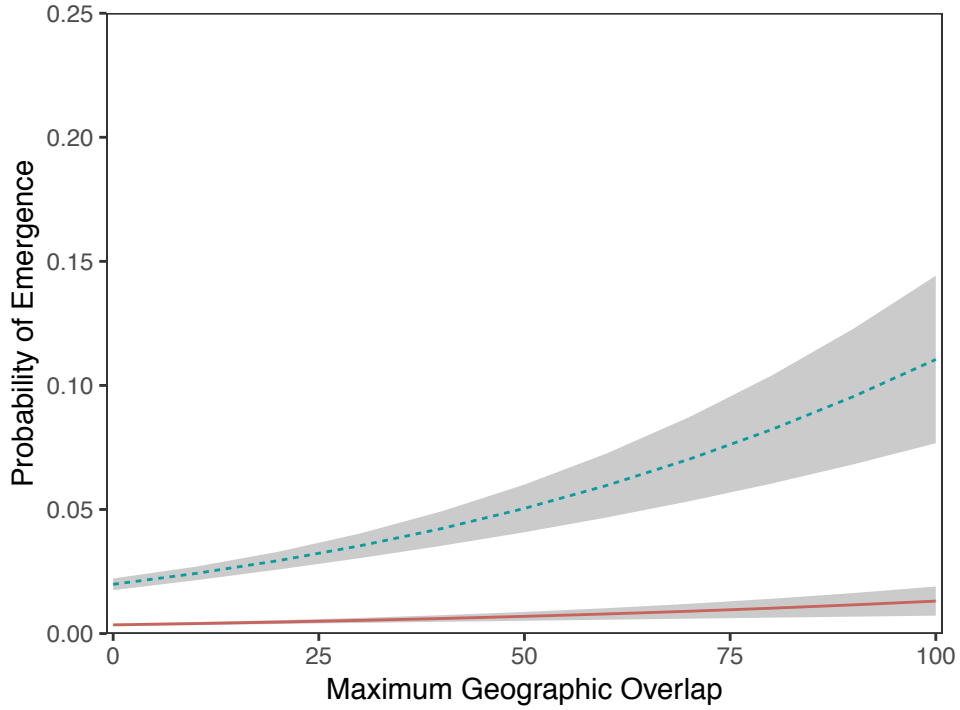
	Dependent Variable:	
	Emergence (Selection)	Vote Share (Outcome)
Geographic Overlap	**0.004**	0.008
	(0.001)	(0.052)
Number of Candidates	-	**-6.498**
		(0.240)
Out Party	-	**15.946**
		(1.422)
Open Seat	**0.641**	1.836
	(0.033)	(1.868)
Incumbent Presidential Vote	**-0.004**	-
	(0.001)	
Term Limit	**0.181**	-
	(0.026)	
Legislative Professionalism	**0.505**	-
	(0.097)	
Freshman	**1.123**	-
	(0.045)	
Overlap X Open Seat	**0.004**	**0.134**
	(0.001)	**(0.068)**
Intercept	**-2.502**	**64.154**
	(0.069)	**(5.261)**
Inverse Mills Ratio		-0.625
Sigma		20.278
Rho		-0.031
Observations	80,054	(1115 Observed)
Multiple R-Squared	0.52	

Note: *Bolded entries signify significance at p<0.05

The probability that a state legislator will decide to run for a congressional primary is dependent on the interaction between the geographical overlap between their state district and the congressional district and the presence of a congressional incumbent. Substantively, as the maximum overlap between a candidate's state legislative and congressional district increases, with no incumbent present (the blue dashed line), the probability of state legislator's choosing to run

for Congress increases all else equal. Alternatively, when an incumbent is present (the red solid line), the probability of emergence is effectively zero for all levels of geographic overlap.[65]

Figure 4.4: Probability of Emergence by Maximum Geographic Overlap and Open Seat Status



Strategic candidates rarely attempt to run for office when they will face an incumbent in an election, because their overall probabilities of success are diminished (Rohde 1979; Jacobson 1989). An open seat entices strategic candidates to run for office because their probability of success increases. These findings confirm that candidates are strategic when deciding to run for

[65] To create the predicted probabilities for this graph, I utilize the modal outcome for all dichotomous variables and the mean for all continuous variables. The modal response for Open Seat is 0, Term Limit is 0, Out Party is 0, and Freshman is 0. The mean response for Geographic Overlap is 10.28, Incumbent Presidential Vote is 58.03, and Professionalism is 0.204.

office at the primary stage and they utilize their geographical overlap between their state legislative and congressional districts as a cue to help with their entry calculus.

Alternatively, the presidential vote share received by the congressional incumbent's party in the previous presidential election decreases the probability of a state legislator deciding to run in a given election. Substantively, as the incumbent party's previous presidential vote share increases, the probability of emergence decreases. State legislators are not going to risk losing in a congressional district that does not align with their partisanship. Democratic (Republican) state legislators are going to be less likely to emerge in congressional districts that are strongly voting Republican (Democratic). The results presented here demonstrate the strategic considerations made by state legislators and provides insight into how they decide to run for higher office.

