

THREE ESSAYS ON POLITICAL
POLARIZATION IN THE UNITED STATES

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HYOJONG AHN

Dr. James W. Endersby, Dissertation Supervisor

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The undersigned, appointed by the dean of the Graduate School,
Have examined the dissertation entitled

**THREE ESSAYS ON POLITICAL
POLARIZATION IN THE UNITED STATES**

Presented by Hyojong Ahn

A Candidate for the degree of Doctor of Philosophy,

And hereby certify that, in their opinion, it is worthy of acceptance

Professor James W. Endersby

Professor Jay K. Dow

Professor Jake Haselswerdt

Professor Jeffrey Milyo

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THREE ESSAYS ON POLITICAL POLARIZATION IN THE UNITED STATES

Hyojong Ahn

Dr. James W. Endersby, Dissertation Supervisor

ABSTRACT

Is the United States polarized? In order to address this question, this dissertation explores three dimensions of political polarization. Three related, but independent, essays on political polarization provide information on questions concerning polarization,

First, the studies on polarization themselves appear to be polarized. Chapter 2 focused on reviewing past studies on polarization. Still, one side argues that American citizens are severely polarized, while the other side argues that polarization is an illusion (Abramowitz and Saunders 2008; Abramowitz 2010; Fiorina 2014, 2017; Mason 2016). A sample is carefully chosen from the sociological and political science SCIMAGO rankings. Since almost all measures of polarization used in earlier works can be classified as a single type of polarization, all measures of polarization are coded into four types: issue consistency, issue divergence, affective polarization, and perceived polarization. Based on the systematic review and meta-analysis in Chapter 2, no strong evidence supports the idea of a "polarized America." One interesting finding is that the majority of the studies that produced significant results used ANES data, with a secondary group using the GSS. While there are many differences between the two surveys, the key distinction is the timing of the field surveys.

Second, Chapter 3 begins with the premise that political interests will be deeply related to political action, and so will political polarization. For example, recent studies present evidence that political interest can vary depending on the political context (Prior and Bougher 2018). Political interest also ebbs and flows with politically salient events, especially federal elections. In Chapter 3, the focus is whether polarization is a stable characteristic of the electorate, like political interest or partisanship. Previous scholarship emphasizes the "situational" characteristics of interest for change and adaptation to a new environment as opposed to the "static" characteristics of interest (Featherman et al. 1994; Prior and Bougher 2018). Therefore, the research question centers on political polarization, as under the same presumption, the degree of political polarization within the general public is influenced by political interest and electoral circumstance.

Using data from two nationally representative surveys, the ANES and the GSS, the level of issue polarization increases similarly in both sets of data, but the patterns of sorting are different. The level of sorting in the ANES fluctuates, whereas instability shows a more dramatic increase in the GSS. In contrast, the overall level of sorting in the ANES is higher than in the GSS. Thus, the difference in the level of polarization between two surveys comes from the timing of the surveys. While the ANES is typically conducted from August to December in the midst of the election campaign, the GSS is typically conducted from February to May. Since the GSS and the ANES surveys do not conduct surveys in non-election years, it is difficult to isolate the effect of elections on the level of polarization. The Pew Research Center conducts annual political polls. Using Pew political surveys, I investigated the difference in the level of polarization between election years and non-election years and between presidential elections and midterm elections. The findings demonstrate that the timing of a survey

has a significant effect on the level of polarization (i.e., sorting) in general. This finding suggests that elections are a key determinant of the intensity of the level of polarization, partisan strength, and political views. The level of polarization, like measures of political interest and party affiliation, is not stable. There are fluctuations in the level of polarization that are associated with points in time within the electoral cycle, and citizens are more likely to show more polarized attitudes as a function of the proximity of an election.

Chapter 4 focused on the level of polarization at the state level. Studies of polarization have received more attention at the national level due to the difficulty of collecting enough samples. The CCES provides enough samples of between 30,000 and 50,000 individuals every year to make it possible to examine the state level of polarization. In particular, Chapter 4 investigates the relationship between state swing in a presidential election and state polarization. The fourth chapter examined the potential relationship between the phenomenon of state swing or state competitiveness in presidential elections and the state's level of polarization. By concentrating on sorting, the connection between polarization at the state level and swing states, including those that are competitive in presidential elections, is analyzed. Swing states should have more polarization than safe states like California and Texas. Using an independent sample t-test, the degree of polarization between swing states and safe states is significantly different.

The effects of polarization on the potential for state swing, or the likelihood that the state will be competitive in presidential elections, are examined. Sorting has a sizable magnitude and significant impact on the probability that a state will change its support in presidential elections, using a logistic model. States are more likely to change

their support in presidential elections as the degree of polarization within those states rises or falls.

The impact of partisan composition within a state is one of the chapter's more intriguing findings. The findings show that a more balanced partisan composition within a state increases the likelihood of switching support from one party candidate to another in presidential elections and makes the state's presidential elections more competitive. In addition, possible connections might exist between a swing state and a person's degree of polarization. Using the same four categories of swing states, there might be differences in which groups of citizens are more likely to be polarized than others, depending on the state in which they live and the circumstances surrounding the state election. Based on an OLS model, mixed results were obtained regarding the prediction of the impact of the state's electoral circumstances (competition, TV ad spending, and campaign events) and the swing experience on the degree of polarization.

The three essays on political polarization in the United States suggest several implications. First, based on meta-analysis in chapters 2 and 3, I concluded that Americans are still not polarized as Fiorina (2018) recently contended. While some types of polarization are, arguably, on the rise and pervasive in the mass public, scholarly findings still do not reach a consensus. It is too early to conclude that the United States is polarized. One of the most challenging aspects of previous and recent research on polarization is that it is almost entirely based on survey data collected in the midst of presidential or midterm elections (i.e., the ANES, the GSS). The campaign season accentuates partisan polarization for the average citizen in a way other times do not. The findings in Chapter 3 follow this notion and suggest that the level of polarization among the mass public can be influenced by external factors such as electoral circumstances. Future research should evaluate the reasons behind each type

of polarization and how the political circumstances and the survey instrument may influence measures of political polarization. Also, it should be examined how these conditions affect different political outcomes.

Second, scholars should be careful when evaluating polarization at the sub-national level, as shown in Chapter 4. It is easy to conflate the concepts of geographical polarization and state polarization. There are two distinct ideas here. This dissertation shed some light on the distinction between state-level and geographic polarization. It also contributed to clarifying the difference between the state-level concept of polarization and the national one.

In conclusion, polarization is a complex concept that demands careful discussion. This dissertation presents several original perspectives and ideas that will be helpful for future studies on political polarization in the United States and other democratic societies.

Chapter 1

Introduction

Research on political polarization is the one of the most studied areas in American Politics, and the debate over polarization still seems polarized itself. Some argue that the public is polarized (Abramowitz and Saunders 2008; Pew Research 2014; Iyengar and Westwood 2014; Lelkes 2016). Others question the level of polarization (Fiorina 2014, 2017; Dickinson 2015; Mason 2015).

Much of the debate over mass polarization in the United States results from varied definitions and measures of a perceived ideological divide. For example, Pew Research (2014) uses ideological consistency as a measure of political polarization, while others define it as ideological divergence. Many scholars apply different terms and measures to evaluate mass polarization in the United States, such as ideological polarization (Abramowitz and Saunders 2005, 2008; Abramowitz 2010), affective polarization (Abramowitz and Saunders 1998; Bartels 2000; Hetherington 2001; Bafumi and Shapiro 2009; Haidt and Hetherington 2012; Iyengar, Sood, and Lelkes 2012; Iyengar and Westwood 2015; Mason 2015) and perceived ideological polarization (Hetherington 2008; Lachat 2008; Ahler 2014; Van Boven, Judd, and Sherman 2012; Levendusky and Malhotra 2015; Westfall et al. 2015).

While research on mass polarization has focused on whether the polarization exists in the electorate relative to in the past (Bartels 2000; Fiorina 2002; Fiorina and Abrams 2008), recent works have extended research areas into its causes (McCarthy, et al. 2006; McGhee, et al. 2014; Bafumi and Herron 2010), consequences (Binder 1999; McCarty, Poole and Rosenthal 2006; Galston and Nivola 2006; Bartels 2016; Nall 2015)

and other types of polarization (Iyengar, Sood and Lelkes 2012; Abramowitz and Webster 2016; Levendusky 2017).

Despite an extensive literature spanning the last two decades, there has been inconsistency within attempts to define polarization. DiMaggio, Evans, and Bryson (1996, 693) define it as follows: “Polarization is both a state and a process. Polarization as a state refers to the extent to which opinions on an issue are opposed in relation to some theoretical maximum. Polarization as a process refers to the increase in such opposition over time.” Schaffner (2011) simply defines polarization as ideological gap between the Democratic and Republican Parties or the public. Persily (2015) provides a more detailed definition of polarization. According to Persily (2015, 4), we need to consider two characteristics that fall within the notion of polarization. Those are “coherence” and “divergence.” “Coherence” refers to ideological convergence within the party and in turn, “divergence” indicates ideological difference between parties. For him, polarization can occur only simultaneously when coherence and divergence coexist within a polity. Iyengar and Westwood (2015) use a somewhat different conception of polarization. What they term “affective polarization” describes “the tendency of people identifying as Republicans or Democrats to view out-partisans negatively and in-partisans positively” (691). Another perspective on political polarization is the value-oriented approach of Jacoby (2014). Values can affect how citizens view the political world. For instance, while Republicans and conservatives are more likely to emphasize morality, patriotism, and social order, Democrats and liberals tends to stress the values of economic security, equality, and freedom (767-768). Jacoby emphasizes the inherent differences between Republicans and Democrats in how they see and evaluate political arena based on primary values. Debates over whether mass

polarization exists are triggered by how to define polarization, because defining polarization links to how to measure it operationally.

Measuring polarization in the electorate are not easy. In general, and most frequently, the level of polarization in the electorate is measured by the self-reported issue position in the survey analyzed, e.g., the American National Election Studies (ANES). For example, in order to measure ideological polarization among the American public, Abramowitz and Saunders (2008) used a 7-point scale based on responses to 16 issues in the ANES survey. However, many scholars have used the same sources to measure polarization in the public based on responses to single question (Abramowitz and Saunders 1998, 2005; Fiorina and Levendusky 2006; Fiorina, Abrams and Pope 2008, 2011). In this dissertation, mass polarization and the various measurement techniques are reexamined. This design, it should be noted, is distinct from studying polarization among elites. The focus here is on the strength of political divisions among members of the general public.

This dissertation is built around three related but independent essays. First, in lieu of a traditional literature review, in chapter 2, I conduct a systematic literature review on polarization in the mass public. Systematic reviews are “a specific methodology that locates existing studies, selects and evaluates contributions, analyzes and synthesizes data, and reports the evidence in such a way that allows reasonably clear conclusions to be reached about what is known and what is not known” (Denyer and Tranfield, 2009: 672). I assess the available empirical evidence to explore mass polarization in the public. I also investigate the sources of heterogeneity in published results. Why do studies report such seemingly divergent or contradictory results? Is the heterogeneity of previous studies a result of the research design process or a characteristic of the different methodologies? Previous studies have mostly struggled

with different definition and measurement of polarization. The diverse perspective and methods employed within the previous research makes understanding controversial debates difficult. On the other hand, an extensive growth of and methodological sophistication within polarization research enable us to study the discussion of mass polarization and to make a more comprehensive and reliable evaluation of this literature.

Second, I assume that trends for of mass polarization are not static one. Chapter 3 begins with the premise that the degree of polarization varies with the level of political interest. As many scholars have revealed, political interest is one of the more powerful predictors of political behavior. Politically interested people are more knowledgeable about politics, more likely to vote, and more likely to participate in politics in other ways (e.g., Delli Carpini and Keeter 1996; Powell 1986; Verba, Schlozman, and Brady 1995). However, political interest also has the ebb and flow by the politically salient events, especially federal elections. Conover, et al. (2011) examine the patterns of increasing political communication among the public as approaching a mid-term election. In relation to polarization, Mejova et al. (2014) find that there is a significant correlation between controversial issues and the use of “biased language” and negative feelings towards opposing opinion. Thus, in chapter 3, I examine the fluctuation of trends in polarization within the mass public. This analysis shows that the magnitude of political interest on part of the public may change the public’s level of polarization. To address this question, I use traditional survey data sources to compare the level of polarization between election years and non-election years. I also examine differences in polarization between mid-term election years and presidential election years.

Third, in chapter 4, I look into the possible connection between state swing in presidential elections and polarization at the state level. At the subnational level, political polarization has received less attention than it has at the national level, which

has undergone extensive research and examination. A few studies have, to date, focused on polarization at the state level. For the most part, it may be difficult to study the state level of mass political polarization due to the limited data availability (due to small sample size and the lack of high-quality samples). State-level polarization is not really covered in previous research on political polarization at the state level. Those studies, which are concerned primarily with geographical polarization, show more counties in the United States continue to favor one party over another as a result of partisan voters moving from one location to another where people vote similarly (Johnston, Manley, and Jones 2016; Johnston et al. 2020; Wing and Walker 2010). Although these studies refer to their focus as state polarization, strictly speaking, this is more akin to a group of voters who skew to a particular party orientation or political segregation than state polarization. Nevertheless, state polarization remains an important subject for analysis as federal representation, in both Congress and the presidency, as noted above, rises from the states.

Considering most polarization measurements postulate a bimodal form of ideological distribution or issue preference among the mass public, existing state-polarization research is difficult to see as a true form of state polarization. Many academics who have researched state level polarization find it challenging to differentiate between national and state level polarization. At the national level, polarization refers to a tension in which citizens are split along two-party lines or a circumstance in which the proportion of Americans who adhere to ideological extremes and has increased over time (Fiorina, Abrams, and Pope 2011; Lelkes 2016). On the other hand, the term "state polarization" is typically used when one state, like California or Texas, becomes increasingly dominated by one party over another (Johnston, Manley, and Jones 2016; Johnston et al. 2020). Therefore, in chapter 4, I suggest that state

polarization should be assessed using the same metrics as national polarization. Using new metrics to measure of state polarization, I investigate the possible relationship between swing phenomenon including competitiveness in presidential elections within a state.

A final section, Chapter 5 discusses and draws conclusions from these three empirical chapters. All three empirical chapters focus on the research questions of what we mean by polarization theoretically and, in particular, empirically.

Chapter 2

A Systematic Review of Mass Polarization

In recent years, there has been much scholarly effort to reveal whether polarization at the mass level exists or not. It is generally accepted that polarization at the elite level has grown over the last four decades (McCarthy, Poole, and Rosenthal 2006; Stonecash, Brewer, and Marianai 2003 Theriault 2008). On the contrary, there is not much agreement about the concept of “the polarized America” on the electorate level (McCarthy, et al. 2006). While many political scientists reach a consensus on the existence of polarization in political institutions (e.g. parties, legislatures and its members), no one can clearly demonstrate that U.S. citizen’s political views are increasingly polarized or that they have been “deeply” divided into two groups based on divergent political views (Fiorina 2016; Lelkes 2016). Conventional wisdom among political scientists and political pundits holds that political and social polarization has increased since the 1980s (McCarthy et al. 2006; Abramowitz and Saunders 2005, 2008; Abramowitz 2010). The Pew Research (2014) argues that “Republicans and Democrats are more divided along ideological lines ... than at any point in the last two decades” (p.6). However, others disagree that findings such as Pew’s are the sign of a polarization at the mass level (Fiorina 2014; Dickinson 2015).

Much of the disagreement comes down to varied measures and definitions. Broadly, nine measures of political polarization are used in previous research. Regardless of the type of polarization, existing studies do not draw definitive conclusions about whether polarization exists or does not exist in the United States at the mass level.

The most prominent works involve disagreements between Abramowitz and

Saunders (2008, 2010) on one side, and Fiorina, Abrams, Pope, and Levendusky (e.g., Fiorina, Abrams, and Pope 2005; Fiorina and Levendusky 2006; Fiorina and Abrams 2008; Fiorina, Abrams and Pope 2008) on the other. The formers believe that the United States is undergoing a “culture war,” and the latter argue that these claims are more exaggerated than real. Because the two groups define polarization differently, the debate seems to go around in circles. To put it simply, the formers define polarization as divergence or the degree to which the distribution of ideology has moved apart. The latter define it as alignment, which refers to the degree to which party identity matches ideology.

The accepted dogma by political observers is that there is a growing level of political polarization among the general public. An open question that remains is disagreement over the degree of polarization (small or big), polarization by policy types (minimal or substantial), and the types of electorates. For this reason, Lelkes(2016) argues that the level of polarization should be differentiated by the types of polarization. Besides debate over policy types, Iyengar et al. (2012) argue that policy or ideology-based division is not the best way to define polarization. They suggest that the indicator of mass polarization can also be measured by the degree of how partisans view each other. In other words, an individual’s orientation toward members of in-and-out parties is the one of indicators to measure of polarization. Furthermore, several scholars link electoral outcomes to evidence of polarization arguing that electorates between red and blue states have different opinion (Abramowitz and Saunders 2008; Bafumi and Shapiro 2009; Kohut et al. 2000). Most prominently, Abramowitz and Saunders (2005) contend that “red-state voters and blue-state voters differ fairly dramatically in their social characteristics and political beliefs” (p. 19).

Thus, a lot of manifestations and types of polarization introduced by a plethora

of scholars lead to confusion about which characteristics of the electorate define polarization and which types of polarization represent current state of American politics. Also, the increasing complexity of the measures and different types of polarization asks us to launch a more comprehensive and reliable assessment of the existence of polarization in the mass public than earlier studies. To find out current situation of research on political polarization in the U.S., this chapter employs the method of systematic literature review.

Systematic reviews are particularly valuable as a means of reviewing all the evidence on a question if there is some uncertainty about the answer (Dacombe 2018). This is a methodology frequently used for clinical studies and the health professions; a systematic review is a meta-analysis of the scientific literature within a narrow research area. More than a traditional literature review, the method could be seen as a "forensic account of existing knowledge" (p. 151). To point out the advantages of systematic review, he gives the conventional wisdom of voter turnout as an example. Many of the literature assume the rate of turnout among the lower classes is low and declining, but this is not actually consistent with recent studies. Turnout may not be declining in the way previously believed and may be more complicated. Systematic review is a method of making sense of large bodies of information, and a means of contributing to the answers to questions about what works and what does not. It also allows us to identify where little or no relevant research has been done, but where new studies are needed (Dacombe 2018).

Fortunately, the tremendous growth and enhanced quality of research on polarization now enable us to study polarization in the mass public more thoroughly than before. This chapter presents a systematic review of political polarization in the mass public. In recent years, there has been a growing use of systematic reviews within

the social science. While there have been some reservations over the adoption of an approach originally used within the health sciences (Dacombe 2018), much research has been conducted in the social sciences in fields such as education, social work, and public policy generally (Davies 2000; Gough and Elbourne 2002; Petticrew and Roberts 2006). More recently, Jacquet and van der Does (2021) used systematic review to answer the following question: to what degree do small-scale forums such as mini-publics have “spill-over” effects on the general public?

Chapter 2 is divided into two parts. Part one conducts the systematic review on polarization. Firstly, the data selection procedure will be outlined. While there are tremendous studies on political polarization, there is less literature dealing with the debate over whether the mass public has been polarized or not. Thus, the data selection procedure involves finding articles that discuss the mass polarization. Furthermore, because the primary purpose of this chapter is to distinguish between different types of polarization and the current state of research on this topic, numerous types of polarization will be introduced and defined. By doing this, it may serve as a guide for the future research on polarization. This chapter addresses a current lack of common understandings, definitions, and conceptual difference in the field of mass polarization. As noted above, I mostly rely on the studies dealing with the debate over whether polarization exists in the mass public or not, but several experimental designs which focus on polarization in the mass level are also included. I do not include articles dealing with the cause or consequence of polarization if those studies do not include discussion about mass polarization. This chapter reviews only empirical studies of polarization at the mass level, published in journals in social science and political behavior during last two (pre-pandemic) decades (2000-2019).

In part two, I present the result of a meta-analysis of these published studies on

polarization in the public. The operational definitions and findings of the identified studies into a common metric to facilitate comparisons across the studies. While systematic review is an approach for reviewing studies on a given topic in a descriptive way, meta-analysis would be a helpful addition for generalization of individual studies through quantitative methods. Meta-analysis is also useful for finding general pattern to determine which factors have contributed to polarization or have not. My goal is to contribute the debate over the notion of polarized citizens in the United States over time by summarizing how the literature assesses the trend or the state of polarization so far. However, all studies are not relevant or fully described for inclusion in the meta-analysis, hence the total number of articles will be lower than the studies used in systematic literature review section. Accordingly, meta-analysis will be conducted only where appropriate.

2.1 A Systematic Review on Mass Polarization

Collect Information

The first stage is to collect the meta-information from the identified population of articles. An unbounded design to include a tremendous number of studies on polarization would be onerous and, potentially, point in wrong directions. So, the selection of research narrows to peer-reviewed articles and is limited in several ways below.

First, the sample excludes studies using hypothetical political settings. The sample uses a compilation of studies that utilize self-reported survey respondent data (e.g. ANES, GSS, iRoper, etc.). One of the primary advantages of self-reported surveys is that scholars can consider various types of issues with large samples and many relevant variables. Except for a few studies, the vast majority of research on polarization employs these major self-reported surveys. Additionally, it permits an objective comparison of the study's outcomes. Importantly, these studies have a strength in that they can be easily repeated, even if the authors omitted specific statistical information such as a mean or coefficient. This is crucial because the majority of research merely provide graphs or descriptive statistics. Because of this, the samples will be restricted to studies that only utilize self-reported survey data.

Second, this chapter only focuses on mass polarization. In general, two levels of polarization have been studied: the elite and mass levels of polarization. It is well known that elected officials have become increasingly polarized along party lines over the past several decades (Stonecash et al., 2003; McCarty et al., 2006). A second type of polarization occurs at the level of the mass public. It has been generally detected by ideology, partisanship, and issue positions (DiMaggio et al. 1996; Abramowitz and

Saunders 2008). In recent, the conceptualization of polarization has expanded to perceived polarization (Levendusky and Malhotra 2015; Westfall et al. 2015) and affective polarization (Iyengar and Westwood 2015; Mason 2015). Given the focus on the existence of polarization in the mass public, the sample only considers polarization of the general public.

For the search scheme, Google Scholar was utilized to locate relevant articles, using an advance search method by adding a specific journal name and the following keywords: “(polarized OR polarization) AND (mass OR the public OR voter OR electorates)”. Other keywords were also investigated in order to avoid omitting relevant articles: “(issue OR policy OR public policy) And (polarization OR polarized OR consistency OR divergence OR stability OR changed OR unchanged). Journals are based on the SCIMAGO rankings¹ in political science and sociology. While the SCIMAGO rankings are new compared to the journal impact factor (IF), it has the advantage of including more journals and having a wider range of subject categories. The SCIMAGO rankings are an open-access resource, but the journal Impact Factor needs a paid subscription (Falaga et al. 2008).

All journals' titles (1137 journals) were reviewed, and clearly irrelevant fields (e.g., international politics, housing, language, crimes, etc.) were removed. From this list of selected journal lists (67 total), publications were browsed with above keywords using *Google Scholar*. This search approach resulted in 625 hits. Next, there is huge reduction in articles analyzed based on two aspects. One group of papers strongly focuses on whether U.S. society and mass public have divided into two extreme positions in terms of party identification, ideology, and major issues. They analyze how

¹ SCIMAGO political science journal ranking can be found at <https://www.scimagojr.com/journalrank.php?category=3320>

and why American public has been polarized and what its consequences look like (e.g., vote choice, political participation, anger, etc.). Another group of studies focused on other types of polarization, such as religious, geographical, or electoral polarization. In this process, I merged the search results across the journals, in the course removing irrelevant papers (595), i.e., studies about cause or consequences of polarization, polarization in outside of U.S., and those not addressing any form or dimension of mass political polarization. The remaining sample consisted of 30 articles. One of the strictest rules for selecting journal articles is whether authors have an actual measure of polarization using survey data.

Third, those were categorized according to their overall field of inquiry, resulting in seven distinct measures of polarization. In a last step, the content of the remaining papers is analyzed. Table 2.1 shows the distribution of articles across each journal.

[Table 2.1 about here]

Defining and Classifying the Types of Polarization

Definitions and measurement of polarization vary from study to study. In fact, the word “polarization” has been used without a precise definition in most scholarship so far. Surprisingly, only a few articles offer a precise definition of polarization (Abramowitz and Saunders 2008; Fiorina and Abrams 2008; Hetherington 2009; Levendusky and Pope 2011; Lelkes 2016). Instead, scholars provide operational definitions (measurement) without an explanation of what serves as evidence of polarization. Political polarization is often defined as convergence or divergence in

ideology or party identification among the mass public on specific issues (Abramowitz and Saunders 2008; Fiorina and Abrams 2008). While most scholarship on political polarization focuses on issue-based polarization, others propose alternative conceptualizations: affective and perceived polarization. Using survey items asking feeling thermometer toward out-group members, Iyengar, et al. (2012: 1) define polarization as “the extent to which partisans view each other as a disliked outgroup” and argue that these affective feelings are better indicators of polarization. Westfall et al. (2014) suggest that perceived polarization is the extent to which survey respondents perceive polarization between parties or presidential candidates. Since the primary focus is to review polarization studies from the last two decades, reliance is placed on the definition employed in each study rather than trying to fit studies into a definition of my own making.

Previous studies have identified ten unique operational measures of mass polarization. Those are 1) partisan affect polarization, 2) ideological affect polarization, 3) issue consistency, 4) issue divergence, 5) partisan-ideology polarization, 6) partisan sorting, 7) perceived polarization, 8) straight-ticket polarization (or electoral polarization), 9) religious polarization, and 10) geographical polarization. However, some measures have blurry boundaries between each other (for example, partisan affect polarization versus ideological affect polarization). Some are rarely investigated by social scientists (for example, religious, straight-ticket, or geographical polarization). Therefore, each measure was categorized and condensed into four forms of polarization by combining related types of polarization and eliminating types of polarization that were rarely evaluated: 1) Issue Consistency, 2) Issue Divergence, 3) Affective Polarization, and 4) Perceived Polarization. Table 2.2 shows the number of each type of polarization used in this chapter. The total number of studies exceeds the number of

original articles, because most studies test multiple types of polarization. Among 30 identified articles, 50% of studies have used issue consistency or divergency as a measure of political polarization. Table 2 shows the distribution of articles over the types of polarization. Detailed information can be found in Appendix 1.

[Table 2.2 about here]

Issue polarization is the most extensive field of inquiry when it comes to mass public polarization among the 30 identified articles. Political polarization in relation to issue positions can be examined in a variety of measures, but most issue polarization focuses on one of two concepts. First, polarization is consistency in issue position among the members of the public. For example, scholars take various issue items to test similarity of respondents' ideological positions such as Gun, Abortion, Health Insurance etc. (Abramowitz and Saunders 2005, 2008; Pew Research Center 2014). They rely on an issue consistency scale across issues, arguing that polarization is occurring in the mass public based on the evidence of increased correlation of party identification with self-reported ideology and increased correlations between six issues and party identification.

On the other hand, polarization can also be measured by issue divergence. Fiorina and his colleagues argue that issue consistency is not a valid measure to examine polarization in the mass public (Fiorina, et al. 2008, 2011). Instead, they argue that polarization should be measured by increased dispersion or bimodality of public opinion. They argue that polarization is a “myth” by showing quite stable percentages within ideological categories across the surveys (ANES, GSS and Gallup). Three representative survey results show that distribution of ideology in the mass public has

not changed when it comes to the percentage of moderates and “don’t know” respondents (Fiorina et al. 2008).

2.1.1 Issue Polarization

Issue Consistency (Ideological Consistency)

Definition and Conceptual Demarcations: While there is no generally accepted definition of issue consistency and there is a lot of variation when it comes to issue consistency, a number of the identified articles rely on DiMaggio, et al. (1996)'s concept of constraint and consolidation. They define constraint as “the extent to which opinions on any one item in an opinion domain are associated with opinions on any other” (p.696). They view it as an indicator of ideological consistency. By this definition, issue consistency includes two opposing components. Some group of scholars call it as polarization, but others do not.

Main Argument: To measure of polarization, DiMaggio et al. (1996) use multiple four principles: dispersion, bimodality, consolidation and constraint. Each of four principles suggests different measure and types of polarization. Each of four principles illustrates the difference in public opinion between social identity and issue attitudes. They use age, race, the level of education, religion, location, ideology and party identification as forms of social identity to examine whether there is polarization between social identity and issue attitudes. They find no evidence of polarization, neither in social group nor political affiliation (ideology) except the issue related to abortion. However, DiMaggio, et al. (1996) found some evidence of polarization between party identifiers and several issues (feeling thermometer toward the poor, abortion, and aid to minorities). Issue consistency is also used by Abramowitz and Saunders (2005) to examine the similarity of ideological positions across issues. They examine the correlation between party identification and each of six different issues to

explain the phenomena of polarization in the mass public (abortion, aid to minorities, government role of job and standards of living, health insurance, ideology, and presidential approval rating). The correlation between party identification and the six issues ranges from 43% to 75% between 1972 to 2004. They simply conclude that the American public has polarized last three decades without providing the level of statistical significance regarding whether the difference between party identification and each issue. This measure is criticized by Fiorina and his colleagues (Fiorina and Levendusky 2006; Fiorina and Abrams 2008; Fiorina et al. 2011) because it inherently overestimates the level of polarization by trichotomizing ideology scales (liberal-no opinion-conservative). Fiorina and his colleagues argue that this is not the evidence of polarization, instead this should be labeled as party sorting (Fiorina and Levendusky 2006). To refute Abramowitz et al.'s (2005) claim, they show the correlation between party identification and four indexes they create (New Deal, cultural, racial and defense spending) and find that slightly increased correlation. However, they argue the correlation is "much closer to zero than to one" (p.61) and, even if there is a dramatic increase of correlation between party identification and issue position, that is, they claim, not evidence of polarization. Several other scholars also use issue consistency as a measure of polarization.

Using the same data with Abramowitz et al.'s 2005 study, Baldassarri and Gelman (2008) examine issue consistency between party identification or ideology and issue scales and find that four domains (economic, civil rights, foreign policy, and moral) of issues are closely linked to party identification and political ideology. The correlation between Party identification and an issue is larger than between political views and issues. However, the strength is quite small except for the economic issue domain, and even the authors conclude that issue consistency over economics has increased for

approximately 30 years. While both groups of scholars find increasing pattern of polarization in the mass public, the magnitude of polarization is relatively weak. However, the test of polarization for subgroups (e.g., politically engaged, levels of political interest, and party identifiers) shows the strong alignment between party identity and issues, which are classified here as “subgroup polarization.” Abramowitz and Saunders (2008) find a significant difference in mean position in issues between political engaged voters and the mass public. Also, they find a “substantially and statistically significant” mean difference in political ideology among party identifiers. Similarly, Baldassarri and Gelman (2008) examine group polarization by the level of political interest, political activism, education and income level, Southerner and non-Southerners, and party identifiers. According to them, citizens who are highly interested in politics, political activists, Southerners, and religious citizens are more likely to be polarized than general public. Level of education and income are also closely associated to the level of polarization.

Jewett and Goren (2016) use alternative data (a comparison between the Convention Delegate Study and the ANES) for analyzing issue consistency by comparing ideologically engaged and unengaged citizens. They calculate correlations between issues in the same domains (e.g., social welfare issues, cultural/moral issues, etc.) and the level of political engagement (unengaged, moderately engaged, and highly engaged). They find that highly engaged citizens are more likely to be polarized like convention delegates (political elites). In addition, they also examine the patterns of correlation between the level of engagement in politics and several issue domains and find that mean Pearson correlations for six ANES policy issues are quite stable among unengaged and moderately engaged citizen from 1980 to 2004, while highly engaged citizens’ scores almost doubled during the same period. Stoker and Jennings (2008)

attribute polarization in the electorate to a generational effect, using the longitudinal political socialization project data. In their research, they argue that the rise of political polarization in the electorate “has been driven by generational replacement as new entrants evinced greater party-issue constraint than did those they replaced” (p.632). In other words, Democrats are more likely to be liberal on salient issues and Republicans, likewise, have become more conservative as they age.

Measurement: While many of the scholars examining issue consistency commonly use correlations between party identification (or political ideology) and issues within the literature, others have examined polarization using various social identities and demographic characteristics (e.g. political interest, political activism, education and income level, and generation). The type of issue consistency polarization is examined broadly in two different ways: *sorting* or *constraint*. Party sorting examines the degree to which ideology across issues matches partisan identity. Regardless of whether it is called polarization or sorting, most scholars have reached a consensus that party identification and ideology have come into alignment during last a few decades (Abramowitz 2010; Bafumi and Shapiro 2009; Baldassarri and Gelman 2008; Fiorina et al. 2005; Jacobson 2007; Levendusky 2009). While Fiorina and his colleagues consistently argue that most of evidence on polarization by scholars are not an accurate sign of polarization, that is party sorting, which refers to which citizens become identified with the correct party (Fiorina et al. 2005; Levendusky 2009; Fiorina et al. 2011), Abramowitz and others argue that consistent ideological alignment with one side or another could be evidence of polarization.

A major point of this debate over polarization is how polarization should be defined and measured and how it is highly related to the movement of citizens into their own parties. While Abramowitz and others use correlations between social identities

and issue or correlations within the several issue domains, Fiorina and his colleagues address that polarization should be defined and measured by how much public opinion within the mass public is dispersed (e.g. dispersion or bimodality).

Data and Issues: Data sources are heavily skewed to the ANES. Among the seven identified articles that studied issue consistency with 57 tests, the majority of tests used the ANES survey data (63%). Only three tests (5.3%) have been conducted using the GSS. Stoker and Jennings (2008) use the longitudinal political socialization project data from the ICPSR with 18 tests. Since the data what scholars used are heavily skewed to the ANES, issues are also largely concentrated in small set of issues. Total 83 issues were tested to measure of polarization but most of them are highly focused on the ANES's representative six questions: Aid to Blacks, Government responsibility to ensure everyone has a job, defense spending, Health insurance, women's role and abortion. The reason for the overwhelming majority of NES in the study of issue polarization seems to be that investigations on the same issues have been repeatedly and consistently conducted.

Evidence of Polarization: The basic idea behind the scholarship on issue consistency is that polarization has been driven by issue alignment with party identification or political ideology. A lot of scholarship does not test for statistical significance about whether there has been great or modest level of polarization or not. Because of this limitation, reliance is placed on the author's conclusion when they do not reveal statistical significance. For example, Abramowitz and Saunders (2005) claim that "partisan polarization has increased considerably over the past several decades" (p.5) based on difference in mean score between party identification and ideology (they provide only numbers, 0.8 in 1972 to 1.7 in 2004). In this case, the author's conclusion determines whether polarization has occurred or not. Findings in favor of increased

polarization among the mass public constitute more than half of the total tests (32 out of 57). Eighteen tests succeed only for specific social groups such as political engaged citizens or citizens with high level of political interest. Only seven tests have failed to conclude that the public in U.S. has been polarized.

[Table 2.3 about here]

Issue divergence (ideological divergence)

Definition and Conceptual Demarcations: A second cluster of studies on issue polarization stems from criticism over the issue consistency claim. Fiorina and his colleagues argue that changes in constraints or sorting in public opinion tend to be very small over any given short window of time, but these changes are not distinguishable in the long term (Fiorina et al. 2005; Levendusky 2009; Fiorina et al. 2011; Lelkes 2016). Issue divergence originally comes from the notion of a “culture war” (Hunter 1991). By focusing on increasing tensions over the range of social issues within the public, he argues that it may lead to cultural conflicts as it becomes increasingly divided into Progressive versus Orthodox within the public (Hunter 1991). By focusing Hunter (1991)’s claim, DiMaggio et al. (1996) identify four types of polarization. As mentioned, one of the four types of polarization types is classified into issue consistency (e.g. Constraint), and all others are deeply related to issue divergence polarization (i.e., Dispersion, Bimodality and Consolidation). Following DiMaggio et al. (1996), Fiorina and his colleagues contend that polarization should be only measured by dispersion or bimodality within public opinion (Fiorina et al. 2011; Fiorina 2016). One of the biggest differences between Fiorina’s non-polarized camps and Abramowitz’s polarized camps is that the latter believes polarization can be also characterized by constraints, which refers to the relationships between party identification and different attitude types. On the other hand, Fiorina and Abrams (2008) see polarization as “Movement away from the center toward the extremes would seem to be a noncontroversial definition of polarizing” (p.567). In detail, issue divergence polarization only concerns the respondents’ positions in terms of whether they are clustered at the poles of the political views or party identification. Hence, Fiorina et al. (2011) argue that for caution when we define polarization, because they believe that

sorting and constraint are conceptually different.

Main Argument: Issue divergence is examined most frequently within the identified literature on polarization (45.5%). Many studies on issue divergence focus on the proportion of respondents who are dispersed from the center (Evans 2003; Fiorina and Abrams 2008; Fiorina et al. 2011; Fiorina 2016; Garner and Palmer 2011; Hill and Tausanovitch 2015) or on the level of agreement across issues (Bafumi and Shapiro 2009; Dimock et al. 2014; Levendusky 2009; Webster and Abramowitz 2017).

The results of issue divergence are mixed. Of all 101 tests, more than 50% of the tests find that U.S. citizen has not polarized over time. On the non-polarized side of the argument, Fiorina (2008) examines changes in six policy views from 1984 to 2004 and finds that there has been small decline in the rate of respondents who report themselves as moderates or “don’t know.” There was slight increase in the rate of self-placement as extremely liberal or conservative except on the issue of abortion. He concludes that Americans had not polarized, at least not between the 1970s and the 2000s. While he agrees that alignment between party identity (or political ideology) and issue attitudes has increased, that is not the sign of polarization which he labels this sorting. Evans (2003) replicates DiMaggio et al.’s 1996 study with extended data. Using the same four measures of polarization, he also finds no polarization across six issue domains (racial, family gender role, women’s public role, crime and justice, abortion, and sexuality) using GSS survey data. Only abortion and sexuality issues produce a statistically significant difference between liberals and conservatives. While additional years of data could not produce much difference from the original research by DiMaggio et al. (1996), it is worth noting that political activists have become more polarized over the issues. Overall, Evans’ findings, with more comprehensive data and years, confirms Fiorina (2008)’s claim in that there is little evidence of polarized

America except on several salient issues such as abortion. These findings bear resemblance to the study of Hill and Tausanovitch (2015). Using more sophisticated analysis (Bayesian item response theory), they extract latent ideology by examining 67 issues in the ANES from 1956 to 2012 and find little increase in the dispersion of respondents' views across issues. They calculate the standard deviation of the respondents across the issues and years and find a 5% increase in the estimated standard deviation from 1952 to 2012, which is not statistically significant. While there were several fluctuations across years, the overall difference between liberals and conservatives with regards to issues has not increased over time (Hill and Tausanovitch 2015). Lelkes (2016) applies the same estimates of ideology by Hill and Tausanovitch (2015) to the calculation of the bimodality and the degree of overlap between Democrats and Republicans on the ideological self-placement measure (overlap coefficient) from 1972 to 2012. Overlap coefficients refers to the degree of overlap between two groups. For example, an overlap coefficients of 1 indicates that the two groups of distributions completely overlap which means that they are not polarized, when an overlap coefficients indicates 0, it means complete separation of the two groups. The results shows that the test of bimodality shows stability among the mass public. On the ideological self-placement measure, partisan overlap has, however, reduced over time, going from a coefficient of 0.68 to 0.39 from 2008 to 2012 (Lelkes 2016: 398). The results suggest that only subgroup of citizens (party identifiers) are polarized; the general public has not polarized.

Research on issue divergence also yields similar results with those of issue consistency arguing that polarization has occurred in the mass public (Bafumi and Shapiro 2009; Garner and Palmer 2011; Cavari and Feedman 2018; Webster and Abramowitz 2017). Bafumi and Shapiro (2009) examine four issue domains to explore

partisan divisions on these issues and find increased divisions between party identifiers over abortion, homosexuality, aid to black and economic welfare issues from both the ANES and the GSS surveys. Similarly, Garner and Palmer (2011) examine two types of issue polarization (e.g. consistency and divergence) across seven salient issue positions. In an effort to capture the effect of issue consistency on mass polarization, they use a heteroskedastic regression model of issue placement. Results for the variance models show increased polarization in the mass public over five out of seven issues (Women's role, Aid to Blacks, Government responsibility to guarantee jobs, Health care and Defense spending). To test the effect of issue distance among party identifiers (excluding leaners), they calculate Cohen's D statistics and converted it to the percentages of overlap between issue distribution of Republicans and Democrats.

Issue distance between the two-party identifiers from 1971 to 2008 has increased, especially for issues of abortion and government guaranteed jobs. Other issues show a modest increase in issue distance. Other scholars also use Cohen's D to examine changes of mass polarization by years (Cavari and Feedman 2018). Although their study is not aimed at finding polarization in the mass public, they test the level of polarization, in a preliminary test, in order to examine the effect of the survey response rate on polarization. Cavari and Feedman use Cohen's D of Republicans and Democrats on six questions and find that Cohen's D coefficients have increased, except for defense spending issues between 2008 and 2012. They attribute these increases primarily to the decreased survey response rate. However, other things being equal, the level of polarization increases modestly. In sum, the studies on increased issue divergence among the mass public have produced mixed results.

Measurement: The most frequently used of measure for issue divergence is variance or standard deviation (Bafumi and Shapiro 2009; DiMaggio et al. 1996; Evans

2003; Fiorina and Abrams 2008; Garner and Palmer 2011). Other forms of issue divergence used by some authors are the bimodality or overlap coefficients (Bafumi and Shapiro 2009; Evans 2003; Lauderdale 2013; Lelkes 2016). However, there were a few scholars only using changes in percentage or plots without providing any statistics (Fiorina and Abrams 2008; Fiorina 2016). To measure issue divergence, DiMaggio et al. (1996) use variance to capture the extent of issue difference in political ideology. They use survey data from both the ANES and the GSS. Using attitude variables from the ANES between 1972 and 1994 (Government Aid to Minorities, Abortion attitudes, Women's roles, and Feeling Thermometers towards Blacks, Poor people, Liberals, and Conservatives) and variables from the GSS between 1977 and 1994 (Women's public roles, Family Gender roles, Sexuality attitudes, Racism, Crime and Justice, Sex education, School prayer, and Divorce law), DiMaggio and colleagues examine whether the social attitudes of citizens were polarized. Interpreting variance and standard deviation in terms of polarization is quite simple. If variance increases, issue attitudes become more polarized. Alwin and Tufis (2016) also use variance to examine whether citizens' political views have been dispersed, using the seven-point liberal/conservative self-placement scale.

Bimodality is also proposed by DiMaggio et al. (1996) as an important tool for measuring mass polarization and has been used by other scholars (Evans 2003; Lauderdale 2013; Lelkes 2016). To measure bimodality, they use kurtosis, which is a statistical measure for describing the aspect of distribution (Alwin and Tufis 2016). If the distribution is flatter than the normal distribution, the coefficient of kurtosis will be negative. As the value of kurtosis closes to -2, the distribution closes to bimodality (DiMaggio et al. 1996). Later, Dimock et al. (2014) utilize the measure of bimodality to test whether citizens hold consistent ideological views between 1994 and 2014. They

show an increasingly bimodal pattern of shifts in the distribution of political ideology over time. They argue that “the tail” of the distribution has doubled from 1994 to 2014 (Dimock et al. 2014, p.4). More recently, Alwin and Tufis (2016) also use kurtosis as a measure of bimodality, but they only examine political ideology for whether ideological distribution is skewed toward each side of distribution. Another measure of bimodality is used by Lelkes (2016). He calculates bimodality coefficients of the liberal-conservative ideological scale and finds that the distribution of the political ideology responses in the ANES data has been unimodal from 1972 to 2012. Another approach to measure of issue distance is the overlap coefficients proposed by Lelkes (2016). Lelkes (2016) use the overlap coefficient to gauge the degree of party divergence. This pattern closely resembles the self-reported ideology scale. According to him, partisans were more similar to one another in 1972. (the degree of overlap was .82 using the latent ideology measure and .73 using the self-reported measure). By 2008, both metrics display a 0.46 percent overlap between the two parties.