Both state term limits and legislative professionalism are positive and statistically significant. For states that have term limits, the probability of a state legislator deciding to run in a congressional primary election increases. This relationship demonstrates that if state legislators want to stay active politically, they must continue their quest of progressive ambition into the federal level. State term limits ultimately reduce state legislators' options and force them into federal congressional elections to maintain their political careers. Similarly, a state's legislative professionalism dictates the emergence calculus of state legislators. As a state's legislative professionalism increases, the probability of a state legislator emerging in a congressional primary increases. These findings are consistent with those reported by Maestas et al. (2006), in that state legislators from more professionalized legislatures are better equipped to run for higher office. For the most part, legislators from more professionalized legislatures are generally full-time legislators and this serves as their career. Many state legislators from less professionalized legislators tend to act on a part time basis and generally have other sources of income.

Lastly, if the incumbent in the congressional district is a freshman, this increases the probability of a state legislator deciding to run for office. Freshman incumbents are potentially viewed differently by potential challengers—in this case, state legislators. Freshman incumbents have yet to fully galvanize their voting support within the district and have yet to formulate a legislative record that they can campaign on with the constituents. The circumstances entice state legislators to emerge and face freshman incumbents, in the hope that they will succeed and win the general elections.

The results presented from the selection model largely match the theoretical expectations of candidate emergence. I find that geographical overlap and the presence of an incumbent, whether the state has term limits, the legislative professionalism of the state legislature, and the presence of a freshman incumbent positively affect the emergence of state legislators in congressional primary elections. Alternatively, I find that the presidential vote share received in the district by the incumbent's party negatively affects the decision-making calculus of state legislators. Overall, these results match my theoretical expectations.

Shifting to the second column of Table 1, I consider the second stage of the analysis, which is state legislators' vote shares in U.S. House primary elections from 1992-2016. I find that, in open seats, candidate vote share is related to the geographic overlap between a state legislative district and a congressional district. Similarly, being a member of the out-party positively affects the vote share of the emerging state legislator. The number of candidates in an election is going to negatively affect vote share because there are more candidates to spread it around. I find that as the number of candidates increases in a congressional primary election, the overall vote share that a state legislator receives decreases by roughly 6 percentage points. Therefore, an increase in candidates in the election negatively affects the vote share of any state legislator that emerges in

that election. If a candidate is a member of the out-party, the overall vote share that a state legislator receives increases by around 16 percentage points.

Substantively, being a member of the out-party positively influences the vote share received by emerging state legislators. Alternatively, as the overlap between a candidate's state legislative and congressional district increases, with no incumbent present, the vote share of a state legislator increases by 0.14 percentage points. Substantively, state legislators' vote shares increase based on their geographic overlap and presence of an incumbent. These results are novel in that the literature has been silent on this relationship. These results could help us better understand candidate entry patterns and election results in congressional primaries that include state legislators.

One thing to consider is how rare of an event we are discussing. For instance, from 1992-2016, there are a total of 80,054 observations (i.e. all state legislative districts for all 50 states), and there are only a total of 1,115 instances of a state legislator running. Based on the sheer number of state legislative districts that exist across all fifty states and the fact that only 435 congressional districts exist, these results represent a rare event. Also, elections are noisy events. Many different situations lead to different election outcomes, which can cause determining what affects the vote share of a candidate to be a difficult process. The results presented here are a first step in bringing clarity to this puzzle to better help us understand the factors affecting representation and candidate entry in primary elections.

A Case Study: A Comparison of Land Area and Population Overlap in 2010

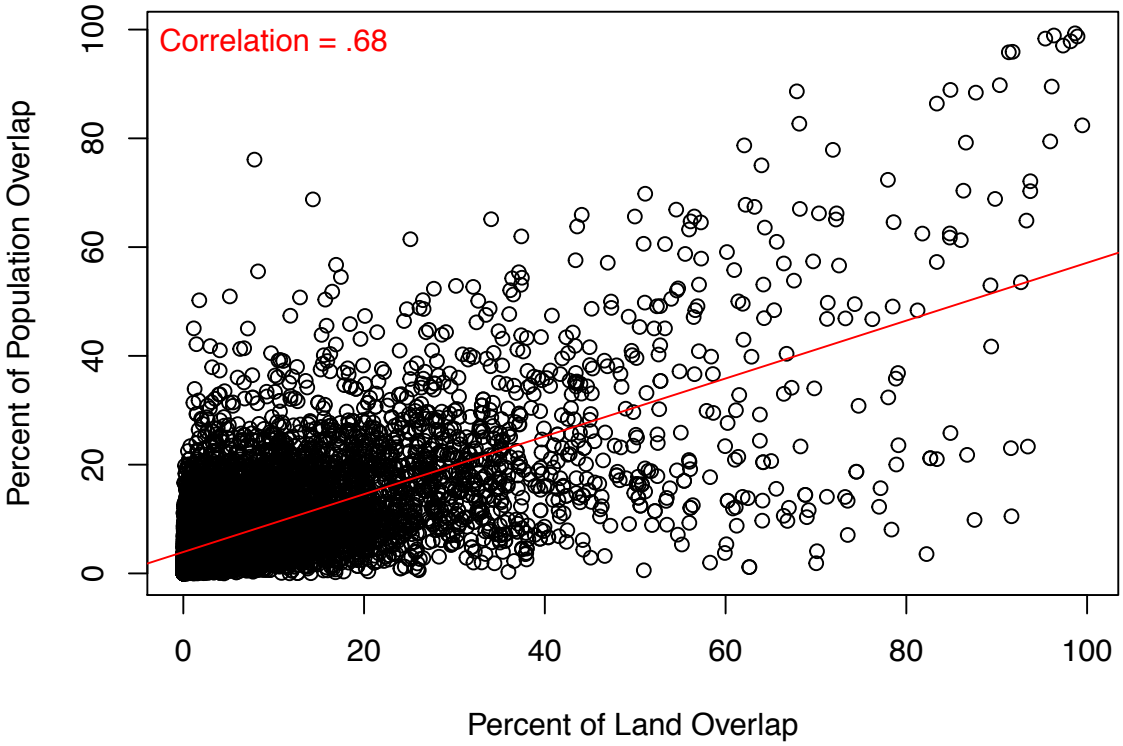
As discussed in the preceding sections above, I have been able to obtain the information to accurately construct the overlap between the state legislative and congressional districts, geographically, but I do not have access to the data that would allow me to do this for population