Data and Issues: Like issue consistency polarization, most data come from the GSS and the ANES. Only one scholar used TESS (Time-Sharing Experiments for the Social Science) and the CCES (Cooperative Congressional Election Study) (Lauderdale 2013). Most, 63%, of the data come from the ANES and the GSS, which is used for the rest of tests. Similar issue scales are used with issue consistency polarization research. This is because most identified issues have seven-point scales and those are deemed by scholars as the most salient issues in the United States. Almost the whole issue domains fall into the four types of categories: Race and gender, Expected responsibility for the government and its spending, Abortion, and Health insurance. The most frequently used issue questions from the ANES are also the same with issue consistency questions: Aid to Blacks, Government responsibility to ensure everyone has a job, Defense spending,

Health insurance, Women's role, and Abortion.

Evidence of Polarization: Again, one of the challenges of judging whether polarization has occurred in the mass public within the identified articles is that many of scholars have not revealed their statistic tests leading to their conclusions. In addition to the absence of a statistical standard, there is a discrepancy among scholars about how much difference is necessary to claim that citizens are more polarized over time. Much of the literature does not address the range or extent necessary to be deemed polarization. Without those standards, the debate over polarization within the mass public may circle around consistently. Based on authors' judgement of their own studies, 44.5% of examinations conclude that Americans are polarized regarding issue divergence and 49.5% fail to conclude there is a polarized mass public. The rest of the tests (7%) have reached a conclusion that only sub-samples of the population are polarized.

[Table 2.4 about here]

2.1.2 Affective Polarization

Definitional and Conceptual Demarcations: All the literature above focuses on how citizens see themselves based on political ideology or party identity. However, scholarship on affective polarization concerns “how they describe others” (Gentzkow 2016). Typically, affective polarization can be described as the degree of citizen’s affective evaluations on in-and-out group members (Rogowski and Sutherland 2016). If the level of affective polarization is low, we can say that citizen’s orientation toward each party or partisan will be similar. Although scholarship on polarization exclusively focuses on issue-based polarization, there are growing number of scholars interested in affective polarization recently (Gentzkow 2016; Iyengar et al. 2012; Iyengar and Westwood 2014; Iyengar et al. 2019; Mason 2013, 2015, 2016; Lelkes 2016). Affective polarization can be defined as “the tendency of people identifying as Republicans and Democrats to view opposing partisans negatively and co-partisans positively” (Iyengar and Westwood 2015, p.691).

Main Argument: Although DiMaggio et al. (1996) did not use exact term of “affective polarization,” their study first utilized the feeling thermometer scale toward liberal and conservatives as a measure of polarization. They have not found any evidence of “affective” polarization when they use feeling thermometers in the ANES between 1972 to 1994. Even in Evans (2012)’s replication of DiMaggio, et al.’s research with extended years, both variance and bimodality show no pattern of polarization. However, more recent studies on affective polarization indicate that Democrats and Republicans increasingly dislike opposing party identifiers. The level of affective polarization is on the rise, at least until the 2012 survey (Iyengar et al. 2019). Scholarship seems to agree upon the notion of affective polarization—“view[ing]

opposing partisans negatively and co-partisans positively” (Iyengar and Westwood 2015, p. 691). So, researcher’s interests are extended to the cause and consequence of affective polarization (Lau et al. 2017; Levendusky 2018; Luttig 2017; Tsfati and Nir 2017; Wojcieszak and Garrett 2018). Since the focus here is to examine whether the mass public has polarized either issue-based or affectively, the debates over the cause and consequence of affective polarization are beyond the scope of this analysis.

Iyengar et al. (2012) were among the first to examine the extent of affective polarization with a comprehensive data set. While one approach to describe partisan polarization is as disagreement over policies, an alternative and more accurate metric of mass polarization, according to Iyengar et al. (2012), is the degree to which partisans view one another as a despised out-group. Therefore, they argue that affective polarization, rather than ideological polarization, is the more suitable test of polarization. Using six different survey data set, they find that a partisan’s feeling toward an out-party member is increasingly negative, and there is some increase in positive feeling toward in-party members over time. The ANES survey data confirms the increasing divide between party identifiers. For instance, the proportion of respondents giving an out-party rating of less than 50 on the thermometer scale was around 40% in the 1980s but it increased up to 63% in 2008 (p.412). On the other hand, the trend for the in-party rating has been quite stable over the past three decades. Iyengar, et al. (2012) also find a dramatic increase in out-party hostility among the politically active. They also use other indicators to examine affective polarization. Using three surveys asking about feelings if their son or daughter married someone with in or out-party member, U.S. citizens feel more “displeased” toward interparty-marriage than citizens in the United Kingdom. The gap between pleased and displeased feelings toward inter-party marriage was minimal in 1960, but the proportion of party identifiers

at the prospect of interparty marriage who feel “somewhat upset” or “very upset” increased from 5% of partisans in 1960 to 47% in 2008 (Iyengar et al. 2012, p.417).

Personal traits are used for measuring affective polarization. Iyengar, et al., compare the mean ratings of perceived stereotypes against out-party members: whether they are selfish or intelligent. The proportion of respondents who report that out-party members are selfish was .21 in 1960, but it increased to .47 in 2008. Similarly, respondents who perceived in-party members are intelligent almost doubled (.33 to .62) from 1960 to 2008. In sum, Iyengar et al. (2012)’s findings suggest that U.S. citizens are increasingly divided when it comes to affective polarization.

Similarly, Mason (2013) focuses on the difference between issue-based polarization and behavioral polarization. Behavioral polarization is characterized by strong affiliation to a respondent’s attached party and hostility toward the out-party. On the other hand, issue-based polarization is defined as “increasing issue extremity in the mass public”(p.141). By these definitions, she examines the change in mean values of behavioral polarization and issue position extremity among the mass public. While issue extremity shows constantly moderate and stable issue positions between 1972 to 2004, the American public become more polarized in terms of anger against presidential candidates and increasing hostility toward out-party members and the opposing party. In experimental settings, Mason (2014, 2016) also finds that ideological sorting is the powerful proxy to drive citizens to be more polarized affectively. While consecutive studies by Mason (2013, 2014, 2016) assume that affective polarization and issue-based polarization are not mutually related, Webster and Abramowitz (2017) disagree with Mason. They argue that affective polarization and issue-based ideological polarization are closely connected. The results of two regression analyses show that several policy domains, such as social welfare, abortion and homosexuality, are strong predictors of

affective polarization among the mass public, and there is more polarization among strong party identifiers. Lelkes (2018) shares the argument of Webster and Abramowitz (2017) in that ideological consistency is the primary driver of affective polarization, but parts company with them as ideological consistency varies by the level of political knowledge. Accordingly, affective polarization increases only among citizens who have a high level of political knowledge. To sum, the notion that American citizens increasingly dislike the opposing party and its identifiers more than in the past leads to mixed results.

Measurement: Almost all studies use the ANES thermometer ratings of parties and ideologues to measure of people's feelings towards on each side of the political spectrum. Typically, respondents are asked to evaluate party identifiers (Democrats and Republicans) or party itself (Republican Party and Democratic Party) on a 101-point scale from 0 (most negative) to 100 (most positive). Mason (2016) adds two more indicators from the ANES survey to measure affective polarization: feeling thermometer toward presidential candidates and angry/proud feeling toward in-and-out party candidates. Several alternative measures are also proposed by other scholars. Iyengar et al. (2012) have adopted inter-party marriage of the respondents' child as a measure of affective polarization and show increased discord between party identifiers. However, it is worth noting that these measures may conflate the magnitude of hostility toward out-party members. Klar et al. (2018) argue that when respondents are asked about marriage of their son or daughter with an out-party member, respondents deem partisanship as the most salient social identity of the prospective spouse. If respondents know the potential spouse is apolitical before being asked about inter-party marriage, the rate of opposition to inter-party marriage is greatly decreased. Similarly, the rate of opposition to same-party marriage dramatically increased when they are told that the

potential spouse is politically active (Klar et al. 2018). Others use personal traits as an indicator of affective polarization (Levendusky 2018, Levendusky and Malhotra 2016, Iyengar et al. 2012) to assess whether respondents' perceptions toward out-party members are selfish or intelligent, open or closed minded. Nevertheless, the majority of these studies tend to use the ANES feeling thermometers.

Data: Except a few publications, the data are heavily skewed toward the ANES because of its thermometer scales. Unfortunately, other major surveys, such as the GSS, do not ask respondents about affective feelings toward in-and-out party members.

Evidence of Polarization: Unlike other types of polarization (issue-based polarization), scholarship on this new type of polarization seems to have reached to a consensus that American citizens are more affectively divided over time. The only exception is Evans (2012). Unlike the others, he only examines pure variance and kurtosis of each variable (feeling thermometer toward liberal or conservative) without any operationalization of the scale (e.g., subtracting one scale from another) and simply concludes that Americans are not polarized. Klar et al. (2018) also disagree with the notion of affectively polarized Americans. Instead, they claim that only one-third of citizens, self-identified strong partisans, are affectively polarized. Overall, the results of majority of research studies indicate that affective polarization is occurring within the mass public.

[Table 2.5 about here]

2.1.3 Perceived Polarization (including false polarization)

Definition and Conceptual Demarcations: The concept of perceived polarization is relatively new, but several research articles in the field of psychology provided a theoretical framework for the conception of perceived polarization. For example, Pronin et al. (2002) argue the people are prone to overestimate the opinion of out-group. In a subsequent study, what they term “naïve realism” describes that people tend to think others are more biased than themselves (Pronin et al. 2004). This implies that liberals and conservatives tend to view members of out-group more polarized than their actual level of polarization. Westfall et al. (2015) also pay attention to perceived polarization and its implication on citizens’ political behavior, arguing that “what has been missing from much of the discourse on political polarization ... is a consideration of how every day Americans perceive polarization between Democrats and Republicans” (p.145). Perceived polarization has also received attention from political scientists. Hetherington and Roush (2013) advocate the need for redefining polarization as how the mass public perceives party identifiers or ideologues to be polarized. In the same vein, Levendusky and Malhotra (2016) define perceived (false) polarization as “people’s tendency to overestimate the degree of polarization between groups” (p.379). False polarization is the perception that there is more disagreement on policy than there actually is. In addition, Ahler defines perceived polarization as a phenomenon that “ordinary citizens perceive their peers to be more extreme and divided than they actually are” (Ahler 2014, p.607).

Main Argument: The literature on perceived polarization mainly concerns the extent and characteristics of perceived (not real) polarization. Using the ANES survey

data from 1968 to 2008, Westfall et al. (2015) find that there is a huge gap between perceived polarization and actual polarization across issues in the mass public. Specifically, they examine ten issues to estimate difference between actual polarization and perceived polarization. On every issue, the gap between two types of polarization shows a meaningful difference in its effect size (Cohen's D). They also examine the trend of polarization over time. Both actual and perceived polarization increased between 1968 to 2008, but the level of perceived polarization is always larger than actual polarization over time (p.149). They argue that perceived polarization is more powerful indicator to predict political behavior than actual polarization. In addition, they suggest that perceived polarization is led by greater party identification and issue extremity in the mass public. Overall, they conclude that the level of polarization is not large because people tend to overestimate polarization of an opposing group relative to their own group. Similarly, Levendusky and Malhotra (2016) examine "false polarization", that refers to the gap between perceived polarization and actual polarization. Through investigating four issues (taxes, immigration, trade, and public financing), they find that people tend to evaluate opposing partisans as more extreme than co-partisans. All issue positions that are evaluated by out-group members are higher than in-group evaluations. Republicans place Democrats at 0.25 on average on the political spectrum ranging from 0(most liberal) to 1(most conservative) but Democrats place Democrats at 0.36 across four issues (the actual position of Democrats was 0.40). On the other hand, Democrats evaluate Republicans further to the right, at an average position of 0.72, but Republicans view their co-partisan's issue position slightly to the left (0.66) than the perceptions of Democrats (the actual position of

Republicans was 0.58)². In sum, each party identifier tends to view in-party members as more modest and out-party members as more extreme.

The results imply that people perceive more polarization across the issues than is real for both their co-partisans and out-partisans. Enders and Armaly (2019) track the patterns of perceived and actual polarization levels from the 1970s to the 2010s. While the two types of polarization increased during last four decades, the gap between two enlarged dramatically. The level of actual polarization has been relatively static, but perceived polarization continues to increase. Lelkes (2016) comes to the same conclusion using overlap coefficients to track perceived polarization. He estimates the level of perceived polarization using seven issues from the ANES and finds huge decline of the degree of overlap coefficients between two parties from 1972 to 2012.

In sum, there is relatively broad consensus that the level of perceived polarization within the mass public is on the rise and has increased over the last four decades. While actual polarization also increased over time, the magnitude of actual polarization is, at best, modest.

Measurement: The operational measure of perceived polarization exclusively uses the ANES's seven-point scale across several issues (a lower score indicates liberal positions). Westfall et al. (2015) measure perceived polarization by subtracting the mean of Republican positions from the mean of Democrat positions across ten issues. Levendusky and Malhotra (2016)'s measure of the perceived polarization is almost the same with different wording and data. Enders and Armaly (2019) also use the same metric to measure perceived polarization. They calculate the absolute value of the difference between respondents' placement and placement of other party across the four

² Actual polarization of each respondents represents the actual mean position of respondents' issue positions (Levendusky and Malhotra 2016).

issues. This operation is repeated across all issues, and they create weighted sum by the confirmatory factor analysis. On the other hand, Lelkes (2016) uses the overlap coefficients instead of mean positions by scholars above. As an overlap coefficient approaches 1, it indicates distribution of two-party placement completely overlap and vice versa if the statistic is close to zero. On some areas, the degree of overlap between the two parties has shrunk by double digits between the first and the last survey in the ANES, but perceived polarization has remained consistent. Lelkes (2016) added another concept of polarization in his research: false polarization, measured by subtracting the perceived polarization overlap coefficient from the one for actual polarization. By this metric, he finds that the level of false polarization has also increased over time.

Data and Issues: Since the concept of perceived polarization in the field of political science is relatively new, there has not been many tests for it. Among the 16 tests in five articles, 11 tests use the ANES, and 5 tests utilize GfK Custom Research. Eleven issues have used to examine the perceived polarization.

Evidence of polarization: The focus in this chapter is to analyze whether the mass public is polarized across issues affectively or ideologically within identified studies. By this logic, the evidence for perceived polarization among these tests can be either evidence of polarization or evidence of non-polarization, depending on authors' interpretation. For example, Levendusky and Malhotra (2016) discuss that citizens' views on the four issues are relatively moderate on average, which can be interpreted as a non-polarized mass public or false polarization. On the other hand, they still find the evidence of the perceived polarization in that Republicans place Democrats at more extreme positions and Democrats evaluate Republicans more extremely.

In this case, perceived polarization has different results for each issue, so it is

difficult to determine whether it is a failure or a success. However, findings by Enders and Armaly (2019) show a different aspect compared to that of Levendusky and Malhotra (2016)'s article. They pay more attention to the effect of perceived and actual polarization on political behavior. Empirically, two polarizations are distinct and confirm the existence of perceived polarization, which is "widespread and consequential" (Enders and Armaly 2019; p.837). They also find a strong relationship between perceived polarization and affective polarization, whereas there is no significant relationship between perceived and actual polarization. In this case, their findings can be deemed as successful because perceived polarization is more accurate indicator than the actual polarization to predict affective polarization in the mass public. By applying this reasoning, I discover that five out of 16 tests are successful, which is proof of mass polarization.

[Table 2.6 about here]

2.2 Meta-Analysis

Method: When the studies include a similar set of dependent variables or outcomes, then it is possible to carry out a meta-analysis. However, a large portion of the past works on polarization have revealed only descriptive results such as figure, graphs or just narratives which makes it difficult to perform a meta-analysis. There are various types of polarization in the literature, and those studies are quite different in terms of measurement and the methodology leading to their results. In general, observations used in meta-analysis are not derived directly from the original data, but from the individual studies. Many of the statistics used in the identified studies are not perfect for calculating the effect size which is used in traditional meta-analysis. Thus, two forms of meta-analysis techniques--*vote-counting* and *combined tests*--build on several previous studies (Geys 2006; Imbeau et al. 2001; Smets and Ham 2013) and are utilized here.

First, *vote-counting procedures* are, in general, useful for the studies that do not have enough information to compute effect size (Higgins and Green 2008). Imbeau et al. (2001) have used a *vote-counting procedure*, which refers to the technique to characterize the outcome of each test as “success, fail or anomaly” (p.14). They apply the vote-counting procedure to hypotheses about how the left-right composition of government influences policy outputs. That application has an analogy to the research question analyzed here. Specifically, if a coefficient is statistically significant, the test is reported as “success,” and it is reported as “failure” if the test for the coefficient is not statistically significant from zero. While previous studies that utilize vote-counting procedures assigned an “anomaly” when the coefficient is significant in the opposing direction, this is not the case of this dissertation. Considering the main purpose of

Chapter 2 is to investigate the degree of polarization of the mass public, failure will be assigned in the case of polarized specific generations or specific groups (e.g., the politically informed or politically engaged) with no finding of polarization in the general public.

Most studies on polarization do not examine variables with a test for the significance level. Instead, a large portion of studies on polarization relies heavily on descriptive statistics such as mean difference, variance, and other forms of statistics. In some cases, fortunately, authors reveal the level of significance, and these statistics allow a meta-analysis of polarization in the mass public. For those studies without exact statistics, reliance is placed on the author's conclusion as an indication of the relative significance.

One of the central debates over mass polarization is how much difference in issues or political attitude can be deemed as polarization. For example, Fiorina et al. (2011) find that the mean difference of public attitudes toward political and social issues between Democrats and Republican has increased 5% (from 12% in 1987 to 17% in 2003) in political issues and 4% (from 7% in 1987 to 11% in 2003) in social issues. With these small changes in percentage, they conclude that the divide in partisans across the issues is "still close." However, if we turn those statistics to the rate of change, these rates increase 42% for political issues and increase 57% for social issues. On the other hand, the changes in correlation between six issues and party identification range from 12% to 20% for three decades since 1972 (Abramowitz and Saunders 2008). This could result from difference of measurement and research focus, but no one specifies how much difference or change constitutes a critical threshold to count as polarization.

For that reason, studies on polarization do not fall into the same application of traditional vote-counting measure in general. Thus, I modify the procedure to enable

a meta-analysis for this type of study. In terms of variables, all of the identified articles aim to find evidence of polarization in the mass public using wide variety of measures. Given the goals of each article, evidence of polarization becomes the dependent variable. If a test has found significant or substantial evidence of polarization in the mass public, it is reported as “success” and if not, the test counts as “fail.” In some cases, articles report their results as partially polarized, as only party identifiers are polarized or only politically active citizens. Those cases are also coded as a “failure” because the primary objective of this chapter is to find evidence of polarization at the mass level, rather than from a subgroup of citizens.

A meta-analysis shares one common scholarly purpose: to find out how a certain phenomenon has examined by scholars by summarizing past published works. The goal in this chapter is to assess the relationship between polarization and the explanatory factors proposed by scholars. This slight modification of *vote-counting* technique can be justified if the goal is to assess the trend of scholarly effort for mass polarization. The *vote-counting* technique only provides rough summation of the tests. If a study has larger number of individual tests, and others have a smaller number of tests, that may bias the results of the analysis toward the larger studies. To solve this problem, Smets and Ham (2013) also use the success rate by assigning a weight to each test result. I follow Imbeau et al (2001) and use Smet and Ham’s (2013) formula for each article.

$$\textit{Success rate} = (\textit{number of successes} / \textit{total number of tests}) * 100$$

Second, one of the challenges for using the *vote-counting* technique is that it does not allow an assessment of the effect size. Vote-counting gives a brief summation

of the average success rate of mass polarization. According to Imbeau et al (2001), an additional technique is needed for deciding the effect size. Unlike in traditional meta-analysis, the studies in the sample do not use the same statistical method, and each study provides different test statistics. To solve this issue, Imbeau et al (2001) propose a “simplified version of combined tests” (p.15). They calculate a proxy measure of effect size using the vote-counting results. In their meta-analysis on voter-turnout, Smets and Ham (2013) also adopted the same technique. I also follow the same formula to calculate the proxy of effect size. For each test, the evidence of success in terms of mass polarization is assigned +1, and each failure is coded 0. A proxy of the effect size at the level of an individual test is calculated as:

$$r = \text{successes} / \text{total tests}$$

The mean effect size (r_{av}) is given by the average of individual effect size (r) at the level of all studies of given independent variables like below.

$$r_{av} = \sum r_i / \text{number of studies}$$

Imbeau et al (2001) and Smets and Ham (2013) also calculate confidence interval around this statistic that enable us to decide whether r_{av} is statically significant from zero. By these metrics, all independent variables are analyzed: issue scales and thermometers. The section below also presents findings by year of study and types of survey.

Analysis and Findings

This section presents the results of the meta-analysis by types of issues,

measurement and data sources. First, Table 2.7 reports the results of the meta-analysis by issues types. Two challenges arise while classifying the issues for the meta-analysis. There are many ways to classify issues into the specific issue domains, and the ways of grouping them depend on scholars' preferences. For example, some classify the issue of abortion as a cultural issue (Stoker and Jennings 2008), while others group abortion as a moral issue (Baldassarri and Gelman 2008). Similarly, Bafumi and Shapiro (2009) see the issue of "aid to Blacks" as a racial issue, but Jewitt and Goren (2016) regard it as an "social welfare" issue. Classifying issue type is not easy because there is no standard criterion on how to classify issues into a specific domain. Note that this coding is not free from these kinds of criticism. Fortunately, a large portion of studies on polarization examine independent issues. So, for this reason, the research focus examines each single, independent issue from more than three tests. However, issues related to economic conditions or feelings toward government's economic policy are the exception. Economic issues are clear to classify, and the number of studies is satisfactory for the meta-analysis. In sum, if scholars group several issues into one single category and do not reveal the statistics either within the paper or an appendix, those cannot be included without incurring unexpected bias. I do not also report variables that were included in less than three papers due to the unreasonably small sample size.

Another difficulty in conducting research is that each scholar has a different method of measuring polarization. Some scholars pair issues with political views (ideology) or party identification to measure polarization, but others examine both. In other words, there is no discussion about whether the measure of issue polarization should be paired with party identification or political views. For example, Evans (2003) only uses political ideology to measure of issue polarization, on the other hand, Stoker

and Jennings (2008) only pair issues with party identification to measure mass polarization. These cases are not divided into different issue types. In other words, whether scholars have paired specific issue with either party identification or political ideology, they are treated as the same issue domain. In a preliminary test, there is no significant difference between the measure with party identification and the measure with political ideology of the 31 studies reviewed contain twelve different issue variables.

[Table 2.7 about here]

Table 2.7 shows the results of the meta-analysis by various issue domains. Unlike previous findings that reveal relatively strong trends in polarization among issues, the results from the meta-analysis show relatively modest evidence of polarization among the public in twelve issue domains. Six issue domains show statistically significant results in terms of issue polarization.

Abortion: Abortion is the one of the most frequently tested issues for examining polarization in the mass public. Abortion is generally regarded as an “easy” issue to be recognized by the public (Garner and Palmer 2011, Carmines and Stimson 1980), and the legal issue over abortion has triggered fierce disagreement among the public in the United States. The meta-analysis shows that abortion is positively related to polarization in the mass public, and most studies fall into the success category (83-89%). The average effect size (r_{av}) is statistically significant both at the levels of tests and studies.

Aid to Blacks: The scale about Aid to Blacks is also among the three most common issues included within research on polarization and shows statistically

significant result. The ANES asks the respondent to answer a seven-point scale about government's role on helping minorities or Blacks. The modal category, which gives an estimate of the most common relationship between polarization and an independent variable, shows success, the rate of success is around 60% (60-63.64%). My findings also show success both in the studies and tests.

Economic Issues: Economic issues include welfare, taxation, labor unions, free trade, and feelings toward big business. While economic issues may be classified as successes, it is hard to conclude that citizens are polarized in terms of these economic issues. Six studies dealt with economics, but each article focused on different issues. In other words, although those issues are classified as an economic issue for convenience, it is difficult to conclude that citizens are polarized on economic issues without analyzing each individual issue.

Feeling Thermometer toward Presidential Candidates: The feeling thermometers toward presidential candidates show extremely polarized patterns among the American public in every article. Specifically, these tests all examine affective polarization. It seems apparent that the rise of negative feeling toward opposing party leaders is readily increasing over time. However, there is disagreement in terms of whether the feeling thermometer toward the president or presidential candidates an appropriate variable is to test mass polarization. Fiorina and Abrams (2008) contend that polarized feelings toward or voting for presidential candidates do not reflect policy or ideological differences, so this cannot be evidence of polarization among the mass public. They argue that preference for specific politicians is not evidence of polarization but is a "polarized choice" by definition (574) because voters tend to evaluate presidential candidates (or presidents) retrospectively by "comparing what they have done with what they would have liked him to do" (575). Nonetheless, as indicated by

the meta-analysis, feelings toward opposing party leaders or presidential approval rate appears to have a clear association with mass polarization.

Feeling Thermometer toward Liberals/Conservatives: The feeling thermometers toward liberals and conservatives are among the three most common variables in research on polarization, especially for affective polarization. Unlike the findings for feelings toward presidential candidates, the modal category for ideological groups at the test level shows “fail” but indicates “success” at the study level. This could be biased because half of tests are from one article (Evans 2003). When I remove the Evans (2003)’s study from the test, the remaining articles show success in terms of affective polarization of feeling thermometer toward opposing ideologues. Although the test statistics was classified as fail, most of studies (4 out of 5) find the feeling thermometers toward liberals and conservatives are associated with mass polarization. Considering all failures and anomaly come from Evans (2003) and other all studies are showing strong relationship between mass polarization and feeling thermometer, I conclude that feeling thermometer indexes are clearly associated with the level of polarization.

Homosexuality: The test for polarization in relation to homosexuality is examined by focusing on the questions about laws protecting homosexuals or about the public’s feelings toward them. Every single test does not show striking divergence, but the meta-analysis shows statistically significant results both at the levels of tests and studies. The average success rate for homosexuality lies above 66% with an average effect size of 0.67 and 0.82 respectively.

[Table 2.8 about here]

Except for above variables, economic issues show statistically significant results in the meta-analysis (only in test). Economic issues include welfare, Government responsibility for job and standard of living, tax, labor union, free trade and feelings toward big business and success rate was 58%. Issues of tax and free trade did not affect on people's level of polarization. Issues of government responsibility on job and standard of living have produced mix results. Only 14 packages of economic issues by Baldassarri and Gelman (2008) yield significant results on mass polarization.

Government spending is recognized as one of the most controversial issues in the United States, but the meta-analysis tells a different story. Almost 75% of tests fail to find the evidence of polarization on that topic. Similarly, the issue of health insurance is not the major source of polarization in America. While its modal category is "success", much of the controversies come from strong partisans, not from the general public. In other words, the mass public does not show a great divergence in the topic of health insurance. Instead, only individuals who have strong partisanship show highly polarized patterns.

A few studies pay attention to the effect of survey itself on political attitudes and behavior of the respondents. Specifically, Banducci and Stevens (2015) find that the timing of survey fieldwork may influence responses itself and response rate of the survey. They discover that the survey completion rate rises as the interview (field work) date gets closer to election day and confirm that the scheduling of a survey close to the election day may affect the survey cooperation rates. This effect is much stronger among politically interested respondents. Cavari and Freedman (2018) directly link the survey and polarization. They contend that the argument of polarized America is "partially an artifact" of low survey response rates (p.719) because people who participate in surveys are more likely to more informed, politically interested, and

possibly hold stronger partisanship. By investigating two national surveys (The Pew and the ANES), they find that decline of survey response rates is closely related to the increase in polarized individuals. The relationship between the timing of survey and polarization is discussed in chapter 3 in detail. In the meta-analysis, scholars tend to focus on two major sources of survey data to examine polarization. More than 60% of tests among assigned studies use the ANES to provide evidence of polarization. As indicated by the modal category in the Table 2.8, each survey appears to show success when scholars examine polarization in the mass public both at the test and study level, except for the GSS at the test level. Only two types of survey have statistically significant results. The ANES, which was the most frequently used data source, show statistically significant results in terms of polarization at the mass level only at the test level ($p > 0.05$). Another survey, conducted by the *Political Socialization Project Panel*, also shows a higher level of polarization consistently among the mass public. However, the GSS and other non-major surveys do not produce statistically significant results on mass polarization. As such, two major surveys keep producing different results in terms of mass polarization. One consistently, in general, reveals that the Americans become polarized in public opinion last four decades, but others found no or mere evidence of general polarization over a range of social and political issues among the mass public. An open question remains: is polarization an artifact of the survey instrument?

2.3 Summary

In previous work, scholarly research seems to reach an agreement that American citizens have undergone polarization over the last three decades. Still, there is less agreement among a few groups of scholars. However, this chapter clearly shows that the level of polarization is much weaker than widespread agreement on mass polarization in the United States.

I begin this chapter with systematic review on 30 assigned articles. Each article was carefully selected from the best of SCIMAGO rankings of political science and sociology. I narrow all measures of polarization down four types (i.e., issue consistency, issue divergence, affective polarization and perceived polarization) because almost all measures of polarization used in previous works can be defined as a single type of polarization.

I present definitions, conceptual foci, exemplary measures, frequent issues, and overall outcomes of each type of polarization. According to results of the systematic review of mass polarization, I find relatively weak evidence of polarization in the mass public. Specifically, the first type of polarization, issue consistency, reveals that polarization among the public has occurred over the last four decades in general. But the intensity of polarization is much higher in the groups of politically engaged and informed citizens. In other words, it is true Americans have polarized on average, but scholars attribute mass polarization to the politically informed and activists, not among the entire public.

The second type of polarization is issue divergence. This type of polarization tends to focus on the level of divergence how citizens within the population moves apart across the issues or policy preference. Although more than half of the tests failed to find

evidence of mass polarization regarding issue divergence, the number of successes and failures are almost even. Affective polarization is the only type of polarization that scholars have come to an agreement on mass polarization. Only a few scholars did not find meaningful evidence of affective polarization, the majority of articles reveal that citizens have affectively divided based on respondents' ideology and party affiliation. The last type of polarization mainly concerns the aspects and extent of perceived polarization. Although the concept of perceived polarization is relatively new to the field of political science, and rarely studied, scholars tend to agree that perceived polarization is on the rise in recent years.

Table 2.1 Distribution of Studies on Mass Polarization among Journals

Journal	Studies
American Behavioral Scientist	1
American Journal of Political Science	2
American Journal of Sociology	2
American Politics Research	2
Annual Review of Political Science	2
Journal of Politics	4
Political Analysis	1
Political Behavior	3
Presidential Studies Quarterly	1
Public Opinion Quarterly	6
Social Science Quarterly	2
Social Science Research	1
The Annals of the American Academy of Political and Social Science	1
The Forum	2
Total	30

Table 2.2 Distribution of Tests by Polarization Types

Measure	Frequency
Issue Consistency (including Sorting)	65 (29.3%)
Issue Divergence	101 (45.5%)
Affective Polarization	40 (18.0%)
Perceived (including False Perceptions)	16 (7.2%)
Total	222 (100%)

Table 2.3 Summary of Literature on Issue Consistency

Definition	The process of issue alignment along party identity or political ideology; consistency across the same or different issue domains also denotes the sign of polarization (for some scholars)
Conceptual foci	Issue consistency by party identification or political ideology; consistency between party identification and political ideology
Exemplary measures	Correlation (Pearson r), changes in percentage
Most frequent issues or policy domains	Abortion, Health insurance, Government spending, Homosexuality, Aid to minorities, Women's public role
Outcomes	Polarization has occurred in general, but intensity of polarization is higher in the group of politically engaged citizens or the politically informed
Number of studies	8 (57 tests)

Table 2.4 Summary of Literature on Issue Divergence

Definition	The view of citizens within the population consistently moves apart across the issues or policy preference
Conceptual foci	Issue divergence by party identification or political ideology; distance between party identification and political ideology
Exemplary measures	Kurtosis, Variance, Standard Deviation, Bimodality, Cohen's D, Overlap coefficients, Mean difference, Change in percentage
Most Frequent Issues or Policy Domains	Abortion, Health insurance, Government spending, Homosexuality, Aid to minorities, Women's public role
Outcomes	Although modal outcome of the research shows that the mass public has not diverged ideologically, a similar proportion of studies also find evidence of polarization within the mass public; evidence in terms of issue divergence is mixed
Number of studies	11 (101 tests)

Table 2.5 Summary of the Literature on Affective Polarization

Definition	“The tendency of Democrats and Republicans to dislike and distrust one another” (Druckman and Levendusky 2019, p.1)
Conceptual foci	Affectively divided views between in-and-out-party members; Democrats and Republicans increasingly dislike opposing party identifiers
Exemplary measures	Difference in feeling thermometers toward each party identifiers or presidential candidates; selected traits selfish or intelligent, happy or unhappy to an inter-party marriage, variance, kurtosis
Most frequent Issues or Policy Domains	N/A
Outcomes	The majority of research articles indicates an affective divide exists between Democrats and Republicans and is on the rise in the United States.
Number of studies	11 (40 tests)

Table 2.6 Summary of the Literature on Perceived Polarization

Definition	“the degree to which the mass public perceives the parties and their followers to be polarized” (Lelkes 2016, p.399)
Conceptual foci	People’s perceptions of an issue about the conceptual distance between parties
Exemplary measures	Absolute value of the difference between an individual’s issue position and their perception of the parties’ positions; Subtracting the mean of Republican positions to the mean of Democrats positions; Overlap between an individual’s perception of Rep and Dem Party
Most frequent issues or policy domains	Abortion, Health insurance, Government spending, Homosexuality, Aid to minorities, Women’s public role
Outcomes	Perceived polarization is on the rise over recent years, but polarization in the mass public is mixed
Number of studies	5 (16 tests)

Table 2.7 Results of meta-analysis by issue domains

Variable	Success (1)	Failure (0)	Modal	Success rate (%)	Effect size(r)	Significanc e
Abortion						
Tests (18)	16	2	Success	88.89	0.89	***
Studies (11)	9	2	Success	81.82	0.83	***
Aid to Blacks						
Tests (15)	9	6	Success	60.00	0.60	***
Studies (11)	7	4	Success	63.64	0.64	**
Defense Spending						
Tests (7)	2	5	Fail	28.57	0.29	n.s.
Studies (7)	2	5	Fail	28.57	0.29	n.s.
Economic Issues*						
Tests (12)	7	5	Success	58.33	0.58	**
Studies (6)	3	3	Fail	50.00	0.50	n.s.
Feelings to Libs/Cons						
Tests (12)	4	8	Fail	33.33	0.33	n.s.
Studies (5)	4	1	Success	80.00	0.80	**
Feelings to Pres. Candidates						
Tests (10)	10	0	Success	100	1.00	***
Studies (3)	3	0	Success	100	1.00	***
Government Spending						
Tests (8)	2	6	Fail	25.00	0.25	n.s.
Studies (7)	2	5	Fail	28.57	0.29	n.s.
Health Insurance						
Tests (8)	4	4	Fail	50.00	0.50	*
Studies (7)	4	3	Success	57.14	0.57	*
Homosexuality						
Tests (11)	9	2	Success	81.82	0.82	***
Studies (6)	4	2	Success	66.67	0.67	*
Jobs/Livings**						
Tests (10)	6	4	Success	60.00	0.60	n.s.
Studies (9)	6	3	Success	66.67	0.67	*
Racism						
Tests (7)	3	4	Fail	42.86	0.43	n.s.
Studies (4)	2	2	Fail	50.00	0.50	n.s.
Women's Public Role						
Tests (9)	3	6	Fail	33.33	0.33	n.s.
Studies (5)	2	3	Fail	40.00	0.40	n.s.

Note: T-test with two tailed significance levels. +p<0.10, *p<0.05, **p<0.01, ***p<0.001; *Economic Issues include Welfare, Tax, Labor union Free trade, and

Feelings toward big business; Jobs/SOL (Guaranteed Jobs and Living Scale)

Table 2.8 Results of meta-analysis by survey data/

Survey	Success	Failure	Anomaly	Modal	Success rate	Effect size(r_{av})	Range of p -value
ANES							
Tests (143)	69	46	28	Success	48.25	0.29	**
Studies (16)	9	5	3	Success	55.55	0.375	n.s
GSS							
Tests (44)	19	25	0	Fail	43.18	0.43	n.s
Studies (5)	3	2	0	Success	60.0	0.60	n.s
PSPP*							
Tests (18)	17	1	0	Success	94.4	0.94	***
Others							
Tests (17)	9	6	2	Success	52.94	0.41	n.s

*** $p > 0.001$, ** $p > 0.05$, * $p > 0.10$. Note: *PSPP (Political Socialization Project Panel). Only one study utilized PSPP; "Others" include the CCES (Cooperative Congressional Election Study), GfK, Yougov, SSI(Survey Sampling International (SSI) panel), Knowledge Network, and Gallup.

Table 2.9 Results of meta-analysis by types of polarization

Variable	Success	Failure	Anomaly	Modal	Success rate	Effect size(r_{av})	p -value
Affective							
Tests (41)	27	8	6	Success	65.85	0.29	**
Studies (13)	10	1	2	Success	76.92	0.38	n.s
Issue							
Consistency							
Tests (51)	36	6	9	Success	70.58	0.43	n.s
Studies (6)	3	2	1	Success	50.00	0.60	n.s
Issue							
Divergence							
Tests (103)	45	42	16	Success	43.68	0.94	***
Studies (12)	6	4	2	Success	50.00	0.41	n.s
Perceived							
Tests (15)	4	10	1	Fail	26.67		n.s
Studies (3)	0	3	0	Fail	0		n.s

Chapter 3

The Fluctuation of Polarization among the U.S. Electorate

In their book, *How Democracies Die*, Levitsky and Ziblatt (2018) see political polarization as a growing problem for democracy in the United States. Scholars argue that one of the most serious threats to democracy is affective polarization, in which citizens increasingly dislike out-group partisans, while sympathizing with partisan in-groups (Hernández et al. 2021; Iyengar and Westwood 2015). In general, scholars conclude that political polarization in the general public has a negative effect on democratic quality because citizens are more dissatisfied with democracy when there is a high level of polarization in society (Hoerner and Hobolt 2019).

A large body of literature takes it for granted that the mass has been greatly polarized and expanded over several decades (Abramowitz 2013; Abramowitz and Saunders 2008; Lelkes 2016). Most of the research indicates that the overall level of polarization in the general public has been increasing over the last several decades (Abramowitz and Saunders 1998; Hetherington 2001; Layman and Casey 2002; Abramowitz and Saunders 2008; Fiorina, Abrams and Pope 2008; Levendusky 2009; Abramowitz 2010; Lelkes 2016). The phenomenon of political polarization is presumed to be a characteristic of modern democratic society generally, including the United States.

What has been missing from previous studies of political polarization is a consideration of short-term changes in political polarization. In other words, previous research has heavily focused on the overall trend of political polarization during election seasons. Many studies suggesting that polarization has increased in the United States have based their findings on two major surveys conducted during general or mid-

term election years. These polarizing political contests, however, may be what heightens perception of polarization. It may be the case that polarization falls to normal levels outside of election season.

Democratic elections are the most prominent events with the purpose of gaining public office. Elections are the fiercest competition to secure political power by mobilizing citizens to take sides with partisan groups. In a two-party system, like that of the United States, these sides line up in two opposing groups. In order to gain or hold power, political candidates and party elites are compelled to reach out and mobilize the public for political support (Lindberg 2010; Wilkinson 2004). Politicians use various forms of political campaigns to draw people into the political arena and mobilize them to choose one side over the other (Abney et al. 2013). Elections themselves may change citizens' political behaviors in the midst of a political campaign. For instance, elections increase political interest by generating a large amount of political information (Pew 2018). Similarly, the influx of massive political information prior to elections affects the level of political attachment of the electorate to political parties (Michelitch and Utych 2018).

Elections may increase the visibility of political conflicts and serve as a major determinant of partisanship shifts. Electoral cycles can act as moderators, causing citizens' partisanship to shift or intensify. As a result, partisanship might be likely to increase near election time and decrease between elections. Given the importance of elections in shaping political interest and partisanship, Another factor should be added: a dynamic attribute of political interest mediated by the electoral cycle to the studies of political polarization.

In this chapter, the research hypothesis is that significant political events, especially elections, can alter the level of political polarization. The degree of

polarization fluctuates as the level of political interest reflects the ebb and flow of the campaign. In other words, the dynamic of political interest mediated by elections has an impact on political polarization.

Testing the fluctuations of political polarization, on the other hand, is difficult in several ways. First of all, most previous polarization studies have relied heavily on two major surveys: the GSS and the ANES. In particular, research focus is on the National *Election Studies*, intended to focus on campaign related attitudes and opinions. Over 70% of scholars who studied political polarization used the ANES rather than the GSS, according to the systematic review study in Chapter 2. It is especially problematic to rely on only two surveys, because both are typically conducted during election years. For example, the ANES includes two wave of survey: a pre-election interview and a post-election interview during years of Presidential elections. The GSS also has been conducted in election years since 1993, both midterm and presidential elections. Thus, studies of polarization are analyses of polarization only during election season.

Given that citizens' political interest is considered to be higher during election seasons than during non-election years, the previous studies' findings may be skewed or exaggerated. People presumably are more aware of and interested in politics and spend more time-consuming political news during election years (Pew 2018). To understand the permanence of polarization trends, one must also consider the level of polarization in non-election years, but traditional survey data offers few options.

While the low number of surveys available makes it difficult to examine the possibility of polarization fluctuation outside of the election campaign, the GSS and Pew data could be used to investigate the possibility of polarization fluctuation. Since 2007, the Pew Research Center has conducted at least four or five political polls per year. It allows tracking of changes in polarization even when there are no immediately

upcoming elections. The Pew data paves the way for research into the differences in political polarization from election years and non-election years. These surveys also allow comparison in the level of polarization between presidential election years, midterms, and off-cycle years.

The time of the survey is unique piece of information in the GSS. The actual interview date for each respondent is listed in the GSS and ranges from 239 days to 3 days prior to the election. This enables a test of the hypothesis that political polarization is influenced by proximity to the election. In other words, it is very likely that when election day draws near, voters will be more divided than other interviews.

This chapter's primary goal is to test for and identify a pattern of ebb and flow of polarization via the mediated effect of elections. In other words, does political polarization shift as citizens' political interest rises or falls in response to election campaigns. This chapter seeks to answer a single major question: how does polarization differ depending on the level of political interest? There is no way to measure of political interest in my data set, so this chapter uses two proxies as a measure of political interest: the distance between the interview date and election day, as well as the types of federal elections, including non-election years.

The next section discusses the theoretical overview of using political interest as a predictor of political polarization. The following section presents a series of estimates illustrating various degrees of political polarization according to political interest or time to election. The empirical section investigates election types (non-, midterm-, and presidential elections), as well as survey timing. This chapter proposes a micro-level theory of political polarization that uses political interest to explain different patterns of polarization. The theoretical framework incorporates situational and dispositional perspectives on political interest. Finally, the theory aims to explain an empirical fact

that is subjected to a different level of polarization by the timing of the survey: *Has polarization continually increased over the last four decades, as most previous studies suggested, or has there been a surge and decline of political polarization due to the intensity of political interest measured by survey timing and elections?*

3.1 Linking Political Interest to Political Polarization

Political interest is well-known as one of the most powerful predictors of political behavior. Political interest has been identified as an important factor in citizens' ability to conceptualize their political ideologies and as the primary component of political motivation (Klingemann 1979). Political interest is also one of the most important predictors of political knowledge (Delli Carpini and Keeter 1996; Curran et al. 2009; Prior 2005, 2007). Citizens who are interested in politics are more likely to seek out political information and learn more about politics. Delli Carpini and Keeter (1996) argued that "Reported interest... in politics was a significant predictor of nearly every type of political knowledge we examined" (1996, 175).

Citizens who are politically interested are more likely to attend various types of political events (Verba, Schlozman and Brady 1995). "Citizens who are interested in politics—who follow politics, who care about what happens, who are concerned with who wins and loses—are more likely to be politically active," Verba, Schlozman, and Brady argue (1995, 345). Additionally, those who are more interested in politics consume more news content (Stromback et al. 2013). All of these findings point to political interest as a critical component of the political behavior that matter in a healthy democracy. With few exceptions, previous studies use political interest as an independent variable to predict political participation, political knowledge, and individual characteristics (see McLeod, Scheufele, and Moly 1999; Scheufele and Shah 2000; Shah et al. 2007).