overlaps.[66] I do have access to the block data from the decennial Census from 2010. Therefore, I can use the decennial Census block data to compute population overlaps between state legislative and congressional districts for 2010. Using the block data from the 2010 decennial Census I was able to conduct correlation measures and a model of emergence comparison for the population and geographic overlaps.

Below I present two figures that display the correlation between the land area overlap and the population overlap between state legislative districts and congressional districts for 2010. As is the case in the previous section, I use Tiger shapefiles, which are publicly available by the Census Bureau, for the land area overlap information and the 2010 Decennial Census block-level data for the population overlap information. Figure 4.5 presents the correlation of land overlap with population overlap between all pairwise combinations of state legislative and congressional districts in 2010. In this figure, each point represents a combination of state legislative district and congressional district that shares at least some geographic space. Along the x-axis is the percentage of a congressional district's land area that is covered by a state legislative district for each state-congressional pairing that overlaps. Similarly, the y-axis depicts the percentage of a congressional district's population that is also represented in a state legislative district for each state-congressional pairing that overlaps.

[66] I am currently in on going communication with the Census Bureau for a proposal that would allow me access to the sensitive information that I need to conduct the population overlaps. This is a lengthy process, because they Census wants to do its due diligence to protect the privacy of the citizens.

Figure 4.5: Correlation Between Land and Population Overlap in 2010 for all Pairwise Combinations of State and Congressional Districts

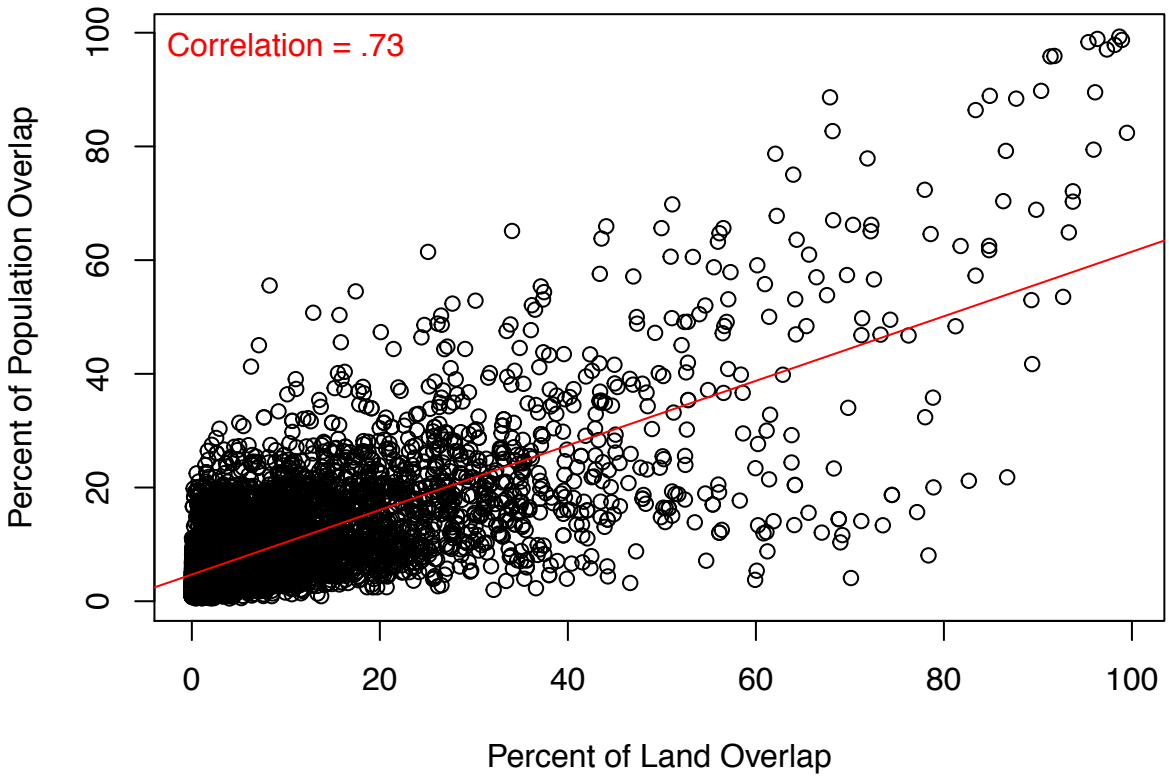


I present a fitted line (the solid red line) that demonstrates the average relationship for the data. Overall, the correlation between the two different measures is 0.68. The result fits with my expectations: On balance, land overlap does more than a respectable job of approximating population-based overlap. In general, the land overlap appears to be picking up on similar information that would be gained from the population overlaps.

As an alternative look at this, Figure 4.6 presents a more refined measure in which the unit of analysis is each state legislative district in 2010. Each state legislative district's unique score on each measure is the largest percentage overlap a state district has with any congressional district. (In other words, if a state legislative district overlaps with 3% of one congressional district and 5% of a second congressional district, it receives a score of 5%. This is the rule for either the land-based or population-based measure.) Along the x-axis is every state legislative district's maximal

land-area overlap with a congressional district. Similarly, the y-axis depicts every state legislative district's maximal population overlap with a congressional district. I present a fitted line (the linear red line) that demonstrates the fit of the data. Overall, the two different measures correlate at 0.73. The results fit with our expectations in that I see a stronger explanation when looking at maximal overlaps. When observing the unique measures of overlap (i.e., the maximum overlap for each state legislative district) the information that is conveyed by the land overlaps are an even better approximation for the population overlaps. This provides even more evidence that land overlaps are a sufficient approximation for the population overlaps.

Figure 4.6: Correlation Between Maximal Land and Population Overlap in 2010 by State Legislative District



Similar to the results from above, pertaining to the geographic overlaps, Table 4.3 provides estimates from a probit regression model that tests my hypotheses. In this model, the unit of analysis is a state legislator in the year 2010. The dependent variable is whether a state legislator decides to run for a seat in the U.S. House of Representatives. The results from the land area and population overlap models are similar in many ways, but differ in other respects. Note that the main effect of district overlap is not discernible in the land-based model, but it is for the population-based model. Meanwhile, the interaction between overlap and open seat elections is statistically significant in the land area model, but not in the population-based model.

Table 4.3: Probit Model of State Legislators' Entry in Congressional Primary Election, 2010

	Land-Based Overlap	*Population Overlap*
Overlap	-0.001	0.010*
	(0.003)	(0.004)
Open Seat	0.529*	0.542*
	(0.111)	(0.116)
Term Limits	0.273*	0.243*
	(0.087)	(0.083)
Incumbent Presidential Vote	-0.014*	-0.012*
	(0.003)	(0.003)
Professionalization	0.592	-0.158
	(0.416)	(0.446)
Freshman	7.779	-0.021
	(84.983)	(0.117)
Chamber	0.271*	0.166
	(0.091)	(0.095)
Overlap*Open Seat	0.012*	0.008
	(0.005)	(0.006)
Intercept	-1.904*	-1.811
	(0.215)	(0.208)
Observations	6,654	6,654
AIC	929.8	1062.3

Note: * signifies significance at $p<0.05$.

These have differing meanings: the land-based model implies that district overlap only matters when state legislators decide whether to run in an election without an incumbent member of Congress, but the population-based model implies that this factor is important regardless of whether an incumbent is present. Why do the results differ substantively? One possibility is that the land-based measure has measurement error so I need to turn to population-based overlap measures in general. The other possibility is that the one election year for which I can measure population overlap with public Census decennial data is unrepresentative of what normally happens. To separate this out, I need a larger sample size than I currently have. My goal is to build upon these results in future work as additional data become available.

Conclusion

I examine data on geographical overlap to gain leverage over Fenno's (1978) idea of the geographic constituency. This is the largest of the concentric circles and provides any candidate with the actual boundaries of the district they seek to represent. The results that are presented provide new insights into how the geographic constituency influences the strategic behavior of state legislators and how constituency overlap ultimately affects success. My results provide evidence that the geographic overlap between a state legislative district and the congressional district that a state legislator emerges into influences the overall decision calculus of the state legislator. I was also able to provide evidence for the claim that the geographic overlap would affect the vote share of the state legislator in the congressional primary, which is the first time such an effect has been illustrated in the congressional elections literature.

Substantively, the results presented in this paper provide insight into the relationship between representatives and their constituencies. State legislators are strategic actors that decide to run when conditions are most in their favor. This research has shown that geography plays an

important role in the conditions that are favorable for state legislative challengers. If a state legislative district overlaps at increased levels with congressional districts, state legislators are aware of the unique advantage that this provides them and utilize it to their advantage. Overall, this research has provided a unique insight into congressional representation.

Moving forward, this is a rich area of research that needs to be better fleshed out in future work. I made the assumption earlier in the paper that geographic overlap would correspond to population overlap. In future iterations, this research would benefit from data gathered on the actual population of both state legislative and congressional districts, which would allow for models of population overlap to be computed. This would further enhance the scope of the overall research question and help us further understand the effects of constituency overlap on candidate entry decisions as well as factors influencing electoral success.

CHAPTER 5

CONCLUSION

All members of Congress must adapt a representational style that allows them to gain the trust of their constituents and ultimately provide the necessary relationships that will allow the member to successfully obtain reelection (Mayhew 1974; Fenno 1978). When members of Congress are considering their reelection campaigns, they must consider the different constituencies that they will interact with in order to be successful. Recall, Fenno (1978) described the relationship that members of Congress have with four distinct constituencies – the geographic, reelection, primary, and the personal constituencies. All four of these constituencies create different challenges to members of Congress, but they also provide different benefits for them as well.

Using a collection of three essays, which pertain to congressional representation, I have been able to examine the effects of the geographic and reelection constituencies and determine how these different constituencies affect the strategic maneuvers of members of Congress. In essay one, I utilize a unique survey, which was conducted as part of the University of Georgia's module on the 2016 Cooperative Congressional Elections Study (CCES) survey. I was able to ask voters questions that pertained to the resource allocation of hypothetical members of Congress to determine if voters prefer their members of Congress to allocate resource within the district or in Washington. My findings suggest that voters would prefer, in most scenarios, that their members of Congress expend their limited resources within the district and not in Washington. I think that

this study provides important information to the congressional representation literature and gives insight into how voters perceive resource allocation from members of Congress.