In the field of political science, there are two distinct lines of research into political interest. The first stems from the general psychological model, which assumes that human beings are inherently stable by nature (Hidi and Renninger 2006). At the

outset of their discussion, Campbell et al. (1960) introduce the topic of the impact of personal political interest on political behavior. *The American Voter* discovers that, while political interest varies greatly across individuals, it remains relatively stable for an individual citizen over the course of successive electoral campaigns. Individuals are typically susceptible to the influence of their external environment when they are young, but gradually become resistant to change in their political values over the course of their adult lives (Featherman et al. 1994). A similar line of argument is supported by research showing a strong relationship between political interest and a variety of factors such as gender, political participation, political knowledge, and even parental political involvement in politics (Verba, Burns and Schlozman 1997; Prior 2005; Luskin 1990). Political interest, like other political attitudes such as party identification, ideology, and some issue positions, is understood as a relatively stable political predisposition based on this theoretical assumption of human stability. Prior (2010) discovered that the level of political interest in four countries has remained consistent over the course of 40 years, both in the short run and over longer periods of time.

Despite the widespread use of this type of reasoning over political interest, not every scholar agrees on this point. Another trend in political interest research emphasizes the “situational” characteristics of interest for change and adaptation to a new environment, as opposed to the “static” characteristics of interest (Featherman et al. 1994; Prior and Bougher 2018). Several studies present evidence that political interest can vary depending on the political context through which it is expressed. Ansolabehere and Iyengar (1995) discover that political advertising and the news media can pique citizens’ interest in politics and, as a result, change their support for a particular candidate during an election campaign.

Many others share these sentiments, claiming that an individual's level of political engagement can change in response to major political events (Boulianne 2011, Butler and De La O 2010, Stromback and Shehata 2010). The role of the media is emphasized in the majority of studies that examine the situational characteristics of political interest. According to Boulianne (2011), the relationship between the news media and political interest is reciprocal, implying that political interest can motivate citizens to seek out more information about politics. As a result, the media can play a role in increasing public interest in political issues. Using media-driven political interest as an example, Butler and De La O (2010) argue that party identification, timing of vote choice, and political engagement are all influenced by media-driven political interest. They propose two types of political interest. "1) political interest as a lifetime political orientation and 2) political interest that rises and falls in response to the occurrence of notable political events" (p.321). To put it another way, people can react to both short-term and long-term political stimuli at the same time, depending on their perspective.

Political scientists observe a similar pattern in the discussion of political interests. Political socialization scholars generally concur with the view that people are typically susceptible to influence during their formative years, but gradually become stable as they age (Alwin 1994; Prior 2010; Prior and Bougher 2018). Of course, more partisan and campaign-related news occurs in the few weeks before Election Day, and less partisan news occurs distant from the date of election (Dunaway and Graber 2022).

On the other hand, several studies argue that short-term stimuli such as political events and the media have an effect on people's political interest (Boulianne 2011, Zeglovits and Zandonella 2013; Sørensen 2019). They argue that the media coverage can influence an individual's level of political interest. This logic holds true for the concept of lifelong openness to change (Alwin 1994; Lerner 1984; Sears 1983). Prior

(2010) bolsters the argument by citing examples of how close elections and heated political debates can increase or decrease political interest.

Although there is no direct evidence linking political interest to political polarization, subsequent research demonstrates unequivocally that political interest is viewed as a precursor to various political actions. Garimella, et al. (2017) investigate the level of collective attention of Twitter users. They find there is a surge and decline in their interest in the salient issues and political events. The study discovers that citizens' attention to specific topics increases in response to external stimuli such as Supreme Court decisions, mass shootings, or polarized political actions.

Understanding the roots of political interest is also important for the study of political polarization because a lot of studies on political interest are closely connected to the role of the election. While previous research does not consider the election as a possible source of collective action or political interest, no one can deny that the election is a significant event in politics, and it is assumed that interest will be at its peak during an election. For example, with the proliferation of media outlets during political campaigns, politically engaged citizens increasingly seek out and obtain news about politics (Prior 2005, 2007), often to create "echo chambers" in which citizens are selectively exposed to news from like-minded media outlets (Pariser 2011; Sunstein 2017). By the time of the election, surveys from Pew Research (2018) detect a surge in news consumption and a huge decline in consumption of political news during non-election years. The Pew report reveals that news consumption among citizens is much higher in election years than in non-election years. In this sense, we can easily speculate that political interest is significantly higher during election years than non-election years.

If political interests are related to ongoing evaluations of politics, it is reasonable to believe that political interests may shift periodically as a result of elections or other significant political events. Similarly, if political interests fluctuate in response to political events, we can assume that political polarization among the general public may be affected by political interests. Additionally, interest in politics fluctuates throughout the year, especially during election years with significant political events. According to Pew Research (2018), people are more than twice as likely to be exposed to and to consume political news during election years as they are during non-election years. Spending on political advertising follows a similar pattern, with a nadir in June and July and a peak in October (Politico 2020). Prior (2010) argues that political interest is inherently unstable and fluctuates in response to the relative volatility of current political events.

This study begins with the premise that the degree of polarization varies with the level of political interest. An additional assumption is that political interest will be greater during election years than during non-election years. Given that the majority of polls are conducted during election season and that previous studies on polarization rely on these surveys, the year in which a survey is conducted may serve as a proxy for political interest. Thus, the primary objective here is to determine the effect of the survey's timing on the level of polarization, whether it was conducted during a midterm, presidential election, or non-election year.

3.2 Data and Methodology

3.2.1 Data and Hypothesis

Based on the preceding discussion, I expect discovering that political polarization is not constant and can be influenced by short-term political stimuli like elections. The ANES, GSS, and Pew are the three surveys that will be used. Each of the three data sources has its own set of benefits and drawbacks.

First, the ANES is the most widely used data source for studying political polarization due to a number of advantages over other data sources. The ANES includes the most optimized questionnaires for measuring and examining polarization such as variety of issue questionnaires and thermometers. The most significant disadvantage of ANES is that it is only conducted in the election year, which make it impossible to examine the effect of election on the level of polarization. Almost all ANES conducted surveys bi-annually before 2004, and it became a 4-year survey in 2008.

Second, while the GSS includes non-election year surveys, all of them were conducted prior to 1994. The GSS has been conducted every two years. While the GSS excels at comparing the level of polarization by the types of election including non-election, it falls short when it comes to measuring polarization. One of the most significant challenges was that many of the GSS questionnaires were dichotomous, making them unsuitable for tracking polarization changes. While the GSS has several practical limitations for examining changes in polarization, it does provide a good foundation for investigating the impact of survey timing on the level of polarization because it includes the date of each respondent's interview. The fact that more than 80% of the interviews were conducted between February and May distinguishes it from the ANES. However, in comparison to the GSS, a large portion of the ANES was conducted

during election season, from October to November, which may overstate the level of polarization among the general public.

Third, the Pew Research Center conducts annual political polls. It is one of the few surveys that is conducted on an annual basis and is open to the public. One of the most powerful features of the Pew data is the ability to compare the level of polarization between the year in which the election was held and the year in which it was not held. However, because the questionnaires differ from one survey to the next, they can only provide a limited measure of political polarization. I only use the Pew data to measure the level of sorting.

The majority of studies about polarization in the field of political science rely on point-in-time surveys, also known as cross-sectional studies. A single survey time frame only gives us a “snapshot” of public opinion at the time the survey was conducted. One of the most significant differences between two major surveys (GSS and ANES) in the field of social science, as previously stated, is the timing of the surveys. The ANES is usually given in the middle of an election campaign, around November, whereas the GSS is conducted in the first half of the year. Furthermore, the ANES was used as the primary source in over 70% of studies on political polarization (based on my meta-analysis in chapter 2) but the GSS was adopted by a small number of researchers. Because it has been conducted annually since 2007, the Pew Political Survey may be able to overcome the disadvantages of two major surveys in this regard. One of the most useful features of the Pew survey is that it allows us to compare polarization levels between election years and non-election years.

In the first section, I use all three surveys to examine the general trend of political polarization in the general public. While most scholars accept that Americans have become more polarized in recent decades, there is still much debate about what

constitutes a “polarized America” with other measures of polarization (McCarty et al. 2006; Fiorina 2014; Dickinson 2015). Based on previous polarization debates, I expect the overall level of polarization to have increased over the last four decades, but the pattern will vary depending on whether or not there is an election.

Following that, I anticipate that the level of polarization will vary depending on the timing of the survey and elections. Two tests will be carried out to investigate the various levels of polarization based on survey time.

First, I compare the polarization trends of the ANES and the GSS based on their different survey timing. While the GSS has been conducted primarily between February and May, with a few exceptions, the ANES has consistently conducted their surveys between September and January in subsequent years. The analysis will include 15 surveys conducted since 1980. I exclude the years after 2016 because their field work is so overlapping. Due to data limitations and different nature of data set, I mostly rely on descriptive statistics of the ANES and the GSS.

Second, using election types and date variables, I examine the effect of survey timing on the level of polarization using the GSS and the Pew data set. In terms of election types, I will contrast the level of polarization in general election years with those in mid-term election years. Based on Campbell’s (1987) surge and decline theory, I expect that polarization will be greater in the presidential election than in midterm elections. Non-election years are excluded due to the small sample size.

The impact of the interview date will be investigated using the variable of each respondent's interview date (variable “dateintv”). I expect those who responded to the survey near the election month to be more polarized than those who responded far from the election.

H1: The general trend of polarization has been increasing for the last three decades, regardless of survey timings.

H2: The level of polarization will be different depending on election types (presidential vs. mid-term).

H3: The level of polarization will be higher as the timing of the survey conducted is closer to the election date.

In the last section, I assume that polarization is lower in the years between midterm elections or non-elections than in general election years. To assess the polarization trend in non-election years, data collected on a year-by-year basis over a long period of time will be required. However, there has never been a systematic survey of mass polarization on a regular basis. To compare patterns of polarization among the mass public in the United States, the Pew Research Center's Political Survey dataset may be the best option. Due to the limited questionnaire that the Pew contains, I exclusively focus on “partisan polarization(sorting)” among many types of mass polarization measures.

H4: the level of polarization in election years (either mid-term or general election) is higher than non-election years.

3.2.2 Measure

At least nine different measures of political polarization have been proposed so far. Boxwell et. al (2017) succinctly summarize nine types of polarization proposed in the field of social science³. Those measures with ambiguous boundaries, on the other hand, have a lot of overlap. For example, some divide issue polarization into two categories (issue divergence and issue convergency), while others don't. A few scholars divide affective polarization into two types (partisan and ideological), but the majority of scholars do not. Furthermore, the terms “party polarization” and “sorting” are frequently interchanged, despite the fact that “polarization” refers to a shift in an individual's extreme views, whereas “sorting” does not (Levendusky 2009).

Scholars have yet to reach an agreement on how to measure political polarization. Much of the debate over mass polarization in the United States comes from varied definitions and measures. There has been a lot of variation in the literature because of the various terms and measures used to evaluate mass polarization. The most basic and widely used measure of political polarization is self-survey reports. While a few studies use party identification rather than political ideology as a proxy for polarization, the self-reported issue positions combined with political ideology in the survey are the most important measures of political polarization (Baldassarri and Gelman 2008). Due to various form of political polarization with limited data, I use only two measure of polarization in chapter 3: ideological polarization (issue consistency) and sorting.

³ Those are 1) Partisan affect polarization, 2) Ideological affect polarization, 3) Partisan sorting, 4) Straight-ticket, 5) Issue consistency, 6) Issue divergence, 7) Partisan-ideological polarization, 8) Perceived partisan-ideology polarization and 9) Religious polarization. Depending on authors' preference, each type of polarization's boundary is quite vague.

First, the ideological polarization proposed by Abramowitz and Saunders (2008) is one of the most representative examples and most extensive fields of inquiry. They defined issue polarization as the process of issue alignment along with their political ideology and calculated the correlation between ideological positions and various issues to determine polarization. However, it is not easy to compare the level of polarization using two different survey data due to their different questionnaires and scales. For example, the ANES has administered 7-scale political ideology, but the GSS uses 5-scales. As a result, in Chapter 3, I chose six issue-questionnaires that are commonly shown in both surveys. I also include party identification as a proxy to examine issue consistency. The issues ranged from abortion to gun law, aid to blacks, government responsibility to standard of living, defense spending, government spending and welfare which are frequently examined by other scholars (Abramowitz and Saunders 2005, 2008; Cavari and Freedman 2018; Evans et al. 2001; Fiorina and Abrams 2008; Garimella et al. 2017).

Second, the “sorting” is another polarization metric that I used in this chapter. According to Fiorina et al. (2010), the general public have not been polarized, but they have been sorted. In general, polarization refers to citizens’ increasingly extreme political or ideological preferences, whereas sorting refers to changes in the composition of citizens’ preferences on issues or political views. Sorting occurs when the proportion of party identifiers remains constant, but their political views are more closely linked to their matched party identification. Levendusky (2009) simply defines sorting as a “correlation between partisanship and ideology” (p.4), and he discovered evidence that party identification and political ideology have been increasingly linked since the 1970s. Bafumi and Shapiro (2009) reached similar conclusion that the relationship between party identification and ideology has grown since 1970s.

There have been differing perspectives on sorting in terms of polarization, including whether “sorting” can be considered a form of polarization or not. Scholars generally agree that the U.S. electorates have been sorted into partisan ideologies in recent decades (Abramowitz 2010; Bafumi and Shapiro 2009; Baldassarri and Gelman 2008; Fiorina, Abrams, and Pope 2005; Jacobson 2007; Levendusky 2009). People have sorted into the “correct” ideological position of party and ideology, with Democrats becoming more liberal and Republicans becoming more conservative compared to 50 years ago. Some see this phenomenon as nothing more than a reorganization of political tendencies with little impact on behavior or mass polarization (Fiorina, Abrams, and Pope 2005; Levendusky 2009), whereas others contend that sorting is another form of deep polarization among the electorate (Abramowitz and Saunders 2008; Bafumi and Shapiro 2009; Mason 2015). For example, Mason (2015) claims that sorting has resulted in higher levels of partisanship and polarized behavior, such as partisan bias, activism, and outrage. In fact, previous studies have failed to distinguish between the polarization of social elements (ideology and party identification) and the polarization of issue positions, which is important to understand.

I argue that sorting should be treated another form of polarization. As Fiorina (2012) acknowledged, the processes of sorting and polarization are not mutually exclusive. Both sorting and issue related polarization can increase political tension and people consistently align themselves with one side or another, which is commonly used as the definition of polarization. If issue alignment with political ideology (or party identification) can be considered polarization, then the process of alignment between party identification and political view should be considered the same.

Issue Consistency (ideological consistency)

Issue consistency is one of the most frequently used measures of polarization (Abramowitz and Saunders 2005; Abramowitz and Saunders 2008; Abramowitz 2010; Baldassarri and Gelman 2008; DiMaggio et al. 1996; Fiorina and Levendusky 2006; Fiorina and Abrams 2008; Fiorina et al. 2011; Pew 2014). After DiMaggio et al. (1996) first introduced the link between social identity and issue attitudes as a way to measure polarization, almost all scholars adopted issue consistency as a measure of political polarization.

To measure issue consistency, Abramowitz and his colleagues (2005, 2008, 2010) trichotomized multiple issue scales to indicate whether they are liberal (coded -1), conservative (coded 1), or moderate (no opinion) (coded 0). They then add the scores from each item to create a 15-point scale (-7 indicates the most liberal response; 7 indicates the most conservative response to all items). They discovered a small increase in polarization among non-voters and a large increase among politically interested people using this method (Abramowitz 2010). Pew Research Center (2014) also employed the issue consistency scale to measure polarization and their findings are more dramatic. Using ten political values, they found that the proportion of Americans who hold consistently conservative or consistently liberal views has more than doubled, rising from 10% to 21% from 1994 to 2014. Furthermore, the research revealed that political views are much more closely aligned with their part identity (the Pew 2014, p.6).

Fiorina and Levendusky (2006), on the other hand, argue that this measure oversimplifies political identities by trichotomizing the 7-point scale. Alternative measures were proposed by Baldassarri and Gelman (2008) with the same data. Using Ideological distance for different levels of correlation between dimensions among

issues and political identities, they found a small increase in issue consistency over the last thirty years. In particular, they computed correlations between 47 questions asked in the ANES between 1972 and 2004. They found that issue consistency has barely changed over the last three decades among the public. On the other hand, issue consistency has significantly increased among strong partisans (Abramowitz and Saunders 2008; Baldassarri and Gelman 2008).

I follow the measure of Baldassarri and Gelman's (2008). First, I calculated the correlation between political identities (ideology and party id) and seven issues. Second, I also examine the overall trend of issue alignment by calculating correlation among issues (7 issues yield 21 pairs of correlation). Issue consistency will be tested only using the GSS and the ANES.

[Table 3.1 and 3.2 about here]

Sorting

In the previous literature, sorting is measured in three ways. The correlation between party identification and political ideology is the most commonly used sorting metric (Abramowitz and Saunders 2005, 2008; Alwin and Tufis 2016; Boxell et al. 2017). They simply calculate the extent to which partisan affiliation is correlated with self-reported ideology to determine the sorting. Using both the ANES and the GSS, scholars discover that the level of sorting has increased since the 1970s.

Second, according to Fiorina and his colleagues (2018; 2014), sorting is a reorganization of political tendencies that has little impact on political behavior. They just use the percentage of independent and moderates reported by the ANES and the GSS.

Third, Mason (2013, 2015) proposed an additional measure of sorting. She begins by folding the standard 7-point ANES party affiliation and political ideology scores into a 4-point scale of partisan and ideological strength scores. These two scores, then, are multiplied by the absolute difference between two standard 7-point party identity and political ideology (see Mason 2013, p.145). The sorting score ranges from 0 to 1, and it reflects both party strength and ideological alignment.

3.2.3 Survey timing

The impact of survey timing is my primary interest in this chapter. As discussed above, the level of political interest is highly related to the level of political polarization. Unfortunately, no major survey examining political interests is conducted on a regular basis across recent decades. As a result, I make use of election types and information about the interview date for impact of survey timing on political polarization. Because of the varying survey timings, each data set will be used in a distinctive manner. First, because the ANES is only conducted during general election years, it will be used to show whether political polarization has increased in general for the last several decades.

Second, the GSS, which has been conducted bi-annually, will be used to determine the impact of election types on political polarization. As a result, it is useful in demonstrating the link between political polarization and the extent of political interest. To put it another way, the level of polarization may be affected by the ebb and flow of political interest caused by an election. Another measure of survey timing is the interview date. The GSS has included and recoded the date of interview for all respondents. It allows me to examine the possible variation of an individual's level of political polarization. The date of interview (dateintv) variable was recoded as a month

variable, which represents the distance from the election month. If someone responds to a survey in March 2020, for example, the variable is coded as 8, indicating that the survey was conducted eight months before the election.

Third, despite having a very limited questionnaire, the Pew data has a clear strength testing survey timing effect in that it contains a relatively large number of surveys, at most nine times and at least two times a year since 2007.

3.3 Has the level of polarization consistently increased over the last four decades?

As previously stated, almost all scholars agree that the overall level of polarization has increased over the last several decades (McCarthy et al. 2006; Abramowitz and Saunders 2005, 2008; Abramowitz 2010, Lelkes 2016). Through this section, I utilize 7-issues that were asked on both the ANES and the GSS surveys. Those issues have been quite controversial in the U.S over the last several decades. Spearman's rank correlation coefficient is used to assess issue consistency between issues and political identity (ideology and party identification). It is typically applied when both the independent variable (X) and the dependent variable (Y) are ordinal, but it can also be applied to both continuous and discrete variables (Lehman 2005).

As illustrated in Figure 3.1, issue consistency in conjunction with political view has steadily increased over the last 40 years. However, there are some distinctions between issues. Abortion, when coupled with political views, was the most divisive issue among citizens. Accordingly, Democrats are more likely to favor eliminating all restrictions on abortion, while Republicans are more likely to say they agree with restrictions. From 1980 to 2016, the correlation between political ideology and the abortion issue has more than doubled: from rho statistics =.2112 in 1980 to rho = 0.4866 in 2016. Citizens' views on defense spending and aid to African Americans have also become more ideologically divided than in the past. One of the interesting findings is gun control issues. Although the ANES first asked about gun control in 2000, the level of polarization has fluctuated dramatically such a very short time period. In 2000, Spearman's rho was 0.2618, and it decreased by 0.1447 in 2008. It increased again by nearly threefold (=0.4547) in 2016, when compared to 2008. In general, no matter which

issue is selected, the overall increase is evident. More Democrats respond in a generally liberal manner, whereas more Republicans respond in a uniformly conservative manner. The pattern of issue polarization combined with party identification (Figure 3.2) is nearly identical to that of political ideology. In comparison to other issues, abortion and black aid are now much more aligned with their party identification.

[Figure 3.1, 3.2, and 3.3 about here]

The sorting level also shows the similar pattern with issue consistency. Republicans and Democrats are more ideologically split over the last four decades in general. The rho statistics has almost doubled from 1986 to 2016: from rho statistics = .3837 in 1980 to rho = 0.7306 in 2016.

[Figure 3.4, 3.5, and 3.6 about here]

The results revealed in Figures 3.4 to 3.6 reveal that the polarization results of the GSS are not significantly different from those of the ANES. While all issues have different patterns, issue consistency as a whole has consistently increased since the 1980s. However, if you look closely, the degree of polarization has been relatively stable between the 1980s and 1990s, except on the abortion issue. According to figures above, the level of polarization began to intensify around the 2000s. Some issue consistencies actually declined from the 1980s to the 1990s, such as standard of living (SOL), the size of government spending, gun control, and issues related to welfare.

One of the most interesting findings is that the degree of polarization varies slightly between surveys. While direct comparisons of the correlation coefficients

between the two surveys are not appropriate, the ANES has a slightly higher correlation than the GSS. Whether or not elections are held, they may have an effect on the degree of polarization by the timing of the survey.

For example, the GSS is typically conducted from February to May, while the ANES is typically conducted from August to December. Unfortunately, there is no way to examine the effect of election on the degree of polarization using two different surveys due to different questionnaires and its varying scale. In the next section, the GSS survey will be used to compare the level of polarization between general election years and mid-term election years.

[Figure 3.7 about here]

3.4 Does the election increase the level of polarization?

The purpose of this section is to investigate the impact of elections on polarization levels. This section was guided by the following research questions.

- Do political interests mediated by an election increase the level of polarization?
- Is the level of polarization higher in general elections than in mid-term elections?
- Is a citizen's political ideology more aligned with their party identification in election years?

To do this, I only use the GSS and the Pew surveys. Since the GSS stopped conducting surveys in non-election years after 1993, the GSS is only useful for comparing the degree of polarization of mid-term elections and general elections. On the other hand, the Pew Research Center, which has administered a political survey at least four times, allows me to compare the level of polarization between non-election years and election years.

Changes in Issue Consistency by election types: General Social Survey

In this section, I use the GSS survey to answer the question of whether changes in the electoral environment lead to changes in polarization across issues. Given the debate over political interest fluctuations, I assume that issue polarization will shift in response to political interest mediated by elections. The distribution of the GSS survey

conducted by election types is shown in Table 3.3. To maintain consistency among survey questions, I limited the study's scope to 1980 to 2016.

[Table 3.3 about here]

First, I look at how different election types affect issue polarization. According to Table 3.4, election years have a higher level of issue consistency than non-election years regardless of issues with party identification or ideology. The degree of polarization between election years (mid- and general), on the other hand, shows mixed results. Although I expect polarization to be higher in general election years than in mid-term election years, not all issue polarization was higher in general election years. Rather, overall level of polarization was higher in mid-term elections than in general elections. In mid-term elections, issue consistency among party identifiers was more aligned across four issues (Abortion, Gun Control, Welfare, and Defense), whereas issue consistency across three issues was greater in general elections (Blacks, SOL and Spending). Issue consistency with ideology shows similar results. Four issues (abortion, welfare, defense, and spending) were more closely aligned in midterm elections, and three issues were more closely aligned in general elections (Gun, Blacks and SOL).

While more than half of issue consistency are higher in mid-term election years, the difference between presidential election years and mid-term election years is not large.

In sum, the results in table 3.4 strongly support fifth hypothesis: issue consistency paired both party identification and political ideology is greater in election years than non-election years.

[Table 3.4 about here]

The issue correlation between the presidential election and the mid-term election is shown in Figures 3.8 and 3.9. The red line indicates the trend of each issue correlation in presidential election years, while the blue line depicts correlation in mid-term election years. Non-election years are not included because the GSS has stopped conducting surveys in non-election years since 1994. According to figures, the trend of correlation in presidential election years is, at best, the same with those of mid-term election years. Figure 3.8 and 3.9 poorly support the claim that the level of polarization in the presidential election will be higher than mid-term election years. The results are, at best, mixed.

Rather, the findings show that several issue polarizations in mid-term elections were higher than those of presidential elections such as issue related to defense spending and welfare issues paired with political view. All issues presented here shows the rising pattern of polarization over the last four decades.

[Figure 3.8 and 3.9 about here]

3.4.1 Measure

In the previous literature, sorting was measured in four different ways. First, Fiorina and colleagues (2008, 2015, 2016) emphasize the size of the moderate electorate, arguing that sorting cannot be evidence of polarization. While they argue that this sorting is simply a reorganization of political tendencies with little effect on behavior or mass polarization (Fiorina, Abrams, and Pope 2005; Levendusky 2009), others argue that this reflects the electorate's growing polarization (Abramowitz and Saunders 2008; Bafumi and Shapiro 2009, Mason 2015). Because the effects of sorting have not been thoroughly investigated, there has been some debate as to whether sorting can be classified as polarization or not.

Second, a few scholars propose the overlap coefficient as a measure of political polarization (Lelkes 2016; Levendusky and Pope 2011). The overlap coefficient is used to determine how much opinions or political views overlap between two party identifiers.

Third, Abramowitz and Saunders (2005) calculate the correlation between party identification and political ideology to determine the level of sorting.

Fourth, Mason (2013) proposed alternative measure of sorting. She folds a 7-point standard measure of partisanship and ideology into a 4-point partisan and ideological strength score (coded from 0 to 1). The intensity of alignment (sorting score) is then calculated by multiplying two strength scores. The absolute difference between the 7-point ideology and 7-point party identification is multiplied by the score obtained in the second step (reverse coded). The score ranges from 0 (least sorted) to 1 (most sorted).

In this chapter, I examine all four different types of sorting. I also classify sorting as one of polarization because it has bolstered partisanship and polarized behavior, such as partisan bias, activism, and outrage (Druckman and Levendusky 2019; Iyengar et al. 2019). Relatedly, Hetherington and Rudolph (2015) revealed that polarized citizens are less likely to trust government when other party is in power.

3.4.2 The Proportion of Independents and Moderates

First, I look at Fiorina and Abrams' (2008) argument using data from extended years and different sources. They illustrate two hypothetical distributions on a liberal–conservative scale in Figure 3.10.

[Figure 3.10 about here]

The first illustration shows the majority of citizens in the middle are divided into ideological camps, which they refer to as “polarization.” Using the GSS and the ANES, Fiorina and Abrams (2008) discover that the distribution of American electorates is similar to the second illustration, implying that the majority of the population remains in the middle. As a result, they concluded that the general public has become polarized because there hasn't been a significant increase in the percentage of ideological extremists.

[Figure 3.11, to 3.14 about here]

Figure 3.11 to 3.14 aim at reinvestigating the argument by Fiorina and Abrams (2008). According to them, the proportion of moderates and independent has been stable and thus they could not find no evidence that the public has been polarized. Based on the GSS data with more extended research scope, they are half correct and half not. Figures compare the percentages of political ideology and party identity reported by the GSS. Over the course of the last four decades, the proportion of moderates and independents has been increased, which could not be a sign of political polarization.

On the other hand, the percentage of extremists and strong partisans also increased, which refers to the sign of political polarization.

While Fiorina and his colleagues argued that political polarization has not increased in recent years because there are just as many moderates and independents as there were previously (Fiorina 2014; Fiorina and Abrams, 2008), my results show seemingly inconsistent results. On the one hand, the results support Fiorina and his colleagues' argument in that there has been a slight increase in moderate and independent citizens over the last four decades. On the other hand, there also has been a dramatic increase in partisans and ideologues. Figure 3.12 shows that the proportion of extremists has more than doubled (from 2.3 percent to 5.2 percent) over the last four decades, while the ratio of moderates has increased only slightly. Similarly, figure 3.14 shows more dramatic increase in strong partisans (8.8% to 14.9%) than independent during same period.

The following figures, which use Pew data, show different trend with the GSS. While the proportion of moderates has decreased significantly from 2007 to 2020 (32.7 percent to 20.8 percent), the proportion of extremists has increased by about 2%. Distribution of partisanship also shows different pattern with those of the GSS. Both the proportion of independent and strong partisans decreased for the same period.

This apparent inconsistency stems from different research time periods. The Pew data covers the years 2007 to 2020, while the GSS data covers more extended years 1980 to 2018. When I compare the GSS pattern from 2007 to those of the Pew, I find that they are nearly identical.

Using the GSS and Pew data, I discovered that the proportion of independent and moderate people has risen steadily over the last four decades. However, at the same time, the proportion of extremists and strong partisans also increased. In other words, a

growing number of Americans identify as strong partisans, but more fall somewhere in the middle of the political spectrum. Although this seemingly contradictory trends cannot be explained by my data, two explanations are plausible for this phenomenon. First, echo chamber theory can explain why the proportion of strong partisans and extremists have increased recently. An echo chamber refers to social phenomena that “the opinion, political leaning, or belief of users about a topic gets reinforced due to repeated interactions with peers or sources having similar tendencies and attitudes” (Cinelli et al. 2021, p.1). Social media has changed the mechanism how we access information and form shared opinions (Cinellia et al. 2021). People can now easily connect and organize around shared interests thanks to the remarkable advancement of modern technology. Sunstein (2002) argued that echo chambers can serve as a mechanism for reinforcing an existing group opinion and, as a result, moving the entire group toward more extreme positions. More recently, Sunstein (2018) claims that online spaces facilitate enclave deliberation, which occurs when conversations take place exclusively among like-minded individuals. In this environment, people are only exposed to information that strengthens their political opinions and isolate themselves from people who hold opposing views (Praisner 2011). As a result, it is possible that as the number of social media users grows, so does the number of people with extreme party identities and political views.

On the other hand, the phenomena that the middle increased may be explained by two survey results. According to a Gallup poll from 2014 (Newport 2014), although young voters initially identify as independent, they consistently voted for one party. It suggests that independent identification does not reflect real identity, at least for young voters. The Pew research (2015) also revealed that most of those who identify as

independents had real party affiliations. They just do not prefer to identify their partisanship.

[Figure 3.15 to 3.18 about here]

Next, I investigated changes in the proportion of the moderates by the type of election to find out whether the proportion of independents or ideologically moderates has been relatively stable (Fiorina et al. 2006, Fiorina and Abrams 2008) or decreased (Abramowitz and Saunders 2008). Considering both contradicting arguments have been made by the ANES, the GSS provides a good comparison of how two surveys have differently reflected Americans' partisanship and political views.

Figure 3.19 shows that the result does not satisfy both of the scholar groups' arguments. The proportion of pure independent voters should have decreased over time, according to Abramowitz and Saunders (2008), but it has not. Rather, since the GSS began conducting the survey, the percentage of the independents has nearly doubled. On the other hand, the evidence from the GSS does not also support Fiorina et al (2006)'s claim that the electorate in the United States has remained stable over the decades. Overall, Figure 3.19 illustrates that there are no significant differences in the size of independent electorates between presidential and mid-term elections.

However, historical ideological moderates have followed a slightly different pattern in recent decades. The proportion of ideological moderates has rarely increased or decreased, as shown in Figure 3.20, while the size of pure independents has grown. The findings are in line with Gries' (2016) study. He discovered that the unidimensional liberal-conservative ideology measure has remained relatively stable over the last several decades. Interesting findings were proposed by Twenge et al. (2016). Using

more than 10 million national samples, they found that both the size of polarized electorates and the percentage of pure independents (and moderates) increased at the same time between 1970 and 2015. In other words, the level of polarization (ideological extremism or partisanship) as well as the size of the middle have both increased among U.S. adults, college students, and late adolescents since the 1970s.

Unfortunately, I find no evidence that the level of polarization has changed by the election types (the timing of survey), as shown in Figure 3.19. As outlined in Figure 3.20, while the trend in the size of moderate both in presidential and mid-term elections has shown very similar surges and declines by the election types, there was no significant difference in the size of moderate between elections.

[Figure 3.19 and 3.20 about here]

3.4.3 Changes in Overlap coefficient

Polarization, according to Fiorina and Abrams (2008), occurs when the majority of citizens in the middle are split into both sides of ideological camps. Levendusky and Pope (2011) used the overlap coefficient to determine how much opinions overlap between two party identifiers. The overlapping coefficient is a measure of the degree of overlap between two distributions, or "the area under two probability functions simultaneously" (Bradley 1985, p.546). I update their measure by using the overlap coefficient (OC), followed by Inman and Bradley's formula (1989).

$$O.C = 2 * \phi(\mu_x - \mu_y / 2\sigma)$$

where, ϕ refers to the standard normal distribution function. If $\mu_x = \mu_y$, the distribution of x and y will be completely overlapped, which is the O.C = 1. On the other hand, if O.C = 0, it indicates that two groups of distribution are completely separated.

Figure 3.21 indicates the extent of overlap between Democrats and Republicans on the ideological self-placement measure. In general, the overlap coefficients have been decreased, suggesting that ideological divergence between party identifiers has been widened over the last four decades. In 1974, the O.C. was 0.86, but by 2018, it had dropped to 0.61. Clearly, it shows that the level of polarization has increased since 1970s.

There is no threshold beyond which the level of overlap becomes polarization. This is one of the drawbacks of using the overlap coefficient to measure polarization. Lelkes (2016) simulates two distributions and determines whether the O.C. represents polarization in the general public or not. An O.C. greater than 0.64 is not classified as

polarization, while an O.C. less than 0.30 is classified as polarization. Figure 21 shows that, with the exception of 2016 (O.C. = 0.6228) and 2018, there has been no polarization in the general public since the GSS began asking respondents about their political ideology and party affiliation (0.6096).

[Figure 3.21 to 3.23 about here]

The Pew data, in contrast to the GSS, shows an increasing pattern of the overlap coefficients. However, these results are due to the relatively short study period compared to GSS. In the case of the GSS, the level of O.C. also has slightly increased since 2006. When Lelkes' threshold (0.64) is applied, no polarization occurred between 2007 to 2020. In Figure 3.23, a one-way ANOVA was performed to compare the effect of three different elections on the level of the overlap coefficients. A one-way ANOVA revealed that there was not a statistically significant difference in the overlap coefficients between at least two groups ($F_{2,11} = [0.22]$, $p = [0.806]$).

The measure of O.C. reveals that type of election (proxy of the survey timing here) in both the GSS and the Pew may not affect the degree of polarization. Furthermore, the results suggests that there has no difference in the degree of the overlap coefficients between mid-term and presidential election years unlike my initial expectation. In the case of the GSS, the average overlap coefficient in presidential elections was almost the same with that of mid-term elections (O.C. = 0.7370 vs O.C. = 0.7371), while that of non-election years are slightly higher than both years (O.C. = 0.8080).

The O.C. as a measure of polarization is consistent with Fiorina's argument that the American public is divided but not deeply. However, given that the degree of

overlap coefficients has decreased over the last four decades, the ideological self-placement measure is relatively less sensitive measure to detect mass polarization.

3.4.4 Changes in Correlation Coefficients (Sorting)

Since my primary focus is whether the level of polarization has fluctuated with the timing of surveys and election types, I primarily focus on whether there has been a significant difference in the level of sorting between presidential and mid-term elections. In this dissertation, sorting is measured by the correlation between party identity and ideological self-placement. Spearman's rank correlation coefficients are used because party identification and political ideology are ordinal. Spearman's rank correlation (ρ) can be expressed like below.

$$\rho = \frac{\sum(x' - m_{x'})(y'_i - m_{y'})}{\sqrt{\sum(x' - m_{x'})^2 \sum(y' - m_{y'})^2}}$$

where $x'=\text{rank}(x)$, and $y'=\text{rank}(y)$.

Figure 3.24 displays the trend of correlation between party identification and political ideology over the last four decades. It seems clear that the level of sorting in the GSS has been increased over the last four decades, as many scholars have consistently insisted.

[Figure 3.24 about here]

The findings in Figure 3.24 show that partisan polarization has risen significantly in both presidential and mid-term election years. There is no significant difference in sorting level between party identification and political ideology by election type, which is similar to the issue polarization trend above (presidential election vs mid-term election). The Pearson's r score between party identification and political ideology in the presidential election was 0.38, but it was 0.39 in mid-term elections. Sorting, on the other hand, has steadily increased over the last four decades, rising from 0.19 in 1974 to 0.55 in 2018. Although Fiorina and his colleagues (2008, 2015, 2016) do not use the same metric, it, at glance, appears wrong to argue that political polarization is primarily a phenomenon of the elite because partisan polarization has almost tripled between 1974 and 2018 in the mass public.

The following tables (Table 3.5 and 3.6) show the results of the one-way ANOVA along with the Tukey post-hoc comparisons. While Figure 3.25 looks very similar among the type of elections, ANOVA test results indicate the level of correlation coefficients shows statistically significant difference among three types of elections. In detail, all three types of election have significant differences in the level of correlation coefficients. In other words, the Pew data reveals that the level of polarization (i.e., sorting) is changed by the type of elections. Overall, the results support my hypothesis, which assumes that the level of polarization will be changed by the types of elections because political interest varies by the salience of current political events (Prior 2010).

[Figure 3.25 about here]

In two different survey types, what factors influence the level of polarization? First of all, sample size could be the most important factor that makes Pew data more sensitive to polarization levels by election type. The sample size or the number of participants in a study has a huge impact on whether or not test results are significant. Despite the fact that the GSS covers a longer period of time, only 19 surveys are included in the analysis. The Pew data, on the other hand, includes 79 surveys from 2007 to 2020.

[Table 3.5 and 3.6 about here]

3.4.5 Changes in Sorting Score

The final measure of sorting proposed by Mason (2015). While most of previous studies have treated sorting as a dependent variable, which is a strong sign of political polarization (Davis and Dunaway 2016; Hetherington 2009; Levendusky 2009), Mason (2015) sees sorting as a potential factor that affects in-and-out group bias, political activism, and anger (i.e., social polarization). She classified polarization as two types (social polarization and issue polarization) and found that sorting is more related to social polarization compared to issue polarization. While the former occurs when partisan bias, political activism, and anger increased, the later indicates that citizens are increasingly aligning their political identities (i.e., party identification and ideology) with their party's side of the issues (DiMaggio et al. 1996; Evans et al. 2001; Fiorina et al. 2005; Levendusky 2009).

Mason (2015) claims that sorting is not the result of polarization in the public, but as a cause of polarization in the public. Specifically, social polarization has been driven by partisan-ideological sorting among the mass public and the effect of sorting on social polarization is much greater than its effect on issue polarization. Mason (2015) used combination of partisan strength, ideology strength and degree of aligning between party and ideological identity as a measure of sorting score. Based on Mason's (2015) measure of sorting, Figure 3.26 displays historical sorting scores by election types. The overall sorting score has been merely increased both in mid-term and presidential election years. For example, the sorting score at the beginning of the survey conducted in 1976 was 0.2398 and it was 0.2627 in 2018. Less than 3% of sorting score has increased over the last four decades. By this measure and using the GSS data, it is hard to conclude that Americans have been polarized since then.

In terms of survey timing effect, there is no significant difference between two election types after independent sample T-test: $[t(19) = -0.31331, p=0.7575]$. One of interesting results in Figure 3.26 is that the level of sorting score in mid-term elections was slightly higher from the 1980s to the 1990s, but the trend reversed after the 2000s. I do not find any clear patterns of sorting scores by election types, indicating that electorates' level of polarization has been relatively stable regardless of election types.

[Figure 3.26 about here]

I also examine sorting score using the Pew data using the same sorting score measure. I slightly update Mason's measure using the same procedure because my reconstructed Pew data uses a 5-point scale rather than the GSS's 7-point scale. As shown in Figure 3.27, sorting score has been increasing during recent decades. The percentage of sorting score has increased by over 6% from 2007 to 2020. However, I found no evidence of significant difference in sorting score between election years and non-election years. Figure 3.28 also shows almost identical sorting score between election years and non-election years except 2013.

[Figure 3.27 to 3.29 about here]

In this section, I examined the impact of the election on the level of polarization. Two types of polarization have been examined.

First, I looked at how different election types affect issue polarization using seven GSS questionnaires. Based on discussions about the ebb and flow of political interest by election type, I expected that the level of polarization in election years would

be higher than in non-election years. I also expect that the polarization level will be higher in presidential election years than in mid-term election years.

However, the findings show a weak link between polarization and the types of elections. It looks clear that the polarization levels in either mid-or general election years are higher than those in non-election years, but the difference in polarization levels between mid-term election years and presidential election years was not large. Rather, several issues of polarization in mid-term elections were higher than those in presidential elections, such as issues related to defense spending and welfare issues paired with political views.

In mid-term elections, issue consistency among party identifiers was more aligned across four issues (abortion, gun control, welfare, and defense), whereas issue consistency across three issues was greater in general elections (blacks, SOL, and spending). Issue consistency with ideology shows similar results. Four issues (abortion, welfare, defense, and spending) were more closely aligned in midterm elections, and three issues (Gun, Blacks, and SOL) were more closely aligned in general elections.

Second, I investigated the impact of the election on sorting. Using four different measures of sorting, I also found mixed results. To begin with, I reexamined the argument of Fiorina and Abrams' (2008). According to them, the proportion of moderates and independents has been stable, and thus they could not find any evidence that the public has been polarized. Using the GSS data with a more extended research scope, I found that the proportion of moderates and independents has been increased as they claimed. However, the results also showed that the percentage of extremists and strong partisans has also increased. The Pew produced decreasing trend of moderates and independents and mixed findings of extremists and strong partisans. This apparent inconsistency stems from different research time periods. The Pew data covers the years

2007 to 2020, while the GSS data covers more extended years 1980 to 2018. When I compare the GSS pattern from 2007 to those of the Pew, I find that they are nearly identical results as shown in table 3.7.

[Table 3.7. about here]

In terms of election effect on polarization, both surveys did not produce significant difference in proportion of moderates and Independents. Still, it is too early to conclude that there has been polarization in the mass public with this data and measure.

Another measure of sorting is overlap coefficient. When I use the threshold proposed by Lelkes (2016), there has been no polarization in the general public both in the GSS and the Pew findings. In terms of effect of election on sorting, there was no significant difference among election types.

Third type of measure of sorting is correlation coefficients, firstly introduced by Abramowitz and Saunders (2005). I tracked changes in Correlation coefficients (Pearson r) of party identification with Liberal-Conservative identification and found overall increase in both surveys. Using the GSS, I found no difference in sorting level between mid-term and presidential elections. However, the Pew data revealed that the level of polarization (i.e., sorting) is changed by the type of elections. One-way ANOVA along with the Tukey post-hoc comparisons performed and shows statistically significant difference among three types of elections.

Last measure of sorting was proposed by Mason (2015). I found no evidence that there have been differences in the level of sorting by the types of election. Specifically, the results by the GSS data show that elections did not make no difference

in the level of sorting. Likewise, the Pew did not show statistically difference in sorting level among election types.

3.5 The Impact of Survey Timing on Polarization

This section focuses on how the timing of the survey affects the level and intensity of polarization using the Pew data. The GSS survey was excluded because those were mostly conducted between February and May, and it is not possible to isolate the impact of survey timing within a year. In addition, it is also difficult to examine the effect of election on the level of polarization because the GSS has only conducted their survey in election years since 1994. The Pew Research Center, on the other hand, has conducted 79 polls since 2007, including non-election years. The months in which the survey was carried out are also evenly distributed except November and August. In this section, I argue that the level of mass polarization may follow a cyclical pattern. In other words, polarization may fluctuate over the course of electoral cycle. Higher levels of party-related events around elections may increase the public's awareness of party conflicts, and exposure to these events and political participation may reinforce the public's decision to support one side over another (Brader and Tucker 2001; Iyengar and Simon 2000).