Essay two, builds upon essay one, and examines the resource allocation of members of Congress to create a representational style for each member. I utilize information that is related to Member' Representational Allowances (MRAs) and other legislative information related to campaign donations, legislative activity, and overall information pertaining to the responsibilities of members of Congress. I collect information on members of Congress from the 101st through the 116th Congresses and use this information to create a representational style for each member. In order to determine the representational styles of all members of Congress, I utilize cluster analysis, which allows me to group together observations that are more similar to one another. Cluster analysis utilizes patterns in data in order to create the unique groupings. Building on Bernhard and Sulkin (2018), I examine the attributes of the clusters and determine the overall representational style that they possess. The results of this essay shed light on the representational style that members of Congress cultivate in order to successfully obtain reelection. I find that there are four distinct representational styles that are prevalent with members of Congress – Party Loyalists, Policy Pros, District Focused, and Party Builders. Each of these categories has their own attributes and are utilized different across members of Congress. Substantively, the results from this essay provide further evidence that members of Congress have representational styles that can be systematically and quantitatively examined and used to provide further insights into the actions of members of Congress.

Lastly, essay three, is focused on the geographic constituency of members of Congress. I collected unique information pertaining the geographic overlap that exists between state legislator's districts and congressional districts to determine if the overlap that exists between the

two, provides a strategic cue for potential congressional primary challengers. I find that as the geographic overlap, between state legislative and congressional district, increases the probability that a state legislator decides to run in the congressional primary increases. Similarly, I also find that as the overlap between the two districts increase, that the vote share of the state legislator also increases. Also, I provide evidence through a case study of the 2010 decennial Census, that geographic overlap is similar in nature to the results that would ultimately be present if population overlap were considered. The findings of this essay provide systematic evidence of the effect of the geographic constituency and the influence that this strategic cue provides for state legislators who are deciding whether or not to emerge in a congressional primary election.

Overall, the focus of all three essays has been to determine the effects of congressional representation on both the constituents and the members themselves. The findings have broad implications in the congressional representation literature and provide useful insights into how members of Congress utilize the resources and cues around them to try and ensure that they are representing their constituents adequately. Future research should build on these findings to provide more information regarding congressional representation as it pertains to the four distinct constituencies that Fenno (1978) describes.

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APPENDIX

CHAPTER 2

2016 CCES Questions:

Question 1: Travel/Visits

Variable Name: **UGA318A**
Variable Type: Single Choice
Variable Label: Representation
Points:
Special Instructions:

U.S. Representative Jones represents your district. He has stated that he will travel to your district and visit with voters an average number of times this year, based on the travel of the other current members of the U.S. House of Representatives. Do you agree with this approach?

1. Agree
2. Disagree
3. Don't Know

Tabulation of Responses

Response	Frequency	Percent
Agree	143	42.94
Disagree	54	16.22
Don't Know	136	40.84
Total	333	100.00

Variable Name: **UGA318B**
Variable Type: Single Choice
Variable Label: Representation
Points:
Special Instructions:

U.S. Representative Jones represents your district. He has stated that he will travel to your district and visit with voters less than the average number of times this year, based on the travel of the other current members of the U.S. House of Representatives. Do you agree with this approach?

1. Agree
2. Disagree
3. Don't Know

Tabulation of Responses

Response	Frequency	Percent
Agree	71	22.47
Disagree	121	38.29
Don't Know	124	39.24
Total	316	100.00

Variable Name: **UGA318C**
Variable Type: Single Choice
Variable Label: Representation
Points:
Special Instructions:

U.S. Representative Jones represents your district. He has stated that he will travel to your district and visit with voters more than the average number of times this year, based on the travel of the other current members of the U.S. House of Representatives. Do you agree with this approach?

1. Agree
2. Disagree
3. Don't Know

Tabulation of Responses

Response	Frequency	Percent
Agree	194	56.23
Disagree	33	9.57
Don't Know	118	34.20
Total	345	100.00

Question 2: Staff Size

Variable Name: **UGA319A**
Variable Type: Single Choice
Variable Label: Representation
Points:
Special Instructions:

U.S. Representative Smith represents your district. He has stated that he will divide his staff (people who work in his offices) evenly between your district and Washington D.C. Do you agree with this approach?

1. Agree
2. Disagree
3. Don't Know

Tabulation of Responses

Response	Frequency	Percent
Agree	184	54.44
Disagree	39	11.54
Don't Know	115	34.02
Total	338	100.00

Variable Name: **UGA319B**
Variable Type: Single Choice
Variable Label: Representation
Points:
Special Instructions:

U.S. Representative Smith represents your district. He has stated that he will allocate more of his staff (people who work in his offices) in your district versus in Washington D.C. Do you agree with this approach?

1. Agree
2. Disagree
3. Don't Know

Tabulation of Responses

Response	Frequency	Percent
Agree	189	56.93
Disagree	31	9.34
Don't Know	112	33.73
Total	332	100.00

Variable Name: **UGA319C**
Variable Type: Single Choice
Variable Label: Representation
Points:
Special Instructions:

U.S. Representative Smith represents your district. He has stated that he will allocate more of his staff (people who work in his offices) in Washington D.C. versus in your district. Do you agree with this approach?

1. Agree
2. Disagree
3. Don't Know

Tabulation of Responses

Response	Frequency	Percent
Agree	57	17.70
Disagree	144	44.72
Don't Know	121	37.58
Total	322	100.00

Question 3: Time

Variable Name: **UGA320A**
Variable Type: Single Choice
Variable Label: Representation
Points:
Special Instructions:

U.S. Representative Williams represents your district. He has stated that he will divide his time between your district and Washington D.C. evenly. Do you agree with this approach?

1. Agree
2. Disagree
3. Don't Know

Tabulation of Responses

Response	Frequency	Percent
Agree	199	57.85
Disagree	52	15.12
Don't Know	93	27.03
Total	344	100.00

Variable Name: **UGA320B**
Variable Type: Single Choice
Variable Label: Representation
Points:
Special Instructions:

U.S. Representative Williams represents your district. He has stated that he will allocate more of his time in your district versus Washington D.C. Do you agree with this approach?

1. Agree
2. Disagree
3. Don't Know

Tabulation of Responses

Response	Frequency	Percent
Agree	167	53.02
Disagree	43	13.65
Don't Know	105	33.33
Total	315	100.00

Variable Name: **UGA320C**
Variable Type: Single Choice
Variable Label: Representation
Points:
Special Instructions:

U.S. Representative Williams represents your district. He has stated that he will allocate more of his time in Washington D.C. versus in your district. Do you agree with this approach?

1. Agree
2. Disagree
3. Don't Know

Tabulation of Responses

Response	Frequency	Percent
Agree	74	22.02
Disagree	154	45.83
Don't Know	108	32.14
Total	336	100.00

Question 4: Residence

Variable Name: **UGA321A**
Variable Type: Single Choice
Variable Label: Representation
Points:
Special Instructions:

U.S. Representative Brown represents your district. He owns property in Washington D.C. and his primary residence is in Washington D.C. Do you agree with his choice of residency?

1. Agree
2. Disagree
3. Don't Know

Tabulation of Responses

Response	Frequency	Percent
Agree	58	17.16
Disagree	166	49.11
Don't Know	114	33.73
Total	338	100.00

Variable Name: **UGA321B**
Variable Type: Single Choice
Variable Label: Representation
Points:
Special Instructions:

U.S. Representative Brown represents your district. He owns property in your district and rents property in Washington D.C.; his primary residence is in your district. Do you agree with his choice of residency?

1. Agree
2. Disagree
3. Don't Know

Tabulation of Responses

Response	Frequency	Percent
Agree	210	62.50
Disagree	46	13.69
Don't Know	80	23.81
Total	336	100.00

Variable Name: **UGA321C**
Variable Type: Single Choice
Variable Label: Representation
Points:
Special Instructions:

U.S. Representative Brown represents your district. He owns property in your district and routinely sleeps in his office versus buying/renting property in Washington D.C.; his primary residence is in your district. Do you agree with his choice of residency?

1. Agree
2. Disagree
3. Don't Know

Tabulation of Responses

Response	Frequency	Percent
Agree	186	58.12
Disagree	38	11.88
Don't Know	96	30.00
Total	320	100.00

Question 5: Campaign Donations

Variable Name: **UGA322A**
Variable Type: Single Choice
Variable Label: Representation
Points:
Special Instructions:

U.S. Representative Thomas represents your district. He receives campaign donations (money that is used toward reelection efforts) equally from sources within your district and sources from outside your district. Do you agree with this approach?

1. Agree
2. Disagree
3. Don't Know

Tabulation of Responses

Response	Frequency	Percent
Agree	127	36.92
Disagree	101	29.36
Don't Know	116	33.72
Total	344	100.00

Variable Name: **UGA322B**
Variable Type: Single Choice
Variable Label: Representation
Points:
Special Instructions:

U.S. Representative Thomas represents your district. He receives the majority of his campaign donations (money that is used toward reelection efforts) from sources within your district. Do you agree with this approach?

1. Agree
2. Disagree
3. Don't Know

Tabulation of Responses

Response	Frequency	Percent
Agree	196	62.82
Disagree	32	10.26
Don't Know	84	26.92
Total	312	100.00

Variable Name: **UGA322C**
Variable Type: Single Choice
Variable Label: Representation
Points:
Special Instructions:

U.S. Representative Thomas represents your district. He receives the majority of his campaign donations (money that is used toward reelection efforts) from sources outside of your district. Do you agree with this approach?

1. Agree
2. Disagree
3. Don't Know

Tabulation of Responses

Response	Frequency	Percent
Agree	51	15.22
Disagree	175	52.24
Don't Know	109	32.54
Total	335	100.00

CHAPTER 3

Email to Member of Congress

Representative "insert name here":

Hello, my name is Jason Byers and I am currently a Ph.D. candidate in the Department of Political Science at the University of Georgia. I am currently working on my dissertation, which is concerned with representation in Congress, under the direction of Principal Investigator Dr. Jamie Carson. I was hoping to ask you a few questions about your representational "home style." All of my questions deal exclusively with representational information and will help me as I learn about members of Congress's different representational styles. Specifically, I am interested in understanding the relationship between members of Congress' resource allocation and the ultimate goal of reelection. None of this information is sensitive, as everything should be considered public record. The questionnaire is attached to this e-mail and should not take you longer than 15 minutes to complete. Please answer the questions to the best of your ability with your best estimates of actual number or percentages, as requested. If you have any questions or concerns, feel free to contact me. Thank you for taking the time to answer my questions. Below the signature line I have pasted some important procedural information about this study, which I ask you to review before completing this brief survey.