Uncovering the significance of time in response to survey as a determinants of political polarization is important. As discussed earlier in this chapter, increasing polarization is considered a major challenge to democracies (Dryzek et. al. 2019; Levitsky and Ziblatt 2018). On the one hand, increasing trend of affective polarization has been well documented arguing that citizens increasingly tend to have animosity against people who identified other parties (Iyengar et al. 2012; Lelkes 2016; the Pew 2014; Westwood et al. 2018), others did not find any evidence of affective polarization in the mass public (Boxell et al. 2020). Affective polarization is not the only thing considered a major threat to democracies. Some argues that ideological divergence

among party identifiers is also a problem for democracies. Talisee (2021) argues that political polarization results not only in deadlock and dysfunction in the democratic process but also increases the incapacity of citizens to communicate with each other. According to him, as citizens become more polarized, they increasingly come to define themselves and others primarily in terms of partisanship. Politics is not the arena to compete for policy ideas anymore, but it represents their lifestyle.

While the question has been studied extensively, scholars did not reach a conclusion whether the level of polarization has been increased or not (Lelkes 2016). We still don't know whether or not citizens have been polarized, and thus we still don't know whether or not a polarized society is harmful to our democracies. Surveys conducted only during the election season are insufficient to support this claim. It is possible to argue that the polarization we are experiencing is collective attention that occurs during the election season. There may be other facets of the temporal increase or decrease of polarization level that should be considered. I was motivated by the observation that interest in specific topic in the mass public waxes and wanes by the related events. For example, we have witnessed a surge of interest in gun control laws when mass shootings occur and then cool down rapidly. Like a mass shooting that induces citizens' collective attention, an election may trigger voters' political interest. Increased political interests may cause citizens to consume a large amount of political information, participate in political events, and reinforce their willingness to support one side or the other. In this section I seek to provide a theoretical ground of the effect of the electoral cycle on the level of polarization. I expect that the time in the survey response may affect respondents' intensity of party identification and political views as well as the level of political polarization. Accordingly, proximity to the election may increase the level of polarization and it decrease rapidly right after the election ends.

To test my primary hypothesis that time of the survey response may affect the level of polarization, I merge 79 political surveys by the Pew Research Center from 2007 to 2020. Data includes 130,000 samples with exact date of interview. Due to lack of consistent issue related survey questionnaires, I only use the level of sorting as a measure of polarization. As alternative measure of political polarization, I also used partisan strength and ideological strength. I present descriptive statistics in Table 3.8.

Partisan strength is a 3-point scale ranging from 1 (Independent) to 3 (Strong Partisans)

Ideological strength is a 3-point scale ranging from 1 (Moderate) to 3 (Extremely Conservative or liberal)

Sorting Score, followed by Mason (2015), was measured by multiplying an identity alignment score (the absolute difference between 5-point political views and 5-point party identification, reversed) by the partisan strength and ideological strength. It also ranged from 0 to 1.

Month is the one of the main independent variables in this section. The Pew survey has an information about the exact date of interview, thus, I transform those into month variables. To isolate non-election effect, the Month variable was only used in election years. I assume that the level of polarization including alternative measures (partisan strength and ideological strength) is likely to increase as election approaches. Due to sample size, I remove surveys conducted in December and there is no survey conducted in November. I coded 0 if survey month is January and coded 1 if the month is October.

Distance is measured by election cycle. Election cycle in the United States is 24 month from one election to another. I hypothesize that the effect of election on polarization is non-linear. Thus, I folded them in half and coded 0 when survey was conducted in October in non-election years. October and December in election years were coded 1.

Election is a binary variable coded 1 if the survey conducted either in general or mid-term election years and 0 when the survey conducted in non-election years. General election variable also was included in the model, coded 2 if general election held, coded 1 if mid-term election held, 0 otherwise.

Control variables, followed by DiMaggio et al. (1996) and Mason (2015), are included for education, sex, race, age, urban residence, southern residence⁴, and church attendance.

[Table 3.8 about here]

[Figure 3.30 about here]

Figure 3.30 depicts the sorting level by the proximity of an election. Since the distance variable is measured based on upcoming elections, it ranges from 23 (right after the previous election) to 1 (one month before the upcoming election). It is more like a U-shaped relationship than a linear relationship. I expected that the level of polarization decreases as the previous election ends and increases as the upcoming election approaches, with a symmetric relationship between the electoral cycles. However, the Figure 3.30 appears to depict an asymmetric relationship between election cycles. The level of sorting may decrease very quickly right after an election and increase slowly as the next election approaches. The results support my claim that

⁴ The most widely accepted definition of the South includes the eleven states. The South is divided into the Deep South (Alabama, Georgia, Louisiana, Mississippi, and South Carolina) and the Peripheral or Outer South (Arkansas, Florida, North Carolina, Tennessee, Texas, and Virginia). (Bullock III and Rozell 2012)

the level of polarization is not stable, but changes in response to external factors such as elections.

To test my primary hypothesis that the level of polarization rises as elections get closer, I used an OLS model to predict the impact of survey timing on the level of sorting. Table 3.9 examines the determinants of the measure of polarization: sorting. As an alternative measure of polarization, I also added partisan strength and ideological strength as dependent variables. To test the effect of survey timing on the level polarization, I used four different kinds of survey timing variables were used: *Month*, *Month2*, *Election* and *General Election*. The *Month* variable indicates how many months are away from the month survey was performed only in either general election or mid-term election years. I used the *Month* variable only in election years to find out whether or not there is a linear relationship between proximity to election and the level of polarization. The *Montht2* variable that how many months are left to the upcoming elections. As previously discussed, it is expected that there will be a u-shaped relationship in which interests in politics will decrease immediately following previous elections and gradually increase when an election approaches. Thus, I folded the distance variable in half to test the linearity of the distance to both previous and upcoming elections and the level of polarization. Lastly, the *Election* variable refers to whether an election held or not. I expect positive relationship between the level of polarization and election years. General election variable is a 3-point scale (0: non-election, 1:mid-term, 3: general election)

Multiple linear regression is used to evaluate the effect of survey timing on polarization. Table 3.9 summarizes the results of a linear model. Consistent with my theory, the results indicates that time in survey response has a significant effect on the level of sorting and partisan strength. Specifically, all time variables in the first three

column are statistically significant on the level of sorting. In the first column, the finding reveals that strong relationship exists between the level of polarization and the timing of survey. The level of sorting increased as the election approached in election years, suggesting that citizens tend to match their social identity as election comes closer. Election salience may explain why people are more likely to show more polarized attitudes as the election draws closer. Parties typically try to mobilize electorate during election seasons, but they are less enthusiastic about mobilizing citizens after the elections (Wilkins 2004). During election season, an influx of political information may lead citizens to clearer social identities and strengthen their attachment toward specific party. A lot of media exposure can influence voters' polarized attachment toward party brand. As political information about parties and candidates is injected into mass public, electorates' attachment may grow over time (Converse, 1969). Competitiveness of election are more salient as election approaches. According to Downsian scholars, citizens are more likely to vote when elections matter because they assume all voters are rational (Franklin 2004). Voters are more responsive to the elections that are more salient and higher competitiveness. Based on the theory, people may show different levels of polarization depending on the types of election.

Second and third column revealed that the distance from an election is also significant on the level of sorting both in election and non-election years. Survey respondents surveyed near the election are more likely to define themselves as aligned electorates. They demonstrated a higher degree of partisanship matching their political views.

An alternative measure of polarization provides similar results. The fourth to sixth column of Table 3.9 examine the determinants of partisan strength. In column 4, the level of partisan strength increases as elections are more proximate in election years.

In column 5 and 6, distance to closest election either mid-term or general election also affect the level of partisanship. Columns 7 to 9 of Table 3.9 examines the effect of timing variables on ideological strength. Interestingly, while the *Month* variable was significant on the level of ideological strength in election years, it was not in non-election years.

[Table 3.9 about here]

The results are consistent with the findings of the study by Michelitch and Utych (2018) in that partisanship is more volatile than political views. They found that partisanship is not static as previous studies argued and influenced by the electoral cycle. However, survey respondents are influenced by elections. People who are responded to survey in election years are more likely to show more polarized political attitudes than those who responded in non-election years. In similar, respondents in general election years are more prone to show more polarized attitudes than those who answered in mid-term or non-election years. In sum, the OLS results confirmed that survey timing significantly increases the likelihood of citizens' polarization. The closer a survey was performed to an election, the more aligned respondents' partisan and ideological identities.

3.6 Conclusion

The purpose of this chapter is to examine potential effect of time in response to survey on the level of polarization. To test the effect of survey timing, I utilized mainly two data sources that have been administered both in election years and non-election years including the ANES survey data to see general trend of the level of polarization over the last four decades.

First, I looked at whether two different measures of polarization have increased over the last four decades, as many scholars have claimed. Using two nationally representative surveys: the ANES and the GSS, I re-examine the argument that issue consistency and sorting have increased in the mass public. While there are some variations dependent upon the type of issues and data sources, both the ANES and the GSS results showed that the level of polarization has increased since 1980s. The results support previous research that claim Democrats and Republicans are more divided along partisanship and political views (Abramowitz and Saunders 1998; Abramowitz and Saunders 2008; Abramowitz 2010; Fiorina 2011; Fiorina, Abrams and Pope 2008; Hetherington 2001; Levendusky 2009; Lelkes 2016). Both data set presented similar increases in the level of issue polarization, but the level of sorting showed different pattern between two data set. While the level of sorting in the GSS were more dramatically increased, the ANES has shown fluctuations in the level of sorting. The ANES, on the other hand, had a higher overall level of sorting than the GSS. Due to data limitations, I was unable to compare the ANES and the GSS in terms of level of sorting, but it appears that differences in level of sorting are caused by survey timing. The GSS is typically conducted from February to May, while the ANES is typically conducted from August to December.

Second, I assume that the level of polarization in mid-term or non-election tends to be lowered than that of the election years. I found no difference in the level of issue polarization using the GSS. Both measures paired controversial issues with party identification and political views did not produce different level of polarization between election and non-election years. Furthermore, four different sorting measures were tested to demonstrate the differing levels of sorting by election type. One of the measures of sorting proposed by Fiorina and his colleagues (Fiorina 2014; Fiorina and Abrams 2008) was the ratio of pure independent and moderate. The results revealed that there was no significant difference in the level of sorting by the election types. The level of pure independents and moderates has not produced different results between presidential election and mid-term election. Another measure of sorting, overlap coefficients proposed by Levendusky and Pope (2011) also found no significant difference in the level sorting. The third sorting measure, correlation coefficient, which has been the most widely used sorting measure, yielded mixed results. In the case of the GSS, I found no difference in sorting level by the election types. However, the Pew survey revealed that the level of sorting is significantly different by the types of elections. I also performed one-way ANOVA test to determine whether there are any statistically significant differences in sorting level by election types. ANOVA test revealed that the sorting levels fluctuate by the election types. Tukey multiple pair-wise comparison confirmed each pair of election type produced statistically significant difference, suggesting fluctuations in polarization over the electoral cycle. Last measure of sorting was the sorting score by Mason (2015). I found no statistically significant difference in sorting score by the election types. Mixed results of sorting level by the election types are mostly stem from the characteristics of data set. While the GSS was unable to isolate the effect of elections on the level of sorting due to a scarcity of non-

election survey years, the Pew data set, which contains roughly half of non-election survey years, may increase the effect of elections on the level of sorting. Although Mason's (2015) measure of sorting did not show statistically significant difference in sorting level, the mean of sorting scores was slightly higher in election years. That of presidential election years was also higher than that of mid-term election years.

Lastly, I conducted OLS regression to estimate the effect of time in survey response. The findings demonstrate that the timing of survey has a significant effect on the level of polarization (i.e., sorting) in general and alternative measures of polarization (partisan strength and ideological strength). The results suggest that respondents who took a poll near the election month are more likely to identify more polarized social identity. I also found that election is also a key determinant of the intensity of the level of polarization, partisan strength and political views. The chapter confirmed my hypotheses that there is an electoral cycle fluctuations in the level of polarization and citizens are more likely to show more polarized attitude by the proximity of an election.

Table 3.1 ANES Variables for the Test of Polarization

Issue	Variable	Since	Type	Scale	Statistics
<i>Abortion</i>	VCF0838	1980~	ordinal	4	Spearman
<i>Gun Law</i>	VCF9238	2000~	ordinal	3	Spearman
<i>Welfare</i>	VCF0894	1992~	ordinal	3	Spearman
<i>Defense Spending</i>	VCF0843	1980~	ordinal	7	Spearman
<i>Aid to Blacks</i>	VCF0830	1972~	ordinal	7	Spearman
<i>Standard of Living</i>	VCF0809	1972~	ordinal	7	Spearman
<i>Role of Gov.</i>	VCF0839	1982~	ordinal	7	Spearman
<i>Party Affiliation</i>	VCF0301	1952~	nominal	7	-
<i>Political Ideology</i>	VCF0803	1972~	nominal	7	-

Source: ANES 1948-2020 Time Series Cumulative Data

Table 3.2 GSS Variables for the Test of Polarization

Issue	Variable	Since	Type	Scale	Statistics
<i>Abortion</i>	abany	1977~	nominal	2	Spearman
<i>Gun Law</i>	gunlaw	1972~	nominal	2	Spearman
<i>Welfare</i>	natfare	1973~	ordinal	3	rho
<i>Defense Spending</i>	natarms	1973~	ordinal	3	rho
<i>Aid to Blacks</i>	helpblk	1983~	ordinal	5	rho
<i>Standard of Living</i>	helppoor	1983~	ordinal	5	rho
<i>Role of Gov.</i>	helpnot	1975~	ordinal	5	rho
<i>Party Affiliation</i>	partyid	1972~	nominal	7	-
<i>Political Ideology</i>	polviews	1974~	nominal	7	-

Source: GSS 1972-2018 Cross-Sectional Cumulative Data

Table 3.3 The GSS survey distribution by election types

Election	Freq. (sample size)	Percent(sample)
Presidential Elections	9(19,819)	36.00(37.28)
Mid-term Elections	10(23,731)	40.00(44.67)
Non-Elections	6(9,612)	24.00(18.08)
Total	25(53,162)	100(100)

Source: General Social Survey 1980-2016

Table 3.4 The Average Correlation* between Issues and Political Identity

Issues	With Party Identification			With Ideology		
	Presidential	Mid-term	No-election	Presidential	Mid-term	No-election
Abortion	0.109	0.134	0.022	0.233	0.260	0.168
Gun	0.141	0.150	0.053	0.136	0.128	0.091
Welfare	0.224	0.244	0.200	0.181	0.231	0.174
Defense	0.200	0.209	0.136	0.221	0.253	0.154
Blacks	0.290	0.281	0.215	0.255	0.235	0.173
SOL	0.306	0.299	0.260	0.259	0.248	0.205
Spending	0.311	0.307	0.244	0.244	0.262	0.201

* Pearson correlation was used.

Note: SOL (Gov't responsibility for Standard of Living), Blacks (Aid to Blacks)

Source: General Social Survey 1972-2016 Cross-Sectional Cumulative Data

Table 3.5 Analysis of Variance by Election Types

	DF	Sum of Sq	Mean Sq	F	Pr(>F)
Election types	2	5.32	2.6598	1120	<2e-16***
Residuals	130004	308.82	0.0024		

Significance codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Table 3.6 Tukey multiple pairwise-comparisons

pair-wise comparison	Non-Election	Mid-Term	Presidential
Non-Election	-	mean diff. -0.016 ***	mean diff. 0.008 ***
Mid-Term	-	-	mean diff. -0.008 ***
Presidential	-	-	-

Significance codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Table 3.7 Changes in proportion of partisanship and political views

	GSS (1980-2018)	GSS (2006-2018)	PEW (2007-2020)
MODERATE	Increase	Decrease	Decrease
INDEPENDENT	Increase	Decrease	Decrease
EXTREMIST	Increase	Increase	Increase
STRONG PARTISAN	Increase	Decrease	Decrease

Table 3.8 Variables (Pew)

Variables	Range	Mean	SD	N
party identification strength	1-3	2.537	0.639	120,577
political ideology strength	1-3	1.776	0.685	123,107
sorting score	0-1	0.354	0.261	120,577
month (only election years)	1-10	5.405	3.348	62,186
month2 (including non_election years)	2-12	7.223	3.329	130,007
election	0-1	0.525	0.500	130,007
general election	0-2	0.845	0.879	130,007
southern residence	0-1	0.3	0.458	130,007
urban residence	0-1	0.155	0.362	130,007
male	0-1	0.510	0.5	130,007
age	18-99	52.26	18.774	130,007
age(squared)	324 – 9,801	3,084	2,031	130,007
education	1-7	4.51	1.544	115,493
white	0-1	0.726	0.446	130,007
Hispanic	0-1	0.029	0.294	130,007
Asian	0-1	0.096	0.166	130,007
blacks	0-1	0.114	0.318	130,007
church attendance	1-6	3.614	1.633	123,885

Table 3.9 The Effect of Survey Timing on Sorting, Partisan Strength, and Ideological Strength

	Sorting Score			Partisan Strength			Ideological Strength		
	1	2	3	4	5	6	7	8	9
Month (Election years)	0.003*** (0.000)			0.008*** (0.001)			0.004*** (0.001)		
Month2		0.002*** (0.000)	0.002*** (0.000)		0.004*** (0.001)	0.004*** (0.001)		0.000 (0.000)	0.000 (0.000)
Election		0.020*** (0.001)			0.010*** (0.004)			0.013** (0.004)	
General Election			0.011*** (0.001)			0.008 (0.002)			0.004 (0.002)
Alignment[†]	0.135*** (0.001)	0.129*** (0.001)	0.129*** (0.001)	-0.198*** (0.003)	-0.205*** (0.002)	-0.021*** (0.002)	0.171*** (0.003)	0.172*** (0.002)	0.172*** (0.002)
South	0.009*** (0.002)	0.008*** (0.001)	0.008*** (0.001)	0.007 (0.006)	0.011* (0.004)	0.011* (0.004)	0.037*** (0.006)	0.040*** (0.004)	0.040*** (0.004)
Urban	-0.001 (0.002)	-0.010*** (0.002)	-0.011*** (0.002)	-0.005 (0.007)	0.001 (0.005)	0.000 (0.005)	-0.008 (0.008)	-0.016** (0.006)	-0.016** (0.006)
Male	-0.010*** (0.002)	-0.011*** (0.001)	-0.011*** (0.001)	-0.079*** (0.006)	-0.081*** (0.004)	-0.081*** (0.004)	0.010 (0.006)	0.007 (0.004)	0.007 (0.004)
White	0.026*** (0.003)	0.023*** (0.002)	0.023*** (0.002)	0.094*** (0.009)	0.091*** (0.006)	0.092*** (0.006)	-0.000 (0.010)	-0.015* (0.007)	-0.015* (0.007)
Hispanic	-0.003 (0.003)	-0.006* (0.002)	-0.005* (0.002)	-0.040*** (0.010)	0.032*** (0.007)	-0.032*** (0.007)	0.038*** (0.011)	0.022** (0.008)	0.022** (0.008)
Asian	-0.007 (0.006)	-0.002 (0.005)	-0.002 (0.005)	0.022 (0.019)	0.033* (0.013)	0.033* (0.013)	-0.065** (0.020)	-0.065*** (0.014)	-0.065*** (0.014)
Blacks	0.034*** (0.004)	0.034*** (0.003)	0.034*** (0.003)	0.127*** (0.012)	0.125*** (0.008)	0.125*** (0.008)	0.046*** (0.013)	0.039*** (0.009)	0.039*** (0.009)
Age	0.002*** (0.000)	0.002*** (0.000)	0.002*** (0.000)	0.005*** (0.001)	0.004*** (0.001)	0.004*** (0.001)	0.004*** (0.001)	0.003*** (0.001)	0.003*** (0.001)
Age(squared)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000** (0.000)	-0.000** (0.000)	-0.000*** (0.000)	-0.000** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)
Education	0.005*** (0.001)	0.005*** (0.000)	0.005*** (0.000)	0.031*** (0.002)	0.028*** (0.001)	0.028*** (0.001)	-0.029*** (0.002)	-0.029*** (-0.001)	-0.029*** (-0.001)
Church	-0.001 (0.001)	-0.001* (0.001)	-0.001* (0.000)	-0.002 (0.002)	-0.003* (0.001)	-0.003* (0.001)	0.001 (0.002)	-0.002 (0.001)	-0.002 (0.001)
Constant	-0.262*** (0.008)	-0.244*** (0.006)	-0.243*** (0.006)	2.866*** (0.025)	2.926*** (0.018)	2.929*** (0.017)	1.088*** (0.027)	1.142*** (0.019)	1.145 (0.019)
Adj. R-Squared	.286	.264	.264	.106	.110	.110	0.060	0.061	0.061
N	52,028	108,911	108,911	49,311	101,171	101,171	50,272	104,279	104,279

Significant codes: 0 ‘***’, 0.001 ‘**’, 0.01 ‘*’, 0.05 ‘.’, 0.1 ‘.’, 1

[†]Alignment indicates the degree of alignment between party identification and political ideology

Figure 3.1 Changes in Issue Consistency with Political Ideology (ANES)

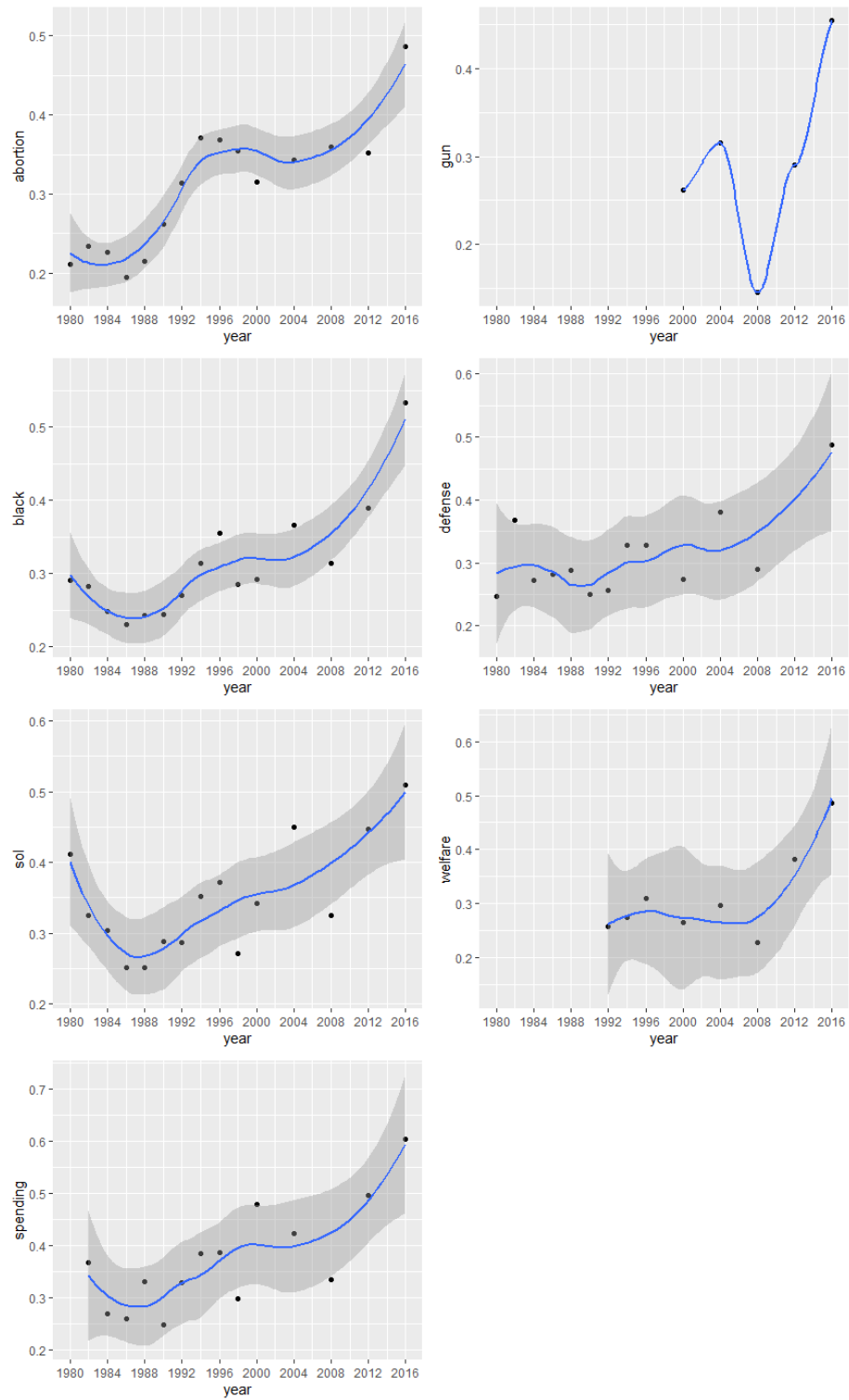


Figure 3.2 Changes in Issue Consistency with Party Identification (ANES)

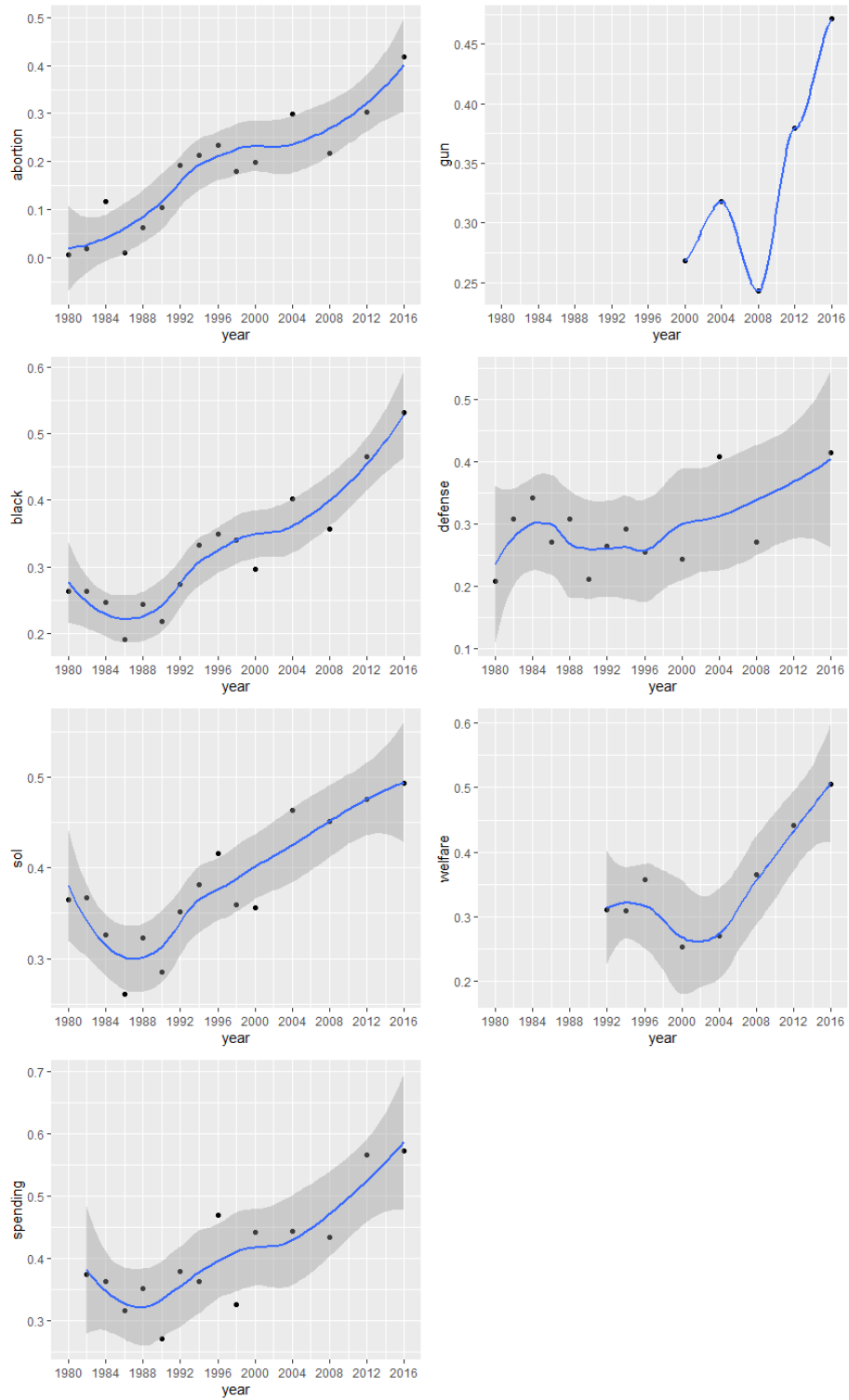


Figure 3.3 Changes in Sorting (ANES)

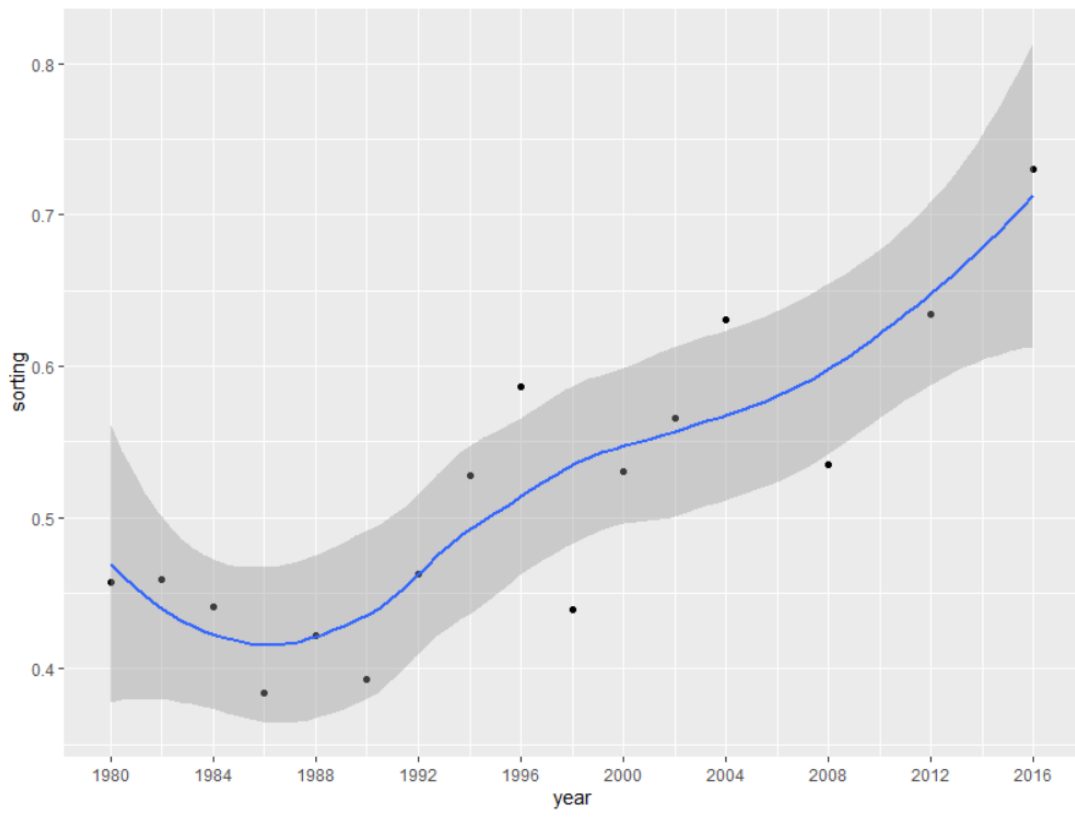


Figure 3.4 Changes in Issue Consistency with Political Views (GSS)

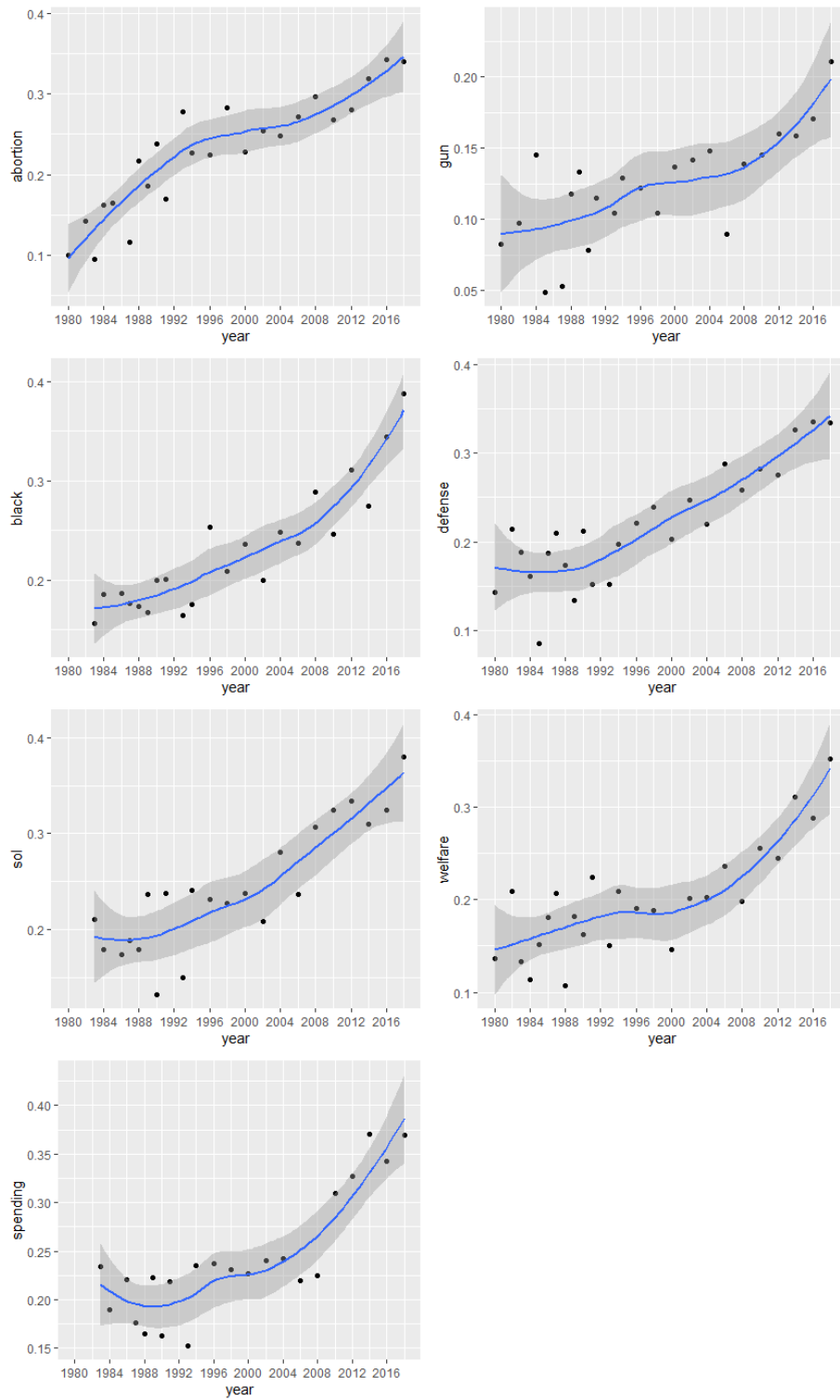


Figure 3.5 Changes in Issue Consistency with Party Identification (GSS)

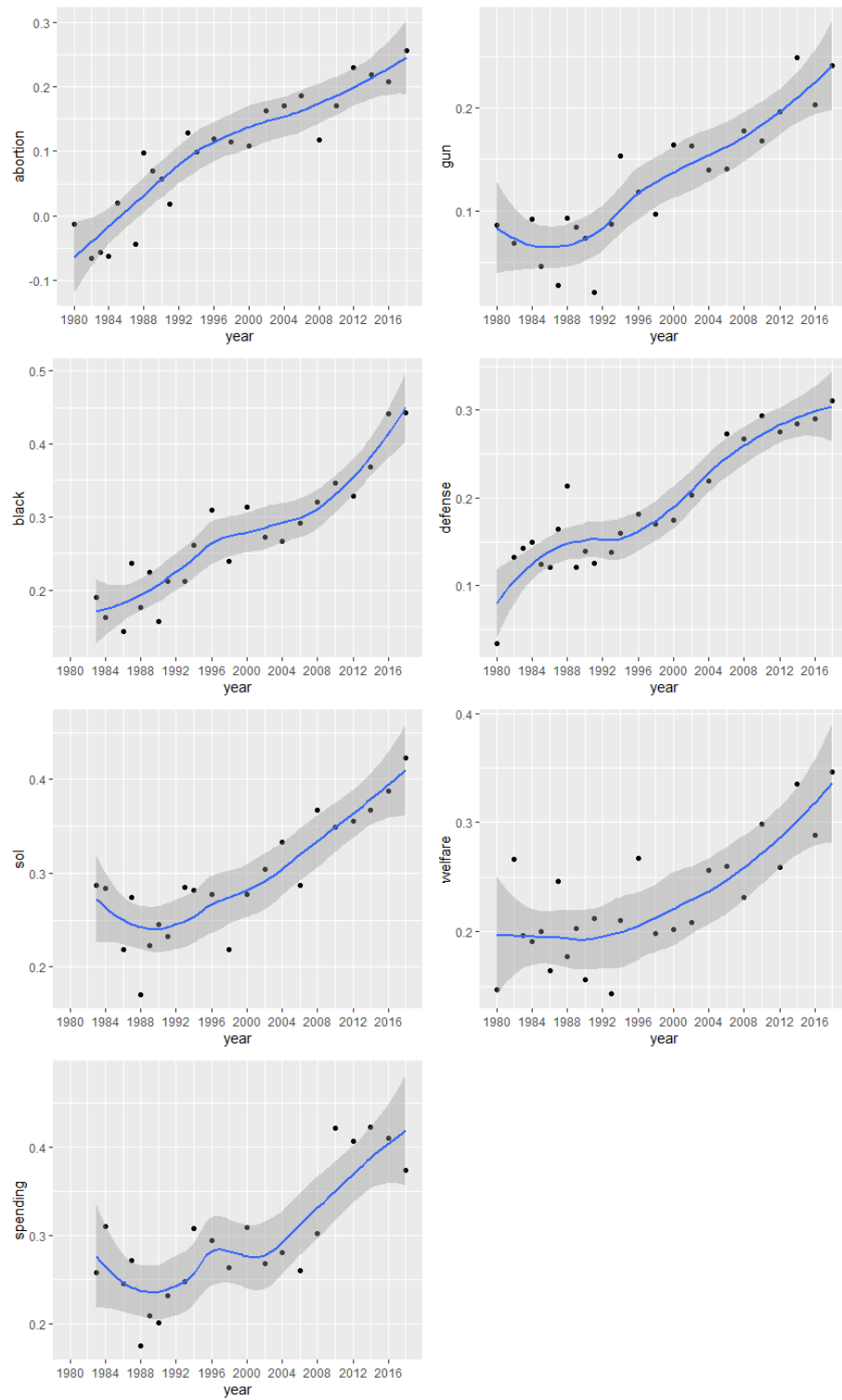


Figure 3.6 Changes in Sorting (GSS)

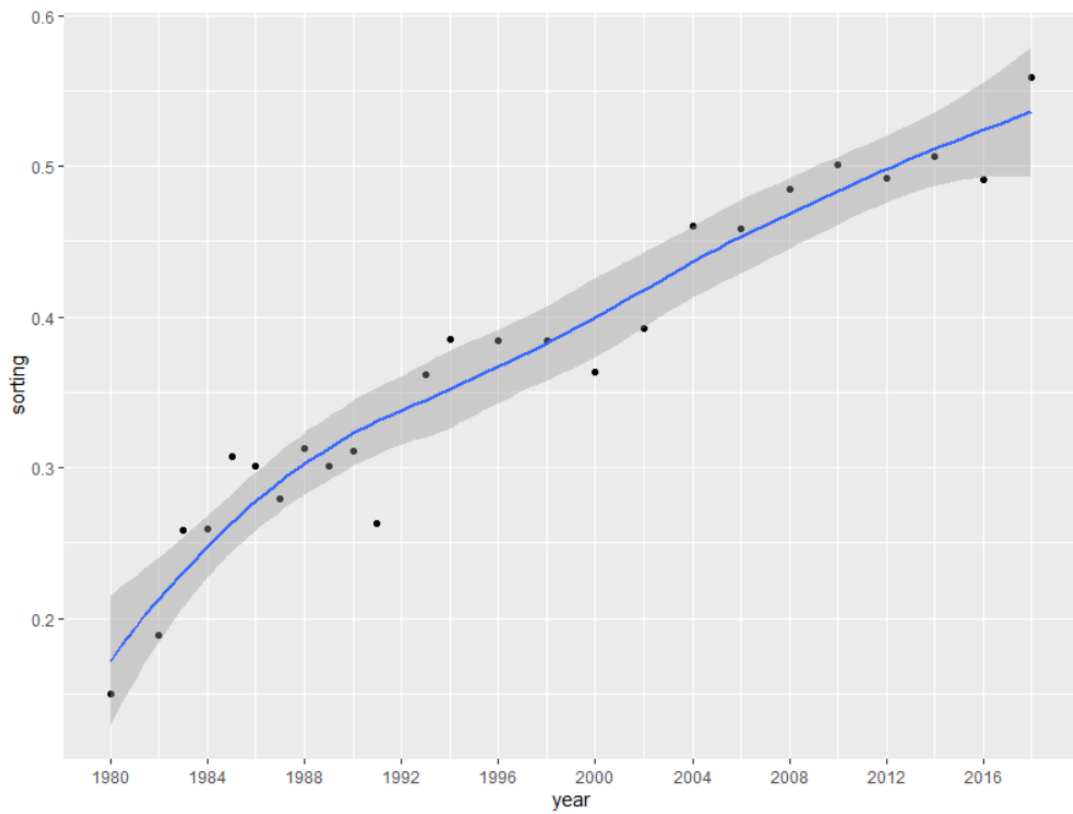


Figure 3.7 Cumulative Distribution of Survey Timings (%)

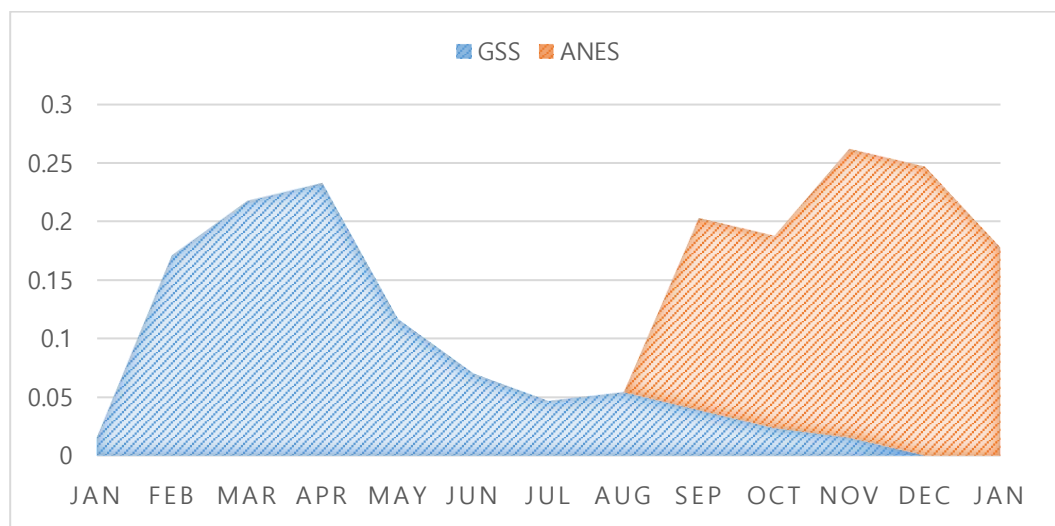


Figure 3.8 Issue Polarization with Party Identification (GSS)