Thank you,

Jason Byers

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Jason S. Byers

Ph.D. Candidate

Department of Political Science

University of Georgia

byersjs@uga.edu

jasonsbyers.com

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IMPORTANT STUDY INFORMATION

Consent:

If you agree to answer the questions from the questionnaire and reply to my initial e-mail correspondence, you are agreeing that you have given the researcher (Jason S. Byers) access to this information voluntarily. You may refuse to participate or withdraw at any time. You are also agreeing to be a part of this research by completing the questionnaire. I do not anticipate any risk to you associated with this research. The broad benefit associated with this research is the potential to show if representatives are responsive to their constituents and indicate how different representational styles, through the allocation of resources, affect reelection efforts.

Additional Information:

University of Georgia Institutional Review Board number:

Representative "insert name" will not be named directly in the data collection process or in written form in the dissertation or future published work. The only identifiable information that will be maintained is the state and district of each member of Congress (i.e. AL01 or 0101). **NO** identification information that is collected will be released publicly. The identification information that is obtained will only be used by the researcher. The only way in which Representative "insert name" will be referred to in this research will be discussing how the data was obtained (i.e. "I received this data from the help of members of the 114th Congress").

If you have any questions about this research, please do not hesitate to contact me directly either by email at byersjs@uga.edu. You may also contact the Principal Investigator at carson@uga.edu for more information relating to this research study.

If you have any questions about your rights as a research participant, please contact the University of Georgia IRB Chairperson at irb@uga.edu or 706-542-3199.

If you are not interested in participating in this research study for any reason, please respond to this email and indicate your preference and we will not contact you any further.

Questions to the Representative

Representational Questions:

1. How many trips did you take back to your district in 2015 and 2016, each?

2. What percentage of time do you spend in Washington D.C. relative to the district?

3. How do you divide your congressional staff between Washington D.C. and the district? Please include the number of staffers in each place if possible.

4. Where is your primary residence since being elected to Congress, in Washington D.C. or the district? Does you own/rent any property in Washington D.C.? Do you own/rent any property in your district?

5. What percent of your campaign donations would you say come from sources within your district, as opposed to sources outside the district?

6. How often do constituents contact your offices for help? Specifically, what is the average amount each year (i.e. number of e-mails a year)? What percentage of these contacts go to the district office(s), as opposed to Washington D.C.?

Email to Chief of Staff

“insert name of chief of staff”:

Hello, my name is Jason Byers and I am currently a Ph.D. candidate in the Department of Political Science at the University of Georgia. I am currently working on my dissertation, which is concerned with representation in Congress, under the direction of Principal Investigator Dr. Jamie Carson. I was hoping to ask you a few questions about the representational “home style" of Representative “insert name”. All of my questions deal exclusively with representational information and will help me as I learn about members of Congress's different representational styles. Specifically, I am interested in understanding the relationship between members of Congress’ resource allocation and the ultimate goal of reelection. None of this information is sensitive, as everything should be considered public record. The questionnaire is attached to this e-mail and should not take you longer than 15 minutes to complete. Please answer the questions to the best of your ability with your best estimates of actual numbers or percentages, as requested. If you have any questions or concerns, feel free to contact me. Thank you for taking the time to answer my questions. Below the signature line I have pasted some important procedural information about this study, which I ask you to review before completing this brief survey.

Thank you,

Jason Byers

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Jason S. Byers

Ph.D. Candidate

Department of Political Science

University of Georgia

byersjs@uga.edu

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IMPORTANT STUDY INFORMATION

Consent:

If you agree to answer the questions from the questionnaire and reply to my initial e-mail correspondence, you are agreeing that you have given the researcher (Jason S. Byers) access to this information voluntarily. You may refuse to participate or withdraw at any time. You are also agreeing to be apart of this research by completing the questionnaire. I do not anticipate any risk to you or Representative "insert name here" associated with this research. The broad benefit associated with this research is the potential to show if representatives are responsive to their constituents and indicate how different representational styles, through the allocation of resources, affect reelection efforts.

Additional Information:

University of Georgia Institutional Review Board number:

Representative “insert name” will not be named directly in the data collection process or in written form in the dissertation or future published work. The only identifiable information that will be maintained is the state and district of each member of Congress (i.e. AL01 or 0101). **NO** identification information that is collected will be released publicly. The identification information that is obtained will only be used by the researcher. “Insert name of chief of staff” will not be named directly or indirectly in the data collection process or in written form in the dissertation or future published work. The only way in which “insert chief of staff” will be referred to in the research will be when discussing how the data was obtained (i.e. “I received this data from the help of congressional member’s chiefs of staff”).

If you have any questions about this research, please do not hesitate to contact me directly either by email at byersjs@uga.edu. You may also contact the Principal Investigator at carson@uga.edu for more information relating to this research study.

If you have any questions about your rights as a research participant, please contact the University of Georgia IRB Chairperson at irb@uga.edu or 706-542-3199.

If you are not interested in participating in this research study for any reason, please respond to this email and indicate your preference and we will not contact you any further.

Questions to Chief of Staff

Representational Questions:

1. How many trips did your member take back to his/her district in 2015 and 2016, each?

2. What percentage of time does the member spend in Washington D.C. relative to the district?

3. How does the member divide his/her congressional staff between Washington D.C. and the district? Please include the number of staffers in each place if possible.