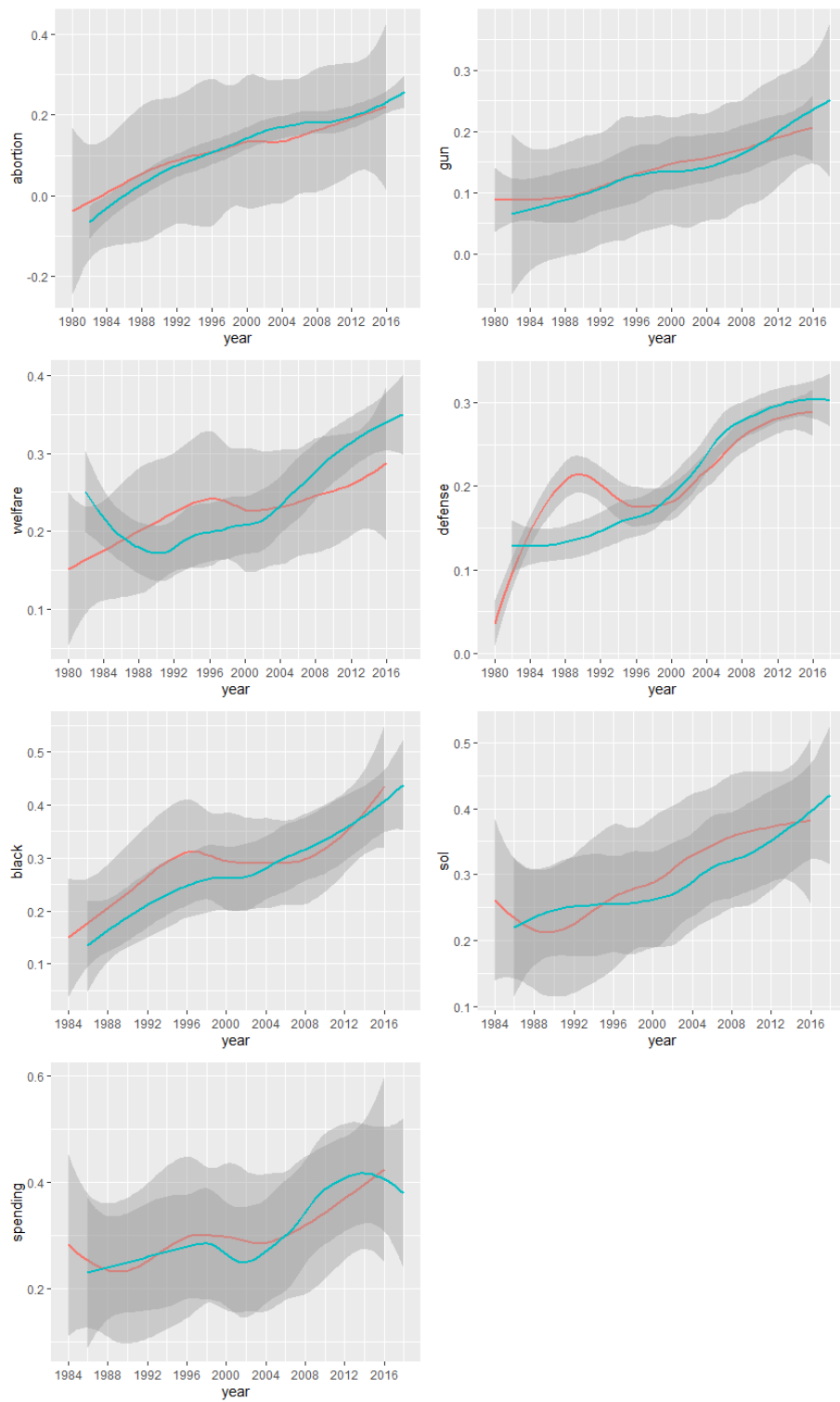


Figure 3.9 Issue Polarization with Political Ideology (GSS)

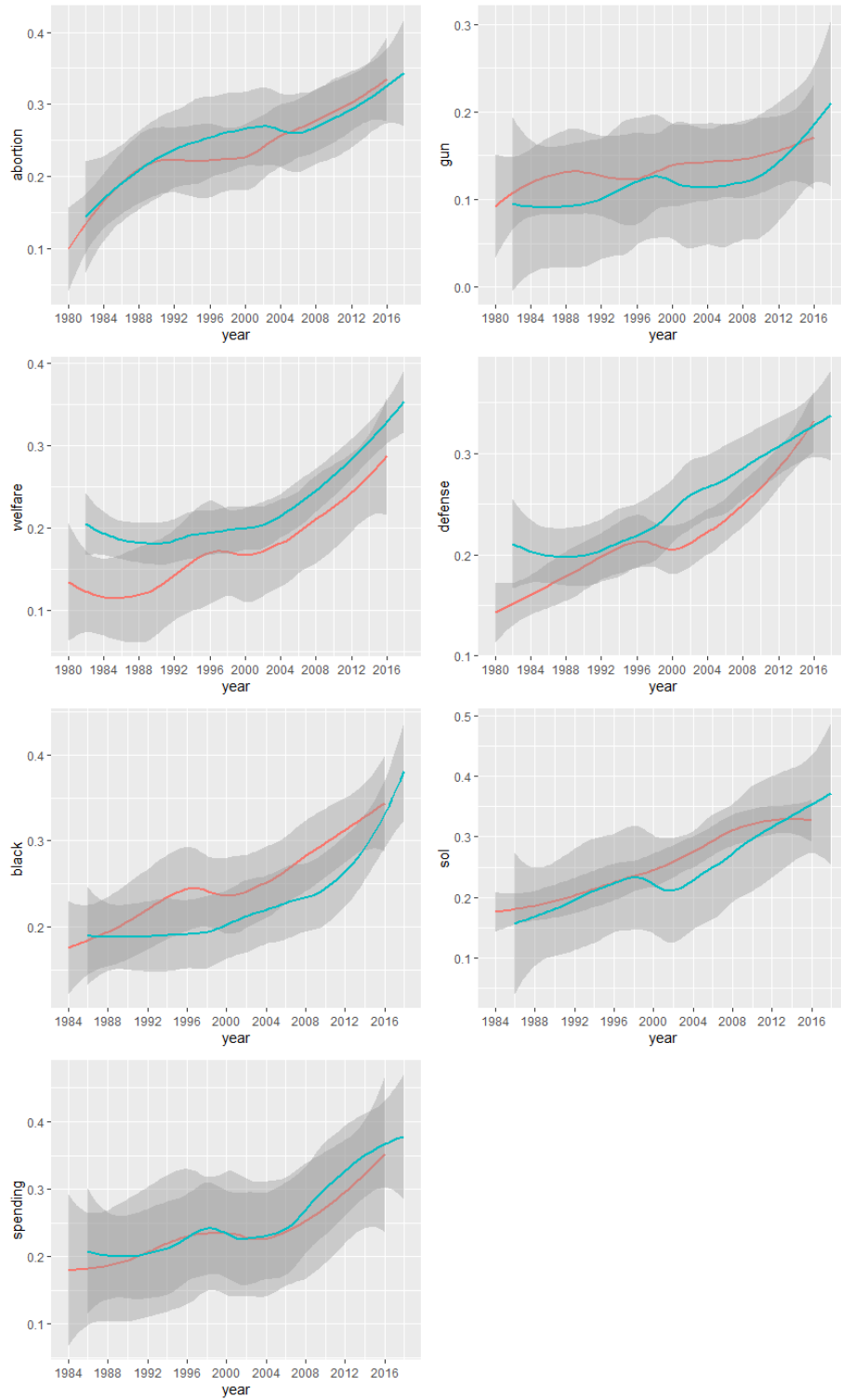
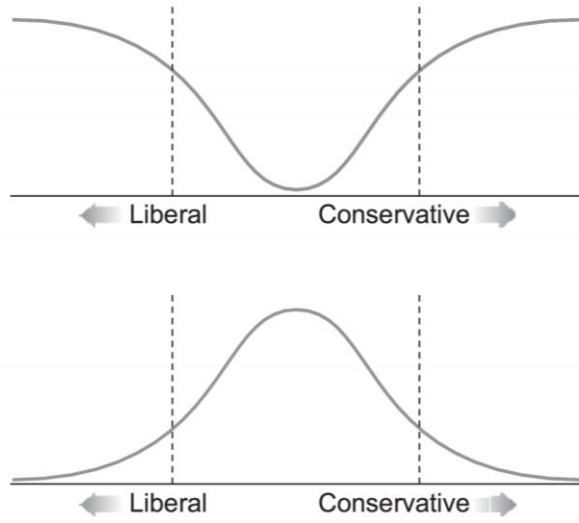


Figure 3.10 Hypothetical Distributions on a Liberal–Conservative Scale



Source: Fiorina and Abrams (2008)

Figure 3.11 Distribution of Citizens' Political Ideology (GSS, 1980-2018)

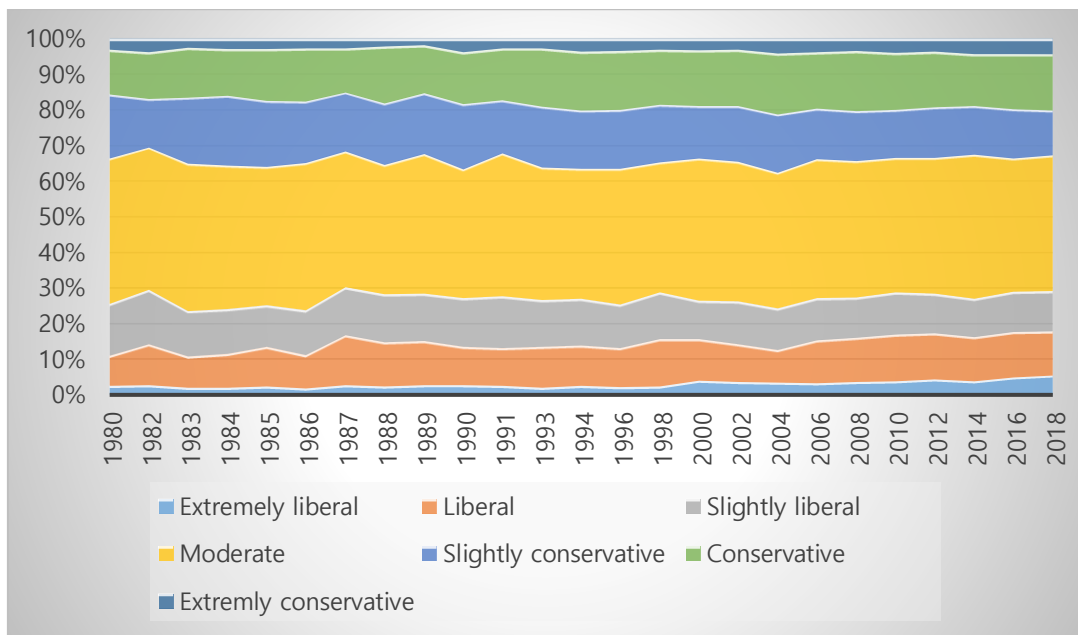


Figure 3.12 Changes in Moderates and Extremists (GSS, 1980-2018)

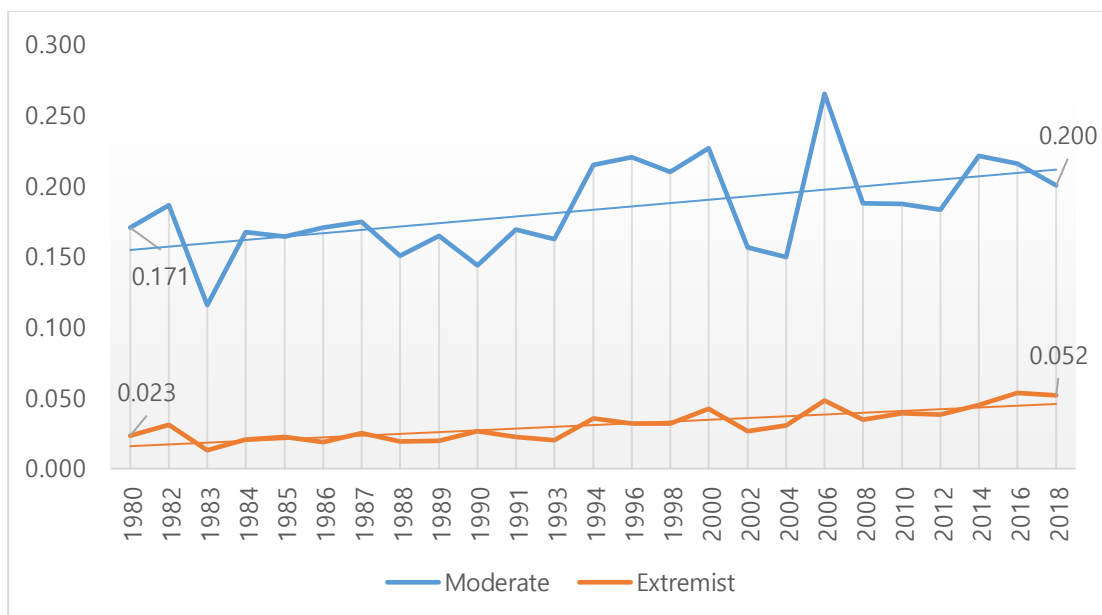


Figure 3.13 Distribution of Citizens' Party Identification (GSS, 1980-2018)

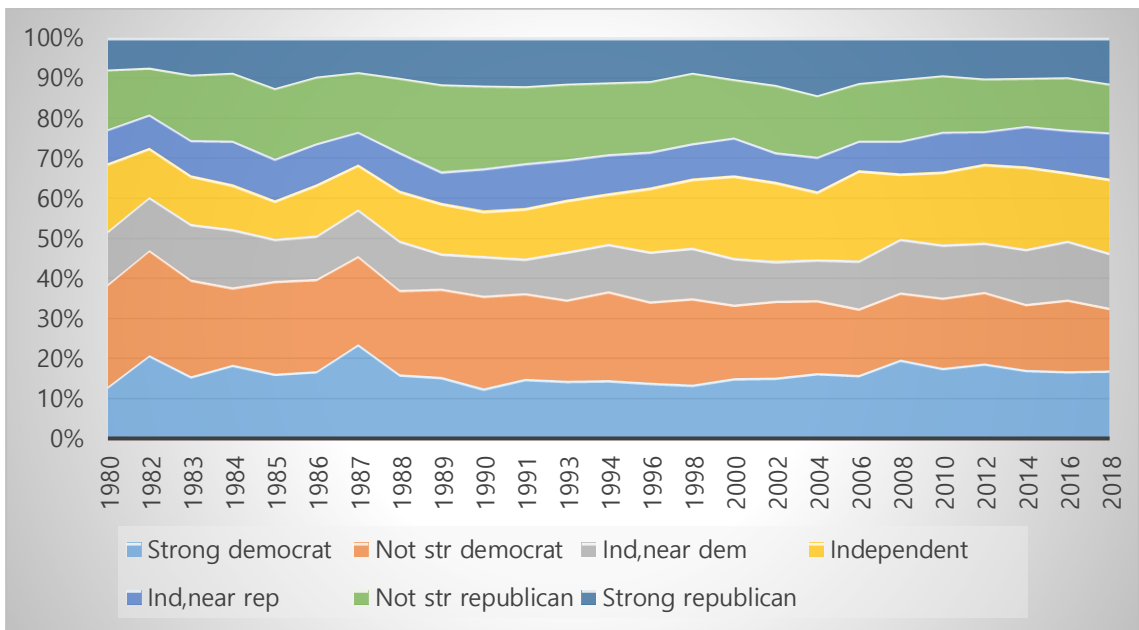


Figure 3.14 Changes in Independent and Strong partisans (GSS, 1980-2018)

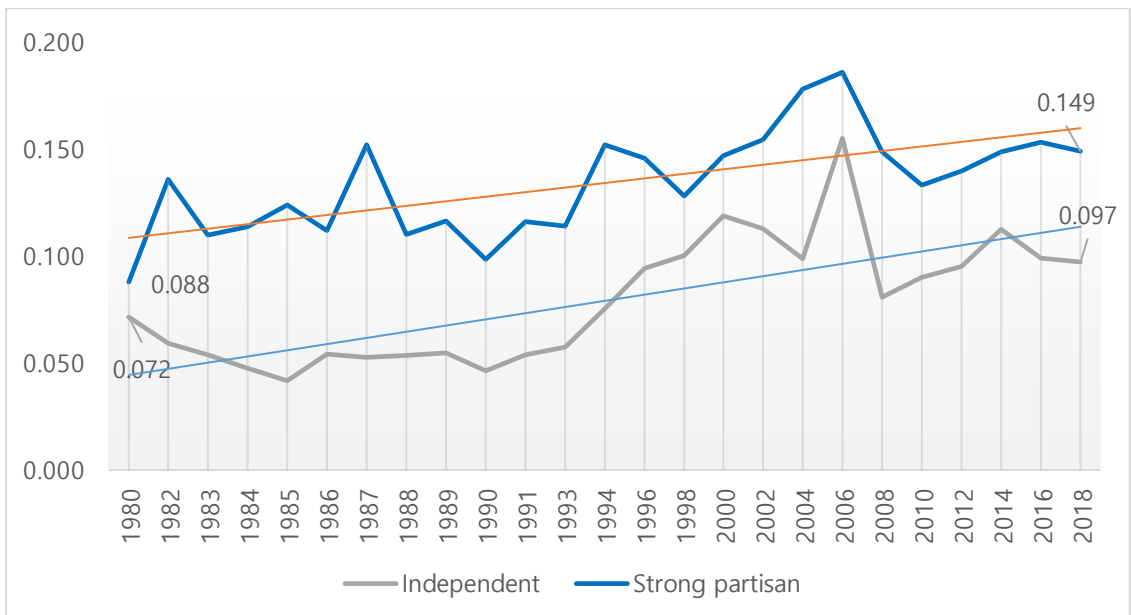


Figure 3.15 Distribution of Citizens' Political Ideology (Pew, 2007-2020)

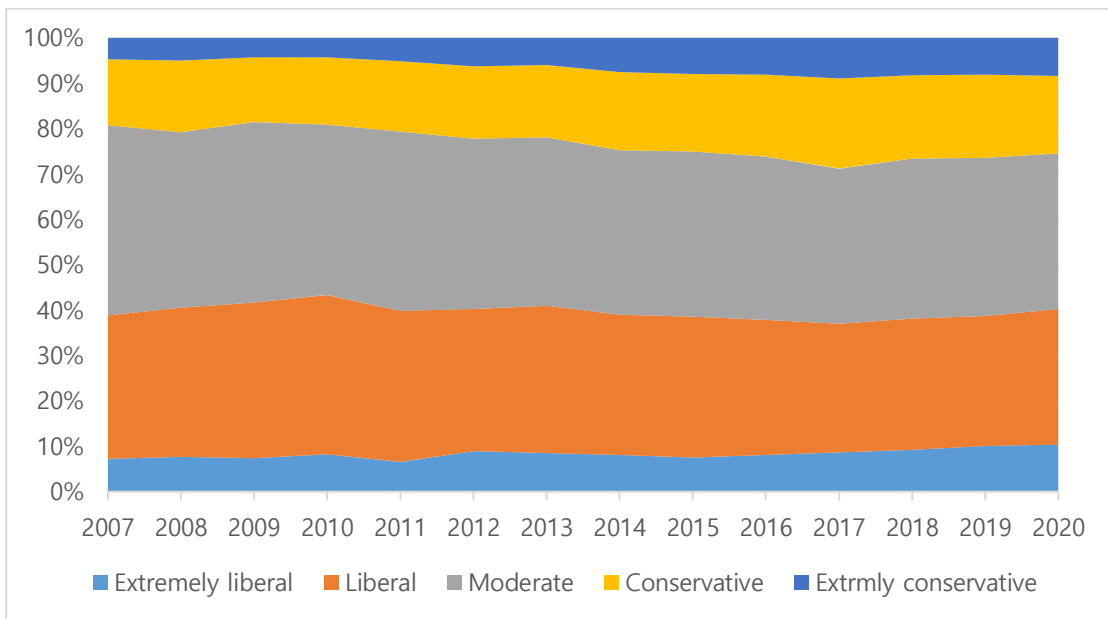


Figure 3.16 Changes in Moderates and Extremists (Pew, 2007-2020)

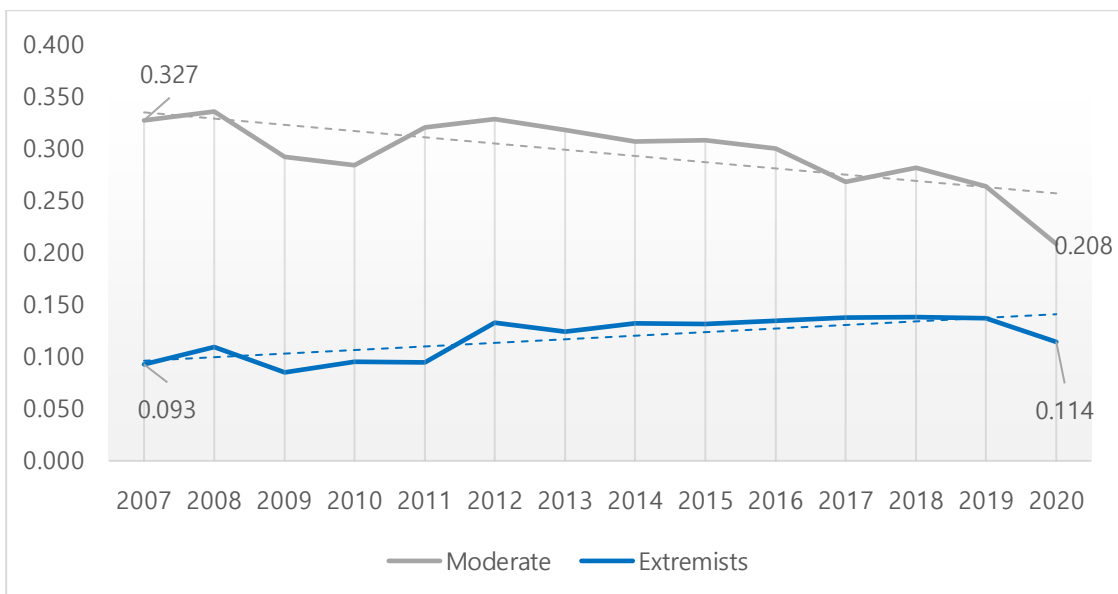


Figure 3.17 Distribution of Citizens' Party Identity (Pew, 2007-2020)

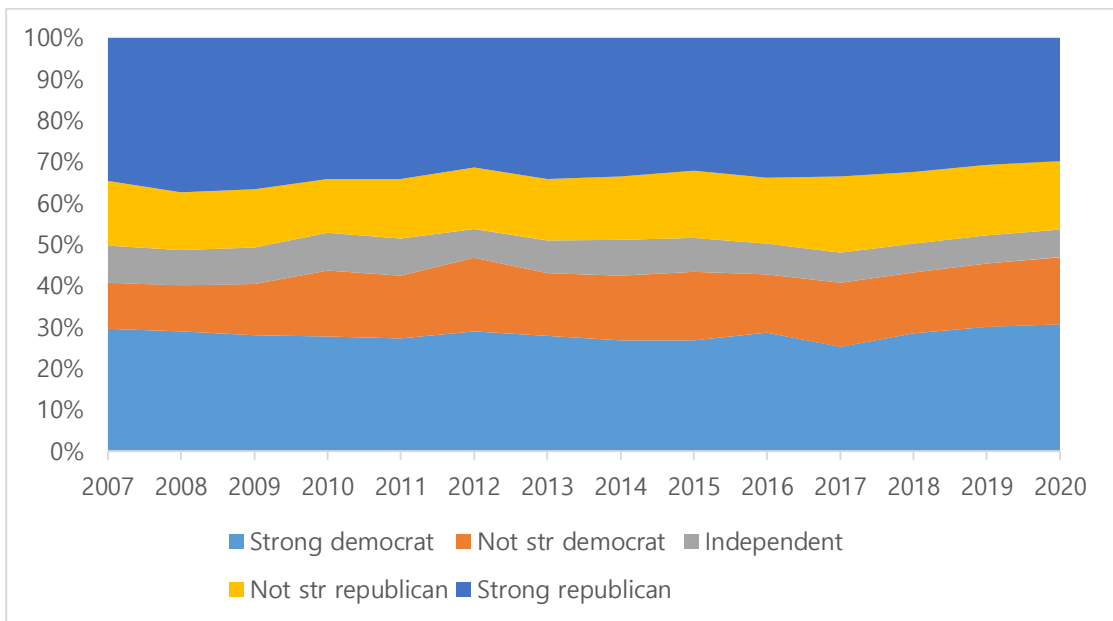


Figure 3.18 Changes in Independent and Strong partisans (Pew, 2007-2020)

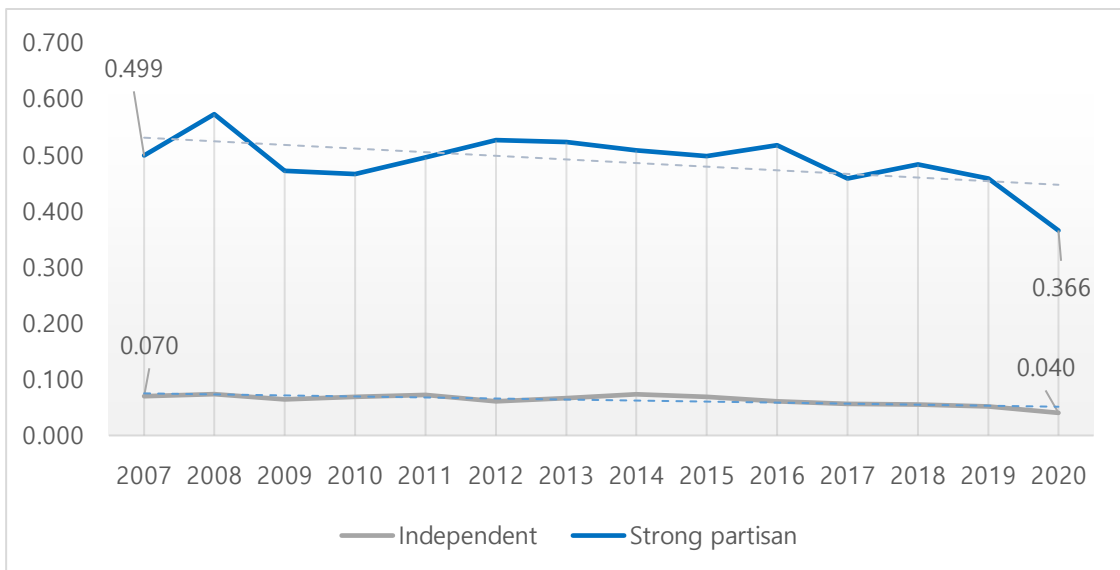


Figure 3.19 Trend in Pure Independent Electorates in the GSS by Election Types, 1972-2018

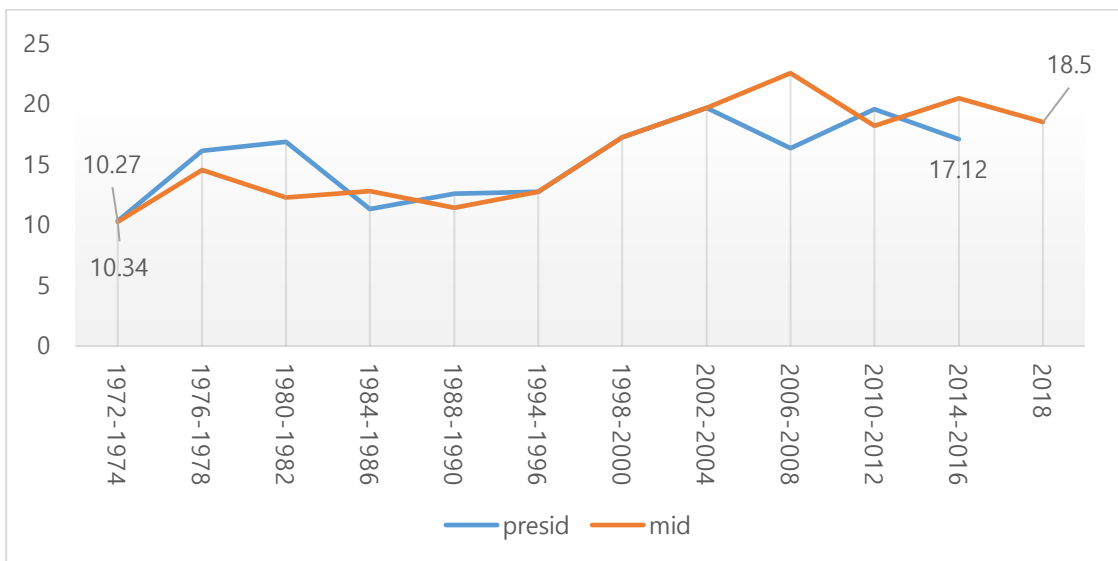


Figure 3.20 Trend in Moderate in the GSS by Election Types, 1972-2018

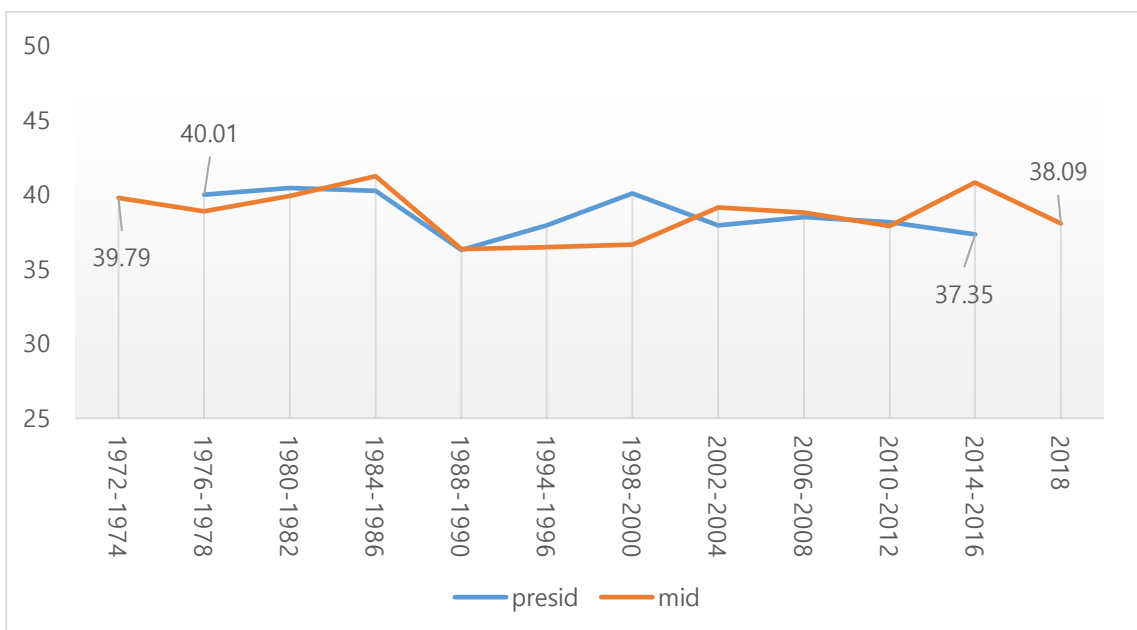
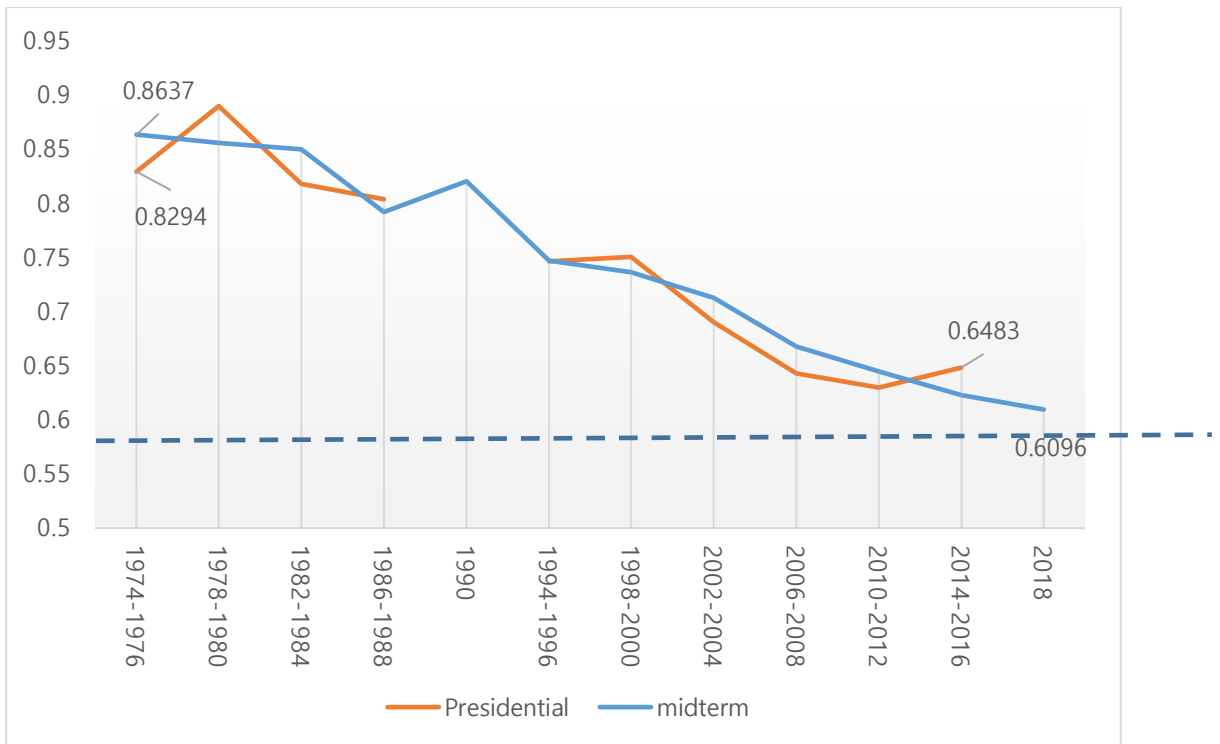


Figure 3.21 Overlap Coefficient of Political Ideology with Party Identification,
(The GSS 1974-2018)



Note: Overlap Coefficient is sensitive to the assumption of equal variances. Thus, all values were obtained after justifying equal variances using t-test.

Source: General Social Survey 1972-2018 Cross-Sectional Cumulative Data

Figure 3.22 Overlap Coefficient of Political Ideology with Party Identification,
(Pew 2007-2020)

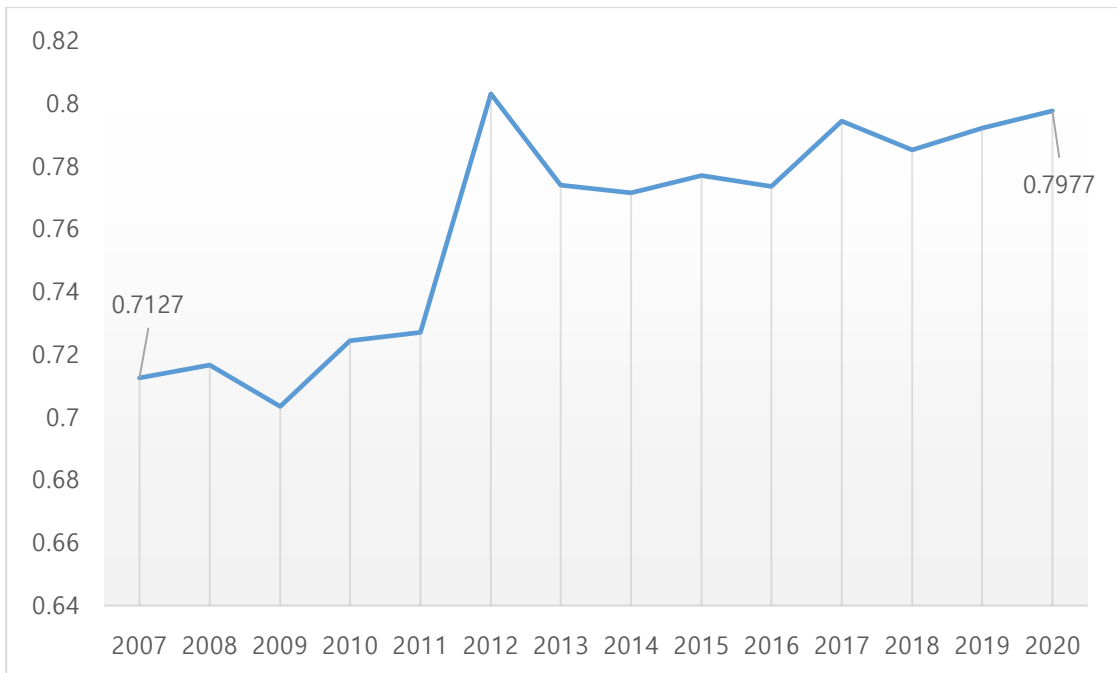
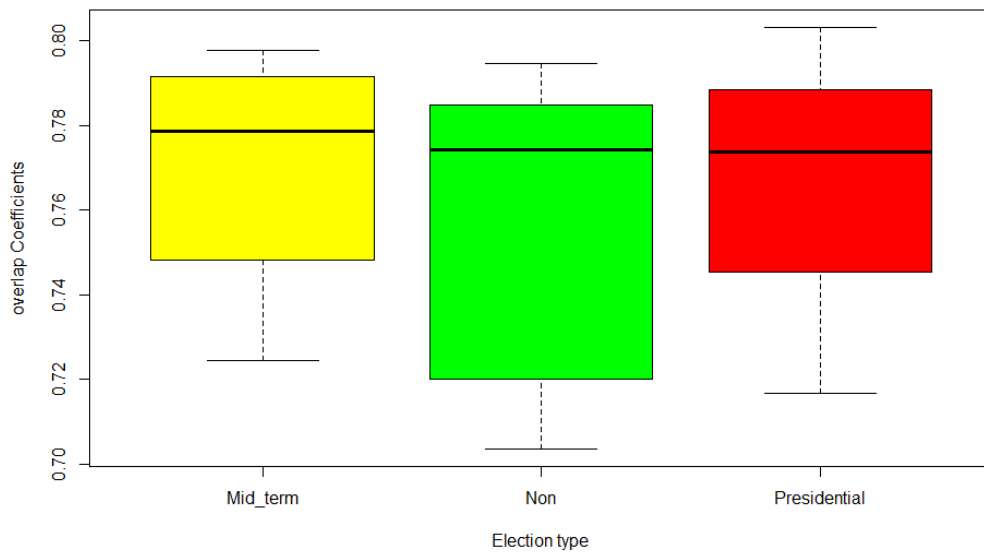
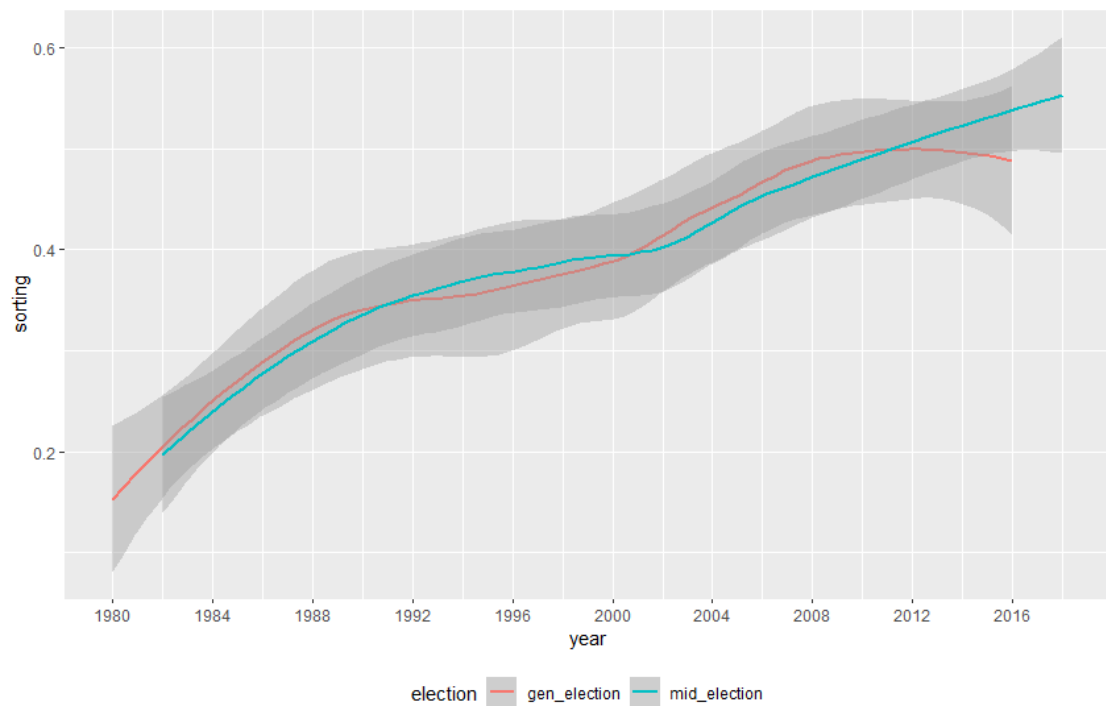


Figure 3.23 Overlap Coefficient by Election Type (Pew 2007-2020)



ANOVA results: (F (2, 11) = [0.22], p = 0.806).

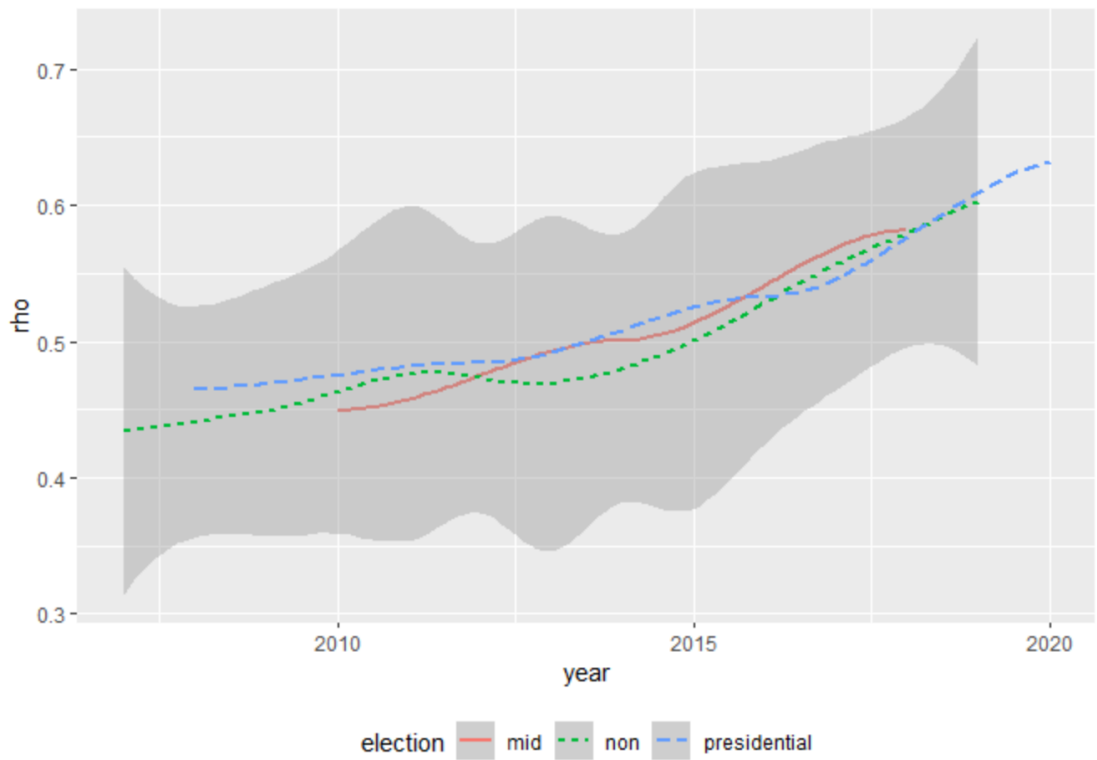
Figure 3.24 Correlation of Party Identification with Liberal-Conservative Identification



Note: Correlation coefficient is Pearson's r based on 7-point party identification and 7-point liberal-conservative identification scale.