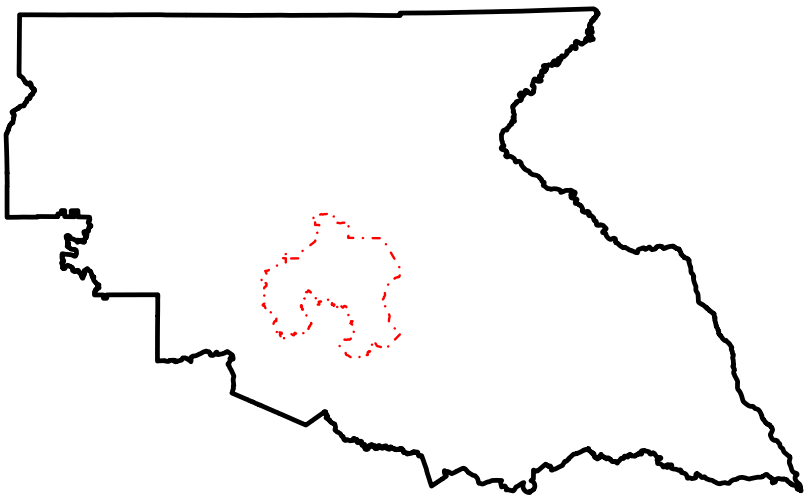
4. Where is the member's primary residence since being elected to Congress, in Washington D.C. or the district? Does the member own/rent any property in Washington D.C.? Does the member own/rent any property in their district?

5. What percent of the member's campaign donations would you say come from sources within his or her district, as opposed to sources outside the district?

6. How often do constituents contact the member's offices for help? Specifically, what is the average amount each year (i.e. number of e-mails a year)? What percentage of these contacts go to the district office(s), as opposed to Washington D.C.?

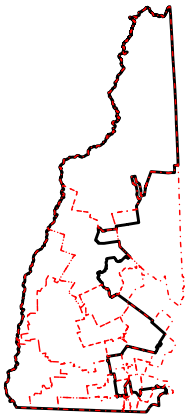
CHAPTER 4

Below is a depiction of Representative Doug Collins' state legislative district and the overlap that existed between it and the congressional district that he emerged into in 2012.

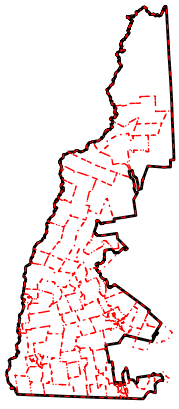


Below is a depiction of New Hampshire's 2nd congressional district and the overlap that exists between the state senate and state house districts and the congressional district for 2016.

State Senate:

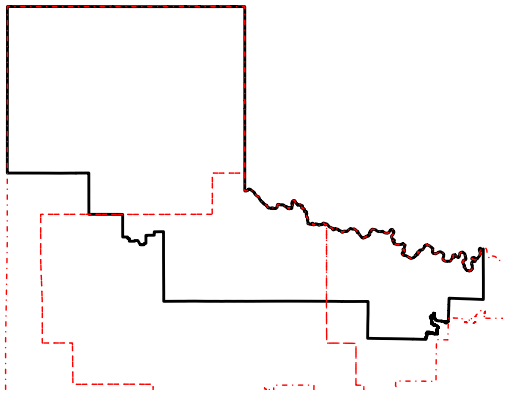


State House:

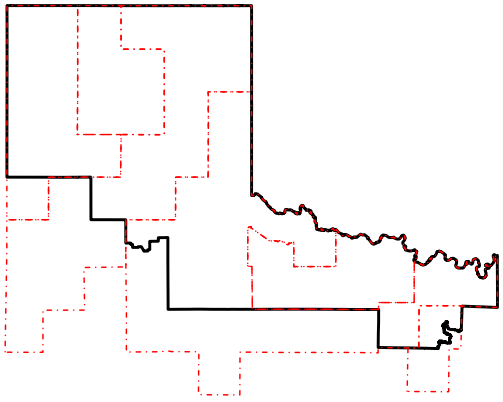


Below is a depiction of Texas' 13th congressional district and the overlap that exists between the state senate and state house districts and the congressional district for 2016.

State Senate:



State House:



Below is an ordinary probit model to provide insight into the Heckman model from this chapter. The results are very similar to those presented in the Heckman model from Chapter 4.

	Candidate Emergence
Geographic Overlap	0.004*
	(0.001)
Open Seat	0.641*
	(0.033)
Term Limits	0.181*
	(0.026)
Incumbent Presidential Vote	-0.004*
	(0.001)
Professionalization	0.505*
	(0.097)
Freshman	1.123*
	(0.045)
Overlap*Open Seat	0.004*
	(0.001)
Intercept	-2.501*
	(0.069)
Observations	80,054
AIC	10490.15
Log-Likelihood	-5237.07

Note: * indicate $p<0.05$

Below is an ordinary OLS model to provide insight into the Heckman model from this chapter. The results are very similar to those presented in the Heckman model from Chapter 4.

	Candidate Vote Share
Geographic Overlap	0.012
	(0.051)
Open Seat	2.041
	(1.777)
Number of Candidates	-6.491*
	(0.240)
Out Party	16.034*
	(1.403)
Overlap*Open Seat	0.137*
	(0.067)
Intercept	-2.501*
	(0.069)
Observations	1,115
R-Squared	0.52

Note: * indicate $p<0.05$