Source: General Social Survey 1972-2018 Cross-Sectional Cumulative Data

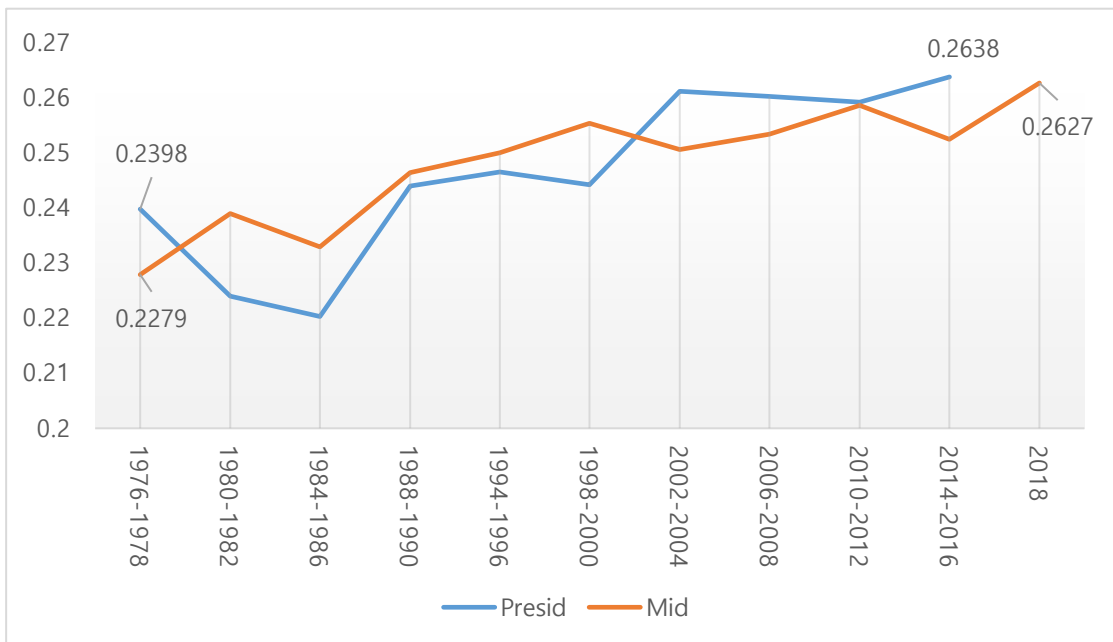
Figure 3.25 Correlation of Party Identification with Liberal-Conservative Identification



Note: Correlation coefficient is Spearman's *rho* based on 5-point party identification and 5-point liberal-conservative identification scale.

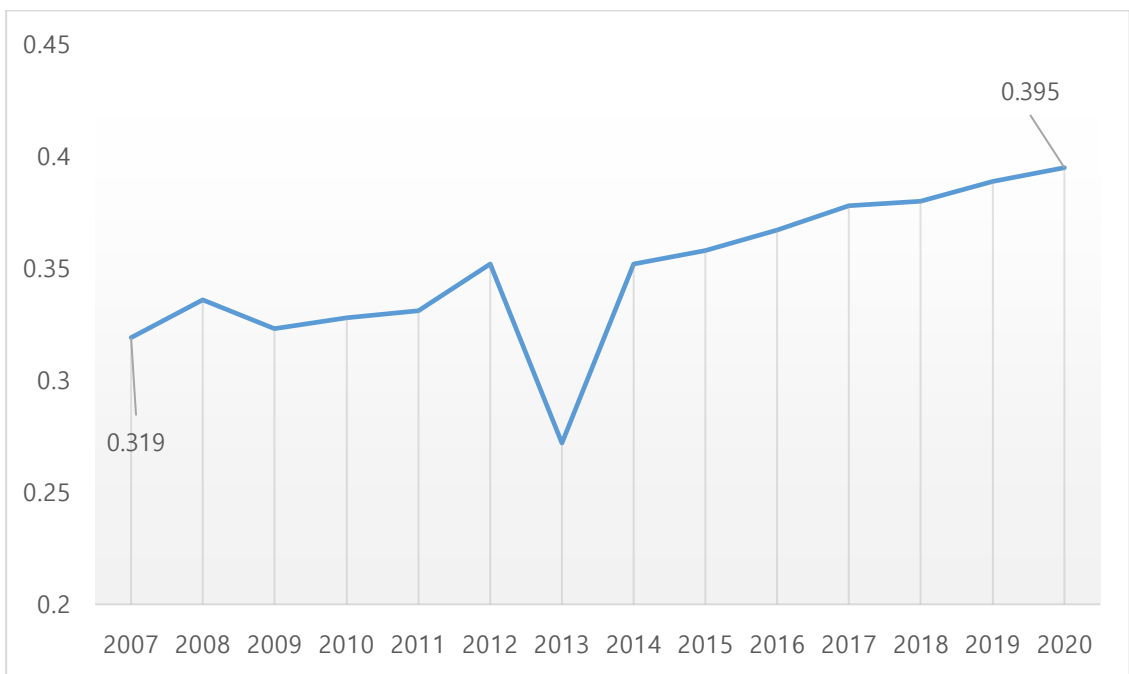
Source: The Pew Research Center, Political Survey 2007-2020

Figure 3.26. Trend in Sorting Score in the GSS by Election Types, 1972-2018



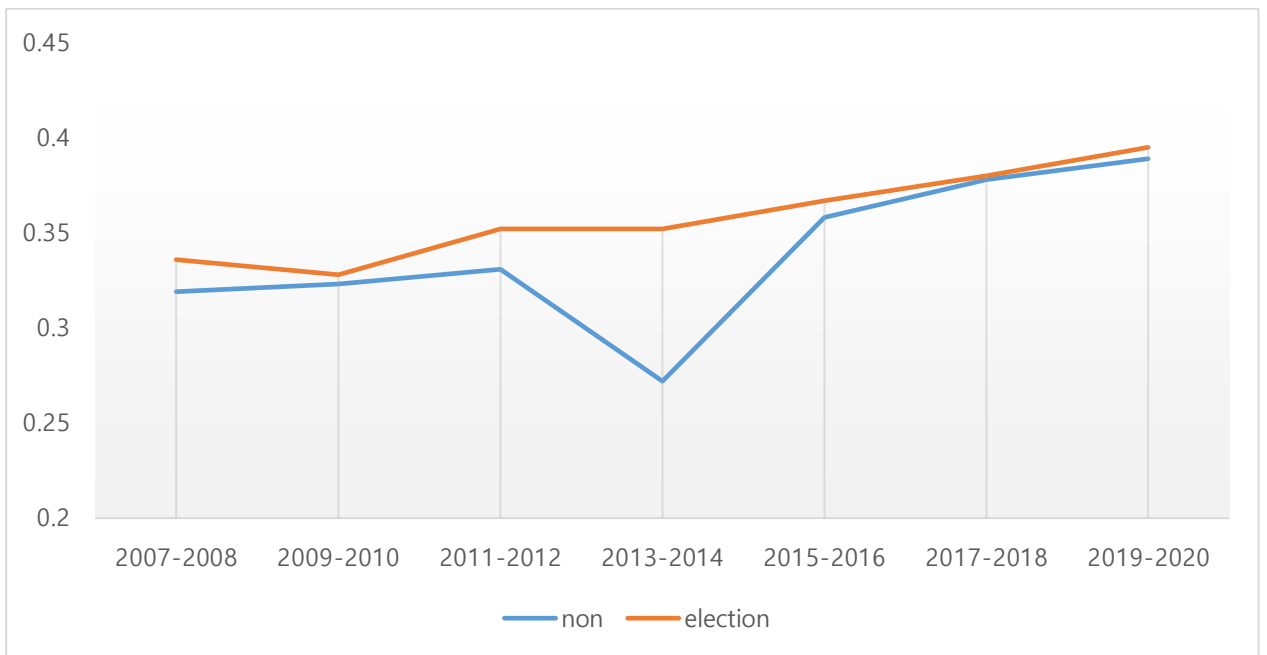
Source: General Social Survey 1972-2018 Cross-Sectional Cumulative Data

Figure 3.27 Trend in Sorting Score, 2007-2020



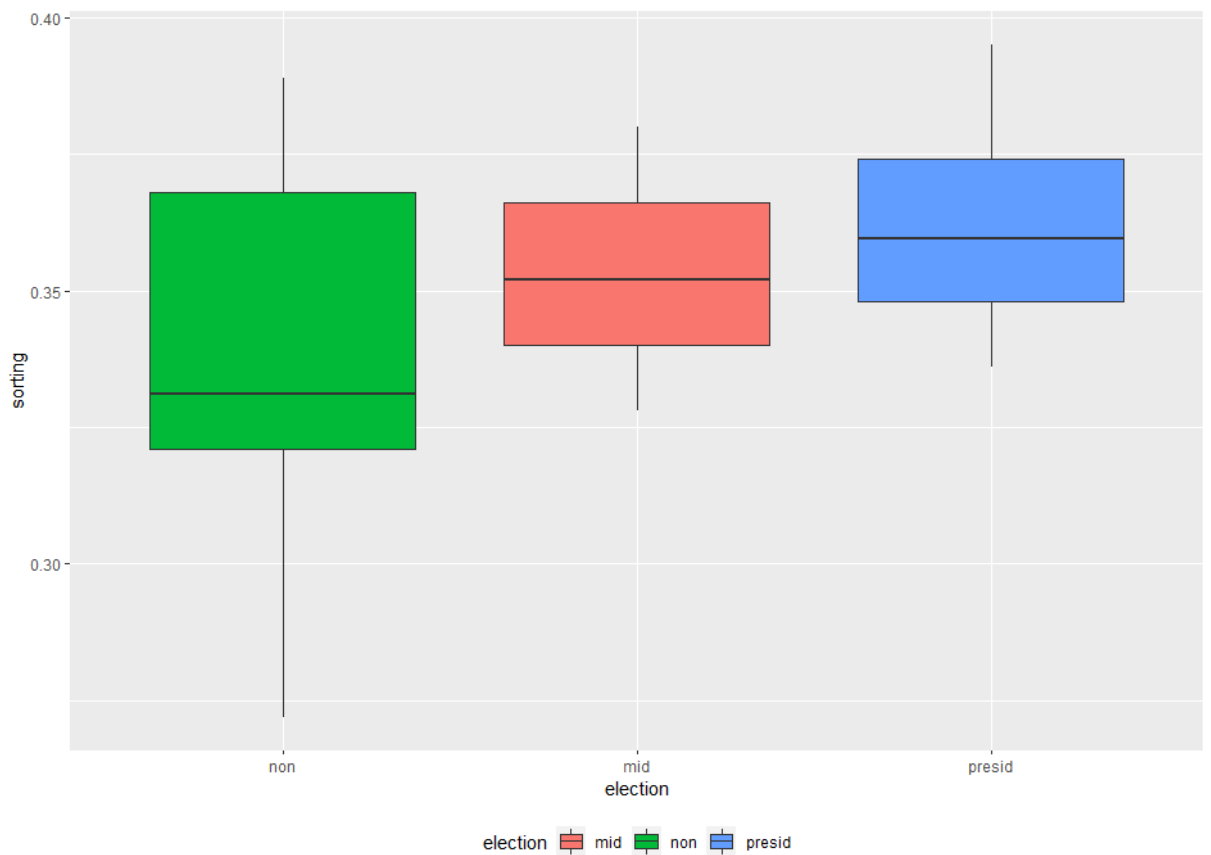
Source: General Social Survey 1972-2018 Cross-Sectional Cumulative Data

Figure 3.28 Trend in Sorting Score by Election types, 2007-2020



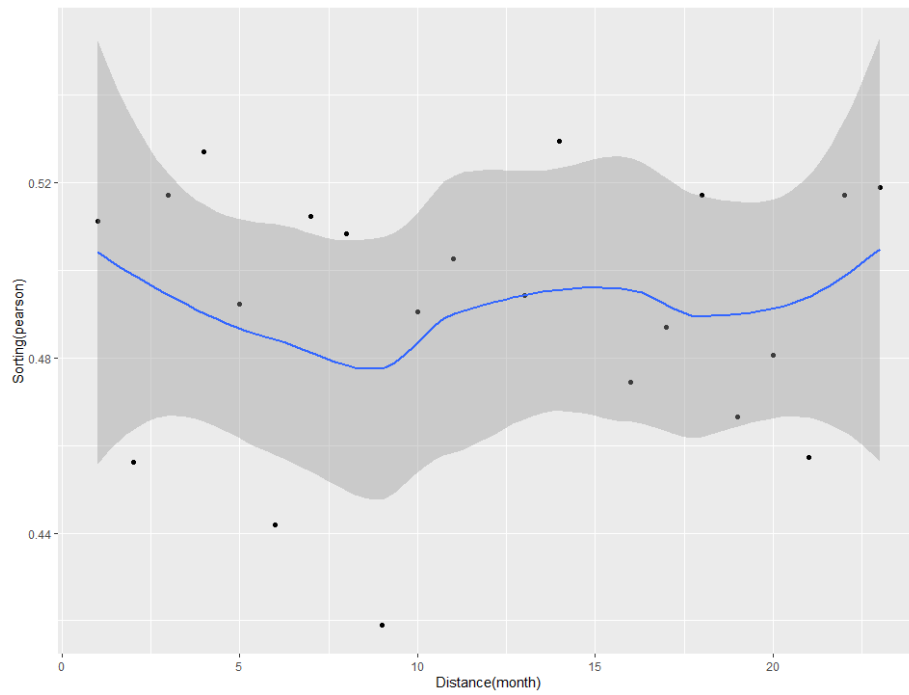
Source: General Social Survey 1972-2018 Cross-Sectional Cumulative Data

Figure 3.29 Boxplot of Sorting Score by Election Type



ANOVA results: (F (2, 11) = [0.662], p = 0.535).

Figure 3.30 Changes in the level of sorting* by distance from the election



* Sorting is different from the sorting score in the Table 3.8. Sorting refers to the degree to which party identity align political views. I used Pearson Correlation coefficient here.

Chapter 4

State Variations in Political Polarization

Despite the fact that Presidential elections are viewed as a national political contest, the presidency of the United States is decided by each state through the Electoral College. The 2016 presidential election reminds us that we have placed far too much emphasis on the presidential election as a national event. What is more important, however, is the total number of Electoral College votes cast by winning individual states. The key question then is which states are more critical for victory (or defeat) than others, and why some states have shown more volatile electoral patterns than others. The latter is often expressed in various terms such as a “swing,” “competitive,” “purple,” or “battleground” state (Hecht and Schultz 2018). Admittedly, the terms described above largely originate from the media commentators instead of academia.

Certain states traditionally attracted much more attention from the presidential candidates than others. For example, in the 2000 presidential election, most media outlets predicted an easy victory for Al Gore against George Bush. The most dramatic state was Florida where George Bush won the state’s popular vote by a 327-vote margin to award Bush 25 electoral votes, consequently enough to secure a majority in the electoral college and, thus, the presidency. Both candidates placed major efforts on winning Florida in the 2000 election. More generally, it appears that presidential candidates target only a few states during the presidential campaign. According to McLean (2015)'s analysis of campaign advertising expenditures by state, 66 percent of Democratic incumbent Barack Obama's advertising money was spent in nine states in 2012, while 64 percent of Republican challenger Mitt Romney's money was spent in

eight states. Furthermore, both major party candidates visited 12 states a total of 253 times during the same election year, but they never visited the other 38 states during 2012 general election presidential campaign.⁵

FairVote's Presidential Event Tracker reveals that Democrat nominee and former Vice President Joe Biden only visited 12 states during his presidential campaign in 2020, and Republican incumbent President Donald Trump visited 15 states. Pennsylvania, which was one of the most competitive states in the 2016 and 2020 Presidential elections, was the most frequently visited state by two presidential candidates. Pennsylvania is well known as a competitive state, with recent trends favoring the Democratic Party. Pennsylvania, with a substantial number of electoral votes, also favored Trump narrowly in 2016.

However, every state is not the same, including Florida and Pennsylvania. In Oklahoma and Texas, Republican candidates have won every presidential election since 1980 (Shaw 2008). On the other hand, Democratic candidates have strengthened their positions and regularly win in states like California and New York. Approximately 80% of the state presidential election contests are uncontested or predictable (Hecht and Schultz 2015). In recent presidential elections, the majority of states have firmly aligned with one party or the other. Since electoral votes are assigned according to the unit rule where the candidate winning a plurality of state popular votes takes all of the electoral votes (except in recent years in Nebraska and Maine), there is little incentive for a candidate to campaign in non-competitive states. It does not matter whether the

⁵ Event information was collected by the *National Popular Vote* website. They gathered them by referring candidates' campaign websites, news contents, and other sources for campaign tracking. Following each major party's convention, tracking begins. Available at <https://www.nationalpopularvote.com/map-general-election-campaign-events-and-tv-ad-spending-2020-presidential-candidates>

candidate represents the majority or the minority party in a state. As a result, electorates in a few crucial or swing states are consequently more important to the presidential nominee's electoral prospects than those in less competitive states. Political campaign scholars attributed the swing phenomenon to the institutional design of Presidential elections, which forces presidential candidates to concentrate their resources on a few competitive or swing states (e.g., Banzhaf 1968; Bartels 1985; Brams and Davis 1974; Leighley and Nagler 1992; Shaw 2008)

Although only a few states often play a decisive role in the presidential election, there has been not much discussion about why these states sway or become more competitive than others and what factors make them swing or competitive states. In academia, few explanations are given as to why some states change their support for the president. There are speculations about the possible factors affecting state swings in presidential elections.

First, historically, the Democratic Party performs well in densely populated, urban areas, but Republicans, on the other hand, receive much more support from rural areas in Presidential elections (Scala and Johnson 2017). There is a reason to think that population change may alter the balance of political power within a state. Levin (2020) claims that citizens who leave liberal-leaning cities to settle in smaller cities or more rural areas begin to change political landscape of traditional red and blue state politics. For example, more than 700,000 citizens from California have moved to Texas state due to soaring cost of living since 2008 (Levin 2020). He describes that “The parts of Texas where Californians are most likely to move — the sprawling suburbs of Houston, Dallas and Fort Worth — are now politically competitive in a way that was

unfathomable 20 years ago⁶.” Thus, it is possible to believe that large demographic shifts can alter the composition of electorates, causing a state's swing in presidential election.

Second, ideological polarization can also contribute to the formation of swing states. It is well-known that a decline in the number of liberal Republicans in the North and conservative Democrats in the South may alter the U.S. electoral landscape (Hudak and Stenglein 2016). The growing partisan divide within a state is a significant factor in presidential election swing. This focus on polarization of voters is more closely related to the research undertaken here.

Thirdly, the composition of a state's electorate may also produce a swing state. It is often accepted that independent voters are less partisan and are more susceptible to persuasion (Magleby, Nelson, and Westlye, 2011). This may cause independents to change their vote decision from election to election. However, there has been conflicting arguments in relation to the size of independent voters in the face of polarization. On the one hand, Smidt (2017) argues that the incidence of independent (floating) voters shrank as a result of political polarization. On the other hand, the finding in Chapter 3 revealed that the level of polarization and the number of independent voters increased at the same time.

Clearly, electorates behave differently in the context of political polarization, as Prior (2007) demonstrated. He argues that political polarization may increase political interest and enhance the ability of voters to discern party differences. More polarized voters may more clarity to choose political candidates. In this regard, states that are

⁶ Levin, M. (2020, October 8). *How California expats are helping turn Texas into a Battleground State*. *CalMatters*. Retrieved from <https://calmatters.org/politics/2020/10/california-expats-texas-battleground-state/>

more polarized than others may have lower levels of independent voters because increased clarity in the selection of political candidates may cause independent voter levels to decline. Thus, it is possible to believe that a state with a higher proportion of independent voters is more likely to experience a swing in statewide elections.

This chapter investigates the relationship between state swing in a presidential election and polarization at the state level, focusing on the second and third possible factors outlined above. While polarization is investigated and examined extensively at the national level, the topic receives less attention at the subnational level. In fact, no studies in the sample of works examined in Chapter 2 look into only state-level polarization. For the most part, limited data availability (no quality samples of sufficient size) may make it challenging to study state level of political polarization. Past research studies on political polarization in the state level do not really deal with state political polarization. Those studies exclusively focus on the geographical polarization, arguing that an increasing number of counties in the U.S. support one party over another party as a result of partisan voters' moving from one place to another where people vote similarly (Johnston, Manley, and Jones 2016; Johnston, et. al 2020; Wing and Walker 2010). While these scholars call it state polarization, this is, strictly speaking, more like a group of voters with common characteristics who skew toward a specific party orientation or political orientation rather than polarization within each state.

Since most measurements of political polarization assume a bimodal form of ideological distribution or issue preference among the public, the concept presented in the existing state-polarization research is difficult to see as true state polarization. Clearly, many scholars who study state polarization have difficulty distinguishing between national and state levels of polarization. At the national level, polarization refers to a situation in which the number of Americans who fall into ideological

extremes has risen over time or to a tension in which citizens are divided along two-party lines (Fiorina, Abrams, and Pope 2011; Lelkes 2016). On the other hand, the term "state polarization" is usually used when one state is increasingly dominated by one party over another, such as California or Texas (Johnston, Manley, and Jones 2016; Johnston et al. 2020). The latter is a situation with one dominant mode and a secondary mode, not a distribution distinguished by bimodality. Thus, state polarization should be measured in the same way as that of national one, to achieve accuracy.

This chapter has two goals. First, the chapter presents an overview of polarization in the fifty states, to identify the extent of polarization in each state. Second, the chapter investigates how the level of state polarization affects the outcome in a presidential election, focusing particularly on the swing state phenomenon.

4.1 Polarization at the State Level

While polarization has been studied a lot at the national level, few scholars pay attention to polarization at the subnational level. At least two types of studies on state polarization have been proposed. One is the so called Red and Blue states dichotomy which categorizes U.S. states whose electorates predominantly keep choosing one party over the other party in elections. (Sometimes competitive states are categorized as purple to show a combination of red and blue support.) Abramowitz and Saunders (2005) argued that “red-state voters and blue-state voters differ fairly dramatically in their social characteristics and political beliefs” (p. 19). Using the average margin of victory in presidential election at the state level, they concluded that “red states have been getting redder while blue states have been getting bluer” (p.11). If this argument is correct, voting patterns in other offices should be similar to those in Presidential elections. According to Fiorina and et al. (2008), however, we frequently witness Republican governors in the blue states, and red states electing Democratic governors. In a subsequent publication, they also demonstrate that many red states have blue counties, and many blue states have red counties (Fiorina et al. 2011). In other words, nearly all states contain a significant number of both liberal and conservative electorates. Nevertheless, the winner-take-all system for presidential elections (and statewide elections) only allows red and blue to color the electoral map.

A second type of state polarization is stimulated by the book by Bishop (2008): *The Big Sort*. Bishop claims that the U.S. public increasingly chooses to live in neighborhoods populated with people who share political and social characteristics to them. As a result of residential sorting, geographical polarization increased significantly. However, Bishop claims that people do not decide to live in communities

with people who have similar political views on purpose; rather, he believes that political segregation is a byproduct of the correlations between political views and lifestyle, indicators that they consider when choosing place to live. Bishop argues that sorting has been driven by two factors. First, increasing patterns of public partisanship is fueled by social, cultural, and consumer identities, which he calls “a politics of self-expression” (p.85). Second, economic mobilization may lead the geographic dimensions of this division. Bishop argues that migration decisions are increasingly “based on non-economic goods, as people have sought out places that best fit their ways of life, their values, and their politics” (p.199). While Republicans prefer small towns or “low-tech” cities, like Birmingham and Cincinnati, young and educated Democrats moved to high-tech cities like Austin, San Francisco, or Portland. As a result of residential segregation, he argues that cultural and political divides increased.

The claim that geographical sorting occurred in the United States, however, is challenged by Abrams and Fiorina (2012). The most serious problem of “*The Big Sort*” is that Bishop exclusively relies on Presidential elections as much of the polarization literature does. Presidential elections show inconsistent patterns with other statewide election outcomes for public offices and other indicators such as voter registration records. These data frequently diverge from voting in Presidential elections. For example, internal state elections in the old “Solid South” were heavily Democratic, but Southern states often voted in favor of Republican Presidential candidates. Using Voter registration data from 1976 to 2008, Abrams and Fiorina (2012) reveal that the level of geographical polarization is no lower than a few decades ago. Johnston et al. (2016) also criticize Bishop in that the argument of the increased geographical polarization was not based on thorough statistical analysis. Instead, Bishop only provides patterns

from two Presidential elections (1976 vs 2004) as evidence of increased geographical polarization.

These two types of studies on state polarization do not focus on internal state levels of polarization, but on differences in electoral geography. In other words, past research on state polarization focused on whether the mean opinion or ideology in blue states is statistically distinguishable from those of red states (Johnston, Manley and Jones 2016; Johnston et. al 2020; Wing and Walker 2010). Looking at the overall distribution of issue opinion or ideology, this could be a sign of polarization at the national level. However, if we look at states where are heavily skewed to Republican or Democratic Party, it is hard to decided that those states are polarized. The geographical polarization only deals with the claim that increasing number of states or counties in the U.S. keep supporting one party over another party as a result of partisan voters' moving from one place to another place where people vote similarly. For example, Johnston et. al (2020) revealed that the much of large cities are dominated by the Democrats, whereas non-metropolitan area has become republican-dominated area. The concept of geographical polarization assumes that political attributes are closely related to their lifestyle (Bishop 2008; Hawley 2014). Thus, people will choose to live in an area or neighborhood that is consistent with the political orientation that they hold (Bishop 2008; Cho et al. 2013). Accordingly, state polarization on previous studies refers to a state populated by similar voters who support one party over another such as California or Texas. Strictly speaking, this is more like a state that skewed to a specific party orientation or political segregation rather than polarization within states.

Figure 4.1 shows a direct example of what political polarization looks like. The Pew Research Center measure ideological consistency based on a scale of 10 political

value questions⁷. In detail, the proportion of the mass public in each pole of ideological distribution has increased from 10% to 21% but the middle who express mixed opinion has shrunk from 49% in 1994 to 39% in 2014. The distance from the median of Republicans and Democrats also extended over the last two decades. By any measure, the concept of political polarization includes a wide partisan divide on political issues or a wide ideological gap between partisans (Fiorina and Levendusky 2006; Fiorina and Abrams 2008; Abramowitz and Saunders 2005, 2008).

[Figure 4.1 about here]

While the definition of political polarization varies depending on the types of polarization, polarization generally refers to a situation in which the number of Americans in the distribution of ideological tails has increased over time while the number in the middle has decreased. As Figure 4.1 shows, political polarization is most commonly defined as the mean of two groups move increasingly apart to the extremes of ideological distribution.

Previous research on state polarization, on the other hand, has described it in a different way. While national political polarization is commonly described as a bimodal form of ideological distribution, state polarization literature focuses on situations in which one party's candidate defeats the other by a large margin (Johnston et al. 2020).

⁷ Issues cover the government roles on a social safety net, homosexuality, military strength. The Issues and Ideological Consistency Scale can be found at <https://www.pewresearch.org/politics/2014/06/12/appendix-a-the-ideological-consistency-scale/>

Unlike political polarization at national level, it looks like unimodal distribution with highly skewed to one direction. For example, Figure 4.2 demonstrates the simulated distribution of state polarization described in past research on state polarization (Johnston, Manley and Jones 2016; Johnston et al. 2020; Wing and Walker 2010).

Figure 4.2 shows that the mean citizen ideologies are heavily skewed to one side over the other one. In other words, the distribution of citizens' ideology within a state are tilted to liberal or conservative. Thus, to evaluate the level of polarization at the subnational, I deploy the same definition of political polarization with that of national one. If a state is polarized, the ideological distribution will be bimodal, otherwise it will be closer to the form of unimodal.

[Figure 4.2 about here]

4.2 What is a Swing State?

Although the term of swing state has gotten a lot of media attention, previous research has not dealt much with the term swing states, let alone competitive states. Even in those that discussed swing states, political scientists rarely use the concept of swing states (exceptions include Lewis-Beck and Rice 1983; Hillygus and Shields 2005; Abramowitz and Saunders 2005, 2008). Rather, they prefer to use the term “competitive states” rather than swing states (James and Lawson 1999; Johnson 2005; Burden 2005; Abramowitz and Saunders 2005, 2008; Gomez, Hansford and Krause 2007; Hillygus 2010).

It was not a popular when the *New York Times* coined the term “swing state” for the first time in 1936. According to Goux (2010), the terms were only used in four articles that year, and then only infrequently used for the next five decades. In the *New York Times*, however, there was a huge increase in the use of “swing states” or “battleground” between 1988 and 2004 (from 32 to 629 mentions), which is almost 20 times (Goux 2010). Ironically, the less attention paid to swing states in the past is mostly due to a lack of safe states. Goux (2010) found that there were only ten consistently uncompetitive states between 1924 and 1960. In other words, most states were relatively competitive in the Presidential elections compared to current situation. The use of swing states by other media⁸ has also rapidly increased with the rise of 24-hour cable news networks during the late 1990s and 2000s (Ostermeier 2012). Ostermeier (2012) found that “swing state” was mentioned 1,154 times and “battleground state”

⁸ Ostermeier (2012) investigates eight cable news network such as ABC, NBC, CBS, FOX, CNN, MSNBC, FOX Cable News, and NPR

was mentioned 1,092 times in eight nationally representative news networks in the 2012 presidential race.

While those terms have largely introduced by journalism, rarely used in academia. Instead, scholars prefer to use “competitive states” instead of “battleground”, or “swing state”. In fact, all of these terms indicate different meanings.

First, the term “battleground” is commonly used in political campaign literature. For example, Shaw (2008, 52) defines it as “those states most at risk and most critical to winning 270 electoral votes”. Table 4.1 shows varied definitions and indicators to identify battleground states in the literature. Definitions of other scholars are all related to presidential campaign strategies, campaign intensity, allocation of campaign resources and concentration of allocations (Hill and McKee 2005; Wolak 2006, Gimpel et al. 2007; Milita and Ryan 2019; Bhowmick and Jain 2020).

Second, the term of competitive states is also commonly used by political scientists and its definition is more straightforward than other terms. Generally, it indicates the states where the margin of victory was less than 5% of the popular vote in the presidential election (Holbrook and Dunk 1993, Johnson 2005).

[Table 4.1 about here]

While battleground and competitive states have used in a similar meaning in the literature, swing state includes a slightly different meaning. While the terms “battleground” and “competitive” do not necessarily imply the states switch their supported parties in the previous election, a swing state focuses on whether a state has actually switched parties in Presidential elections. Put another way, swing states go back and forth in a presidential election from one party in one election and a candidate

from a different party in the next presidential election. While most scholars use the terms “battleground”, “competitive states”, and “swing states” interchangeably, Silver defines a swing state in terms of its “closeness to the national average in partisan orientation” (Silver 2012).

Unfortunately, there have been a paucity of discussion related to swing states in academia. Due to the lack of academic interest in swing states, there is not many precise definition of swing states. In American politics, the term swing state has been exclusive to the press or poll companies so far. Silver (2012) who is the founder and editor in chief of *FiveThirtyEight*, defines swing state in relation to the “closeness to the national average in partisan orientation”. He has classified swing state to elastic and in-elastic swing states based on how they react to presidential campaign. Elastic swing states are states with partisanship that is close to the national average. Those states move back and forth between parties during presidential campaign, in reaction to electoral events. Elastic swing states have more independent voters than in-elastic swing states which they are more likely to change their support for presidential candidates by presidential campaigning. On the other hand, in-elastic swing states are not susceptible to presidential campaigning because they do not have many independents and they are more rooted in party affiliations. Silver lists New Hampshire, Colorado, Iowa, New Mexico and Wisconsin as an elastic swing states. On the other hand, North Carolina and Virginia fall into in-elastic swing states.

Schultz and Jacob (2018) divide swing states to four categories (classic, recent, new-found, and emerging swing states). The first type of swing states are classic swing states. They have been consistently the “swing states” since 2000s. Those include Florida, Iowa, New Hampshire Nevada and Ohio. The category of recent swing states refers to states where “gradually move toward the Democrats as that party’s coalition

increasingly came to rely on minority and urban voters in the 2000s (Schultz and Jacob 2018, 4). The recent swing states include Colorado, North Carolina, and Virginia. The third type of swing state is new-found swing states which include Michigan, Pennsylvania, and Wisconsin. Those states are classified as swing states due to surprising voting behavior in 2016 presidential election. The last type of swing state is emerging swing states. Schultz and Jacob (2018) explain these state as “have not shifted their partisan support in at least two decades, but that came close to doing so in 2016, and may go all the way in a future cycle” (4).

4.3 Determining Swing (Competitive) States

Some describe these states as a “swing state” but others use a substitute word for competitive, battleground or purple states (Hecht and Schultz 2015). Admittedly, the term of swing state is largely based on the media but there have always been states that were paid much more attention than others from the presidential candidates since the 19th century. For example, the four states, New York, Ohio, Connecticut and Indiana in the 1888 presidential election were known as critical states to Benjamin Harrison’s victory against Grover Cleveland. In 1960, there were six states that the winning vote margin was less than one percent. More recently, four states were decided by a less than one percent margin in the 2016 presidential election. There have always been a few states that have played the most important roles in American electoral history. In the chapter, I define them as swing state.

Measuring swing state is quite complicated in that each of state has unique factor to make it swing in the Presidential elections. Since most discussion about competitive state or swing states comes from the presidential campaign literature, I also limit the research scope to presidential election in terms of measuring swing state. Based on previous studies on swing states, I use four components to define swing state. Those are competitiveness, battleground status, voter registration record (only where it applied) and whether or not flipping in the current presidential election.

First, I deploy Johnson (2005)’s measure of competitive states. He defines “competitive states” as states with less than a 5% popular vote margin between the two major party presidential candidates. Some scholars have used a 10% margin of victory as an indicator of competitive states (Glaeser and Ward 2006) but most have used a 5% margin as more proper measure (Shaw 2008; McClurg and Holbrook 2009).

Second, presidential candidates do not spend their time and money equally in all states. Strategically, it is better for them to focus on a few states that are more likely to be overturned or considered dangerous to win. Thus, presidential campaign resources are not distributed uniformly across the nation. During the presidential campaign in 2020, both camps visited only a few states that is more likely to swing, such as Penn State, Florida and Michigan. The Figure 4.3 below demonstrate how the presidential candidates for the election behave strategically. In this chapter, I will utilize the number of visits in each state during presidential election campaigns by presidential candidates. I chose the top ten states, specifically, that both candidates traveled to the most during the presidential campaign.

Third, According to an NPR analysis of campaign ad spending, more than \$1 billion has been spent on TV advertisements for the 2020 presidential election in just 13 states (Montanaro 2020). Campaign spending record is an important indicator of which states are most competitive. I also chose the top ten states that both candidates spent to the most during the presidential campaign.

Finally, I look into which states switch from supporting one party to another. This is the closest concept that the term of swing state implies. For example, Arizona, one of the most competitive states in the 2020 presidential race, supported the Republican candidate in 2016 but switched to Joe Biden in 2020.

[Figure 4.3 about here]

4.4 Swing States and Polarization

Scholars often describe polarized condition as “the segregation of the electorate along issue opinion and/or ideological lines, with concentration of voters about opposing extreme positions and concomitant erosion of moderate “centrist” preferences” (Wing and Walker 2010, 3). To put it another way, it means that increased polarization decreases the proportion of independent voters. Scholars have consistently argued that political polarization has increased in recent decades with a growing number of Americans are abandoning moderate beliefs in favor of more extreme ones (e.g., Hill, 2005). For example, in 2014, the Pew Research Center found that Republicans have become more conservative, and Democrats have become more liberal, shrinking the middle by putting themselves at the extremes of the political spectrum (Dimock et al. 2014). Smidt (2017) points out the declining trend of independent voters (floating voters) as a result of political polarization in the mass public.

However, Smidt (2017) also contends that the middle is not truly declined but their choices in elections have become clearer. According to him, independent voters in recent are clearly different from those of the past because there are aware of party difference and act as strong partisans in the Presidential elections. More generally, the clarity of elite polarization made the mass public choose either party much easier. Consequently, that polarization at the elite level transferred to the mass public and led them to the decline in switching parties in the Presidential elections. In chapter 3, I found that the level of independent and leaners have increased using the GSS survey result from 1972 to 2021. Using the GSS survey data, I confirmed that the level of independent electorates has increased over the last five decades. Even using the Pew Political Surveys, the level of moderates has slightly increased with increasing trend of

extremists.⁹ In other words, more Americans identify as political extremists, but more also express themselves as an independent.

[Figure 4.4 about here]

What make these two contradictory trends? Gallup reports in 2015 speculates that a growing number of independents shows a potential growing dissatisfaction at two major party (Jones 2015). However, this provides an incomplete answer of how independent voters and extreme partisans increase at the same time. According to Fiorina and Abrams (2008), polarization occurs when the majority of citizens in the middle are divided into ideological camps, implying that when one decreases, the other must increase. I assume that this seemingly contradictory trend may come from different electoral environments of each state, especially the level of polarization at the state level.

The implication of independent voters in the face of polarization is multifaceted. McLean (2018) shows that so called, swing states have a larger number of independent voters than safe states. On the other hand, he also argues that increased polarization means the shrinking proportion of independent voters within a state. To put it another way, McLean's claim can be interpreted to mean that safe states have less independents than swing states. If McLean's insight is correct, safe states are more polarized than swing states in that swing states have more independent voters than others, based on his argument. But it is contrary to my perspective in this chapter.

⁹ The results are solely based on the Political Survey by Pew Research center ranging from 2007 to 2020.

A large proportion of independent voters necessarily means that state is more likely to swing than others. For example, according to voter registration in Arkansas states as of July 2021, approximately 88 percent of voters identified themselves as independent¹⁰, while this state has never been classified as a swing state before, at least, in relation to presidential election. Of course, the size of independent voters is important in that they are more likely to reward or punish incumbents, which in turn, increases electoral volatility in statewide elections (Smidt 2017).

Previous studies commonly describe independent voters as less interested in politics (Kelley 1983; Mayer 2008), less informed (Zaller 2004, easily change their party support by the cross-pressured (Hillygus and Shields 2008) and ambivalent (Lavine, Johnston, and Steenbergen 2012). In the face of polarization, independent voters may not behave the same way as previous research suggested. Recent studies show that polarization makes voters more aware of party differences, which increases political interests and certainty in selecting candidates (Prior 2007).

Another effect of polarization on swing states and their voters is that it causes presidential campaigns to concentrate on a few swing states. An intense presidential campaign in a few states may convert its voters, particularly independent voters who do not have a clear party orientation, into more string supporters of a specific party from election to election. As a result of polarization, independent voters in swing states are more likely to switch their support to presidential candidates during a presidential campaign.

¹⁰ Voter registration in Arkansas was available at https://www.sos.arkansas.gov/uploads/VR_Statistics_Report_for_June_2021.pdf (accessed 11 April 2022)

As indicated above, the size of independent voters within a state has a minimal effect on swing states. Another facet that we need to consider is the balance of partisan within a state. If a state has a balanced partisanship, a small number of independent voters can swing an election. Simply, the closer the ratio of Republicans to Democrats is to 50:50, the more likely the outcome of the election will be decided by independent voters regardless of the size of them. Figure 4.5 below indicates the ratio of Republicans to Democrats in 32 states. As of 2022, 32 states allow voters to identify their party affiliation when they register to vote and total number open to the public. A number closer to 1 means that the proportion of Democrats and Republicans is almost identical. Those states are Arizona, West Virginia, Iowa, Florida, Kentucky, New Hampshire, Colorado, North Carolina, Nevada, and Pennsylvania, which are states that has been referred to as a swing state at least once or more in the press.

[Figure 4.5 about here]

National level polarization means a widening gap between partisans. However, polarization at the state level appears to operate differently. Previous research on polarization at the state level are closer to a situation that a state is heavily skewed to Republican or Democratic Party rather than a relative balance of Republican and Democrat within a state. It might be a proper explanation that the aggregated level of polarization among the mass public at the national level has increased because of increased safe states. At the same time, it would be also true that a small number of swing states become to have larger proportions of independent voters. To better understand the swing phenomenon of state level of polarization, we need to consider

the effect of campaign strategies. While conventional wisdom holds that presidential election campaigns have “minimal effects,” several studies reveal that independent voters have a greater receptivity to campaign information (Keith et al. 1992). In other words, the more presidential campaign resources are focused on a few swing states, the more likely we are to see a larger proportion of party-leaning independents who are more likely to switch from one party to the other. According to Hawkins and Nosek (2012), independent identifiers cannot be seen as a true independent. Rather they tend to vote for one party consistently (Newport 2014) or would show up in more cross-party voting (Hawkins and Nosek 2012).

Based on discussion above, I argue that the ratio of partisan composition is more important than the size of independent voters within a state. If a state has a similar percentage of partisan, the state is more likely to change the outcome of the election regardless of the size of independent voters. That does not necessarily mean that independent voters are not important in presidential election. It is also true that swing state with a large number of independent voters are more volatile than swing state with less independent voters. Thus, I also argue that the size of independent voters has an effect on swing phenomenon in Presidential elections unlike previous arguments. Accordingly, I assume the ratio of partisan within a state is a key whether a state swing or not with the size of independent voters. Considering swing phenomenon can be explained by several facets, I suggest following hypotheses.

Hypothesis 1: *Swing states are more likely to be more polarized than safe states. In other words, an increase in the polarization indicator will increase the chance of state swing in Presidential elections.*

The level of polarization within a state will affect the chance of “flippability” or “swing” in the Presidential elections. In other words, I hypothesize that the more states are polarized the more states switch their support for presidential candidate from election to other. The dependent variable is whether or not a state switched its support from one party to another between elections.

Hypothesis 2: *Swing states are more likely to have a balanced partisan composition between Republicans and Democrats within a state. In other words, the ratio of Republicans to Democrats will be closer to 1 in swing states than safe states.*

According to Figure 4.5, the states with more balanced partisan composition is often classified as swing states. Since only 31 states allow voters to indicate partisan affiliation on their voter registration forms, I utilize the CCES survey to calculate the partisan composition. The dependent variable is a dummy variable coded 1 if the state is classified as swing state in a given year using four categories.

Hypothesis 3: *Swing state has fewer independent voters than safe states.*

According to Prior (2007), voters behave differently in the face of polarization. Polarization makes voters more aware of party differences, which increases political interests and certainty in selecting candidates. Accordingly, increased certainty in choosing candidates may lead to decreasing independent voters.

Hypothesis 1 assumes that the aggregated level of polarization within a state is higher than safe states. To put it another way, it means individual level of polarization will be higher than those who live in safe state.

Hypothesis 4: *Those who live in swing states show a higher level of polarization than safe states.*

To examine individual level of polarization, I adopt the way of measure the partisan-ideological sorting score by Mason (2015). It is expected that citizen's sorting score in swing states is higher than other states. The dependent variable is the Partisan-Ideological Sorting score.

4.5 Data and Methodology

Due to insufficient sample sizes in traditional survey data, little research has been done about political behavior at the state level so far. Studies on political polarization at the state level is no exception. For the most part, a lack of quality data is the most decisive reason why state level of polarization research has not been done a lot. Obtaining reliable sample size is the most challenge to study political behavior at the state level. Relying on national-level survey to study states faces a small-n problem. Thus, I excluded the GSS and the ANES which I used in chapter 3. Instead, I will use the data from 2006-2020 Cooperative Congressional Election Study (Kuriwaki 2021). The CCES provides enough samples between 30,000 and 50,000 individuals. I develop a large sample survey by combining 15-year of the CCES survey data, allowing for research in subnational units; states. The sample size in each state ranges from the smallest Alaska (1,122) to the largest California (49,783). While this large data set provides the unique ability to give reliable estimates of state-level political behavior, one of the drawback is that the CCES data was not weighted by demographic characteristics by states.

Table 4.2 shows the distribution of sample sizes by states. I also combined actual election results with the CCES survey data to determine whether a state is a swing state or not. Election data includes presidential, senate and house election results.

[Table 4.2 about here]

Measures

Swing state: Swing state is measured in four ways. First, I operationalize a swing state whether a state actually flipped from one party to another in Presidential elections, where the target variable is binary, that is, I will use logistic regression to estimate how the level of polarization increases or decrease the chance of swing in a given state in Presidential elections. I expect that the likelihood of “flipping” in a given state will increase as polarization increases in a given presidential election year. Since the CCES began to field in 2006, this study covers four Presidential elections. Second, I coded states with a 5% margin of victory as 1, otherwise 0. Third, I selected top ten states that were spent on TV ads for the presidential election campaign. In every presidential election, we have witnessed that the money is concentrated in just a few states. It is well-known that campaign advertising can persuade voters (e.g., Petty, Priester, and Wegener 2014; DellaVigna and Gentzkow 2010). However, independent voters in the face of polarization do not behave the same way as previous research suggests. Intensive political campaign may lead independent voters more informed about party differences, and consequently, increases certainty in choosing candidates. By increasing the clarity of party difference, independent voter will decrease, which in turn, a state is more likely to be volatile to the outcome of Presidential elections. Thus, states with more TV ads are more likely to be polarized than others. Lastly, I also chose top ten states that have received the most campaign attention.

Polarization at the state level: My main independent variable is polarization at the level of state as well as at the level of individual. Due to a lack of consistent questionnaires in related to issues, polarization is also measured in accordance with Chapter 3. The CCES has a seven-point party identification scale and a five-point scale for political ideology. The 7-point scale of party identification is converted into a 5-

point scale and a Spearman's rank correlation is calculated between party identification and ideology. First, to measure state level of polarization, I use the "partisan polarization(sorting)" among many types of mass polarization measures. According to Fiorina et al. (2011), the general public have not been polarized, but they have been sorted. In general, polarization refers to citizens' increasingly extreme political or ideological preferences, whereas sorting refers to changes in the composition of citizens' preferences on issues or political views. Sorting occurs when the proportion of party identifiers remains constant, but their political views are more closely linked to their matched party identification. Levendusky (2009a) simply defines sorting as a "correlation between partisanship and ideology" (p.4) and discovered evidence that party identification and political ideology have been increasingly linked since the 1970s. Bafumi and Shapiro (2009) reached a similar conclusion that the relationship between party identification and ideology has grown since 1970s.

Various viewpoints on sorting in terms of polarization exist, including whether or not "sorting" can be regarded as a form of polarization. Scholars generally agree that the U.S. electorates have been sorted into partisan ideologies in recent decades (Abramowitz 2010; Bafumi and Shapiro 2009; Baldassarri and Gelman 2008; Fiorina, Abrams, and Pope 2006; Jacobson 2007; Levendusky 2009a). People have sorted into the "correct" ideological position of party and ideology, with Democrats becoming more liberal and Republicans becoming more conservative compared to 50 years ago. While some see this phenomenon as nothing more than a reorganization of political tendencies with little impact on behavior or mass polarization (Fiorina, Abrams, and Pope 2006; Levendusky 2009a), others claim that sorting is a further instance of the electorate's extreme polarization (Abramowitz and Saunders 2008; Bafumi and Shapiro 2009; Mason 2015). For example, Mason (2015) claims that sorting has resulted in

higher levels of partisanship and polarized behavior, such as partisan bias, activism, and outrage. In fact, previous studies have failed to distinguish between the polarization of social elements (ideology and party identification) and the polarization of issue positions, which is important to understand.

I argue that sorting should be treated another form of polarization. As Fiorina (2014) acknowledged, the processes of sorting and polarization are not mutually exclusive. Both sorting and issue related polarization can increase political tension and people consistently align themselves with one side or another, which is commonly used as the definition of polarization. If issue alignment with political ideology (or party identification) can be considered polarization, then the process of alignment between party identification and political view should be considered the same.

The makeup of partisans within a state is a second indicator of polarization that I used in chapter 4. As McLean (2018) indicates, polarized states are associated with the level of independent voters. However, only look at the level of independent voters is not enough to evaluate whether a state has polarized or not. In order to understand the relationship between polarization at the state level and swing phenomenon in presidential election, partisan composition is important as well as the size of independent voters within a state. As previously stated, while some states have more independent voters than partisan voters, they have never been classified as a swing state by the media or academia. On the other hand, even if there are very few independent voters in a given state, that state also could be a swing state. Pennsylvania is a typical example. As of 2021, Pennsylvania was one of the states that have the smallest proportion of independent voters, whereas that state has been the one of the most

competitive states in recent years¹¹. Among 31 states that are allowed voters to indicate party affiliation when they register to vote, only 10% of electorates of Pennsylvania identified themselves as an independent voter. The state with the least number of independents was Kentucky (3.68%).

Thus, while there are specific factors that contribute to the phenomenon of swing states due to each state's unique circumstances, it is critical to consider the partisan composition. Admittedly, this is a somewhat blunt measurement of political polarization, but previous studies adopted similar strategies to measure of polarization. Lelkes (2016) used the Bimodal Coefficient to measure of polarization. The concept of bimodal coefficient refers to a probability of distribution that has two distinct modes (Freeman and Dale 2013). The BC ranges from 0 to 1, where 1 indicates perfectly bimodal distribution. If BC is over 0.55, the distribution of data is considered to follow bimodal or multimodal distribution (Kang and Noh 2019). However, the BC does not capture the precise ratio of Republicans to Democrats within a state, which is necessary for determining the extent to which independent voters can switch their support for presidential candidates. Therefore, I use the simple ratio of Republicans to Democrats in a state. I also use the kurtosis and skewness of partisan composition as a proxy for state polarization.

To measure individual level of polarization, I refer Mason's measure of partisan-ideological sorting score. In order to capture the effect of intensity of strength and alignment, Mason (2015) multiples an identity align score (the absolute difference between party id and political view) by the party id strength and the ideological strength.

¹¹ Ballotpedia. 2021. "Partisan affiliations of registered voters", Available at https://ballotpedia.org/Partisan_affiliations_of_registered_voters#cite_note-29 (accessed 8 May 2022)

Other Independent Variables: There are several other measures that demonstrate the chance of swing within a state. First, I consider electoral environments as potential factors on state swing. I assume that when legislative and gubernatorial competitiveness increase, the competitiveness of presidential election will increase, which in turn, increase the chances of swing within a state. Traditionally, the measure of competitiveness is the simple difference in vote share between the winner and the second-place candidate (Glaeser and Ward 2005; Cox, Fiva, and Smith 2020).

A competitive election is typically defined as one with a 10% vote margin (Glaeser and Ward 2005), but I followed the Hecht and Schultz (2018)'s measure that proposed a vote margin of 5% or less. In using electoral competitiveness as a factor of swing state phenomenon, two measures were considered. With overwhelmingly increasing trend of reelection rates in U.S. House, legislative competitiveness is measured using the number of congressional districts within a 10% margin of victory between two major party candidates. Since each state has a different number of congressional districts, it is calculated by percentage of competitiveness. As congressional elections within a state increase, I expect that the possibility of a swing is increased. The second institutional factor I include is gubernatorial election results. It is measured by subtracting winning party vote share to losing party vote share. As the gap of vote share increases the chance of swing will be decreased.

I also consider political ideology by state. State ideology as a whole implies general tendency how the state's citizenry cast a vote for elected officials. Although there have been a lot of research on examining state ideology, the debate over the measurement of state ideology is still quite controversial. Brace et al. (2004) and Berry et al. (2006) provide competing perspectives. Brace et al. (2004) use self-placement items instead of self-reported ideology from state subsamples of national surveys. By

contrast, Berry et al. (2006)'s measure of state ideology is based on interest group ratings with information about actual election results and state elected officials. In this chapter, I simply use the Cook Partisan Voting Index (PVI) score, which indicate relative ideological position of state compared to the national average. The Cook PVI is calculated based on how strongly a state leans toward the Democratic or Republican Party in Presidential elections compared to the national average. Simply, PVI is typically calculated by comparing the degree to which each state supported the Democratic or Republican party in the two most recent US Presidential elections to the national average. Votes for third-party candidates are not included in this calculation, which only considers the Democratic and Republican party vote shares at the state and national levels. In order to determine a median PVI for each state, Federal Elections Commission voting data at the state level was used for the years from 2006 to 2020. PVI's were identified by a letter (D for Democratic, R for Republican) designating their political partisanship and a number indicating state's strength of their voting preference in comparison to the entire country. For instance, George W. Bush received 62.9% of the two-party vote in Alabama in 2004 compared to 50.2% nationally. As a result, Alabama's PVI in 2004 was given the value R+12.7 because the state voted 12.7% more Republican than the rest of the nation. All PVI's were converted to numerical values for statistical analysis, with Republican PVI's using positive numbers and Democratic PVI's using negative numbers.

[Table 4.3 and Table 4.4 about here]

4.6 Results and Discussions

Descriptive Analysis

I start by identifying the swing states in the U.S, which is the basic theme of this chapter. As discussed earlier, swing state has been expressed in various terms such as competitive states, battleground, and purple states. While those terms are frequently used interchangeably, each has slightly different meanings depending on who uses them. For example, the term of swing state is hardly used in academia but usually expressed as competitive state.

Thus, the swing state was selected based on four conditions. First, I define swing state as a state with switching presidential candidates at least once from one party to another over the last four Presidential elections. Second, I also include states with a 5% margin of victory, followed by Hecht and Schultz (2018). Third and fourth are states that are frequently described as battlegrounds by media outlets. I chose the top ten states that spent the most money on television advertising, as well as the number of times each party's presidential and vice-presidential nominees visited each state during the presidential campaign. Table 4.5 shows swing states selected by four conditions.

[Table 4.5 about here]

Based on my criteria, the number of states that were classified as swing states is 131 over the last four Presidential elections. Florida and North Carolina, which appeared 14 times among four categories with four election times, are the most frequently classified as swing states. Ohio and Pennsylvania followed by them (12 and 11 times each) . It appears almost similar to the swing states that have been mentioned

in the media. The Figure 4.6 reports frequency of the states that were classified as swing states using four categories.

Using Table 4.5, I select 12 states that are, at least, listed 5 more times in table 4. Those are Arizona, Colorado, Florida, Iowa, Michigan, Minnesota, North Carolina, New Hampshire, Nevada, Ohio, Pennsylvania, and Virginia.

[Figure 4.6 about here]

Then, is there a significant difference in the degree of polarization between the swing state and the so-called safe states?

Figure 4.7 shows the level of polarization by states. Using the CCES data from 2006 to 2020, I estimate state level of polarization using party sorting scores. Party sorting is measured by how much the degree to which ideology across issues matches partisan identity. This is the first attempt to measure the polarization at state level. The numbers on the right indicates the mean sample size of each state. Figure 4.7 indicates weak and inconsistent evidence for the claim that swing states are more likely to be polarized than safe states. The states classified as swing states in Figure 4.7 are scattered sporadically from 1st place (Minnesota) to 44th (Georgia). I don't see any expected pattern in Figure 4.7.

[Figure 4.7 about here]

Due to low sample size, I removed 9 states. Still, I don't see any differences in the level of polarization between swing states and safe states. According to Figure 4.9, states classified as swing state are sporadically distributed and shows no geographical patterns.

[Figure 4.8, Figure 4.9 and Figure 4.10 about here]

While some scholars do not regard sorting as a sign of polarization (Fiorina et al. 2005; Levendusky 2009; Fiorina et al. 2011), most scholars contend that consistent ideological alignment with one side or another could be a strong evidence of polarization (Abramowitz 2010; Bafumi and Shapiro 2009; Baldassarri and Gelman 2008; Fiorina et al. 2005; Jacobson 2007; Levendusky 2009a). Regardless of whether it is called as polarization or sorting, most scholars have reached a consensus that partisan identity and ideology have come into alignment during last a few decades.

Independent sample T-test in Table 4.6 also confirms that the difference of means in sorting level between swing states and safe states is statistically different. By comparing the level of polarization between swing states and safe states, I found that citizens who live in swing states are more likely to identify with their correct party than those who live in safe states. That does not mean that there are fewer independent voters in swing states than others. It is well-known that independent voters do not usually show ideological consistency from election to election due to less informed (Zaller 2004), less interested in politics (Mayer 2008), and cross-pressured (Hillygus and Shields 2008). These typical characteristics of independent voters look different in swing states.

What makes independent voters different in swing states? The claim that "every vote counts" appears to be applied only to a few swing states in the current US Presidential elections. Increasingly intense political campaigns centered on swing states may cause independent voters in those states to behave more like party supporters, enabling them to distinguish between the competing claims of the two-party candidates.

As Smidt (2015) indicates, polarization may make independent voters who do not have clear party attachments to act like partisans.

[Table 4.6 about here]

At the national level, sorting is a good measure to estimate the level of polarization because it does not matter whether or not states' ideology is skewed to left or right. When the unit of analysis is a state, however, the story is quite different. In general, the level of sorting is higher in groups of strong partisans than those of independent voters. As previously discussed, it is not a case of polarization at the state level when party identification is highly skewed in favor of one party. One of the weakest drawbacks of sorting as a measure of polarization do not reflect the ratio of partisan within a state. Traditional measure of sorting is simply correlation between self-reported party identification and their political views. For example, it may produce a similar sorting level between a state with 80% of citizen reported to Republicans and a state with 40% of Republican and 40% of Democrats. Thus, sorting is not appropriate to measure of state polarization. Instead, I proposed the balance of partisan within a state as a measure of state polarization. If the ratio between two party identifiers is close to 50:50, the states are more likely to swing by independent voters.

Next, I plotted the mean partisan composition of each state. Simply, partisan composition indicates the ratio of Republicans divided by the ratio of Democrats within a state. Figure 4.11 shows mean ratio of Republicans to Democrats in each state from 2008 to 2020. When the ratio is close to 1, it indicates the ratio of Republicans and Democrats is nearly equal. For example, Texas has an almost identical number of Republicans and Democrats unlike the conventional wisdom that Texas state is home

to the Republican Party.¹² The states marked in red in Figure 4.11 are swing states that fall into the criteria in Table 4.5. It can be seen that most swing states are clustered around 1. It means that the closer the ratio of Republicans and Democrats to 1, the higher the chance of swing in Presidential elections.

[Figure 4.11 about here]

As I expected earlier, it looks like the ratio of partisan within a state is a strong indicator of swing states. Skewness in Figure 4.12 is almost identical with the concept of the Ratio of two-party identifiers. If is close to 0, it means that the distribution of two-party identifiers is mirror image.

[Figure 4.12 and Figure 4.13 about here]

Figures 4.12 and 4.13 indicate that the key swing states have a relatively low level of skewness. It means that those states have almost an identical size of Republicans and Democrats. For example, Nevada's skewness is 0.099, indicating that there are only a few more Democrats within a state, but the ratio of supporters of both parties is close to 1. Other states that are classified as a swing state are almost centered around a skewness of 1.

¹² In fact, it is true that Texas is dominated by the Republican party in recent decades. The Democratic party has not won in Texas since 1980. However, Levin (2020) argues that Texas is increasingly becoming a competitive state. More than 700,000 Californians have relocated to Texas since 2008 due to the unaffordable cost of living, which in turn, makes Texas more politically competitive.

The Effects of Polarization at State level

Polarization in the national political arena is accepted as quite convincing by many scholars, but we have few attempts to examine polarization at subnational level. Recently, Fiorina, Abrams, and Pope (2011) conducted a cross-state comparison of political polarization, but they did not find any significant differences in the level of polarization between red and blue states. New data for state-level of polarization allows examination of polarization at the subnational level.

In this section, the effect of polarization on swing states is examined in four ways. First, I examined how the level of polarization affects the chance of swing in presidential elections. It is expected that polarization will increase the chance of state swings in presidential elections. Second, I also expect that the level of polarization at the state level will be likely to make the election very close even if political party support has not changed in the presidential election compared to previous elections. Third, if a state has a relatively higher level of polarization, they might have fewer undecided voters. If there are fewer floating voters, a state's election results will be more volatile than others. Thus, the presidential campaign will be concentrated on a few potential swing states. I ranked the top 10 states according to the amount of money spent on campaigns, and the top 10 states for TV advertising spending were coded 1. Admittedly, this measure is somewhat blunt, but this is the best due to limited data availability. Fourth, if a state election outcome is in the fog, presidential campaign events will be concentrated on those states. For example, approximately 96% of the presidential election campaigns are held in 12 states by the major-party presidential

candidates, including vice-presidential candidates.¹³ The variable for campaign trips is measured by the number of campaign events held in each state.

Table 4.7 examines the determinants of the four measures of a swing state: switching party, competitive states, campaign ads, and the number of campaign events by presidential candidates at the state level. In the first column of Table 4.7, the effect of sorting on the likelihood of a state flipping in presidential elections is large and significant. As the level of sorting increases, states are more likely to change their support in presidential elections. However, the two-alternative measure of political polarization provides contradictory results regarding the chance of a state swing. The results said that the likelihood that states will switch their support for a presidential candidate from one party to another rises as ideological strength decreases. The party identification Strength does not produce significant results. The results show that sorting accounts for changing motivations for supporting presidential candidates. Unexpectedly, the strength of political views does impact negatively on the likelihood of a state swing in presidential elections. These effects are very similar to the effect of two-party competition on state swing. The possibility of a supporting party flipping by state does increase significantly when the presidential race is very close.

Partisan balance (the ratio of Republicans to Democrats) within a state affects the likelihood of switching support for one party candidate to another in presidential elections. The partisan balance variable was measured by 1 minus the absolute value of the simple ratio of Republicans to Democrats. For example, if a state has a 50/50 ratio of Democrats to Republicans, then the ratio will be 1. Since this ratio is subtracted from

¹³ Data retrieved from Fairvote.com at https://docs.google.com/spreadsheets/d/1oR_x3wGpFi1wO2V0BNMV529s_V-AgGH7tKd66DD7rrM/edit#gid=2025398596

1, it becomes 0. Thus, a state where the proportion of Democrats and Republicans is almost equal has a number close to 0. The results show that the chance of a state changing hands goes up as the balance between the two parties gets closer to 0.

[Table 4.7 about here]

Next, the skewness refers to the extent of the asymmetry of the probability distribution of respondents' party identification. In general, the value of skewness greater than 1 or less than -1 refers highly skewed. The value between -0.5 and 0.5 indicates that the distribution is almost symmetrical. While all states fall into this category ranging from the lowest value, -0.355 to the highest value, 0.462, the increase of state skewness in terms of respondents' party identification decreases the likelihood of state's switching party support in Presidential elections. In other words, states tend to support the same party candidates when one party identifiers outnumber another party supporter within the state, which is safe states.

The effect of the size of independent voter on state swing is also significant. The results indicate that states with fewer independent voters are more likely to change their supporting party in Presidential elections. As discussed above, voters behave differently in the face of polarization because polarization enhance visibility of party differences and increases political interests and certainty in selecting candidates. Consequently, polarization may decrease the level of independent voters by increasing the certainty in choosing candidates in Presidential elections.

Electoral Competition within a state, presented in columns 3 and 4 of Table 4.7, is also occurred by the level of sorting. Only sorting shows expected way that I

hypothesized. Strength of Party Identification and Ideology turned out to be different from what I expected. Other variables show almost same results with columns 1 and 2.

Columns 5 and 6 of Table 4.7 examines the effects of sorting and other indicators of polarization on the amount of TV advertising spending. The level of sorting also significantly influences the amount of money spent on TV advertisements, indicating that presidential candidates frequently direct their resources to states where it is difficult to predict the results of the election.

Columns 7 and 8 of Table 4.7 indicate the effect of sorting on the level of campaign trips by presidential candidates during presidential campaigns. The campaign trips are measured by counting both presidential and vice-presidential candidates participation in campaign events held in a specific states. Since the dependent variable is continuous, Ordinary Least Square model is used to predict the impact of state polarization from presidential campaign events. The results are large and significant. Sorting significantly increases the number of campaign events by presidential candidates in a handful of states.

In sum, I confirmed that swing states are more likely to be more polarized than safe states. Specifically, the more sorted states are more likely to switch their support to presidential candidates. Second, I found that the ratio of two-party identifiers is also a key as whether a state changes their supporting party from election to another. The result confirmed that states with more balanced partisan composition between Republicans and Democrats have higher likelihood to change their supporting party in Presidential elections. The third, the size of independent voters within a state also influences the chance of state swing. While past studies claim that there are more independent voters in the swing state, but this is incorrect. Since polarization makes voters more aware of party differences, which increases political interests and certainty

in selecting candidates, it is more logical to think that the level of floating voters will decrease. The results show that the size of independent voters affect on the likelihood of switching party in Presidential elections. Since my dependent variable is continuous, OLS model was used to predict the effect of state characteristics on polarization at the individual level.

The Effects of Polarization at the individual level

This section looks at how a state's polarization affects an individual's level of polarization. Using four swing state categories, I investigate which groups of citizens are more likely to be polarized than others, particularly in terms of the state in which they live. To measure the level of polarization of each respondent, I followed Mason's measure of the Partisan Ideological Sorting score. The score is coded to range from 0 to 1 (most aligned). As key independent variables, I used the same variables that I used above: whether a state has switched supporting party from one election to another, competitiveness, TV ad spending and the number of campaign event in each state. Table 4.8 reveals individual level of polarization by the state characteristics.

In column 1, the result shows that states with changing supporting parties since the last presidential election have no effect on polarization at the individual level. While other three state variables are significant but was not large enough to explain polarization at the individual level. All models produce very similar results. Only education variable did not yield significant results in all models. State ideology that is measured by Cook's PVI obtained significant results in all models. Males are more likely to be polarized than women. In addition, the age variable is significant and large. It indicates that the older tends to be more polarized compared to the younger. All race

variables were significant but only Asian respondents were negatively associated with the level of polarization. In column 5, I added all four categories of state characteristics. Only the number of campaign events variable obtained significant effect on polarization. In the hypothesis 4, I assumed that state classified as a swing state or competitive state are more likely to have more polarized electorates. In order to isolate the effect of state on individual level of polarization, state variable was included in the model. Unfortunately, I found no effect of state on polarization.

[Table 4.8 about here]

4.7 Conclusion

Previous studies on state polarization concentrated on the question of whether the average ideology or opinion in blue states can be statistically distinguished from that of red states (Johnston, Manley, and Jones 2016; Johnston et al. 2020; Wing and Walker 2010). This could be an indication of polarization at the national level when examining the overall distribution of issue opinions or ideologies. However, it can be difficult to determine whether a state is polarized if its political landscape is heavily skewed toward the Republican or Democratic parties. Another research trend in state polarization, geographic polarization, only addresses the argument that more states or counties in the United States are continuing to favor one party over another as a result of partisan voters moving from one place to another where people vote similarly. For instance, the majority of large cities are controlled by the Democrats, while the non-metropolitan area has switched to being controlled by the Republicans. Geographical polarization theorizes that a person's political traits are closely correlated with their way of life (Bishop 2008; Hawley 2014). As a result, people will select a neighborhood or area that is consistent with their political stance (Bishop 2008; Cho et al. 2013).

According to two types of state polarization research trends, it is logical to think that a state with a more polarized electorate favoring one political party over another, such as California or Texas, can be regarded as the most polarized state. At the national level, if a whole nation is skewed to one political party over another party, we do not call that polarization. The state level of polarization would be evaluated by the same standard. Thus, this chapter has focused on the state level of polarization. Specifically, the investigation of the relationship between swing states, including competitive states in presidential elections and polarization at the state level focuses on sorting. The level of polarization in swing states should be higher than in safe states like California and

Texas. An independent sample T-test confirmed that the level of polarization between two types of states is significantly different.

First, I looked at the impact of polarization on the possibility of state swing or the state's likelihood to be competitive in presidential elections using four categories that state is more likely to swing: switching party, competitive states, campaign ads, and the number of presidential candidate events at the state level. Using a logit model, I found that the effect of sorting on the likelihood of a state flipping in presidential elections is large and significant. As the level of polarization within a state increases, those states are more likely to change their support in presidential elections. One of the interesting findings in this chapter is the impact of partisan composition within a state. I hypothesized that the ratio of partisan composition is more important than the size of independent voters within a state. Because, regardless of size, if a state has a 50/50 split between Democrats and Republicans, the outcome of the state's presidential election will be decided by independent voters. Of course, that does not mean that independent voters do not affect electoral outcomes. The results revealed that the more balanced partisan composition within a state made the state's presidential elections more competitive and increased the likelihood of switching support for one party candidate to another in presidential elections.

Second, I also investigated a possible relationship between a swing state and an individual's level of polarization. Using four swing state categories, I assumed that state election circumstances and experience with switching parties from one election to the next may create differences in which citizens' groups are more likely to be polarized than others, particularly in terms of the state in which they reside. Based on the OLS model to predict the effect of the state's electoral circumstances (competition, TV ad spending, and campaign events) and swing experience on the level of polarization,

produced mixed results. First, state's swing experience has no impact on the level of polarization. Second, I expected that electoral competitiveness would increase the level of polarization, but the results showed the opposite. Thirdly, I also expected that the level of polarization would increase in the state with higher spending on TV advertising, but the data came out in the opposite direction of my initial expectation. Only the variable of the number of campaign events held in a state had a significant effect on the level of polarization.

My findings suggest that polarization at the state level increases state electoral competitiveness, or the chance of swinging from one election to another. The results shed some light on the mechanisms linking polarization at the state level and the electoral outcomes of presidential elections. In other words, I found the likelihood of state swing may be influenced by the degree of state polarization. In addition, this chapter also provides proper direction to study the state level of polarization. While studies of political polarization have been conducted a lot, most of them have concentrated on the national level. The state level of polarization has not been studied a lot. Even some research that has studied polarization at the state level did not deal with the state level of polarization. For example, the Red and Blue States argument by Abramowitz and Saunders (2005) explains that state citizens predominantly keep choosing one party over another party in elections, and electoral polarization has significantly increased. They argue that states that support the Republican party keep choosing Republican candidates and states that are more favorable to the Democratic party keep voting for Democratic candidates. According to their argument, this phenomenon is polarization, but strictly speaking, it is not polarization. For future research on state polarization, the same standard should be used as for research on polarization at the national level.

Table 4.1 Definition of Battleground (Competitive) States in the Literature

Articles	Definition
Hill, David, and Seth C McKee. 2005. "The electoral college, mobilization, and turnout in the 2000 presidential election." <i>American Politics Research</i> 33 (5):700-725.	"States are competitive when the outcome of the presidential election is uncertain" (p.701)
Shaw, Daron R. 2008. <i>The race to 270: The electoral college and the campaign strategies of 2000 and 2004</i> : University of Chicago Press.	"States at most risk and most critical to winning 270 electoral votes" (p.56)
Wolak, Jennifer. 2006. "The consequences of presidential battleground strategies for citizen engagement." <i>Political Research Quarterly</i> 59 (3):353-361.	"the partisan composition of the state electorate and the allocation of presidential campaign resources" (p.355)
Gimpel, James G, Karen M Kaufmann, and Shanna Pearson-Merkowitz. 2007. "Battleground states versus blackout states: The behavioral implications of modern presidential campaigns." <i>The Journal of Politics</i> 69 (3):786-797.	"states where considerable campaigning took place" (p.789)
Milita, Kerri, and John Barry Ryan. 2019. "Battleground States and Local Coverage of American Presidential Campaigns." <i>Political Research Quarterly</i> 72 (1):104-116.	"how electoral competition shapes campaign coverage" (p.108)
Soumya Bhowmick and Sangeet Jain, "US Elections 2020: e Battleground States," <i>ORF Special Report</i> No. 121, October 2020, Observer Research Foundation.	States "where there are yet no clear allegiances nor evident leanings towards either party". (p.3)

Table 4.2 Sample Size by States (CCES) 2006-2020

	state	Samples		state	Samples
1	Alabama	7254	26	Missouri	11769
2	Alaska	1122	27	Montana	2028
3	Arizona	13469	28	Nebraska	3253
4	Arkansas	4917	29	Nevada	6055
5	California	49783	30	New Hampshire	3165
6	Colorado	9224	31	New Jersey	14196
7	Connecticut	6088	32	New Mexico	3775
8	Delaware	1975	33	New York	30200
9	Florida	39299	34	North Carolina	15905
10	Georgia	16796	35	North Dakota	1260
11	Hawaii	1674	36	Ohio	22269
12	Idaho	3054	37	Oklahoma	5467
13	Illinois	21403	38	Oregon	8840
14	Indiana	11803	39	Pennsylvania	26631
15	Iowa	5556	40	Rhode Island	1890
16	Kansas	5121	41	South Carolina	7656
17	Kentucky	7743	42	South Dakota	1544
18	Louisiana	6004	43	Tennessee	10479
19	Maine	3174	44	Texas	37389
20	Maryland	9566	45	Utah	4644
21	Massachusetts	10351	46	Vermont	1276
22	Michigan	17622	47	Virginia	14688
23	Minnesota	9242	48	Washington	12975
24	Mississippi	3823	49	West Virginia	3604
25	Missouri	11769	50	Wisconsin	11173

Table 4.3 Variables for State Level

Variables		Description
Dependent variable	Swing states(S) Flipped 5% margin TV Ad spending Campaign Trip	Flipped 1, otherwise 0 Below 5% 1, or 0 Top 10 states where the TV ad spending 1, or 0 The number of campaign events held in individual states
Independent variables	Polarization sorting partisan composition independent voters (%) Skewness Two-Party Competitiveness Divided State Ideology	The level of correlation between ideology and party id Ratio of Republicans to Democrats within a state Ratio of Independent voters Skewness of two-party identifiers $1 - (\text{Winner's vote share} - \text{the closest runner up's vote share}) / (\text{Winner's vote share} + \text{the closest runner up's vote share})$ Party controls of state government (1: divided, otherwise 0)
Controls	Unemployment(lagged) ¹⁴	Cook's Partisan Voting Index State unemployment rate (lagged on year)

¹⁴ Unemployment rates were from <https://www.bls.gov/lau/ex14tables.htm>

Table 4.4 Variables for Individual Level

Variables		Description
Dependent variable	Partisan-Ideological Sorting Score	0(least aligned) to 1(most aligned)
Independent variables	Swing states(S) Flipped 5% margin TV Ad spending Campaign Trip	Flipped 1, otherwise 0 Below 5% 1, or 0 Top 10 states where the TV ad spending 1, or 0 The number of campaign events held in individual states
Controls	State Ideology Education Male Age White Asian Black Hispanic Urban	Cook's Partisan Voting Index

Table 4.5 Selected swing states

year	Flipped	5% or less margin	TV ad	Campaign trip
2008	CO, FL, IN, IA, NV, NM, NC, OH, VA	FL, IN, MO, MT, NC, OH	CO, FL, IA, MI, NC, NV, NM, OH, PA, VA	CO, FL, IN, MI, MO, NC, OH, PA, VA, WI
2012	IN, NC	FL, NC, OH, VA	CO, FL, IA, NH, NC, NV OH, PA, VA, WI	CO, FL, IA, MI, NV, NH, NC, OH, VA, WI
2016	FL, IA, MI, OH, PA, WI	AZ, CO, FL, ME, MI, MN, NV, NH, NC, PA, WI	CO, FL, IA, NH, NC, NV, OH, PA, VA, WI	CO, FL, IA, MI, NV, NH, NC, OH, PA, VA
2020	AZ, GA, MI, PA, WI	AZ, FL, GA, MI, NV, NC, PA, WI	AZ, FL, GA, MI, MN, NC, NV, OH, PA, WI	AZ, FL, GA, IA, MI, MN, NC, OH, PA, WI

Table 4.6 Independent Sample t-test

	<i>df</i>	<i>t-value</i>	<i>P-value</i>
<i>Flipped</i>	55,228	15.529	2.2e-16***
<i>5% margin</i>	111,799	0.05582	0.05582**
<i>Top ten states where the most TV ad spending</i>	157,938	-53.195	2.2e-16***
<i>Top ten states where the most frequently visited</i>	160,215	-44.02	2.2e-16***

*** $p \leq 0.01$, ** $p \leq 0.05$; * $p \leq 0.1$

Table 4.7 The Effect of Polarization on State Swing, Competitiveness, and Campaign (Years of Presidential elections)

	Flipped		5% of margin		TV ad		Campaign Trip (OLS)	
	1	2	3	4	5	6	7	8
Sorting	3.69(.05)		2.54(.05)		0.35(.04)		29.88(.51)	
PID Strength		0.02(.02)		-0.05(.02)		0.01(.02)		0.32(.08)
Ideology Strength		-0.10(.02)		-0.09(.01)		-0.07(.01)		-0.08(.06)
Two-Party Competition	1.10(.03)	0.87(.03)	1.21(.02)	1.04(.02)	1.45(.02)	1.42(.02)	-2.95(.10)	-2.14(.11)
Partisan Balance	-6.44(.06)	-4.48(.06)	-5.07(.05)	-3.98(.05)	-5.69(.05)	-5.53(.05)	6.10(.04)	3.22(.19)
Skewness	-2.80(.11)	-3.04(.11)	-7.47(.10)	-7.45(.10)	-8.55(.10)	-8.56(.10)	31.32(.10)	28.32(.47)
% of Independent	-21.50(.53)	-25.82(.56)	-29.59(.48)	-32.55(.51)	-45.19(.51)	-45.33(.53)	-85.81(.42)	-75.41(2.17)
Divided Gov.	0.42(.01)	0.36(.01)	0.56(.01)	0.74(.01)	0.79(.01)	0.80(.01)	-3.76(.06)	-3.73(.06)
State Ideology	-0.12(.00)	-0.10(.00)	-0.17(.00)	-0.15(.00)	-0.23(.00)	-0.23(.00)	-0.58(.00)	0.52(.01)
Unemployment	-0.21(.00)	-0.17(.00)	-0.06(.00)	-0.04(.00)	-0.05(.00)	-0.05(.00)	2.18(.01)	2.14(.01)
Constant	1.69(.11)	4.04(.09)	1.25(.12)	5.33(.08)	7.01(.11)	7.66(.09)	7.11(.11)	-1.13(.36)
N	209,591	190,139	209,591	190,139	209,591	190,139	209,583	190,139

Note: All dependent variables are a dichotomous variable except campaign trip, so a logit model is used. Campaign trip used OLS. Bold Coefficients are significant at p <0.01 in a two-tailed test

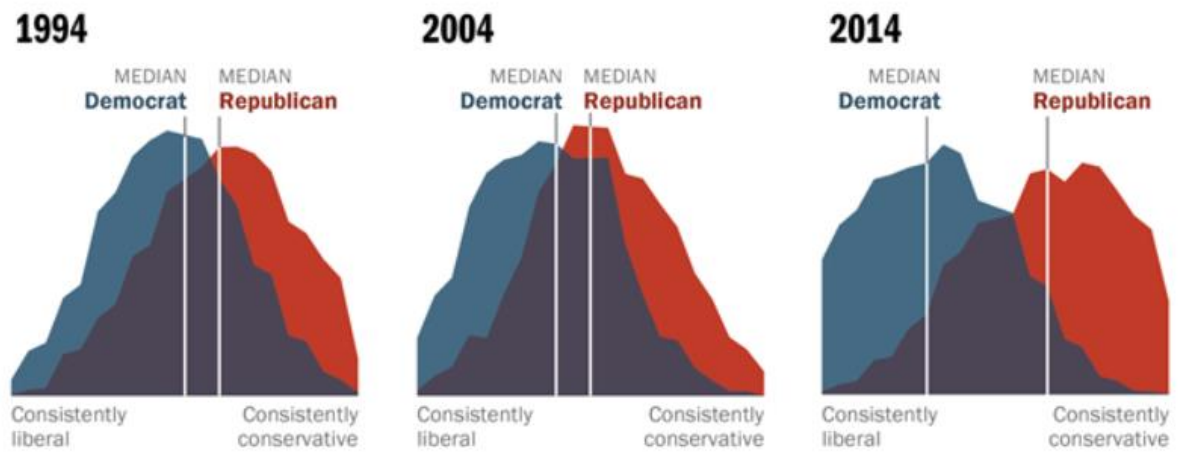
Table 4.8 The Effect of State Characteristics (Swing, Competitiveness, TV ad and Campaign Event) on Polarization at the individual Level

(OLS)

	1	2	3	4	5
Flipped	3.69(.05)				0.32(.43)
5% margin		-0.67(.29) *			-0.57(.42)
TV ad			-0.57(.27) *		-0.23(.39)
Campaign Event				0.03(.01) ***	0.03(.01) **
State Ideology	0.03(.02) *	0.03(.02) *	0.03(.02) *	0.04(.02) *	0.04(.02) *
Education	-0.05(.08)	-0.05(.08)	-0.05(.08)	-0.05(.08)	-0.05(.08)
Male	1.78(.25) ***	1.78(.25) ***	1.78(.25) ***	1.78(.25) ***	1.77(.25) ***
Age	0.13(.01) ***	0.13(.01) ***	0.13(.01) ***	0.13(.01) ***	0.13(.01) ***
White	1.47(.60) *	1.47(.60) *	1.48(.60) *	1.49(.60) *	1.51(.60) *
Asian	-2.18(0.97) *	-2.19(0.97) *	-2.21(0.97) *	-2.16(0.97) *	-2.19(0.97) *
Black	19.11(0.69) ***	19.13(0.69) ***	19.13(0.69) ***	19.06(0.69) ***	19.09(0.69) ***
Hispanic	3.66(0.73) ***	3.67(0.73) ***	3.65(0.73) ***	3.63(0.73) ***	3.64(0.73) ***
Constant	16.42(0.74) ***	16.51(0.74) ***	16.53(.73) ***	16.24(.74) ***	16.39(.74) ***
R-squared	0.011	0.011	0.011	0.011	0.011
N	211,080	211,080	211,080	211,080	211,080

Note: Dependent variable is the Partisan Ideological sorting score

Figure 4.1 Distribution of Democrats and Republicans on a 10-item Scale of Political Values



Source: Pew Research Center. 2014. "Political Polarization in the American Public." Pew Research Center. Available at <http://www.people-press.org/2014/06/12/political-polarization-in-the-american-public/>

Figure 4.2 Simulated highly skewed distribution of Party Identification

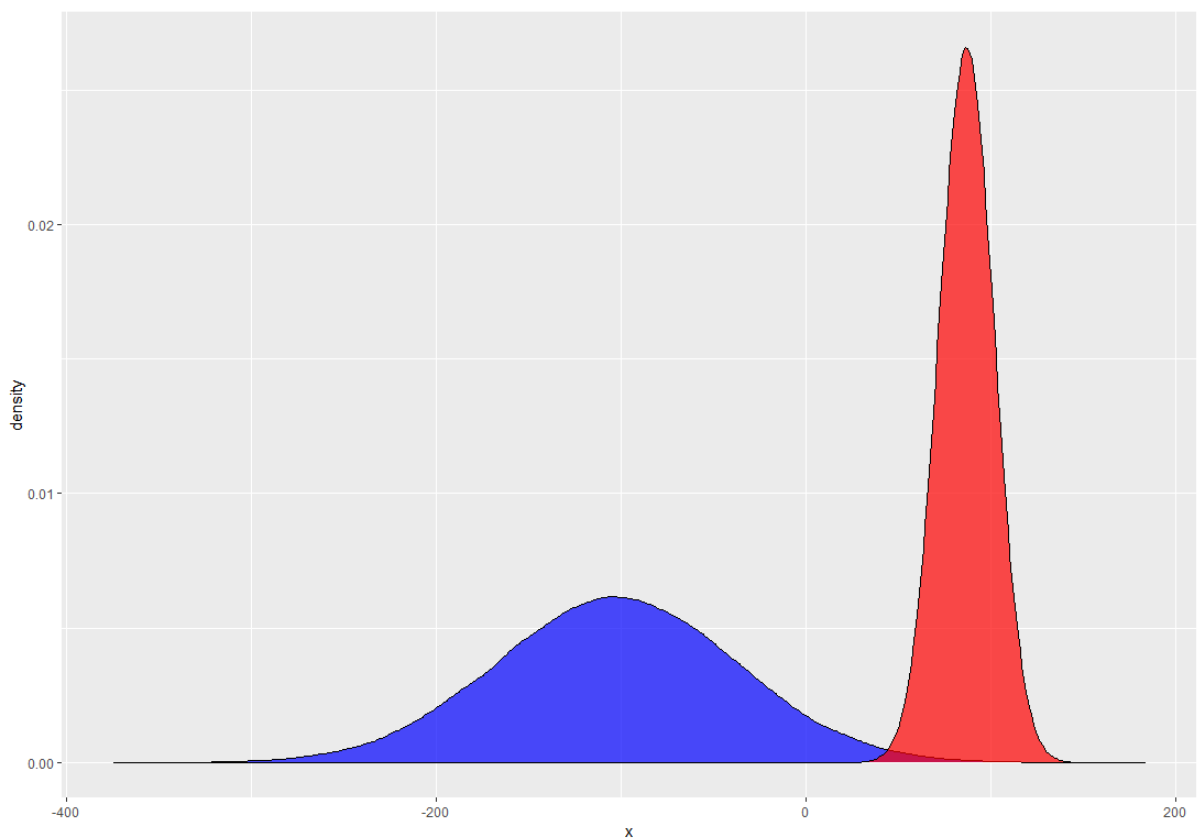
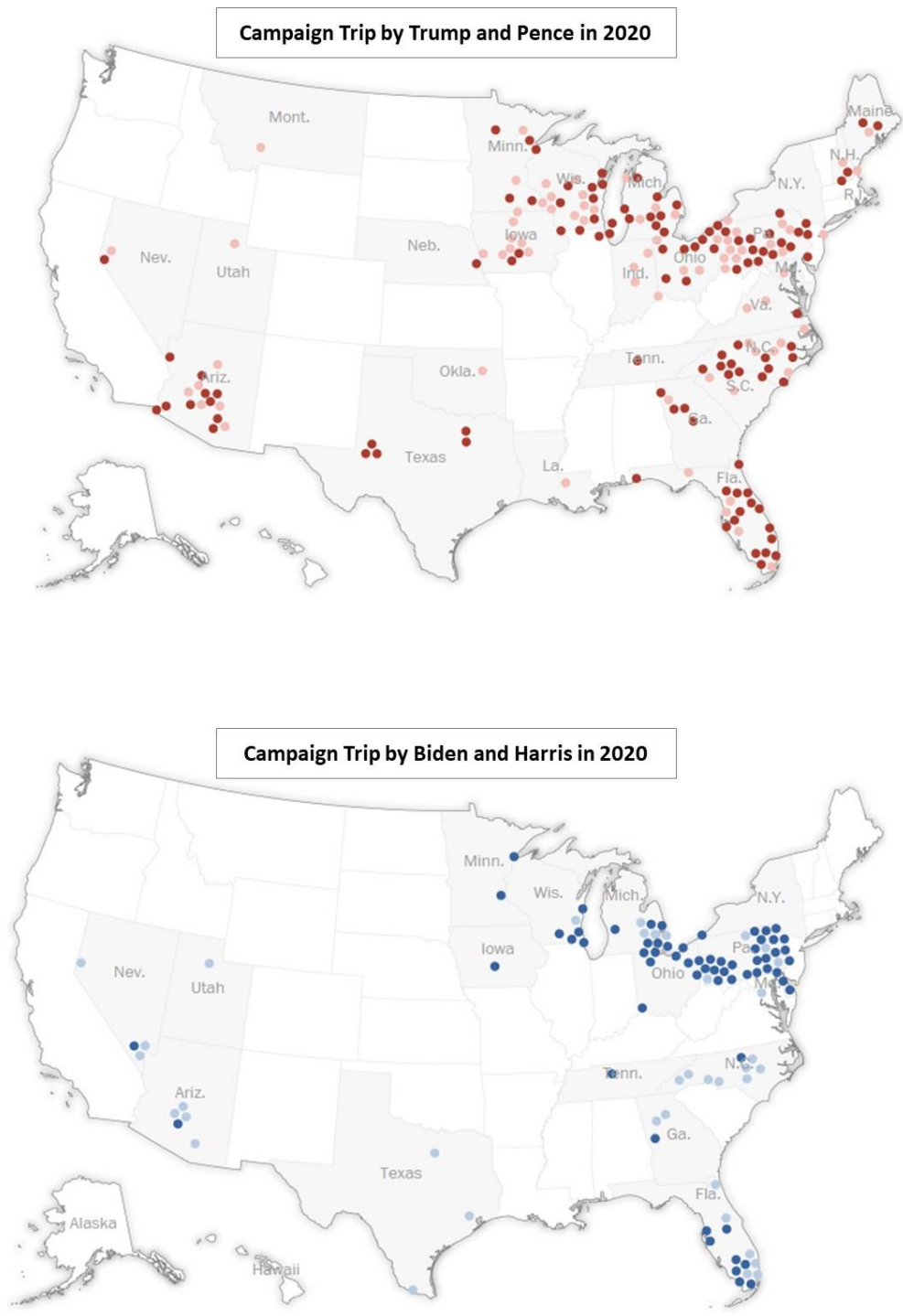
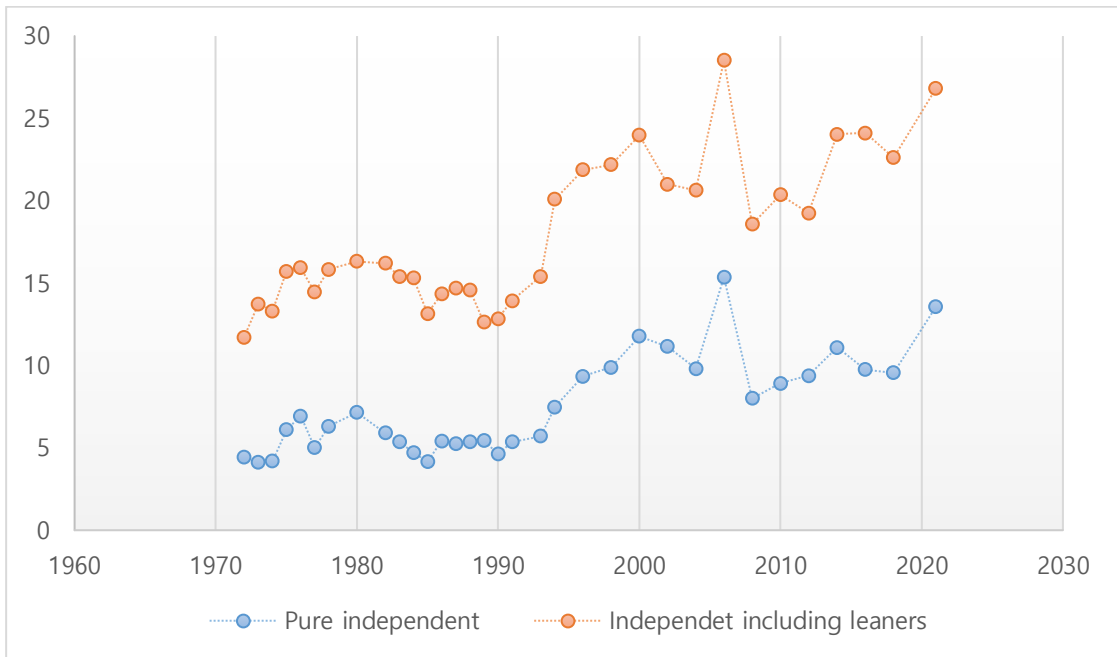


Figure 4.3 Campaign Trips by Presidential Candidates in 2020



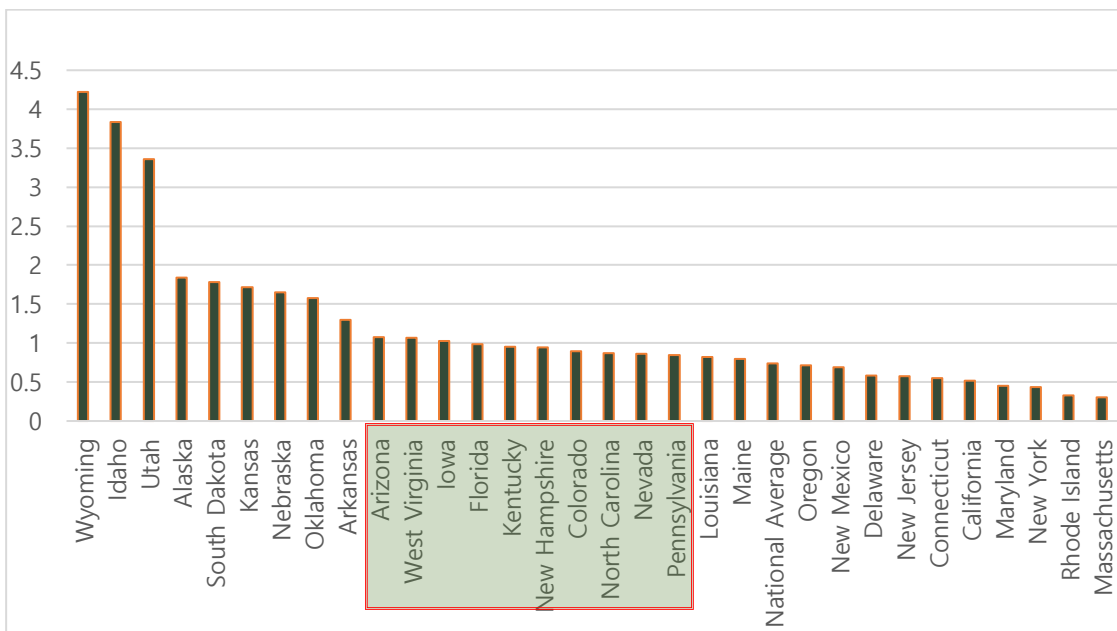
Source: Adrian Blanco (2020, Nov 2). Amid the pandemic, Trump and Biden traveled most often to Pennsylvania and Florida. *The Washington Post*

Figure 4.4 The Trend of Independent Voters 1972-2021



Source: GSS 1972-2021 Cross-Sectional Cumulative Data (Release 2, May 2022)

Figure 4.5 The Ratio of Republicans to Democrats in 32 states, 2021



Source: Ballotpedia, Partisan affiliations of registered voters, Retrieved from [https://ballotpedia.org/Partisan affiliations of registered voters](https://ballotpedia.org/Partisan_affiliations_of_registered_voters)

Figure 4.6. Frequency of each state classified as Swing States, 2008-2020

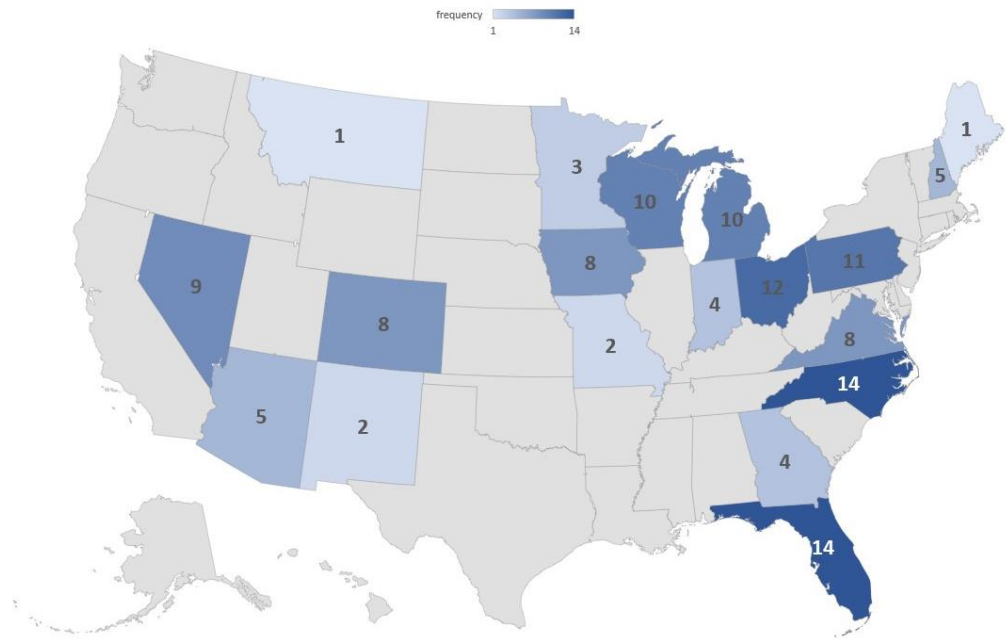
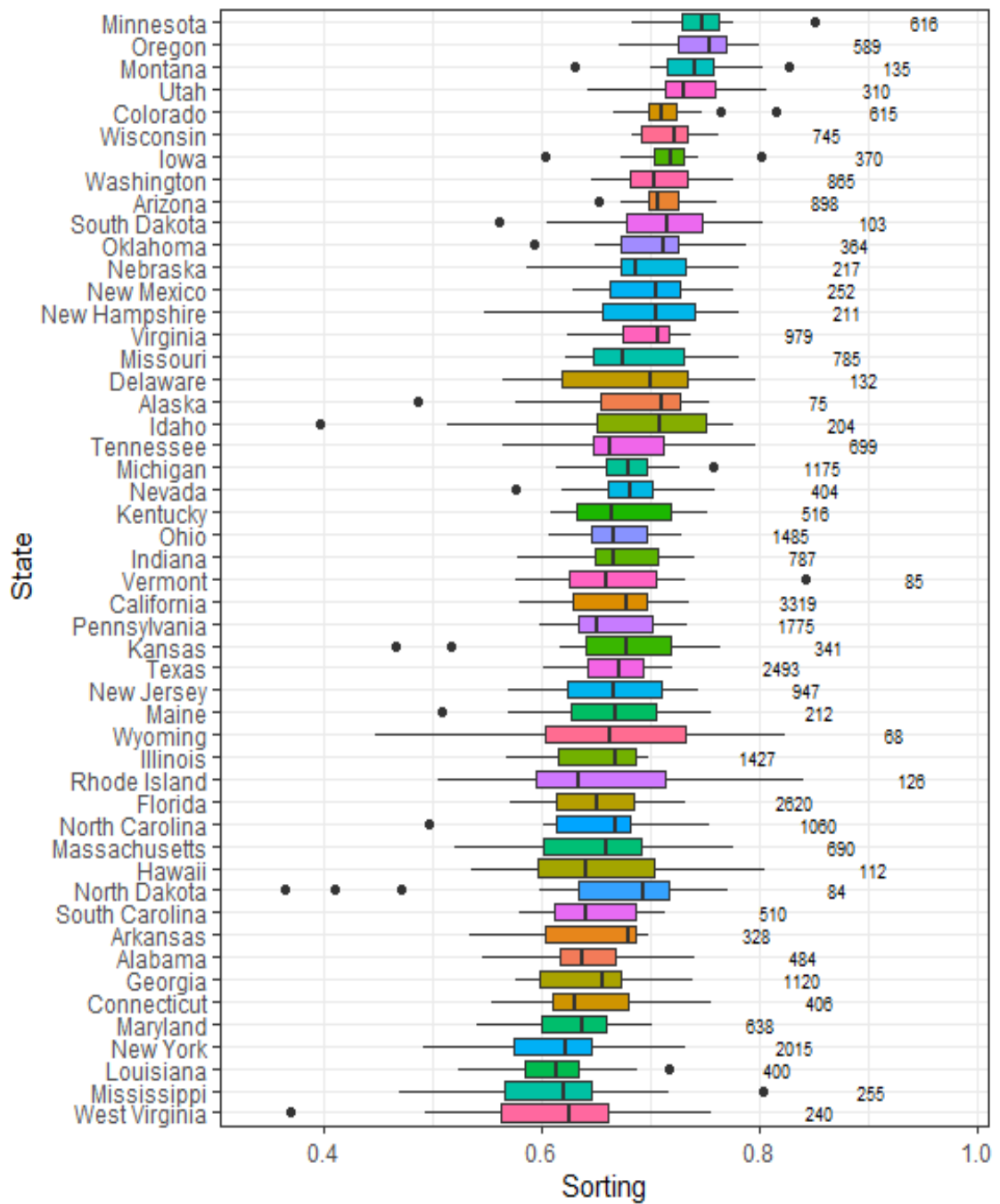
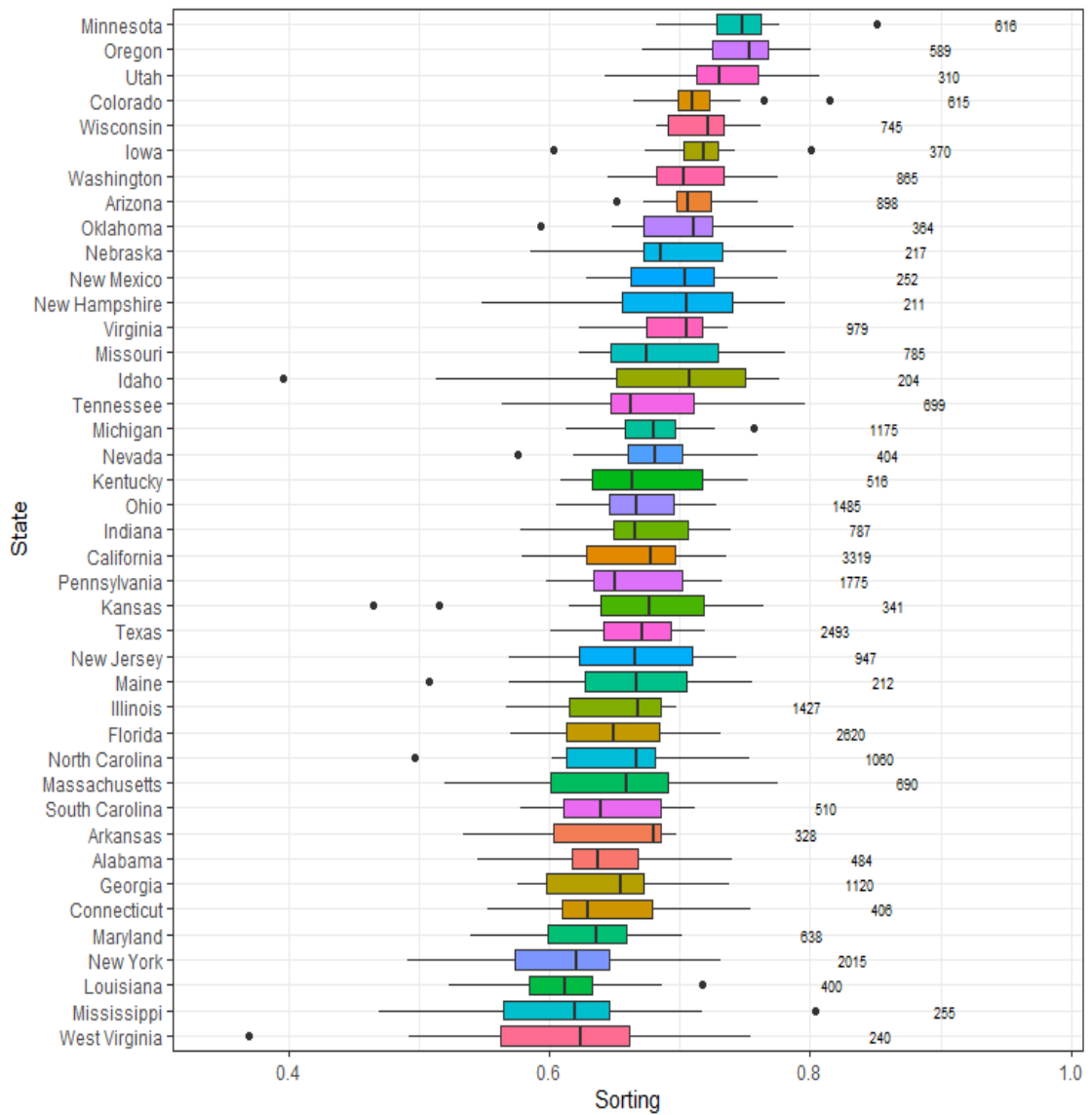


Figure 4.7 Polarization at 50 U.S. States



* The numbers on the right indicates the mean sample size in each state.

Figure 4.8 Polarization at 41 U.S. States



* Removed states with average sample size under 200

Figure 4.9 Map of Polarization by State

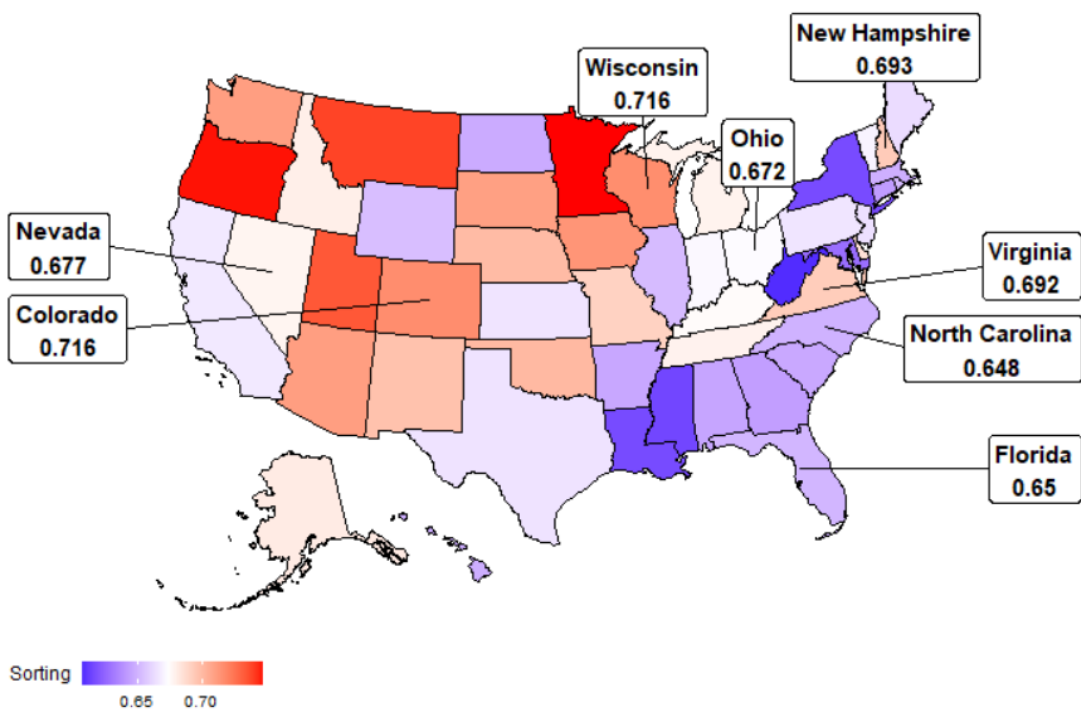


Figure 4.10 Comparison of the Level of Political Polarization between Swing and Safe States

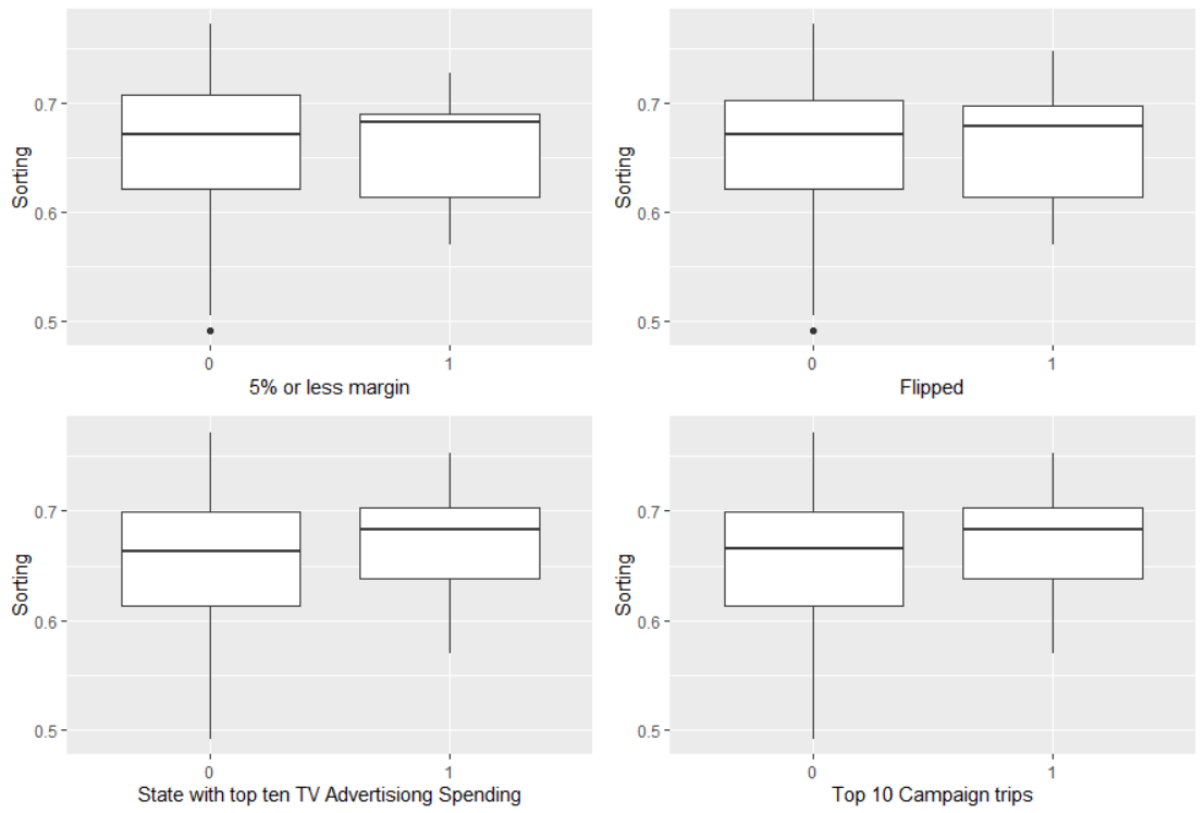


Figure 4.11 The Ratio of Republicans to Democrats in Each State

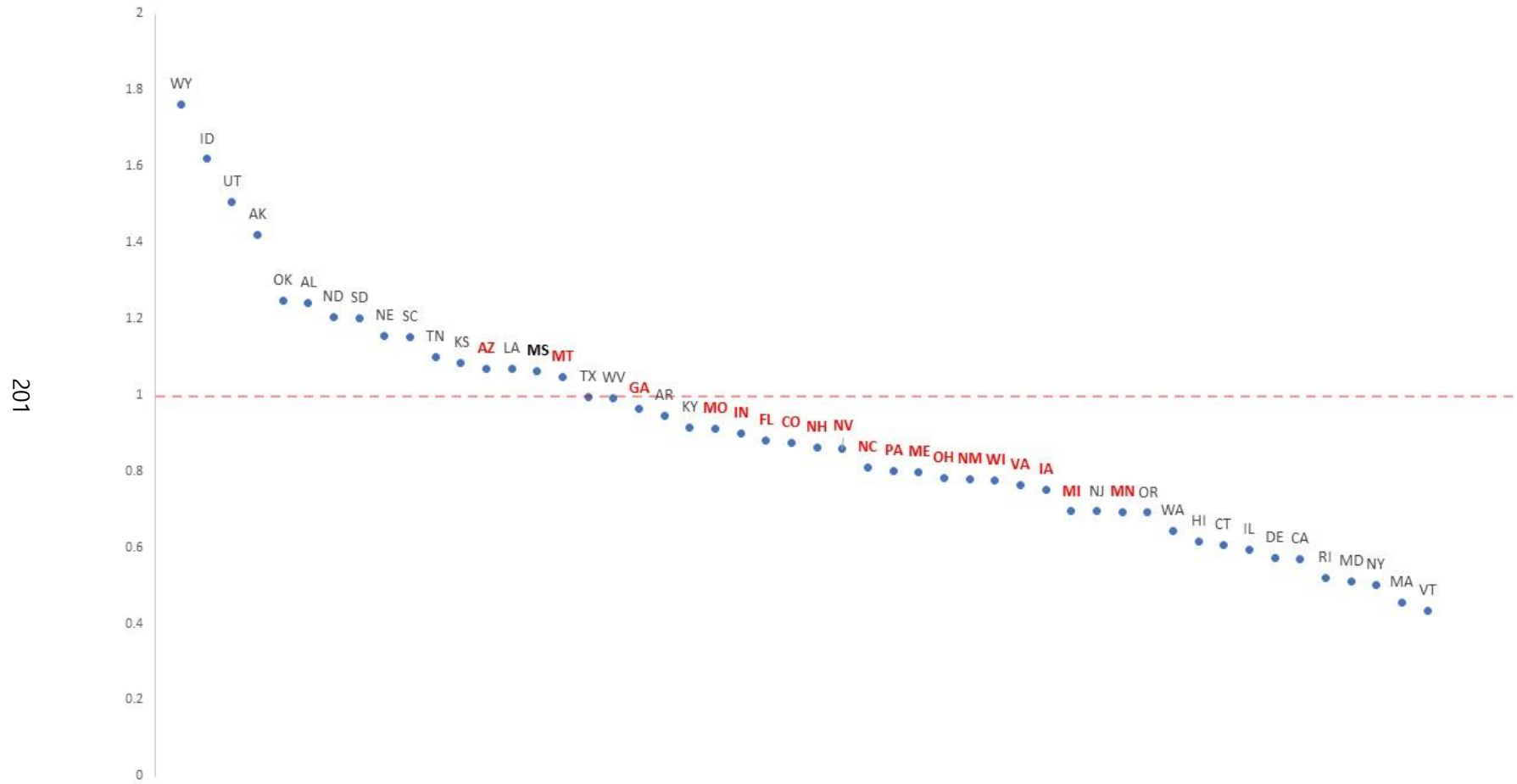


Figure 4.12 The Skewness of Two-party Identifiers

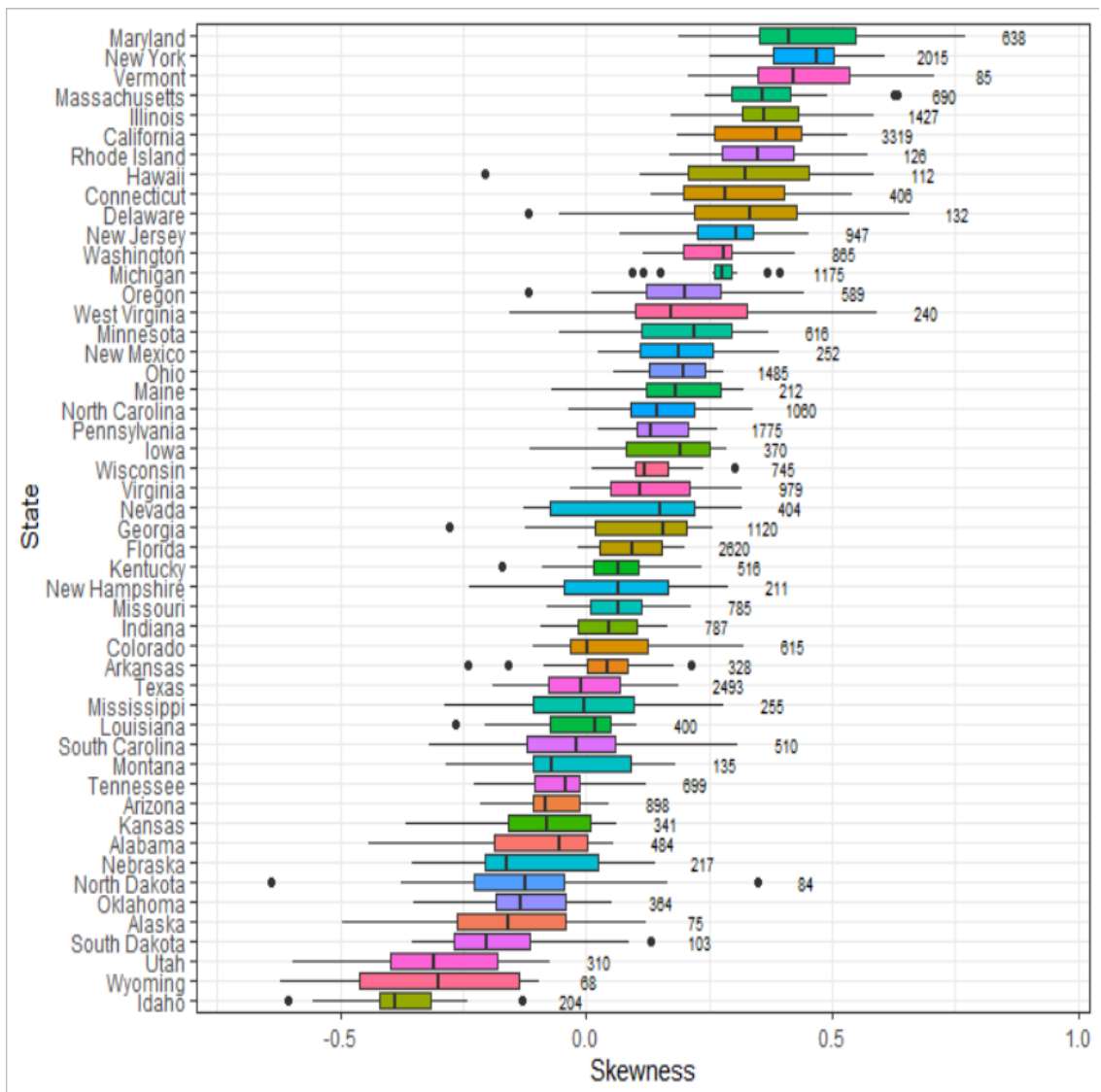
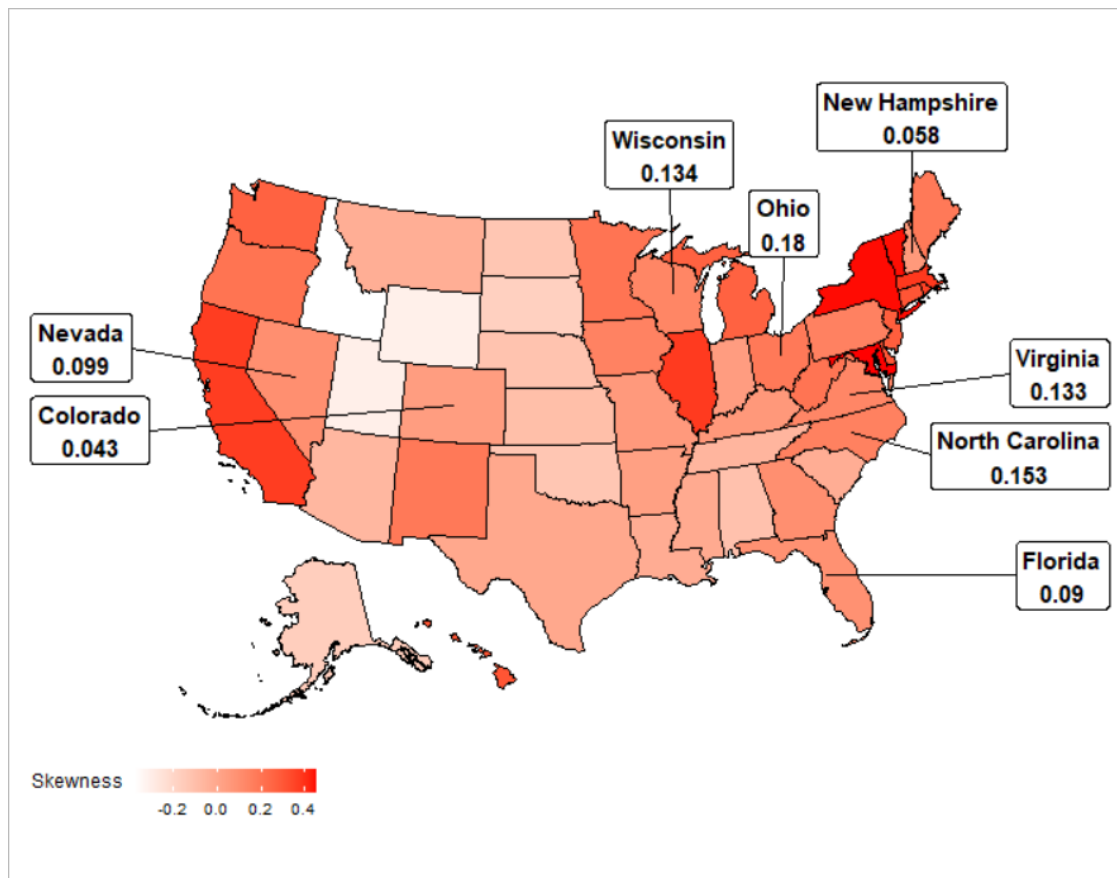


Figure 4.13 Map of Skewness



Chapter 5

Conclusion

Is the United States polarized? In order to address to this question, this dissertation explores three dimensions of political polarization. Three related, but independent, essays on political polarization provide information on questions concerning polarization,

First, the studies on polarization itself appears to be polarized. Chapter 2 focused on reviewing past studies on polarization. Still, one side argues that American citizens are severely polarized, the other side argues that polarization is an illusion (Abramowitz and Saunders 2008; Abramowitz 2010; Fiorina 2014, 2017; Mason 2016). Since most of differences in research findings come from differences in definition and measure of polarization, types of survey, a method of systematic review offers an efficient way to examine a large number of studies that focus on a specific topic, especially when the results of the studies are very mixed. Thus, instead of a traditional literature review, a systematic literature review on polarization was conducted.

Second, Chapter 3 begins with the premise that political interests will be deeply related to political action, and so will political polarization. For example, recent studies present evidence that political interest can vary depending on the political context (Prior and Bougher 2018). Political interest also has the ebb and flow by the politically salient events, especially federal elections. Elections are the fiercest competition to secure political power by mobilizing citizens to take sides with partisan groups. Although the election cannot be a direct measure of political interest, this dissertation uses the election as a proxy measure of political interest. Election increases political communication among the public (Conover et al. 2011), socially controversial topics

get more attention during electoral campaigns (Garimella et al. 2017). It is assumed that political interests may shift periodically as a result of elections or other significant political events. Similarly, if political interests fluctuate in response to political events, it is probably assumed that political polarization among the general public may be affected by political interests. Using different survey timings, chapter 3 investigated possible fluctuation of political polarization.

Chapter 4 focused on the level of polarization at the state level. Studies of polarization have received more attention at the national level due to the difficulty of collecting enough samples. The CCES provides enough samples of between 30,000 and 50,000 individuals every year to make it possible to examine the state level of polarization. Specifically, chapter 4 investigates the relationship between state swing in a presidential election and polarization at the state level. After presenting an overview of polarization in the fifty states, chapter 4 examines how the level of state polarization affects the outcome in a presidential election, focusing particularly on the swing state phenomenon.

In order to perform a systematic analysis, a sample of thirty research articles is collected. Each article in the sample is carefully chosen from the sociological and political science SCIMAGO rankings. Since almost all measures of polarization used in earlier works can be classified as a single type of polarization, all measures of polarization are coded into four types: issue consistency, issue divergence, affective polarization, and perceived polarization. Based on meta-analysis in Chapter 2, no strong evidence that the United States is polarized over the last several decades. In studies on issue consistency, scholars find that polarization occurred in general, but intensity of polarization is higher in the group of politically engaged citizens or politically informed. In another dimension of political polarization, research on issue divergency leads to the

conclusion that the general public has not diverged ideologically, but a similar set of studies finds evidence of polarization within the mass public. Evidence in terms of issue divergence is mixed. In the case of affective polarization, most scholars agree that affective polarization has been increased over the last a few decades. Finally, perceived polarization, defined by “the degree to which the mass public perceives the parties and their followers to be polarized” (Lelkes 2016, p.399), is also on the rise in recent years.

In sum, no strong evidence supports the idea of a “polarized America” based on the systematic analysis in Chapter 2. One of interesting findings is that most of the studies that obtained significant results used the ANES data with a secondary group utilizing the GSS. While there are many differences between two surveys, the key difference in two surveys is the timing the surveys are in the field.

In Chapter 3, the focus is whether polarization is a stable characteristic of the electorate, like political interest or partisanship. Previous scholarship emphasizes the “situational” characteristics of interest for change and adaptation to a new environment as opposed to the “static” characteristics of interest (Featherman et al. 1994; Prior and Bougher 2018). Michelitch and Utych (2018) also provide an evidence that partisanship is not stable and influenced by the electoral cycle. Therefore, the research question centers on political polarization as under the same presumption, the degree of political polarization within the general public is influenced by political interest and electoral circumstance.

Using data from two nationally representative surveys, the ANES and the GSS, the level of issue polarization increases similarly in both sets of data, but the patterns of sorting are different. The level of sorting in the ANES fluctuates, whereas instability shows a more dramatical increase in the GSS. In contrast, the overall level of sorting in the ANES is higher than in the GSS. Thus, difference in the level of polarization

between two surveys comes from the timing of survey. While the ANES is typically conducted from August to December in the midst of the election campaign, the GSS is typically conducted from February to May. Since the GSS and the ANES surveys do not conduct a survey in non-election years, it is difficult to isolate the effect of election on the level of polarization.

The Pew Research Center conducts annual political polls. Using Pew political surveys, significant difference in the level of polarization between election years and non-election years and between presidential elections and midterm elections were found. The findings demonstrate that the timing of a survey has a significant effect on the level of polarization (i.e., sorting) in general. This finding suggests that election is a key determinant of the intensity of the level of polarization, partisan strength, and political views. The level of polarization is not static like measures of political interest and party affiliation. There are fluctuations in the level of polarization that is associated with point of time within the electoral cycle, and citizens are more likely to show more polarized attitudes as a function of the proximity of an election.

The fourth chapter examined the potential relationship between the phenomenon of state swing or state competitiveness in presidential elections and the state's level of polarization. By concentrating on sorting, the connection between polarization at the state level and swing states, including states that are competitive in presidential elections, is analyzed. Swing states should have more polarization than safe states like California and Texas. Using an independent sample t-test, the degree of polarization between swing states and safe states are significantly different.

The effects of polarization on the potential for state swing, or the likelihood that the state will be competitive in presidential elections, is examined. Sorting has a sizable magnitude and significant impact on the probability that a state will change its support

in presidential elections, using a logit model. States are more likely to change their support in presidential elections as the degree of polarization within those states rises or recedes.

The impact of partisan composition within a state is one of the chapter's more intriguing findings. The findings show that more balanced partisan composition within a state increases the likelihood of switching support for one party candidate to another in presidential elections and makes the state's presidential elections more competitive. In addition, possible connections might exist between a swing state and a person's degree of polarization. Using the same four categories of swing states, there might be differences in which groups of citizens are more likely to be polarized than others, depending on the state in which they live and the circumstances surrounding the state election. Based on an OLS model, mixed results were obtained regarding the prediction of the impact of the state's electoral circumstances (competition, TV ad spending, and campaign events) and the swing experience on the degree of polarization.

The three essays on political polarization in the United States suggest several implications. First, based on meta-analysis in chapter 2 and 3, Americans are still not polarized as Fiorina (2018) recently contended. While some types of polarization are arguably, on the rise and pervasive in the mass public, scholarly findings do not reach a consensus. It is too early to conclude that the United States is polarized. Previous and recent research on polarization is almost based on survey data which conducted in the midst of presidential or midterm elections (i.e., the ANES, the GSS). The campaign season accentuates partisan polarization for the average citizen in a way other times do not.

The findings in Chapter 3 follow this notion and suggest that the level of polarization among the mass public can be influenced by external factors such as

electoral circumstances. Future research should evaluate the reasons behind each type of polarization and how the political circumstances and the survey instrument may influence measures of political polarization. Also, it should be examined that how these conditions affect different political outcomes.

Second, scholars should be careful when evaluating polarization at sub-national level, as shown in Chapter 4. It is easy to conflate the concepts of geographical polarization and state polarization. These two concepts are distinct. This dissertation shed some light on distinguishing state level of polarization and Geographical polarization. It also contributed to clarify difference in the concept of polarization between state level of polarization and those of national one.

In conclusion, polarization is a complex concept that demands careful discussion. This dissertation presents several original perspectives and ideas that will be helpful for the future studies on political polarization in the United States and other democratic societies.

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Appendix A. List of Articles Used for Meta-analysis in Chapter 2

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study no	Author	year	Published Article	Title	Polarization Type	policy, issue questions	measure	data	year of data
1	Gries	2017	Social Science Quarterly	Does ideology matter?	ideology			GSS, ANES	2008-2012, 2010
2	Hill and Tausanovitch	2015	The Journal of Politics	A Disconnect in Representation, Comparison of Trend in Congressional and Public Polarization	Issue divergence	67 policy questions	Bayesian Method	ANES	1956-2012
3	Fiorina and Abrams	2008	Annual Review of Political Science	Political Polarization in the American Public	Ideology, issue divergence	6 questions	percentage	ANES, Gallup	GSS, 1984-2004
4	Alwin and Tufis	2016	The Annals of the American Academy of Political and Social Science	The Changing Dynamics of Class in American Politics	Issues consistency		Pearson Correlation		1974-2010
5	Baldassarri and Gelman	2008	American Journal of Sociology	Partisan without constraint	Issue Consistency	47 issues	Pearson Correlation	ANES	1948-2004
6	Iyengar, Sood and Lelkes	2012	Public opinion Quarterly	Affect, not Ideology	Affective		feeling thermometer mean difference	ANES and 5 others	1972-2008
7	Rogowski and Sutherland	2016	Political behavior	How ideology Fuels Affective Polarization	Affective		feeling thermometer	1997 ind. Experiment	
8	Webster and Abramowitz	2017	American Politics Research	The Ideological Foundation of Affective Polarization	Affective	2 issues (abortion and Gay) Welfare scale, Activists and Campaign exposure	Feeling thermometer toward opposing party for regression	ANES	2012
9	Klar, Krupnikov and Ryan	2018	Public Opinion Quarterly	Affective polarization or partisan disdain?	Affective		measuring happy or unhappy with their child marrying someone from outparty	Gfl Survey 2016 panels	2016
10	Mason	2016	Public Opinion Quarterly	A cross cutting Calm	Affective			ANES	1948-2012
11	Evans, Bryson, and DiMaggio	2001	American Journal of Sociology	Opinion Polarization	Issue divergence	Abortion only	dispersion(variance)	ANES	1980-1998
12	Stoker and Jennings	2008	American Journal of Political Science	Of time and Development of Partisan polarization	Issue	12 issues	correlation between PID and issues	ANES	1972-2004
13	Abramowitz and Saunders	2005	The Forum	Why can't we all just get along	Issue electoral(?)	8 issues	Policy liberalism	ANES 2004 National Exit Poll	2004

14	Evans	2003	Social Science Quarterly	Science	Have Americans attitudes become more polarized an update	issue	12 issues	Variance and Kurtosis	ANES and GSS	1994-2000 ANES 1996-2000 GSS
15	Abramowitz and Saunders	2008	The Journal of Politics		Is polarization myth	issue consistency	7 issues	correlation between PID and issues Blue and Red Religious	ANES	1974-2004
16	Bafumi and Shapiro	2009	The Journal of Politics		A new Partisan Voter	issue consistency	22 issues (ANES) 17(GSS)	mean positions	ANES GSS	1980-2004 ANES 1974-2006 GSS 1980-2004 ANES 1980 &1992 ANES, CDS 1996 ANES 2000 CDS
17	Jewitt and Goren	2016	American Politics Research		Ideological Structure and Consistency in the Age of Polarization	Issue consistency	10 issues	Correlation	ANES CDS	2012 (510 samples)
18	Levendusky and Malhotra	2016	Public Opinion Quarterly	opinion	Misperception of partisan polarization	perceived	4	?	GfK custom Research	
19	Mason	2013	American Behavioral Scientist		The Rise of Uncivil Agreement	issue		factor analysis	ANES	1972-2004
20	Garner and Palmer	2011	Political Behavior		Polarization and Issue Consistency over time	issue	7 issues	overlap	ANES	1970-2008
21	Cavari and Freedman	2018	The Journal of Politics		Polarized mass or polarized few	issue divergence	6	Cohen's D	ANES and PEW	2008-2012 ANES 2004-2014 PEW
22	Enders and Armaly	2019	Political behavior		The Differential Effects of Actual and Perceived Polarization	Issue (perceived and actual)	4	absolute value (p.820)	ANES	1972-2012
23	Levendusky	2009	Political Analysis		The Microfoundations of Mass Polarization	Issue	4 economic issues	Percentage abd SD	ANES	1992-1996 1992-2004
24	Lelkes	2016	Public Opinion Quarterly	Opinion	Mass polarization: manifestations and measurement	ideology, perceived		bimodal, OC, Bayesian	ANES	1972-2012
25	Laudale	2013	Public Opinion Quarterly	Opinion	Does Inattention to political debate explain the polarization gap	issue	regarding 7 roll-call votes	High-Low information	CCES	2006
26	Iyengar and Westwood	2015	American Journal of Political Science		Fear and Loathing across party line and race	affective		distribution	experimental	2012
27	Iyengar et al.	2019	Annual Review of Political Science		the origins and consequences of affective polarization	Affective		feeling thermometer each	ANES	1978-2016
28	McCraight et al	2014	Social Science Research	Science	Political Polarization on support for gov spending on environmental protection	issue			ANES, Gallup and so on	1953-2017
29	Wood and Jordan	2018	Presidential Studies Quarterly		Presidents and Polarization of the American Electorate	Ideology				
30	Lelkes	2018	The Forum		Affective Polarization and Ideological Sorting	Affective			ANES	1984-2016 2008-2009 Panel

VITA

Hyojong Ahn grew up in South Korea. He earned Bachelor of Arts degree in Dongguk University in Seoul, Korea. Immediately after graduation, he served as an officer in Korean Airforce for 40 months. He earned M.A. degree in Political Science at Dongguk University after leaving the Korean Airforce. He began pursuing his PhD in Political Science at University of Missouri, Columbia. During the course of degree, he had his first and maybe the last child, Yul. Hyojong Ahn's primary research interests are interdisciplinary across the field of political science and data analysis, such as application big data or machine learning techniques to the field of political science.